Alberta
Transportation

HIGHWAY MAINTENANCE

REQUEST FOR PROPOSAL

Contract Maintenance Area 9

North Central Region

Sherwood Park, Morinville
and Gibbons Areas

Alberta
Transportation

HIGHWAY MAINTENANCE
Request for Proposal

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1.0 INSTRUCTIONS FOR SUBMITTING PROPOSALS

1.1 DATE AND TIME OF PROPOSAL SUBMISSION

Prospective Contractors must submit their response to the Request for Proposal (RFP) for this Contract to Alberta Transportation, Program Management Branch, by **14:01:00 (MST) on Tuesday June 24, 2008**, using the addressing label provided on the CD of this RFP package.

1.2 ALLOWABLE NUMBER OF PROPOSALS AND CMAS

The Prospective Contractor may submit no more than one Proposal for each individual Contract Maintenance Area (CMA) and no more than one Proposal for each specific combination of CMAs. Each combination of CMAs will be considered as a separate Proposal and must be submitted under a separate cover.

The maximum number of CMAs allowed per Contractor is twelve (12). A Prospective Contractor with an existing Department highway maintenance contract that terminates after July 31, 2009 will have each CMA in the existing contract included in the allowable number of CMAs.

1.3 GENERAL REQUIREMENTS FOR PROPOSAL SUBMISSION

1.3.1 Packaging and Number of Copies

The Prospective Contractor, when submitting each Proposal, must:

- Provide each Proposal in a single package addressed using the label as shown in Section 1.3.2. (this label is provided in electronic form on the CD in the file "Labels.pdf")

- Provide the information required in 4 separate sealed envelopes or sealed parcels, which must include the forms identified by Alberta Transportation as a requirement for the Proposal (required contents specified in and Section 1.4 of this Instructions to Prospective Contractors).

- Ensure that Envelopes 1, 3 and 4 contain one bound set of the Prospective Contractor's response, and that Envelope 2 contains four bound and one unbound set of the Prospective Contractor's response.

1.3.2 Sample Mailing Address For Submission of Proposal

Prospective Contractor's Name: _____

Address: _____

_____

_____

_____

Proposal for Highway Maintenance Work

Alberta Transportation
Program Management Branch
Attention: Director
Tender Administration
Tender Deposit Counter
1st Floor, Twin Atria Building
4999 - 98 Avenue
Edmonton, Alberta
T6B 2X3

CMA _____

_____

_____

_____

PROPOSAL TO BE SUBMITTED BY:

14:01:00 (MST) on June 24, 2008

Alberta Transportation

1.3.3 Label for Envelopes

The labels are provided in electronic form on the CD included with this package. They must be affixed to each of the four envelopes to indicate the envelope number (1, 2, 3 or 4), the Prospective Contractor's company name and the Contract maintenance areas included in the Proposal.

SAMPLE: (Included on CD)

Envelope Number _____

Prospective Contractor Name

_____

CMAs included in the Proposal:

CMA No. _____
CMA No. _____
CMA No. _____
CMA No. _____

1.3.4 Electronic Submission Of Documents

The unit price schedule and the winter service delivery spreadsheets of the Prospective Contractor's Proposal shall be submitted as both a hard copy and electronically (CD). The electronic submissions are required to facilitate the evaluation of Proposals only. In the event of a discrepancy between electronic and hard copy submissions, the hard copy shall govern.

1.4 SPECIFIC REQUIREMENTS CONCERNING CONTENT OF THE PROPOSAL - 4 ENVELOPES

The Prospective Contractor will be required to submit each of his Proposal package(s) divided into four distinct envelopes. To ensure the validity of his submission, the Prospective Contractor must ensure that the correct information and number of copies is placed in the appropriate envelope.

1.4.1 Required Contents of Envelope 1

The Prospective Contractor must provide the following information in Envelope 1 as outlined in Section 3.5 of the RFP Details document.

- The form titled “Prospective Contractor’s Certification of Information Provided”, which must be completed fully and initialed by an authorized signing officer of the Prospective Contractor’s company.

- The completed form, “Prospective Contractor’s Proposal Agreement”, which must be signed and sealed by an authorized signing officer of the Prospective Contractor’s company.

- Written commitment to provide consent of interested parties to allow the Department's use of snow clearing equipment and facilities in the event of Contractor default or Contract termination.

- A consent of surety from the Prospective Contractor’s surety agreeing to furnish the required labour and material payment bond in the amount equal to the number of CMAs times $500,000.

- A signed letter of intent from a financial institution agreeing to provide an irrevocable letter of credit in an amount equal to the number of CMAs times $250,000 payable to the "Minister of Finance", or consent of Surety to furnish a forfeiture bond in an amount equal to the number of CMAs times $250,000.

- A signed letter of intent from an insurance company agreeing to provide the required insurance coverage in accordance with the General Specifications.

- Written confirmation of enrollment or copy of certificate indicating accreditation in an appropriate Safety Certification Program (details of requirements are specified in Section 51.2.8.1 of Specification 51.2 General, For Maintenance Work).

  Further information regarding Safety Certification may be obtained from:

  The Alberta Construction Safety Association
  #101, 13025 - St. Albert Trail
  Edmonton, AB, T5L 5G2
  Telephone: (780) 453-3311 or 1-800-661-2272
  Fax: (780) 455-1120
  www.acsa-safety.org

- Written confirmation or copy of certificate indicating that the Prospective Contractor is a legally registered company.

- List of proposed Assignments and Sub-Contracts

- A signed letter stating that the completed Unit Price Schedule(s) meet the following requirements:

  - the ratio of the total fixed costs to the total fixed costs plus provisional costs does not exceed 45% for each CMA. (Definitions of fixed costs and provisional costs are found in Section 1.1 of the RFP Details document.)

  - the Unit Price Schedule(s) has not been elaborated upon, or qualified in any fashion.

  - in the case of multiple CMAs in one Proposal, the unit prices bid are the same in all the CMAs for all bid items, with the exceptions listed in Section 1.4.4.

- Written notice of the Prospective Contractor's intention regarding Voluntary Partnering as discussed in Section 51.2.38 of Specification 51.2 General, For Maintenance Work.

- A signed Receipt of Addendum form for any addenda that may be issued during the pre-submission period.

1.4.2 Required Contents of Envelope 2

For each Proposal, the Prospective Contractor must provide information on how his company's Work Execution Plan will meet the minimum requirements as detailed in Section 3.6 of the RFP Details document. To meet the requirements of Envelope 2, the Prospective Contractor must organize and present his response by using headings and referencing section numbers as outlined in the summary table included in Section 3.5.3 of the RFP Details document.

The Prospective Contractor shall include this summary table in his Envelope 2 submission and shall provide the corresponding page numbers of his proposal which address each minimum requirement specified.

The Prospective Contractor shall limit the contents of Envelope 2 to no more than 100 pages excluding the paper copies of the Winter Service Delivery Tables.

The Prospective Contractor may also provide additional information in the form of appendices attached to the Work Execution Plan; however, the department may limit the evaluation to the first 150 pages of the plan.

1.4.3 Contractor Previous Performance/Experience

The Department will use the existing information to assess and score the performance of the maintenance Contractors that are currently working with the Department, as outlined in Section 3.5.2 of the RFP Details document.

Prospective Contractors who have not had a highway maintenance contract with Alberta Transportation shall provide details of their previous contracting experience in highway construction or maintenance in order for the Department to assess and score their previous experience.

1.4.4 Required Contents of Envelope 3

The Prospective Contractor must complete and enclose in Envelope 3, both an electronic copy and a hard copy printed from the electronic copy, of the Unit Price Schedule for each CMA included in the Prospective Contractor's Proposal. The Prospective Contractor must provide a unit price in each and every cell in the "Unit Price" column that is highlighted in yellow, and provide quantities where required in cells highlighted in yellow. Also, the Prospective Contractor shall identify his sand and salt storage locations in the Unit Price Schedule, and the corresponding quantities and unit prices. **Unit prices should not exceed 3 decimal places. Any unit price with more than 3 decimal places will be rounded to the nearest third decimal.**

The extension column of the Unit Price Schedule will be automatically calculated and populated within the spreadsheet, and the yearly totals for both fixed and provisional costs will be summed. The percentages of total fixed costs and total provisional costs will also be calculated and displayed.

In the case of multiple CMAs in one Proposal, the unit prices bid shall be the same in all the CMAs for all bid items, with the exception of the following CMA specific items:

Bid Items 1410 to 1419 Supply and Stockpile Sand to ___
Bid Items 1470 to 1479 Supply of Sodium Chloride to ___
Bid Items 3001 - Highway Maintenance Work per CMA ___
Bid Items 4401 - Indirect Operating Costs per CMA ___
Bid Items 4410 – General Liability Insurance Premium per CMA ___

Note

Failure to complete all requirements for each component of the Unit Price Schedule may result in the Proposal being rejected. The Prospective Contractor shall note that Envelope 3 will only contain the Unit Price Schedule. The Prospective Contractor must not present any documentation, which will elaborate upon or qualify his response to the Unit Price Schedule. Any such elaboration or qualification may result in the Proposal being rejected.

1.4.5 Required Contents of Envelope 4

The Prospective Contractor must provide the following financial information in Envelope 4, as defined in Section 3.3.6 of the RFP Details document:

- Ownership and structure of the business submitting the proposal.

- Eligibility, which will include a statement indicating the number of contracts already, awarded to the firm(s) or principals of the firm.

- If the company is an existing business, a financial statement for each of the previous 3 years which includes:
  - Statement of Earnings
  - Balance Sheet
  - Statement of Cash Flows

- Pro Forma Statements which will allow the Prospective Contractor's anticipated financial projection for the specified duration of the Contract and includes for each of the years of the Contract:
  - Statement of Earnings
  - Balance Sheet
  - Statement of Cash Flows

- Where appropriate a statement of net worth and personal credit rating.

- A statement of any undertaking from any investors and lending institutions.

1.5 OPERATIONS MANAGERS

Following is the Department contact person for site specific questions on CMA 6:

Bill Gish, Operations Manager, Peace River
Phone: 780-624-6220
Email: bill.gish@gov.ab.ca

Following is the Department contact person for site specific questions on CMA 10:

Steve Otto, Operations Manager, Athabasca
Phone: 780-675-2624
Email: steve.otto@gov.ab.ca

Following is the Department contact person for site specific questions on CMAs 9 & 11:

Neal Reynolds, Operations Manager, Stony Plain
Phone: 780-963-5711
Email: neal.reynolds@gov.ab.ca

1.6 INFORMATION PROVIDED ON THE COMPACT DISC (CD)

In addition to the Return Labels, Unit Price Schedule Spreadsheets and Winter Service Delivery Spreadsheets, the following information is provided on the CD included with the RFP package.

- historical data of work quantities and costs
- pavement surface summary report (structure condition),
- the Department's Salt Management Plan

1.7 PROJECT INQUIRIES

All inquiries regarding the Specifications and Request for Proposal submission should be directed to Mr. Moh Lali, Director, Highway Operations, Technical Standards Branch, 2nd Floor, Twin Atria Building, 4999 - 98 Avenue, Edmonton, Alberta, Telephone (780) 415-1083.

1.8 ADDENDA

Addenda, when required, will be issued and will form part of the Request for Proposal, General Specifications or Technical Specifications as appropriate. The Prospective Contractor must acknowledge receipt of addenda by signing the “Receipt of Addenda” form provided with each addendum. The individual items included in the addendum will be added, deleted or changed in accordance with the instructions contained in the addendum letter. The Prospective Contractor must acknowledge addenda by including each "Receipt of Addenda" form in Envelope 1.

1.9 PROPOSAL CHANGES

The Prospective Contractor will not be permitted to introduce or request a change to his Proposal after the date and time set by the Department for the submission of Proposals.

1.10 CONTRACT FORMS

The following sample forms are enclosed herewith and are divided into the following two groups:

Group 1, forms to be included in Envelope 1 of the Proposal:

- Prospective Contractor’s Certification of Information Provided
- Prospective Contractor’s Proposal Agreement

Group 2, forms provided for the Prospective Contractor’s information. The Department will provide copies of these forms to the preferred Prospective Contractor to be submitted as part of the Mobilization Plan.

- Forfeiture Bond
- Statutory Declaration
- Irrevocable Letter of Credit when used for Performance Security
- Labour and Materials Payment Bond

Alberta Transportation

Prospective Contractor's Certification of Information Provided

(To be Included in Envelope 1)

To ensure that the Prospective Contractor's proposal submission includes all mandatory information and documents as specified for in the Request for Proposal, the Prospective Contractor shall have an authorized signing officer of his company initial in the space provided that the following required information has been provided in an acceptable form and is contained in the appropriate envelope. By placing his initial, the authorized signing officer certifies that:

(Initials)

- CMAs included in the proposal are: _____ _____ _____ _____ _____
- All 4 envelopes have been submitted _____
- The company has not included any conditions in the Proposal that alter General or Technical Specifications _____

ENVELOPE NO: 1 CONTAINS:

Requirements	Reference	Initials
A completed "Prospective Contractor's Proposal Agreement" form	Section 1.10 of the Instructions to Bidders	
Commitment to provide consent of interested parties to allow the Department's use of snow clearing equipment and facilities in the event of Contractor default or Contract termination	General Specification 51.2.23.5	
Consent of Surety for the labour and material bond in the amount required.	Section 1.4.1 of the Instructions to Bidders	
Consent of a financial institution for an irrevocable letter of credit or a certified cheque, bank draft or money order; or a consent of surety for a forfeiture bond in the amount required for Performance Security.	Section 1.4.1 of the Instructions to Bidders	
Signed letter of intent from an insurance company	Section 1.4.1 of the Instructions to Bidders	
Confirmation that the Prospective Contractor has completed or has initiated the process for safety accreditation	Section 1.4.1 of the Instructions to Bidders	
Confirmation that the company is legally registered with the Corporate Registry	Section 1.4.1 of the Instructions to Bidders	
List of proposed Assignments and Subcontracts	Section 2.2 of the RFP document	
UPS(s) - confirmation that fixed costs do not exceed the 45% of total annual contract amount; the UPS(s) has not been qualified in any fashion; and all unit prices are identical in multiple CMA proposals, with the exceptions noted in Section 1.4.4 of the Instructions to Bidders.	Section 1.4.1 of the Instructions to Bidders	
Prospective Contractor's intention regarding Voluntary Partnering	General Specification 51.2.38	
Signed Receipt of Addendum form(s)	Section 1.8 of the Instructions to Bidders	

ENVELOPE 2 CONTAINS:

Requirements	Reference	Initials
Prospective Contractor's Work Execution Plan which addresses and meets all minimum requirements specified	Section 3.6 of the RFP Document	
Summary form checklist for Work Execution Plan, including page number references of the proposal submission	Section 3.5.3 of the RFP Document	
Completed Winter Service Delivery spreadsheets for each CMA of the proposal	Winter Service Delivery Details Document	
Motor grader circuit plans for each CMA of the proposal	Motor Grader Service Delivery Details Document	
Prospective Contractors Previous Experience	Section 3.5.2 of the RFP Document	

ENVELOPE 3 CONTAINS:

Requirements	Reference	Initials
Completed Unit Price Schedule (electronic & hard copy) for each CMA of the proposal which includes unit prices for every bid item that has a quantity. Also, quantities are indicated for those bid items where the Prospective Contractor is required to provide them (# of Snowplow Trucks, Sand & Salt), and storage locations for sand and salt.	Section 1.4.4 of the Instructions to Bidders	

ENVELOPE 4 CONTAINS:

Requirements	Reference	Initials
Ownership information	Section 3.3.6 of the RFP Document	
Eligibility information	Section 3.3.6 of the RFP Document	
Financial Statements: Statement of Earnings, Balance Sheet & Statement of Cash Flow	Section 3.3.6 of the RFP Document	
Pro Forma Statements: Statement of Earnings, Balance Sheet & Statement of Cash Flow	Section 3.3.6 of the RFP Document	
A statement of net worth and personal credit rating	Section 3.3.6 of the RFP Document	
A statement of any undertaking from any investors and lending institutions	Section 3.3.6 of the RFP Document	

Alberta
Transportation

Prospective Contractor's Proposal Agreement
(To be Included in Envelope 1)

CMAs included in this proposal are: _____ _____ _____ _____

Should this Proposal be accepted, the undersigned agrees to enter into a written agreement with the Minister of Transportation of the Province of Alberta for the faithful performance of the Work as outlined in this Proposal. The undersigned further agrees to execute and perform the Work in accordance with the Special Provisions, Specification Amendments, Plans, General Specifications, and the Technical Specifications.

The undersigned further agrees that the Proposal will remain open for consideration by the Department for 90 days.

An authorized signing officer must sign in the space provided below and then the document must be either sealed with the company seal, or the Affidavit of Execution of the Witness must be completed. Failure to comply will result in the Proposal being rejected.

AFFIDAVIT OF EXECUTION **CANADA** **PROVINCE OF ALBERTA** **TO WIT:** I, _____ of the City of _____ in the Province of _____ make oath and say: (1) That I was personally present and did see _____ named in the annexed instrument, and who is known to me to be the person named therein, duly sign and execute the same for the purposes named therein; that the same was executed at the _____ of _____ said Province, and that I am the subscribing witness thereto; (2) That I personally know the said _____ and he is in my belief of the full age of eighteen years. Sworn before me at the City of _____ in the Province of Alberta, this _____ day of _____ 2005. _____ Witness Sign Here _____ A Commissioner of Oaths in the Province of Alberta	(SEAL) Prospective Contractor's Name (Company Name) Authorized Signature Signature Printed Street Address City Province Postal Code Prospective Contractor's Telephone Number Witness (Signature) Witness (Printed) Date

FORFEITURE BOND

Bond No. _____ **Amount** _____ **Contract No.** _____

KNOW ALL MEN BY THESE PRESENTS THAT

_____
(the Contractor)
of the _____ of _____, in the Province of Alberta, as Principal (Hereinafter called "the Principal"),

- and -

_____
(the bonding Company)
of the _____ of _____ (hereinafter called "the Surety"), are held and firmly bound onto:

HER MAJESTY THE QUEEN, herein represented by the Minister of Infrastructure and Transportation of the Province of Alberta, obligee (hereinafter called the Minister") in the sum of _____ _____ Dollars $(_____), to be paid to the Minister or his successors in office, or to whom the said Minister or his successors may direct, and the said Principal and Surety bind themselves for the payment of which sum , well and truly be made, the Principal and the Surety bind themselves and each of them and their respective successors, heirs, executors, administrators and assigns, jointly and severally, to pay the said sum under the terms of these presents;

WHEREAS the Principal has entered into a written Contract with the Minister dated the _____ day of _____, A.D. 20 ___, being Contract No. _____, and which Contract is by reference made a part hereof (and is hereinafter referred to as "the Contract"):

AND WHEREAS it is a term of the Contract that contract security be provided naming the Minister, as obligee herein;

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if the Principal shall promptly and faithfully perform the Contract then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Whenever the Principal is declared by the Minister to be in default under the Contract, the Minister having performed the Minister's obligations thereunder, the Surety shall pay unto the Minister the sum of _____ _____ dollars ($_____) upon receipt of the Minister's written demand sent by registered mail or facsimile transmission to the Surety at _____

_____

_____

Such payment shall be made within 30 calendar days of the receipt of the said demand by the Surety.

The Surety shall not be liable for a greater sum than the amount specified in this Forfeiture Bond.

This Forfeiture Bond shall remain in full force and effect from the inception date of the Contract for a period of two years. One year after the inception date and annually thereafter the bond will be renewed or extended for subsequent periods of two years.

IN WITNESS WHEREOF, the Principal and the surety have Signed and Sealed this Bond this _____ day of _____, 20___.

SIGNED AND SEALED
In the Presence of:

_____ _____

WITNESS TO THE PRINCIPAL Principal (Seal)

_____ _____

WITNESS OF SURETY Surety (Seal)

PROJECT:

STATUTORY DECLARATION

SAMPLE

C A N A D A

PROVINCE OF ALBERTA

IN THE MATTER OF a Contract bearing No. _____ between Her Majesty the Queen in right of the Province of Alberta as represented by the Minister of Transportation and _____ (hereinafter referred to as the "Contractor").

TO WIT:

I, _____ of the _____ of _____ in the Province of Alberta, do so solemnly declare that as of _____ 20____ :

1. I am an officer of the Contractor holding the office of _____ and as such have personal knowledge of this Contract and of the facts and matters stated herein.

2. The Contractor has discharged every obligation under this Contract, excluding the payment of the sums listed under "Exceptions".

3. No payments due exceed 30 days for all labour, equipment, materials and services used in the performance of this Contract and any related subcontract, including full payment to all subcontractors and the Workers' Compensation Board, excluding payment of the sums listed under "Exceptions".

4. There are no outstanding amounts or holdbacks retained from any subcontractor or creditor, with the exception of the names and amounts shown below. If there are no exceptions, this will be so indicated below.

Exceptions:

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath.

_____
Signature of Declarant

DECLARED before me _____
at _____
this ____ day of _____ 20____

_____
A Commissioner of Oaths in
and for the Province of Alberta

SAMPLE FORM OF IRREVOCABLE LETTER OF CREDIT
WHEN USED FOR PERFORMANCE SECURITY

Her Majesty the Queen in right of the Province of Alberta as represented by the Minister of Infrastructure and Transportation (hereinafter called "the Minister").

The Minister has agreed to enter into Contract No. _____ with _____ _____ (hereinafter called "the Company") dated _____ and the Company desires to satisfy Performance requirements specified in the Contract and:

The Minister desires to secure such security requirements as are specified in the Contract:

_____ (hereinafter called "the Bank") hereby establishes in your favour an Irrevocable Letter of Credit No. _____ for an amount or amounts not exceeding in the aggregate _____(Amount)_____.

Claims hereunder must be made in writing to this office accompanied by your signed and endorsed sight draft on _____(Name of Bank)_____ _____(Branch)_____ and must contain the reference "Letter of Credit No. _____ dated _____. We hereby undertake that such drafts will be duly honoured on presentation, without enquiring whether you have a right between yourselves and the Company to make such presentation and without recognizing any claim of the Company provided that the terms and conditions of this Credit are complied with.

It is understood the Bank is obligated under this Credit for the payment of monies only.

It is a condition of this Irrevocable Letter of Credit that it shall be deemed to be automatically extended, without amendment, for one year from the present or any future expiration date hereof, unless ninety (90) days prior to any such date we shall notify you, in writing by registered mail, that we elect not to consider this Letter of Credit renewed for any such additional period.

The expiry date for presentation of any claims at our counters is _____ and the Bank's liability will be extinguished for any claims thereafter.

Except as otherwise stated therein, this Credit is subject to the Uniform Customs and Practice for Documentary Credits (1993 Revision), International Chamber of Commerce, Publication 500.

Yours truly,

IF PRESENTED FOR PAYMENT, THE CHEQUE
OR DRAFT WILL BE PAYABLE TO THE
PROVINCIAL TREASURER

SIGNATURE (Manager)

SIGNATURE (Witness)

Alberta
INFRASTRUCTURE AND TRANSPORTATION

LABOUR AND MATERIAL PAYMENT BOND

Bond No._____ Amount _____ Contract No. _____

Project: _____

KNOW ALL PERSONS BY THESE PRESENTS THAT

_____

(Principal)

of the _____ of _____ in the Province of Alberta, as Principal (hereinafter called “the Principal”),

- and -

_____

(Surety)

of the _____ of _____ in the Province of _____ (hereinafter called the “Surety”), a surety authorized to transact business in the Province of Alberta, are held and firmly bound unto:

HER MAJESTY THE QUEEN, In the Right of the Province of Alberta, herein represented by the Minister of Infrastructure and Transportation, as Trustee, (hereinafter called "the Minister") for the use and benefit of claimants as hereinbelow defined, in the sum of _____ _____ _____dollars($_____), to be paid to the Minister or his successors in office, or to whom the said Minister or his successors may direct, and the said Principal and Surety bind themselves and each of them and their respective successors, heirs, executors, administrators and assigns jointly and severally, to pay the said sum under the terms of these presents:

WHEREAS the Principal has entered into a written Contract (hereinafter called "the Contract") with the Minister, dated the _____ day of _____, A.D.20____, being Contract No. _____, and which Contract is by reference made a part hereof (date to be filled in by the Department);

AND WHEREAS it is a term of the Contract that a Labour and Material Payment Bond be provided in favour of the Minister, as contained herein;

NOW THEREFORE the conditions of this obligation are such that if the Principal shall make payment to all claimants for all labour and material used or reasonably required for use in the performance of the Contract and should such payment be properly made, then this obligation shall be null and void; otherwise, this obligation and these conditions will remain in full force and effect, subject to the following conditions:

1. For the purpose of this bond:
   (a) "claimant" means a person, including a body corporate, or a partnership, and the heirs, executors, administrators or other legal representatives of a person to whom the context can apply according to law, who has provided labour and material and who has not been paid for the same by the Principal or a subcontractor, in accordance with the Principal's or subcontractor's obligation to do so, provided that a person who rents equipment to the Principal or a subcontractor to be used in performance of the Contract under a contract which provides that all or a part of the rent is to be applied towards the purchase price thereof, shall only be a claimant to the extent of the prevailing Alberta Roadbuilders & Heavy Construction Association rental rates for the period during which the equipment was used in the performance of the Contract.
   (b) "labour and material" means labour, equipment, materials and services used or reasonably required for use in the performance of the Contract.
   (c) "services" means water, gas, electrical power, light, heat, oil, gasoline, steam, telephone, architectural, engineering and technical services, construction camp rental and catering, and other similar services, consumed or incurred, by the Principal or a subcontractor, at the Place of the Work and in the performance of the Work of the Contract.
   (d) "subcontractor" means
   (i) a person not contracting directly with the Minister, but contracting with a contractor who holds a contract with the Minister, for the provision of labour and material, and
   (ii) a person contracting with the person first mentioned in subclause (i) for the provision of labour and material.
2. The Surety acknowledges and agrees that Surety means a person who guarantees to the Crown the payment of creditors.
3. The Principal and the Surety hereby jointly and severally agree with the Minister, as Trustee, that every claimant who has not been paid as provided for under the terms of his contract with the Principal or subcontractor before the expiration of a period of 90 days after the date on which the last of such claimant's work or labour was done or performed

may be justly due to such claimant under the terms of his contract with Principal or subcontractor, and have execution thereon; provided that the Minister is not obliged to do or take any act, action or proceeding against the Surety on behalf of any claimant to enforce the provisions of this Bond. If any act, action or proceeding is taken either in the name of the Minister or by joining the Minister as a party to such proceeding, then such act, action or proceeding shall be taken on the understanding and basis that the claimant who takes such act, action or proceeding shall indemnify and save harmless the Minister against all costs, charges and expenses or liabilities incurred thereon and any loss or damage resulting to the Minister by reason thereof; provided still further that, subject to the foregoing terms and conditions, a claimant may use the name of the Minister to sue on and enforce the provisions of this Bond.

4. No suit or action shall be commenced pursuant to clause 3 hereof by any claimant unless such claimant shall give notice within the time limits hereinafter set forth, to each of the Principal, Surety and Minister, stating the amount that is claimed. Such notice shall be served by mailing the same to the Principal, Surety and Minister at the addresses shown in this bond, or served in any manner in which legal process may be served in the Province of Alberta. Such notice shall be given:

(a) in respect of any claim for the amount or any portion thereof required to be held back from the claimant by the Principal or subcontractor under the terms of the claimant's contract with the Principal or subcontractor, within 120 days after such claimant should have been paid in full under the claimant's contract with the Principal or subcontractor,

(b) in respect of any claim other than for the holdback or portion thereof, referred to above, within 120 days after the date upon which such claimant did or performed the last of the work, or furnished the last materials for which such claim was made under the claimant's contract.

5. Any suit by a claimant under this Bond shall be instituted before the expiration of 1 year from the date on which the Principal ceased work on the Contract, including work under the guarantees and warranties provided in the Contract, and shall be instituted in a court of competent jurisdiction in the Province of Alberta.

6. Upon receipt, at the address shown in this bond, by the Surety, of a notice of claim from a claimant, the Surety shall:

(a) immediately commence its investigation of the claim, and

(b) within 15 days, send, in writing, to the claimant and the Minister, an acknowledgment of the notice of claim and a statement of the procedures to be followed by the claimant in order to attempt to settle the claim.

7. Pursuant to clause 6. hereof and following compliance with the procedures referred to in clause 6. and;

(a) providing the claim is not being disputed, the Surety or the Principal, or both, shall make payment to the claimant within 30 days after the date of agreement on the quantum of the claim; or

(b) in the event the claim is being disputed, the Surety or the Principal, or both, shall, within 30 days, notify, in writing, the claimant and the Minister of the dispute, setting out the grounds of dispute.

8. Any material change in the Contract between the Principal and the Minister shall not prejudice the rights or interests of any claimant under this Bond, who is not instrumental in bringing about or has not caused such change.

9. The amount of this Bond shall be reduced by and to the extent of any payment or payments made in good faith, and in accordance with the provisions hereof, by the Surety.

10. Where the aggregate of claims appears to the Minister to exceed the sum of the bond amount and money due and payable to the Principal, the Minister and the Surety may agree to suspend payment until all claimants have substantiated their claims.

11. The Surety shall not be liable for a greater sum than the maximum amount specified in this Bond.

ADDRESS FOR NOTICES shall be:

MINISTER

at Alberta Infrastructure and Transportation, Program Management Branch, 1st Floor, Twin Atria Building, 4999 - 98 Avenue, Edmonton, Alberta T6B 2X3.

PRINCIPAL at _____

SURETY at _____

IN WITNESS WHEREOF the Principal and the Surety have signed and sealed this Bond, this _____ day of _____, 20 ___.

SIGNED, SEALED and DELIVERED by
the Principal in the Presence of

_____ _____ (Seal)

WITNESS TO PRINCIPAL Principal

SIGNED, SEALED and DELIVERED by
the Surety in the Presence of

_____ _____ (Seal)

WITNESS TO SURETY Surety

SECTION B

(RFP Details)

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1.0 INTRODUCTION

In 1996, Alberta Transportation (then Alberta Transportation and Utilities) signed Highway Maintenance Contracts with several contractors, for the outsourcing of all highway maintenance activities in the province of Alberta. Originally, these contracts were for a 5-year term. However, to allow a staggered approach in subsequent rounds of re-tendering, the termination dates for several of the original contracts were extended, for varying periods to a maximum of 3 years.

Since May of 2000, Alberta Transportation has been in the process of re-tendering the highway maintenance contracts in various areas of the province. This is being accomplished through a series of Request for Proposals (RFPs) of which this RFP is a component. Each RFP contains a single Contract Maintenance Area (CMA). The area boundaries of individual CMAs have been retained from the original contracts.

Major changes for the round of RFPs which commenced in 2000 included the addition of secondary highways into the Provincial Highway System and the use of a reduced number of government maintenance facilities.

Maintenance of the secondary highway network now falls under the jurisdiction of Alberta Transportation. Previously, this maintenance work had been administered by each municipality for its' respective area. With the inclusion of secondary highways in the new highway maintenance contracts, quantities of work have increased substantially.

The government has sold most of its maintenance facilities (sand/salt and snowplow truck storage sites). Previously these facilities have been leased to the contractors. For the new contracts, Contractors are totally responsible for providing suitable sites/facilities to accommodate all maintenance materials and equipment. However, a select few government sites/facilities may be available for lease by the Contractor for a limited time or the full term of the contract.

There have been three major changes to the re-tendering process since 2003. The first major change is the increase in the number of CMAs allowed - from seven (7) to nine (9) - per maintenance contractor (note: this has recently been increased to twelve (12) CMAs per maintenance contractor).

The second major change is regarding evaluation of the prospective Contractors' work execution plans. Work Execution Plans (Envelope 2) will no longer be scored but will be based on a pass/fail system. The prospective Contractors are required to meet a set of minimum requirements specified for several different categories. Failure to sufficiently meet a minimum requirement may result in rejection of a proposal.

The third major change is the increased emphasis on the prospective Contractors' unit prices (Envelope 3). The scoring process for Envelope 3 will remain the same, however the total number of points available has increased from 775 to 950, out of 1000. The remaining 50 points will be attributed to the prospective Contractors' previous performance.

This RFP package outlines highway maintenance requirements specific to CMAs 6, 9, 10 & 11, general requirements concerning the submission of a Proposal, and the process used to evaluate Proposals.

1.1 DEFINITIONS AND INTERPRETATIONS

In addition to the definitions contained in Specification 51.2 General (for Maintenance Work), the following definitions shall apply to this Request for Proposal:

Contract Maintenance Area

"Contract Maintenance Area" or "CMA" means a network of provincial highways within a defined geographical area on which maintenance activities are performed.

Shop

"Shop" means a location where individual sand and salt stockpiles or combined sand and salt stockpiles and/or snowplow trucks being used for highway maintenance activities are situated.

Existing Contractor

"Existing Contractor" means the individual, partnership, or corporation currently holding the Department highway maintenance contract for any CMA(s) at the time of this Request for Proposal.

Previous Contractor

"Previous Contractor" means an individual, partnership or corporation which previously held a Departmental Highway Maintenance contract for any CMA(s) but does not hold such a contract at the time of this Request for Proposal.

Request for Proposal

"Request for Proposal" or "RFP" means the document issued by the Department requesting proposals from Prospective Contractors to perform the Work in accordance with the terms and conditions of the RFP, Special Provisions, Plans, Specifications and Specification Amendments.

Total Fixed Costs

"Total Fixed Costs" means the summation of the following 6 items from the Unit Price Schedule:

- 1105 - Snow Removal and Ice Control (Truck) "Availability Rate" (unit price x truck availability days),
- 1106 - Indoor Heated Storage (unit price x number of trucks x truck availability days),
- 1115 - Snow Removal and Ice Control (Operator) "Availability Rate" (unit price x operator availability days),
- 3001 - Highway Maintenance Work (unit price x 12 months),

- 4401 - Indirect Operating Costs (unit price x 12 months), and
- 4410 - General Liability Insurance Premium (lump sum yearly price)

Provisional Quantities

"Provisional Quantities" means the estimated quantities of work the Department expects will be performed during a full fiscal year of the contract.

Total Provisional Costs

"Total Provisional Costs" means the summation of all bid items from the Unit Price Schedule which have a provisional quantity provided, multiplied by the corresponding bid item unit price (excluding any fixed cost items).

Department Designate

"Department Designate" means the person assigned by the Department to administer the process for evaluation of Proposals.

1.2 USAGE OF FACILITIES OWNED OR PREVIOUSLY OWNED BY THE GOVERNMENT OF ALBERTA

Not all government owned facilities have the same lease status and availability throughout the term of the Contract. Details of the status and availability of government owned facilities and applicable rental rates are identified in the Special Provisions.

Some government owned facilities are being retained by the Department and are available for lease by the Contractor for the duration of the Contract. Others, previously owned by the government, have been sold and are not available to the Contractor for lease unless the Prospective Contractor can make arrangements with the new owner.

Any lease of a government owned facility by a Contractor will be based on the Standard Lease Agreement for highway maintenance facilities. The standard lease agreement is included with this RFP. The Department reserves the right to not accept, as a tenant, any Contractor that has previously failed to demonstrate environmental and contractual responsibility.

Notwithstanding anything to the contrary in this RFP document, any lease of a government-owned facility by a contractor and/or the use of a facility previously owned by the government will include the requirement for the Contractor to include in its Environmental Management Plan and construct at the Contractor's sole cost, the improvements to the facility to satisfy the requirements of the "Environmental Management Plan Guidelines Highway Maintenance Yards" document included in this RFP package. Such improvements shall be completed prior to the commencement of any operations at the site.

1.3 ELIGIBILITY OF PROSPECTIVE CONTRACTORS

Proposals will only be accepted from organizations registered with the Alberta Government Services, Corporate Registry. Directors may not be registered with more than one organization submitting a Proposal.

Proposals submitted by new companies that are incorporated as a limited partnership or as a totally new company will be accepted provided they meet the conditions of the RFP. Any Contract awarded will be in the new company's registered name.

Proposals from registered consortia or partnerships must be in the name of a single Contractor with other members of the consortium/partnership listed as subcontractors.

Proposals based on conditions other than those stated or allowed for by the RFP will not be considered.

The Department reserves the right to reject any or all Proposals.

1.4 PRE-SUBMISSION MEETING

During the period allowed for submission of Proposals, the Department will hold individual meetings, upon request, with Prospective Contractors to discuss the RFP and proposed Work area. At that time, Department representatives present will address any questions the Prospective Contractors have concerning the Work.

1.5 SELECTION OF THE PREFERRED PROPOSAL

Contracts will not be awarded on price alone. The Department will select a preferred Proposal using the method described in this RFP, which includes mandatory minimum requirements for execution of the Work, the Prospective Contractor's previous performance and experience, and the Prospective Contractor's proposed pricing.

1.6 INTRODUCTION OF DOCUMENTS

1.6.1 General

The documents listed in this section contain either mandatory requirements or supplemental information, concerning this RFP. Documents containing supplemental information are provided to assist the Prospective Contractor in determining the scope of the Work. Documents containing mandatory requirements are contractually binding.

In addition to a thorough examination of the documents, the Prospective Contractor is encouraged to inform himself about the exact nature of the Work expected to form part of the Contract. The Prospective Contractor may contact Department Operations Managers and Contract Inspectors, inspect roads and inspect records of previous Work performed.

The Prospective Contractor may also purchase Department manuals entitled "Highway Maintenance Guidelines and Levels of Service June, 2000" and "Contract Administration Manual, Highway and Bridge Maintenance, Version 2, 2003". These manuals are available from Alberta Transportation, Program Management Branch, 1st Floor, Twin Atria Building, Phone (780) 427-2091, Fax (780) 422-0232, and are also available on the Department's website at:

http://www.infratrans.gov.ab.ca/Technical_Resources/Highway_Maintenance/index.htm

1.6.2 Documents Containing Mandatory Requirements or Supplemental Information Specific To The RFP and Contract

1.6.2.1 The following documents which contain mandatory requirements are included in this Request for Proposal

1.6.2.1.1 Instructions to Prospective Contractors

This document contains instructions on what the Prospective Contractor must include in a Proposal and how it is to be arranged. It also includes all the necessary forms and delivery instructions for submitting a Proposal.

1.6.2.1.2 Specification Amendments and Special Provisions

These documents contain additions, deletions or modifications to the Specifications to address unique work requirements which are specific to a CMA. The Specification Amendments and Special Provisions will form part of the Contract.

1.6.2.1.3 Unit Price Schedule

This document contains a list of all the Activities necessary to complete the Work, together with all the Bid Items associated with each Activity. The scope of Work for each Bid Item is described in the corresponding Specification, the reference number of which is shown beside the Bid Item.

The Unit Price Schedule also contains Provisional Quantities. Provisional Quantities are the anticipated quantities of Work expected to be performed during a full fiscal year of the Contract.

The Unit Price Schedule will form part of the contract.

1.6.2.1.4 Plans

The CMA Map is a plan that shows:

- boundaries of the Contract Maintenance Area,
- the location of Department facilities which are available for the Contractor's use, including leased shops and Department owned stockpile sites or gravel sources,
- the current paved and gravel provincial highway network that comprise the CMA, including approach roads, Vehicle Inspection Stations and other facilities that are part of the Contract, and

- general geographic information, such as towns and rivers.

The Plow Beat Map is a plan that shows:

- hard surfaced highways that are maintained with a plow truck in the winter, including the highway control section and kilometre stations for each highway section,
- truck allocation used to calculate the "Base" Winter Service Delivery,
- maintenance facilities and stockpiles used to calculate the "Base" Winter Service Delivery (Some of these facilities are not available for the Contractor's use)

1.6.2.1.5 Winter Service Delivery Details

This document contains the necessary spread-sheets which the Prospective Contractor will use to determine if the number and location of his proposed sand salt storage sites and snow and ice control equipment fleet will provide the required level of service.

1.6.2.1.6 Motor Grader Service Delivery Details for Gravel Surfaces

This document describes the method for determining the number of motor grader circuits required for gravel surfaces, each of which is to have one motor grader assigned to it.

1.6.2.1.7 Environmental Management Plan Guidelines - Highway Maintenance Yards

This guideline is provided to document the minimum environmental requirements of an EMP. It is intended to provide a broad overview of environmental issues that face the industry, outline minimum EMP requirements, performance issues, basic monitoring and reporting requirements and to minimize misunderstandings in preparing EMPs.

This guideline is for use as a basis for preparing, reviewing and assessing the minimum requirements for source control at Highway Maintenance Yards. These same guidelines apply to all sites where Contractor's store or obtain mixed salt/sand products for use on a highway maintenance contract with Alberta Transportation including sites owned, or previously owned by the Government that are now owned or operated by 3rd parties.

1.6.2.2 Documents Containing Supplemental Information

1.6.2.2.1 Previous Work Quantity Information

This information includes summaries of select “Bid Item” work quantities completed in a CMA in recent years. Prospective Contractors are encouraged to familiarize themselves with the historical work records for each CMA.

In general, the work quantity records will include the secondary highway network expansion. The Contractor shall assure himself whether the quantity records contain secondary highways and over what periods those highways were included in the existing highway maintenance contract.

Generally, large-scale expansion of the highway network to include secondary highways commenced in April 2000.

1.6.2.2.2 Local Features

Due to the geographical and climatic variations that impact highway maintenance throughout the province, there is a need for local features to be considered when undertaking a geographical highway maintenance contract. This document has been compiled to assist the Prospective Contractor to gain an understanding of the "local" aspect of the Work.

1.6.3 Documents Containing Mandatory Requirements Common to All Contracts and RFPs

The following documents are not included in the package with the Request for Proposals but are available for purchase from Alberta Transportation, Program Management Branch, 1st Floor, Twin Atria Building, phone (780) 427-2091, fax (780) 422-0232. These documents are also available on the Department's website at:

http://www.infratrans.gov.ab.ca/Technical_Resources/Highway_Maintenance/index.htm

These documents will form part of the Contract.

1.6.3.1 General Specifications

These documents detail the general terms and conditions of the contractual relationship between the Department and the Contractor and general requirements for the accommodation of traffic, which will be in effect for the duration of the contract. These specifications are contained in the Department manual entitled Standard Specifications for Highway Maintenance, Edition 4, January 2005.

1.6.3.2 Technical Specifications

These documents detail the technical requirements and payment terms for all Bid Items in the Contract and are contained in the Department manual entitled Standard Specifications for Highway Maintenance, Edition 4, January 2005.

Technical specifications for highway maintenance activities differ from those for highway construction activities due to the following:

- Specific locations where Work will be required are generally not known.
- The severity of problems can not be foreseen (for example, does the patch need to be excavated or surface patched?).
- The extent of Work required is unknown (for example, is the Work spread out over a large area or is it concentrated in one area?).
- Work practices and technologies may change during the term of the Contract.

1.6.3.3 Standard Drawings

These documents provide specific detail for various components or items of Work and are contained in the latest editions of the following Department manuals: Traffic Accommodation in Work Zones, Traffic Accommodation in Urban Work Zones, CB6 Standard Highway Construction Drawings, Highway Pavement Marking Guide, Typical Barrier Drawings, Typical Signage Drawings and the Highway Lighting Guide.

1.6.3.4 Alberta Transportation Products List

This document is referenced in the technical specifications and contains products that comply with the requirements of the applicable technical specifications and are suitable for use on Department projects. This document can be accessed on the Department website only, at http://www.infratrans.gov.ab.ca (click on "Technical Resources"; then "Product Development").

2.0 CONTRACT

2.1 DURATION OF CONTRACT

The duration of the Contract will be approximately 6 years. The termination dates for the CMAs in the existing highway maintenance contracts may vary for each CMA. The termination date for the Contract is specified in the Special Provisions.

2.2 SUBCONTRACTS AND ASSIGNMENTS

The terms and conditions concerning subcontracting and assignment of Work under the Contract are detailed in Specification 51.2, General (for Maintenance Work).

The Prospective Contractor shall list all proposed assignments in Envelope No: 1 of the Proposal.

The Prospective Contractor shall also include, in Envelope No: 1, a list of any proposed subcontracts associated with snow removal and ice control work where the value of such work exceeds $25,000 annually and any subcontracts for other types of work where the value of such work exceeds $100,000 annually. The Prospective Contractor shall use the following sample table as a guide for developing his list. Work activities should be added or deleted as required.

ACTIVITY	SUB CONTRACTOR'S NAME	ESTIMATED ANNUAL VALUE OF WORK
Snow & Ice Control		*$50,000*
Mowing		*$200,000*
Weed Control		*$100,000*
Line Painting		*$200,000*
Total of Minor Items (under $25,000 per sub for snow/ice control, and under $100,000 per sub for other work)		*$150,000*
	TOTAL:	*$700,000*

Any assignments or subcontracts identified by the Prospective Contractor in his Proposal shall be subject to the approval of the Department.

The Prospective Contractor is advised that companies involved in other Department highway maintenance contracts, in the capacity of "the Contractor", will be acceptable as subcontractors under any contract resulting from this RFP, provided that the value of the subcontracted work does not exceed 10% of the total contract value, on an annual basis.

2.3 CONTRACTS FOR INDIVIDUAL OR MULTIPLE CONTRACT MAINTENANCE AREAS

2.3.1 Allowable Number of CMAs

A Highway Maintenance Contractor may not hold a contract or contracts for more than twelve (12) CMAs.

The total number of CMAs available for bidding at this time is 4.

2.3.2 Proposals for Multiple or Individual CMAs

A Prospective Contractor may submit no more than one Proposal for each individual CMA and no more than one Proposal for each specific combination of CMAs.

For a Proposal covering a combination of CMAs, the amount of security required shall be the aggregate amount. (Prescribed security per CMA multiplied by the number of CMAs in the Proposal). The unit prices bid for "like" bid items shall be the same in all the individual CMAs, except for the following CMA specific items.

Bid items 1410 to 1415 - Supply and Stockpile Sand to …
Bid items 1470 to 1475 - Supply of Sodium Chloride to …
Bid item 3001 - Highway Maintenance Work per CMA
Bid item 4401 - Indirect Operating Costs per CMA
Bid item 4410 - General Liability Insurance Premium per CMA

A Prospective Contractor interested in bidding on individual CMAs may submit Proposals for any and all CMAs.

2.3.3 Proposals From A Prospective Contractor With An Existing Department Highway Maintenance Contract

Resources such as snowplow trucks, sand/salt, loaders, foreman and operators, allocated to an existing Department highway maintenance contract can not be committed in a Proposal.

A Prospective Contractor with an existing Department highway maintenance contract that terminates after July 31, 2009 will have each CMA in the existing contract included in the allowable total of 12 CMAs.

3.0 PROPOSAL EVALUATION

3.1 OVERVIEW OF PROPOSAL EVALUATION OBJECTIVES

The objectives of the evaluation of the Proposals are to:

- Ensure that the safety of the travelling public and maintenance workers is maintained,
- Deliver the Department's highway maintenance program at the best value possible
- Ensure that the government's investment in the road infrastructure and operational facilities throughout the province is protected,
- Minimize the financial risk to both the Department and the Contractor and ensure that the risk is equitably distributed, and
- Maximize the appropriate use of technology to reduce costs.

3.2 OVERVIEW OF PROPOSAL EVALUATION PROCESS

The Department will assess Envelope 1 and Envelope 2 of the Proposals to determine if the minimum requirements specified for have been satisfactorily met:

The Department will then score the Proposals on the following two categories if all minimum requirements have been met:

- Past performance of Existing and Previous Contractors or experience of new contractors (a total of 50 points available)
- Envelope 3 - Pricing (a total of 950 points available)

Once the preferred Proposal or Proposals have been identified, the Department may meet with the preferred Prospective Contractor(s) to finalize any details concerning the Proposal(s). The preferred Proposal(s) will then be assessed for financial capability.

If the preferred Proposal(s) is deemed satisfactory following the financial assessment, the preferred Prospective Contractor(s) will then be required to submit a detailed Mobilization Plan. If the Mobilization Plan is acceptable, the Contract(s) will be awarded.

3.3 PROPOSAL EVALUATION AND CONTRACT AWARD – 4 ENVELOPE PROCESS

The Prospective Contractor's Proposal shall consist of 4 basic components. The information provided for each component shall be submitted in one of the 4 envelopes as detailed in this RFP. The Department will assess the contents of each envelope separately. The criteria used to assess the contents of each envelope are detailed in this RFP.

If the information provided by the Prospective Contractor does not demonstrate that the Prospective Contractor is able to meet the mandatory and minimum requirements of the RFP, Special Provisions, Plans, Specifications and Specification Amendments, then the Proposal may be rejected.

The following provides an overview of the requirements for each envelope and a general outline of the proposal evaluation and contract award process.

3.3.1 Phase 1 - Compliance with Specifications (Envelope 1)

This first phase of the evaluation process will be to assess the contents of Envelope No: 1 to ensure that the Proposal meets all the mandatory requirements of the Specifications and the RFP. If the results of the assessment indicate that the Prospective Contractor does not comply with all requirements, the Proposal may be deemed unacceptable and rejected.

3.3.2 Phase 2 – Work Execution Plan and Previous Performance/Experience (Envelope 2)

The second phase of the evaluation process will be to assess the contents of Envelope No: 2. Envelope No: 2 shall contain the service levels the Department may expect from the Contractor. This will allow the Department to assess the Prospective Contractor's ability to meet the specified minimum requirements and carry out the Work without unnecessary risk to the travelling public or the Department for the duration of the Contract.

The Prospective Contractor's Previous Performance and Experience will be scored in accordance with Section 3.5.2. A total of 50 points, or 5% of the total score, will be attributed to previous performance/experience.

3.3.3 Phase 3 - Price Analysis (Envelope 3)

The third phase of the evaluation process will be to assess the contents of Envelope No: 3 to determine which Proposal(s) would provide best value to the Department at any stage during the term of the Contract. This phase of the evaluation will account for a total of 950 points, or 95% of the overall score of a Proposal.

In particular, the following items will be assessed:

- The anticipated overall total cost to the Department of accepting the Proposal.
- The impact on cost of upward and downward shifts in the quantities of groups of major highway maintenance activities.

The Bid Items will be analyzed under a series of probable scenarios for the 5-year term of the Contract. The scenarios will include possible work quantity variations and economic parameter fluctuations. The price analysis will identify the Proposal that performs well under the most scenarios compared to ones that perform well under a lesser number of scenarios. The object is to determine the Proposal that provides the best value to the Department.

3.3.4 Phase 4 - Identifying the Preferred Proposal

The Proposal which meets all the minimum requirements of Envelope No: 2 and has the best combined score for past performance/experience and Envelope No: 3 Pricing, will become the preferred Proposal. Only the preferred Proposal will be subjected to the following phases.

3.3.5 Phase 5 – Meeting to Clarify any Details Concerning the Proposal

At this stage in the process, the Department may meet with the preferred Prospective Contractor to clarify any details concerning the preferred Proposal.

3.3.6 Phase 6 – Financial Analysis (Envelope 4)

The Department will satisfy itself that the Prospective Contractor submitting the preferred Proposal has the financial capability and support to perform the Work, as well as the financial stability to continue operations throughout the specified term of the Contract. In Envelope No: 4, the Prospective Contractor is required to submit financial and related information to allow the Department to make that determination.

It is recognized that prospective Contractors may have concerns about divulging their financial data to the Department. Therefore, arrangements have been made for an independent financial evaluation company to serve as the examiners of the ownership and financial data submitted in Envelope No: 4.

Only the preferred Proposal's Envelope No: 4 will be provided to the financial evaluator. The envelopes of all other Prospective Contractors will be retained unopened by the Department Designate. Using data derived in Phase 3, together with the contents of Envelope No: 4, the financial evaluator will assess the submission, and will provide the Department with a determination of either satisfactory or unsatisfactory. If the contents of Envelope No: 4 are deemed to be unsatisfactory, the Proposal will be rejected and the Proposal which meets all minimum requirements of Envelope 2 and has the second best composite score will become the new preferred Proposal.

After assessing the contents of Envelope No: 4, the financial evaluator will reseal the contents in the envelope and return it to the Department designate. The Department designate will forward the package to the Prospective Contractor.

The following data is required as part of Envelope No: 4:

3.3.6.1 Ownership

The Prospective Contractor shall provide a clear statement of the ownership of the existing business submitting the Proposal. The Department requires an indication of the corporate structure of the Prospective Contractor, the names of the principals, their ownership interest and the name under which the Prospective Contractor is registered with Alberta Government Services, Corporate Registry. If more than one Prospective Contractor is involved, the Department also requires a statement of the ownership structure of the proposed venture.

3.3.6.2 Eligibility

Since a Contractor is restricted as to the number of CMAs he can hold, the Department requires a statement indicating the number of CMAs already awarded to the Prospective Contractor(s) or principals of the Prospective Contractor.

3.3.6.3 Financial Statements

If the Prospective Contractor is an existing business, the Department requires the audited financial statements for the previous 3 years. These statements shall include as a minimum:

- Statement of Earnings
- Balance Sheet
- Statement of Cash Flows

The notes to these statements shall also be provided.

For organizations that do not have audited statements, the Department requires at least a Statement of Earnings, Balance Sheet and Statement of Cash Flows for the 3-year period, together with the name, address, and phone number of the accountant who prepared the statements. The independent financial evaluator may contact the accountant for clarification of submissions.

When more than one Prospective Contractor is involved in a joint submission, the Department requires the statements of each Prospective Contractor according to the guidelines provided above.

When an individual submits a Proposal, the Department requires the following for each of the principals involved in the venture:

- A statement of net worth notarized in Alberta.
- A personal credit rating report.

3.3.6.4 Pro Forma Statements

The Department requires financial pro forma statements for the proposed venture and expects to see the following:

- A Statement of Earnings showing revenues from Alberta Transportation, the cost of operation, and the profit expected before taxes for each of the term of the Contract.
- A Balance Sheet for each year throughout the term of the contract.
- Statement of Cash Flows for the contract term, with the first year broken into months. Sources of new debt or equity required by the venture shall be identified.

3.3.6.5 Financing

The Prospective Contractor shall provide a statement from each investor indicating the investor's undertaking to provide the equity involved. Also to be provided, is a letter from each lending institution indicating that it has examined the pro forma statements of the proposed venture and are prepared to provide financing as per the statements.

3.3.7 Phase 7 – Mobilization Plan

If the contents of Envelope No: 4 are satisfactory, the Prospective Contractor submitting the preferred Proposal will be required to provide a detailed Mobilization Plan demonstrating how his organization will be able to commence Work by the specified date.

The preferred Prospective Contractor will be permitted 30 days to submit the Mobilization Plan. The Mobilization Plan shall include the following:

- Assembling the management and supervisory team,
- Letters of Intent from the Prospective Contractor for engaging the Foreman, Snowplow Truck Operators and all remaining personnel to commence work,
- Resumes for all Foremen and Snowplow Truck Operators
- Letters of Intent from the Prospective Contractor for purchasing any equipment in accordance with the undertaking of the Proposal,
- Letters of Intent from the Prospective Contractor for procurement of facilities and scheduling of site construction,
- Securing bonds and insurance,
- Producing the necessary documentation to ensure compliance with the General Specification requirements for winter default procedures,
- Detailed Schedule of the mobilization process including commencement and completion dates for each phase of the Contractor's mobilization plan.
- In the event that the original facilities are not available, details of alternatives (alternative facilities must be comparable and acceptable to the Department),
- Identification of any facilities that are being obtained from the Government of Alberta (any and all Departments and agencies or boards) or facilities that were previously owned by the government.
- A commitment by the preferred Prospective Contractor to execute lease agreements for each Department facility to be leased if a Contract is awarded. The lease agreements will be prepared by the Department based on the applicable rental rates as stated in this RFP and on the terms and conditions as set out in the standard lease agreement.
- Identification of any person who has any interest in the title, lien, caveat or encumbrance on property being proposed as a site for storage of equipment or materials.

3.3.8 Phase 8 - Contract Award

If the Department is satisfied with the preferred Prospective Contractor's Mobilization Plan, the Contract will be awarded, and Envelope No. 4 of the unsuccessful Prospective Contractors will be returned.

Within 60 days after Contract award, the Contractor shall submit a Comprehensive Staff Training Plan, a Safe Work Practices/ Job Procedures Plan, Traffic Accommodation Strategies Plan for all highway maintenance work activities, and Ferry Operating and Safety Plan when applicable. Failure of the Contractor to submit these plans within this time period will result in assessment of a $250.00 per week per plan penalty up to the time acceptable plans have been submitted.

By **June 1, 2009**, the Contractor shall submit a draft of all Environmental Management Plans (EMPs) for each highway maintenance yard included in the Contract for review. The Contractor shall make any changes as deemed necessary by the Department Designate. Finalized versions of all Environmental Management Plans (EMPs) shall be implemented no later than **September 1, 2009**. Failure of the Contractor to submit acceptable EMPs within this time period will result in assessment of a $1000.00 per site per month penalty up to the time an acceptable EMP(s) has been submitted. After **January 1, 2010**, this penalty will increase to $2,000.00 per site per month. These penalties will be prorated for lateness of a partial month.

Failure of the Contractor to commence work on the specified contract date may result in the forfeiture of the Performance Security.

3.4 IMPLEMENTATION OF MOBILIZATION PLAN

3.4.1 Progress Updates for Mobilization Plan

Following Contract award, the Contractor shall provide the Department with written monthly reports concerning the progress being made on the various components of the Mobilization Plan, particularly the procurement of facilities and winter snow and ice control equipment. Such reports shall be supplied to the Department's Operations Manager at the end of each month. An in depth, comprehensive, written progress update of mobilization progress shall also be submitted by the Contractor, to the Department, on **July 30, 2009**. The Contractor may also be required to meet with the Operations Manager to discuss details of the progress of the Mobilization Plan. Any such meetings will be at the discretion of the Department.

In addition to this reporting, the Department has set milestone dates that the Contractor is expected to meet during mobilization. These milestones include having all site construction completed and construction of all buildings used to store sand and salt ready to receive full quantities of material under cover by **September 15, 2009**. As well, all work involving winter sand production, stockpiling, mixing and storage shall be completed by the first Truck Availability.

3.4.2 Failure to Deliver Equipment, Operators or Sand/Salt Materials in Accordance with the Mobilization Plan

In the event the Contractor is unable to provide the required number of snowplow trucks, loaders, equipment operators or sand/salt material at the applicable locations by the required dates, the Contractor must undertake alternative temporary measures, to ensure that there is no loss in service to the traveling public. Such measures must be suitable to the Department and shall be completed at no additional costs to the Department.

The alternative measures must be detailed in a written Plan and provided to the Department for evaluation prior to implementation. The Department will be the sole judge of whether or not the Contractor's proposed Plan is suitable.

In these situations the following conditions shall also apply:

- If the Department is of the opinion that the Contractor's Plan is suitable, the Contractor will not be assessed penalties and a formal contract change will be done.
- If the Department is of the opinion that the Contractor's Plan is not suitable, the Contractor will be assessed penalties based upon the quantities of materials and equipment/operators that are not "in place" by the required dates. The penalties shall be $500 per day per stockpile of sand or salt, $500 per day per snowplow truck with operator(s) and/or $500 per day per loader with operator. The penalties shall commence on the day the materials and/or equipment/operators were scheduled to be in place and shall continue daily until such time as the materials and/or equipment/operators are in place or until a suitable Contingency Plan is received by the Department and suitable alternate measures are in place. Demerits may also be assessed if, in the opinion of the Department, safety to the traveling public is compromised

3.4.3 Permanently Relocating a Shop

Permanent relocation of a Shop subsequent to the award of the Contract shall be subject to the approval of the Department. In these cases the Department's main concern will be that the Contractor provides the same level of service as was indicated in the Contractor's Proposal, at no additional cost to the Department.

Generally, if the required level of service can be maintained without increasing the number of snowplow trucks, the request to relocate the Shop would be approved. However, if additional snowplow trucks and/ or operators are required to maintain the required level of service, the "Availability Rate" and "Heated Storage" payments will not be made for those trucks and/ or operators as applicable. Also, the Department will not entertain requests for any additional compensation.

3.5 EVALUATION CRITERIA

3.5.1 Envelope No: 1 - Compliance with Specifications

The following table shows the items in Envelope No: 1 which will be reviewed by the Department. Non-compliance with any of these requirements may result in the rejection of the Proposal.

Requirements	Compliance	Non Compliance
A completed form titled "Prospective Contractor's Certification of Information Provided", which must be completed and initialed.		
A completed "Prospective Contractor's Proposal Agreement" form		
Commitment to provide consent of interested parties to allow the Department's use of snow clearing equipment and facilities in the event of Contractor default or Contract termination.		
Consent of Surety for a labour and material bond in the amount required.		

Requirements	Compliance	Non Compliance
Consent of a financial institution for an irrevocable letter of credit, certified cheque, bank draft or money order; or a consent of surety for a forfeiture bond in the amount required for Performance Security.		
Signed letter of intent from an insurance company		
Confirmation that the Prospective Contractor has completed or has initiated the process for safety accreditation		
Confirmation that the company is legally registered with the Corporate Registry		
List of proposed Assignments and Subcontracts		
UPS(s) requirements: - confirmation that fixed costs do not exceed the 45% of total annual contract amount; the UPS(s) has not been qualified in any fashion; unit prices do not exceed three decimal places; and all unit prices are identical in multiple CMA proposals, with the exceptions noted in Section 1.4.4 of the Instructions to Bidders.		
Prospective Contractor's intention regarding Voluntary Partnering		
Signed Receipt of Addendum form(s)		

3.5.2 Previous Performance/Experience

3.5.2.1 Existing/ Previous Department Highway Maintenance Contractors

Prospective Contractors that hold or have held a Department highway maintenance contract will be recognized for the performance of their respective contracts.

Existing Contractors and Previous Contractors will be scored using the Performance Measures System for each particular year. Points will be awarded based upon the average score (%) over the previous years multiplied by 50.

Prospective Contractors that have more than one existing highway maintenance contract will have a weighted average score calculated based upon the value of their contracts.

3.5.2.2 New Contractors

Prospective Contractors with highway maintenance and/ or highway construction contracting experience in other provinces or jurisdictions will also be given consideration in accordance with the following table. Prospective Contractors with highway construction experience in the Province of Alberta will also be scored using this table.

HIGHWAY MAINTENANCE AND CONSTRUCTION CONTRACT EXPERIENCE					
Maintenance			**Construction**		
Years Experience	Annual Contract(s) Avg. Value (millions)	**Score**	Years Experience	Annual Contract(s) Avg. Value (millions)	**Score**
> 5	≥ 5	*APS	> 10	≥ 10	*APS - 20
> 5	< 5	APS - 10	> 10	< 10	APS - 25
2 - 5	≥ 5	APS - 15	5 - 10	≥ 10	APS - 30
2 - 5	< 5	APS - 20	5 - 10	< 10	APS - 35
> 0 and < 2	≥ 5	APS - 25	> 0 and < 5	≥ 10	APS - 40
> 0 and < 2	< 5	APS - 30	> 0 and < 5	< 10	APS - 45

**Note: APS means Average Provincial Score over the last five years of all existing Highway Maintenance Contractors under contract to the Department. The APS will be a weighted average based upon the total yearly value of each contract.*

Prospective Contractors who do not meet these "experience" criteria will not be awarded points. Negative scores will revert back to zero and no points will be awarded.

The Prospective Contractor shall provide a written history of his applicable highway maintenance and/ or highway construction experience and include it in Envelope No. 2 of his proposal. The Prospective Contractor shall include appropriate supporting documentation from the jurisdiction where the experience was attained.

As a minimum, the Prospective Contractor shall provide the following information:

- Highway Maintenance Experience
  - Jurisdiction of contract
  - Start/ End dates of contract
  - Type of work included in contract
  - Annual contract value

- Highway Construction Experience
  - Jurisdiction of contract(s)
  - Years in business
  - Type of work included in contract(s)
  - Average annual value of contract(s)

3.5.3 Envelope No: 2 - Work Execution Plan Minimum Requirements

The following table summarizes the minimum requirements for the work execution plan, as specified in section 3.6, that must be addressed in Envelope 2 of the Prospective Contractor's proposal. In the right column of the table, the Prospective Contractor shall identify the page number(s) of his proposal that addresses each minimum requirement, and shall include the table in Envelope 2 of the proposal.

Section Reference Number and Description		Proposal Page #
3.6.3	KEY PERSONNEL	
3.6.3.1	Organization Chart	
a.	Organization chart of titles and locations for personnel, including foreman	
b.	Locations of the proposed major offices	
c.	Resumes and work history of personnel, excluding foreman	
3.6.3.2	Contract Manager	
a.	One per 9 CMAs (including existing contracts), more If CMAs are not adjoining	
b.	Office within the Contract area boundaries	
c.	Seven years of applicable experience managing $5 million/yr. or greater	
d.	Three years of direct experience managing hwy maintenance of $5 million/yr. or greater	
3.6.3.3	Superintendents	
a.	Number of Superintendents (minimum of 1 for every 3 adjoining CMAs)	
b.	Reside within the Contract area boundaries	
c.	Five years of applicable experience	
3.6.3.4	Foremen	
a.	Commitment for minimum number of Foremen at all times	
b.	All foremen are to be "non-working" foreman	
c.	Foremen reside within 30 minutes of the area	
d.	75% of foreman have 5 years experience with 2 years at a supervisory role	
e.	Commitment that resumes/ declarations will be provided with mobilization plan	
f.	All foreman have minimum training requirements: - ARHCA Road builder Safety Training System for Snowplows - TAC Salt SMART training	
3.6.3.5	Equipment Operators	
a.	Commitment that a minimum of 70% of Snowplow operators will have 3 years experience	
b.	All operators have minimum training requirements: - ARHCA Road builder Safety Training System for Snowplows - TAC Salt SMART training	
3.6.4	WORK PLANNING	
a.	Agreement to work jointly with the Department in the planning process	
b.	Agreement to provide a detailed work plans by April 1 of each year	
c.	Agreement to monitor and track progress of the work plan	
d.	Agreement to identify and report work to the department	
3.6.5	SNOW/ICE CONTROL PLAN	
3.6.5.1	Salt and Sand Storage Site Plans	
a.	Ownership and location of site by land parcel.	
b.	Detailed description of the proposed method used to track quantities at shared sites	
c.	Location and length of highway network serviced by a site	
d.	Highway locations should represent halfway point between sites, if not, why	
e.	Calculation of the bid quantity of salt for that site	
f.	Calculation of the bid quantity of sand for that site	
g.	Salt and/or sand structures additional storage capacity as identified in the SPs	
h.	Identified dead haul roads being used to access the highway system	
i.	Identified the type of loader equipment and loader storage	
3.6.5.2	Snowplow Truck Storage Sites	
a.	Ownership and location of site by land parcel	

Section Reference Number and Description		Proposal Page #
b.	The number of trucks at each site	
c.	The number of trucks in indoor heated storage at each site	
d.	Identified roads & lengths between truck storage facilities & salt/sand storage sites	
3.6.5.3	Environmental Management Plans	
a.	Written commitment to have all finalized EMPs implemented by September 1, 2009	
3.6.5.4	Salt Management Plans	
a.	Written commitment for compliance with the department's Salt Management Plan	
b.	Written commitment that Contractor staff is made aware of their responsibilities	
3.6.5.5	Winter Service Delivery	
a.	All WSD tables accurately completed	
b.	Complied with Winter Snowplowing delivery time requirements identified in the SPs	
c.	Complied with Snowplow truck allocation requirements identified in the SPs	
d.	Complied with Winter sand/salt application delivery times identified in the SPs	
e.	Complied with Cumulative Network Time Requirements identified in the SPs	
f.	Provided number of snow plow trucks (8.5m3 or greater) identified in the SPs	
g.	Provided number of snow plow operators as calculated in the WSD	
h.	Provided number of pre-wetting devices identified in the SPs	
i.	Provided number of two-way plows identified in the SPs	
j.	Provided number of under-body plows identified in the SPs	
k.	Provided number of right sided wings identified in the SPs	
l.	Provided number of left sided wings identified in the SPs	
m.	Provided number of dual wings identified in the SPs	
n.	Provided number of single axle trucks identified in the SPs	
o.	Written commitment to equip all snowplow trucks with the Dept's selected AVLS	
3.6.5.6	Motor Graders For Snow/Ice Control on Paved Surfaces	
a.	Demonstrate that response and completion times for winging shoulders will be met	
3.6.6	MOTOR GRADERS FOR GRAVEL SURFACES	
a.	Grader plan meets the grader service delivery requirements for both summer & winter	
b.	Provided Grader Beat Maps including storage locations for both summer and winter	
c.	Number of motor graders complies with the maximum utilization per grader	
d.	Each proposed circuit completed within the maximum "time to complete"	
e.	Suitable back-up plans for motor grader breakdowns and operator unavailability	
f.	Arrangements for supplemental resources in emergency situations	
g.	Identify subcontractor arrangements and how Department work will be prioritized	
3.6.7	REPAIR OF EQUIPMENT	
a.	Identified location of repair facilities, mechanics, service vehicles & spare equipment	
b.	Provided a contingency plan for repair/ replacement of sub-contractor's equipment	
c.	Identified pre-winter season preparations for winter snow/ice control equipment	
3.6.8	STAFF TRAINING	
a.	Written commitment to submit training plan within 60 days after contract award	
b.	Written commitment for jointly developing training programs with the Department	
3.6.9	SAFETY PLAN	
a.	Included emergency preparedness plan for public safety	
b.	Written commitment to submit safe work practices within 60 days after contract award	
c.	Included a fatigue management plan	
d.	Written commitment to submit TAS within 60 days after contract award	
e.	Included policy for conducting safety meetings	
f.	Written commitment to submit Ferry Operating/Safety Plan within 60 days after contract award	

3.5.4 Envelope No: 3 - Price Analysis

An explanation of the pricing components and how they will be scored is detailed in Section 3.7 "Details for Analysis of Pricing."

Pricing Components	Maximum Points Available
Scenario # 1	20
Scenario # 2	20
Scenario # 3	20
Unbalanced Bid Check	30
Total CMA Cost	860
Total Points	**950**

3.5.5 Envelope No: 4 – Financial Analysis

The following items will be assessed by the financial evaluator and will be rated as either acceptable or unacceptable.

FACTORS	ACCEPTABLE	UNACCEPTABLE
Ownership		
Eligibility		
Financial History		
Pro Formas		
Financial and Banking		

3.6 DETAILS FOR EVALUATION OF WORK EXECUTION PLAN (ENVELOPE 2)

3.6.1 General

The individual components of the contents of Envelope No: 2 will be assessed using the key points outlined in this section.

The Proposal shall address each issue specified and when requested, provide information in sufficient detail to ensure the Department can determine (with confidence) the Prospective Contractor's ability to meet the requirements of the key points.

The Department will assess the Prospective Contractor's ability to safely and competently perform the Work. A Proposal that makes certain commitments and covers all the issues in a comprehensive manner will be considered for further evaluation. All requirements identified in Envelope 2 must be met or exceeded before the Department will consider entering into a Contract with a Prospective Contractor.

The Work Execution Plan will form part of the Contract.

3.6.2 Specified Minimum Requirements

Each component of the Work Execution Plan makes reference to minimum requirements. Minimum requirements are those that the Department feels must be satisfactorily addressed in the Work Execution Plan.

All minimum requirements must be met. If a minimum requirement is not satisfactorily addressed in the Work Execution Plan, the appropriate category will be considered to be non-compliant. The preferred Prospective Contractor will be required to ensure that all sections that do not meet the minimum requirements are addressed in his Work Execution Plan prior to final acceptance by the Department, and there will be no resulting adjustment of prices. This is premised on the assumption that the Prospective Contractor was aware of the minimum requirements and not specifically addressing it in the Work Execution Plan was simply an oversight. The preferred Prospective Contractor will be provided one week to make adjustments to his Work Execution Plan.

If a minimum requirement is not satisfactorily addressed in the Work Execution Plan, the Department reserves the right to terminate the evaluation of the Proposal.

3.6.3 Key Personnel

3.6.3.1 Organization Chart

Normally, maintenance organizations have a basic organization as shown below:

Principals	**Administer Contractor Activity**
Contract Manager	**Administers Contract Activity**
Superintendent	**Administers Activity in Contract**
Foremen	**Supervises Activity in a Local Area**
Equipment Operators	**Performs Activities Locally**

It is understood that each Prospective Contractor may wish to organize in a different fashion or manner. The Department has no desire to change or create a different organizational structure for the Contractor but simply uses this base structure for comparative purposes. Each Contractor may choose to have whatever management structure they wish.

3.6.3.1.1 Minimum Requirements

a. The Prospective Contractor shall provide an organization chart, indicating titles and locations for all personnel at the foreman level and higher.
b. The Prospective Contractor shall identify the locations of the proposed major offices where the Prospective Contractor's administrative functions will occur.
c. All personnel identified, with the exception of the foreman should have both a resume and a brief description provided of their work history, including any previous experience they may have in any kind of highway maintenance.

3.6.3.2 Contract Manager

The skills and experience of the Contract Manager are considered an essential component of the highway maintenance contract. Contract Managers are expected to have:

- Demonstrated good speaking and writing skills, to enable positive liaison with the Department's Staff and ensure accurate record keeping, including accident reports and Work Completion Reports,
- Demonstrated experience in planning, organizing, directing and reviewing the Work of the crews
- Good public relations skills,
- Experience in contract management, and
- Experience in large maintenance highway contracts, and
- Experience in construction highway contracts.

3.6.3.2.1 Minimum Requirements

a. At least one Contract Manager must be identified in each Proposal, regardless of the number of CMAs within the Proposal. If there is more than one CMA in the Proposal, the same Contract Manager can be named for all the CMAs, to a maximum of 9, providing the CMAs are adjoining. If the CMAs are not adjoining, then an additional Contract Manager would be required. If a Contract Manager is or will be also supervising CMAs within an existing Department highway maintenance contract, then those CMAs will also be included in the maximum of 9 CMAs for that Contract Manager.

b. The Contract Manager is required to have an office within the Contract area boundaries. The Contract Manager shall be responsible for supervision of administrative responsibilities of the Contractor and should be available to liaise on a day to day basis with the Department Operations Manager.

c. The Contract Manager must have a minimum of 7 years of experience managing Construction/Maintenance contracts or programs that had an annual value of $5 million or greater.

d. Of the seven years the Contract Manager must have a minimum of 3 years of direct experience managing highway maintenance contracts or programs that had an annual value of $5 million or greater.

3.6.3.3 Superintendents

The Superintendent must be able to substitute for the Contract Manager in her/his absence. Normally, all the basic skills of the Contract Manager are required for the Superintendent.

Superintendents are not normally "line supervisors" and do not regularly supervise work activities directly in the field.

Superintendents must have the ability to respond rapidly to emergency after-hours calls and to notify the Department of any required Work.

Superintendents must have directly related supervisory highway maintenance experience. Contract administration experience is also required.

A Superintendent may supervise up to 3 CMAs. If there is more than one CMA in the Proposal, the same person can be named for all the CMAs, to a maximum of 3, providing the CMAs are adjoining and form a continuous area. If the CMAs are not adjoining and not continuous, then additional Superintendents are required.

3.6.3.3.1 Minimum Requirements

a. Prospective Contractor must provide minimum number of Superintendents as prescribed above.
b. Superintendents must reside within the Contract area boundaries they manage and be available in the "off-hours" in case of emergency situations. If the Contract Manager does not have an office in close proximity to office of the Department Operations Manager, it is very desirable that the Superintendent resides and works in close proximity. Day to day operations should not be delayed due to the absence of the Contract Manager.
c. Superintendents must have a minimum of 5 years of highway maintenance contract supervisory and administration experience.

3.6.3.4 Foremen

Foremen supervise activities and therefore must have a demonstrated ability to supervise the operation of all maintenance activities and ensure proper procedures are used.

3.6.3.4.1 Minimum Requirements

a. The Prospective Contractor must commit to having the minimum number of Foremen identified in the Special Provisions at all times.
b. All foremen are to be "non-working" foreman. There task is to oversee and direct the work. They are not to be considered full time operators for snow-plows.
c. Foremen must reside in the off-hours within 30 minutes from the area they supervise in order to deal with emergencies that may arise.
d. Seventy five percent or more of the foreman must have a minimum of 5 years highway maintenance experience of which 2 years must have been at the supervisory role. Each foreman must have some level of supervisory highway maintenance experience and a good working knowledge of highway "work zone" management.
e. The Prospective Contractor is required to provide a written commitment that the resumes of each of the Foreman and a declaration indicating their desire to work for him will be provided to the department with the mobilization plan.
f. Foreman are expected to have the following minimum training:

- ARHCA Road builder Safety Training System for Snowplows
- TAC Salt SMART training

The Department will consider training in equivalent programs.

3.6.3.5 Equipment Operators

It is considered important that snow/ice control activities be performed by trained and skilled equipment operators. It is expected that experienced personnel will be able to exercise the appropriate judgment to operate safely and appropriately in emergency situations.

3.6.3.5.1 Minimum Requirements

a. The Prospective Contractor shall provide a written commitment that a minimum of 70% of snowplow truck operators that he intends to employ for the term of the Contract will have at least 3 years experience in winter highway maintenance.
b. In addition, all snowplow operators shall have the following minimum training:

- ARHCA Road builder Safety Training System for Snowplows
- TAC Salt SMART training

The Department will consider training in equivalent programs.

3.6.4 Work Planning

The Prospective Contractor shall provide a brief description of how the work will be planned in accordance with contract specifications. The Prospective Contractor's work planning shall include, but is not limited to the following items:

- Joint participation in the development of the yearly CMA activity based budget
- Development of a detailed work plan for all programmed work
- Allowances in resource allocation to ensure ability to perform routine and reactionary work is not compromised
- Work identification and reporting as part of the Prospective Contractor's routine highway inspections

3.6.4.1 Minimum Requirements

a. The Prospective Contractor agrees to work jointly with the Department in the development of an efficient work planning process that takes into account both the needs of the Prospective Contractor and the needs of the Department (i.e. budget, completion dates, priorities, etc.)

b. The Prospective Contractor agrees to provide a detailed work plan for "major" specified programmable work activities and for other "minor" programmable Work Activities as mutually agreed by April 1 of each year.

c. The Prospective Contractor agrees to monitor and track progress of the work plan and report to the department on a bi-weekly basis or otherwise mutually agreed.

d. The Prospective Contractor agrees to identify and report work to the department in accordance with the highway maintenance specifications.

3.6.5 Snow/Ice Control Plan

The key element in Envelope No: 2 is the Prospective Contractor's Snow/Ice Control Plan.

3.6.5.1 Salt and Sand Storage Site Plans

The Prospective Contractor must provide a detailed description for each salt storage and sand storage facility identified in the Proposal, including any third party maintenance facility that the Prospective Contractor intends to purchase these materials from.

The use of a site that is presently being used and is outside the boundaries of the CMA(s) included in this RFP will only be permitted if the Prospective Contractor clearly demonstrates that the salt and or sand storage capacity is not being duplicated.

The minimum requirements describe below should be summarized in a tabular format. Headers to include;

- Site Name
- Legal Land Location
- Ownership of Site
- Kms of Highway Serviced from Site
- Kms of dead haul to nearest highway
- Calculated Salt requirement for site (Salt distribution factor x No. of 2LEKm)
- Calculated Sand requirement for site (Sand distribution factor x No. of 2LEKm)
- Department Storage requirement for Salt
- Department Storage requirement for Sand
- Salt storage capacity of site
- Sand storage capacity of site
- Loader type
- Loader Storage

3.6.5.1.1 Minimum Requirements

a. Ownership and location of site by land parcel.

b. If the site is being shared with other users of salt or sand and/or the Contractor is providing salt and/or sand to/for others, the Contractor must provide a detailed description of the proposed method used to track quantities. This method must be auditable to the satisfaction of the Engineer.

c. The location and length of highway network serviced by a site. If the site is being used for more than 1 CMA, the lengths and locations of all highways serviced (in all CMAs) by the site must be identified.

d. Highway locations serviced by a site should represent, in general, the halfway point between sites. If this is not the case, the Prospective Contractor shall provide an explanation why they do not.

e. Calculation of the bid quantity of salt for that site. The quantity of salt should be calculated based on the length of highway serviced by the site in each CMA, multiplied by the Salt Distribution Factor identified in the Special Provisions for that CMA, aggregated together.

f. Calculation of the bid quantity of sand for that site. The quantity of sand should be calculated based on the length of highway serviced by the site, in each CMA multiplied by the Sand Distribution Factor identified in the Special Provisions for that CMA, aggregated together.

g. Salt and/or sand structures are to accommodate additional storage capacity as identified in the Special Provisions.

h. Clearly indicate the dead haul roads, including length and location, being used to access the highway system. Identify any major dead haul routes through urban or residential areas. The location of the roadway network access needs to be identified within 0.1 km. accuracy, referenced to the Department's control section reference system.

i. Identify the type of loader equipment and loader storage the site will have. All loaders must be stored inside a covered structure.

NOTES:
If the Prospective Contractor has any cause for alteration of the quantity of salt or sand the Prospective Contractor must provide his explanation and evaluation of the causes for the amendments to salt or sand distribution quantity.

For Proposals consisting of multiple CMAs and having sites servicing highways in more than 1 CMA, the price bid for supply of salt or sand from that site must be the same in the Unit Price Schedule for each CMA for that particular site.

For Proposals consisting of multiple CMAs and having sites servicing highways in more than 1 CMA, the salt or sand quantity distribution must be based on the kilometer distance of highways in each CMA, utilizing the factors identified in the Special Provisions.

3.6.5.2 Snowplow Truck Storage Sites

The Prospective Contractor must provide a detailed description for every snowplow truck storage facility listed within the Proposal.

The minimum requirements describe below should be summarized in a tabular format. Headers to include;

- Site Name
- Legal Land Location

- Ownership of Site
- Kms of Highway Serviced from Site
- Kms of dead haul to nearest highway
- Number of Trucks stored at site
- Number of Trucks in indoor heated storage

3.6.5.2.1 Minimum Requirements

a. Ownership and location of site by land parcel.

b. The number of trucks at each site.

c. The number of trucks in indoor heated storage at each site is. The total number of trucks stored in indoor heated storage must be equal to or greater then what is specified in the Special Provisions,

d. Identification of roads and lengths between each truck storage facility and the applicable salt/sand storage site or sites. The location of the roadway network access needs to be identified within 0.1 km accuracy, referenced to the Department's control section reference system.

3.6.5.3 Environmental Management Plans (EMPs)

In the long term interest of maintenance contracting, it is imperative that all sites, both publicly and privately owned, are kept clean and responsibly managed from an environmental standpoint.

All maintenance sites including Government-Owned Facilities, Facilities Previously Owned by the Government and pristine sites will require an Environmental Management Plan.

3.6.5.3.1 Minimum Requirements

a. The Prospective Contractor must provide a written commitment that he will, by **September 1, 2009**, have implemented finalized Environmental Management Plans in accordance with the provisions of the "Environmental Management Plan Guidelines Highway Maintenance Yards" for all maintenance facilities.

3.6.5.4 Salt Management Plans

Alberta Transportation is required to develop and implement a Salt Management Plan (SMP) under the Environment Canada Code of Practice for the Environmental Management of Road Salts (April 2004). The department has committed to reporting information regarding the implementation of our salt management plan as prescribed in the Code beginning in June, 2005 in order to allow Environment Canada to follow-up on road salts use and management in Canada.

3.6.5.4.1 Minimum Requirements:

a. Prospective Contractor must provide a written commitment that all winter maintenance activities will be carried out in compliance with the department's Salt Management Plan included in this RFP.

b. Prospective Contractor must provide a written commitment that he will ensure that his staff is made aware of their responsibilities in accordance with the policies and procedures set out in the Salt Management Plan.

3.6.5.5 Winter Service Delivery

In order to ensure delivery of appropriate "Levels of Service" the Provincial Highway network, without the risk of loss service to the traveling public, it is important that Alberta Transportation be able to compare contract proposals to a pre-determined case.

The Prospective Contractor will be required to provide a complete Winter Service Delivery Plan in accordance with the "Winter Service Delivery – Details" document included in this RFP.

Some of the minimum requirements describe below should be summarized in a tabular format. Headers to include;

- Site Name
- Total Number of Trucks
- Total Number of Operators per site
- Total Number of Trucks with two way plows
- Total Number of Trucks with Right Sided Wings
- Total Number of Trucks with Left Sided Wings
- Total Number of Trucks with Dual Wings
- Total Number of Trucks with underbody plows
- Total Number of Trucks with pre-wetting devices
- Total Number of Single Axle trucks

3.6.5.5.1 Minimum Requirements

a. The Prospective Contractor must accurately complete all the tables identified in the "Winter Service Delivery - Details" document included with this RFP. Computer software is included in this RFP to assist the Prospective Contractor with this task.

b. Comply with the Winter Snowplowing delivery time requirements identified in the Special Provisions.

c. Comply with the Snowplow truck allocation requirements identified in the Special Provisions.

d. Comply with the Winter sand/salt application delivery time requirements identified in the Special Provisions.

e. Comply with the Cumulative Network Time Requirements identified in the Special Provisions.

f. Provide the minimum number of snow plow units with a hopper size 8.5 cubic meters or greater identified in the Special Provisions.

g. Provide the minimum number of snow plow operators, including additional operators, as calculated in the Winter Service Delivery.

h. Provide the minimum number of pre-wetting devices identified in the Special Provisions

i. Provide the minimum number of two-way plows identified in the Special Provisions.

j. Provide the minimum number of under-body plows identified in the Special Provisions.

k. Provide the minimum number of right sided wings identified in the Special Provisions.

l. Provide the minimum number of left sided wings identified in the Special Provisions.

m. Provide the minimum number of dual wings identified in the Special Provisions.

n. Provide the number of single axle trucks identified in the Special Provisions.

o. Provide a written commitment to equip all snowplow trucks with the Department's selected AVLS.

3.6.5.6 Motor Graders For Snow/Ice Control on Paved Surfaces

Prospective Contractors shall identify their plan for provision of motor graders for winging shoulders.

3.6.5.6.1 Minimum Requirement

a. Demonstrate and confirm that response and completion times for winging shoulders, as specified in the Special Provisions, will be met.

3.6.6 Motor Graders For Gravel Surfaces

The Prospective Contractor shall provide two separate plans (winter and summer) for provision of motor grader services on all identified gravel roadways in accordance with the Grader Service Delivery Details for Gravel Surfaces document included in this RFP.

3.6.6.1 Minimum Requirements

a. The Prospective Contractor's grader plans meets the grader service delivery requirements.

b. The Prospective Contractor to provide Grader Beat Maps. Storage locations of the graders during the summer and winter must be indicated on the map.

c. Demonstrate that the number of motor graders complies with the maximum utilization per grader for both summer and winter.

d. Demonstrate that each proposed circuit be completed within the maximum "time to complete" for both summer and winter.

e. Identifying suitable back-up plans for motor grader breakdowns and operator unavailability.

f. Identifying specific arrangements for supplemental resources in emergency situations, such as reciprocal agreements, or other types of equipment (i.e. farm, tractors, loaders, etc.).

g. Identify subcontractor arrangements and how Department work will be prioritized..

3.6.7 Repair of Equipment

The Prospective Contractor shall provide a plan for repair of major equipment, specifically, to identify repair locations, facilities, mechanics, the number/distribution of mobile service trucks and spare equipment and contingency plans for repair/ replacement of sub-contractor's equipment. The Prospective Contractor is responsible to ensure that sufficient resources are in place to compensate for mechanical breakdowns. Contract response times for snow removal and ice control must be met at all times during the specified availability period.

3.6.7.1 Minimum Requirements

a. Prospective Contractor's plan to identify the location of repair facilities, mechanics, service vehicles and spare equipment.

b. Prospective Contractor shall provide a contingency plan for repair/ replacement of sub-contractor's equipment

c. Prospective Contractor's plan to identify the pre-winter season preparations for winter snow/ice control equipment

3.6.8 Staff Training

Training is major component in the highway operations. It is imperative that staff are well trained in the jobs they perform.

3.6.8.1 Minimum Requirements

a. The Prospective Contractor must provide a written commitment that within 60 days after contract award, a Comprehensive Staff Training Plan shall be submitted to the department. The plan shall include all maintenance work activities as well as, environmental management, and salt management issues. It is expected that all staff involved in the winter maintenance activities will have as a minimum ARHCA's RSTS for snowplow trucks, TAC's Salt SMART training or equivalent training courses.

   Details and timelines for all aspects of the plan including classroom and field training shall be included in this plan. The table of contents of this plan, along with a brief description of each major heading, must be included in the Proposal. The Contractor shall keep full documentation of the courses provided to all staff.

b. The Prospective Contractor to provide a written commitment that they will work jointly with the department on developing and ensuring their employees receive training on programs that improve on the maintenance operations and employees have the minimum training requirements as set out by the Department.

3.6.9 Safety Plan

The Proposal will be evaluated with regards to safety from the standpoint of the Prospective Contractor's policies, emergency response, safe work practices, training, and work site traffic accommodation, in carrying out the Work.

3.6.9.1 Minimum Requirements

a. The Prospective Contractor must, submit a written emergency preparedness plan for public safety to the department, which deals with environmental disasters, road closures, smoke hazards and dangerous goods spills and which identifies the appropriate contacts. The emergency preparedness plan shall include a list of the Contractor's resources that will be available to react to emergencies.

b. The Prospective Contractor must provide a written commitment that he will, within 60 days after contract award, submit safe work practices and job procedures to the department for all maintenance activities where his staff may be at risk from the traveling public, or the traveling public at risk from the work being conducted. Activities would include, but not be limited to, snow and ice control, crack sealing, pothole patching, and pavement repair. The Prospective Contractor shall describe how he will ensure any subcontractors will follow the safe work practices and job procedures outlined by the Prospective Contractor The table of contents of this plan must be included in the Proposal.

c. The Prospective Contractor must submit a fatigue management plan to the department, covering activities which would typically involve extended hours of work by employees, operators or subcontractors.

d. The Prospective Contractor must provide a written commitment that he will, within 60 days after contract award, submit Traffic Accommodation Strategies plan for all highway maintenance work activities to the department. Each Traffic Accommodation Strategy shall consist of drawings detailing the configuration of temporary signs and other traffic control devices in accordance with the latest editions of the Alberta Transportation Traffic Accommodation in Work Zones and Traffic Accommodation in Urban Work Zones manuals. Strategies shall also include written confirmation of the methods or procedures being used by the Prospective Contractor to address specific safety related issues or situations within each work zone. The table of contents of this plan must be included in the proposal.

e. The Prospective Contractor shall submit a written policy for conducting safety meetings, which encompasses toolbox meetings, regularly scheduled safety meetings, and pre-seasonal meetings, and which requires the minutes and an attendee list be recorded.

f. If a CMA includes a Ferry, the Prospective Contractor must provide a written commitment that he will, within 60 days after contract award, submit an Operating and Safety Plan for the Ferry as specified in the Special Provisions.

3.7 DETAILS FOR ANALYSIS OF PRICING

The individual components of Envelope 3 will be assessed using the key points outlined in this section as the basis for evaluation. The evaluation will be based on the bid prices provided by the Prospective Contractor in the Unit Price Schedule. The Department will assess the Prospective Contractor's total price for the work (in a specific Contract Maintenance Area) and also test the prices for specific components of the work under a variety of scenarios. The results obtained then will be compared to all other Proposals (for that Contract Maintenance Area).

In addressing the content of Envelope 3, the Prospective Contractor shall note that it is a competitive process and that the Department is attempting to determine the best overall value for money for the duration of the Contract. The process will also enable the Department to confirm which of the Proposals provides the Department with the best value in the event of cyclical variations in the actual work quantities and will also conduct an unbalanced bid check.

3.7.1 Total CMA Cost

For each Contract Maintenance Area in a Proposal, the Total CMA Cost will be determined using Provisional Quantities and bid prices. This value will include fixed costs and provisional costs.

The Proposal providing the lowest Total CMA Cost will score 860 points. The remaining CMAs in each Proposal will be scored using the following formula:

860 x (1 – ((Proposal $ - Lowest Proposal $) / Lowest Proposal $))

This process will reward those Proposals, which provide the lowest Total CMA Cost by giving them a score of 860 points.

3.7.2 Scenario #1

This scenario will test the Prospective Contractors bid prices for winter operations and will be based on a single winter season in which severe conditions have been encountered which will result in a **30% increase** in winter work quantities above that indicated in the Unit Price Schedule (for each Contract Maintenance Area). The total value for the scenario will be determined using calculated work quantities and the Proposal bid prices.

3.7.3 Scenario #2

This scenario will test the Prospective Contractors bid prices for major summer operations and will be based on a single summer season in which the anticipated work load has been decreased which results in a **20% decrease** in summer work quantities indicated in the Unit Price Schedule (for each Contract Maintenance Area). The total value for the scenario will be determined using calculated work quantities and the Proposal bid prices.

3.7.4 Scenario #3

This scenario will test the Prospective Contractors bid prices for winter and summer operations which will result in a **20% decrease in winter** work quantities and a **30% increase in summer** quantities as compared to the Unit Price Schedule (for each Contract Maintenance Area). The total value for the scenario will be determined using calculated work quantities and the Proposal bid prices for the winter and the summer.

3.7.5 Scoring of Scenarios

Each of the three scenarios will be scored separately as described herein. A prospective contractor's proposal may have the lowest value, and highest score, in one scenario but not in another.

The Proposal providing a lowest scenario value will score 20 points. The remaining CMAs in each Proposal will be scored using the following formula for each scenario:

20 x (1 – ((Proposal Scenario $ - Lowest Proposal Scenario $) / Lowest Proposal Scenario $))

3.7.6 Unbalanced Bid Check

For the unbalanced bid check component a comparison will be made of the Prospective Contractor's Proposal unit prices against average unit prices, where applicable. The intent is to look at the degree of change in these unit prices, assess added risk to the Department and check for unbalanced pricing.

The Proposals which presents the least risk to the Department with balanced prices will score 30 points. The remaining CMAs in each Proposal will be scored using the following formula:

30 x (1 - ((Proposal Risk - Lowest Proposal Risk) / Lowest Proposal Risk))

SECTION C

(WSD Details)

WINTER SERVICE DELIVERY

DETAILS

April 2008

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Introduction

In order to ensure consistent delivery of winter maintenance services on the Provincial Highway network when contracts are awarded, it is important that Alberta Transportation ensure that work plans meet the minimum qualification of providing the same, or slightly better, level of winter maintenance services as are currently being provided. To do this, proposals must include a winter service delivery model that will be compared to a pre-determined base case model.

In their proposals, prospective contractors will select locations for their sand/salt stockpile sites and the storage locations of their snowplow trucks. In planning and selecting their sites, it is very important that their allocation of resources (stockpiles and trucks) be well placed and strategic to the operation. In order to achieve this goal, the required level of "WINTER SERVICE DELIVERY" (WSD) is identified by the base case data provided in the Request for Proposal (RFP) for each Contract Management Area (CMA). A base case number of Snowplow units is allocated and identified in the RFP for each CMA, along with WSD allowable delivery times for plowing and spreading winter maintenance materials (sanding/salting). In order to define the requirements on the new highway network, snowplow trucks are assigned based on activity requirements for each section of Highway based on its highway class, which is determined by Average Annual Daily Traffic volume (AADT).

In order to present and order the data in an easily understood fashion, a breakdown was developed as shown below:

Basic Objectives & Strategy

The following is list of objectives the Department wishes to achieve in "Snow/Ice Delivery":

- Retain overall "Winter Highway Maintenance Level-of-Service".
- Encourage development of economic maintenance facilities.
- Encourage prospective contractors to find efficient methods for snow and ice control work.
- Tender selection is an objective process.
- Efficiencies must be "built-in" to the tender.
- Risk is shared, but the Province carries the majority of the risk for winter weather.
- Bidding must be fair to all prospective contractors, and as far as possible should not be excessively complicated.
- Excel Spreadsheets are provided to assist prospective contractors with developing their winter service delivery model.
- Alberta Transportation requires that minimum levels of service be maintained at a reasonable cost.

- Give prospective contractors the room to "move" and make business decisions in accordance with the contract specifications, and to operate in the most efficient manner possible.

Strategic Placement of Economic Facilities

The Department has devolved ownership of maintenance facilities to encourage development of other sites, within the following guidelines:

- New sites must be affordable and not add unduly to indirect operating cost.
- Site locations must encourage an efficient maintenance operation.
- Sites must be strategically placed to provide service to the public.
- Prospective bidders will be able to balance site placement with the number of trucks required in their proposal.
- For each class of highway, all sections of highway are treated in the same manner.
- Overall in classes, or groups of classes, the maximum allowable time to finish work remains the same.
- Where appropriate, some government–owned facilities and sites are acceptable and may be available for lease by the successful contractor. These sites are identified in the Special Provisions.

Basic Elements of "Level of Service" (LOS)

The department expects that each Prospective Contractor will submit slightly different proposals that meet the contract requirements but have differences in detail. Each proposal must be compared to a benchmark "Base Case" to determine the best Winter Service Delivery plan. The elements of comparison are listed below:

- Proposals are compared under the same conditions.
- Actual conditions may be different.
- A standard truck configuration is used for all evaluations, with allowances for hopper size.
- Beats for plowing are the same as spreading material (sand or salt application).
- All trucks drive the same speed.
- All trucks apply materials at a predetermined rate.
- Specific methods for calculating time to complete work in the model are the same for all proposals.
- Plowing and material spreading application "Time to complete" (or delivery time) is used for comparison.
- The 'Base case' is documented in the Request For Proposal package.

Highway Class

To maintain the existing level of service (base case), all roadways are split into sections:

- Each section requires similar maintenance over it's entire length.
- Each section has a "highway class".

Class of Highway	Traffic Volume(AADT)
A	**>15,000**
B	**7,000 –15,000**
C	**5,000 –7,000**
D	**2,000 –5,000**
E	**1,000 – 2,000**
F	**500 –1,000**
G	**100 – 500**
H	**<100**

- Maximum allowable delivery time for plowing & sanding/salting will be determined by the department for each section of highway by class. These maximum allowable delivery times can not be changed by the Prospective Contractor.

Definitions of "different but similar" overall

Competitive proposals will be compared in the following areas:

- How well the material stockpiles are distributed within the provincial highway network, compared to the existing situation. The decisions of the prospective contractor on where to locate material stockpiles will affect how many plow trucks are required to do the work.
- The maximum allowable delivery time to complete work on each section of highway is based on provincial standards and/or the time actually required in the "Base Case" model.
- Overall delivery time by class of highway is documented in the "Base Case" model.
- Delivery time for any individual section can vary from the "base case" as long as it remains less than the maximum allowable for that section.
- Delivery time will vary with the physical position of sites, relative to highways, other sites and the suitability of haul roads.
- More than one truck can work on a single section of highway.
- The completion time for the last truck working in a section will be the delivery time for that section.
- The individual times for each section will be added up into a "cumulative total time" per class of highway for both plowing and spreading.

- Specifications will be provided indicating maximum "cumulative total time" for classes or groups of classes.
- The sum of all "cumulative total times" for all classes of highways must be less than or equal to the total for the "base case".

Truck Demand Factor

All RFP documents will have a "Base Truck Demand Factor" identified within the Special Provisions section. This factor, as calculated, is equivalent to the haul required to bring one cubic meter of sand per two lane equivalent kilometre (2LEKm) over the entire CMA highway network, from existing facilities.

The Prospective Contractor, who may have different locations for facilities, is asked to calculate a proposed demand factor in his proposal. This factor is used to evaluate the number of preliminary minimum number of trucks needed in his proposal.

Base number of Trucks

Each RFP for a CMA will identify within the Special Provisions Section a base number of snowplow trucks for that CMA. A proposal may be for one or several CMAs, and have any number of trucks that satisfy the calculations described below.

Preliminary Minimum Number of Required Trucks

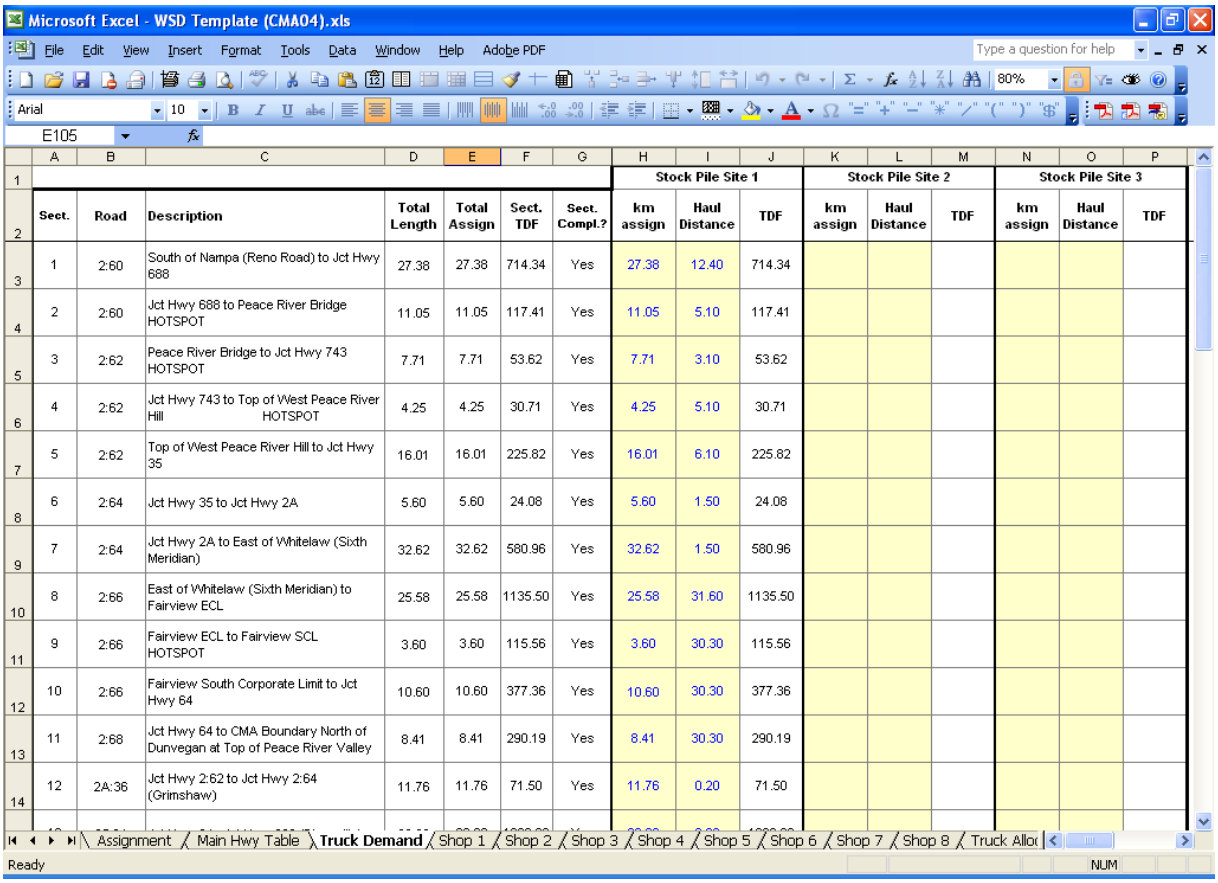
The Prospective Contractor will be asked to calculate the preliminary minimum number of snowplow trucks required in the proposal. The calculation will be as shown below:

Preliminary Minimum number of trucks required for the proposal =

{[Proposed Truck Demand Factor]/ [Base Truck Demand Factor]}* Base Number of Trucks

A Microsoft Excel spreadsheet is provided with the RFP package to assist the Prospective Contractor in calculation of "Proposed Truck Demand Factor" (Truck Demand worksheet). The minimum number of trucks calculated by the formula above may be rounded up or down at the prospective contractor's choice, providing that all other requirements are satisfied.

Following is a sample screen print of the "Truck Demand" worksheet from a WSD spreadsheet file:



Microsoft Excel - WSD Template (CMA04).xls

								Stock Pile Site 1			Stock Pile Site 2			Stock Pile Site 3		
Sect.	Road	Description	Total Length	Total Assign	Sect. TDF	Sect. Compl.?	km assign	Haul Distance	TDF	km assign	Haul Distance	TDF	km assign	Haul Distance	TDF
1	2:60	South of Nampa (Reno Road) to Jct Hwy 688	27.38	27.38	714.34	Yes	27.38	12.40	714.34						
2	2:60	Jct Hwy 688 to Peace River Bridge HOTSPOT	11.05	11.05	117.41	Yes	11.05	5.10	117.41						
3	2:62	Peace River Bridge to Jct Hwy 743 HOTSPOT	7.71	7.71	53.62	Yes	7.71	3.10	53.62						
4	2:62	Jct Hwy 743 to Top of West Peace River Hill HOTSPOT	4.25	4.25	30.71	Yes	4.25	5.10	30.71						
5	2:62	Top of West Peace River Hill to Jct Hwy 35	16.01	16.01	225.82	Yes	16.01	6.10	225.82						
6	2:64	Jct Hwy 35 to Jct Hwy 2A	5.60	5.60	24.08	Yes	5.60	1.50	24.08						
7	2:64	Jct Hwy 2A to East of Whitelaw (Sixth Meridian)	32.62	32.62	580.96	Yes	32.62	1.50	580.96						
8	2:66	East of Whitelaw (Sixth Meridian) to Fairview ECL	25.58	25.58	1135.50	Yes	25.58	31.60	1135.50						
9	2:66	Fairview ECL to Fairview SCL HOTSPOT	3.60	3.60	115.56	Yes	3.60	30.30	115.56						
10	2:66	Fairview South Corporate Limit to Jct Hwy 64	10.60	10.60	377.36	Yes	10.60	30.30	377.36						
11	2:68	Jct Hwy 64 to CMA Boundary North of Dunvegan at Top of Peace River Valley	8.41	8.41	290.19	Yes	8.41	30.30	290.19						
12	2A:36	Jct Hwy 2:62 to Jct Hwy 2:64 (Grimshaw)	11.76	11.76	71.50	Yes	11.76	0.20	71.50						

Assignment | Main Hwy Table | Truck Demand | Shop 1 | Shop 2 | Shop 3 | Shop 4 | Shop 5 | Shop 6 | Shop 7 | Shop 8 | Truck Allo

Ready NUM

The Prospective Contractor is asked to identify all the sources of sand/salt in relation to the highway sections nearby.

The calculation of the minimum number of trucks for a proposal with multiple CMAs shall be done in one calculation. The cumulative totals for the “Proposed Truck Demand Factor”, “Base Truck Demand Factor” and “Base number of Trucks” from the applicable CMAs in the proposal shall be used.

Comparing Levels of Service

Highway sections (paved highways only) for a CMA have been classified by AADT, and are listed in the Base Case WSD model provided in the RFP document. Along with the base case data defining the Sections, a distance to the existing stockpile location for sand/salt is given for each section. The "Base Truck Demand Factor" is calculated from this information and is also listed on the base case WSD spreadsheet provided with each RFP package.

Section Definition

A section is defined as follows: *A single length of one highway that has a similar traffic volume (AADT), within the same CMA.*

Alternative proposals with different storage locations for sand/salt/trucks will be compared against each other and the established base case using the pre-defined sections of highway in the WSD model.

Sections are pre-identified for each CMA and will remain the same for the complete analysis.

Allocation of plow trucks **(truck allocation)** will vary from Class to Class. Class A sections have a much larger volume of traffic, and require more trucks (**truck allocation)** than, say, a Class E with much less traffic.

Note: Assignment of the # of kms per truck for each Class of Highway will be identified in the RFP for each CMA and must be used as a given by the Prospective Contractor.

Base case Levels of Winter Service Delivery

In the RFP evaluation process, Alberta Transportation has not specified the locations for sand/salt stockpiles and truck storage. The RFP process permits "room" for the Prospective Contractor to propose the best combination of sites for maintenance facilities.

For evaluation purposes, all proposals will be compared to the established "Base case".

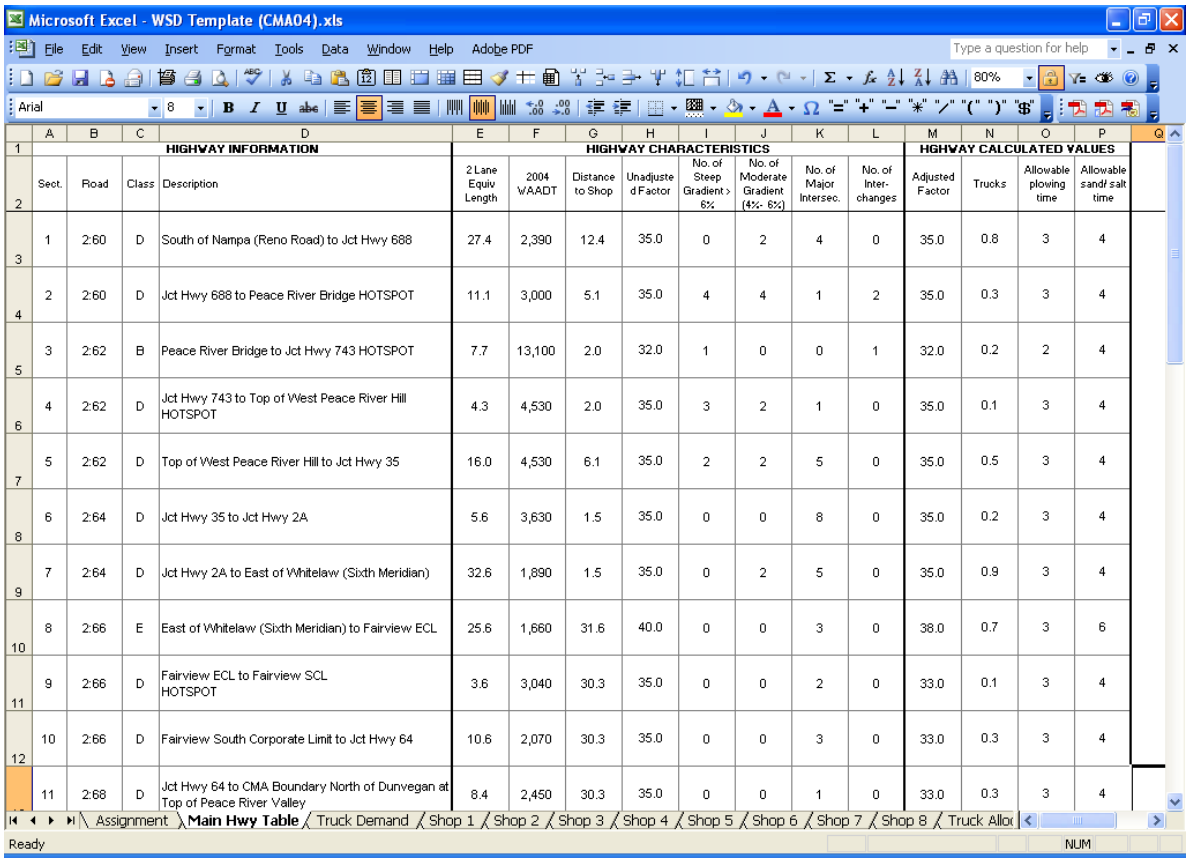
Department Staff have established the "Base case" for the provincial highway network within a CMA, from which "Levels of Service" requirements were developed. The WSD requirements establish benchmarks for each CMA using the following rationale:

- Current shop information known.
- The existing plow truck fleet has known beats and locations.
- Alberta Transportation staff established assignments for each truck in the CMA. This data now forms the Base Case model from which the specified

requirements for winter snowplowing **(Plow Time)** and sanding/salting **(Spread Time)** are derived.

Note: Hard copies of the "Base Case" worksheets for each CMA are included in the RFP documents.

Following is a sample screen print of the "Main Hwy Table" worksheet from a WSD spreadsheet file:



Microsoft Excel - WSD Template (CMA04).xls

	HIGHWAY INFORMATION				HIGHWAY CHARACTERISTICS								HGHWAY CALCULATED VALUES			
	Sect.	Road	Class	Description	2 Lane Equiv Length	2004 WAADT	Distance to Shop	Unadjusted Factor	No. of Steep Gradient > 6%	No. of Moderate Gradient (4%- 6%)	No. of Major Intersec.	No. of Inter-changes	Adjusted Factor	Trucks	Allowable plowing time	Allowable sand/ salt time
3	1	2:60	D	South of Nampa (Reno Road) to Jct Hwy 688	27.4	2,390	12.4	35.0	0	2	4	0	35.0	0.8	3	4
4	2	2:60	D	Jct Hwy 688 to Peace River Bridge HOTSPOT	11.1	3,000	5.1	35.0	4	4	1	2	35.0	0.3	3	4
5	3	2:62	B	Peace River Bridge to Jct Hwy 743 HOTSPOT	7.7	13,100	2.0	32.0	1	0	0	1	32.0	0.2	2	4
6	4	2:62	D	Jct Hwy 743 to Top of West Peace River Hill HOTSPOT	4.3	4,530	2.0	35.0	3	2	1	0	35.0	0.1	3	4
7	5	2:62	D	Top of West Peace River Hill to Jct Hwy 35	16.0	4,530	6.1	35.0	2	2	5	0	35.0	0.5	3	4
8	6	2:64	D	Jct Hwy 35 to Jct Hwy 2A	5.6	3,630	1.5	35.0	0	0	8	0	35.0	0.2	3	4
9	7	2:64	D	Jct Hwy 2A to East of Whitelaw (Sixth Meridian)	32.6	1,890	1.5	35.0	0	2	5	0	35.0	0.9	3	4
10	8	2:66	E	East of Whitelaw (Sixth Meridian) to Fairview ECL	25.6	1,660	31.6	40.0	0	0	3	0	38.0	0.7	3	6
11	9	2:66	D	Fairview ECL to Fairview SCL HOTSPOT	3.6	3,040	30.3	35.0	0	0	2	0	33.0	0.1	3	4
12	10	2:66	D	Fairview South Corporate Limit to Jct Hwy 64	10.6	2,070	30.3	35.0	0	0	3	0	33.0	0.3	3	4
	11	2:68	D	Jct Hwy 64 to CMA Boundary North of Dunvegan at Top of Peace River Valley	8.4	2,450	30.3	35.0	0	0	1	0	33.0	0.3	3	4

Assignment | Main Hwy Table | Truck Demand | Shop 1 | Shop 2 | Shop 3 | Shop 4 | Shop 5 | Shop 6 | Shop 7 | Shop 8 | Truck Allo

Ready NUM

Evaluation of Contractor's Proposed Winter Service Deliver Model

Proposals will be compared and evaluated in the following manner:

- Preliminary Minimum number of plow trucks required for the proposal **(Truck demand factor)**
- Time to Plow a section **(Plow Time)**
- Time to Sand/Salt a section **(Spread Time)**
- Maximum lengths of beat assignments for truck in covering all Sections **(Length Assigned)**
- Total Time to complete delivery of service to all sections based on roadway Class or group of Classes for each CMA **(Cumulative Network LOS Delivery time)**

NOTE: Calculations of work times in the model use assumptions and mathematical calculations. Delivery time in the model is not intended to calculate the actual time required to do the work, but a time that measures strategic placement of facilities within the network for comparison purposes. Details of the assumptions and calculations can be found in the following section.

DEFINITIONS

Basic definitions of the "Levels of Service" requirements based on "Winter Service Delivery" are shown below:

Plow Time

The time it takes a snowplow truck to complete the initial pass of all travel lanes (includes one pass over travel lanes in interchanges, climbing lanes and passing lanes), in the section, measured from the time the trucks start. All trucks drive at an average speed of 46 km/hr at all times (including time spent at stops, deadheading, and loading).

Sand Time

The time it takes for snowplow trucks to make one pass of sanding/salting all travel lanes in the section. The maximum time is measured from the time the trucks start until the assigned length of section is treated. All trucks are assumed to travel at an average speed of 46 km/hr when spreading sand/salt, and 80 km/hr when deadheading, and distribute sand/salt at 0.24 cubic metres per lane kilometer. The prospective contractor will specify each truck's hopper capacity, which will determine the distance of highway treated per hopper load.

Truck Factor

The number of 2-lane equivalent kilometres of highway that will take the full attention of one truck under normal circumstances. The Truck Factor varies by class of highway; busy roads (i.e. Class A, B and C sections) require more care and attention and have a shorter response time, so any one truck can only look after approximately 30 kilometers of highway. Low volume roads (i.e. Class G or H sections) have a longer response time and will not be treated as often, so one truck can look after more kilometers.

Truck Allocation

Plow trucks are assigned to work on sections of highway until the truck is fully committed. The total number of kilometers that a truck can handle varies according to the classes of the highway sections that the truck works on. When a plow truck is assigned to work on a section, the number of kilometers that are assigned in that section will be used to calculate what percentage of the truck's full allocation has been assigned.

- *For example, if a truck worked exclusively on Class B highway sections that had a Truck Factor of 35 2LEKm per Truck, then that truck could only work until it was assigned to sections or partial sections equal in length to 35 2LEKm.*
- *In a CMA that had a Factor of 32 2LEKm/Truck for Class B highways and 80 2LEKm/Truck for Class F highways, a truck with its first assignment to a Class A section 16 2LEKm long was 50% allocated (16/32 = 50% allocated).*
- *If the next section assigned to the truck was a Class F section, the truck could only work on 40 2LEKm before it was 100% allocated. (50% + 40/80 = 100% allocated)*
- *If the length of that Class F section was only 20 2LEKm, then the truck was only 75% allocated and it could be assigned to work on another section.*

  (50% + 20/80 = 75% allocated)

A truck is over-allocated when it has a truck allocation greater than 100%. Trucks are usually assigned to a truck allocation between 95% and 105%.

An "Assignment" table will be included in the special provisions for each CMA and will specify the Truck Factors (kms/truck by class) to be used for the allocation of trucks from the minimum number of trucks allowed up to the "Base Case" number specified for that CMA. In the event the Prospective Contractor wishes to propose more trucks than identified in the "Base Case", then he will be allowed to allocate a Truck Factor as he feels most appropriate within the range of a minimum beat assignment of 25 kms per truck and the assigned number of kms for the "Base case" truck allocation per Class for the CMA. Otherwise, the Prospective Contractor must use the Truck Factors provided in the Special Provisions for each class of highway and applicable number of trucks.

Cumulative Level of Service Delivery Time (by Class)

The time to plow snow (**Plow Time)** and also to spread winter sand/salt materials **(Spread Time)** for each section is calculated in the "Shop" worksheets, and then totaled in the "Time" worksheets. Each Class or group of Classes is assigned a total specified time for completion based on "Base Case" data analysis and all proposals will be required to meet or better the specified total times.

The time to complete any individual section for cumulative LOS will be the running time of the last truck to finish working in that section.

Note: A hard copy of the "Base Case" model for each CMA is included in the RFP documents.

Organization of Data

To assist prospective contractors in preparing their WSD models for submission, a compact disk (CD) is included with the RFP package which includes both the Base Case and Proposed WSD spreadsheet files for each CMA of the RFP. These Excel spreadsheet files should be used to calculate the proposed resources (sand/salt stockpile locations, and number of trucks) for a Winter Service Deliver (WSD) model.

All cells in the "Proposed" WSD spreadsheet files which contain a formula are password protected. The Prospective Contractors can only enter data into unprotected cells that are highlighted in yellow. It is the Prospective Contractor's responsibility to ensure that cells containing a formula are not altered in any fashion.

The entire highway network for each CMA has been broken down into sections based on "Class of Highway" for analysis purposes. A "Base number of Trucks" is specified in each RFP and is the number of trucks assigned to the CMA for the base case analysis.

Highway worksheets

Following is a description of the highway worksheets in the WSD spreadsheet files:

Main Hwy worksheet:

In this worksheet, all paved highways within the CMA are broken into sections. The description of the sections includes the Class of Highway, the 2-lane equivalent length

Allowable **(Plow Time)** and allowable **(Sand Time)** are shown in this worksheet. Links are in place to also display this data in the other worksheets, where appropriate.

Truck Demand worksheet:

This worksheet is used to calculate the total truck demand for the CMA, based on the location of the material stockpiles and the travel distance to the various highway sections.

Any section of highway can have more than one set of material stockpiles. The column "km assigned" is the 2LEKm within the section that receive winter materials from a stockpile. The "Distance to pile" column is the one–way distance from the stockpile location to the nearest point on the highway section, in kilometres.

Each RFP contains a copy of the Base Case model spreadsheet, and blank copies (Proposed) of the spreadsheet file for the prospective contractor to use. The proposal truck demand factor will be automatically calculated in the "Truck

Demand" worksheet once the 'km assigned' and 'distance to pile' columns are completed.

Shop worksheets

The purpose of this group of worksheets is to assign each truck in a shop into rational and appropriate beats.

Proposals will be compared and evaluated based on the following:

- Time to Plow a section **(Time Plowing)**
- Time to spread winter materials over a section **(Time Spreading)**
- Truck allocation (**Total Truck Allocation**)

This approach allows for the calculation of the time required for the first pass plowing and sanding/salting each section of highway. All proposals will be evaluated using the same basic spreadsheet file.

Details on the functioning of the spreadsheets for the assignment of Truck Beats, inputting of Data required for the Plowing and Sanding/Salting Delivery Times Analysis follows:

Allocation of Trucks (assigning truck beats)

The "Shop" worksheets will automatically calculate the truck allocation for each section assigned and accumulate the total for each assignment for each truck.

Once the trucks have been assigned to a beat and the required distance data inputted, the spreadsheet will calculate the time to deliver the plowing activity in the following manner:

Snowplowing Analysis

Time to Complete Plowing

Prospective Contractors are asked to familiarize themselves with the mathematical evaluation and ensure themselves of its accuracy. Factors included in the evaluation are:

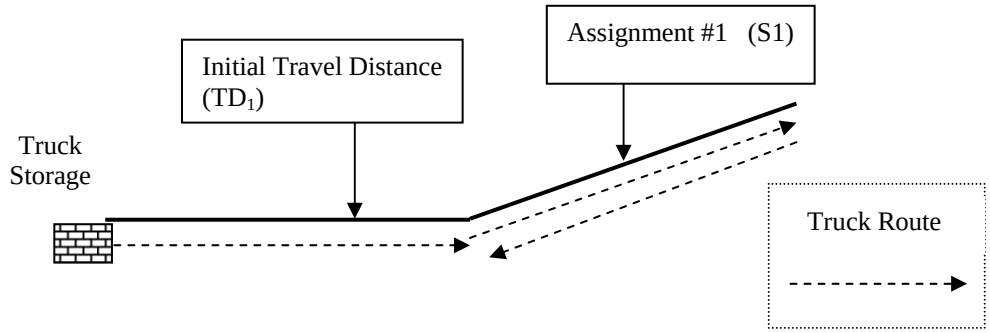
- Travel distance (TD_1) from truck storage to start of the 1st assignment (S1),
- Length assigned to the truck in each section (S1, S2, etc.), and
- Subsequent travel distance (TD_2, TD_3, TD_4, etc.) between assignments.

Travel distance is the distance from where the truck is now, and where the truck will start on the next assignment.

The Prospective Contractor is required to fill in all yellow shaded areas in the blank worksheets. This includes the shop name, assignments in order using the section number, travel and assigned distances within the section. The worksheet will calculate truck allocation and cumulative plowing and spreading time to complete each assignment.

Sample diagrams are provided below:

Assignment to the first section



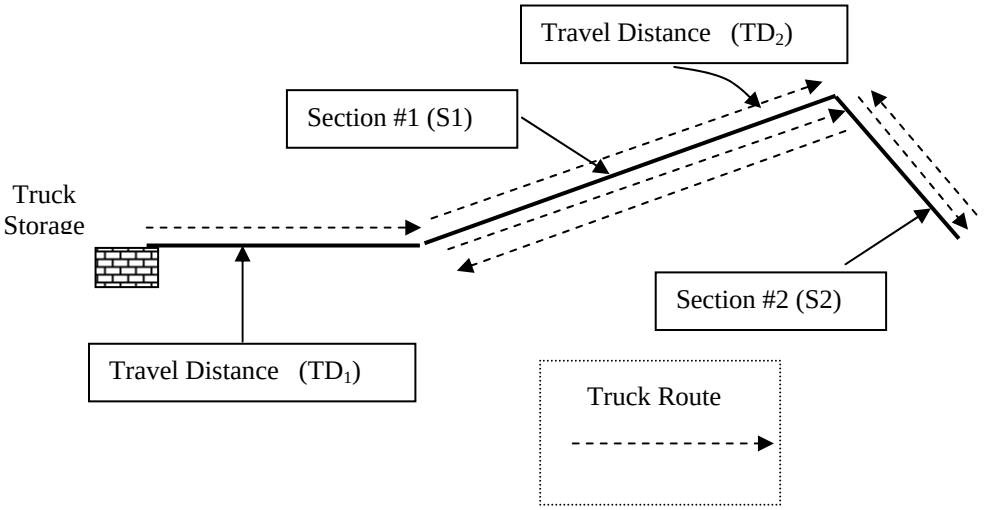
Time calculation:

The time (t_1) to complete is based on the "Travel Distance" (TD_1) with an "out and back" pass on Assignment #1 (S1) and assuming the plow truck is going at a constant speed (TS = 46 km/h).

Time Formula: $t_1 = (TD_1 + \{2 * S1\}) /TS$

Note that the start point and end point of an assignment are always at the same place.

Assignment to the second section



Time calculation:

Travel time is the sum of travel times for individual assignments, including the time required to move from one assignment to the next. Travel time for the first assignment is calculated as example 1, above. Travel time for the second assignment (t_2) is calculated as:

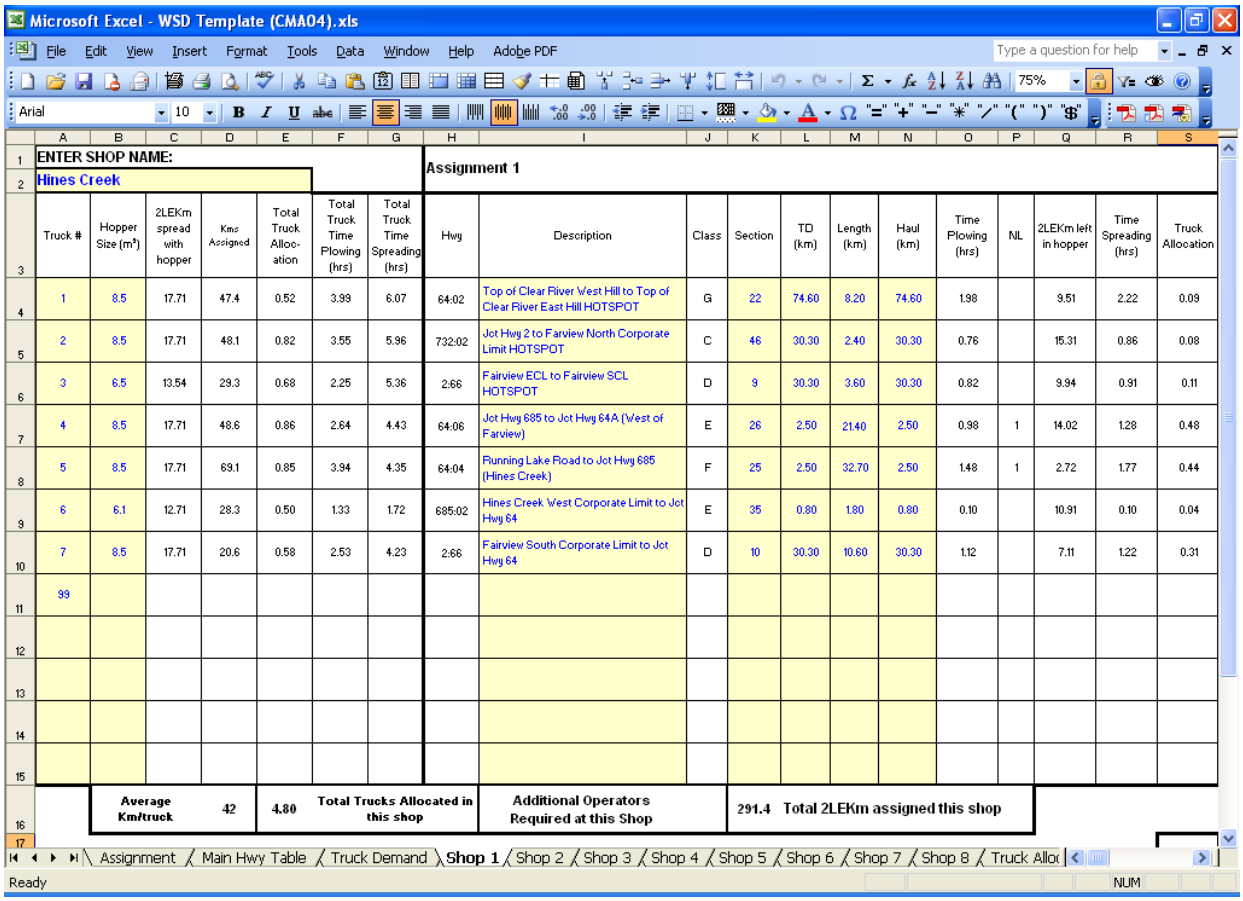
Time Formula: $t_2 = (TD_2 + \{2 * S2\}) /TS$

Total travel time for assignments one and two is calculated as:

$$t_{1+2} = t_1 + t_2 = [(TD_1 + \{2*S1\}) + (TD_2 + \{2 * S2\})] / TS$$

If the starting point of the next assignment is the same as the starting point of the assignment just completed, then the travel times between assignments is zero.

Following is a sample screen print of a "Shop" worksheet from a WSD spreadsheet file:



Microsoft Excel - WSD Template (CMA04).xls

ENTER SHOP NAME: Hines Creek

Assignment 1

Truck #	Hopper Size (m³)	2LEKm spread with hopper	Kms Assigned	Total Truck Alloc-ation	Total Truck Time Plowing (hrs)	Total Truck Time Spreading (hrs)	Hwy	Description	Class	Section	TD (km)	Length (km)	Haul (km)	Time Plowing (hrs)	NL	2LEKm left in hopper	Time Spreading (hrs)	Truck Allocation
1	8.5	17.71	47.4	0.52	3.99	6.07	64:02	Top of Clear River West Hill to Top of Clear River East Hill HOTSPOT	G	22	74.60	8.20	74.60	1.98		9.51	2.22	0.09
2	8.5	17.71	48.1	0.82	3.55	5.96	732:02	Jct Hwy 2 to Farview North Corporate Limit HOTSPOT	C	46	30.30	2.40	30.30	0.76		15.31	0.86	0.08
3	6.5	13.54	29.3	0.68	2.25	5.36	2:66	Fairview ECL to Fairview SCL HOTSPOT	D	9	30.30	3.60	30.30	0.82		9.94	0.91	0.11
4	8.5	17.71	48.6	0.86	2.64	4.43	64:06	Jct Hwy 685 to Jct Hwy 64A (West of Farview)	E	26	2.50	21.40	2.50	0.98	1	14.02	1.28	0.48
5	8.5	17.71	69.1	0.85	3.94	4.35	64:04	Running Lake Road to Jct Hwy 685 (Hines Creek)	F	25	2.50	32.70	2.50	1.48	1	2.72	1.77	0.44
6	6.1	12.71	28.3	0.50	1.33	1.72	685:02	Hines Creek West Corporate Limit to Jct Hwy 64	E	35	0.80	1.80	0.80	0.10		10.91	0.10	0.04
7	8.5	17.71	20.6	0.58	2.53	4.23	2:66	Fairview South Corporate Limit to Jct Hwy 64	D	10	30.30	10.60	30.30	1.12		7.11	1.22	0.31
99																		

Average Km/truck: 42 | 4.80 Total Trucks Allocated in this shop | Additional Operators Required at this Shop | 291.4 Total 2LEKm assigned this shop

Assignment | Main Hwy Table | Truck Demand | Shop 1 | Shop 2 | Shop 3 | Shop 4 | Shop 5 | Shop 6 | Shop 7 | Shop 8 | Truck Alloc

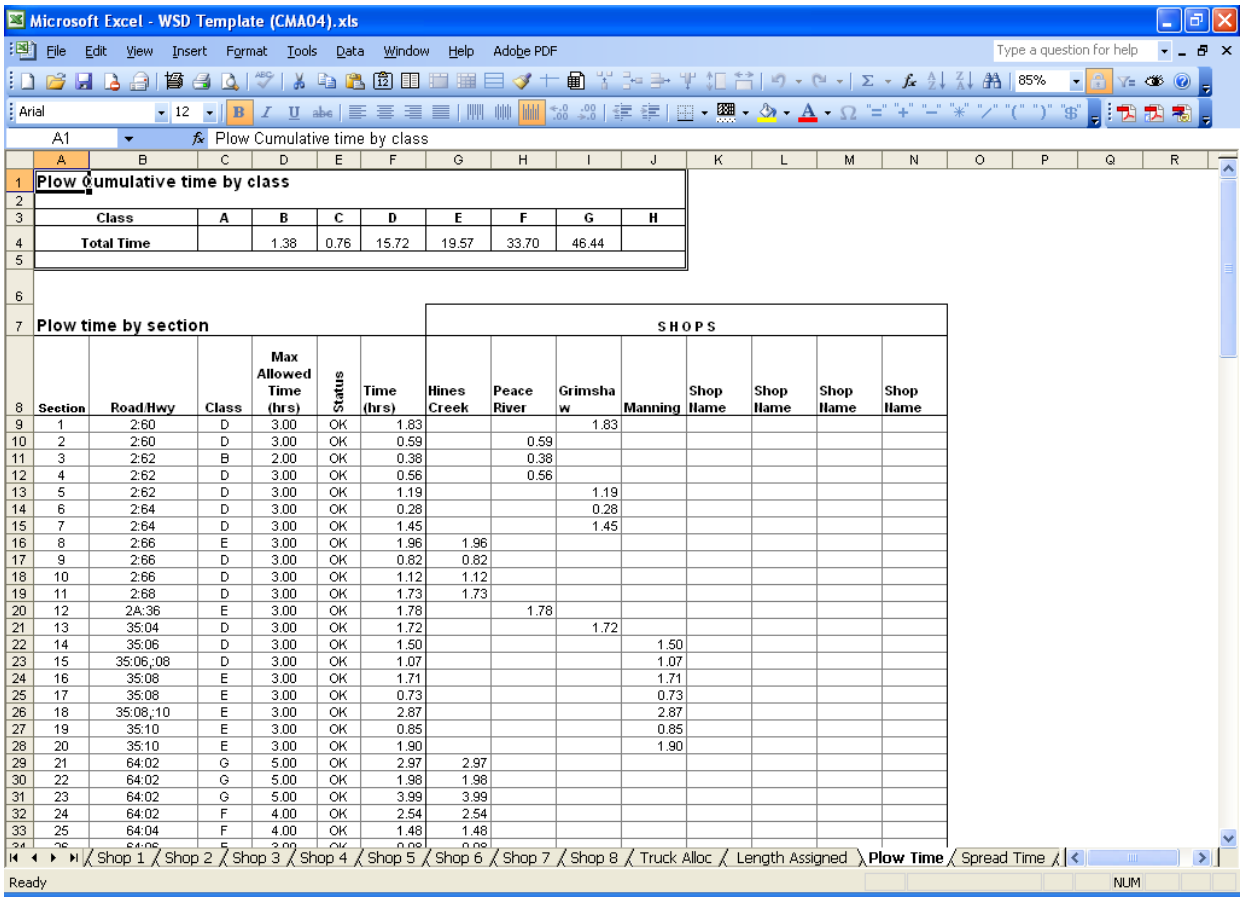
Ready NUM

Plow Time Worksheet

The purpose of the Plow Time (and Spread Time) worksheet is to summarize and display the service delivery times calculated. This allows for easy comparison of the proposed and base case service delivery models. These worksheets are automatically populated using links, and no data entry is required.

The Plow Time worksheet summarizes the time calculated for each section's assignments by shop, and calculates the cumulative time to complete all snowplowing for each class of highway. Data from the Base Case "Plow Time" worksheet is used for each CMA as the reference point for determining and assigning the total allowable Delivery Times by Class or Group of Classes. These times are used for completion of the "Cumulative Network Plowing Time Specification".

Following is a sample screen print of the "Plow Time" worksheet from a WSD spreadsheet file:



Plow Cumulative time by class								
Class	A	B	C	D	E	F	G	H
Total Time		1.38	0.76	15.72	19.57	33.70	46.44	

Plow time by section							SHOPS							
Section	Road/Hwy	Class	Max Allowed Time (hrs)	Status	Time (hrs)	Hines Creek	Peace River	Grimshaw	Manning	Shop Name	Shop Name	Shop Name	Shop Name
1	2:60	D	3.00	OK	1.83			1.83					
2	2:60	D	3.00	OK	0.59		0.59						
3	2:62	B	2.00	OK	0.38		0.38						
4	2:62	D	3.00	OK	0.56		0.56						
5	2:62	D	3.00	OK	1.19			1.19					
6	2:64	D	3.00	OK	0.28			0.28					
7	2:64	D	3.00	OK	1.45			1.45					
8	2:66	E	3.00	OK	1.96	1.96							
9	2:66	D	3.00	OK	0.82	0.82							
10	2:66	D	3.00	OK	1.12	1.12							
11	2:68	D	3.00	OK	1.73	1.73							
12	2A:36	E	3.00	OK	1.78		1.78						
13	35:04	D	3.00	OK	1.72			1.72					
14	35:06	D	3.00	OK	1.50				1.50				
15	35:06,:08	D	3.00	OK	1.07				1.07				
16	35:08	E	3.00	OK	1.71				1.71				
17	35:08	E	3.00	OK	0.73				0.73				
18	35:08,:10	E	3.00	OK	2.87				2.87				
19	35:10	E	3.00	OK	0.85				0.85				
20	35:10	E	3.00	OK	1.90				1.90				
21	64:02	G	5.00	OK	2.97	2.97							
22	64:02	G	5.00	OK	1.98	1.98							
23	64:02	G	5.00	OK	3.99	3.99							
24	64:02	F	4.00	OK	2.54	2.54							
25	64:04	F	4.00	OK	1.48	1.48							

Cross-Over Segment (#99)

Based on the location of truck storage and stockpile sites, a proposal may have trucks that are assigned to work in more than one CMA. In this case, the Prospective Contractor must show all assignments for that truck in both spreadsheets.

Because the Truck Factor may vary between CMAs, the truck allocation may be different depending on which CMA spreadsheet file it is calculated in. To correct for this, use ‘section 99’ for the sections that are in the ‘other’ CMA when entering assignment data. The spreadsheet formulas for assignments using a ‘section 99’ do not include the truck allocation for that assignment, but do include a calculation of cumulative travel time. The end result will be that the truck allocation in each CMA must be added together manually to get the total truck allocation.

Proposals that have trucks working in more than one CMA are required to duplicate the home shop for the trucks that are crossing over in all CMAs spreadsheets within the proposal.

Material Spreading Analysis

Time to Complete Spreading

The time required to complete sanding/salting will be longer than for plowing, since the truck will have to travel to and from a stockpile site to refill the hopper. The spreadsheet will calculate the length of highway that each truck can sand/salt based on the hopper capacity entered by the prospective contractor. Prospective contractors should refer to specification 52.1.3.4 for minimum hopper sizes, and the special provisions for any exceptions to the minimum sizes.

The specifications allow for trucks to be parked at sites that do not have sand/salt stockpiles, provided that all sections can be treated in the maximum allowable time and the total cumulative times for each class of highway are acceptable. If trucks are not stored at a stockpile site, then the mob distance to travel from the garage to the stockpile site is added to the travel distance (TD) for the first truck assignment (**travel distance = haul distance + mob distance);** therefore the travel distance will always be greater than the haul distance on the first assignment when the trucks and stockpile site are from different locations.

If the trucks and the stockpile site are from the same location then the travel distance and haul distance will always be equal for the first truck assignment. The formula for the first assignment spread time calculations will account for when the truck and stockpile are starting from the same location if the two distances are equal.

Since trucks are assumed to travel the same beat whether plowing or spreading materials the travel distance (TD) is used to calculate the time to complete both spreading and plowing.

The only new data requirements for material spreading analysis is the distance from the stockpile (either sand or salt stockpile) to the nearest point in each section (Haul). The Haul distance is based solely on the path traveled from the closest point in section to the stockpile, and completely independent of the route used to travel between subsequent assignments used to measure TD.

Prospective Contractors cannot use more than one stockpile site per assignment. Any plow trucks that cross CMA boundaries must have the appropriate haul/travel and assigned lengths in both CMA spreadsheets.

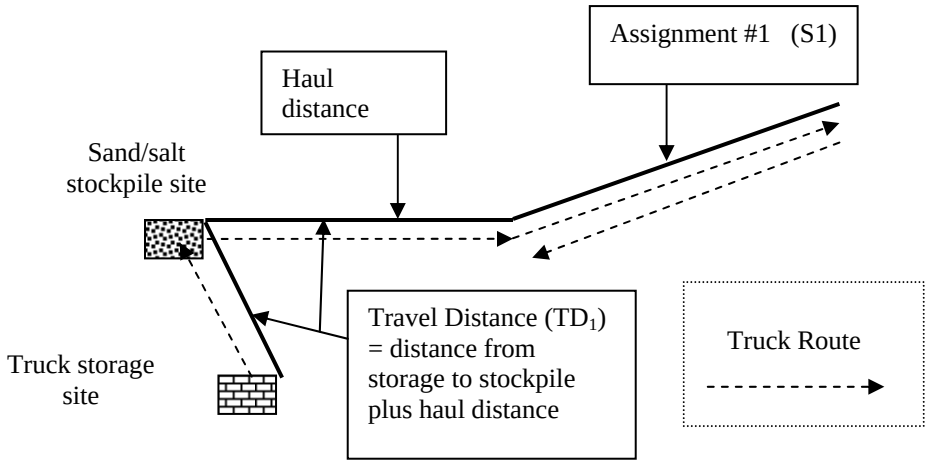
Basic Assumptions:

- Hopper capacity for sanding/salting is entered by the prospective contractor, in m^3,
- Sand/Salt usage is 0.24 m^3/ lanekm of roadway (equivalent to 330 kg/lanekm),
- The spreadsheet calculates the length of highway that can be treated for the quantity of sand or salt carried,

- To account for the various lengths of the sections and the corresponding number of loads required to complete the section, the spreadsheet calculates the time required to sand/salt the length of section assigned, plus haul time according to the distance from the stockpile site,
- Each truck assignment can only take sand or salt from a single stockpile site, and
- Truck speed is an average 46 km/h when sanding/salting, and a deadhead average speed of 80 km/h. The deadheading speed is used at all times when the truck is not spreading sand or salt.

Sand/Salt scenarios:

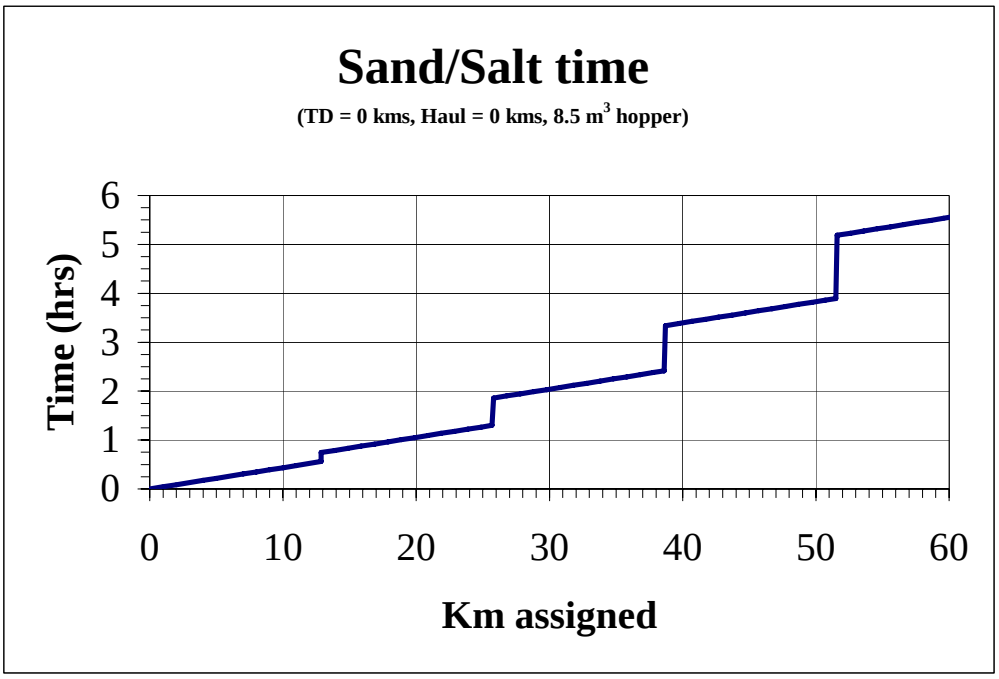
First assignment



Time calculation for the first assignment:

For the first assignment, the time (t_1) to complete is based on the distance" from the truck storage site to the sand/salt stockpile plus the "Haul Distance" (Haul), the maximum length of highway that can be treated using the full hopper capacity (MH), and the assigned length in the section (S1). The longer the assigned length, the more trips are needed back to the stockpile to refill the hopper. Deadheading time is calculated in two parts: the time spent deadheading within the section, and the time spent deadheading from the start of the section to the stockpile site.

The graph below shows an example of the time required to treat different assigned section lengths:



This graph shows how, as the time spent deadheading within the section increases, the overall time increases proportionally.

Time Formula for first assignment:

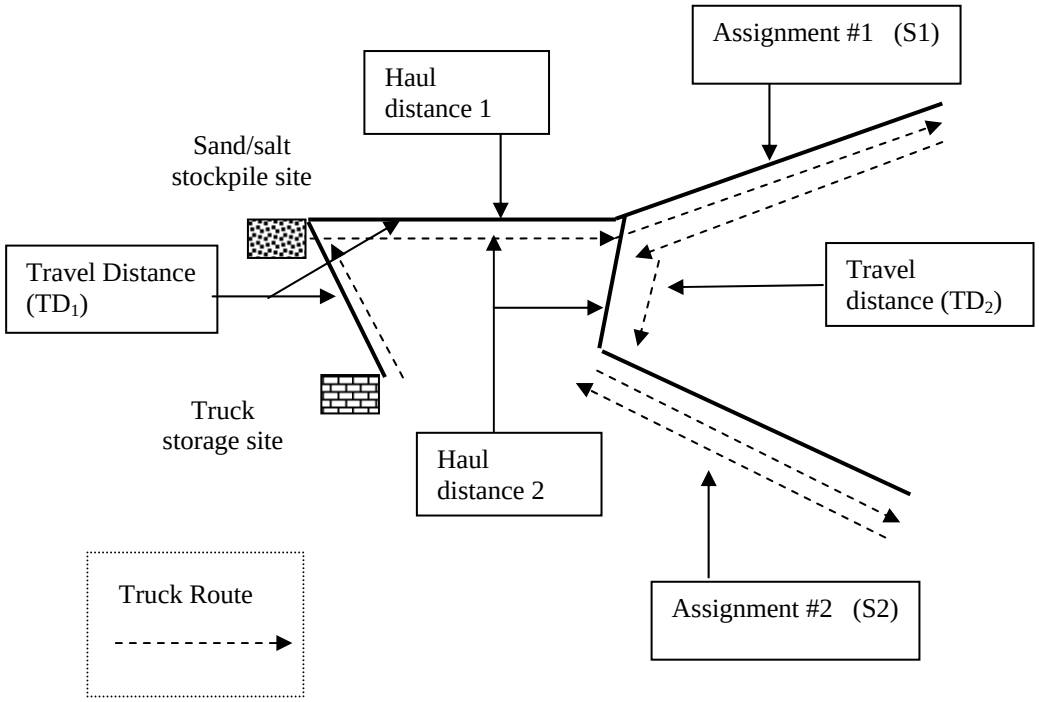
Maximum length of highway that can be treated using the full hopper capacity (MH) is:
MH = [Hopper size / 0.24 m^3 per lane km] / 2

Number of loads to treat the first assignment (NL) is:
NL = rounddown(S1/MH)

Time to treat the first assignment (t_1) in hours is:

t_1 = {(Mob + Haul + (NL^2 x MH) + (2 x NL x Haul))/Deadhead Speed} + {(2 x Assigned Length)/Spreading Speed}

Second and subsequent assignments



After the first assignment, there may be sand/salt left in the hopper that will be used at the start of the next assignment. The spreadsheet will calculate the quantity of sand/salt remaining in the hopper at the end of each assignment, and that quantity will be used to determine the number of loads needed in the next assignment.

The number of lane kilometers that can be treated with the sand/salt left in the hopper at the end of the previous assignment (LeftoverKm) is:

LeftoverKm = {(NL x MH) + quantity left in hopper at end of previous assignment - assignment length}

The next assignment may be short enough that the material left in the hopper is sufficient to do the complete next assignment without reloading the hopper.

The number of loads required for the next assignment (NL_{next}) is:

If
(next assignment length) <= LeftoverKm, then $NL_{next} = 0$
Elseif
(next assignment length) <= LeftoverKm + MH, then $NL_{next} = 1$

Elseif
$NL_{next} = 1 + \text{rounddown}((\text{next assignment length} - \text{LeftoverKm}) / MH)$

Using $NL_{next,}$ the time required to treat subsequent assignments is calculated as:

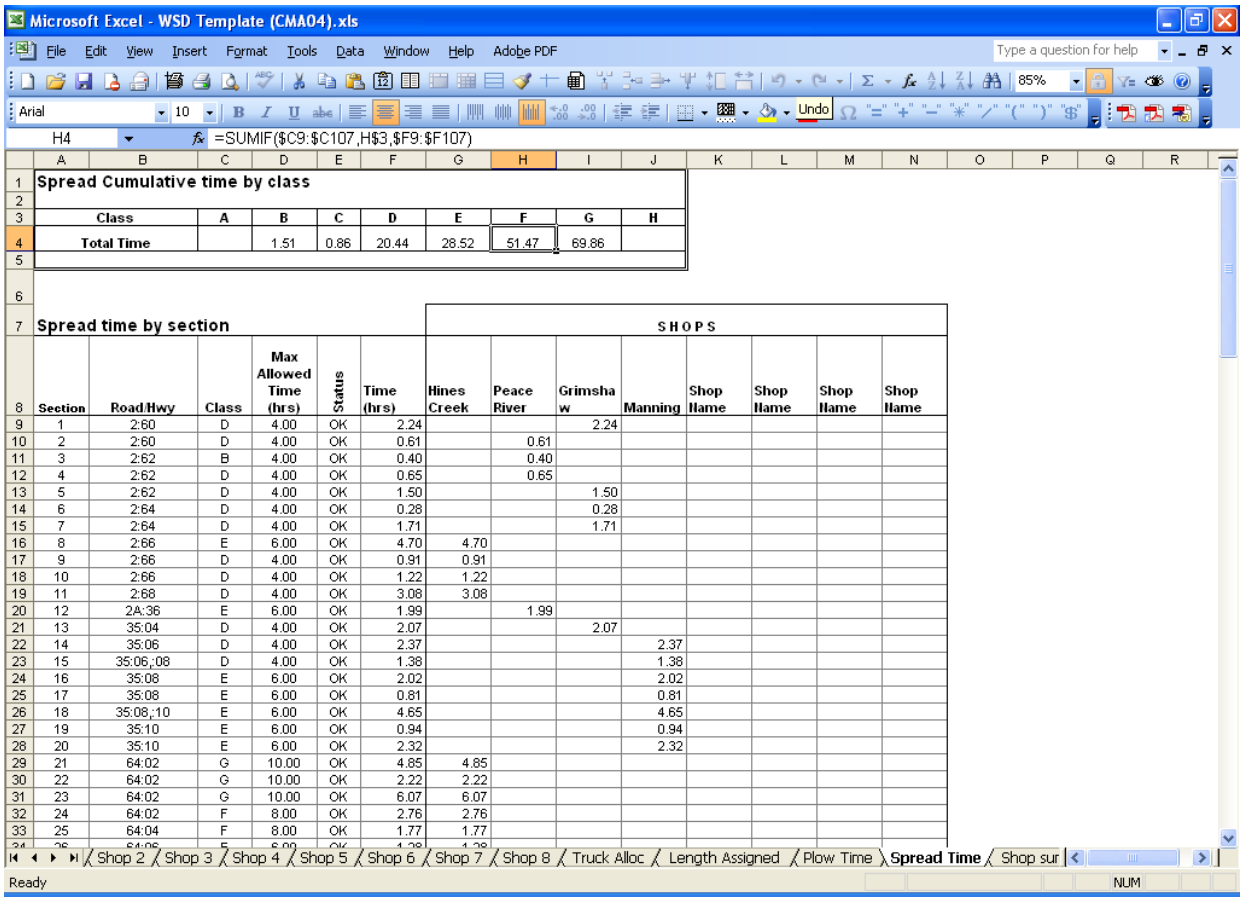
t_i = Previous (t) + {(TD + Haul + (NL_{next}^2 x MH) + (2 x NL x Haul))/Deadhead Speed} + {(2 x Assigned Length)/Spreading Speed}

These formulae are used in the spreadsheet provided to prospective contractors. The only data that the prospective contractor must enter are the TD and Haul distances.

Spread Time worksheet

Similar to the Plow Time worksheet, the Spread Time worksheet summarizes the time calculated for each section's assignments by shop. Cumulative times to complete work by highway class are also calculated.

Following is a sample screen print of the "Spread Time" worksheet from a WSD spreadsheet file:



Microsoft Excel - WSD Template (CMA04).xls

File Edit View Insert Format Tools Data Window Help Adobe PDF

H4 =SUMIF($C9:$C107,H$3,$F9:$F107)

Spread Cumulative time by class

Class	A	B	C	D	E	F	G	H
Total Time		1.51	0.86	20.44	28.52	51.47	69.86	

Spread time by section

Section	Road/Hwy	Class	Max Allowed Time (hrs)	Status	Time (hrs)	SHOPS: Hines Creek	Peace River	Grimshaw	Manning	Shop Name	Shop Name	Shop Name	Shop Name
1	2:60	D	4.00	OK	2.24			2.24					
2	2:60	D	4.00	OK	0.61		0.61						
3	2:62	B	4.00	OK	0.40		0.40						
4	2:62	D	4.00	OK	0.65		0.65						
5	2:62	D	4.00	OK	1.50			1.50					
6	2:64	D	4.00	OK	0.28			0.28					
7	2:64	D	4.00	OK	1.71			1.71					
8	2:66	E	6.00	OK	4.70	4.70							
9	2:66	D	4.00	OK	0.91	0.91							
10	2:66	D	4.00	OK	1.22	1.22							
11	2:68	D	4.00	OK	3.08	3.08							
12	2A:36	E	6.00	OK	1.99		1.99						
13	35:04	D	4.00	OK	2.07			2.07					
14	35:06	D	4.00	OK	2.37				2.37				
15	35:06,:08	D	4.00	OK	1.38				1.38				
16	35:08	E	6.00	OK	2.02				2.02				
17	35:08	E	6.00	OK	0.81				0.81				
18	35:08,:10	E	6.00	OK	4.65				4.65				
19	35:10	E	6.00	OK	0.94				0.94				
20	35:10	E	6.00	OK	2.32				2.32				
21	64:02	G	10.00	OK	4.85	4.85							
22	64:02	G	10.00	OK	2.22	2.22							
23	64:02	G	10.00	OK	6.07	6.07							
24	64:02	F	8.00	OK	2.76	2.76							
25	64:04	F	8.00	OK	1.77	1.77							

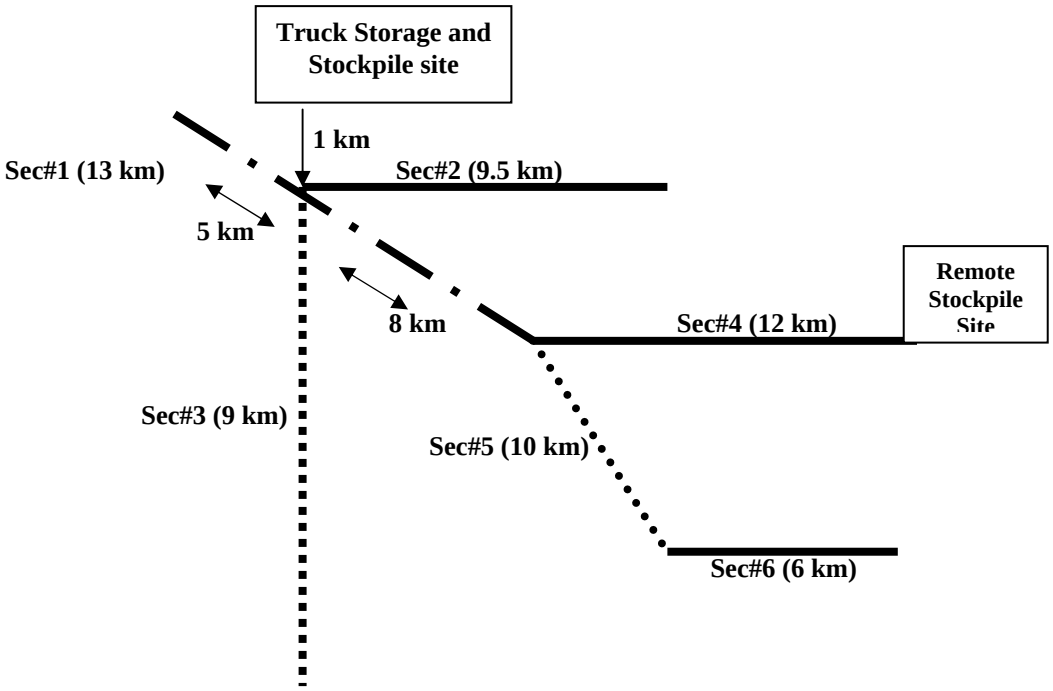
Shop 2 | Shop 3 | Shop 4 | Shop 5 | Shop 6 | Shop 7 | Shop 8 | Truck Alloc | Length Assigned | Plow Time | Spread Time | Shop sur

Ready NUM

Example of Shop Worksheet Data Requirements

Example of Shop worksheet data requirements

Following is a typical situation that can arise, for one truck. The correct answers are provided later:



Step A): Assign Sections in sequence

The first step to enter required data is to determine the section number for each assignment (given below for this example).

Assignment Number	Section Number
1	4
2	5
3	6
4	1
5	2
6	3

Step B): Calculate the Length of Each Assignment

An equivalent 2 lane kilometre (2LEKm) length is then measured for the assignment and entered in the "Length" column. The speadsheet will calculate and automatically display the accumulated truck allocation as each assignment is entered.

Step C): Describe Each Assignment

A brief description can be entered for each assignment. The plow truck always ends up at the same location that it started; in other words, all assignments are "round trip".

Step D): Show Travel Distances

The travel distances (TD's) are then entered for each assignment as described previously.

The following example can be used to practice measuring travel distances (TD's):

Assignment #1	Assignment #2	Assignment #3	Assignment #4	Assignment #5	Assignment #6
TD1 - ____	**TD2 - ____**	**TD 3 - ____**	**TD4 - ____**	**TD5 - ____**	**TD6 - ____**
Length - ____	**Length - ____**	**Length - ____**	**Length - ____**	**Length - ____**	**Length - ____**

Step E): Haul distances

The accumulated times to complete the activity of spreading materials is calculated automatically and displayed for each truck assignment.

The accumulated times are automatically displayed in the "SPREAD TIME" worksheet.

The following example can be used to practice measuring haul distances:

Assignment #1	Assignment #2	Assignment #3	Assignment #4	Assignment #5	Assignment #6
Haul - ____	**Haul - ____**	**Haul - ____**	**Haul - ____**	**Haul - ____**	**Haul - ____**

The haul distance for each assignment is the distance from the closest point in the assigned section of highway to the stockpile source used for that assignment. Only one stockpile source can be used per assignment.

Answers for Typical Examples for Plowing and Spreading

For Plowing

Assignment #1	Assignment #2	Assignment #3	Assignment #4	Assignment #5	Assignment #6
TD_1 – 9 km.	**TD_2 – 0 km**	**TD_3 – 10 km.**	**TD_4 – 10 km.**	**TD_5 – 8 km.**	**TD_6 – 0**
Length – 12 kms.	**Length – 10 kms.**	**Length – 6 kms.**	**Length – 13 kms.**	**Length – 9.5 kms.**	**Length – 9 kms.**

For Spreading

Assignment #1	Assignment #2	Assignment #3	Assignment #4	Assignment #5	Assignment #6
Haul – 0 kms.	**Haul – 9 kms.**	**Haul – 19 kms.**	**Haul – 1 kms.**	**Haul – 1 kms.**	**Haul – 1 kms.**

Maps

It is most useful to prepare truck beats using a map. Maps can make what appears to be an extremely complicated situation much easier to manage. A map of how the Department assigned the "base case" level is provided in the tender documents.

Blank maps for the Contractor to fill out are available.

The RFP requires a map of the proposed truck beats. The only restriction on this map is that it clearly shows the truck allocations in order. Maps can be drawn by computer or coloured by hand. If done by hand, the use of "highlighter pens" is recommended.

Hotspots

- These are areas where the Operations Manager will want to designate special (reduced) times for delivery of services.
- A hotspot is defined as a section where the actual or base time is specified instead of the "default" time for that class of highway.
- Hotspots are very restrictive to Prospective Contractors and do not permit "room to move". Therefore they are used judiciously.
- Typically hotspots will be major hills (usually in river valleys) and urban areas.

Trouble Spots

Trouble spots are identified in the local features of the RFP document for each individual CMA. They identify problems in the area that normally require special or additional attention, during winter storms.

They differ from hot spots, as they do not require faster response times within the Special Provisions for that CMA.

The Prospective Contractor must identify in his proposal on how he intends to deal with both hotspots and troublespots.

Requirements for Winter Service Delivery Plan

The Special Provisions will identify some requirements to protect the minimum level of service for Winter Service Delivery, in the following areas:

Plowing Delivery Requirements

Prospective contractors have the opportunity to select locations for sand/salt stockpiles and the truck storage. In planning and selecting their sites, it is very important that their allocation of resources (sand/salt stockpiles and trucks) be placed strategically to ensure that the proposed service is equal to or slightly better than the established base case levels. Proposals will be evaluated on the winter service delivery cumulative times calculated in the spreadsheets described previously.

Requirements for WSD are specified in the RFP and all proposals will be evaluated based on meeting or exceeding the Base Case WSD criteria.

For this reason, times of delivery of service in the worksheets are compared to the existing base case delivery of service to ensure overall service to Alberta's motorists is maintained.

Level of Service for all Class A, B & C Highways are considered critical and will therefore have more critical assigned **Truck Allocation** parameters.

The Prospective Contractor may have the situation that the minimum truck factor calculation does not accommodate, in sufficient numbers, enough trucks to meet the technical requirements in the RFP for Winter Service Delivery – Plowing. In those cases, additional trucks must be added to the proposal to ensure all requirements are met.

The Department has established overall "Business Rules" that governs the determination of Winter Service Delivery requirements. This will ensure that overall practices within the province are consistent.

Sanding/Salting Delivery Requirements

The "Spread Time" worksheet is similar to "Plow Time" worksheet in format but summarize times to deliver sand or salt.

The "Special Provisions" contain a worksheet that specifies the maximum allowable completion times for both plowing and sand application, for all individual highway sections, within that CMA.

The Prospective Contractor may have the situation that the minimum truck factor calculation does not accommodate, in sufficient numbers, enough trucks to meet the technical requirements in the RFP for Winter Service Delivery – Spreading. In those cases, additional trucks or additional supply sites or a redistribution of supply sites must be added to the proposal to ensure all requirements are met.

Truck Allocation Requirements

The 'Base Case' plow truck allocation has been modeled based on existing truck storage and sand/salt stockpile locations. Prospective contractors will be able to modify the existing locations for both truck storage and sand/salt stockpiles. When the proposed distribution of trucks and stockpiles increases the efficiency of the prospective contractor's fleet, fewer trucks could be required to provide the same level of service. To account for this increase in efficiency, the maximum number of 2LEKm of highway that each truck (the Truck Factor) is increased slightly as the total number of trucks decreases.

Truck Factors will be specified in the RFP for Classes and Groups of Classes. To permit a rational distribution of beat length over a variety of truck fleets, the following worksheet will be included in all "Special Provisions".

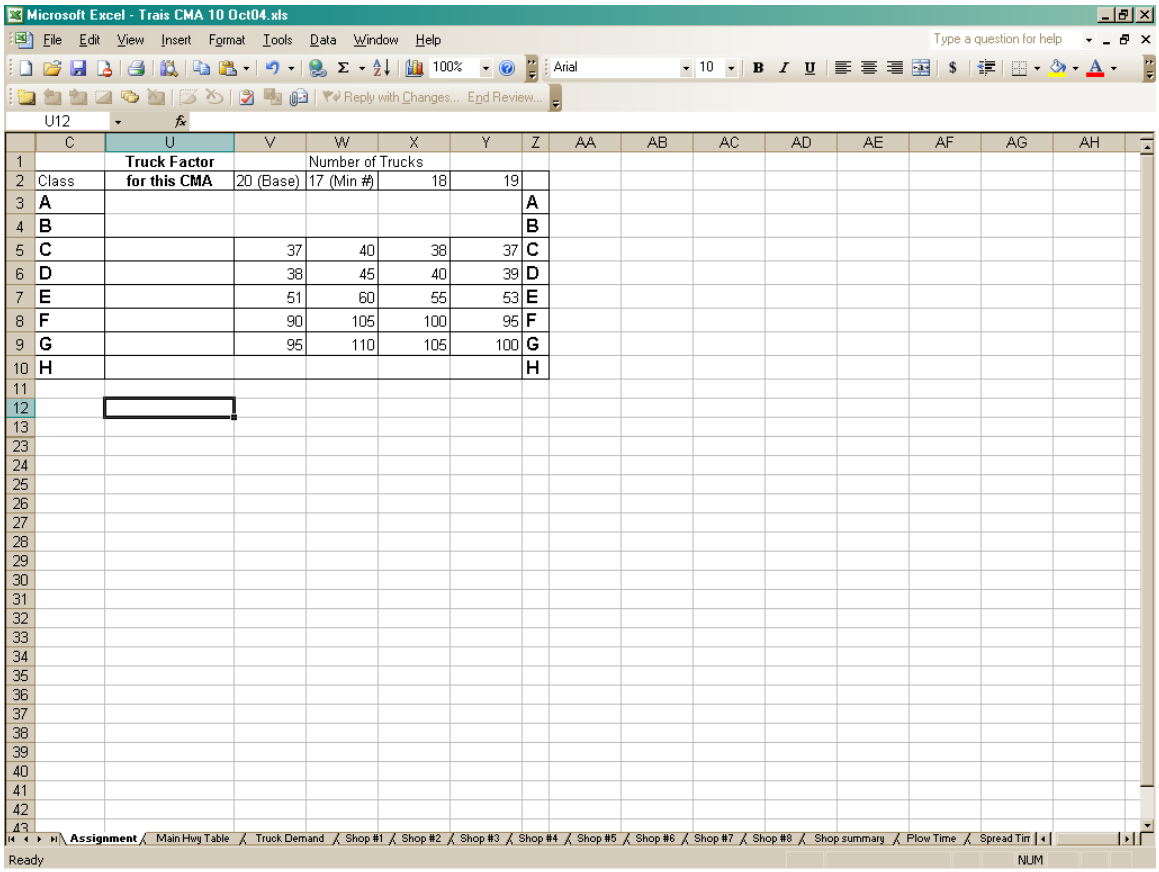
An example of this worksheet is shown below:

Truck Allocation Assignment Worksheet – CMA 28 Truck Factor			
Class	**Base 19 or more Trucks**	**Proposed 17 Trucks Minimum**	**Proposed 18 Trucks**
A	**25**	**25**	**25**
B	**28**	**35**	**30**
C	**N/A**	**N/A**	**N/A**
D	**38**	**45**	**42**
E	**45**	**60**	**47**
F	**85**	**105**	**90**
G	**190**	**110**	**100**
H	**N/A**	**N/A**	**N/A**

Each CMA's Special Provisions shall show an "Assignment Worksheet" for the full range, from the minimum number to the "Base case" number of trucks assigned for the CMA.

Depending on where the Prospective Contractor locates his sand/salt stockpiles, the proposed truck demand factor may indicate that the proposed fleet has more trucks than the "Base case" number. In that case, the proposed contractor will be allowed to choose a 2LEKm assigned per truck between 25 2LEKms and the "Base Case" truck allocation, per Class, for that CMA.

Following is a view of the "Assignment Worksheet":



	C	U	V	W	X	Y	Z
1		**Truck Factor**		Number of Trucks			
2	Class	**for this CMA**	20 (Base)	17 (Min #)	18	19	
3	A						A
4	B						B
5	C		37	40	38	37	C
6	D		38	45	40	39	D
7	E		51	60	55	53	E
8	F		90	105	100	95	F
9	G		95	110	105	100	G
10	H						H

The Prospective Contractor is required to fill in the Truck Factor area with the Truck Factor according to the minimum number of trucks calculated from the Proposed Truck Demand Factor.

Truck Allocation

The Department permits a small degree of over - utilization, particularly in the lower classes of roadway. This allows proposals to over-allocate additional highway sections that would otherwise require an additional truck. The basic guidelines for truck allocation are:

- Prospective contractors should attempt to have an average truck allocation of 1.0 (100%) per truck for their proposal.
- Trucks should be assigned until truck allocation is greater than 0.8. Only in rare cases will a truck that has a truck allocation less than 0.8 be unable to travel to another area for further allocations within the maximum allowable time. **The total of all truck allocations in a shop must be equal to or less than the actual number of trucks assigned to that shop, except for the case when there is only one truck assigned to a shop** – in other words, individual trucks in a shop may be over-utilized, but the average allocation for all trucks in a shop must be less than 1.0, unless there is only one truck.
- Trucks are considered appropriately allocated with a truck allocation of 0.9 and higher.

- Allowable over-utilization depends on the highest class of highway that the truck works on, in any of its assignments.
- If the prospective contractor wants to propose an over-utilization of trucks within an area, he shall clearly identify this within his Winter Service Delivery plan in Envelope No. 2, and explain his justification for the over-utilization.

Shown below are typical worksheets that may appear in "Special Provisions"

Maximum truck allocation by Roadway Class		
Class	**Permissible percentage of fleet with truck allocation > 1.0, by CMA**	**Maximum truck allocation allowed**
A	**1 truck or 10%, whichever is less**	**1.05**
B	**1 truck or 10%, whichever is less**	**1.10**
C	**2 trucks or 20%, whichever is less**	**1.10**
D, E, F, G or H	**3 trucks or 30%, whichever is less**	**1.15**

Cumulative Network LOS Time Requirements

The "Special Provision" section of the RFP will have requirements for the total time to complete either plowing or spreading for individual classes, or groups of classes for the entire network. The time to complete any individual section for cumulative LOS will be the running time of the last truck to finish working in that section.

The Prospective Contractor must meet all the cumulative time requirements, by groups of classes of highway. The Base Case's Cumulative Network time is found in the "Base Case" file, for plowing or spreading.

The Prospective Contractor may have the situation that the minimum number of trucks, as calculated by the truck demand factor, does not provide sufficient numbers of trucks to meet the requirements for Cumulative Network LOS Time Requirements. In those cases, additional trucks must be provided.

Depending on the number of CMAs in a proposal, different groups of Classes of Highway are used to evaluate the proposal. The cumulative network LOS time for each class is added to make the group time, and the proposal must have a group time less than or equal to the Base Case, for that group of classes of highway. Shown below is a typical example of a Network Cumulative LOS Time worksheet that may appear in the Special Provisions:

Permissible Cumulative Network Class Time, in Multiple CMAs'	
No: of CMAs in Proposal	**Permissible Cumulative Times**
1	**Combine Classes A, B & C** **Combine Classes D & E** **Combine Classes F, G & H**
2	**Combine Classes A, B & C** **Combine Classes D & E** **Class F** **Combine Classes G & H**
3 or more	**Combine Classes A, B & C** **Class D** **Class E** **Class F** **Combine Classes G & H**

The Prospective Contractor, in his Winter Service Delivery plan shall add the class times within the individual groupings identified in the "Special Provisions" for all the CMAs, within the proposal. This applies to both plowing and spreading times.

The Department has established overall "Business Rules" that governs the determination of Winter Service Delivery requirements. This will ensure that overall practices within the province are consistent, in all CMAs

.

- Cumulative network LOS times for the proposal must be equal to or less than the base case, for both plowing and spreading
- In unusual cases, the best allocation of plow trucks may result in a proposed delivery time being greater than the maximum allowable on some sections of highway. For individual sections, the proposed delivery time may be exceeded to a maximum of 10% above the allowable maximum time for that section, in no more than two sections in each CMA.
- In unusual cases, the best allocation of sand/salt stockpiles may result in proposed delivery times being greater than the maximum allocable. For individual sections, the proposed spreading time may be exceeded to a maximum of 10% above the allowable maximum time for that section in no more than 10% of the sections in each CMA.
- In all cases, the cumulative network LOS times must not exceed the Base Case.

Suggested Procedure for Developing Winter Service Delivery Plans

The Prospective Contractors should follow this sequence when developing their winter service delivery plans:

1. Select stockpile locations and truck storage sites for the proposal.
2. Enter distances from the nearest stockpile location for each section, in the "Truck Demand" worksheet.
3. Calculate the preliminary minimum number of trucks required using the truck demand factor calculation (see page 7).
4. Enter the Truck Factor for the preliminary minimum number of trucks calculated, in the "Assignment" worksheet.
5. Enter truck information (including hopper size) on the appropriate "Shop" worksheets, and assign trucks to plow all sections.
6. Check the "Plow Time" and "Shop" or "Truck Alloc" worksheets to ensure that:
   (a) all sections have been completely assigned,
   (b) all sections are completed within the maximum time allowed, and
   (c) all trucks are within maximum allowable truck allocation.
7. Check the "Spread Time" worksheet to ensure that all sections are completed within the maximum time allowed.
8. Make changes as required to the stockpile locations and truck storage sites and plow assignments until all sections are completed within the maximum allowable time for plowing and spreading, and all trucks are within maximum allowable Truck Allocation.
9. Check on the "Plow Time" and "Spread Time" worksheets that the cumulative plowing and spreading times by class of highway, grouped as described earlier, are less than or equal to the grouped cumulative times by class of highway in the Special Provisions.
10. Make changes as required until the proposed cumulative times by groups of classes of highway are less than or equal to the base case.
11. Draw plow beat maps for inclusion in the proposal.

Assessment of Winter Service Delivery Plan

The following points should be considered by the Prospective Contractor when preparing his winter highway maintenance service plan.

- The winter service delivery model in the proposal must meet all requirements of the special provisions.

- The assessment panel for "Envelope No: 2" will be given the job to review the Prospective Contractor's proposal for Winter Service Delivery.

- The assessment panel may decide that a proposal does not meet the requirements through innocent mistakes, and make minor adjustments to truck assignments or distances entered in any proposals. The intent of these changes would be to show that the proposal, with minor modifications, can meet the contract requirements. These slightly modified proposals will be accepted for further evaluation. Proposals that contain major errors in content or process for the development of the winter service delivery model may be rejected.

- In all cases, the "Spirit and Intent" of Winter Service Delivery must be met in the proposal.

- The minimum number of full-time additional operators (more than one operator per truck) is calculated for each CMA's Base Case. The spreadsheet will automatically calculate how many additional operators are needed for each shop area and CMA according to the proposal's shop locations.

Spirit & Intent of Winter Service Delivery

Wholesale reduction or trading of service between areas or classes or groups of classes will not be considered as meeting the spirit and intent of the winter service delivery plan.

Not meeting the "spirit or intent" of the winter service delivery requirements may result in the rejection of a proposal.

SECTION D

(Motor Grader Details)

Alberta
Transportation

MOTOR GRADER SERVICE DELIVERY DETAILS FOR GRAVEL SURFACES

April 2008

MOTOR GRADERS FOR GRAVEL SURFACE ROADWAYS

The Scope of Work special provision in each CMA will include a table (Gravel Highways) showing the location of all gravel highways to be maintained and the corresponding information, as listed below, necessary to complete the winter and summer motor grader service delivery plans:

- weighted average annual daily traffic (WAADT)
- kilometres (from and to)
- length and width of the gravel highway
- number of hectares

These gravel highways will also be identified on the CMA map.

WINTER SERVICE DELIVER PLAN DETAILS

The Prospective Contractor shall provide a plan for provision of motor grader services on all identified gravel roadways for winter. Specific information required is:

- Identification of motor grader circuits, each of which is to have one assigned motor grader. A circuit is a combination of gravel roadway sections that are normally done consecutively. This means grouping of the sections to minimize the travel between sections. The circuits need to meet the following criteria:

Maximum Utilization for winter:

WAADT	Maximum No. of Hectares per Grader
<100	120
100 to 500	80
>500	60

The Prospective Contractor's plan shall show the number of hectares per WAADT classification assigned to each motor grader in a table similar to the following:

WAADT	# of Hectares in Circuit	Equivalent Motor Graders (#Hectares / Max. #Hectares)
<100		
100 to 500		
>500		
Total		Not to exceed 100%*

* Average Grader allocation for CMA not to exceed 100%. Individual grader allocation not to exceed 110%.

The "equivalent motor grader" is a calculation showing the motor grader utilization for a particular classification of road in the circuit. It is equal to the number of hectares in the classification divided by the maximum allowed for that classification. The Prospective Contractor's table will demonstrate that the motor grader circuit meets the maximum utilization criteria.

Maximum Time to Complete for winter:

WAADT	Maximum Time to Complete (hrs)
<100	24
100 to 500	18
>500	12

The Prospective Contractor's plan shall show for each section in a circuit that the section can be completed within the maximum time allowed for its classification. This will be determined by a calculation using a motor grader deadheading speed of 40 kilometres per hour and a working speed of 10 kilometres per hour. The starting point will be the motor grader storage location. All gravel sections will require two passes, meaning that the motor grader may have to backtrack over the completed section (at 40 kilometres per hour), depending on the location of the subsequent section to be bladed. The Prospective Contractor's plan shall show this calculation for each section in the circuit, with the "time to complete" accumulating from the previous section.

- Motor grader storage locations by land parcel and the associated deadhaul to the nearest point on the assigned circuit and the travel distance to the nearest point on the highest WAADT classification section in its circuit.

- The length of deadhaul between individual sections of each circuit.

- Proximity of the operator to the grader storage location.

The Proposal will be assessed for the strategic placement of motor graders to determine if the Prospective Contractor's plan is acceptable and economic for the Department.

Minimum Requirements

- Number of motor graders complies with the maximum utilization per grader.
- Each proposed circuit shall be completed within the maximum "time to complete".
- Identify suitable back-up plans for motor grader breakdowns and operator unavailability.
- Identify specific arrangements for supplemental resources in emergency situations, such as reciprocal agreements, or other types of equipment (i.e. farm tractors, loaders, etc.).
- Identify subcontractor arrangements and how Department work will be prioritized.

SUMMER SERVICE DELIVER PLAN DETAILS

The Prospective Contractor shall provide a plan for provision of motor grader services on all identified gravel roadways for summer. Specific information required is:

- Identification of motor grader circuits, each of which is to have one assigned motor grader. A circuit is a combination of gravel roadway sections that are normally done consecutively. This means grouping of the sections to minimize the travel between sections. The circuits need to meet the following criteria:

Maximum Utilization for summer:

WAADT	Maximum No. of Hectares per Grader
<100	90
100 to 500	50
>500	30

The Prospective Contractor's plan shall show the number of hectares per WAADT classification assigned to each motor grader in a table similar to the following:

WAADT	# of Hectares in Circuit	Equivalent Motor Graders (#Hectares / Max. #Hectares)
<100		
100 to 500		
>500		
Total		Not to exceed 100%*

* Average Grader allocation for CMA not to exceed 100%. Individual grader allocation not to exceed 110%.

The "equivalent motor grader" is a calculation showing the motor grader utilization for a particular classification of road in the circuit. It is equal to the number of hectares in the classification divided by the maximum allowed for that classification. The Prospective Contractor's table will demonstrate that the motor grader circuit meets the maximum utilization criteria.

Maximum Time to Complete for summer:

WAADT	Maximum Time to Complete (days*)
<100	10
100 to 500	5
>500	2

* One day is equivalent to 12 hours of grading time

The Prospective Contractor's plan shall show for each section in a circuit that the section can be completed within the maximum time allowed for its classification. This will be determined by a calculation using a motor grader deadheading speed of 40 kilometres per hour and a working speed of 5 kilometres per hour. The starting point will be the motor grader storage location. All gravel sections will require six (6) passes, meaning that the motor grader may have to backtrack over the completed section (at 40 kilometres per hour), depending on the location of the subsequent section to be bladed. The Prospective Contractor's plan shall show this calculation for each section in the circuit, with the "time to complete" accumulating from the previous section.

- Motor grader storage locations by land parcel and the associated deadhaul to the nearest point on the assigned circuit and the travel distance to the nearest point on the highest WAADT classification section in its circuit.

- The length of deadhaul between individual sections of each circuit.

- Proximity of the operator to the grader storage location.

The Proposal will be assessed for the strategic placement of motor graders to determine if the Prospective Contractor's plan is acceptable and economic for the Department.

Minimum Requirements

- Number of motor graders complies with the maximum utilization per grader.
- Each proposed circuit shall be completed within the maximum "time to complete".
- Identify suitable back-up plans for motor grader breakdowns and operator unavailability.
- Identify specific arrangements for supplemental resources in emergency situations, such as reciprocal agreements, or other types of equipment (i.e. farm tractors, loaders, etc.).
- Identify subcontractor arrangements and how Department work will be prioritized.

EXAMPLE CALCULATION (SUMMER):

Proposed Grader Beats

Beat	Grader	Hwy #	Length	Width	Area (ha)	WAADT	Deadhaul (km)	Deadhaul (hr)	Plow (hr)	Cumulat. Time (hrs)	Cumulat. Time (days)
1	Hanna 1	862:06	17.85	9.10	16.24	600	43.00	1.08	21.42	22.50	1.9
2	Hanna 1	569:02	19.59	9.40	18.41	110	50.00	1.25	23.51	47.25	3.9
3	Hanna 1	848:02	19.91	5.20	10.35	75	20.00	0.5	23.89	71.65	6.0

Where:

- Deadhaul (hr) = Deadhaul (km) ÷ 40 km/hr
- Plow (hr) = {Plow (km) ÷ 5 [plow speed]} x 6 [number of passes]
- Cumulative Time (hrs) Beat 1 = Deadhaul (hr) + Plow (hr)
- Cumulative Time (hrs) Beat 2 = Deadhaul (hr) + Plow (hr) + Beat 1 Cumulat. (hrs)
- Cumulative Time (hrs) Beat 3 = Deadhaul (hr) + Plow (hr) + Beat 2 Cumulat. (hrs)
- Cumulative Time (days) = Cumulative Time (hrs) ÷ 12 hours

Grader Utilization - Hanna 1

WAADT	Maximum (Ha)	Circuit (Ha)	% utilization	
< 100	90	10.35	11.5%	(10.35 ÷ 90)
100 - 500	50	18.41	36.8%	(18.41 ÷ 50)
>500	30	16.24	54.1%	(16.24 ÷ 30)
			102.5%	

Calculations for grader service delivery for winter work shall be similar to the above with the exception that plow speed is 10 km/hr, number of required passes is 2 and the grader utilization and maximum time to complete are different than for summer work.

SECTION E

(Special Provisions)

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A. AWARDING HIGHWAY MAINTENANCE CONTRACTS

At this time, the Department is requesting the submission of Proposals for the performance of highway maintenance in Contract Maintenance Areas 6, 9, 10 and 11.

This Special Provision is intended to supplement and provide clarification of the clauses in the Request for Proposals pertaining to the process that will be used by the Department to identify the Preferred Proposal(s). The term "Preferred Proposal" is referenced in Section 3.0 of the Request for Proposal Details.

Notwithstanding the following steps, the Department reserves the right to reject any or all proposals, and to not award any Contracts under this Request for Proposals.

A.1 STEP 1 – IDENTIFYING THE PROPOSAL OR COMBINATION OF PROPOSALS COVERING ALL 4 CMAS AND HAVING THE HIGHEST SCORE

Pursuant to section 3.0 of the Request for Proposals Details document, the Department will identify the Proposal covering all 4 CMAs or the combination of Proposals covering all 4 CMAs, as the case may be, which meets all minimum requirements for Envelope 2 and has the highest score. For the purposes of this Special Provision only, such Proposal(s) is deemed as the "HIGHEST SCORE PROPOSAL(S)".

If in the opinion of the Department, the "HIGHEST SCORE PROPOSAL(S)" provides good value to the Department, or if the number of acceptable proposals received by the Department covering all 4 CMAs or combination of proposals covering all 4 CMAs is three or more, then the evaluation process will continue pursuant to Section 3.3.6 Financial Analysis, of the Request for Proposals Details document.

If the Department receives less than three proposals or combination of proposals covering all 4 CMAs, then good value is defined as a proposal(s) covering all 4 CMAs which is no higher than 5% above the Department's estimated yearly cost for all 4 CMAs.

A.2 STEP 2 – ASSESSING PROPOSALS WHERE THE HIGHEST SCORE PROPOSAL DOES NOT PROVIDE GOOD VALUE TO THE DEPARTMENT, AND IF THERE ARE LESS THAN THREE PROPOSALS OR COMBINATION OF PROPOSALS COVERING ALL 4 CMAS

STEP 2 will only be used if the "HIGHEST SCORE PROPOSAL(S)"(as determined in STEP 1) is judged by the Department as not providing good value and the number of proposals covering all 4 CMAs or combination of proposals covering all 4 CMAs is less than three.

If in the opinion of the Department, the "HIGHEST SCORE PROPOSAL(S)" does not provide good value to the Department it will not be considered to be the Preferred Proposal(s). In such case the Department will then consider all individual Proposals that do not contain all 4 CMAs. This includes any Proposals that are part of a combination of Proposals covering all 4 CMAs.

The Department will then proceed with the evaluation process as follows:

(a) select the Proposal or combination of Proposals which covers the greatest number of CMAs, and also provides good value to the Department. In the case of Proposals or combination of Proposals that cover the same number of CMAs, the Proposal or combination of Proposals which meet all minimum requirements of Envelope 2 and has the highest cumulative score will be selected.

The scores of each individual CMA in the selected Proposal(s) will be compared to the scores of the corresponding CMAs of the "HIGHEST SCORE PROPOSAL(S)" and the following shall apply:

(i) If the selected Proposal covers only 1 CMA, the score of that CMA must be at least 2% greater than the score of the corresponding CMA from the "HIGHEST SCORE PROPOSAL(S)", before it will be considered to be a Preferred Proposal.

(ii) If the selected Proposal covers 2 CMAs, the cumulative score of the 2 CMAs must be at least 1% greater than the cumulative score of the corresponding CMAs of the "HIGHEST SCORE PROPOSAL(S), before it will be considered to be a Preferred Proposal.

(iii) If the selected Proposal covers 3 CMAs, the cumulative score of the 3 CMAs must be at least 0.5% greater than the cumulative score of the corresponding CMAs of the "HIGHEST SCORE PROPOSAL(S)", before it will be considered to be a Preferred Proposal.

(iv) These requirements for "increased scores" in items (i), (ii) and (iii) above do not apply in cases where the selected Proposal was originally a component of the "HIGHEST SCORE PROPOSAL(S)". In such cases, the selected Proposal will be judged on a best value basis.

(v) In the event the Department awards contracts to bidders with Preferred Proposals selected through this STEP 2, this will result in 1 or more than 1 CMA not being covered by a contract. In such case, the Department may enter into negotiations with the bidder having the "HIGHEST SCORE PROPOSAL" (as determined in STEP 1) for the performance of the Work in the affected CMA(s). In the event such negotiations are not resolved to the satisfaction of both parties, the Department reserves the right to explore other avenues for awarding the highway maintenance in the affected CMAs, including re-tendering.

A.3 STEP 3 – NO PREFERRED PROPOSALS IDENTIFIED

If Step 2 does not result in any Preferred Proposals, the Department reserves the right to award no contracts whatsoever, through this RFP process.

B. STANDARD SPECIFICATIONS

The Specifications for this Contract are published in the Department manual entitled "Standard Specifications for Highway Maintenance", Edition 4, January 2005.

The typical plans and drawings for this Contract are published in the following documents:

All drawings for traffic accommodation and work zone temporary signing are found in the Department manual entitled "Traffic Accommodation in Work Zones", 2nd Edition, May 2001 and "Traffic Accommodation in Urban Work Zones", 1st Edition, May 2003.

Standard drawings showing requirements for pavement markings are found in the latest version of the Department manual entitled "Alberta Highway Pavement Marking Guide".

Typical drawings for permanent highway signage are included in the Department manual entitled "Typical Signage Drawings".

Typical drawings for barriers are included in the Department manual entitled "Typical Barrier Drawings".

Most of the drawings referenced in the Standard Specifications for Highway Maintenance manual are found in the Department manual entitled "CB6 Standard Highway Construction Drawings".

Any drawings not found in these manuals, or any updated drawings, are included in the individual specifications or included in the contract.

Due to government reorganization, the Department's name has changed over the years. As a result, some specifications, drawings, plans and other documents may continue to reference Alberta Transportation, Alberta Infrastructure or Alberta Transportation and Utilities.

Please be advised that any references to the above noted department names shall now mean Alberta Transportation.

C. SCOPE OF WORK

The work within this CMA will commence at 00:01 hrs. MST/MDT on **August 1, 2009** and terminate at 24:00 hrs. (Midnight) MST/MDT on **July 31, 2015**.

To facilitate the commencement of this contract on August 1, 2009, the department may order some work such as sodium chloride (salt), winter sanding material, Gravel Surfacing – Supply and Place, and other minor quantities of work on April 1, 2009. The Contractor shall provide Insurance in accordance with Specification 51.2.12 that will have an effective date of April 1, 2009.

The Work consists of performing all required routine and specific maintenance of the designated highway infrastructure within the boundaries as shown on the Contract Plan.

Provincial highways included in the designated highway infrastructure are as follows:

C.1 PAVED HIGHWAYS

Hwy. No.	Description	Kilometre		Length (km)	2 Lane Equiv.	WAADT
		From	To			
2:34	St. Albert NCL to Jct Hwy 37	0.00	4.05	4.05	8.10	17,320
2:36	Jct Hwy 37 to Jct Hwy 642	0.00	9.60	9.60	20.58	15,510
2:36	Jct Hwy 642 to Jct Hwy 651	9.60	26.36	16.76	19.73	6,050
14:03	Edmonton ECL to Jct Hwy 216	0.00	0.92	0.92	1.84	29,660
14:04	Jct Hwy 216 to Jct Hwy 21	0.00	7.85	7.85	15.70	11,630
14:06	Jct Hwy 21 to Tofield	0.00	39.70	39.70	44.90	7,790
14:08	Tofield to Jct Hwy 834	0.00	3.64	3.64	3.64	4,300
15:04	Edmonton NCL to Ft. Sask. NCL	0.00	4.94	4.94	4.94	14,340
16:18	Edmonton ECL to Jct Hwy 21	0.00	7.35	7.35	16.79	35,780
16:20	Jct Hwy 21 to West Elk Island Park	0.00	19.55	19.55	39.79	15,220
21:26	Jct Hwy 623 to Jct Hwy 14	0.00	24.72	24.72	25.42	9,600
21:28	Jct Hwy 14 to Jct Hwy 16	0.00	13.47	13.47	21.17	9,490
21:28	Jct Hwy 16 to Ft. Sask. SCL	13.47	25.05	11.58	23.16	18,010
28:02	Edmonton NCL to Jct Hwy 28A	0.00	32.99	32.99	35.32	6,360
28:04	Jct Hwy 28A to Rest Area	0.00	17.31	17.31	18.73	5,550
28A:03	Jct Hwy 37 to Jct. Hwy 28	0.00	14.27	14.27	14.86	6,550
37:02	Jct Hwy 43 to Jct Hwy 2	0.00	42.10	42.10	42.42	4,800
37:04	Jct Hwy 2 to Jct. Hwy 15	0.00	25.25	25.25	25.82	5,160
44:00	Jct Hwy 37 to Jct Hwy 651	16.80	43.35	26.55	26.55	3,500
100:02	Edmonton ECL to Sherwood Park	0.00	4.16	4.16	8.32	33,610
216:04	Jct Hwy 16 to Jct Hwy 14	0.00	12.83	12.83	25.66	30,370
628:04	Jct Hwy 216 to Jct Hwy 21	0.00	6.44	6.44	6.94	8,610
629:04	Jct Hwy 824 to Rg.Rd. 213	0.00	8.15	8.15	8.15	580
630:02	Jct. Hwy 21 to Jct Hwy 824	0.00	6.90	6.90	13.81	9,640
630:02	Jct Hwy 824 to Jct Hwy 830	6.90	11.26	4.36	4.36	5,200
630:02	Jct Hwy 830 to Jct Hwy 14	11.26	40.01	28.75	28.75	1,480
642:02	Jct Hwy 777 to Jct Hwy 44	0.00	22.64	22.64	22.64	1,320
642:04	Jct Hwy 44 to Morinville WCL	0.00	12.18	12.18	12.18	2,000
642:04	Town Of Morinville	12.18	14.77	2.59	5.18	7,670
642:04	Morinville ECL to Jct Hwy 28	14.77	22.94	8.17	8.17	2,710
643:02	Jct Hwy 28A to Jct Hwy 38	0.00	20.68	20.68	20.68	2,180
651:02	Jct Hwy 44 to Jct Hwy 2	37.75	50.78	13.03	13.03	850
651:04	Jct Hwy 2 to Gravel	0.00	19.31	19.31	19.31	910
777:01	Jct Hwy 37 to Jct Hwy 642	0.00	9.72	9.72	9.72	850
803:02	Jct Hwy 28 to Jct Hwy 651	0.00	13.65	13.65	13.65	810
824:02	Jct Hwy 630 to Jct Hwy 16	10.98	17.40	6.42	6.42	2,800
825:02	Jct Hwy 37 to Jct Hwy 643	0.00	14.19	14.19	14.19	3,200
830:02	Jct Hwy 16 to Jct Hwy 15	6.40	28.20	21.80	21.80	890
INT 93	Jct Hwy 16 & Hwy 216, (Meridian St.)	0.00	6.10	6.10	3.05	
INT 91	Jct Hwy 16 7 Hwy 21 (Bremner)	0.00	4.33	4.33	2.17	
INT 163	Jct Hwy 16 & Sherwood Drive	0.00	1.93	1.93	0.97	
INT 94	Jct Hwy 216 & Baseline Rd.	0.00	21.79	21.79	10.90	
INT 82	Jct Hwy 216 & Hwy 100:02 (Salisbury)	0.00	4.97	4.97	2.49	

Hwy. No.	Description	Kilometre		Length (km)	2 Lane Equiv.	WAADT
		From	To			
INT 83	76 ave	0.00	1.81	1.81	0.91	
INT 85	Jct Hwy 100:02 & 34 Street	0.00	1.75	1.75	0.88	
INT 72	Jct Hwy 2 & Hwy 642 (Morinville)	0.00	1.68	1.68	0.84	
INT 88	Jct Hwy 16 & Broadmoor Boulevard includes connectors 216/16	0.00	16.50	16.50	8.25	
INT 90	Jct Hwy 16 & Clover Bar Road	0.00	4.32	4.32	2.16	
INT 92	Jct Hwy 16 & hwy 824 (Ardrossan)	0.00	2.25	2.25	1.13	
INT 193	Jct Hwy 14 & Hwy 21 (Bretona)	0.00	6.57	6.57	3.29	
INT 111	Jct Hwy 28 & Hwy 28A (Gibbons)	0.00	2.68	2.68	1.34	
INT 78	Jct Hwy 216 & Hwy 628 (Whitemud)	0.00	13.70	13.70	6.85	
INT 84	Jct Hwy 100:02 & 17 Street	0.00	3.48	3.48	1.74	
INT 112	Jct Hwy 28 & Edm. Garrison Access	0.00	1.50	1.50	0.75	
INT 71	Jct Hwy 2 & Hwy 37	0.00	4.52	4.52	2.26	
			TOTALS:	**658.48**	**722.40**	

C.2 GRAVEL HIGHWAYS

Hwy. No.	Description	Kilometre		Length (km)	Width (m)	Hectares	WAADT
		From	To				
651:04	Lily Lake Rd to Jct Hwy 28	19.31	31.37	12.06	10.00	12.06	140
777:02	Jct Hwy 642 to Jct Hwy 651	0.00	16.20	16.20	7.00	11.34	190
			TOTALS:	**28.26**		**23.40**	

C.3 OILED ROADS

Hwy. No.	Description	Kilometre		Length (km)	2 Lane Equiv.	WAADT
		From	To			
824:02	Jct Hwy 14 to Jct Hwy 630	0.00	10.98	10.98	10.98	810
830:02	Jct Hwy 630 to Jct Hwy 16	0.00	6.40	6.40	6.40	480
			TOTALS:	**17.38**	**17.38**	

C.4 OTHER ROADS

Road	General Location	Paved (km)
AR 172	Hwy 21 to New Sarepta	2.28
AR 169	Sherwood Park Freeway to Sherwood Park	0.34
Service center access	Hwy 16 & rg.rd. 223	1.00
	TOTALS	**3.62**

C.5 PARK ROADS AND PARKING LOTS

The parks below, owned by Community Development, contain roads and parking areas for which Alberta Transportation is responsible for maintenance.

Park	General Location	Gravel (km)	Paved (km)	Parking Lot - Gravel (m2)	Parking Lot - Paved (m2)
Strathcona Science Park	17st, south of Hwy 16	0.90	1.20		28,330

Work identification is completed by Alberta Community Development staff and work requests are then forwarded to Alberta Transportation for execution by the highway maintenance contractor.

Typically, the Work shall be completed using applicable bid items for the given classification of Work. Work not covered by bid items shall be paid for as extra work.

The Contractor shall maintain all vehicular roads that are wide enough for two lane traffic, roads within campgrounds that are wide enough for motor graders, and the main parking areas within provincial parks and recreational areas. Any concerns related to the Contractor's ability to maintain the park roads such as obstacles (power lines, trees or fences) will be discussed and inspected jointly prior to undertaking maintenance. The Contractor shall look after the surface maintenance of the park roads from shoulder to shoulder plus drainage culverts. Snow removal shall be undertaken where required for parks operations as determined by the Engineer.

C.6 WEIGH SCALES, ACCESS ROADS AND MAJOR ROADSIDE TURNOUTS

The following areas are located within the CMA boundaries and are a component of the maintenance work for the area.

Weigh Scales, Access Roads And Major Roadside Turnouts	General Location	Gravel (km)	Paved (km)	Parking Lot - Gravel (m2)	Parking Lot - Paved (m2)
Ardrossan Vehicle Inspection Station	Hwy 16 east of Edmonton		0.53		260

Maintenance and operation of vehicle inspection stations (weigh scales) is part of Alberta Infrastructure & Transportation's core business. Commercial Vehicle Enforcement Branch is responsible for ensuring commercial vehicle compliance with provincial and federal statutes while promoting safety for all highway users.

The Highway Maintenance Contractor shall provide the following services:

- Maintenance of the approach and exit roads of the scale including snow removal, ice control, pavement repair, mowing of the immediate right-of-way.
- Maintenance of pavement in the yard and parking areas including snow removal, ice control, pavement repair, all advance highway signing including the lighted highway control signs, all regulatory signs along the approach and exit roads.

Plowing of snow and sanding of the roadway access to/from the scale pad shall be undertaken when the adjacent main highways are maintained. Plowing of the parking area should be given a much less priority than the main highways and should be cleared at a later time.

D. EARLY PAYMENT OF TOTAL FIXED COSTS

To assist the Contractor with his large capital expenditures at the commencement of the Contract, the department will make an early payment for the "Total Fixed Costs" of the unit price schedule at the beginning of each of the first two years of the contract. The "Total Fixed Costs" is defined in Section 1.1 of the Request for Proposal Details document and includes the Availability Rates, Highway Maintenance Work, Indirect Operating Costs and Insurance Premium bid item totals of the unit price schedule.

The first payment will be made by September 30, 2009 for the Total Fixed Costs from August 1, 2009 to March 31, 2010. The second payment will be made by the end of April, 2010 for the Total Fixed Costs from April 1, 2010 to March 31, 2011. Any adjustments made to a fixed cost bid item, and actual payments made for Availability Rates, shall be reconciled at the end of the applicable fiscal year.

E. APPLICATION OF PRICE ADJUSTMENT FACTOR

The price adjustment factor calculated for the 2009/2010 Departmental fiscal year will be applied to the unit prices bid for this RFP at commencement of the Contract on August 1, 2009. For each subsequent Departmental fiscal year (that is, April 1 to March 31) until contract termination, a price adjustment factor will be calculated and applied in accordance with Specification 51.2.64, Price Adjustment Due To Inflation.

F. PAYMENT FOR PURCHASED MATERIAL AS EXTRA WORK

Further to item (b) in Section 51.2.28.5, Purchased Material, of Specification 51.2.28, Extra Work, payment will only be made at the wholesale or retail original invoice price for the material(s), plus the 15% markup. Additional markups made by subcontractors will not be considered for payment.

The Contractor, whenever possible, shall obtain 3 quotes for the purchase of materials. The Department reserves the right to request and review the quotes, prior to payment, to ensure that best value was obtained.

G. CHANGE IN SHOP LOCATIONS DURING THE TERM OF THE CONTRACT

Permanent relocation of a Shop shall be subject to the approval of the Department. In these cases, the Department's main concern will be that the Contractor provides the same level of service for all highway maintenance activities after the relocation as before the relocation, at no additional cost to the Department.

Generally, if the required level of service can be maintained without increasing the number of snowplow trucks, the request to relocate the Shop would be approved. However, if additional snowplow trucks and/or operators are required to maintain the required level of service, the "Availability Rate" for such trucks and/or operators, and the "Heated Storage" rate, will not be paid. In addition, no adjustment to the snowplow truck hours or salt usage footprints will be made due to these additional resources.

Also, the Department will not entertain requests for increases to the Indirect Operating Costs due to changes in shop locations requested by the Contractor.

H. PROVISION OF MATERIALS

The Contractor shall maintain, at any time, within the CMA, a minimum quantity of maintenance materials. Payment will be made at the time when these materials are incorporated into the Work using the applicable bid items for supply and installation of these materials. There is no separate payment for the storage of these materials or any other associated costs for maintaining these materials in inventory.

I. GRAVEL AND SAND SUPPLY

During the term of the Contract, the Department may choose to produce some winter sand material or surfacing gravel at department controlled pits based on economic considerations.

J. HIGHWAY MAINTENANCE WORK

Unless otherwise specified, the cost of all work described in this special provision is considered included in the monthly price bid for "Highway Maintenance Work" (bid item 3001) and no separate or additional payment will be made. The monthly price bid will be considered full compensation for all labour, materials and incidentals required to complete the Work.

J.1 SCHEDULED ROAD INSPECTIONS YEAR ROUND (DAYTIME)

Daytime road inspections shall be done by qualified personnel during normal working hours, year round, at the frequencies listed in the table below. Each shop foreman shall conduct the daytime inspection, in lieu of other personnel, for all highways in the CMA on a bi-weekly basis (twice a month).

CIRCUIT	DESCRIPTION	APPROX. LENGTH IN KILOMETERS
A	14:03, 16:18, 16:20, 21:28, 100:02, 216:04, 2:34, 2:36 (Jct 642 to Jct 37), 15:04, 14:04, 28:02, 28:04, 28A:03, 628:04, 630:02 (Jct 21 to Jct 824), INT 93, INT 91, INT 163, INT 94, INT 82, INT 83, INT 85, INT 72, INT 88, INT 90, INT 92, INT 193, INT 111, INT 78, INT 84, INT 112, INT 71	270
B	2:36 (Jct 642 to Jct 651), 14:06, 14:08, 21:26, 37:02, 37:04, 44:00, 642:04, 824:02 (Jct 16 to Jct 630), 825:02, 830:02 (Jct 16 to Jct 15), AR 172, AR 169, 643:02	267
C	629:04, 630:04 (Jct 824 to Jct 14), 642:02, 651:02, 651:04, 777:01, 777:02, 803:02, 824:02 (Jct 14 to Jct 630), 830:02 (Jct 630 to Jct 16), Service Center Access, Ardrossan VIS	167

Circuit A shall be inspected five days a week, Monday to Friday.
Circuit B shall be inspected three days per week, Monday, Wednesday and Friday.
Circuit C shall be inspected two days a week, Tuesday and Thrusday.

Inspections will be required on all statutory holidays, and for all inspection classes as applicable.

All daytime road inspections shall be conducted during normal working hours (daylight hours) and shall normally be completed prior to 15:00 MST/MDT of the assigned day. The Contractor shall uniformly schedule the inspections such that they are conducted on a consistent and reasonable cycle.

Daytime inspection reports shall be completed on a standard form supplied by Alberta Transportation and shall be submitted weekly to the Maintenance Contract Inspector. A copy of the form is included in the Sample Forms Section of this document.

The year round daytime road inspections shall include all associated interchanges, intersections, traffic lights, roadside turnouts, vehicle inspection stations (including all litter bins and toilets). All roads are to be inspected in their entirety, from one end to the other. The Contractor shall ensure that both directions of divided highways are driven over and inspected at the specified frequency.

Regardless of the patrol frequency of the inspections as defined, the Contractor shall provide all emergency services required to maintain the safety of the traveling public.

In addition to the work planning for routine highway maintenance work, it is the contractor's responsibility to use the daytime inspections to identify other work, estimate required quantities and request/ create proposed work orders in PMA.

By the following annual dates, or as agreed by the Engineer, the Contractor shall identify, prioritize, mark locations and provide work requirement lists for these activities:

- April 1st and 15th - Estimate amounts of sand and salt remaining in stockpiles.
- May 15th – Compile and submit a prioritized list of locations for pavement patching work based on the quantities scheduled in the Work Planning Process, on a form that will be provided by the department.
- April 15th – Provide a list of culvert/drainage issues that were observed during spring thaw. Include a suggested remedy.
- May 1st – Identify locations of pavement for spray patching based on the quantities of work scheduled in the Work Planning Process, on a form that will be provided by the department
- October 1st – Provide a list of roads that will require re-gravelling the following spring. Include specific areas that may require spot repair.
- October 31st – Provide a list of locations that require brushing.
- March 31st – In conjunction with other nighttime inspections, inspect all signs and provide a list of required replacements.

J.2 SCHEDULED ROAD INSPECTIONS – WINTER (AMA ROAD CONDITION REPORT)

In addition to the year round daytime road inspections, nighttime road inspections shall also be conducted as part of Highway Maintenance Work for the winter months (October 15 to April 15) on the following circuits and at the following frequencies. The purpose of these circuits is to obtain a sample of the driving condition of the area highways and report the condition of the road to the Alberta Motor Association. The contractor may be requested to do additional "on-demand" road inspections for AMA road condition reports outside of the specified winter months.

Winter nighttime highway condition inspections do not replace the "Scheduled Road Inspections – Year Round (daytime)", which must still be performed.

Foremen should not conduct any scheduled night time inspections, as they may be required to be available to conduct extensive road inspections/supervision during storms.

CIRCUIT	DESCRIPTION	APPROX. LENGTH OF CIRCUIT (KMS)
A	2:34, 2:36, 15:04, 28:02, 28A:03, 37:04, 44:00, 642:04, 643:02,	237
B	14:03, 14:04, 14:06, 16:18, 16:20, 21:26, 21:28, Sherwood Park Freeway, 216:04, 628:04, 630:02, 830:02	214

All Circuits shall be inspected once every night, seven days a week. The AMA Road Condition circuit shall commence after 23:00 and be completed prior to 06:00, MST/MDT. The circuit will continue until the entire area is covered and all emergency services/duties have been performed to maintain the safety of the traveling public. AMA Road Reports shall be completed on a standard form supplied by the Department and shall be submitted by 06:00 daily to the Alberta Motor Association, Alberta Transportation District office and to the Maintenance Contract Inspector. For the purposes of the AMA Road Report circuits, both directions of a divided highway shall be driven over. A copy of the form is included in the Sample Forms Section of this document.

The December 25th patrol will only be required if the forecast calls for inclement weather. The Contractor shall obtain prior approval from the department if he intends not to conduct the December 25th patrol.

During storms and threats of inclement weather, the foreman or his designate will be required to continually monitor the roads during normal working hours as part of Highway Maintenance Work. When requested by the Engineer, highway inspections conducted outside of normal working hours, and which are in addition to the scheduled night inspections, will be paid for as "Additional Road Inspections" in accordance with Specification 53.39.7.2. The Contractor is expected to submit an update to the AMA road report as conditions change.

J.3 INFRARED ROAD AND AIR TEMPERATURE SENSORS

All vehicles involved in snow/ice removal operations, including the nighttime road condition inspections, shall be equipped with a dynamic infrared road and air temperature sensor that is capable of being calibrated. The sensor display shall be mounted inside the cab and be positioned in an area visible to the operator.

J.4 ROUTINE HIGHWAY MAINTENANCE ACTIVITIES

The Contractor shall record daily and report weekly, with forms provided by the Department, on all work that is performed under the Highway Maintenance Work activity. As part of these reports the person carrying out the inspection should be observant and record work that may be required in the near future. These reports will be submitted to the MCI so quantities can be collected and work orders written. Reports of pavement conditions which will require future repair shall be recorded by km in ascending order.

The Contractor will ensure that all items under 53.39.4.3 Emergency Duties, are addressed and corrective action taken immediately upon notification from other parties, or when identified during inspections.

During patrols at night the contractor shall record daily and report weekly, with forms provided by the Department, on any traffic signals or highway lighting which require replacement or repair, and on any traffic signs that have low reflectivity and require replacement.

Maintenance activities that require restricting traffic movement on all highways with traffic volumes greater than 15,000 AADT will not be permitted during the morning (6:00 am to 9:00

am) and evening (4:00 pm to 6:00 pm) commuter times, Monday thru Friday, unless the work is absolutely necessary.

J.5 SURFACE DRAINAGE

The Contractor shall ensure that all catch basin surface grates, runoffs or other surface drainage items are free of debris and checked as part of daytime inspections. This will be considered as part of Highway Maintenance Work. The Contractor shall notify the Engineer of any drainage concerns affecting the free flow of water, and undertake necessary traffic accommodation to secure the site.

J.6 GRAFFITI REMOVAL

Obscenities or other disturbing markings should be removed as a priority within regular maintenance operations. All other markings should not be left uncovered for more than two weeks.

In unusual circumstances, the department may require graffiti removal from sites that are accessible only with man-lift equipment, or that require lane closures during the work. When required, traffic accommodation and supply of specialized equipment will be paid separately as Extra Work.

J.7 GUIDEPOST TRAFFIC DELINEATORS (INCLUDES WILDLIFE REFLECTOR POST/SUPPORT)

GENERAL

Routine highway maintenance of traffic delineators and wildlife posts includes visual inspections and reporting, straightening or re-installing in the original hole (including cleaning out the existing hole) and replacement of reflectors. This work may require the use of hand tools. Other deficiencies may require attention as directed by the Engineer.

Where existing delineators have been pulled out by someone other than the Contractor and the delineator cannot be reinstalled in the original hole, then this work will be paid for in accordance with specification 54.19 Guide Posts (Remove and Reinstall).

ROUTINE MAINTENANCE AND INSPECTIONS

The Contractor is expected to straighten delineators and replace reflectors year round as required. Additionally, every delineator is to be visually examined for straightness and condition of reflectors at least twice each year as follows, and the Contractor shall provide a report to the Engineer identifying missing and damaged delineators, including their general locations.

- Commencing after the snow has gone and completing before June 15th
- Commencing after **September 1st** and completing before **October 31st**

Costs associated with this work will be considered included in the monthly price bid for Highway Maintenance Work, with the exception that supply of the reflectors will be paid for separately at the unit price bid for "Reflective Strips for Delineators – Supply" (Bid Item 3010).

DELINEATORS DAMAGED BY THE CONTRACTOR

During mowing, plowing or any other maintenance activity, all delineator posts damaged by the Contractor or their subcontractors shall be replaced within 30 days. Steaming existing delineator posts may be necessary for removal. All delineator posts damaged by the Contractor during non-snow and ice control activities, such as mowing, shall be replaced by the Contractor at his own expense. The number and location of delineator posts replaced at the Contractor's expense shall be reported monthly to the Maintenance Contract Inspector.

It is the Contractor's responsibility to protect guide posts during snow removal and ice control work. When, in the opinion of the Operations Manager or Maintenance Contract Inspector, reasonable measures have been taken then replacement of damaged guide posts will be paid for in accordance with Specification 54.19, Guide Posts. If the Contractor has not taken reasonable measures to protect the guide posts, such as lifting a grader's wing and going around the guide post when winging shoulders, then the Contractor will be required to replace the damaged guide posts at his own expense.

J.8 WASHING SIGNS, DELINEATOR POSTS, GUARDRAIL, WILDLIFE REFLECTORS, AND OVERHEAD LIGHT STANDARDS AND BRIDGE APPURTANCES

During winter months (October 1st to April 30th) the contractor shall commence washing activities within two working days of the end of a winter storm and be completed within ten working days of the end of the storm. Washing activities includes:

- Signs
- Delineators and reflective strips, includes reflectors on bridge railing
- Guardrail reflective strips.
- Wildlife reflectors.
- Overhead light standards (to height that ensures all contaminants have been removed minimum 3 metres).
- Traffic control for washing activities is incidental but if specialized equipment is needed for washing overhead structures safely, the specialized equipment will be paid for as Extra Work, traffic control by appropriate bid item**.** Snow must be removed from curve, stop, yield, speed, and directional signs 1st in order of importance.

From May 1 – Sept 30 washing of these appurtenances will be done when they become notably covered by a film of dirt, or as directed by the department.

Soap used in the washing of these items must be environmentally friendly biodegradable.

J.9 SIGN MAINTENANCE

All signs within the highway right-of-way shall be maintained in accordance with Specification 53.39, with the exception of privately owned signs located on the backslope or along the outside edges of the right-of-way. Privately owned permanent signs located on the highway sideslope shall be maintained by the Contractor. Following is a list of privately owned signs that may be situated within the highway right-of-way. Other privately owned signs, although not included in this list, will also be subject to this provision.

Sign Type	Comments/Example
Rural Address Signs	Range Road signs, Local/Municipal – Directional/Mileage signs
Service Organization Signs	Club Signs, Church Fingerboards, Rural Crime Watch
AMA Signs	Odometer Test Sections
Private Utility Warning Signs	Danger Buried Facilities, Danger Overhead Power Lines
Industrial/ Institutional Signs	Industrial Subdivision, Park or Development (well site battery)
Truck Turning Signs for private access	

No price adjustment or extra payment will be made for maintenance of new or additional signs installed over the term of the Contract.

J.10 SIGN STRAIGHTENING

Signs shall be maintained level and plumb. A sign requires straightening once it is more than 1.5 degrees off vertical.

The Contractor is expected to straighten signs as required. Additionally, every sign is to be visually examined and physically checked for straightness and condition at least twice each year as follows; and the Contractor shall provide a report to the Engineer identifying damaged and off-plumb signs, including their locations. This report shall be re-submitted after the work has been completed, and it shall include the date(s) when the work was undertaken.

- commencing after the frost is out each spring and completing before June 15th
- commencing after September 1st and completing before October 31st

J.11 DEPARTMENT CAMPAIGN AWARENESSS SIGNAGE

There are Two (2) sign structures in this CMA in which the department raises driver awareness. These include the following signs "Amber and Red Snowplow Ahead", "Think & Drive". The "Amber and Red Snowplow Ahead" signs are to be placed on the existing sign structures between the dates of September 1 to April 30 yearly. The "Think and Drive" and Collision Prevention" signs are to be placed on these structures between the dates of May 1 to August 31 yearly. When not placed on the structures, the signs are to be stored and maintained in an acceptable condition. When placed on the structures, the signs are to be maintained as per Specification 53.39 and/or the applicable special provisions.

No price adjustment or extra payment will be made for erecting, taking down, storage or maintenance of existing signs or structures over the term of the Contract. The department may add and/or replace campaign awareness signs to the highway network during the term of the contract. New signs and/or structures shall be classified and paid for under Specification 54.13, Maintenance of Highway Signs.

J.12 INCIDENTAL MATERIALS

PORTABLE STOP SIGNS

In accordance with specification 53.39.2.1, Incidental Materials, the Contractor shall provide eight (8) sets of temporary 4-way portable stop signs (including the 4-Way tabs) at the following locations:

- 2 sets in Morinville
- 2 sets in Gibbons
- 4 sets in Sherwood Park

PROVISION OF "POLICE EMERGENCY AHEAD" SIGNS

In accordance with specification 53.39.2.1, Incidental Materials, the Contractor shall provide two "Police Emergency Ahead" signs for each vehicle engaged in road inspections throughout the CMA as well as each foreman's vehicle.

PROVISION OF "BUMP" (WA-22), RED DIAMOND HAZARD MARKERS AND SMOKE AHEAD

In accordance with Section 53.39.2.1 Incidental Materials, the Contractor shall provide "Bump", and "Smoke Ahead" (90x90) signs as required for temporary hazards on the highways as they occur. The Contractor shall have **four (4)** "Bump" and **eight (8**) "Red Diamonds" and **four (4)** "Smoke Ahead" signs on hand for this CMA at each of the following locations:

- Sherwood Park
- Gibbons
- Morinville

The “Smoke Ahead” signs shall be made available to the public for their use upon request. The Contractor will be allowed to request a reasonable deposit to ensure the signs are returned.

PAYMENT

Costs associated with the storage, setup and removal of the above signs shall be considered incidental to the "Highway Maintenance Work" activity and no separate or additional payment will be made.

J.13 REPORTING OF WILDLIFE ROADKILL

The Contractor shall keep a record of wildlife roadkill locations and numbers and supply this information to the MCI or local Conservation Officer monthly. Wildlife roadkill shall be disposed of at an approved landfill site. Wildlife roadkill shall not be disposed of in Crown gravel pits under any circumstances, unless approved by the Engineer.

J.14 REFUSE PICKUP

Any objects, litter or refuse on the road surface shall be removed immediately. Generally items that are smaller than a baseball cap can be ignored if they are made of paper and/or plastic, such as fast food wrappers or cigarette packages, and do not pose a danger to motorists. Solid items made from wood, steel or stone such as dimensional lumber, chain or a rock, even if smaller than a baseball cap, shall be picked up immediately. As a rule-of-thumb, if a motorist would swerve to avoid the object, then it should be picked up.

Any objects, litter or refuse seen within the highway right of way shall be removed within 48 hours. Generally this refers to items the size of a 5 gallon pale or larger. The road right of way must be free of any and all litter that may cause damage to vehicles, or otherwise result in a safety hazard for roadway users. As a rule-of-thumb, if the mowers would need to go around the object then it should be removed. This does not relieve the Contractor of his duty to complete a thorough clean up of all refuse from within the highway right of way on a continuous basis or at the intervals specified by the Engineer.

In addition to on-going refuse removal, the Contractor shall complete a thorough clean up of all highway right of ways as follows

- Commencing April 15th and be completed by June 15th
- Commencing Aug. 15th and be completed by Sept. 30th

A thorough clean up means picking up all litter or refuse items that would be visible in freshly cut vegetation (150mm high), including debris caught on fence lines. These thorough cleanups are incidental to the Highway Maintenance Work bid item.

The following highways are haul routes to landfills and as such will experience higher volumes of refuse. The Contractor will be required to complete an additional cleanup to be scheduled between July 1st and July 31st at the following locations.

- Highway 216:04
- Sherwood Park Freeway
- Highway 16:18
- Highway 642 (east of Morinville)

The Contractor shall complete a special sweep of all roadways and right-of-ways prior to the annual highway (4H) clean up (first Saturday in May) and prior to snowfall (October 1) to pick up large sized items. For this requirement, large size items are defined as items approximately the size of a 5 gallon pail or larger. Additionally, the Contractor shall pickup and dispose of all dead animals.

J.15 ADMINISTER NO SPRAY AREAS FOR CHEMICAL VEGETATION SPRAYING

The Contractor shall receive and administer requests for no spray areas on behalf of Alberta Transportation (a copy of the Chemical Spray Exemption request form is included in Section "I", Drawings and Sample Forms, of the RFP document). A copy of all Chemical Spray Exemption forms shall be submitted to the MCI. The Contractor shall also supply and install "No Spray Zone" signing for no spray areas. Payment for supply and installation of these signs will be made at the applicable unit prices bid.

The Department anticipates that approximately thirty (30) no spray areas will be requested in this CMA on an annual basis.

J.16 MINOR CULVERT AND DRAINAGE GRATE MAINTENANCE

By May 30th of each year, the Engineer will provide the contractor a list of highways requiring attention that will amount to approximately 20% of the highways. The Contractor shall complete the work as specified in Specification 53.39.4.4 (Routine Highway Maintenance Activities) by September 30th of each year. All deficiencies to be recorded and a report forwarded to the Engineer for further investigation of work requirements. This work shall be done in addition to culvert end cleaning which is also considered as a routine Highway Maintenance Work activity.

J.17 PERMANENT SNOW FENCE

There is no permanent snow fence located in this CMA.

J.18 FROST PROBES

Frost probes shall be read twice a week from November 1, until the frost is in the road to a depth of 120 cm, then every two weeks until the frost starts coming out of the road. In the spring, the probe is then read twice weekly until the frost is completely out of the ground.

The reading schedule is subject to revision by the Engineer depending on weather conditions. These readings shall be phoned into Commercial Vehicle Enforcement Branch.

Routine maintenance of frost probes shall be carried out by the Contractor as required. At minimum they shall be serviced once per year. The work shall be considered incidental to Highway Maintenance Work and includes the following:

- Replace or clean cap and grease threads, also clean thread collar.
- If collar is loose, old concrete shall be removed and replaced with new quick drying concrete.
- Remove frost probe tube and suction out any water in the casing.
- Empty tube of old dye and replace tube with new one if the tube has become cloudy.
- Fill tube with new dye each year.
- Replace rusted clamps.
- Mark 30 cm gradations on the tube
- Identify frost probe location on the road.

Other work not specified will be paid as extra work. Refer to the detail drawing of typical "Frost Penetration Probe Installation" found in Section "I", Drawings and Sample Forms, of the RFP document.

There is one frost probe in this CMA at the following location:

- Highway 28:04 north of Gibbons

J.19 LOCATION OF PUBLIC FACILITIES

Various public facilities are located within the boundaries of this CMA. The Contractor shall maintain and service the following in accordance within Specification 53.39.

LITTER BIN LOCATIONS	# of BINS	TYPE
Highway 28:04, north of Gibbons	2	1 garbage, 1 recycle
Highway 15:04 at 37:04	2	1 garbage, 1 recycle

Litter/Recycling bins shall be inspected during all daylight highway maintenance inspections, and garbage and recyclable materials removed daily or as required. These bins are usually placed within rest stops, picnic areas or Highway pullouts. These areas shall be maintained as per specification 53.39.4.4. In addition to specification 53.39.4.4, the grass and weeds shall be trimmed around bins, picnic tables and toilets to a distance of 5m from the bin, picnic table or toilet. It is anticipated that the rest stops, picnic area and highway pullouts shall be maintained monthly from September to May or at the frequency requested by the Engineer. During the months of June, July and August it is anticipated that these areas will be maintained every two (2) weeks or at the frequency requested by the Engineer. The work will include picking up all garbage and recyclable materials around and in the bins, picnic tables and toilets as well as keeping the areas clean of litter, weeds, grass and feces. There may be additional bins and public facilities installed within the CMA during the term of the Contract, and these shall also be maintained at no extra cost.

Litter/Recycling bins may require cleaning once or twice per year and can be done during sign and guidepost cleaning operations.

Access to the litter bins will require cleaning of snow by hand. Hand removal of snow is considered incidental to Highway Maintenance Work.

J.20 MAINTENANCE OF FLASHING BEACONS AND SIGNALS

The Contractor shall, as part of routine duties, perform minor maintenance work on signals and lighting system, in accordance with Specification 53.39 on the following facilities:

Location	Type (Signals/Lights/X-Walk)
Highway 2 Flashing Lights	2 Flashing amber lights northbound, south of Cardiff road (on Important Intersection signs) 2 Flashing amber lights on advance warning sign that divided highway ends 2 Flashing amber lights at transition to divided highway
Sherwood Park Freeway Flashing lights	1 Flashing amber light on 76 Ave. (connector to Sh. Pk. Fwy) eastbound
Sherwood Park Freeway and 17th Street	2 Flashing amber lights (Southbound advance warning sign) 6 Traffic light clusters
Sherwood Park Freeway and 34th Street	14 Traffic light clusters North and South also have one green left arrow and one amber left arrow
Highway 14:06 Flashing lights	2 Flashing amber lights (Eastbound advance warning sign), 2 Flashing amber lights (divided highway transition)
Highway 15 and Highway 37	8 Flashing amber lights (4 advance warning signs) 8 Traffic light clusters and 1 right green arrow for westbound traffic
Highway 16 and Meridian Street	1 Flashing amber light north of Highway 216/Meridian Street Overpass,
Highway 16 and Broadmoor	4 Flashing amber lights on Broadmoor interchange (2 advanced warning N/B and 2 advanced warning S/B) 9 Traffic light clusters at north end of Broadmoor (1 left arrow) 6 Traffic light clusters at south end of Broadmoor
Highway 16 and Clover Bar	1 Flashing amber light at north end of Clover Bar interchange 6 Traffic light clusters at south end of Clover Bar

Location	Type (Signals/Lights/X-Walk)
	interchange
Highway 16 Flashing Lights	2 Flashing amber lights (on Report To Scale sign)
Highway 21 Flashing Lights	2 Flashing amber lights on advance warning sign that divided highway ends for southbound lanes 1 Flashing amber light on east end of Baseline Road intersection for westbound lanes 2 Flashing amber lights on north end of Highway 14 interchange 2 Flashing amber lights on south end of Highway 14 interchange 1 Flashing Solar Powered red light at Highway 625 (on Stop sign)
Highway 21 and Baseline Road	8 Flashing amber lights (4 advance warning signs) 14 Traffic light clusters (2 turn arrows)
Highway 21 and Wye Road	8 Flashing amber lights (4 advance warning signs) 16 Traffic light clusters (6 turn arrows) 14 Pedestrian lights
Highway 28A and 195 Avenue	9 Traffic light clusters 2 Pedestrian lights
Highway 28 Transition to two lanes	2 flashing amber lights (on keep Right sign)
Highway 28 and Sturgeon Road	8 Flashing amber lights (4 advance warning signs) 12 Traffic light clusters
Highway 28 and Highway 37	12 Flashing amber lights (6 advance warning signs) 10 Traffic light clusters
Highway 28 and Highway 28A Junction	2 Flashing amber lights for northbound traffic at 4-lane transition 2 Flashing amber lights for southbound traffic at divided highway transition 2 Flashing amber lights at west end of interchange
Highway 37 Flashing Lights	4 Flashing amber lights (on Pedestrian sign) at Namao 2 Pedestrian lights at Namao 1 Flashing amber light at Calahoo access (on Important Intersection sign)
Highway 37 and Highway 28A	8 Flashing amber lights (4 advance warning signs) 10 Traffic light clusters

Location	Type (Signals/Lights/X-Walk)
Highway 37 and Highway 44	4 Flashing Solar Powered red lights (on Stop signs)
Highway 628 Flashing Lights	2 Flashing amber lights at divided highway transition
Highway 630 Flashing Lights	2 Flashing amber lights east of Highway 824
Highway 642 Flashing Lights	2 Flashing amber lights at the divided transition east of Morinville 6 Pedestrian lights at Morinville crosswalk 1 Flashing Solar Powered red light at Highway 28 (on Stop sign)
Highway 642 at Morinville	10 Traffic light clusters 8 Pedestrian lights
Highway 651 Flashing Lights	2 Flashing Solar Powered lights at Highway 2 (on Stop signs) 1 Flashing Solar Powered red light westbound at Highway 44 (on Stop sign)
Highway 824 Flashing Lights	2 Flashing Solar Powered red lights at Highway 629 (on Stop signs) 2 Flashing Solar Powered red lights at Highway 630 (on Stop signs)
Highway 830 Flashing Lights	2 Flashing red lights at Josephburg (on Stop signs)

The Contractor shall replace burnt out lights, including incandescent bulbs, with LED lights.

The Contractor shall supply the LED lights and any incidentals necessary to complete the work. LEDs must meet the requirements specified in the following section. LED lights that are wired-in shall be replaced by a certified Electrician.

No separate payment will be made for this Work. Routine and emergency maintenance of the above light systems including the supply of LED lights and any equipment required to reach the light system and all traffic control accommodation will be considered incidental to the Work.

No additional payment will be made if the scope of work increases due to expansion of the highway network. Also, from time to time there may be additions or deletions to the above list of flashing beacons and signals. The Contractor shall perform minor maintenance work on any additional flashing beacons and signals added to the system. No adjustment to payment will be made for future additions or deletions of flashing beacons and/or signals.

Any parts or electrical components of the light systems which require further service shall be reported to the Engineer, who will issue a Work Order or make arrangements for an electrical contractor to perform the work.

J.21 LIGHT EMITTING DIODE (LED) MODULES

LED modules supplied by the Contractor shall meet the Institute of Transportation Engineers (ITE) LED Circular Signal Supplement Purchase Specification for the applicable type of module required, with the exception that Pedestrian Traffic Signal modules shall be the bi-modal type using outline symbols.

LED modules shall have markings indicating that each device conforms to nationally recognized standards by an organization(s) accredited by the Standards Council of Canada (e.g. CSA, ULC, Warnock Hersey), and also meets the requirements outlined in Part 1 of the Canadian Electrical Code.

K. MINIMUM NUMBER OF FOREMEN

The minimum number of foremen required to supervise work within this CMA is **three (3).** The Department considers this to be the minimum number to adequately supervise contract activities year-round.

These Foremen shall be dedicated to full time supervisory duties and must be available locally and on a wide spread basis to meet with Department personnel on issues pertaining to the Work. Foremen shall also be available during “off-hours”.

These Foremen shall not be “Lead Hands” or “Working Foremen” that would not be widely available for inspection and supervisions during winter storms. Foremen shall not be assigned full time duty as an equipment operator during the winter season. This does not preclude a Foreman from occasionally driving snow and ice control equipment, but operating equipment must not be part of his expected duties every time a winter storm occurs.

On occasion, foremen will be required to work in areas that are not accessible by two-wheel drive vehicles. Adequate vehicles must be available on short notice to the foremen in the CMA for responding during severe weather or access to water/parks infrastructure.

All vehicles normally used by a foreman shall be equipped with a dynamic infrared road and air temperature sensor that is capable of being calibrated. The sensor display shall be mounted inside the cab in a location easily visible to the operator.

Once the first plow truck is called out, the foreman is considered to be performing supervision and will not be paid for as “additional road inspections”.

An acting foreman shall take on all of the Foreman’s duties and will no longer be considered to be an Operator.

A Foreman’s winter residence shall be within half an hour of his assigned shop or main work centre.

L. WINTER READINESS

The Contractor will be required to complete and submit a "Winter Readiness Checklist" form to the Department prior to October 1 of each year. A copy of this form can be found in Section “I”, Drawings and Sample Forms, of the RFP document.

M. SNOW REMOVAL AND ICE CONTROL

The Prospective Contractor, in the Winter Service Delivery plan of his Proposal, shall identify details of the type and location of snow/ice control equipment within the proposed Contract area boundaries. The Department has specific requirements, to ensure the public safety is properly maintained. The contractor is expected to meet with villages, towns and cities to coordinate snow removal and disposal work, prior to each winter.

M.1 SNOWPLOW TRUCK FLEET AND EQUIPMENT REQUIREMENTS

Following is a list of the minimum fleet and equipment requirements for this CMA:

- A minimum of Nineteen (19) snowplow trucks (Minimum hopper size is 8.5m^3)
- All snowplow trucks shall have front mounted two-way plows
- All snowplow trucks shall be equipped with the Department's selected Automated Vehicle Location System (AVLS) in accordance with the AVLS Special Provision
- No single axle trucks shall be allowed
- All trucks shall be equipped with pre-wetting units.
- All snowplow trucks shall be equipped with right hand wings
- A minimum of two (2) tandem/tandem trucks shall be equipped with dual wings (left and right hand sides). One truck shall be located in the Sherwood Park area and another shall be located in the Morinville area.
- All trucks are to be housed in inside heated storage.

The final location of the trucks with pup sanders, plow extensions, dual wings or underbody plows will be subject to the approval of the Engineer.

Wing lengths shall be a minimum of 3.0 m for this CMA.

All snow plow trucks shall be properly designed and engineered to safely operate under the combined load capacity of all attachments (sanding unit, plow(s), wing, dual wings and pre-wetting system). Snowplow trucks with dual wings will not be allowed to operate with both wings down at any time.

An increase in the length of roadways to be maintained may result in a requirement for additional snow removal and ice control trucks and equipment during the term of the Contract. Changes in winter maintenance equipment requirements will be negotiated with the Contractor by the Engineer when the length of roadway changes.

M.2 NUMBER OF SNOWPLOW TRUCKS

The Prospective Contractor shall calculate the number of snowplow trucks required in his Snow/Ice Control Plan. The number shall be calculated using the following formula:

{(Proposed Truck Demand Factor) ÷ (Base Truck Demand Factor)} x (Base No: of Trucks)

For this particular CMA, base information is as shown:

Base Truck Demand Factor	Base No. of Trucks
15,822.6	20

If the Prospective Contractor submits a Proposal consisting of multiple CMAs, then the cumulative value of Base Truck Demand Factor and Base No. of Trucks must be used, to calculate the number of trucks required within the Proposal. Regardless of the total, all the specific individual equipment requirements of each CMA must be met.

Within the Snow/Ice Control Plan, the Prospective Contractor shall clearly demonstrate that the number of snowplow trucks and the requirements for specific equipment are met, in number, type and location.

The minimum number of snowplow trucks for this CMA is **nineteen (19)**.

M.3 TRUCK AND OPERATOR AVAILABILITY

In accordance with Specification 52.1, Snow Removal and Ice Control (Truck), the Contractor shall supply trucks, operators and related equipment for the period of October 15th to April 15th.

The availability period may be adjusted by the Engineer.

In the event of heavy snowstorms or other unseasonable weather that occurs outside the time period specified for availability, the Contractor shall make sufficient equipment and personnel available at the earliest possible time, regardless of the time period specified for availability. In these cases, the availability rate will be paid for the additional days worked.

M.4 PLOW TRUCK HOUR PAYMENT ADJUSTMENT

For this CMA, the quantity which will be used to initially establish the "footprint" for payment adjustments (Specification 52.1) of snowplow truck hours is **6,806** hours. This value will be adjusted annually to account for variations in the total annual snowplow truck hours worked, and to account for increases or decreases in the highway network length.

The following table shows the method, and the actual numbers used, to calculate the total quantity of hours for establishing the initial footprint. The initial calculation is based on the years of data which encompassed all Provincial highways, starting with the 2001/02 fiscal year. Years previous to 2001/02 exclude secondary highways (3 digit highways) as they were not under Provincial jurisdiction, therefore they are not applicable to the footprint calculation.

This table also provides a sample calculation on how the 2007/08 snowplow truck hours will be determined for the footprint.

ESTIMATED SNOWPLOW TRUCK HOURS
CALCULATION DETAILS FOR FOOTPRINT

Year	Total Hours	Length 2 lane equiv km	Hrs/2LEkm
01/02	4,950	743	6.66
02/03	8,051	743	10.84
03/04	7,506	743	10.10
04/05	7,731	743	10.41
05/06	4,731	743	6.37
06/07	7,846	743	10.56
Totals:	**40,815**	**4,458**	**9.16**

2006/07 Total Hours Estimate for Footprint

743km x 9.16 h/Km = **6,806**

Sample Calculation for the 2007/08 Footprint

Year	Total Hours	Length 2 lane equiv km	Hrs/2LEkm
Previous Totals	40,815	4,458	9.16
07/08	**7,500*	743	10.09
Totals:	48,315	5,201	9.29

2007/08 SAMPLE Calculation:

743km x 9.29 h/Km = *6,902*

Where: 743 is the 2LE kms for roads included in the Main Hwy. Table of the WSD Spreadsheet (actual kms will be used each year and will include applicable increases/decreases in the network).

** 7,500 hours is not actual or an estimate, it is provided only to complete this sample calculation. The actual annual total hours will be used at the time of calculating the footprint.*

Subsequent years will use this same process for calculating quantities in establishing the footprint, and the totals will be carried forward from year to year.

M.5 LIGHT DUTY TRUCKS

In addition to the above snowplow truck fleet requirements, the Contractor shall supply two (2) light duty trucks in accordance with the requirements specified herein. One light duty truck shall be located in CMA 9 north, and another shall be located in CMA 9 south (final location will be at the discretion of the Engineer).

Light duty trucks shall be equipped with a plow and truck-bed hopper capable of clearing and sanding small areas. These trucks may also be used for scheduled road inspections at the Contractor's discretion.

The light duty trucks shall be equipped with the department's Automated Vehicle Location System (AVLS) in accordance with the AVLS Special Provision. As a minimum, the AVLS system shall be integrated with the truck's plow and truck bed hopper.

Payment for the plowing and sanding work done with a light duty truck will be made at the unit price bid per hour for "Light Duty Truck with Front Plow and Truck-Bed Hopper". Light Duty Trucks will not qualify for Availability Rate or Heated Storage payments.

No separate or additional payment will be made when these trucks are used for road inspections as this work will be considered part of the routine Highway Maintenance Work activities.

N. AUTOMATED VEHICLE LOCATION SYSTEM (AVLS) FOR SNOWPLOW TRUCKS

The Department has engaged Grey Island System Inc. to implement an internet based real-time AVLS using Global Positioning System technology (GPS) into snowplow trucks. In addition to the GPS location component, this system will be integrated with the snowplow trucks' spreader control device and attachments. The AVLS will monitor, record and transmit such information as vehicle ground speed, spread rate, blast on/off, spreader pausing, pre-wetting on/off, pre-wetting rate, and plow and wing(s) positioning (up or down). Also, the AVLS provided by Grey Island Systems Inc. will include an automated billing system that will be the basis for tracking and payment of snowplow truck hours worked.

To ensure that a fully integrated and seamless system is attained province wide, all Highway Maintenance Contractors will be required to incorporate Grey Island's AVLS into their snowplow trucks. It is anticipated that all snowplow trucks under contract with Alberta Transportation will have this capability by the 2006/07 winter season.

All snowplow trucks required under the terms of this RFP are subject to the AVLS provision and shall be so equipped by October 1, 2009. All attachments of each snowplow truck, such as plows, wings and pre-wetting units, must be integrated into the AVLS. The Prospective Contractor shall account for all costs required to implement the AVLS into his proposed snowplow truck fleet.

The Department has secured a price of **$1,440.00** per unit with Grey Island Systems Inc. for the supply and installation of the AVLS hardware. This price covers all hardware required for the AVLS including one attachment's sensor(s) (normally the plow). Other attachments requiring sensors such as wings and pre-wetting devices will be at an additional cost of **$300.00** per attachment. Also, this pricing includes field training on the AVLS hardware by Grey Island Systems Inc., however the Contractor will be responsible for all of his internal costs including salary of personnel.

The above pricing is based on spreader control devices that are capable of integration with Grey Island's AVLS without upgrades. Spreader control devices requiring upgrades or replacement to interface with Grey Island's AVLS will be at the Contractor's own cost, with the exception that development of any communication protocols that may be required for integration is included in the unit price.

Following is a list of the known spreader control devices that are compatible with Grey Island's AVLS. Other makes and models of spreader control devices may require upgrades or replacement. The Prospective Contractor is encouraged to contact Brian Boychuk of Grey Island System's Inc. at (416) 348-9991 to confirm compatibility of their spreader control device with the AVLS, and to estimate the upgrade or replacement costs if so required.

- Accucast
- CompuSpread 230
- CompuSpread 440
- Dickey John
- EPOKE
- Force America

Maintaining the AVLS hardware throughout the term of the contract will be the responsibility of the Contractor. In addition to the AVLS hardware costs, the Prospective Contractor will be required to provide software or a file conversion program compatible with the Department's Automated Billing System, as developed by Grey Island Systems Inc. All other system costs such as licensing, operating costs, airtime costs for communications, and data management costs will be the Department's responsibility.

The hardware unit prices as set forth in these specifications are generally based on one visit by Grey Island's installers to complete the installation and testing process at the various Contractor shop facilities as arranged between the Contractor and the installers. Multiple visits by the installers to the same shops may incur extra costs over and above the unit prices. The Contractor shall be responsible for the AVLS hardware unit costs and any extra installation trip costs incurred by Grey Island's installers as a result of inadequate coordination by the Contractor.

O. PRE-WETTING SYSTEMS

In accordance with Specification 52.9, all trucks shall be equipped with pre-wetting systems.

The minimum storage capacity for the pre-wetting agent shall be 5,000 litres per truck equipped with a pre-wetting system. Between October 1st and April 15th no less than 50% of the required minimum quantity shall be on hand at the same storage locations as the trucks equipped to use the pre-wetting agent.

The Department intends to use salt brine as the main pre-wetting agent for this CMA. Costs for producing salt brine, and transporting it to the storage site will be paid for at the unit price bid for "Supply of Salt Brine for Pre-Wetting" (Bid Item 1490). Salt used for the production of salt brine will be paid for at the applicable unit price bid for supply of salt at the shop(s) where the salt brine was produced.

The Contractor is advised that, in addition to salt brine, other chloride based chemical liquid agents may be utilized for pre-wetting devices. Payment for supply of pre-wetting agents, other than salt brine, will be paid for as Extra Work.

In accordance with Specification 52.9, Pre-Wetting Systems, costs associated with providing storage for pre-wetting agents shall be included in the monthly price bid for "Indirect Operating Costs", and no separate or additional payment will be made.

P. DUAL WINGS

Two (2) trucks shall equipped with dual wings (left and right side). These units shall be used on four lane divided highways.

The wing attachments shall be mounted on both the driver and passenger side of the snowplow truck.

The snowplow truck shall be equipped with in-cab controls for lifting and adjusting the wings. Each wing functions must be quick acting and positively controlled. The wing control system shall have a "panic button" to provide for a fast raising of either wing in emergency situations.

Snowplow trucks with dual wings shall not be operated with both wings down at any time.

The wing adjustment mechanism shall be of a hydraulic telescope type to allow for variations in the plow width. The minimum length of either wing blade shall be 3.0 metres.

Notwithstanding the minimum lengths of blades and wings, the operating configuration shall have a minimum effective total plowing width of 4.3 metres when either wing is in the non-extended position and a minimum effective total plowing width of 5.0 metres when either wing is fully extended.

Both wings shall have a rear facing clearance light mounted as close to the end of the wing as practical. The light shall be similar in size, shape and capacity as a Grote Part No. 56052 Red Clearance Light. The wings shall also be equipped with a 330mm x 410mm red flag mounted on its top outside edge.

Measurement for dual snowplow wings will be in hours for the time the unit equipped with dual wings is performing Work. Payment will be made at the unit price bid for "Dual Snowplow Wings". This hourly rate will be paid regardless of whether or not "winging" is required when performing the Work.

Payment for "Dual Snowplow Wings" (bid item 1114) supersedes the unit price bid for single wings (bid item 1104), and no additional payment will be made at the single wing rate.

Q. MOTOR GRADER REQUIREMENTS

Q.1 GPS RECEIVERS

All motor graders (including sub-contracted graders working part or full time for the contractor) must have a global positioning system (GPS) receiver and recorder installed to track the movements of the grader while deadheading and working for the Department. The GPS recorder must be capable of storing a minimum of eight days of data based on a twelve hour day and two minute recording interval. The stored data must be in a format which is capable of being imported into a MicroSoft Access file using GS84 referencing (i.e. latitude/longitude). The GPS receiver must have positional accuracy of 10 metres or less (horizontally) without post-processing.

In addition to recording geographical positions, the system must also record the speed of the grader and the blade position (up or down) of the grader.

Each grader's GPS positioning and activity information must be submitted as a MicroSoft Access file along with the associated crew sheet at least every seven days. The Mircosoft Access file shall clearly indicate billable times and non-billable times. Any discrepancies between the billable time recorded in the Mircosoft Access File and the Crew Sheet must be clearly indicated and explained.

The Contractor must maintain an archive of each motor grader's GPS positioning and activity files for a minimum of one year, and make copies of these archives available to the Engineer on request. The GPS grader files archived by the Contractor do not have to be in MicroSoft Access format.

Costs associated with supplying the GPS equipment and providing the data to the Department will be considered is incidental to the Work and no separate or additional payment will be made.

Q.2 PAVED HIGHWAYS - WINGING

For winter operations during the period from October 15th to April 15th or as otherwise specified and approved by the Engineer, motor graders shall be equipped with right hand wings for winging sideslopes. Also, motor graders working on four lane highways shall also be equipped with left hand wings for winging median sideslopes.

The specific locations of the motor graders are at the discretion of the Contractor, who shall respond within 24 hours of the issuance of the Work Order and complete the work within 10 days thereafter.

Q.3 PAVED HIGHWAYS - SNOW REMOVAL

One motor grader with dual wings (both sides) will be required for general snow removal in the Sherwood Park area. This motor grader will be subject to the same response requirements as a snow plow truck and shall commence work within two hours following the requirement for snow removal or ice control activities. The intent of this unit is to provide additional snow plow capacity on interchanges, highways with raised medians and urban areas. This motor grader shall be equipped with an AVLS unit capable of recording and reporting billing information relating to time and location.

A penalty of $100.00 per hour up to a maximum of $500.00 per day will be assessed for the motor grader when it is unavailable to commence work within the specified time.

Q.4 GRAVEL HIGHWAYS

GENERAL

The Prospective Contractor shall include two separate motor grader service delivery plans with his proposal as described in Section "D", Motor Grader Service Details for Gravel Surfaces – October 2005. One plan will be for Winter work and the other plan will be for Summer work. Sample calculations have been provided in Section "D" to assist the Prospective Contractor with this task.

The minimum number of motor graders available to work on gravel highways shall be in accordance with the Contractor's Motor Grader Service Delivery Plans for both winter and summer work.

WINTER

Motor Graders shall be equipped with right hand wings (for winging side slopes) and winter tires for winter operations during the period from October 15th to April 15th or as otherwise approved by the Engineer.

The locations of the motor graders are at the discretion of the Contractor, who shall respond within 24 hours of issuance of the Work Order or when there is more than 3 cm of snow accumulated on the highway. It is expected that snow / ice removal operations will begin as soon as weather conditions dictate and continue until safe winter driving conditions are achieved.

Motor grader winter work shall be completed within 10 days of issuance of the Work Order, or as otherwise requested by the Engineer.

SUMMER

In addition to the equipment requirements of Specification 53.27, all motor graders shall be equipped with 16 foot moldboards and slope meter indicators for summer operations during the period from April 16th to October 14th, or as otherwise approved by the Engineer.

For routine grading operations on gravel roads, Work Orders for grading are generally issued with a 60 day completion deadline. However, there will be incidents (usually following excessively wet conditions or periods of high traffic) when a separate Work Order for grading will be issued. In such cases, the Contractor shall respond within 24 hours of the issuance of the Work Order.

R. PROVISIONS FOR SALT STORAGE (BASE SALT STORAGE QUANTITY)

The Prospective Contractor must identify in his Proposal, the location and distribution of salt storage facilities within the Contract area boundaries.

The Gradation of Salt required for this CMA is fine (Type I).

The Winter Salt Distribution Factor for this CMA is **6.73** tonnes per two lane km. equiv. (5,000 tonnes ÷ 743 km).

All sites identified by the Prospective Contractor in his Proposal, shall have a minimum quantity capacity of either 250 tonnes or 45 % of the projected annual usage from that site, as calculated in the Prospective Contractor's Snow/Ice Control plan, whichever is greater, plus any additional salt that is intended for sale to third parties by the Contractor.

The Prospective Contractor's annual provisional quantity for each salt storage site shall be calculated according to the following formula:

(Winter Salt Distribution Factor) x (Length of roadway serviced by that site)

The length of the roadway serviced by that site must be identified within the Prospective Contractor's Snow/Ice Control Plan.

For multiple CMA proposals, the overall or cumulative quantity of salt storage capacity must equal or exceed the cumulative value of base salt storage quantity for all CMAs within the Proposal.

R.1 PAYMENT ADJUSTMENT FOR SALT USAGE

For this CMA, the quantity which will be used to initially establish the "footprint" for payment adjustments (Specification 52.8) of salt used is **4,584** tonnes. This value will be adjusted annually to account for variations in the total annual salt usage, and to account for increases or decreases in the highway network length.

The following table shows the method, and the actual numbers used, to calculate the total quantity of salt for establishing the initial footprint. The initial calculation is based on the years of data which encompassed all Provincial highways, starting with the 2001/02 fiscal year. Years previous to 2001/02 exclude secondary highways (3 digit highways) as they were not under Provincial jurisdiction, therefore data from those years are not applicable to the footprint calculation.

The following table also provides a sample calculation on how the 2007/08 salt tonnage will be determined for the footprint.

TOTAL ESTIMATED SALT TONNES
CALCULATION DETAILS FOR FOOTPRINT

Year	Total salt usage (t)	Length 2 lane equiv km	t/2LEkm
01/02	2,871	743	3.86
02/03	4,604	743	6.20
03/04	5,091	743	6.85
04/05	5,115	743	6.88
05/06	4,827	743	6.50
06/07	5,010	743	6.74
Totals:	**27,518**	**4,458**	**6.17**

2006/07 Total Salt Tonnes Estimate for Footprint:

743km x 6.17 t/Km = **4,584**

Sample Calculation for the 2007/08 Footprint			
Year	**Total salt usage (t)**	**Length 2 lane equiv km**	**t/2LEkm**
Previous Totals	27,518	4,458	6.17
07/08	**5,500*	743	7.40
Totals:	33,018	5,201	6.35

2007/08 SAMPLE Calculation:

743km x 6.35 t/Km = *4,718*

Where: 743 is the 2LE kms for roads included in the Main Hwy. Table of the WSD Spreadsheet (actual kms will be used each year and will include applicable increases/decreases in the network).

* 5,5*00 tonnes is not actual or an estimate, it is provided only to complete this sample calculation. The actual annual total tonnes will be used at the time of calculating the footprint.*

Subsequent years will use this same process for calculating quantities in establishing the footprint, and the totals will be carried forward from year to year.

S. WINTER SANDING MATERIALS

The Prospective Contractor must identify in his Proposal, the location and distribution of sand storage facilities within the proposed Contract area boundaries. Unless otherwise specified elsewhere in this RFP document, sand and salt must be stored in the same yard at each location.

Sand storage must have adequate capacity for 125% of the entire annual provisional quantity of **15,000** tonnes for the CMA, plus any additional sand that is intended for sale to third parties by the Contractor.

The Winter Sand Distribution Factor for this CMA is **20.19** tonnes per two-lane km. equivalent (15,000 tonnes ÷ 743 km).

The Prospective Contractor's annual provisional quantity for each sand storage site shall be calculated according to the following formula:

(Winter Sand Distribution Factor) x (Length of roadway serviced by that site)

The length of the roadway serviced by a site must be identified within the Prospective Contractor's Winter Service Delivery Plan.

For the duration of the Contract, the Contractor shall supply sodium chloride treated sand as per Specification 52.5 at the locations identified in the Proposal. When the Department determines that renewal of existing treated sand stockpiles is required, the Contractor shall add sodium chloride as per specification 52.5 unless otherwise directed by the Engineer.

Prospective Contractors are advised that winter sanding materials supplied for this CMA shall meet the Des. 5 Class 8 sand gradation specification included in the Specification Amendments section of this document.

All work involving winter sand production, stockpiling, mixing and storage shall be completed by October 1st. of each year.

T. STORAGE OF TREATED SAND

All treated sand stored on the Contractor's maintenance facility shall be sheltered in indoor structures, including treated sand that is intended for sale to third parties. Treated sand purchased from third parties for use on roads and highways under the Department's jurisdiction must also be sheltered in indoor structures in accordance with the provisions contained herein. Furthermore, any third party site used for the supply of treated sand will require an Environmental Management Plan which meets the requirements of the Special Provision for "Environmental Management of Maintenance Facilities".

Indoor structures shall be designed to accommodate a minimum of 125% of the annual provisional quantity of sand indicated in the Unit Price Schedule for each location, plus any additional sand that is intended for sale to third parties by the Contractor.

Indoor structures shall be constructed on an impermeable floor of asphalt, concrete, or other suitable material that is graded away from the center of the structure for drainage purposes. The pad shall extend around the exterior of the structure and be graded away from the building, such that runoff is prevented from entering the structure. The indoor structure shall be completely enclosed providing coverage from wind and rain in all directions. The roof and exterior of the structure shall be constructed of waterproof material, such that precipitation and moisture are prevented from entering the structure. A tarp supported by the pile will not be considered as an indoor structure.

Maintenance Facilities designated as High Priority Sites in accordance with Section 2, 'Introduction' of the "Environmental Management Plan Guidelines for Highway Maintenance Yards" require indoor structures capable of accommodating covered loading and mixing operations in addition to storage of the materials.

U. WINTER SERVICE DELIVERY (WSD) SPREADSHEETS

U.1 WSD SECTIONS AND CLASS

For the purposes of comparing Proposals between Prospective Contractors, the Department has divided the entire highway network into "Sections". Each Section is assigned a "Class", which

identifies its relative significance, as outlined in “Winter Service Delivery – Details” within the network.

Winter Service Deliver (WSD) Sections have been fixed prior to the RFP and can not be altered by the Prospective Contractor within his WSD Control Plan.

Details of WSD Sections are identified in the “Main Highway Table” of the WSD spreadsheet. An electronic copy of this spreadsheet is provided on the CD included with the RFP package, and a hard copy printout of the Main Highway Table is included in Section “F” of the RFP document.

U.2 WSD PLAN - BASE CASE

The Department has established a “Base Case” Winter Service Delivery (WSD) Plan for each CMA included in this RFP as a benchmark. Whenever possible, the Base Case uses the existing maintenance shop and stockpile locations with the current number of trucks actually in use, unless shop availability, anticipated changes in network or level of service requirements dictate otherwise.

The Prospective Contractor is encouraged to reference the base case model when calculating and preparing his WSD Plan. To assist the Prospective Contractor with this task, the Department has included the base case in both electronic and written form in the RFP package. The electronic version is provided in an Excel spreadsheet. This spreadsheet indicates the level of service that the Department expects the Prospective Contractor to meet or exceed overall, but not necessarily meet or exceed in every category or every section of Highway.

A second Excel spreadsheet file, similar to the base case spreadsheet (minus the base case data), has also been included in the RFP Package. The Prospective Contractor shall use this spreadsheet file to complete his WSD Plan. The "Winter Service Delivery – Details" document outlines the procedures to complete the Winter Service Delivery spreadsheet. The Department will provide individual assistance to Prospective Contractors upon request.

U.3 WSD SNOWPLOWING - TIME TO COMPLETE REQUIREMENTS

In the Prospective Contractor’s WSD Plan, details of the storage location for snowplow trucks must be provided.

Based on those locations, the Prospective Contractor must calculate the time to complete snowplowing of all the highway Sections, within the proposed Contract area boundaries, and include the results in his WSD Plan. The requirements must be met in each case.

Details of how the calculation is performed are available in the “Winter Service Delivery – Details”.

The time to complete requirements for snowplowing of each Section is identified in the main highway table, a copy of which is included in Section “F” of the RFP document.

All hours are to be reported to the second decimal place of accuracy.

U.4 WSD SAND/SALT APPLICATION - TIME REQUIREMENTS

In the Prospective Contractor's WSD Plan, details of the storage locations for snowplow trucks and winter materials must be provided.

Based on those locations, the Prospective Contractor must calculate the time to complete the application of sand and salt on all the highway Sections, within the proposed Contract area boundaries, and include the results in his WSD Plan. The requirements must be met in each case.

Details of how the calculation is performed are available in the supplemental document "Winter Service Delivery – Details".

The time to complete requirements for sanding/salting of each Section is identified in the main highway table, a copy of which is included in Section "F" of the RFP document.

All hours are to be reported to the second decimal place of accuracy.

U.5 WSD SNOWPLOW TRUCK ALLOCATION REQUIREMENTS

All Prospective Contractors are required, in their WSD Plan, to identify the length of every snowplow truck beat. The snowplow beats must be identical for sanding, salting and snowplowing.

"Truck Allocation" for each snowplow truck is defined as a percentage of actual beat length divided by it's maximum length of beat, as defined within the RFP.

Prospective Contractors, in their WSD Plan (Proposed Plow Truck Table), must show the lengths of beat of each snowplow truck and calculate its "Truck Allocation".

Shown below is a table of maximum lengths of individual snowplow truck beat assignments.

Class	**Truck Factor for this CMA**	Number of Trucks	
		20 Trucks (Base)	19 Trucks (Min)
A	**30**	30	31
B	**36**	36	37
C	**38**	38	40
D	**45**	45	47
E	**60**	60	63
F	**105**	105	110
G			
H			

The Prospective Contractor, within his WSD Plan, may exceed 100% Truck Allocation, only as shown on the following table:

Maximum truck allocation by Roadway Class		
Class	**Permissible percentage of fleet with truck allocation > 1.0, by CMA**	**Maximum truck allocation allowed**
A	**1 truck or 10%, whichever is less**	**1.05**
B	**1 truck or 10%, whichever is less**	**1.10**
C	**2 trucks or 20%, whichever is less**	**1.10**
D, E, F, G or H	**3 trucks or 30%, whichever is less**	**1.15**

If the Prospective Contractor proposes to "over-allocate" trucks, he shall identify within his WSD Plan in Envelope No. 2 his plan and explanation justifying the over-utilization Section or groups of Sections.

U.6 ADDITIONAL OPERATORS

For this CMA, the Prospective Contractor shall provide six (6) additional operators in accordance with Specification 52.1.7.3, Operators. Four (4) additional operators shall be located in the Sherwood Park area, one (1) shall be located in the Gibbons area, and one (1) shall be located in the Morinville area.

U.7 WSD CUMULATIVE NETWORK TIME REQUIREMENTS

The Prospective Contractor, in his WSD Plan, is asked to calculate the total cumulative time to complete both snow plowing and sand/salting of all sections in each roadway class or groups of classes, within the proposal.

All hours are to be reported to the second decimal place of accuracy.

Shown below is a table indicating the maximum cumulative time to complete snowplowing and sand/salting application activities:

Plow Cumulative time by class								
Class	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**
Total Time	9.31	11.24	10.65	15.79	16.92	13.01		

Spread Cumulative time by class								
Class	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**
Total Time	11.17	14.44	14.50	22.57	23.23	21.70		

Depending on the number of CMAs that the Prospective Contractor proposes for the Contract, cumulative times by roadway class must be combined as shown in the following table:

Permissible Cumulative Network Class Time, in Multiple CMAs'	
No: of CMAs in Proposal	**Permissible Cumulative Times**
1	Combine Classes A, B & C Combine Classes D & E Combine Classes F & G & H
2	Combine Classes A, B & C Combine Classes D & E Class F has individual times Combine Classes G & H
3 or more	Combine Classes A, B & C Classes D & E & F have individual times Combine Classes G & H

The Prospective Contractor must group the Classes according to this table and must not exceed the permissible cumulative network class time for the groupings.

V. CO-ORDINATION WITH THE PREVIOUS MAINTENANCE CONTRACT

The Department owns or may have access to some sand/salt storage sites, which may include inventory of materials existing at commencement of the Contract.

If necessary, the Department will negotiate with the Contractor, details of any required relocation of materials in consultation with the existing highway maintenance Contractor. If there are surplus stockpiles of mixed sand/salt and or salt from the last winter season, the Contractor shall arrange for the transfer of this material to his site by August 30. This will be paid for as Extra Work in accordance Specification 51.2.28.

W. ANNUAL HIGHWAY CLEAN-UP

On the first or second Saturday in May, the Department hosts the "Annual Highway Clean-up". The Contractor will be responsible for erecting clean-up signs, disbursement of bags, vests and signs to local clubs and for the pick-up and disposal of litter bags. The Department will supply all materials. It is expected that filled litter bags will be picked up promptly on the day of the clean-up so that the litter bags do not become a hazard or distraction to the motoring public.

There will be no separate payment made to the Contractor for time spent in the erection of signs and disbursements of bags, vests and signs to local clubs. These activities are considered part of Routine Highway Maintenance.

Separate payment will be made only for the pick-up and disposal of filled litter bags. All labour and pickup trucks supplied to perform the pick-up and disposal of litter bags will be paid for at the unit prices bid for "Supply of Labourer (Miscellaneous Work)" (Bid Item 4310) and "Supply of Truck (Miscellaneous Work)" (Bid Item 4311). All tandem axle trucks used to perform this work will be paid for at the unit bid price for "Debris Removal – Truck"(Bid Item 4302) in accordance with specification 52.2.2.

All labour and equipment will be paid from the nearest shop.

Any additional items or larger equipment required to dispose of the litter bags will be paid as Extra Work in accordance with Specification 51.2.28.

Alberta Transportation will provide information to the Contractor as to which sections of highway are going to be cleaned and by which groups. A proposed list of employees, truck unit numbers and Highway sections they will be responsible for, shall be compiled by the Contractor for review prior to the day of the clean-up.

The Maintenance Contract Inspectors will approve the list of employees and the proposed hours of work for the pick up and disposal of filled litter bags prior to the day of the clean up. There will be a minimum of one qualified truck operator per work unit. Work hours on the day of the clean up are typically 7:00 am to 5:00 pm.

X. MOWING AND HAND TRIMMING - GENERAL

The contractor shall respond with adequate equipment to complete mowing of the total hectares identified on the work order by the specified due date.

The contractor may be required to utilize track type mowing equipment or smaller mowing equipment for work in urban and other areas where there are median/ditch width restrictions, special landscaping and underground irrigation, trees, shrubs, and other barriers/obstacles located within the right-of-way. The use of smaller equipment shall be incidental to the work and no separate or additional payment will be made.

Y. ADMINISTRATION OF HAY PERMITS

Alberta Transportation allows the hay to be salvaged from within the right of way for the use of local landowners. The Contractor will administer the application process for hay permits on behalf of Alberta Transportation. The expectation is that the Contractor will perform the following tasks as part of the administration process.

- Issue permits in a fair and equitable manner. Provide copies of completed permits to MCI's on a weekly basis.
- Track and record location and length of area assigned to permit holder. Ensure fair and equitable distribution of permits.
- Ensure permit holder is following the permit.
- Contact permit holder if permit is not being adhered to.
- Submit a year end summary of hay permits to Alberta Transportation by September 1 annually.

A separate bid item called "Administer Hay Permits" (# 3277) has been included in the Unit Price Schedule to cover the cost of this work. Individual payment will be made for each hay permit administered.

Z. HAND BRUSHING

Z.1 GENERAL

The Work consists of cutting, stacking and/or disposing of standing or fallen brush and trees using hand held tools or equipment. This Work also includes the disposal of the limbs and other debris.

Z.2 EQUIPMENT

The Contractor shall supply all equipment necessary to complete the work. Typical equipment required includes a vehicle, chainsaws, axes, brushhooks and brushcutters. The size and type of the equipment to be supplied will be subject to the approval of the Engineer.

Z.3 LABOUR

The Contractor shall supply a minimum 2-man crew. The number of 2-man crews required will be specified on the Work Order.

Z.4 PROCEDURE

The Contractor shall prevent debris from being deposited on the roadway surface or adjacent lands. Work shall be performed during daylight hours only, unless otherwise approved by the Engineer. Cleared material over 100 mm in diameter shall be cut into 500 mm lengths and stacked along the edge of the Right-of-Way. The Contractor shall dispose of material less than 100 mm in diameter.

Trees and brush shall be hand brushed to a height not exceeding 150 mm. Stumps larger than 25 mm diameter shall be cut at ground level. Tops of stumps shall not be left cone shaped or pointed.

The Contractor shall ensure that drainage structures are not damaged or obstructed by hand brushing operations.

Z.5 TIME TO COMPLETE

The Contractor shall complete the Work within 30 calendar days of the issuance of the Work Order.

Z.6 MEASUREMENT AND PAYMENT

Measurement will be in hours (to the nearest ¼ hour) for the time each 2 person crew spends travelling to and from the worksite, and is engaged in the Work. The maximum allowable travel time from the worksite to the nearest shop will be one hour.

Payment will be made at the unit price bid per hour for “Hand Brushing (2 person crew)” and will be full compensation for all labour, equipment, tools and incidentals necessary to complete the Work, including traffic accommodation and signing.

AA. SCREW-IN SIGN BASE

Further to Specification 54.13 Maintenance of Highway Signs, an alternative to concrete bases is the proprietary “Screw-In Road Sign Base”, found in Alberta Transportation’s product evaluation Product ID: 8250-3-4-4. Typical Drawings are found in Section “I”, Drawings and Sample Forms, of the RFP document.

Measurement will be made of the number of Screw-In Road Sign Bases installed, supplied and installed, bases removed, salvaged and reinstalled and bases removed and disposed of.

Payment for installing screw-in bases supplied by others will be made at the unit price bid per base for "Screw-in Road Sign Base - Install" regardless of diameter size (140mm, 178mm or 219mm), and will be full compensation for all labour, equipment, tools and incidentals necessary to complete the Work.

Payment for supplying and installing screw-in bases will be made at the unit price bid per base for "Screw-in Road Sign Base - Supply and Install" regardless of diameter size (140mm, 178mm or 219mm), and will be full compensation for all materials, labour, equipment, tools and incidentals necessary to complete the Work.

Payment for removing, salvaging and reinstalling existing bases will be made at the unit price bid per base for "Screw-in Road Sign Base - Remove and Reinstall", and will be full compensation for all labour, equipment, tools and incidentals necessary to complete the Work.

Payment for removing and disposing of Screw-in bases will be made at the unit price bid per base for "Screw-in Road Sign Base - Remove and Dispose", and will be full compensation for all labour, equipment, tools and incidentals necessary to complete the Work.

BB. SURFACE CONDITION RATING (SCR)

BB.1 GENERAL

Surface Condition Rating shall be undertaken by the Highway Maintenance Contractor. The Work shall be carried out in accordance with the following:

- The Work consists of supplying two labourers and a truck. Surface Condition Rating is done every year in August/September. This procedure is done to determine the present state of the Highway network.
- Alberta Transportation will supply an Electronic Measuring Device, calibrated aluminum Rut Wedge and Surface Condition Rating Manual for each Certified Rating team.
- The Contractor shall supply a vehicle and all other equipment necessary to complete the work.

BB.2 PROCEDURE

The Surface Condition Rating process involves breaking the highways into manageable sections of similar condition and where maintenance costs would be consistent throughout (Segmenting). Choosing a sample length within a segment that is representation of the surface condition over the entire segment (Gauging Length which is 50 metre of two lane equivalent). The Rating team must than performing exact measurements in the sample length. Recording the type, location and size of other distresses within the segment on standard forms supplied by Alberta Transportation. It also involves entering the information into Alberta Transportation Data base.

BB.3 MEASUREMENT AND PAYMENT

Measurement will be in hours (to the nearest ¼ hour) the vehicle and/or labourer spends travelling to and from the worksite, and is engaged in the Work. The maximum allowable travel time from the worksite to the nearest shop will be one hour.

Payment will be made at the unit price bid per hour for bid item 3008, "Supply of Truck (Miscellaneous Work)" and/or bid item 3007, "Supply of Labourer (Miscellaneous Work)". This payment shall be full compensation for providing a "Certified Rater", competent Recorder and all labour, equipment, tools and incidentals necessary to complete the Work.

Traffic accommodation will be paid for at applicable bid items found in Specification 53.37 "Supply of Flagpersons for Emergency Traffic Control" and/or Specification 53.38 "Supply of Arrowboards and Dynamic Message Signs for Traffic Control".

CC. EMERGENCY SIGN PACKAGE

The Department requires three (3) emergency sign packages owned by the Department to be stored free of charge by the contractor at a site approved by the Engineer.

Due to the number of responses to accidents, requirements for traffic accommodations, it has been found practical to have the emergency sign package ready for immediate use. Whenever necessary, the Contractor shall erect the emergency sign packages within 2 hours of the issuance of the Work Order on all Highways.

The type of sign package required at the specified location is as follows:

- Sherwood Park 1- Multi lane package
- Gibbons 1- Single lane package
- Morinville 1- Multi lane package

DD. BEAVER CONTROL

Contrary to Specification 54.34, the unit price bid per hour for "Beaver Control" will not include costs associated with supplying qualified trappers or blasters. When qualified trappers and/or blasters are required, then payment will be made as Extra Work in accordance with Specification 51.2.28**.**

EE. TOLL FREE SIGNAGE

The Contractor shall ensure that the Contractor's name and toll free number is displayed on a 4' x 8' sign located on the side slope of each highway entering into the contract area. The signs shall be manufactured on 3/4" plywood or extruded aluminum and the sheeting and sign supports shall be in accordance with the Alberta Transportation Recognized Products list for non-standard signs. Lettering and symbols shall be clear and legible and of the required retro-reflectivity. Minimum lettering size is to be 200 mm. The Contractor must receive approval from the Engineer regarding the sign design prior to manufacturing.

All signs are to be installed within three months of the commencement date of the contract. The Contractor will be responsible for all costs associated with the signs, including supply and installation, maintenance, removal and replacement.

The Contractor shall record all calls made to the toll free number and provide the Department with a log of these calls on a monthly basis. As a minimum, the monthly log shall include the following information for each call:

- date and time of the call,
- the name and phone number of the caller,
- the highway(s) number in question
- a description of the caller's concern(s) and/or question(s),
- a description of the Contractor's response/ resolution regarding the call.

The Contractor will be responsible for all costs associated with the toll free number, including supply and installation, maintenance, removal and replacement of signs; and for the recording and logging of all calls.

FF. MATERIAL CONVERSION FACTOR

Where the application of conversion factors is necessary, the following standards values shall be used:

- The conversion factor for pit-run, crushed granular material and ACP (uncompacted) — 1.632 tonnes per cubic meter
- The conversion factor for sand — 1.365 tonnes per cubic meter
- The conversion factor for ACP(compacted) — 2.330 tonnes per cubic meter
- The conversion factor for fine or coarse salt — 1.281 tonnes per cubic meter

GG. LOCATIONS AND TELEPHONE NUMBERS OF CONTACT PERSONNEL

The Department will issue the Contractor with a listing of all applicable contact personnel, complete with addresses and telephone numbers. This list may include but not be limited to local representatives of:

- Inspection Transport Services
- Alberta Transportation, Regional Staff
- Alberta Infrastructure, Property Management Staff
- Alberta Environment
- Counties and Municipal Districts
- Towns and Villages
- Royal Canadian Mounted Police
- National Park Service (If Applicable)
- Indian Reserves
- Railways

HH. ROAD BAN SIGNING

The Contractor will be required to complete all signing for imposing and lifting of road bans with very little notice. This work will be paid for at the applicable unit prices without any additional payment due to the reduced times to complete. Changing over of the percentage tabs will be paid by the bid item 36.14, Install Sign – Less than 1 square meter. The Contractor shall be responsible for storage of road ban percentage tabs.

Highways that have had road bans on in the past include, but are not limited to, the following:

- **Hwy 824:02**
- **Hwy 830:02**
- **Hwy 777:02**
- **Hwy 651:04**

II. SEEDING OF DISTURBED AREAS

Any areas disturbed by the Contractor's forces during the execution of this contract shall be seeded. The grass seed shall be of a composition acceptable to Alberta Sustainable Resource Development. There shall be no separate or additional payment for this work.

JJ. ENVIRONMENTAL MANAGEMENT OF MAINTENANCE FACILITIES

JJ.1 PRIORITY DESIGNATIONS

All maintenance facility sites identified in the Prospective Contractor's proposal that are owned, or were at any time previously owned, by the Government of Alberta which were designated as Low Priority Sites (Priority Three) by the Joint Environmental Committee are now designated as

Medium Priority Sites (Priority Two). Designations for maintenance facility sites listed as High Priority or Medium Priority have not changed.

All new maintenance facility sites identified in the Prospective Contractor's proposal, which have never been owned at any time by the Government of Alberta, shall include documentation demonstrating the priority designation warranted as described in Section 2, 'Introduction' of the "Environmental Management Plan Guidelines for Highway Maintenance Yards" document included in the RFP.

No maintenance facility site will be designated as Low Priority including pristine sites.

JJ.2 MAINTENANCE FACILITIES OWNED BY THE GOVERNMENT OF ALBERTA

Environmental Management of Maintenance Facilities Owned by the Government of Alberta shall be subject to the Special Provision for Government owned facilities, the Lease Agreement and the "Groundwater Quality Monitoring Program" and "Inspections" sections of this special provision.

This Special Provision does not in any way limit the rights of Alberta Transportation under the Department's standard lease agreement or under any lease agreement entered into between the Department and the Contractor.

JJ.3 MAINTENANCE FACILITIES PREVIOUSLY OWNED BY THE GOVERNMENT OF ALBERTA AND NEW SITES PROPOSED BY THE CONTRACTOR

The Contractor shall complete an Environmental Management Plan for each site previously owned, at any time, by the Government of Alberta or any new site proposed by the Contractor. The Environmental Management Plan shall comply with the requirements of the "Environmental Management Plan Guidelines for Highway Maintenance Yards" document included in the RFP.

The provisions of the Environmental Management Guidelines Highway Maintenance Yards document may require significant improvements or other work to existing sites to achieve environmental compliance. Also, the Environmental Management Plan Guidelines for Highway Maintenance Yards document includes separate requirements for sites designated as either "High Priority" or "Medium Priority". The location of any sites previously owned by the government in this CMA may be obtained from the Department Operations Manager. The cost of any such work shall be at the Contractor's expense and no separate or additional payment will be made.

The Environmental Management Plan must be acceptable to the Department and shall be completed by September 1, 2009.

After September 1, 2009 a penalty of $1000 per site per month will be applied for any site that does not have an approved Environmental Management Plan. The penalty will increase to $2000 per site per month after January 1, 2010 for any site that does not have an approved Environmental Management Plan. These penalties will be prorated for lateness of a partial month.

The Contractor shall operate the site in accordance with all applicable environmental legislation, the Environmental Management Plan Guidelines for Highway Maintenance Yards and the approved Environmental Management Plan during the term of the Contract.

JJ.4 GROUNDWATER QUALITY MONITORING PROGRAM

The Prospective Contractor shall include provisions for a groundwater quality monitoring program in his Environmental Management Plan for all maintenance facility sites identified in his proposal.

Each site shall include a minimum of three monitoring wells. One well shall be located hydraulically up-gradient of the site and two wells hydraulically down-gradient of the site. At Medium Priority Sites one of the down-gradient wells shall be located immediately down-gradient from the run-off collection pond. The wells shall be designed to allow collection of groundwater samples from the uppermost water bearing formation to a maximum depth of 50 metres. If no groundwater is encountered in the first 50 metres of drilling then groundwater monitoring wells will not be required for that site.

The Contractor shall arrange for an initial sampling of chloride and sodium concentrations as soon as groundwater levels have stabilized after installation of the wells. Subsequent sampling and analysis shall be done on a semi annual basis in conjunction with the maintenance facility inspections specified below. All groundwater sampling and analysis shall be done by an independent and qualified engineering consulting firm registered with A.P.E.G.G.A. All results of groundwater analysis shall be provided to the Department in triplicate.

All costs associated with installation, maintenance and sampling of groundwater monitoring wells shall be at the Contractor's expense and no separate or additional payment will be made.

Alberta Transportation may request supplementary water samples and analysis from groundwater monitoring wells of any particular site in addition to the frequency specified above. Any such additional samples requested by the Department will be paid for as Extra Work in accordance with Specification 51.2, General for Maintenance Work.

JJ.5 INSPECTIONS

The Contractor shall arrange for semi annual inspections at each maintenance facility site included in the Contract to determine compliance with Environmental Management Plans. One inspection shall be scheduled during the summer season (July - August) and the other during the winter season (January - February). All inspections shall be conducted by an independent and qualified engineering consulting firm registered with A.P.E.G.G.A.

The Contractor shall provide the Department with three copies of the Consultant's written report detailing results of the inspection within a maximum of two weeks following completion of the inspection. All costs associated with maintenance facility inspections shall be at the Contractor's expense and no separate or additional payment will be made.

Each occurrence of non-compliance with an Environmental Management Plan will be a demeritable offence. If any one requirement of an Environmental Management Plan is identified in the Consultant's inspection report as being in non-compliance the Department will assess the Contractor one demerit point for that site. The Contractor shall promptly correct the deficiency(s) to bring the site into compliance with the Environmental Management Plan and shall arrange for a follow-up inspection.

These inspections do not preclude Alberta Environment or Environment Canada from assessing fines for a site that is not in compliance with the applicable legislation as identified in Section 4, 'Objectives', of the Environmental Management Plan Guidelines for Highway Maintenance Yards document included in the RFP.

Alberta Transportation and Alberta Environment reserve the right to conduct any additional investigations deemed necessary to ensure compliance with Environmental Management Plans and Lease Agreements. Any requirements of an Environmental Management Plan found to be in non-compliance from such investigations will also be considered a demeritable offence.

KK. CONTRACTOR PERFORMANCE RATING SYSTEM

The Department has worked with the industry to develop a system for rating performance of Maintenance Contractors. This system is described in the "Procedures for Maintenance Contract Performance Measures" document, a copy of which is included in the RFP package.

The Contractor shall provide the Department all the necessary documentation so that the Department can properly assess the Contractors performance. Missing documentation will impact the Contractor's performance rating. The Department will measure the Contractor's performance on an annual basis from April 1 to March 31 the following year. During partial years, the Department will only measure Contractor performance on the relevant items.

The Department will use the performance ratings as a scoring component for evaluation of future proposal submissions.

The performance rating system should also be seen as a tool to assist the Contractor in improving his overall performance throughout the term of the contract. The Department expects that the Contractor will be diligent in assuring that poor performance is promptly corrected, and improvement is reflected in the next performance rating.

The Department reserves the right to revise the Maintenance Contract Performance Measures System during the term of the contract. Any proposed changes will be communicated to the Contractor for review and input.

LL. QUALITY ASSURANCE PROGRAMS

The Contractor shall adhere to the quality assurance tables included in the "Procedures for Maintenance Contract Performance Measures" document, a copy of which is included in the RFP package. When the Department audits for specification conformance, traffic accommodation shall be included as part of the audit.

MM. MIKE RADIO SYSTEM

MM.1 GENERAL

In accordance with Specification 51.2.39, the Department will reimburse the Contractor for his monthly network service charges for mobile radio communications. Currently the Department has an agreement with Telus Mobility to provide this service under the MiKE System (Work 65 plan). The Work 65 plan is the standard on which payment is based, however the Contractor can choose other plans at his discretion. Telus Mobility will invoice the Contractor directly, and the Department will reimburse the Contractor as specified herein.

The Department covers the monthly service plan costs and the networking and licensing costs under this agreement for the following components of the Contractor's maintenance fleet: one radio for each snow plow truck (including each spare truck); one for each grader, foreman, and superintendent vehicle; and an additional six radios per Contract Maintenance Area.

The Contractor is responsible for all other costs including installation, maintenance and removal of radios, early termination charges, local airtime costs exceeding that provided for under the plan, long distance charges and for other services such as wide area, roaming, wireless web and value added services. The Department does not cover any costs for radios not approved under the contract terms as described above, however non-approved radios can draw from the minute pool up to the total monthly allotment.

MM.2 SUMMER DEACTIVATIONS

The Contractor will be allowed to deactivate MiKE radios in the summer months that are solely used for winter maintenance activities. These dormant units will be placed on a "Vacation Disconnect" status by Telus Mobility for a minimum of one month, and will not extend past the term of the agreement. There will be no reactivation fees charged to the contractors under this program. For the months that the units are on vacation disconnect, these months will be considered as part of the term for each MiKE contract, and will not be deferred to the back end of the contract. The Contractor shall notify the Operations Manager on which units have been deactivated.

Notwithstanding the foregoing, all MiKE radios approved for under the contract terms shall be active from September 15 to May 15, inclusive, of each year.

MM.3 NAMING CONVENTION

A maximum of 30 characters is permitted for MiKE radio user names. To distinguish between radios approved by the Department under the terms of the contract and non-approved radios a standard "User Name" convention has been established. This naming convention shall be strictly adhered to.

The first nine characters will follow the standards specified herein. These characters will used to identify Department approved radios and the CMA's from which they are based. The remaining 21 characters allowed are at the Contractor's discretion. It is suggested that the Contractor use these characters to further identify the radio by shop location or vehicle unit number.

Example: **AT-CMA06-**HighPrairie1 (AT identifies Transportation approved radio)
MC-CMA06-HighPrairie8 (Maintenance Contractor non-approved radio)

MM.4 PAYMENT

The Department will reimburse the Contractor for the monthly service plan costs and the networking and licensing costs of approved radios. This will be facilitated through Bid Item 4450, MiKE Radios, of the unit price schedule. This bid item will provide the set monthly price per radio for which payment will be based. This price, multiplied by the approved number of radios under the contract will be the total monthly payment made to the Contractor.

The unit price established for bid item 4450 is $62.45/radio/month, and is based on the following criteria:

$65.00 (monthly access fee) less $9.75 (15% TELUS Mobility discount) + $6.95 (system licence fee) + $0.25 (911 fee) = $62.45 per month per MiKE radio.

The quantity shown in the unit price schedule is approximate only and is based on the Department's minimum requirements for winter service delivery. Payment will be made on the actual number of approved MiKE Radios.

Payment will be made for all approved radios each and every month including those deactivated during summer months. This bid item is exclusive of price adjustments due to inflation, unless mutually agreed to otherwise. Any increase or decrease to the Work 65 Plan rate made by Telus Mobility, including changes to discount percentages, will be reflected in the monthly unit price specified herein.

NN. INTRODUCING NEW TECHNOLOGIES AND PROCESSES

The Department intends to make continual improvements to the planning and administration processes of highway maintenance contracts. The Department anticipates that initiatives such as the Road Weather Information Systems (RWIS), the pro-active use of de-icing chemicals (anti-icing and liquid de-icing applications), improvements to how work orders and crew work sheets are issued and submitted, and increased requirements for environmental protection of the lands along the right-of-way will be introduced during the term of the Contract. The introduction of

new technologies and processes by the Department does not prevent the Contractor from submitting other innovation proposals as described in specification 51.2.20 Innovation.

The Department is committed to working with the Contractor to manage the changes resulting from these innovations so that the costs and risks are shared by all parties. As a rule, the department will:

- cost share the capital costs for new technologies, with the actual values to be negotiated on a case by case basis,
- work in partnership with the contracting industry to develop training aids, standards and reporting systems to support the new technologies and processes,
- phase in the introduction of new technologies and processes to allow the contracting industry time to manage the subsequent changes in each company's internal processes,
- cost share the additional costs of training and inspections needed to give the field staff the tools to use new technologies and processes efficiently, and
- jointly review the results of the new technologies and processes for further improvements and modifications.

The successful contractor is expected to:

- willingly participate in planning, implementing and reviewing new technologies and processes,
- pay internal costs for such things as wages, travel and increased record keeping associated with these initiatives.
- make changes to his own internal organization, training programs, equipment management system, documentation and management practices to accommodate the initiative at no cost to the Department, and
- ensure that his employees are taking full advantage of the new technology or process.

OO. PROGRAM MANAGEMENT APPLICATION (PMA)

The department uses the Program Management Application (PMA) for managing Maintenance Contracts and Work Orders

To improve upon the efficiency of management work the contractor should use PMA to:

- Create proposed work lists.
- Review work orders.

It is contractor's responsibility to have their software integrate with PMA to:

- Import Crew and Snow & Ice worksheets into PMA.
- Receive work orders through email in .TXT format to load into contractor's software
- Review accept/reject Report for Crew and Snow & Ice worksheets through email of a .TXT file.

PMA also provides a facility for the Contractor to enter Crew and Snow & Ice worksheets manually if they choose to do so.

PP. GENERAL LIABILITY INSURANCE PREMIUM

To reduce the Contractor's risk with respect to rising insurance premiums, the Department has included a bid item in the Unit Price Schedule for a yearly lump sum General Liability Insurance Premium. In this bid item, the Contractor shall provide his anticipated yearly premium that will be required to maintain valid General Liability Insurance for the amount of Work required under this CMA, and for the limits specified in specification 51.2.12 (a) of the Standard Specifications for Highway Maintenance, Edition 4, January 2005.

Prior to execution of the Contract, the Contractor shall provide the Engineer with a certified true copy of the insurance policy along with the actual premium cost to meet the General Liability Insurance requirements under the terms of the Contract. The actual annual cost of the General Liability Insurance shall closely reflect the annual cost identified in the Unit Price Schedule. Any significant variations shall be explained to the satisfaction of the Department.

The General Liability Insurance Premium will be considered a Fixed Cost item in the Contract and will not be subject to the annual inflationary adjustments. Instead, the Department will adjust the premium on an annual basis to reflect the actual increases in premiums that, in the opinion of the Minister, is no fault of the Contractor; or a reduction in premiums, as the case may be. Upon verification of the Contractor's actual General Liability Insurance Premium, the Department will make a lump sum yearly payment. Partial years will be prorated accordingly.

The Department reserves the right to provide the Contractor with General Liability Insurance coverage for work done under this contract. Should the Department provide this coverage, then the insurance requirement under 51.2.12 (a) will be waived by the Department. In such cases, the Department will not make payment to the Contractor for the General Liability Insurance Premium.

QQ. CRACK SEALING AND ROUTE & SEAL

In accordance with specification 53.4.7 and 53.5.7, the Contractor shall ensure that an accurate measurement of each days production for these two activities is recorded and provided as backup to the workorder. The Contractor shall clearly mark the limits of each day’s production on the paved surface of the roadway. The Contractor shall record weather information on the daily production report.

The Department will audit these measurements and in the event of a discrepancy of more than 5%, the audit quantities may be used for payment purposes.

Providing measurement data, marking out daily production and recording of weather information will be considered incidental to the work and no separate or additional payment will be made.

Unless otherwise advised by the engineer all rout and seal applications will require a blotting agent.

RR. BRIDGE STRUCTURE CLEANING

Following is a list of bridge structure sites located in CMA 9 that the Contractor shall clean in accordance with Specification 54.30, Bridge Structure Cleaning:

Hwy #	Structure Location	File #	Length	Width	Area (m2)
14:04	Jct Hwy 21 & Hwy 14	77126	73.2	20.1	1,471.3
16:18	Jct Hwy 216 & Hwy 16	76652	70.2	14.5	1,017.9
16:18	EB Hwy 16 over Hwy 216/CN Right-of-way	76339	109.6	12.2	1,337.1
16:18	WB Hwy 16 over Hwy 216/CN Right-of-way	76339	109.6	12.2	1,337.1
16:18	Broadmoor Boulevard to Hwy 16 ramp	76649	60.0	8.5	510.0
16:18	Jct. Hwy 16 & Broadmoor Boulevard	76648	85.3	12.8	1,091.8
16:18	EB Jct. Hwy 16 & Clover Bar Rd.	76646	38.2	18.0	687.6
16:18	WB Jct. Hwy 16 & Clover Bar Rd	76646	38.2	18.0	687.6
16:18	NB Jct Hwy 16 & Hwy 21	76760	74.2	24.9	1,847.6
16:18	SB Jct Hwy 16 & Hwy 21	76760	74.2	18.0	1,335.6
16:18	Jct Hwy 16 & Hwy 824	76159	74.2	11.6	860.7
21:28	NB RR Flyover N. of Hwy 16	79441	81.0	13.0	1,053.0
21:28	SB RR Flyover N. of Hwy 16	79441	81.0	13.0	1,053.0
216:04	NB RR Flyover S. of Hwy 16	76650	106.7	13.7	1,461.8
216:04	SB RR Flyover S. of Hwy 16	76650	85.9	18.5	1,589.2
216:04	EB Jct Hwy 216 & Baseline Rd.	77556	76.2	14.6	1,112.5
216:04	WB Jct Hwy 216 & Baseline Rd.	77556	76.2	14.6	1,112.5
216:04	EB Jct Hwy 216 & Sherwood Park Freeway	75543	64.0	17.4	1,113.6
216:04	WB Jct Hwy 216 & Sherwood Park Freeway	75543	64.0	17.4	1,113.6
216:04	EB Jct Hwy 216 & Hwy 628	81157	132.0	17.6	2,323.2
216:04	WB Jct Hwy 216 & Hwy 628	81157	132.0	17.6	2,323.2
S.P.F.	Jct Sherwood Park Freeway & 34 st.	76094	71.0	14.9	1,057.9
S.P.F.	EB RR Flyover E. of 34 st.	76093	49.7	13.7	680.9
S.P.F.	WB RR Flyover E. of 34 st.	76093	49.7	13.7	680.9
S.P.F.	Jct. Sherwood Park Freeway & 17 st.	76092	73.2	10.1	739.3
S.P.F.	Jct Sherwood Park Freeway & 76 ave.	75935	79.6	8.2	652.7
15:04	Ft. Sask. River	74452	353.8	11.3	3,997.9
28:02	Sturgeon River	570	55.0	14.0	770.0
28:02	Jct Hwy 28A & Hwy 28 (Gibbons)	76625	103.6	15.2	1,574.7
28:02	Jct Hwy 28 & Edmonton Garrison	75707	68.2	10.7	729.7
2:34	Jct Hwy 2 & Hwy 37	79464	77.0	18.4	1,416.8
2:36	NB RR Flyover S. of Hwy 642	76054	38.4	15.2	583.7
2:36	SB RR Flyover S. of Hwy 642	76054	35.2	17.7	623.0
2:36	NB Jct Hwy 2 & Hwy 642	76102	41.2	16.2	667.4
2:36	SB Jct Hwy 2 & Hwy 642	76102	40.0	14.6	584.0
37:02	Sturgeon River E. of Hwy 777	228	31.0	11.0	341.0
37:02	Toad Creek East of Devils Lake Hill	101	25.5	11.0	280.5
37:02	Sturgeon River at Noyes Crossing	690	49.6	11.6	575.4
37:02	Sturgeon River E. of Calahoo	7848	33.0	11.0	363.0

Hwy #	Structure Location	File #	Length	Width	Area (m2)
37:02	Riviere Qui Barre W. of Hwy 44	2150	25.0	12.0	300.0
37:02	Water Course E. of Hwy 44	72517	11.0	13.4	147.4
37:04	Sturgeon River E. of Starkey Rd.	876	45.6	12.6	574.6
642:02	Riviere Qui Barre W. of Hwy 44	71146	25.5	9.1	232.1
642:02	Sandy Beach	70723	16.0	9.0	144.0
643:02	Sturgeon River	8641	50.3	10.1	508.0
651:04	Legal	2145	6.0	10.2	61.2
777:01	Sturgeon River	7484	28.9	9.1	263.0
825:02	Sturgeon River	2301	53.1	9.4	499.1
				Total Area (m2):	**45,488.3**

SECTION F

(WSD Spreadsheets)

	Truck Factor for	Number of Trucks	
Class	**This CMA**	20 Trucks (Base)	19 Trucks (Min)
A	**30**	30	31
B	**36**	36	37
C	**38**	38	40
D	**45**	45	47
E	**60**	60	63
F	**105**	105	110
G	**110**	110	115
H	**120**	120	126

ADDITIONAL OPERATORS
REQUIRED IN THIS CMA
6.00

HIGHWAY INFORMATION				HIGHWAY CHARACTERISTICS								HGHWAY CALCULATED VALUES			
Sect.	Road	Class	Description	2 Lane Equiv Length	WAADT	Distance to Shop	Unadjusted Factor	No. of Steep Gradient > 6%	No. of Moderate Gradient (4%- 6%)	No. of Major Intersec.	No. of Inter-changes	Adjusted Factor	Trucks	Allowable plowing time	Allowable sand/ salt time
1	2:34	A	St. Albert NCL to Hwy 37	10.4	17,320	8.0	29.0	0	0	0	1	29.0	0.4	2	4
2	2:36	A	Hwy 37 to Hwy 642	21.4	15,510	1.5	29.0	0	0	1	1	29.0	0.7	2	4
3	2:36	C	Hwy 642 to Hwy 651	19.7	6,050	5.0	34.0	0	0	1	0	34.0	0.6	2	4
4	14:03	A	Edmonton ECL to Hwy 216	1.8	29,660	12.3	29.0	0	0	0	0	29.0	0.1	2	4
5	14:04	B	Hwy 216 to Hwy 21	19.4	11,630	12.8	32.0	0	0	1	1	32.0	0.6	2	4
6	14:06	B	Hwy 21 to Hwy 824	14.4	7,790	18.5	32.0	0	0	1	0	32.0	0.5	2	4
7	14:06	C	Hwy 824 to Tofield	30.5	5,160	25.8	34.0	0	0	2	0	32.0	1.0	2.25	4
8	14:08	D	Tofield to Hwy 834	3.6	4,300	58.3	35.0	0	0	2	0	29.0	0.1	3	4
9	15:04	B	Edmonton NCL to Ft Sask NCL	4.9	14,340	18.0	32.0	0	0	1	0	32.0	0.2	2	4
10	16:18	A	Edmonton ECL to Hwy 21	33.4	35,780	1.8	29.0	0	0	1	4	29.0	1.2	2	4
11	16:20	A	Hwy 21 to West of Elk Island Park	42.3	15,220	5.0	29.0	0	0	0	1	29.0	1.5	2	4
12	21:26	B	Hwy 623 to Hwy 14	26.5	9,600	18.8	32.0	0	0	0	0	32.0	0.8	2	4
13	21:28	B	Hwy 14 to Hwy 16	21.2	9,490	5.0	32.0	0	0	3	0	32.0	0.7	2	4

HIGHWAY INFORMATION				HIGHWAY CHARACTERISTICS								HGHWAY CALCULATED VALUES			
Sect.	Road	Class	Description	2 Lane Equiv Length	WAADT	Distance to Shop	Unadjusted Factor	No. of Steep Gradient > 6%	No. of Moderate Gradient (4%- 6%)	No. of Major Intersec.	No. of Inter-changes	Adjusted Factor	Trucks	Allowable plowing time	Allowable sand/ salt time
14	21:28	A	Hwy 16 to Ft. Sask. SCL	23.2	18,010	5.0	29.0	0	0	0	0	29.0	0.8	2	4
15	28:02	C	Edmonton NCL to Hwy 28A	37.1	6,360	2.0	34.0	0	3	3	2	34.0	1.1	2	4
16	28:04	C	Hwy 28A:03 to Rest Area	18.7	5,550	2.0	34.0	0	1	0	0	34.0	0.6	2	4
17	28A:03	C	Hwy 37 to Hwy 28	14.9	6,550	0.5	34.0	0	0	2	0	34.0	0.4	2	4
18	37:02	D	Hwy 43 to Hwy 2	42.4	4,800	8.0	35.0	0	2	4	0	35.0	1.2	3	4
19	37:04	C	Hwy 2 to Hwy 28	9.4	5,160	8.0	34.0	0	2	1	0	34.0	0.3	2	4
20	37:04	C	Hwy 28 to Hwy 15	16.4	5,160	13.5	34.0	0	0	3	0	34.0	0.5	2	4
21	44:00	D	Hwy 37 to Hwy 651	26.6	3,500	17.0	35.0	0	0	3	0	35.0	0.8	3	4
22	100:02	A	Edmonton ECL to Sherwood Park	14.0	33,610	9.3	29.0	0	0	0	3	29.0	0.5	2	4
23	216:04	A	Hwy 16 to Hwy 14	42.4	30,370	3.5	29.0	0	0	0	4	29.0	1.5	2	4
24	628:04	B	Hwy 216 to Hwy 21	6.9	8,610	12.3	32.0	0	0	1	1	32.0	0.2	2	4
25	629:04	F	Hwy 824 to Range Road 213	8.2	510	24.3	78.0	0	0	1	0	77.0	0.1	4	8
26	630:02	B	Hwy 21 to Hwy 824	13.8	9,640	11.5	32.0	0	0	2	0	32.0	0.4	2	4

HIGHWAY INFORMATION				HIGHWAY CHARACTERISTICS								HGHWAY CALCULATED VALUES			
Sect.	Road	Class	Description	2 Lane Equiv Length	WAADT	Distance to Shop	Unadjusted Factor	No. of Steep Gradient > 6%	No. of Moderate Gradient (4%- 6%)	No. of Major Intersec.	No. of Inter-changes	Adjusted Factor	Trucks	Allowable plowing time	Allowable sand/ salt time
27	630:02	C	Hwy 824 to Hwy 830	4.4	5,200	18.4	34.0	0	0	2	0	34.0	0.1	2	4
28	630:02	E	Hwy 830 to Hwy 14	28.8	1,480	22.8	40.0	0	0	2	0	40.0	0.7	3	6
29	642:02	E	Hwy 777 to Hwy 44	22.6	1,320	17.0	40.0	0	2	4	0	40.0	0.6	3	6
30	642:04	D	Hwy 44 to Morinville W.C.L.	12.2	2,000	5.0	35.0	0	0	1	1	35.0	0.3	3	4
31	642:04	B	Town of Morinville W.C.L. to E.C.L.	5.2	7,670	5.0	32.0	0	0	0	1	32.0	0.2	2	4
32	642:04	D	Morinville E.C.L. to Hwy 28	8.2	2,710	10.2	35.0	0	0	1	0	35.0	0.2	3	4
33	643:02	D	Hwy 28A to Hwy 38	20.7	2,180	0.5	35.0	0	2	3	0	35.0	0.6	3	4
34	651:02	E	Hwy 44 to Hwy 2	13.0	850	16.5	40.0	0	0	2	0	38.0	0.3	3	6
35	651:04	E	Hwy 2 to Hwy 803	9.6	910	16.5	40.0	0	0	2	0	38.0	0.3	3	6
36	651:04	E	Hwy 803 to Gravel	9.7	910	26.1	40.0	0	0	1	0	37.0	0.3	3	6
37	777:01	E	Hwy 37 to Hwy 642	9.7	850	42.8	40.0	0	2	2	0	33.0	0.3	3	6
38	803:02	F	Hwy 28 to Hwy 651	13.7	810	12.5	78.0	0	0	2	0	76.0	0.2	4	8
39	824:02	F	Hwy 14 to Hwy 630	11.0	810	11.5	78.0	0	2	3	0	73.0	0.2	4	8

HIGHWAY INFORMATION				HIGHWAY CHARACTERISTICS								HGHWAY CALCULATED VALUES			
Sect.	Road	Class	Description	2 Lane Equiv Length	WAADT	Distance to Shop	Unadjusted Factor	No. of Steep Gradient > 6%	No. of Moderate Gradient (4%- 6%)	No. of Major Intersec.	No. of Inter-changes	Adjusted Factor	Trucks	Allowable plowing time	Allowable sand/ salt time
40	824:02	D	Hwy 630 to Hwy 16	6.4	2,800	11.5	35.0	0	0	3	0	35.0	0.2	3	4
41	825:02	D	Hwy 37 to Hwy 643	14.2	3,200	7.0	35.0	0	2	2	0	35.0	0.4	3	4
42	830:02	E	Hwy 16 to Hwy 15	21.8	890	16.5	40.0	0	0	3	0	37.0	0.6	3	6
43	830:02	F	Hwy 630 to Hwy 16	6.4	480	16.5	78.0	0	0	2	0	76.0	0.1	4	8
44	AR 172	F	Hwy 21 to New Sarepta	2.3	480	38.8	78.0	0	0	1	0	72.0	0.0	4	8
			Total	743.40											

							Stock Pile Site 1			Stock Pile Site 2		
Sect.	Road	Description	Total Length	Total Assign	Sect. TDF	Sect. Compl.?	km assign	Haul Distance	TDF	km assign	Haul Distance	TDF
1	2:34	St. Albert NCL to Hwy 37	10.40	10.40	137.28	Yes	10.40	8.00	137.28			
2	2:36	Hwy 37 to Hwy 642	21.40	21.40	261.08	Yes	21.40	1.50	261.08			
3	2:36	Hwy 642 to Hwy 651	19.70	19.70	292.55	Yes	19.70	5.00	292.55			
4	14:03	Edmonton ECL to Hwy 216	1.80	1.80	23.76	Yes	1.80	12.30	23.76			
5	14:04	Hwy 216 to Hwy 21	19.40	19.40	435.53	Yes	19.40	12.75	435.53			
6	14:06	Hwy 21 to Hwy 824	14.40	14.40	370.08	Yes	14.40	18.50	370.08			
7	14:06	Hwy 824 to Tofield	30.50	30.50	1250.50	Yes	30.50	25.75	1250.50			
8	14:08	Tofield to Hwy 834	3.60	3.60	216.18	Yes	3.60	58.25	216.18			
9	15:04	Edmonton NCL to Ft Sask NCL	4.90	4.90	100.21	Yes	4.90	18.00	100.21			
10	16:18	Edmonton ECL to Hwy 21	33.40	33.40	616.23	Yes	33.40	1.75	616.23			
11	16:20	Hwy 21 to West of Elk Island Park	42.30	42.30	1106.15	Yes	42.30	5.00	1106.15			
12	21:26	Hwy 623 to Hwy 14	26.50	26.50	848.00	Yes	26.50	18.75	848.00			

							Stock Pile Site 1			Stock Pile Site 2		
Sect.	Road	Description	Total Length	Total Assign	Sect. TDF	Sect. Compl.?	km assign	Haul Distance	TDF	km assign	Haul Distance	TDF
13	21:28	Hwy 14 to Hwy 16	21.20	21.20	330.72	Yes	21.20	5.00	330.72			
14	21:28	Hwy 16 to Ft. Sask. SCL	23.20	23.20	385.12	Yes	23.20	5.00	385.12			
15	28:02	Edmonton NCL to Hwy 28A	37.10	37.10	762.41	Yes	37.10	2.00	762.41			
16	28:04	Hwy 28A:03 to Rest Area	18.70	18.70	212.25	Yes	18.70	2.00	212.25			
17	28A:03	Hwy 37 to Hwy 28	14.90	14.90	118.46	Yes	14.90	0.50	118.46			
18	37:02	Hwy 43 to Hwy 2	42.40	42.40	683.18	Yes	24.50	8.00	496.13	17.90	1.50	187.06
19	37:04	Hwy 2 to Hwy 28	9.40	9.40	119.38	Yes	9.40	8.00	119.38			
20	37:04	Hwy 28 to Hwy 15	16.40	16.40	355.88	Yes	16.40	13.50	355.88			
21	44:00	Hwy 37 to Hwy 651	26.60	26.60	805.98	Yes	26.60	17.00	805.98			
22	100:02	Edmonton ECL to Sherwood Park	14.00	14.00	227.50	Yes	14.00	9.25	227.50			
23	216:04	Hwy 16 to Hwy 14	42.40	42.40	1047.28	Yes	42.40	3.50	1047.28			
24	628:04	Hwy 216 to Hwy 21	6.90	6.90	108.68	Yes	6.90	12.30	108.68			

							Stock Pile Site 1			Stock Pile Site 2		
Sect.	Road	Description	Total Length	Total Assign	Sect. TDF	Sect. Compl.?	km assign	Haul Distance	TDF	km assign	Haul Distance	TDF
25	629:04	Hwy 824 to Range Road 213	8.20	8.20	232.47	Yes	8.20	24.25	232.47			
26	630:02	Hwy 21 to Hwy 824	13.80	13.80	253.92	Yes	13.80	11.50	253.92			
27	630:02	Hwy 824 to Hwy 830	4.40	4.40	90.64	Yes	4.40	18.40	90.64			
28	630:02	Hwy 830 to Hwy 14	28.80	28.80	1071.36	Yes	28.80	22.80	1071.36			
29	642:02	Hwy 777 to Hwy 44	22.60	22.60	459.29	Yes	13.00	17.00	305.50	9.60	11.22	153.79
30	642:04	Hwy 44 to Morinville W.C.L.	12.20	12.20	135.42	Yes	12.20	5.00	135.42			
31	642:04	Town of Morinville W.C.L. to E.C.L.	5.20	5.20	39.52	Yes	5.20	5.00	39.52			
32	642:04	Morinville E.C.L. to Hwy 28	8.20	8.20	117.26	Yes	8.20	10.20	117.26			
33	643:02	Hwy 28A to Hwy 38	20.70	20.70	224.60	Yes	20.70	0.50	224.60			
34	651:02	Hwy 44 to Hwy 2	13.00	13.00	299.00	Yes	13.00	16.50	299.00			
35	651:04	Hwy 2 to Hwy 803	9.60	9.60	204.48	Yes	9.60	16.50	204.48			
36	651:04	Hwy 803 to Gravel	9.70	9.70	300.22	Yes	9.70	26.10	300.22			

Sect.	Road	Description	Total Length	Total Assign	Sect. TDF	Sect. Compl.?	Stock Pile Site 1			Stock Pile Site 2		
							km assign	Haul Distance	TDF	km assign	Haul Distance	TDF
37	777:01	Hwy 37 to Hwy 642	9.70	9.70	61.60	Yes				9.70	1.50	61.60
38	803:02	Hwy 28 to Hwy 651	13.70	13.70	265.10	Yes	13.70	12.50	265.10			
39	824:02	Hwy 14 to Hwy 630	11.00	11.00	187.00	Yes	11.00	11.50	187.00			
40	824:02	Hwy 630 to Hwy 16	6.40	6.40	94.08	Yes	6.40	11.50	94.08			
41	825:02	Hwy 37 to Hwy 643	14.20	14.20	200.22	Yes	14.20	7.00	200.22			
42	830:02	Hwy 16 to Hwy 15	21.80	21.80	597.32	Yes	21.80	16.50	597.32			
43	830:02	Hwy 630 to Hwy 16	6.40	6.40	126.08	Yes	6.40	16.50	126.08			
44	AR 172	Hwy 21 to New Sarepta	2.30	2.30	48.65	Yes	2.30	20.00	48.65			
99	CMA Cross Over	Cross over into other CMA					**706.2**	**540.9**	**15420.1**	**37.2**	**14.2**	**402.4**
		Total	**743.40**	**743.40**								

CMA Truck Demand Factor 15,822.6

ENTER SHOP NAME:

Sherwood Park

Assignment 1

Truck #	Hopper Size (m^3)	2LEKm spread with hopper	Kms Assigned	Total Truck Alloc-ation	Total Truck Time Plowing (hrs)	Total Truck Time Spreading (hrs)	Hwy	Description	Class	Section	TD (km)	Length (km)	Haul (km)	Time Plowing (hrs)	NL	2LEKm left in hopper	Time Spreading (hrs)	Truck Allocation
1	8.5	17.71	29.0	0.97	1.46	1.95	100:02	Sherwood Park to Edmonton ECL	A	22	9.30	14.00	9.30	0.81		3.71	0.72	0.47
2	8.5	17.71	30.2	0.97	1.60	2.11	216:04	Hwy 16 to Sherwood Park Freeway	A	23	3.50	21.50	3.50	1.01	1	13.92	1.29	0.72
3	8.5	17.71	29.9	1.00	1.54	1.87	16:18	Hwy 216 to Sherwood Dr.	A	10	1.80	24.00	1.80	1.08	1	11.42	1.33	0.80
4	8.5	17.71	40.8	1.00	2.10	3.15	16:18	Sherwood Dr. to Hwy 21	A	10	1.80	8.20	1.80	0.40		9.51	0.38	0.27
5	8.5	17.71	31.5	1.05	1.70	2.15	16:20	Hwy 830 to Rg. Rd. 210	A	11	15.00	31.50	15.00	1.70	1	3.92	2.15	1.05
6	8.5	17.71	36.9	1.00	2.14	3.64	14:04	Hwy 216 to Hwy 21	B	5	12.80	19.40	12.80	1.12	1	16.02	1.54	0.54
7	8.5	17.71	37.4	0.88	3.67	5.80	14:06	Hwy 21 to Hwy 824	B	6	18.50	14.40	18.50	1.03		3.31	0.86	0.40
8	8.5	17.71	31.2	1.00	1.74	2.14	16:18	Edm. to Hwy 216	A	10	4.00	1.20	4.00	0.14		16.51	0.10	0.04
9	8.5	17.71	35.8	0.95	2.52	4.96	21:28	Hwy 16 to Hwy 630	B	13	5.00	14.40	5.00	0.73		3.31	0.69	0.40
10	8.5	17.71	43.1	1.00	2.83	4.89	21:26	Hwy 14 south for 6.7 km.	B	12	18.80	7.40	18.80	0.73		10.31	0.56	0.21
11	8.5	17.71	36.9	0.51	2.35	4.05	824:02	Hwy 630 to Hwy 16	D	40	11.50	6.40	11.50	0.53		11.31	0.42	0.14

Average Km/truck	**35**	**10.33**	**Total Trucks Allocated in this shop**	**Additional Operators Required at this Shop** **4**	**382.7**	**Total 2LEKm assigned this shop**

Assignment 2

Hwy	Description	Class	Section	TD (km)	Length (km)	Haul (km)	Time Plowing (hrs)	NL	2LEKm left in hopper	Time Spreading (hrs)	Truck Allocation	Cumul-ative Truck Allocation
216:04	Freeway south for 4.5 km	A	23		15.00	9.30	1.46	1	6.42	1.95	0.50	0.97
14:03	Edm. C. L. to hwy 628	A	4	9.50	1.80	13.00	1.30		12.12	1.65	0.06	0.78
216:04	Hwy 628 - north	A	23	9.20	5.90	13.00	1.54		5.52	1.87	0.20	1.00
16:20	Hwy 21 to Hwy 830	A	11	3.00	10.80	5.00	0.93	1	16.42	1.29	0.36	0.63
14:06	Hwy 824 to Hwy 630	C	7	12.00	17.50	25.80	2.14	1	16.23	3.64	0.46	1.00
14:06	Hwy 630 to Tofield	C	7	31.00	13.00	25.80	2.27	1	8.02	3.00	0.34	0.74
21:28	Hwy 16 to Ft. Sask CL.	A	14	7.00	23.20	5.00	1.30	1	11.02	1.61	0.77	0.81
21:26	from km 6.7 south of 14 to hwy 623	B	12	20.20	19.10	25.50	2.00	1	1.92	2.95	0.53	0.93
630:02	Hwy 21 to Hwy 824	B	26	7.20	13.80	13.80	1.49	1	14.22	1.99	0.38	0.59
630:02	Hwy 830 to 11.3 km east	E	28	5.50	11.30	22.80	1.14		0.01	1.27	0.19	0.33

Assignment 3

Hwy	Description	Class	Section	TD (km)	Length (km)	Haul (km)	Time Plowing (hrs)	NL	2LEKm left in hopper	Time Spreading (hrs)	Truck Allocation	Cumul-ative Truck Allocation
628:04	Hwy 216 to Hwy 21	B	24		6.90	13.00	1.60		5.22	2.11	0.19	0.97
830:02	Hwy 16 to Hwy 15	E	42	10.00	21.80	15.00	2.10	1	12.33	3.15	0.36	1.00
14:08	Tofield to Hwy. 834	D	8	8.50	3.60	58.30	2.61		4.42	3.99	0.08	0.82
21:28	Hwy 630 to Hwy 14	B	13	6.50	6.80	12.50	1.74		4.22	2.14	0.19	1.00
AR 172	New Sarepta access rd	F	44	19.00	2.30	38.80	2.52	1	17.33	4.96	0.02	0.95
630:02	from hwy 824 to hwy 830	C	27	6.50	4.40	18.40	1.82		9.82	2.49	0.12	0.70
629:04	Hwy 824 to Rg. Rd 213	F	25	12.00	8.20	22.80	1.76	1	9.52	2.85	0.08	0.41

Assignment 4

Hwy	Description	Class	Section	TD (km)	Length (km)	Haul (km)	Time Plowing (hrs)	NL	2LEKm left in hopper	Time Spreading (hrs)	Truck Allocation	Cumul-ative Truck Allocation
830:02	Hwy 630 to Hwy 16	F	43	36.00	6.40	22.80	3.67	1	15.73	5.80	0.06	0.88
630:02	From km 11.3 east of 830 to hwy 14	E	28	11.30	17.50	34.10	2.83	1	10.03	4.89	0.29	1.00
824:02	Hwy 630 to Hwy 14	F	39	5.50	11.00	11.50	2.35	1	16.23	4.05	0.10	0.51

ENTER SHOP NAME:

Gibbons

Assignment 1

Truck #	Hopper Size (m^3)	2LEKm spread with hopper	Kms Assigned	Total Truck Alloc-ation	Total Truck Time Plowing (hrs)	Total Truck Time Spreading (hrs)	Hwy	Description	Class	Section	TD (km)	Length (km)	Haul (km)	Time Plowing (hrs)	NL	2LEKm left in hopper	Time Spreading (hrs)	Truck Allocation
1	8.5	17.71	42.7	1.04	2.55	3.46	28A:03	Hwy 28 to Hwy 37	C	17	0.50	14.90	0.50	0.66		2.81	0.65	0.39
2	8.5	17.71	42.7	1.07	2.08	2.75	28:04	Hwy 28A to CMA Bndy.	C	16	2.00	18.70	2.00	0.86	1	16.72	1.11	0.49
3	8.5	17.71	48.5	0.95	2.71	4.04	28:02	ECL to Hwy 803	C	15	14.00	25.10	14.00	1.40	1	10.32	1.84	0.66
4	8.5	17.71	34.0	0.86	2.24	3.29	37:04	Hwy 15 to Hwy 28	C	20	13.50	16.40	13.50	1.01		1.31	0.88	0.43

Average Km/truck	**42**	**3.93**	**Total Trucks Allocated in this shop**	**Additional Operators Required at this Shop** **1**	**167.9** **Total 2LEKm assigned this shop**

Assignment 2

Hwy	Description	Class	Section	TD (km)	Length (km)	Haul (km)	Time Plowing (hrs)	NL	2LEKm left in hopper	Time Spreading (hrs)	Truck Allocation	Cumul-ative Truck Allocation
15:04	Ft. Sask. C.L. to E.C.L.	B	9	17.00	4.90	17.50	1.24	1	15.62	1.96	0.14	0.53
28:02	Hwy 28A to Hwy 803	C	15		12.00	2.00	1.38		4.72	1.66	0.32	0.81
651:04	Hwy 803 to Gravel portion	E	36	13.70	9.70	25.70	2.12		0.62	2.75	0.16	0.82
37:04	Hwy 28 to Hwy 2	C	19	12.00	9.40	25.50	1.68	1	9.62	2.62	0.25	0.68

Assignment 3

Hwy	Description	Class	Section	TD (km)	Length (km)	Haul (km)	Time Plowing (hrs)	NL	2LEKm left in hopper	Time Spreading (hrs)	Truck Allocation	Cumul-ative Truck Allocation
825:02	Hwy 37 to Hwy 643	D	41		14.20	7.00	1.86		1.42	2.66	0.32	0.84
643:02	Hwy 825 to Hwy 38	D	33	8.50	12.00	6.50	2.08	1	10.43	2.75	0.27	1.07
803:02	Hwy 28 to hwy 651	F	38		13.70	12.50	2.71	1	4.63	4.04	0.13	0.95
642:04	Hwy 28 to Morinville east C.L.	D	32	9.50	8.20	16.00	2.24		1.42	3.29	0.18	0.86

Assignment 4

Hwy	Description	Class	Section	TD (km)	Length (km)	Haul (km)	Time Plowing (hrs)	NL	2LEKm left in hopper	Time Spreading (hrs)	Truck Allocation	Cumul-ative Truck Allocation
643:02	Hwy 28A to Hwy 825	D	33	14.20	8.70	0.50	2.55	1	10.43	3.46	0.19	1.04

ENTER SHOP NAME:

Morinville

Assignment 1

Truck #	Hopper Size (m^3)	2LEKm spread with hopper	Kms Assigned	Total Truck Alloc-ation	Total Truck Time Plowing (hrs)	Total Truck Time Spreading (hrs)	Hwy	Description	Class	Section	TD (km)	Length (km)	Haul (km)	Time Plowing (hrs)	NL	2LEKm left in hopper	Time Spreading (hrs)	Truck Allocation
1	8.5	17.71	34.3	1.00	1.94	2.16	2:36	Hwy 642 to Hwy 37	A	2	1.50	21.40	1.50	0.96	1	14.02	1.21	0.71
2	8.5	17.71	41.9	0.95	2.43	3.33	2:34	Hwy 37 to St. Albert C. L.	A	1	8.00	10.40	8.00	0.63		7.31	0.55	0.35
3	8.5	17.71	38.2	0.86	2.27	3.60	2:36	Hwy 642 to Hwy 651	C	3	5.00	19.70	5.00	0.97	1	15.72	1.27	0.52
4	8.5	17.71	47.7	1.01	2.99	3.85	37:02	W. of Hwy 2 to Hwy 43	D	18	7.00	38.00	7.00	1.80	2	15.13	2.98	0.84
5	8.5	17.71	30.7	0.63	2.72	3.16	44:00	Hwy 37 to S. of Hwy 651	D	21	24.00	21.10	24.00	1.44	1	14.32	2.04	0.47

Average Km/truck	**39**	**4.44**	**Total Trucks Allocated in this shop**	**Additional Operators Required at this Shop** **1**	**192.8** **Total 2LEKm assigned this shop**

Assignment 2

Hwy	Description	Class	Section	TD (km)	Length (km)	Haul (km)	Time Plowing (hrs)	NL	2LEKm left in hopper	Time Spreading (hrs)	Truck Allocation	Cumul-ative Truck Allocation
37:02	Hwy 2 to west of Hwy 2	D	18	8.00	4.40	8.00	1.33		9.62	1.60	0.10	0.81
642:04	Town of Morinville	B	31	8.00	5.20	1.50	1.03		2.11	0.90	0.14	0.49
651:02	Hwy 2 to Hwy 44	E	34	10.00	13.00	11.50	1.75		2.72	2.10	0.22	0.74
777:01	Hwy 37 to Hwy 642	E	37	35.00	9.70	1.50	2.99		5.43	3.85	0.16	1.01
651:04	Hwy 2 to Hwy 803	E	35	39.60	9.60	16.50	2.72		4.72	3.16	0.16	0.63

Assignment 3

Hwy	Description	Class	Section	TD (km)	Length (km)	Haul (km)	Time Plowing (hrs)	NL	2LEKm left in hopper	Time Spreading (hrs)	Truck Allocation	Cumul-ative Truck Allocation
642:04	W. of Morinville W.C.L. to Hwy 44	D	30	11.00	8.50	4.50	1.94		1.12	2.16	0.19	1.00
642:04	Morinville W.C.L. to W. of W.C.L.	D	30		3.70	1.50	1.19	1	16.12	1.34	0.08	0.57
44:00	Hwy 651 - south 5.5kms	D	21	13.00	5.50	23.50	2.27	1	14.93	3.60	0.12	0.86

Assignment 4

Hwy	Description	Class	Section	TD (km)	Length (km)	Haul (km)	Time Plowing (hrs)	NL	2LEKm left in hopper	Time Spreading (hrs)	Truck Allocation	Cumul-ative Truck Allocation
642:02	Hwy 44 to Hwy 777	E	29	12.20	22.60	17.00	2.43	1	11.23	3.33	0.38	0.95

Truck Allocation Summary by Shop

	Truck #	Sherwood Park	Gibbons	Morinville	Shop Name	Shop Name	Shop Name	Shop Name	Shop Name
	1	0.97	1.04	1.00					
	2	0.97	1.07	0.95					
	3	1.00	0.95	0.86					
	4	1.00	0.86	1.01					
	5	1.05		0.63					
	6	1.00							
	7	0.88							
	8	1.00							
	9	0.95							
	10	1.00							
Total Alloc.	11	0.51							
	12								
18.70	**Shop Totals:**	**10.33**	**3.92**	**4.45**					

Truck Allocation Summary by Section and Shop

Section	Hwy	Class	Sherwood Park	Gibbons	Morinville	Shop Name	Shop Name	Shop Name	Shop Name	Shop Name	Sect. Total
1	2:34	A			0.35						**0.35**
2	2:36	A			0.71						**0.71**
3	2:36	C			0.52						**0.52**
4	14:03	A	0.06								**0.06**
5	14:04	B	0.54								**0.54**
6	14:06	B	0.40								**0.40**
7	14:06	C	0.80								**0.80**
8	14:08	D	0.08								**0.08**
9	15:04	B		0.14							**0.14**
10	16:18	A	1.11								**1.11**
11	16:20	A	1.41								**1.41**

12	21:26	B	0.74								**0.74**
13	21:28	B	0.59								**0.59**
14	21:28	A	0.77								**0.77**
15	28:02	C		0.98							**0.98**
16	28:04	C		0.49							**0.49**
17	28A:03	C		0.39							**0.39**
18	37:02	D			0.94						**0.94**
19	37:04	C		0.25							**0.25**
20	37:04	C		0.43							**0.43**
21	44:00	D			0.59						**0.59**
22	100:02	A	0.47								**0.47**
23	216:04	A	1.41								**1.41**
24	628:04	B	0.19								**0.19**
25	629:04	F	0.08								**0.08**
26	630:02	B	0.38								**0.38**
27	630:02	C	0.12								**0.12**
28	630:02	E	0.48								**0.48**
29	642:02	E			0.38						**0.38**
30	642:04	D			0.27						**0.27**
31	642:04	B			0.14						**0.14**
32	642:04	D		0.18							**0.18**
33	643:02	D		0.46							**0.46**
34	651:02	E			0.22						**0.22**
35	651:04	E			0.16						**0.16**
36	651:04	E		0.16							**0.16**
37	777:01	E			0.16						**0.16**
38	803:02	F		0.13							**0.13**
39	824:02	F	0.10								**0.10**
40	824:02	D	0.14								**0.14**
41	825:02	D		0.32							**0.32**
42	830:02	E	0.36								**0.36**
43	830:02	F	0.06								**0.06**
44	AR 172	F	0.02								**0.02**
	Shop Totals:		**10.33**	**3.93**	**4.44**						**18.69**

Truck Allocation Summary by Highway Class

Truck #	Sherwood Park	Hwy Class	Gibbons	Hwy Class	Morinville	Hwy Class	Shop Name	Hwy Class	Shop Name	Hwy Class	Shop Name	Hwy Class	Shop Name	Hwy Class	Shop Name	Hwy Class	
1	0.97	A	1.04	B	1.00	A											
2	0.97	A	1.07	C	0.95	A											
3	1.00	A	0.95	C	0.86	C											
4	1.00	A	0.86	C	1.01	D-H											
5	1.05	A			0.63	D-H											
6	1.00	B															
7	0.88	B															
8	1.00	A															
9	0.95	B															
10	1.00	B															
11	0.51	D-H															
12																	**Total**
Shop Totals:	**10.33**		**3.92**		**4.45**												**18.70**

Signifies Trucks that are Over Allocated

# of Trucks Over Allocated		
Class A	1	Max 1 @ 1.05
Class B	1	Max 1 @ 1.10
Class C	1	Max 2 @ 1.10
Class D - H	1	Max 3 @ 1.15

NOTE: Total Truck Allocation per Shop must not exceed number of Assigned Trucks per Shop

Length Assigned Summary by Truck and Shop

	Truck #	Sherwood Park	Gibbons	Morinville	Shop Name	Shop Name
	1	29.0	42.7	34.3		
	2	30.2	42.7	41.9		
	3	29.9	48.5	38.2		
	4	40.8	34.0	47.7		
	5	31.5		30.7		
	6	36.9				
	7	37.4				
	8	31.2				
	9	35.8				
	10	43.1				
Total Kms	11	36.9				
	12					
743.4	Shop Totals:	382.7	167.9	192.8		

Length Assigned Summary by Section and Shop

Section/ Hwy		Class	Section Length	Sherwood Park	Gibbons	Morinville	Shop Name	Shop Name	Sect. Total	All Assigned?
1	2:34	A	10.4			10.4			10.4	OK
2	2:36	A	21.4			21.4			21.4	OK
3	2:36	C	19.7			19.7			19.7	OK
4	14:03	A	1.8	1.8					1.8	OK
5	14:04	B	19.4	19.4					19.4	OK
6	14:06	B	14.4	14.4					14.4	OK
7	14:06	C	30.5	30.5					30.5	OK
8	14:08	D	3.6	3.6					3.6	OK
9	15:04	B	4.9		4.9				4.9	OK

10	16:18	A	33.4	33.4					**33.4**	**OK**
11	16:20	A	42.3	42.3					**42.3**	**OK**
12	21:26	B	26.5	26.5					**26.5**	**OK**
13	21:28	B	21.2	21.2					**21.2**	**OK**
14	21:28	A	23.2	23.2					**23.2**	**OK**
15	28:02	C	37.1		37.1				**37.1**	**OK**
16	28:04	C	18.7		18.7				**18.7**	**OK**
17	28A:03	C	14.9		14.9				**14.9**	**OK**
18	37:02	D	42.4			42.4			**42.4**	**OK**
19	37:04	C	9.4		9.4				**9.4**	**OK**
20	37:04	C	16.4		16.4				**16.4**	**OK**
21	44:00	D	26.6			26.6			**26.6**	**OK**
22	100:02	A	14.0	14.0					**14.0**	**OK**
23	216:04	A	42.4	42.4					**42.4**	**OK**
24	628:04	B	6.9	6.9					**6.9**	**OK**
25	629:04	F	8.2	8.2					**8.2**	**OK**
26	630:02	B	13.8	13.8					**13.8**	**OK**
27	630:02	C	4.4	4.4					**4.4**	**OK**
28	630:02	E	28.8	28.8					**28.8**	**OK**
29	642:02	E	22.6			22.6			**22.6**	**OK**
30	642:04	D	12.2			12.2			**12.2**	**OK**
31	642:04	B	5.2			5.2			**5.2**	**OK**
32	642:04	D	8.2		8.2				**8.2**	**OK**
33	643:02	D	20.7		20.7				**20.7**	**OK**
34	651:02	E	13.0			13.0			**13.0**	**OK**
35	651:04	E	9.6			9.6			**9.6**	**OK**
36	651:04	E	9.7		9.7				**9.7**	**OK**
37	777:01	E	9.7			9.7			**9.7**	**OK**
38	803:02	F	13.7		13.7				**13.7**	**OK**
39	824:02	F	11.0	11.0					**11.0**	**OK**
40	824:02	D	6.4	6.4					**6.4**	**OK**
41	825:02	D	14.2		14.2				**14.2**	**OK**
42	830:02	E	21.8	21.8					**21.8**	**OK**
43	830:02	F	6.4	6.4					**6.4**	**OK**
44	AR 172	F	2.3	2.3					**2.3**	**OK**
	Shop Totals:		**743.4**	**382.7**	**167.9**	**192.8**			**743.4**	**OK**

Plow Cumulative time by class

Class	A	B	C	D	E	F	G	H
Total Time	9.31	11.24	10.65	15.79	16.92	13.01		

Plow time by section

						SHOPS				
Section	Road/Hwy	Class	Max Allowed Time (hrs)	Status	Time (hrs)	Sherwood Park	Gibbons	Morinville	Shop Name	Shop Name
1	2:34	A	2.00	OK	0.63			0.63		
2	2:36	A	2.00	OK	0.96			0.96		
3	2:36	C	2.00	OK	0.97			0.97		
4	14:03	A	2.00	OK	1.30	1.30				
5	14:04	B	2.00	OK	1.12	1.12				
6	14:06	B	2.00	OK	1.03	1.03				
7	14:06	C	2.25	Over	2.27	2.27				
8	14:08	D	3.00	OK	2.61	2.61				
9	15:04	B	2.00	OK	1.24		1.24			
10	16:18	A	2.00	OK	1.08	1.08				
11	16:20	A	2.00	OK	1.70	1.70				
12	21:26	B	2.00	Over	2.00	2.00				
13	21:28	B	2.00	OK	1.74	1.74				
14	21:28	A	2.00	OK	1.30	1.30				
15	28:02	C	2.00	OK	1.40		1.40			
16	28:04	C	2.00	OK	0.86		0.86			
17	28A:03	C	2.00	OK	0.66		0.66			
18	37:02	D	3.00	OK	1.80			1.80		
19	37:04	C	2.00	OK	1.68		1.68			
20	37:04	C	2.00	OK	1.01		1.01			

21	44:00	D	3.00	OK	2.27			2.27		
22	100:02	A	2.00	OK	0.81	0.81				
23	216:04	A	2.00	OK	1.54	1.54				
24	628:04	B	2.00	OK	1.60	1.60				
25	629:04	F	4.00	OK	1.76	1.76				
26	630:02	B	2.00	OK	1.49	1.49				
27	630:02	C	2.00	OK	1.82	1.82				
28	630:02	E	3.00	OK	2.83	2.83				
29	642:02	E	3.00	OK	2.43			2.43		
30	642:04	D	3.00	OK	1.94			1.94		
31	642:04	B	2.00	OK	1.03			1.03		
32	642:04	D	3.00	OK	2.24		2.24			
33	643:02	D	3.00	OK	2.55		2.55			
34	651:02	E	3.00	OK	1.75			1.75		
35	651:04	E	3.00	OK	2.72			2.72		
36	651:04	E	3.00	OK	2.12		2.12			
37	777:01	E	3.00	OK	2.99			2.99		
38	803:02	F	4.00	OK	2.71		2.71			
39	824:02	F	4.00	OK	2.35	2.35				
40	824:02	D	3.00	OK	0.53	0.53				
41	825:02	D	3.00	OK	1.86		1.86			
42	830:02	E	3.00	OK	2.10	2.10				
43	830:02	F	4.00	OK	3.67	3.67				
44	AR 172	F	4.00	OK	2.52	2.52				

Spread Cumulative time by class

Class	A	B	C	D	E	F	G	H
Total Time	11.17	14.44	14.50	22.57	23.23	21.70		

Spread time by section

						SHOPS				
Section	Road/Hwy	Class	Max Allowed Time (hrs)	Status	Time (hrs)	Sherwood Park	Gibbons	Morinville	Shop Name	Shop Name
1	2:34	A	4.00	OK	0.55			0.55		
2	2:36	A	4.00	OK	1.21			1.21		
3	2:36	C	4.00	OK	1.27			1.27		
4	14:03	A	4.00	OK	1.65	1.65				
5	14:04	B	4.00	OK	1.54	1.54				
6	14:06	B	4.00	OK	0.86	0.86				
7	14:06	C	4.00	OK	3.64	3.64				
8	14:08	D	4.00	OK	3.99	3.99				
9	15:04	B	4.00	OK	1.96		1.96			
10	16:18	A	4.00	OK	1.33	1.33				
11	16:20	A	4.00	OK	2.15	2.15				
12	21:26	B	4.00	OK	2.95	2.95				
13	21:28	B	4.00	OK	2.14	2.14				
14	21:28	A	4.00	OK	1.61	1.61				
15	28:02	C	4.00	OK	1.84		1.84			
16	28:04	C	4.00	OK	1.11		1.11			
17	28A:03	C	4.00	OK	0.65		0.65			
18	37:02	D	4.00	OK	2.98			2.98		
19	37:04	C	4.00	OK	2.62		2.62			
20	37:04	C	4.00	OK	0.88		0.88			

21	44:00	D	4.00	OK	3.60			3.60		
22	100:02	A	4.00	OK	0.72	0.72				
23	216:04	A	4.00	OK	1.95	1.95				
24	628:04	B	4.00	OK	2.11	2.11				
25	629:04	F	8.00	OK	2.85	2.85				
26	630:02	B	4.00	OK	1.99	1.99				
27	630:02	C	4.00	OK	2.49	2.49				
28	630:02	E	6.00	OK	4.89	4.89				
29	642:02	E	6.00	OK	3.33			3.33		
30	642:04	D	4.00	OK	2.16			2.16		
31	642:04	B	4.00	OK	0.90			0.90		
32	642:04	D	4.00	OK	3.29		3.29			
33	643:02	D	4.00	OK	3.46		3.46			
34	651:02	E	6.00	OK	2.10			2.10		
35	651:04	E	6.00	OK	3.16			3.16		
36	651:04	E	6.00	OK	2.75		2.75			
37	777:01	E	6.00	OK	3.85			3.85		
38	803:02	F	8.00	OK	4.04		4.04			
39	824:02	F	8.00	OK	4.05	4.05				
40	824:02	D	4.00	OK	0.42	0.42				
41	825:02	D	4.00	OK	2.66		2.66			
42	830:02	E	6.00	OK	3.15	3.15				
43	830:02	F	8.00	OK	5.80	5.80				
44	AR 172	F	8.00	OK	4.96	4.96				

SECTION G

(Specification Amendments)

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A. AMENDMENTS TO SPECIFICATION 51.2.1, SCOPE OF WORK

i. The last sentence of the last paragraph is replaced with the following:

However, any corresponding change in quantities shall not be considered as a waiver of any term or condition of the Contract, nor shall any changes be made in the Contract unit prices on account of any such alterations unless the Department deems the alterations are significant enough that changes are warranted.

B. AMENDMENTS TO SPECIFICATION 51.2.12, INSURANCE

i. In the first line of Item (a) the term "Comprehensive Liability" is replaced with "*General Liability*".

ii. The following clause is inserted directly after Item (b):

(c) In the event the Contractor is responsible for operating and maintaining a Department owned ferry, its approach ramps and the general site area, including launching the ferry in the spring and dry docking it in the fall; Marine Protection and Indemnity insurance in an amount of not less than five million dollars ($5,000,000) per occurrence to cover claims arising in connection with the ferry operation.

iii. In the second last paragraph the amount of insurance specified for subcontractors is increased from "two million dollars ($2,000,000)" to "*five million dollars ($5,000,000)*".

C. AMENDMENTS TO SPECIFICATION 51.2.23, DEFAULT

i. Item (i) of Subsection (a) "1 demerit point to a Contractor who:" in Specification 51.2.23.1, 'Causes and Notice', is replaced with following:

(i) Fails to prosecute the Work with sufficient skilled workers and equipment or with sufficient Material to ensure the prompt completion of the Work within the maximum allotted time on more than 20% of the total value of the Work that was scheduled for completion over a 3 month period or other time period, as specified by the Engineer. In calculation of the value of the work, indirect costs will be excluded.

In addition to the above, if a Contractor fails to complete work that exceeds 15%, but is less than or equal to 20%, of the total value of the Work scheduled for completion over a 3 month period or other time period, as specified by the Engineer, then the Department's representative may apply a financial penalty of $5,000 without issuance of a demerit point. No prior written notice of a non-demeritable financial penalty is required prior to the penalty being applied. Non-demeritable financial penalties may only be applied a maximum of twice per fiscal year.

Non-demeritable financial penalties will not be applied when lateness of the total value of work exceeds 20%. In such cases, only the financial penalties specified in Section 51.2.23.4, Penalties for Unsatisfactory Performance, will apply.

The Contractor may appeal application of a non-demeritable financial penalty to the Regional Director.

D. AMENDMENTS TO SPECIFICATION 51.3, TRAFFIC ACCOMMODATION AND TEMPORARY SIGNING

i. The fourth paragraph of Section 51.3.7.3 'Flagpersons', is replaced with following:

Prior to commencement of the Work, the Contractor shall identify and assess existing and potential hazards at the project site. Where there is a foreseeable risk of injury to a worker's head, flagperson's shall wear fluorescent orange protective hardhats meeting the requirements of CSA Standard Z94.1-92.

Where no foreseeable risk of head injury exists, flagpersons will be permitted to wear any type of fluorescent orange headgear.

E. AMENDMENTS TO SPECIFICATION 52.1.3, EQUIPMENT

i. In Section 52.1.3.3 'Truck', the fifth and sixth paragraphs are deleted and replaced with the following subsection:

52.1.3.3.1. Standard Lighting and Warning Devices

52.1.3.3.1.1 General

Standard lighting and warning devices for all types of snowplow trucks shall be in accordance with the following sections of this specification. Variances to this specification will only be allowed upon written approval by the Department. This applies to new lighting technology, changes in light types, light locations and lighting configurations.

Lighting on existing snowplow trucks approved for work with Alberta Infrastructure and Transportation during the 2005/06 season will be deemed acceptable and grandfathered into the contract. Any replacement or additional snowplow trucks integrated into the Contractor's fleet will be subject to the lighting requirements specified herein.

All snowplow trucks in the Contractor's fleet shall be equipped with two strips of specialized retro-reflective tape as specified in section 52.1.3.3.1.10, and a rear wind deflector as specified in section 52.1.3.3.1.11.

Notwithstanding this specification, snowplow truck lighting shall conform to all applicable regulations and SAE standards.

52.1.3.3.1.2 Rear Lighting

Rear lighting configurations shall conform to Drawing HMS 52.1E and Drawing HMS 52.1F, and shall comprise of the following:

- *LED stop, tail and turn lights,*
- *LED rear identification lights,*
- *Raised LED stop, tail, turn and backup lights box mounted,*
- *Dual Rotating Amber Lamp Beacon*
- *LED amber-red flashing warning lights above-box mounted.*

52.1.3.3.1.3 Front Lighting

Front lighting configurations shall conform to Drawing HMS 52.1D and shall include a dual rotating amber lamp beacon, that matches the rear dual rotating amber lamp beacon. The front mounted beacon shall be unobstructed and clearly visibly.

52.1.3.3.1.4 LED Stop, Tail and Turn Lights

Two (2) red "Stop-Turn-Tail" lights (round) and one (1) clear "Backup" light (round) shall be installed on the bumper of the snowplow truck, on both the left and right sides. These shall be LED lights that are mounted horizontally across the rear bumper of the snowplow truck.

52.1.3.3.1.5 LED Rear Identification Lights

Rear vehicle lighting shall be centered on the back of the box of the snowplow truck, slightly below the box wind deflector. These shall be red LED lights, sized no larger than the "Stop-Turn-Tail" lights, spaced between 150mm – 300mm apart.

52.1.3.3.1.6 Raised LED Stop, Tail and Turn Lights - Box Mounted

Two (2) red LED "Stop-Turn-Tail" lights (round or oval) shall be mounted on both upper corners of the snowplow truck box. These lights shall have a minimum diameter of 100mm and shall be mounted in a horizontal configuration as shown on drawing HMS 52.1E. The lights shall be mounted at the highest location possible on the rear of the box, without being obstructed by the wind deflector or other vehicle appurtenances. These red LED lamps will operate as Stop-Turn-Tail lights in conjunction with the Stop-Turn-Tail lights on the bumper on the snowplow truck.

A set of clear LED "Backup" lights (2 – round or oval) shall be mounted on the rear of the snowplow truck box, slightly inside (towards the center) of the "Stop-Turn-Tail" lights. These lights shall have a minimum diameter of 100mm and shall be mounted at the highest location possible on the rear of the box, without being obstructed by the wind deflector or other vehicle appurtenances. These clear LED lamps will operate as "Backup" lights in conjunction with the "Back-up" lights on the bumper on the snowplow truck.

52.1.3.3.1.7 Dual Rotating Amber Lamp Beacons

Two separate dual rotating beacons meeting the following requirements shall be mounted on the snowplow truck (front and rear).

The dual rotating amber lamp beacons shall have minimum dimensions of 115mm (4.5") H x 380mm (15") L x 160mm (6.3") W, that meet or exceed SAE J845 Class 1, "360 Warning Devices for Authorized Emergency, Maintenance and Service Vehicles". The beacons shall provide between 250 to 500 flashes per minute, with minimum 50 Watt halogen bulbs. The bulbs shall be setup such that both bulbs do no flash in the same direction at the same time. Strobe beacons shall not be used.

The rear warning beacon shall be mounted in the centre of the vehicle, at the top of the snowplow box, a minimum of 0.75 metres from the top of the box.

52.1.3.3.1.8 LED Amber-Red Flashing Warning Lights – Above-Box Mounted

Two (2) red rectangular LED lights, measuring approximately 75mm wide x 175mm high, shall be mounted vertically on raised extension brackets that are mounted along the outside rear edges of the snowplow box. The lights shall be mounted so that the bottom of the LED lamp is 3.18 metres above the ground.

Two (2) amber rectangular LED lamps, measuring 75mm wide x 175mm high, shall be mounted horizontally, approximately 0.50 metres from the outside edges of the snowplow truck, such that the top edge of the light is at the same height as the vertically mounted red LED light.

The amber LED light shall flash on and off at a flash rate of 3 – 5 flashes per second. The red LED light shall remain on at all times in a "steady-burn" mode. The amber lights shall be focused in accordance with Drawing HMS 52.1F.

52.1.3.3.1.9 Light Operations – Monitoring and Maintenance

To prevent snow accumulation, all LED lights, except for the rectangular LED amber-red flashing warning lights, shall be mounted in locations with wind deflectors above them.

Before plowing operations begin, front and rear lighting shall be examined to ensure all lights are operational. If any lights are not operational, they shall be repaired prior to the commencement of any plowing operations. Additionally, if any diodes are burnt-out, or have a reduced luminance, they shall also be replaced prior to commencement of plowing operations.

Rear lighting shall be periodically checked during plowing operations to ensure that they are functioning properly and are not obstructed by accumulations of snow or slush.

52.1.3.3.1.10 Reflective Tape

Two strips of specialized retro-reflective tape shall be located horizontally across the width of the truck, one at the midpoint of the truck, approximately 2 metres from the ground. The second strip may be located at the Contractor's discretion, but must conform to Transport Canada regulations. The specialized retro-reflective tape shall provide reflectivity during day and night use, and shall be at least 50mm wide and contain alternating blocks of red and white colors.

52.1.3.3.1.11 Rear Wind Deflector

A rear wind deflector shall be installed above the box of the snowplow truck in such a manner as to force the flow of air down the rear of the snowplow truck. The wind deflector shall extend across the full width of the truck box and be located such that the bottom of the wind deflector is located no more than 300 mm from the top of the Raised LED Stop, Tail and Turn Lights.

ii. Drawings HMS 52.1A "Sanding Truck Lighting Standard", HMS 52.1B "Sanding Truck Rear Lighting Standard", and HMS 52.1C "Sanding Truck Rear Amber Flashing Light Adjustment" are superseded by the following drawings:

- HMS 52.1D, Snow Removal and Ice Control Truck – Front Lighting Standard
- HMS 52.1E, Snow Removal and Ice Control Truck – Rear Lighting Standard
- HMS 52.1F, Snow Removal and Ice Control Truck – Rear Amber Flashing Light Adjustment

iii. In Section 52.1.5, Commencement of Work, the following paragraph is inserted after the first paragrpah:

During periods of inclement weather in winter months, at least 90% of the Contractor's snowplow truck fleet shall be made available at all times to commence work. Spare trucks may be used to supplement the shortfall of these trucks. Any delays in commencing work, including delays due to breakdowns, may result in the assessment of penalties in accordance with Specification 52.1.9.3.

F. AMENDMENTS TO SPECIFICATION 52.1.7, AVAILABILITY RATES

i. The following paragraph is inserted after the first paragraph of Section 52.1.7.2, Trucks:

During periods of snowstorms, the contractor shall provide a minimum availability of 90% of the snowplow trucks designated for each CMA during the entire snowstorm event. Additionally, any shop which has three (3) snow plow trucks or less assigned to it must maintain 100% availability at all times during the period specified in the Special Provisions for Truck Availability. Failure to provide the required snowplow truck availability, as specified herein, will result in the assessment of penalties in accordance with Section 52.1.9.3.

Reassignment or relocation of snowplow trucks, whether temporary or permanent, will be subject to the approval of the Engineer. Failure to obtain prior approval for relocation of a snowplow truck may result in continuance of penalties assessed for availability.

ii. The following paragraph is inserted after the first paragraph of Section 52.1.7.3, Operators:

Also, Operator Availability will be paid for one operator for each sub-contractor truck engaged by the Contractor to meet the terms of the Contract, and which is available to work during the availability period. An additional or second operator provided by a sub-contractor for his truck(s) will not be included for Operator Availability payment. The contractor shall provide a list of snowplow operators that worked during the periods of snowstorms.

G. AMENDMENTS TO SPECIFICATION 52.7, SUPPLY AND STOCKPILE SAND

i. The first paragraph, the table following the first paragraph and the second paragraph are deleted and replaced with the following:

The Contractor shall supply sand in accordance with Specification 55.3, Aggregate Production and Stockpiling, to the gradation of Des. 5 Class 5 or Des. 5 Class 8. The designation and class of sand to be supplied will be specified in the special provisions.

A tolerance of three (3) percent in the amount passing the maximum size sieve will be permitted for this material provided that all oversize material passes the next larger standard sieve size. All sanding material not meeting specification must be approved by the Engineer.

H. AMENDMENTS TO SPECIFICATION 55.3, AGGREGATE PRODUCTION AND STOCKPILING

i. In Table 55.3.4.1(A), Specifications for Aggregate, the two columns for Designation 5 material (Class 10A & 10B) are replaced with the following two columns for Des. 5 Class 5 and Des. 5 Class 8 material:

Designation	***5***	
Class (mm)	***5***	***8***
125 000		
80 000		
50 000		
40 000		
25 000		
20 000		
16 000		
12 500		
10 000		
8 000		**100**
5 000	**100**	**75-100**
1 250	**0-75**	**0-65**
630		
315	**0-30**	**0-30**
160	**0-18**	**0-18**
80	**0-10**	**0-10**
% Fracture	***N/A***	***N/A***
Plasticity Index (PI)	***NP-6***	***NP-6***
LA Abrasion % Loss	***N/A***	***N/A***

ii. In Table 55.3.4.2.2 (B), the following row is inserted between sieve sizes 10,000 and 5,000:

8.0 mm 5/16”	*8 000*

I. AMENDMENTS TO SPECIFICATION 52.8, SUPPLY OF SODIUM CHLORIDE (SALT)

i. The first paragraph under section 52.8.7.2.3, Total Yearly Quantity Used Exceeds the "Combined Salt Usage Footprint", is deleted and replaced with the following:

If the total quantity of salt used within the contract boundaries during the Department fiscal year exceeds the "Combined Salt Usage Footprint", the net amount in excess of the upper limit of the "Combined Salt Usage Footprint" will be paid for at the weighted average of the Contractor's actual cost (with no markup) or at the unit price bid, whichever is less, to supply salt for the Contract.

J. AMENDMENTS TO SPECIFICATION 53.4, ASPHALT PAVEMENT CRACK SEALING

i. The following sentence is added to the paragraph under Section 53.4.1 'General':

The Contractor has the choice of using either Hot Pour or Cold Pour methods unless otherwise specified in the Special Provisions.

K. AMENDMENTS TO SPECIFICATION 53.27, MAINTENANCE AND PREPARATION OF GRAVEL SURFACE ROADS

i. In the table under Section 53.27.4.2, 'Summer Maintenance of Gravel Roads', the size shown for sign WD-150 (Loose Gravel) is changed from "60 x 75" to "*75 x 75*".

L. AMENDMENTS TO SPECIFICATION 53.39, HIGHWAY MAINTENANCE WORK

i. The last sentence in subsection 53.39.7.1 of Section 53.39.7 'Measurement and Payment', is replaced with the following:

No adjustment to the unit price bid per month for "Highway Maintenance Work" will be considered due to any expansion or reduction of the highway network that may occur during the term of the Contract unless the Department deems the expansion or reduction is significant enough that an adjustment is warranted.

M. AMENDMENTS TO SPECIFICATION 53.41, MILLED RUMBLE STRIPS

i. The paragraph under Section 53.41.1 'General', is replaced with the following paragraph:

This specification covers the construction of milled rumble strips on the shoulders of highways, and on centreline of undivided highways, to alert drivers when they leave the travel lanes. Also, this specification includes construction of milled rumble strips across the travel lanes to alert drivers of an upcoming stop condition.

ii. The third bullet under Section 53.41.2 'Equipment', is replaced with the following paragraph:

- *For milling of rumble strips on centreline, the cutting head shall be capable of producing grooves meeting the requirements as shown on Dwg. No. CB6-3.52M4.*

iii. The third paragraph of Section 53.41.3 'Procedure', is replaced with the following paragraph:

When required, the Contractor shall construct milled rumble strips on centreline as shown on Drawing CB6-3.52M4.

iv. The contents of Subsection 53.41.5.1 'Milled Rumble Strips', of Section 53.41.5 'Measurement and Payment', is replaced in its entirety with the following:

Measurement of milled rumble strips will be made longitudinally to the nearest 0.001 km of actual milled sections for each side of the road and/ or centreline where accepted milled rumble strips have been constructed. Gaps in milled areas such as for intersections, tapers and accesses will be excluded from measurement and payment.

Payment will be made at the unit price bid per kilometre per side for "Milled Rumble Strips - Shoulder" and per kilometer for "Milled Rumble Strips – Centrline", as applicable. This payment will be full compensation for constructing the milled rumble strips and removing and disposing of all debris.

v. Subsection 53.41.5.3 'Milled Rumble Strips for No-Passing Zones', of Section 53.41.5 'Measurement and Payment', is deleted in its entirety.

N. AMENDMENTS TO SPECIFICATION 54.1, MOWING

i. The second sentence of the paragraph in Section 54.1.4 'Time to Complete', is replaced with the following sentence:

In all other cases the Work shall be completed within 45 calendar days of the issuance of the Work Order.

O. AMENDMENTS TO SPECIFICATION 54.12, SUPPLY OF PERMANENT HIGHWAY SIGNS

i. The title of Subsection 54.12.2.1 'Reflective Sheeting for Select Permanent Highway Signs', of Section 54.12.2 'Materials', is replaced with:

"*Specialized Reflective Sheeting for Select Permanent Highway Signs*".

ii. The last paragraph in Subsection 54.12.2.1 'Specialized Reflective Sheeting for Select Permanent Highway Signs' is replaced with the following:

"*Sheeting material products meeting the minimum coefficient of retro-reflectivity requirements, as specified above, are listed on the Alberta Transportation Products List.*"

iii. The following content is added to Subsection 54.12.2.1 'Specialized Reflective Sheeting for Select Permanent Highway Signs':

The following high priority warning signs also require Specialized Reflective Sheeting (florescent yellow):

- *Roadway alignment warning signs – curve signs (WA-1, WA-2, WA-3, WA-4, WA-5,*
- *WA-6) and chevrons (WA-9).*
- *Traffic control ahead signs – stop ahead (WB-1), yield ahead (WB-2), two-way traffic ahead (WB-3), signals ahead (WB-4), prepare to stop AAWS (WB-5), railway crossing ahead (WB-6), school bus stop ahead (WC-9).*
- *Hazard signs – hazard board (WA-36) and clearance signs (WA-26, WA-27).*
- *Pedestrian signs – pedestrian crossing ahead (WC-2), playground ahead (WC-3).*

iv. In Subsection 54.12.6.2 'Supply of Standard Signs', all ten bid items listed after the first paragraph are deleted and replaced with the following two bid items:

- *Standard Signs - Supply*
- *Standard Signs (Specialized Reflective Sheeting) - Supply*

v. The following bid item description is added to Subsection 54.12.6.3 'Supply of Non-Standard Signs':

Non Standard Signs - 3/4" Plywood (Specialized Reflective Sheeting) - Supply

P. AMENDMENTS TO SPECIFICATION 54.13, MAINTENANCE OF HIGHWAY SIGNS

i. The last sentence of Subsection 54.13.6.1.1, Wooden Supports - Supply and Install, is replaced with the following:

Payment will be full compensation for removing and disposing of the existing posts, supplying and installing the new posts, and all labour, materials, equipment, tools and incidentals necessary to complete the Work.

ii. The following paragraph is added to Subsection 54.13.6.1.3, Wooden Supports - Remove and Dispose:

The payment for "Wooden Supports- Remove and Dispose" will only be applicable when the post is not replaced.

iii. The following Subsection is added to Section 54.13.6.2, Steel Breakaway Sign Supports

54.13.6.2.4 Steel Breakaway Supports – Install Only

Payment will be made at the unit price bid per steel post for "Breakaway Steel Posts - Install". This payment will be full compensation for installing the steel post supplied by others, regardless of size; and for all labour, equipment, tools and incidentals necessary to complete the Work.

iv. The last paragraph of Subsection 54.13.6.3.3, Remove Signs, is replaced with the following:

The payment for "Remove Sign" will only be applicable when the sign is not replaced, or is scheduled for replacement at a later date, and when the post(s) is not removed.

v. The following paragraph is inserted after the first paragraph of Section 54.13.6.4, Install and Remove Concrete Bases:

Payment for installing concrete bases supplied by others will be made at the unit price bid per base for "Concrete Base – Install", and will be full compensation for all labour, equipment, tools and incidentals necessary to complete the Work.

vi. The following sentence is added to the last paragraph of Section 54.13.6.7, Banding Signs:

Payment for banding of signs does not supersede payment for installation of signs, which will also be paid for at the applicable unit price bid per sign.

Q. AMENDMENTS TO SPECIFICATION 54.23, W-BEAM GUARDRAIL AND POSTS

i. The following paragraph is added to Section 54.23.6.2 'W-Beam and Elements:

The supply of end terminals, curved W-beam rail, brackets, wing ends and bridge connections will be paid as Extra Work in accordance with Specification 51.2, General (For Maintenance Work).

R. AMENDMENTS TO SPECIFICATION 54.30, BRIDGE STRUCTURE CLEANING

i. The following Subsection is added to Section 54.30.1, General:

54.30.1.1 Site Meeting

The Contractor is advised that in conjunction with the commencement of annual bridge washing operations a site meeting will be held at a representative bridge site to review the bridge cleaning and washing requirements. Attendance of the Contractor's bridge washing crew supervisors will be mandatory. This meeting will be considered incidental to the work and no separate or additional payment will be made.

ii. The following Subsection is added to Section 54.30.4, Permits and Approvals:

54.30.4.1 DFO - Alberta Operational Statement

The Contractor shall meet all requirements stated in the Department of Fisheries and Oceans' (DFO) document titled "Alberta Operational Statement, Habitat Management Program, Bridge Maintenance". The most current version of this document shall govern.

A copy of this document can be obtained from the following web site:

http://www.dfo-mpo.gc.ca/regions/central/habitat/os-eo/prov-terr/ab/os-eo04_e.htm

iii. The contents of Subsection 54.30.5.2, Surfaces To Be Cleaned, are replaced with the following:

The following surfaces shall be cleaned of all dirt, debris and deleterious material and washed with water to remove the remaining chemicals and winter abrasives, provided that these elements are accessible without the use of special equipment such as bucket trucks or snoopers:

- *decks, sidewalks, curbs, gutters and the exterior surfaces of sidewalks or curbs,*
- *railings and truss members including the bottom chord to a minimum height of three metres above the deck surface,*
- *all associated drainage structures, including drain troughs, drain pipes and flumes,*

- *the approaches to the bridge and all associated bridge elements for a distance of ten metres, as measured from the abutment joint, including approach guardrail,*
- *deck expansion joints including troughs located beneath the joints with associated plumbing and deck joints with seals, and*
- *the entire abutment including the bearings, backwall, breastwall, wingwalls and the abutment seat.*

iv. The contents of Subsection 54.30.5.3, Additional Surfaces To Be Cleaned, are replaced with the following:

When required by the Engineer, any or all of the following surfaces shall also be cleaned and washed:

- *the end two metres of the superstructure, as measured from the face of the backwall,*
- *pier caps and pier bearings, and the end two metres of the superstructure, each way, from the centreline of the pier,*
- *the entire abutment including the bearings, backwall, breastwall, wingwalls and the abutment seat when special equipment is required for access to these elements, and*
- *the concrete slope protection.*

S. AMENDMENTS TO SPECIFICATION 55.6, SUPPLY OF LABOUR AND TRUCKS FOR MISCELLANEOUS WORK

i. The paragraph under Section 55.6.1, 'General', is replaced with the following:

The Work consists of supplying labour and trucks for miscellaneous work that is not associated with Extra Work projects. Following is a list of typical activities requiring miscellaneous labour:

SECTION H

(Unit Price Schedule)

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Unit Price Schedule

Bid Item	Spec.	Description	Qty	Unit Price	Extension
Activity 1100		**Snow Removal and Ice Control**			
1101	52.1 SP	Single Axle Sander/Plow Truck	Nil no. of trucks	per hour	(see NOTE below)
1102	52.1 SP	Tandem Axle Sander/ Plow Truck Less than 10 m^3	no. of trucks	per hour	(see NOTE below)
1103	52.1 SP	Sander/ Plow Truck - Equal to or Larger than 10 m^3 and Less than 13 m^3	no. of trucks	per hour	(see NOTE below)
1112	52.1 SP	Large Capacity Sander/ Plow Truck - 13 m^3 and Larger	no. of trucks	per hour	(see NOTE below)
NOTE: Extension values for Bid Items 1101, 1102, 1103 & 1112 are calculated as follows: Qty (no. of trucks bid) x Unit Price x (360) = Extension (Avg. Annual Hrs)					
1104	52.1 SP	Snowplow Wings (minimum of 17)	6 120 hours	per hr	
1114	52.1 SP	Dual Snowplow Wings (minimum of 2)	720 hours	per hr	
1105	52.1	Snow Removal and Ice Control (Truck) Availability Rate (total number of trucks x 180 days)	total days	$110.000 per day	
1115	52.1	Snow Removal and Ice Control (Operator) Availability Rate (equal to total number of trucks + 6 additional operator x 180 days)	total days	$110.000 per day	
1106	52.1	Snow Removal and Ice Control (Truck) Indoor Heated Storage Premium (total number of trucks for 180 days)	total days	$40.000 per day	
1107	52.2	Snow Removal (Loader)	75 hours	per hour	
1108	52.2	Snow Removal (truck)	Nil hours	per hour	
1109	52.2	Snow Removal - Premium	Nil occurrences	per occurrence	
1110	SP	Snow Removal (Snow Blower)	Nil hours	per hour	

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Bid Item	Spec.	Description	Qty	Unit Price	Extension
1111	52.9 SP	Pre-Wetting Systems (minimum of 19)	6 840 hours	per hr	
1116	SP	Underbody (belly) Plow	Nil hours	per hr	
1120	SP	Light Duty Truck with Front Plow and Truck-Bed Hopper	250 hours	per hr	
Activity 1200		**Snow Removal and Ice Control (Grader)**			
1201	53.27	Motor Grader Work on Gravel Surface Roads	120 hours	per hour	
1202	53.27 SP	Snow Removal and Ice Control on Paved Surfaces (Grader)	250 hours	per hour	
Activity 1300		**Snow Fencing**			
1301	52.3	Snow Fence - Supply and Install	Nil metres	per metre	
1302	52.3	Snow Fence - Remove	Nil metres	per metre	
1303	52.3	Snow Fence - Reinstall	Nil metres	per metre	
Activity 1400		**Ice Control Materials**			
1401	52.5	Sodium Chloride Treated Sand - Mix and Stockpile	15 750 tonnes	per tonne	
1402	52.6	Calcium Chloride Treated Sand - Mix and Stockpile	Nil tonnes	per tonne	
1406	SP	Other De-icing Chemical Treated Sand - Mix and Stockpile	Nil tonnes	per tonne	
1403	52.7	Sand - Pick Up and Stockpile	Nil tonnes	per tonne	
1404	52.7	Sand - Pick Up, Process, and Stockpile	Nil tonnes	per tonne	

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Bid Item	Spec.	Description	Qty	Unit Price	Extension
1405	55.2	Haul (for Pickup and Stockpile or Pickup, Process and Stockpile)	Nil tonne.kms	per tonne.km	
NOTE: Must enter location, quantity and unit price for Supply and Stockpile of Sand					
1410	52.7	Sand - Supply and Stockpile To: _____	_____ tonnes	_____ per tonne	
1411	52.7	Sand - Supply and Stockpile To: _____	_____ tonnes	_____ per tonne	
1412	52.7	Sand - Supply and Stockpile To: _____	_____ tonnes	_____ per tonne	
1413	52.7	Sand - Supply and Stockpile To: _____	_____ tonnes	_____ per tonne	
1414	52.7	Sand - Supply and Stockpile To: _____	_____ tonnes	_____ per tonne	
1415	52.7	Sand - Supply and Stockpile To: _____	_____ tonnes	_____ per tonne	
1416	52.7	Sand - Supply and Stockpile To: _____	_____ tonnes	_____ per tonne	
1417	52.7	Sand - Supply and Stockpile To: _____	_____ tonnes	_____ per tonne	
For Analysis Only		Total Quantity of Supply and Stockpile Sand Must Equal **15,000** tonnes.	_____ total tonnes		
1469	55.4	Supply of Aggregate	15 000 tonnes	$1.250 per tonne	$18,750.00
NOTE: Must enter location, quantity and unit price for Supply of Salt					
1470	52.8	Sodium Chloride (salt) - Supply To: _____	_____ tonnes	_____ per tonne	
1471	52.8	Sodium Chloride (salt) - Supply To: _____	_____ tonnes	_____ per tonne	
1472	52.8	Sodium Chloride (salt) - Supply To: _____	_____ tonnes	_____ per tonne	

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Bid Item	Spec.	Description	Qty	Unit Price	Extension
1473	52.8	Sodium Chloride (salt) - Supply To: _____	_____ tonnes	_____ per tonne	_____
1474	52.8	Sodium Chloride (salt) - Supply To: _____	_____ tonnes	_____ per tonne	_____
1475	52.8	Sodium Chloride (salt) - Supply To: _____	_____ tonnes	_____ per tonne	_____
1476	52.8	Sodium Chloride (salt) - Supply To: _____	_____ tonnes	_____ per tonne	_____
1477	52.8	Sodium Chloride (salt) - Supply To: _____	_____ tonnes	_____ per tonne	_____
For Analysis Only		Total Qty of Supply Sodium Chloride (salt) Must Equal **5,000** tonnes.	_____ total tonnes		
1480	SP	Supply of Medium Salt - Premium	Nil tonnes	_____ per tonne	_____
1490	SP	Supply of Salt Brine for Pre-Wetting	100 000 litres	_____ per litre	_____
Activity 1500		**Subgrade Excavation (non paved surfaces)**			
1501	53.1	Excavation	60 cubic metres	_____ per cubic metre	_____
1502	53.1	Backfill with Salvaged Material	30 cubic metres	_____ per cubic metre	_____
1503	53.2	Pit Run Gravel - Supply and Place	Nil cubic metres	_____ per cubic metre	_____
1504	53.2	Pit Run Gravel - Pick Up and Place	Nil cubic metres	_____ per cubic metre	_____
1505	53.3	Granular Base Course - Supply and Place	Nil cubic metres	_____ per cubic metre	_____
1506	53.3	Granular Base Course - Pick Up and Place	Nil cubic metres	_____ per cubic metre	_____

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Bid Item	Spec.	Description	Qty	Unit Price	Extension
1507	55.4	Supply of Aggregate	Nil cubic metres	$2.040 per cubic metre	
1508	55.2	Haul	Nil m^3.kms	per m^3.km	
Activity 1600		**Crack Sealing**			
1601	53.4	Crack Sealing	500 000 metres	per metre	
1602	53.5	Crack Routing and Sealing	25 000 metres	per metre	
1603	53.4 53.5	Crack Sealing - Blotting	25 000 metres	per metre	
Activity 1700		**Apply Surface Seals**			
1701	53.6	Asphalt Pavement Surface Seal - Liquid Asphalt	Nil square metres	per square metre	
1702	53.7	Asphalt Pavement Crack Repair - Spray Patch	30 000 metres	per metre	
1703	53.7	Asphalt Pavement Surface Repair - Spray Patch	600 square metres	per square metre	
Activity 1800		**Pot Hole Patching**			
1801	53.10	Pot Hole Patching ASBC/ACP	20 000 kg	per kilogram	
1803	53.10	Pot Hole Patching Proprietary Mix	10 000 kg	per kilogram	
Activity 1900		**Surface Patching**			
1901	53.13	Asphalt Concrete Pavement (Paver) - Pick Up and Place	Nil tonnes	per tonne	
1902	53.13	Asphalt Concrete Pavement (Machine) - Pick Up and Place	Nil tonnes	per tonne	

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Bid Item	Spec.	Description	Qty	Unit Price	Extension
1903	53.13	Asphalt Concrete Pavement (Hand) - Pick Up and Place	Nil tonnes	per tonne	
1904	53.13	Emergency Patch - Pick Up and Place	Nil tonnes	per tonne	
1905	53.13	Asphalt Concrete Pavement Patching (Paver) - Supply and Place (Mix Type M1 or Similar)	4 000 tonnes	per tonne	
1906	53.13	Asphalt Concrete Pavement Patching (Paver) - Supply and Place (Mix Type S1 or Similar)	Nil tonnes	per tonne	
1907	53.13	Asphalt Concrete Pavement Patching (Machine) - Supply and Place (Mix Type M1 or Similar)	300 tonnes	per tonne	
1908	53.13	Asphalt Concrete Pavement Patching (Machine) - Supply and Place (Mix Type S1 or Similar)	Nil tonnes	per tonne	
1909	53.13	Asphalt Concrete Pavement Patching (Hand) - Supply and Place (Mix Type M1 or Similar)	10 tonnes	per tonne	
1910	53.13	Asphalt Concrete Pavement Patching (Hand) - Supply and Place (Mix Type S1 or Similar)	Nil tonnes	per tonne	
1911	53.13	Asphalt Stabilized Base Course Patching (Machine) - Supply and Place	Nil tonnes	per tonne	
1912	53.13	Asphalt Stabilized Base Course Patching (Hand) - Supply and Place	10 tonnes	per tonne	
1913	53.13	Proprietary Mix Patching (Machine) - Supply and Place	Nil tonnes	per tonne	
1914	53.13	Proprietary Mix Patching (Hand) - Supply and Place	Nil tonnes	per tonne	
1915	53.13	Emergency Patch - Supply and Place	200 tonnes	per tonne	
1916	53.13 55.2	Haul	130 000 tonne.kms	per tonne.km	
1917	55.4	Supply of Aggregate (for ACP and ASBC only)	4 520 tonnes	$1.250 per tonne	$5,650.00

Bid Item	Spec.	Description	Qty	Unit Price	Extension
1918	53.13	Surface Patching Price Adjustment - Single Patch (25t plus)	500 tonnes	per tonne	Credit to Dept.
1919	53.13	Surface Patching Price Adjustment - 100 tonnes	750 tonnes	per tonne	Credit to Dept.
1920	53.13	Surface Patching - Premium	1 occurrence	per occurrence	
1921	53.13	Surface Patching - Interim Premium	2 occurrence	per occurrence	
1922	SP	Haul - Banned Road	Nil tonne.kms	per tonne.km	
Activity 2000		**Asphalt Surface Treatment**			
2001	53.9	Asphalt Surface Treatment - Patching	Nil square metres	per square metre	
2002	53.9	Asphalt Surface Treatment - Minor Repair	Nil square metres	per square metre	
2003	53.9	Asphalt Surface Treatment - Major Repair	Nil square metres	per square metre	
2004	53.9	Asphalt Surface Treatment - New Construction	Nil square metres	per square metre	
2005	53.27	Motor Grader Work - Preparing Gravel Surface (same unit price as bid item 1201)	Nil hours	per hour	
2006	53.29	Spot Gravelling - Supply and Place	Nil cubic metres	per cubic meter	
2007	53.29	Spot Gravelling - Pickup and Place	Nil cubic metres	per cubic metre	
2008	53.30	Gravel Surfacing - Supply and Place	Nil tonnes	per tonne	
2009	53.30	Gravel Surfacing - Pickup and Place	Nil tonnes	per tonne	

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Bid Item	Spec.	Description	Qty	Unit Price	Extension
2010	55.2	Haul	Nil tonne.kms	per tonne.km	
2011	55.2	Haul	Nil m³.kms	per m³.km	
2012	55.4	Supply of Aggregate	Nil tonnes	$1.250 per tonne	
2013	55.4	Supply of Aggregate	Nil cubic metres	$2.040 per cubic metre	
2014	53.9	Supply of Asphalt for Surface Treatment	Nil tonnes	per tonne	
2015	53.9	Asphalt Surface Treatment - Premium	Nil occurrence	per occurrence	
2016	53.9	Asphalt Surface Treatment - Interim Premium	Nil occurrence	per occurrence	
Activity 2100		**Deep Patch**			
2101	53.14	Asphalt Pavement Deep Patching - Pickup and Place	Nil square metres	per square metre	
2102	53.14	Asphalt Pavement Deep Patching - Supply and Place	500 square metres	per square metre	
2103	55.4	Supply of Aggregate	500 tonnes	$1.250 per tonne	$625.00
2104	55.2	Haul	15 000 tonne.kms	per tonne.km	
2105	53.14	Deep Patching - Premium	1 occurrences	per occurrence	
2106	53.14	Deep Patching - Interim Premium	2 occurrences	per occurrence	
Activity 2200		**Roadway and Raised Median Cleaning**			

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Bid Item	Spec.	Description	Qty	Unit Price	Extension
2201	53.17	Roadway Cleaning Broom	270 000 square metres	_____ per square metre	_____
2202	53.17	Roadway Cleaning - Pickup Broom	300 000 square metres	_____ per square metre	_____
2203	53.17	Raised Medians Cleaning	38 000 square metres	_____ per square metre	_____
2204	53.17	Roadway Cleaning - Premium	2 occurrences	_____ per occurrence	_____
2220	SP	Cleaning Concrete Barriers	Nil lineal metre	_____ per lineal metre	_____
Activity 2300		**Line Painting**			
2301	53.20	Supply of Paint - White	8 360 litre	_____ per litre	_____
2302	53.20	Supply of Paint - Yellow	5 130 litre	_____ per litre	_____
2303	53.20	Painted Roadway Lines - White	200 line kms	_____ per line km	_____
2304	53.20	Painted Roadway Lines - Yellow	125 line kms	_____ per line km	_____
2305	53.20	Line Painting - Premium	1 occurrences	_____ per occurrence	_____
2306	53.20	Line Painting - Intersections	275 sides	_____ per side	_____
2307	53.20	Line Painting - Interchanges	14 interchanges	_____ per interchange	_____
2308	53.20	Painted Roadway Lines - White - Single Line Ordered	20 line kms	_____ per line km	_____
2309	53.20	Painted Roadway Lines - Yellow - Single Line Ordered	10 line kms	_____ per line km	_____

Bid Item	Spec.	Description	Qty	Unit Price	Extension
2310	53.20	Supply of Waterborne Paint - White	42 560 litre	per litre	
2311	53.20	Supply of Waterborne Paint - Yellow	28 880 litre	per litre	
2312	53.20	Painted Roadway Lines - White (Waterborne)	1 100 line kms	per line km	
2313	53.20	Painted Roadway Lines - Yellow (Waterborne)	750 line kms	per line km	
2314	53.20	Painted Roadway Lines - White (Waterborne) - Single Line Ordered	20 line kms	per line km	
2315	53.20	Painted Roadway Lines - Yellow (Waterborne) - Single Line Ordered	10 line kms	per line km	
Activity 2400		**Pavement Markings**			
2401	53.21	Painting Pavement Markings	2 200 square metres	per square metre	
2402	53.21	Painting Pavement Markings - Premium	1 occurrences	per occurrence	
2403	53.22	Durable Pavement Marking, Tape - Supply and Install	Nil square metres	per square metre	
2404	53.24	Durable Pavement Marking, Thermoplastic - Supply and Install	Nil square metres	per square metre	
2405	53.24	Raised Pavement Markers - Supply and Install	Nil each	per each	
2406	53.24	Raised Pavement Marker Reflectors - Supply and Replace	Nil each	per each	
Activity 2500		**Grading Gravel Surfaces**			
2501	53.27	Motor Grader Work on Gravel Surface Roads (same unit price as bid item 1201)	300 hours	per hour	
Activity 2600		**Regravelling**			

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Bid Item	Spec.	Description	Qty	Unit Price	Extension
2601	53.29	Spot Gravelling - Supply and Place	50 cubic metres	per cubic metre	
2602	53.29	Spot Gravelling - Pickup and Place	Nil cubic metres	per cubic metre	
2603	53.29	Spot Gravelling - Premium	Nil occurrences	per occurrence	
2604	55.4	Supply of Aggregate	50 cubic metres	$2.040 per cubic metre	$102.00
2605	55.2	Haul	2 000 m^3.kms	per m^3.km	
2606	53.30	Gravel Surfacing - Supply and Place	6 000 tonnes	per tonne	
2607	53.30	Gravel Surfacing - Pickup and Place	Nil tonnes	per tonne	
2608	55.4	Supply of Aggregate	6 000 tonnes	$1.250 per tonne	$7,500.00
2609	55.2	Haul	240 000 tonne.kms	per tonne.km	
2610	55.2 SP	Haul on Banned Roads	Nil tonne.kms	per tonne.km	
Activity 2700		**Dust Abatement**			
2702	53.31	Dust Abatement, Calcium Chloride - Supply and Apply	30 flake.tonnes	per tonne	
2703	53.31	Dust Abatement, EDS Material - Supply and Apply	Nil tonnes	per tonne	
2704	53.31	Dust Abatement, Ligno Sulphate - Supply and Apply	Nil tonnes	per tonne	
Activity 2800		**Maintenance of Livestock Guards**			

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Bid Item	Spec.	Description	Qty	Unit Price	Extension
2801	53.33	Livestock Guard - Clean and Inspect	Nil metres	per metre	
2802	53.33	Livestock Guard - Inspect	Nil metres	per metre	
2803	53.34	Livestock Guard - Supply Range Type	Nil metres	per metre	
2804	53.34	Livestock Guard - Supply Standard Highway Type	Nil metres	per metre	
2805	53.34	Livestock Guard - Supply Off Highway Type	Nil metres	per metre	
2806	53.35	Livestock Guard - Repair Metal Sections	Nil hours	per hour	
2807	53.35	Livestock Guard - Repair Wooden Sections	Nil hours	per hour	
2808	53.35	Livestock Guard - Install Complete	Nil hours	per hour	
2809	53.35	Livestock Guard - Premium	Nil occurrences	per occurrence	
Activity 2900		**Provide Traffic Control**			
2901	53.36	Erect and Remove Emergency Sign Package	Nil hours	per hour	
2902	53.37	Supply Flagperson, Signs and Vehicle	200 hours	per hour	
2903	53.37	Supply Flagperson	100 hours	per hour	
2904	53.38	Supply of Truck Mounted Arrowboard - Mobile	100 hours	per hour	
2905	53.38	Supply of Truck Mounted Arrowboard - Stationary	Nil hours	per hour	

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Bid Item	Spec.	Description	Qty	Unit Price	Extension
2906	53.38	Supply of Trailer Mounted Arrowboard	Nil hours	per hour	
2914	53.38	Supply of Truck Mounted Dynamic Message Sign - Mobile	Nil hours	per hour	
2915	53.38	Supply of Truck Mounted Dynamic Message Sign - Stationary	Nil hours	per hour	
2916	53.38	Supply of Trailer Mounted Dynamic Message Sign	Nil hours	per hour	
2920	SP	Supply of Truck Mounted Crash Attenuator with Arrowboard	Nil hours	per hour	
2907	53.37 53.38	Traffic Control - Premium	5 occurrences	per occurrence	
Activity 3000		**Inspections**			
3001	53.39	Highway Maintenance Work	12 months	per month	
3002	53.39	Additional Road Inspections	900 kilometres	per kilometre	
3003	53.39	After Hours Callout	80 occurrences	per occurrence	
3004	53.39	Haul of Roadkill	750 kilometres	per kilometre	
3007	55.6	Supply of Labourer (Miscellaneous Work)	100 hours	per hour	
3008	55.6	Supply of Truck (Miscellaneous Work)	100 hours	per hour	
3009	SP	Hand Brushing (2 person crew)	200 hours	per hour	
3010	53.39 SP	Reflective Strips for Delineators - Supply	5 000 each	per each	

CMA 9
Unit Price Schedule

Bid Item	Spec.	Description	Qty	Unit Price	Extension
Activity 3100		**Milled Rumble Strips**			
3101	53.41	Milled Rumble Strips - Shoulder	20 kilometres/side	kilometre/side	
3102	53.41	Milled Rumble Strips - Centreline	5 kilometres	per kilometre	
3103	53.41	Milled Rumble Strips for Stop Conditions	1 sets	per set	
Activity 3200		**Mowing**			
3201	54.1	Mowing	3 000 hectares	per hectare	
3202	55.6	Supply of Labourer (Miscellaneous Work) (same unit price as bid item 3007)	50 hours	per hour	
3203	55.6	Supply of Truck (Miscellaneous Work) (same unit price as bid item 3008)	50 hours	per hour	
3277	SP	Adminster Hay Permits	5 Each	per each	
Activity 3300		**Chemical Vegetation Control**			
3301	54.4	Vegetation Control - Mobile Spray (On Road)	500 hectares	per hectare	
3302	54.4	Vegetation Control - Mobile Spray (Off Road)	150 hectares	per hectare	
3303	54.4	Vegetation Control - Mobile Spot Spray (On Road)	100 hectares	per hectare	
3304	54.4	Vegetation Control - Mobile Spot Spray (Off Road)	50 hectares	per hectare	
3305	54.4	Mobile Spray - Premium	1 occurrences	per occurrence	
3306	54.4	Vegetation Control - Hand Spray	10 000 square metres	per square metre	

Bid Item	Spec.	Description	Qty	Unit Price	Extension
3307	54.4	Hand Spray - Premium	1 occurrences	per occurrence	
3308	55.6	Supply of Labourer (Miscellaneous Work) (same unit price as bid item 3007)	25 hours	per hour	
3309	55.6	Supply of Truck (Miscellaneous Work) (same unit price as bid item 3008)	25 hours	per hour	
Activity 3400		**Culvert Maintenance**			
3401	54.5	Steaming Culverts	20 hours	per hour	
3402	54.6	Cleaning Culvert Barrel - Up To 800mm Diameter	50 metres	per metre	
3403	54.6	Cleaning Culvert Barrel - over 800mm but less than 1500mm Diameter	50 metres	per metre	
3404	54.6	Cleaning Culvert Barrel - 1500mm Diameter and over	20 metres	per metre	
3405	54.6	Cleaning Culvert Ends	20 each	per each	
3406	54.6	Culvert Cleaning - Premium	Nil occurrences	per occurrence	
Activity 3500		**Culvert Installation/Rehab/Replacement**			
3501	54.8 54.9	Culverts - Excavation and Backfill	50 cubic metres	per cubic metre	
3502	54.8	Culverts - Remove and Dispose	20 metres	per metre	
3503	54.8 54.9	Centre-Line Culvert - Traffic Control	Nil metres	per metre	
3504	54.8	Culvert Removal Premium	Nil occurrences	per occurrence	

CMA 9
Unit Price Schedule

Bid Item	Spec.	Description	Qty	Unit Price	Extension
3506	54.9	Culverts Install - Corrugated Metal Pipe - 500 mm - Nominal Diameter	Nil metres	per metre	
3507	54.9	Culverts Install - Corrugated Metal Pipe - 600 mm - Nominal Diameter	20 metres	per metre	
3508	54.9	Culverts Install - Corrugated Metal Pipe - 800 mm - Nominal Diameter	20 metres	per metre	
3509	54.9	Culverts Install - Corrugated Metal Pipe - 900 mm - Nominal Diameter	Nil metres	per metre	
3510	54.9	Culverts Install - Corrugated Metal Pipe - 1200 mm - Nominal Diameter	15 metres	per metre	
3511	54.9	Culverts Install - Corrugated Metal Pipe - 1500 mm - Nominal Diameter	15 metres	per metre	
3512	54.9	Culverts Install - Corrugated Polyethylene Pipe 525 mm - Nominal Diameter	Nil metres	per metre	
3513	54.9	Culverts Install - Corrugated Polyethylene Pipe 600 mm - Nominal Diameter	Nil metres	per metre	
3514	54.9	Culverts Install - Corrugated Polyethylene Pipe 750 mm - Nominal Diameter	Nil metres	per metre	
3515	54.9	Culverts Install - Corrugated Polyethylene Pipe 900 mm - Nominal Diameter	Nil metres	per metre	
3516	53.2	Pit-Run Gravel - Supply and Place	20 cubic metres	per cubic metre	
3517	53.2	Pit-Run Gravel - Pick Up and Place	Nil cubic metres	per cubic metre	
3518	53.3	Granular Base Course - Supply and Place	20 cubic metres	per cubic metre	
3519	53.3	Granular Base Course - Pick Up and Place	Nil cubic metres	per cubic metre	
3520	53.13	Asphalt Concrete Pavement (Mix Type M1 or Type S1) Patching (Grader) - Produce and Place	Nil tonnes	per tonne	

Alberta Transportation

CMA 9
Unit Price Schedule

Bid Item	Spec.	Description	Qty	Unit Price	Extension
3521	53.13	Asphalt Concrete Pavement (Mix Type M1 or Type S1) Patching (Grader) - Pick up and Place	Nil tonnes	per tonne	
3522	55.4	Supply of Aggregate	Nil tonnes	$1.250 per tonne	
3523	55.4	Supply of Aggregate	40 cubic metres	$2.040 per cubic metre	$81.60
3524	55.2	Haul	Nil tonne.kms	per tonne.km	
3525	55.2	Haul	1 600 m^3.kms	per m^3.km	
3526	54.9	Culvert Installation - Premium	Nil occurrences	per occurrence	
3528	54.10	Culvert End Repair - Using Hand Tools	5 each	per each	
3529	54.10	Culvert End Repair - Using Equipment	5 each	per each	
Activity 3600		**Maintaining Signs**			
3601	54.12	Standard Signs - Supply	100 square metres	per square metre	
3635	54.12	Standard Signs (Specialized Reflective Sheeting) - Supply	60 square metres	per square metre	
3606	54.12	Extra Prints	15 each	per each	
3607	54.12	Non Standard Signs - 3/4" Plywood - Supply	70 square metres	per square metre	
3657	54.12	Non Standard Signs - 3/4" Plywood (Specialized Reflective Sheeting) - Supply	10 square metres	per square metre	
3608	54.12	Non Standard Signs - Extruded Aluminum - Supply	70 square metres	per square metre	

CMA 9
Unit Price Schedule

Bid Item	Spec.	Description	Qty	Unit Price	Extension
3609	54.13	Sign Posts - Wooden, 100mm x 100mm (or equivalent) - Supply and Install	175 posts	per post	
3610	54.13	Sign Posts - Wooden, 100mm x 150mm (or equivalent) - Supply and Install	250 posts	per post	
3611	54.13	Sign Posts - Wooden, 150mm x 200mm (or equivalent) - Supply and Install	Nil posts	per post	
3612	54.13	Wooden Sign Posts (or equivalent) - Remove and Reinstall	Nil posts	per post	
3613	54.13	Wooden Sign Posts (or equivalent) - Remove and Dispose	25 posts	per post	
3614	54.13	Install Sign - Less than 1 square metre	600 each	per each	
3615	54.13	Install Sign - 1 to 3 square metres	100 each	per each	
3616	54.13	Install Sign - Over 3 square metres	30 each	per each	
3617	54.13	Remove Sign - Less than 1 square metre	20 each	per each	
3618	54.13	Remove Sign - 1 to 3 square metres	5 each	per each	
3619	54.13	Remove Sign - Over 3 square metres	5 each	per each	
3620	54.13	Breakaway Steel Posts - W150 x 14 - Supply and Install	20 posts	per post	
3621	54.13	Breakaway Steel Posts - W200 x 15 - Supply and Install	6 posts	per post	
3622	54.13	Breakaway Steel Posts - W150 x 22 - Supply and Install	2 posts	per post	
3623	54.13	Breakaway Steel Posts - W200 x 27 - Supply and Install	4 posts	per post	

CMA 9
Unit Price Schedule

Bid Item	Spec.	Description	Qty	Unit Price	Extension
3653	54.13	Breakaway Steel Posts - Install	10 posts	per post	
3624	54.13	Breakaway Steel Posts - Remove and Reinstall	2 posts	per post	
3625	54.13	Breakaway Steel Posts - Remove and Dispose	10 posts	per post	
3626	54.13	Concrete Base - Supply and Install	20 each	per each	
3656	54.13	Concrete Base - Install	10 each	per each	
3627	54.13	Concrete Base - Remove and Reinstall	2 each	per each	
3628	54.13	Concrete Base - Remove and Dispose	15 each	per each	
3629	54.13	Cluster Frames - Supply and Install	4 square metres	per square metre	
3630	54.13	Wind Frame - Supply and Install	5 square metres	per square metre	
3631	54.13	Reinforcing Girts - Supply and Install	5 metres	per metre	
3632	54.12 54.13	Banding of Signs	10 each	per each	
3633	54.13	Sign on Overhead Sign Structure or Bridge Structure - Install	12 square metres	per square metre	
3634	54.13	Sign on Overhead Sign Structure or Bridge Structure - Remove	12 square metres	per square metre	
3640	SP	Maintaining Welcome to Alberta Sign	Nil each	per each	
3643	SP	Screw-in Road Sign Base - Install	10 each	per each	

Bid Item	Spec.	Description	Qty	Unit Price	Extension
3644	SP	Screw-in Road Sign Base - Supply and Install	4 each	per each	
3645	SP	Screw-in Road Sign Base - Remove and Reinstall	2 each	per each	
3646	SP	Screw-in Road Sign Base - Remove and Dispose	Nil each	per each	
Activity 3800		**Maintaining Guideposts**			
3801	54.19	Flexible Guidepost - Supply and Install	2 000 each	per each	
3802	54.19	Flexible Guidepost - Remove and Reinstall	Nil each	per each	
3803	54.19	Flexible Guidepost - Remove and Dispose	Nil each	per each	
3804	54.20	Wildlife Reflector Post - Supply and Install Wooden Post 2.13 m	Nil each	per each	
3805	54.20	Wildlife Reflector Post - Supply and Install Steel Post 2.13 m	Nil each	per each	
3806	54.20	Wildlife Reflector - Supply and Install	Nil each	per each	
Activity 3900		**Maintaining Guardrail**			
3901	54.22	Guardrail/ Barrier - Remove and Dispose	750 metres	per metre	
3902	54.23	W-Beam Guardrail - Supply and Install	750 metres	per metre	
3903	54.23	Guardrail Posts 1.52 m Wooden - Supply and Install	200 posts	per post	
3913	54.23	Guardrail Posts 1.83 m Wooden - Supply and Install	75 posts	per post	

CMA 9
Unit Price Schedule

Bid Item	Spec.	Description	Qty	Unit Price	Extension
3904	54.23	Guardrail Posts 2.13 m Wooden - Supply and Install	15 posts	per post	
3905	54.23	Guardrail Posts 1.9 m Metal - Supply and Install	Nil posts	per post	
3906	54.23	Guardrail Posts Plastic - Supply and Install	100 posts	per post	
3914	54.23	Strong Post Spacer Blocks – Supply	200 each	per each	
3907	54.23	W-Beam Guardrail - Realigning	60 posts	per post	
3908	54.23	W-Beam Guardrail - Resetting	60 posts	per post	
3909	54.24	Box Beam Guardrail - Supply and Install	Nil metres	per metre	
3910	54.24	Box Beam Guardrail - Remove and Reinstall	Nil metres	per metre	
3911	54.24	Box Beam Guardrail Posts - Supply and Install	Nil posts	per post	
3912	54.23 54.24	Guardrail - Premium	4 occurrences	per occurrence	
Activity 4000		**Line Fence**			
4001	54.29	Line Fence - Repair or Remove	50 hours/2 man crew	hour/2 man crew	
Activity 4100		**Bridge Maintenance/ Rehabilitation/ Repair**			
4101	54.30	Bridge Structure - Cleaning	46 000 square metres	per square metre	
Activity 4200		**Beaver Control**			
4201	54.34	Beaver Control	Nil hours	per hour	

CMA 9
Unit Price Schedule

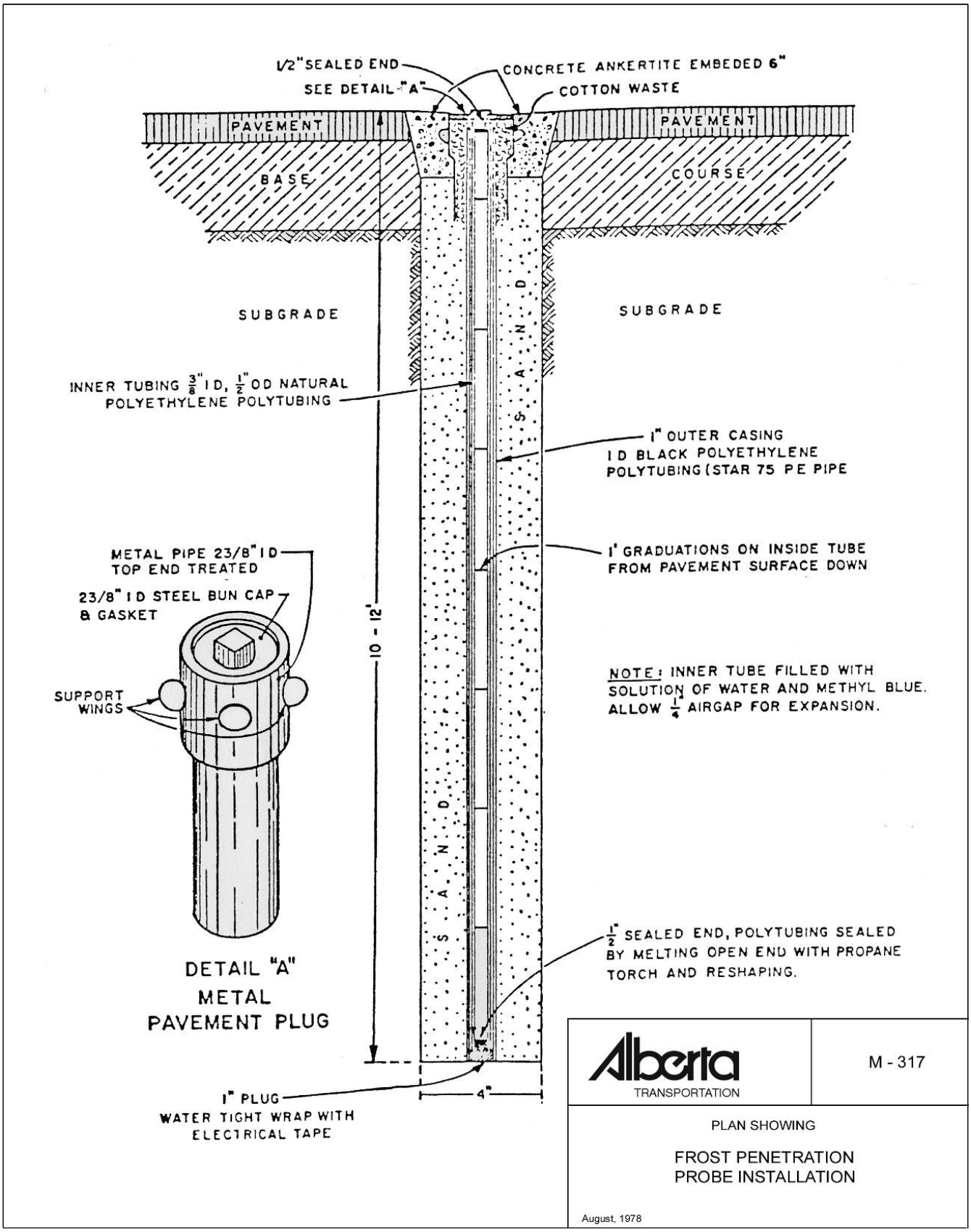
Bid Item	Spec.	Description	Qty	Unit Price	Extension
4202	55.6	Supply of Labourer (Miscellaneous Work) (same unit price as bid item 3007)	25 hours	per hour	
4203	55.6	Supply of Truck (Miscellaneous Work) (same unit price as bid item 3008)	25 hours	per hour	
Activity 4300		**Highway Cleanup**			
4301	52.2	Debris Removal - Loader	Nil hours	per hour	
4302	52.2	Debris Removal - Truck	50 hours	per hour	
4303	52.2	Debris Removal - Premium	Nil occurrences	per occurrence	
4310	55.6	Supply of Labourer (Miscellaneous Work) (same unit price as bid item 3007)	50 hours	per hour	
4311	55.6	Supply of Truck (Miscellaneous Work) (same unit price as bid item 3008)	50 hours	per hour	
Activity 4400		**Miscellaneous**			
4401	51.2.17	Contractor Indirect Operating Costs	12 month	per month	
4410	SP	General Liability Insurance Premium	Lump Sum	annual lump sum	
4450	SP	MiKE Radios	31 radios	$62.450 per radio/month	$23,231.40 (x 12 months)

Total Provisional Costs:		
Total Fixed Costs:		
Total Contract:		

SECTION I

(Drawings and Sample Forms)

FROST PROBE


1/2" SEALED END
SEE DETAIL "A"
CONCRETE ANKERTITE EMBEDED 6"
COTTON WASTE
PAVEMENT
PAVEMENT
BASE
COURSE
SUBGRADE
SUBGRADE
SAND
INNER TUBING 3/8" I D, 1/2" O D NATURAL POLYETHYLENE POLYTUBING
1" OUTER CASING I D BLACK POLYETHYLENE POLYTUBING (STAR 75 P E PIPE
1' GRADUATIONS ON INSIDE TUBE FROM PAVEMENT SURFACE DOWN
NOTE: INNER TUBE FILLED WITH SOLUTION OF WATER AND METHYL BLUE. ALLOW 1/4 AIRGAP FOR EXPANSION.
METAL PIPE 23/8" I D TOP END TREATED
23/8" I D STEEL BUN CAP & GASKET
SUPPORT WINGS
10 - 12'
DETAIL "A" METAL PAVEMENT PLUG
1/2" SEALED END, POLYTUBING SEALED BY MELTING OPEN END WITH PROPANE TORCH AND RESHAPING.
1" PLUG WATER TIGHT WRAP WITH ELECTRICAL TAPE
4"
Alberta TRANSPORTATION
M - 317
PLAN SHOWING
FROST PENETRATION PROBE INSTALLATION
August, 1978

SCREW ANCHORS - P1

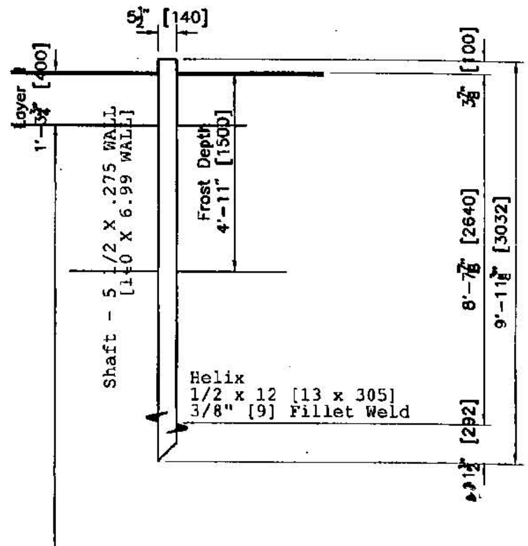
Pile Design Specifications

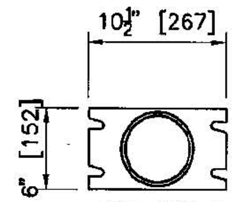
1. Pile Design Loads (Service or Working Loads):
   (Loads Have Been Derived From Sign Post Capacity)
   Tension = 0.00 kN (0.00 kip)
   Compression = 4.45 kN (1.00 kip)
   Horizontal = 6.05 kN (1.36 kip)
   with Eccentricity = 2.74 m (8.99 ft.)
2. Design criteria:
   a) Soil assumed to be generally as follows:
      Soil Layer 1
      · 0.00-0.40 m - Similar to Soft Clay
      · Undrained Shear Strength (Cu) = 25 kPa (522 psf)
      · p-y Modulus k = 0 kN/m³ (0 lb./ft.³)
      · Effective Unit Weight = 17.0 kN/m³ (108 lb./ft.³)
      Soil Layer 2
      · 0.40-8.00 m - Similar to Stiff Clay
      · Undrained Shear Strength (Cu) = 75 kPa (1566 psf)
      · p-y Modulus k = 22500 kN/m³ (143232 lb./ft.³)
      · Effective Unit Weight = 19.0 kN/m³ (121 lb./ft.³)
   b) Adfreeze bond of 65 kPa (1358 psf) is considered in the ultimate Pile Uplift capacity only.
   c) [illegible]
      9.0 mm (0.35 in.) maximum allowable lateral movement.
      (Lateral capacity and deflection calculated by computer software LPile with parameters described above.
   d) Pile shaft designed for maximum laterally unsupported length of 0.30 m (1.0 ft.).
   e) Piles to be battered 0 degrees plus/minus 2 degrees.
   f) Design Factor of Safety = 2.0
      (applied to SERVICE or WORKING Loads)

NOTE: It is the responsibility of others to verify the accuracy of the above design loads and design criteria.

3. If site conditions do not support the above criteria, design must be revised to accomodate actual soil conditions.
4. Pile installer to create pile installation report (including torque and depth readings) and submit to engineer upon completion.
   Expected install torque 8.08 kN m (5.96 ft.kip).
5. Structural steel members shall conform to:
   CSA-S16.1-94 (Limit States Design).
   Shaft - Yield Strength = 310 MPa (45.0 ksi)
   Helix - Yield Strength = 300 MPa (43.5 ksi)
6. Welding shall conform to:
   CSA W59 and CSA W47.1
   Weld Tensile Strength = 480 MPa (69.6 ksi)
7. Fabrication shall be carried out in accordance with standard practice and all applicable codes.
8. Above design and components shall conform to the latest editions of N.B.C. and applicable building codes.

9. Pile to be Galvanized. Galvanizing to conform to CSA G164 "Hot Dip Galvanizing of Irregularly Shaped Articles".





PILE CAP 1
1" = 1'

PROFESSIONAL ENGINEER BRIAN C. BUTE ALBERTA
Oct 2/06

BCB Engineering Ltd. – APEGGA (Alberta) Permit Number P 07105

Design Valid Until Oct 1/07

Almita 1-800-363-4668 Ponoka, Alberta	ENGINEERING BY: bcb	CLIENT: Various PROJECT: Road Sign Bases LOCATION: Various	SCALE 1/4"=1'	DATE Sep 28 2006	DRAWING NO. P1
			DRAWN BY pre-design	CHECKED BY	
			FILE #1532 E051212-1		REVISION: 0

SCREW ANCHORS - P2

Pile Design Specifications

1. Pile Design Loads (Service or Working Loads):
   (Loads Have Been Derived From Sign Post Capacity)
   Tension = 0.00 kN (0.00 kip)
   Compression = 4.45 kN (1.00 kip)
   Horizontal = 12.00 kN (2.70 kip)
   with Eccentricity = 2.74 m (8.99 ft.)
2. Design criteria:
   a) Soil assumed to be generally as follows:
      Soil Layer 1
      - 0.00-0.40 m - Similar to Soft Clay
      - Undrained Shear Strength (Cu) = 25 kPa (522 psf)
      - p-y Modulus k = 0 kN/m³ (0 lb./ft.³)
      - Effective Unit Weight = 17.0 kN/m³ (108 lb./ft.³)

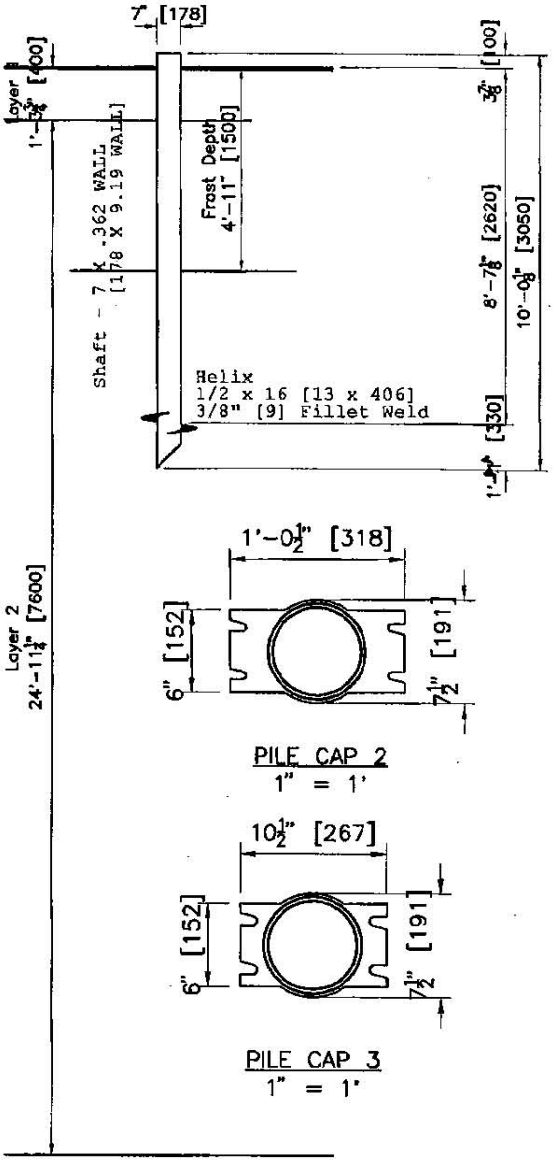
      Soil Layer 2
      - 0.40-8.00 m - Similar to Stiff Clay
      - Undrained Shear Strength (Cu) = 75 kPa (1566 psf)
      - [illegible] kN/m³ ([illegible] lb./ft.³)

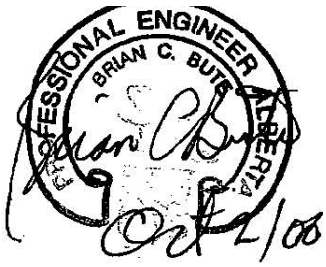
   b) Adfreeze bond of 65 kPa (1358 psf) is considered in the ultimate Pile Uplift capacity only. Frost depth of 0.00 m (0.0 ft.) is considered.
   c) Pile Ultimate lateral loads are based on 18.0 mm (0.71 in.) maximum allowable lateral movement. (Lateral capacity and deflection calculated by computer software LPile with parameters described above.
   d) Pile shaft designed for maximum laterally unsupported length of 0.30 m (1.0 ft.).
   e) Piles to be battered 0 degrees plus/minus 2 degrees.
   f) Design Factor of Safety = 2.0
      (applied to SERVICE or WORKING Loads)

NOTE: It is the responsibility of others to verify the accuracy of the above design loads and design criteria.

3. If site conditions do not support the above criteria, design must be revised to accomodate actual soil conditions.
4. Pile installer to create pile installation report (including torque and depth readings) and submit to engineer upon completion.
   Expected install torque 14.34 kN m (10.58 ft.kip).
5. Structural steel members shall conform to:
   CSA-S16.1-94 (Limit States Design).
   Shaft - Yield Strength = 310 MPa (45.0 ksi)
   Helix - Yield Strength = 300 MPa (43.5 ksi)
6. Welding shall conform to:
   CSA W59 and CSA W47.1
   Weld Tensile Strength = 480 MPa (69.6 ksi)
7. Fabrication shall be carried out in accordance with standard practice and all applicable codes.
8. Above design and components shall conform to the latest editions of N.B.C. and applicable building codes.

9. Pile to be Galvanized. Galvanizing to conform to CSA G164 "Hot Dip Galvanizing of Irregularly Shaped Articles".





BCB Engineering Ltd. – APEGGA (Alberta) Permit Number P 07105

Design Valid Until Oct 1/07

Almita 1-800-363-4668 Ponoka, Alberta	ENGINEERING BY: bcb engineering ltd.	CLIENT: Various PROJECT: Road Sign Bases LOCATION: Various	SCALE 1/4"=1' · DATE Sep 26 2006 · DRAWING NO. P2 DRAWN BY pre-design · CHECKED BY File # 1532 E051212-1 · REVISION: 0

SCREW ANCHORS - P3

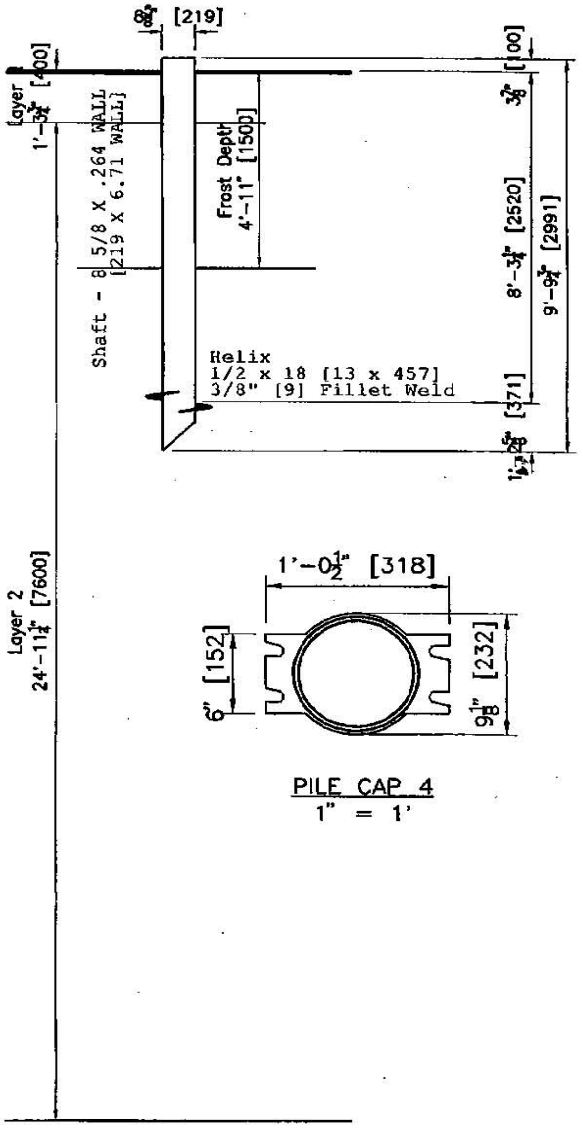
Pile Design Specifications

1. Pile Design Loads (Service or Working Loads):
   (Loads Have Been Derived From Sign Post Capacity)
   Tension = 0.00 kN (0.00 kip)
   Compression = 4.45 kN (1.00 kip)
   Horizontal = 12.89 kN (2.90 kip)
   with Eccentricity = 3.66 m (12.01 ft.)
2. Design criteria:
   a) Soil assumed to be generally as follows:
      Soil Layer 1
      · 0.00-0.40 m - Similar to Soft Clay
      · Undrained Shear Strength (Cu) = 25 kPa (522 psf)
      · p-y Modulus k = 0 kN/m³ (0 lb./ft.³)
      · Effective Unit Weight = 17.0 kN/m³ (108 lb./ft.³)
      Soil Layer 2
      · 0.40-8.00 m - Similar to Stiff Clay
      · Undrained Shear Strength (Cu) = 75 kPa (1566 psf)
      · p-y Modulus k = 22500 kN/m³ (143232 lb./ft.³)
      · Effective Unit Weight = 19.0 kN/m³ (121 lb./ft.³)
   b) Adfreeze bond of 65 kPa (1358 psf) is considered in the uplift capacity considered.
   c) Pile Ultimate lateral loads are based on 16.0 mm (0.63 in.) maximum allowable lateral movement. (Lateral capacity and deflection calculated by computer software LPile with parameters described above.
   d) Pile shaft designed for maximum laterally unsupported length of 0.30 m (1.0 ft.).
   e) Piles to be battered 0 degrees plus/minus 2 degrees.
   f) Design Factor of Safety = 2.0
      (applied to SERVICE or WORKING Loads)

NOTE: It is the responsibility of others to verify the accuracy of the above design loads and design criteria.

3. If site conditions do not support the above criteria, design must be revised to accomodate actual soil conditions.
4. Pile installer to create pile installation report (including torque and depth readings) and submit to engineer upon completion.
   Expected install torque 19.26 kN m (14.21 ft.kip).
5. Structural steel members shall conform to:
   CSA-S16.1-94 (Limit States Design).
   Shaft - Yield Strength = 310 MPa (45.0 ksi)
   Helix - Yield Strength = 300 MPa (43.5 ksi)
6. Welding shall conform to:
   CSA W59 and CSA W47.1
   Weld Tensile Strength = 480 MPa (69.6 ksi)
7. Fabrication shall be carried out in accordance with standard practice and all applicable codes.
8. Above design and components shall conform to the latest editions of N.B.C. and applicable building codes.

9. Pile to be Galvanized. Galvanizing to conform to CSA G164 "Hot Dip Galvanizing of Irregularly Shaped Articles".



PILE CAP 4
1" = 1'

BRIAN C. BUTE — PROFESSIONAL ENGINEER — ALBERTA

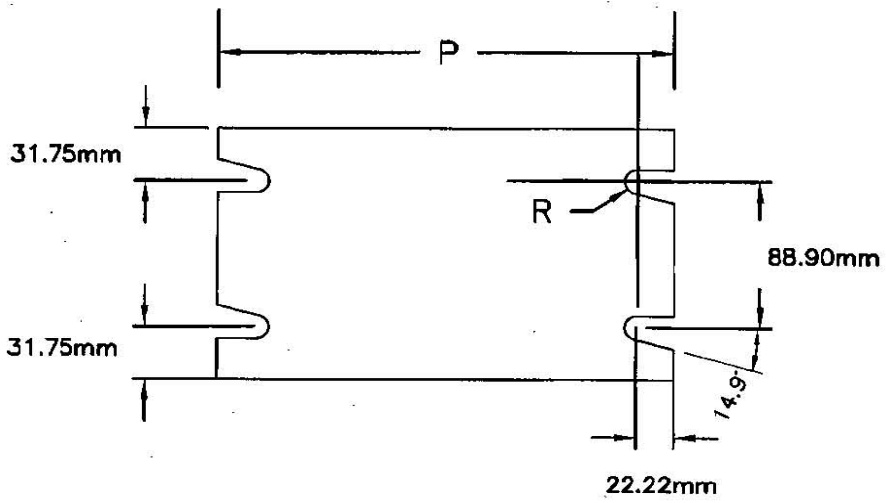
Oct 2/06

BCB Engineering Ltd. – APEGGA (Alberta) Permit Number P 07105

Design Valid Until Oct 1/07

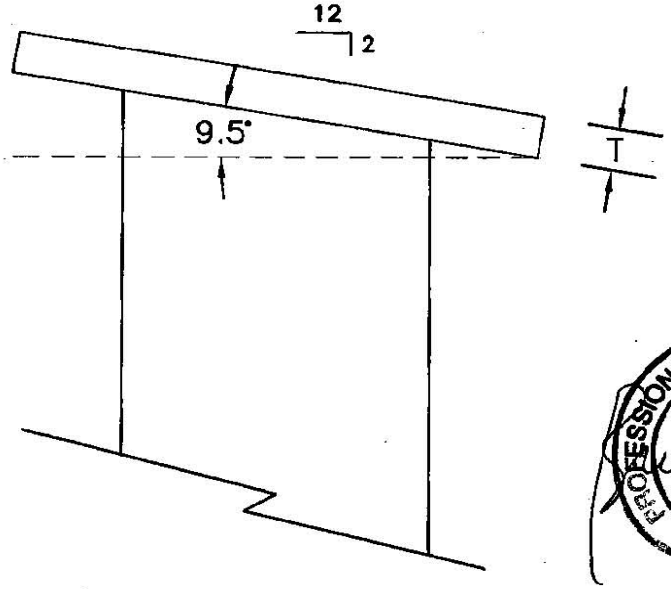
Almita 1-800-363-4868 Ponoka, Alberta	ENGINEERING BY: bcb engineering ltd. Lethbridge, Alberta, Canada	CLIENT: Various PROJECT: Road Sign Bases LOCATION: Various	SCALE 1/4"=1' · DATE Sep 28 2006 · DRAWING NO. P3 DRAWN BY pre-design · CHECKED BY FILE #: 1532 E051212-1 · REVISION: 0

SCREW ANCHORS - PC1



FOUNDATION DATA								BASE CONNECTION DATA			
POST SIZE		SCREW PILE O.D. D		SHAFT LENGTH L		HELIX DIA. HX		BOLT SIZE (mm)	P (mm)	T (mm)	R (mm)
METRIC	IMPERIAL	METRIC	IMPERIAL	METRIC	IMPERIAL	METRIC	IMPERIAL				
W150 X 14	6B8.5	140mm	5 1/2"	3048mm	120"	305mm	12"	13	266.7	25.4	7.14
W200 X 15	8B10	178mm	7"	3048mm	120"	406mm	16"	16	317.5	31.8	7.14
W150 X 22	6WF15.5	178mm	7"	3048mm	120"	406mm	16"	16	266.7	31.8	8.73
W200 X 27	8WF17	219mm	8 5/8"	3048mm	120"	457mm	18"	19	317.5	31.8	10.32

– ALL HELIXES TO BE 1/2" THICK



PROFESSIONAL ENGINEER ALBERTA
BRIAN C. BUTE
Oct 2/06

BCB Engineering Ltd. – APEGGA (Alberta) Permit Number P 07105

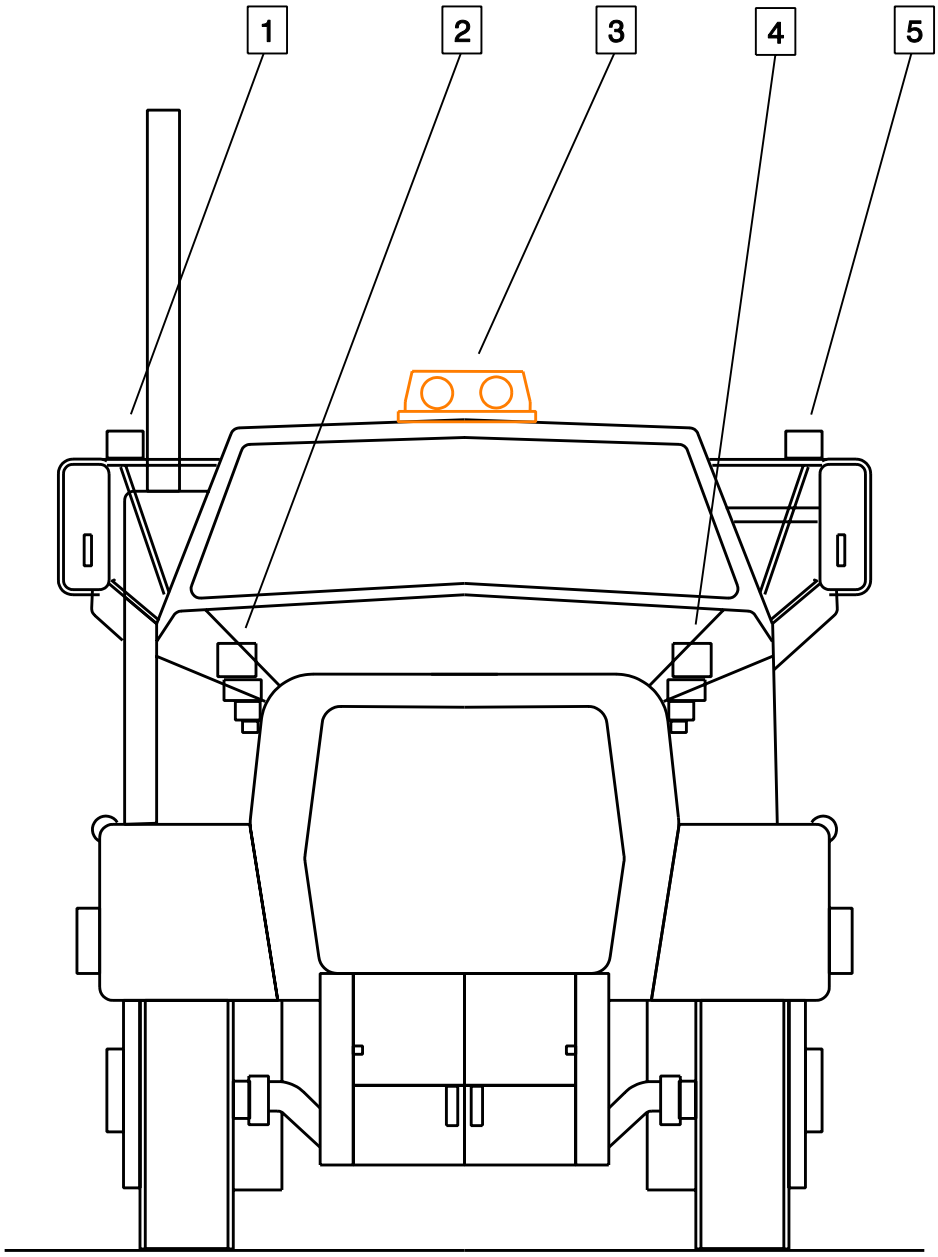
Design Valid Until Oct 1/07

Almita
1-800-363-4868 Ponoka, Alberta

ENGINEERING BY: bcb engineering ltd.

CLIENT: Various
PROJECT: Road Sign Bases
LOCATION: Various

SCALE	DATE	DRAWING NO.
1/4" = 1'	Sep 28 2006	PC1
DRAWN BY: pre-design	CHECKED BY:	
FILE #: 1532 E051212-1		REVISION: 0



FRONT VIEW

1. R.H. Marker/Signal Lamp, Red/Amber
2. R.H. Plow Lamp
3. Dual Rotating Lamp Beacon (Amber)
4. L.H. Plow Lamp
5. L.H. Marker/Signal Lamp, Red/Amber

No.	DESCRIPTION	BY	DATE

Alberta
INFRASTRUCTURE AND TRANSPORTATION

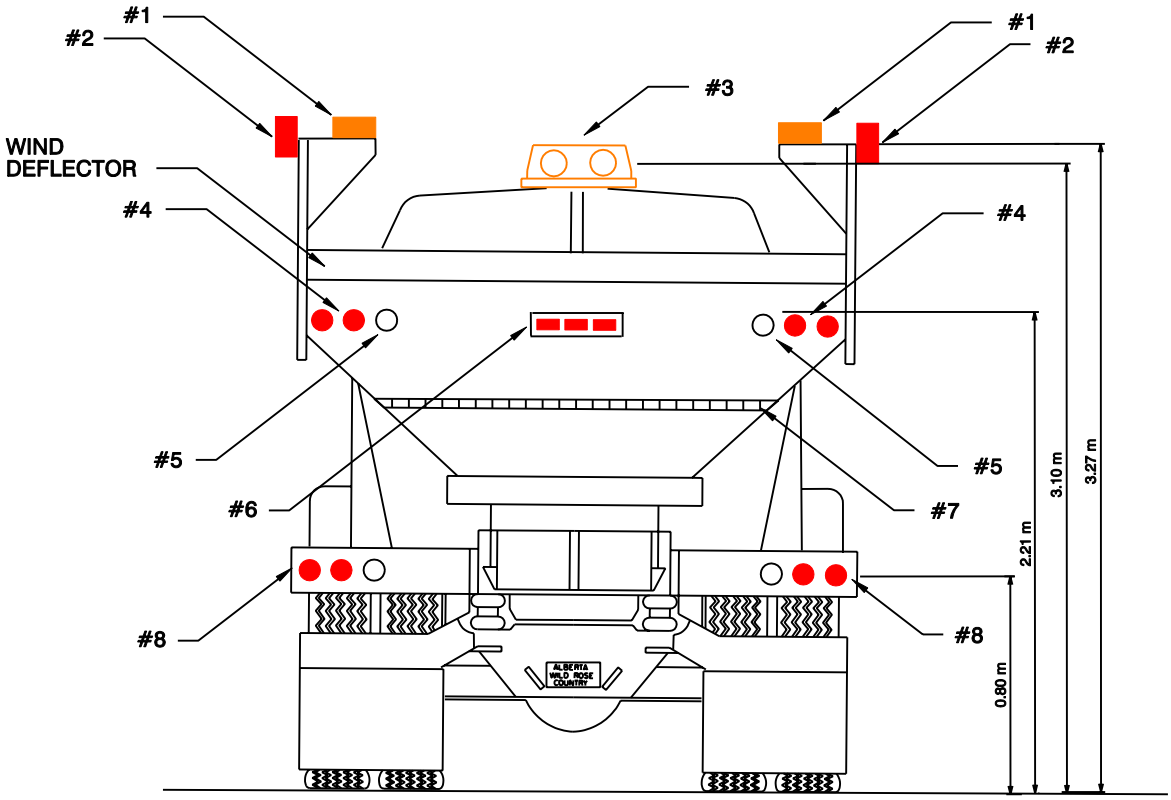
DRAWING
HMS 52.ID

Date: AUGUST 2005

SNOW REMOVAL AND ICE CONTROL TRUCK

FRONT LIGHTING STANDARD

Drawn By:	Checked By:	Scale: N.T.S.	SECTION



#1 - 75 mm x 175 mm Rectangular LED Lamp (Amber)

#2 - 75 mm x 175 mm Rectangular LED Lamp (Red)

#3 - Dual Rotating Lamp Beacon (Amber)

#4 - Round 100 mm LED Lamps (Red) (Stop-Tail-Turn)

#5 - Round 100 mm Backup Lamp (White)

#6 - LED Rear Identification Lights (Red)

#7 - Reflective Tape (2 Strips)

#8 - Round 100 mm LED Lamps (Red and White) (Stop-Tail-Turn & Backup)

No.	DESCRIPTION	BY	DATE

Alberta
INFRASTRUCTURE AND TRANSPORTATION

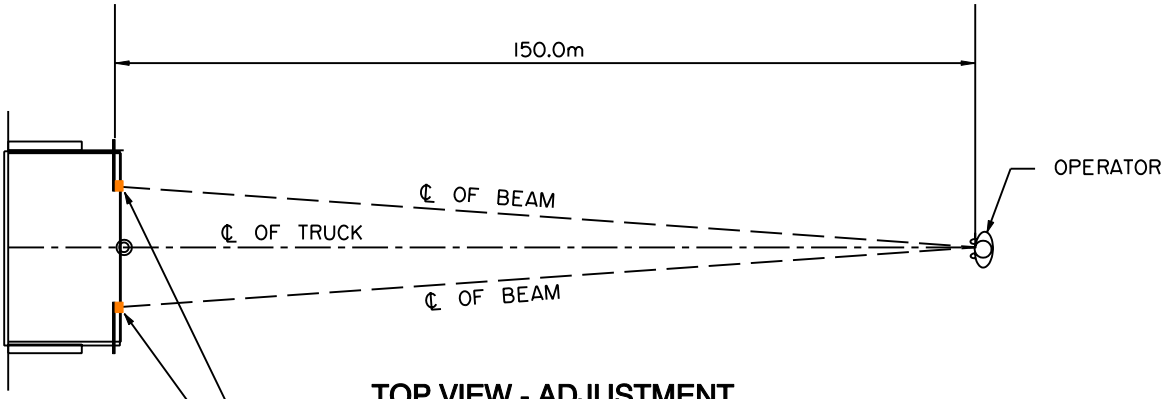
DRAWING
HMS 52.IE

Date: AUGUST 2005

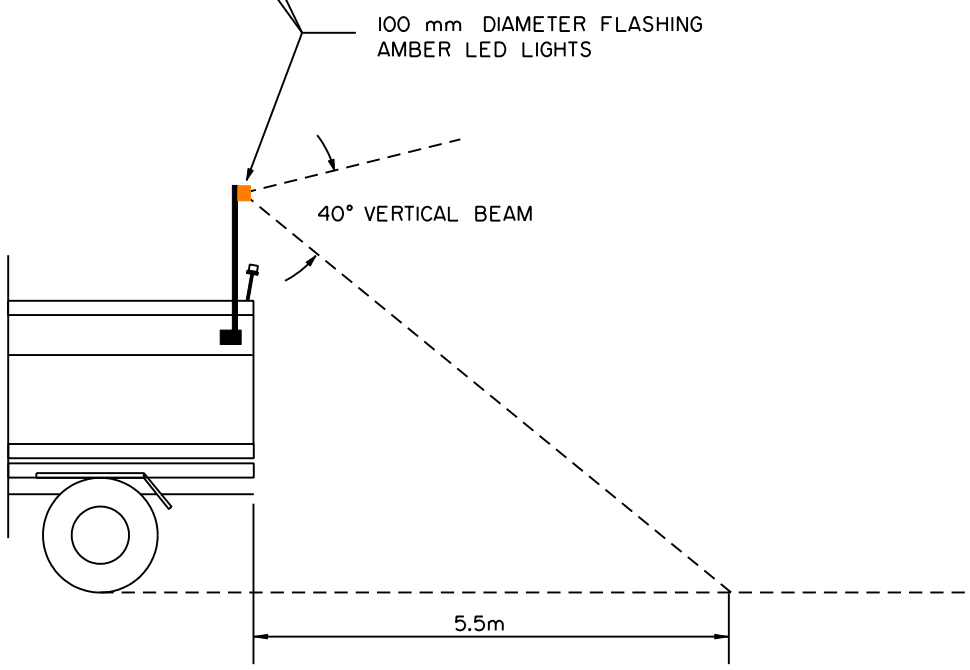
SNOW REMOVAL AND
ICE CONTROL TRUCK

REAR LIGHTING STANDARD

Drawn By:	Checked By:	Scale: N.T.S.	SECTION



TOP VIEW - ADJUSTMENT



SIDE VIEW - ADJUSTMENT

No.	DESCRIPTION	BY	DATE

Alberta
INFRASTRUCTURE AND TRANSPORTATION

DRAWING
HMS 52.IF

Date: AUGUST 2005

SNOW REMOVAL AND ICE CONTROL TRUCK

REAR AMBER FLASHING LIGHT ADJUSTMENT

Drawn By:	Checked By:	Scale: N.T.S.	SECTION

Alberta
INFRASTRUCTURE AND
TRANSPORTATION

SAMPLE FORMS

CONTENTS

- **AMA ROAD REPORT**
- **AVAILABILITY BI-WEEKLY REPORT**
- **HIGHWAY INSPECTION FORM**
- **HIGHWAY WORK IDENTIFICATION GUIDELINES**
- **WINTER READINESS CHECKLIST**
- **CHEMICAL SPRAY EXEMPTION**

AMA ROAD CONDITION REPORT

24339

Date ________ CMA # ________ Shop ________

AMA ID	Time	Hwy	Location	Driving Lane Conditions						Shoulder Cond.		Weather Conditions				Action Taken				Driving Conditions			Visibility		
				Bare & Dry	Bare & Wet	Icy Sections	Snow Covered	Bare Wheel Paths	Drifting Snow	Bare	Snow / Ice	Snowing	Freezing Rain	Fog Patches	Strong Winds	Plowing in Progress	Plowing Complete	Sanding in Progress	Sanding Complete	Good	Fair	Poor	Good	Fair	Poor
		41:20	FONT SIZE 6, 73 CHAR MAX	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		45:08	FROM HWT 45 TO HWY 640	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
			FROM MURNAM TO HWY 41	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
			FROM HWY 41 TO DEWBERRY	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
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				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

COMMENTS TO AMA (Additional road conditions that the travelling public should be aware of)

Alberta Transportation ADDITIONAL COMMENTS:

ALBERTA TRANSPORTATION (To be filled in by Maintenance Contractor)

AVG. PRECIP. ________ mm ON DEMAND INSPECTIONS ________ kms

AVG. TEMP ________ °C INSPECTION COMPLETED BY: ________ / ________
(Printed Name) (Signature)

24339

The information shown on this report is based upon the last "known" conditions. Actual conditions may change from the time of which this report was generated.

Alberta
INFRASTRUCTURE AND TRANSPORTATION

SNOWPLOW TRUCK, LOADER &
OPERATOR AVAILABILITY BI-WEEKLY REPORT

Shop _____ Foreman _____ Work Order No. _____ Week Ending _____

UNIT NUMBER	Mon	Tues	Wed	Thur	Fri	Sat	Sun	Mon	Tues	Wed	Thur	Fri	Sat	Sun	COMMENTS
Date															
No. of Operators															

Note, a checkmark indicates unit was available on noted day.

Foreman's Signature _____

CONTRACTOR NAME (LOGO)

Alberta INFRASTRUCTURE AND TRANSPORTATION

Highway Work Identification Report

Date

CMA # 14

SHOP: TWO HILLS **CIRCUIT** _____

Hwy	Identify Times of Inspection							PAVED ROADS (Fill in details in comment Section)			Gravel/ Oiled Roads		OTHER OBSERVATIONS (Fill in details in comment section)									
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	(a) Potholes	(b) Surface Failures	(c) Work In Progress	(d) Blading Required	(e) Work in Progress	(f) Damaged Signs	(g) Damaged Guardrail	(h) Damaged Guide Posts	(i) Drainage Problems	(j) Erosion Problems	(k) Large Debris in ROW	(l) Beaver Dams	(m) Non-Conforming Signs	(n) Activity by Others	(p) Misc. (Details Below)
36:18																						
36:20																						
36:22																						
45:06																						
45:08																						
857:04																						
631:02																						
631:04																						
870:10																						
637:04																						
637:06																						
645:04																						

Comments - Please provide details to observation made (i.e. Location, description of damage etc)

Roads Inspected by: _____ (Printed Name) _____ (Signature)

The information shown on this report is based upon the last "known" conditions. Actual conditions may change from the time of which this report was generated.

Highway Work Identification Guidelines

Intent of Form

The intent of the form is to identify work that may be required to the highway infrastructure. The contents of the report will be based on the drive by day time inspections of the highway. The report is to be submitted to Alberta Transportation once a week or a frequency otherwise agreed to by the Department and the Contractor

Inspection Identification

Forms are to be modified by each District to include highway control sections contained within a given inspection beat, as agreed with the maintenance contractor.

Indicate the start time of inspection for each individual highway control section inspected in a defined beat.

Place a check mark in the Roads Checked column identifying which Highway sections were inspected. Person who conducted inspection are to print their name and sign the form before submitting it to Alberta Transportation.

If more then one person inspected the same road during the course of the week, the form should be signed off by those who conducted the inspections.

Check Boxes & Comments - General

For each Highway section, place check marks under the appropriate category for conditions observed during an inspection. **The first time a new condition is observed, a comment must be included in the comment section, detailing the observation. Comments need not be added for repeat observations of a condition, only for new occurrences**. Some specific considerations are included below.

Paved Roads

(a) Potholes – to include all potholes on driving lanes and shoulders. Identify in comment section as to the severity of the problem. No need to count ever pothole, just indicate the range. (I.e. 0-10 potholes, 10-50 potholes, 50 or more potholes

(b) Surface Failures – to include all pavement failures and breakouts exceeding pothole size. Clarify description of problem in comment section.

(c) Work in Progress – check when maintenance contractor is undertaking surface work activities on paved highway. Identify activity in comment section.

Gravel/Oiled Roads

(D) Blading Required – Check box when blading is required. Identify in comment section if spot gravelling is required in some locations.

(E) Work in Progress – check when maintenance contractor is undertaking surface work activities on gravel highways. Identify activity in comment section.

Other Observations

Generally, identify details and locations of problems observed on the first inspection where identified, and simply include check mark where still existing on subsequent inspections.

(F) Damage Signs – Check box if signs are damaged. (i.e., knock down, broken post, holes in signs, piece of sign missing, signs leaning) Report in comment section location of sign.

(G) Damage Guardrail – Check box if guardrail is damaged. (I.e. broken posts, damaged rail) Report in comment section location of damaged guardrail.

Alberta
INFRASTRUCTURE AND
TRANSPORTATION

(H) Damage Guide Posts – Check box for damaged guideposts. (I.e. knock down, missing reflector strip). Identify in comment section as to the severity of the problem. No need to count ever guidepost, just indicate the range. (I.e. 0-10 guideposts, 10-50 guidepost, 50 or more guideposts.

(I) Drainage Problems – Check box if you note water being back up in ditch because of plugged culvert, or if you spot a collapse culvert. Also check if you noted a farmer has cultivated the bottom of the ditch. Only check once with reference in comment section, when first observed.

(J) Erosion Problems – Check if you note any side slope movement or any slides within or adjacent to the highway right-of-way. Also check if you note any serious erosion that has occurred within the right-of-way following a recent rain event or spring runoff. Only check once with reference in comment section, when first observed.

(k) Large debris in ROW - Check only when large debris is found in ROW, such as fridge's, tires, bags of garbage, etc.

(L) Beaver dams – Check off if beaver dams are located within or near highway right-of-way and are posing a hazard to the highway.

(M) Non-Conforming Signs – Check off box if you note any non-conforming signs placed up within the highway right-of-way that appear to be of a permanent nature. Identify location of sign(s) in comment section.

(N) Activity by Others – Check box if you note any activity such as utility & pipeline construction or any other development within or adjacent to the highway right-of-way. Identify activity and location in comment section.

(O) Miscellaneous – Indicate detail in comments section, i.e.) signal lights, litter bins, extreme weather conditions, etc.

Signature Line

To be signed by person that did the inspection and filled in the report.

Alberta
INFRASTRUCTURE AND TRANSPORTATION

Winter Readiness Checklist

The following checklist is to be filled out by the contractor and submitted to the Department Engineer prior to October 15 of each year.

DESCRIPTION	Yes/No
EQUIPMENT	
All snow plow units have a valid Alberta Vehicle registration or equivalent permit and a current commercial Vehicle Inspection Certification Decal.	
All snow plow units are ready to commence work at the start of the availability period.	
All snow plow units are equipped the number of wings, prewetting units and other accessories as identified in the contract requirements.	
All snow plow units are mechanically safe to operate	
All spread controls for each unit have been calibrated	
All power floats for each unit have been calibrated	
All Infrared Thermometers have been calibrated.	
AVLS Units are functioning properly	
Pre-wetting units are functioning properly	
Warning lights, flags & reflectors on all plow units have been checked for proper installation and alignment.	
All loaders are operational	
All graders used for gravel roads are equipped with an adequate set of blades, scarifier teeth, shanks and Sandvik blades and bits (System 2000) or equivalent.	
All graders are equipped with functioning headlights, tail lights, 4-way flashers, back-up alarm, revolving light, slow moving symbol and warning flags on the outward edges of the cab and moldboard.	
All graders are equipped with a functioning wing mounted on the right hand side.	
MATERIAL	
Sand and salt is stockpiled at all sites as per the work plan.	
Sand stockpiles at each site have been freezed proof as per the work plan.	
Pre-wetting chemical is stored at each site as per the work plan.	
OPERATORS	
All operators required under the contract are available to commence work at the start of the availability period.	
All new operators have received appropriate training	
Pre-winter safety meetings have been held for all operators	
Each operator has a valid operator's license	

Written clarification is required on any "No" response.

I certify that the information on this check list is correct.

_____ _____ _____

Contractors Printed Name **Signature** **Date**

INFRASTRUCTURE AND TRANSPORTATION

RIGHT OF WAY VEGETATION CONTROL APPLICATION
(CHEMICAL SPRAY EXEMPTION)

NAME (please print): _____

ADDRESS: _____

PHONE NUMBER(S): _____

(hereinafter the Applicant)

DEFINITIONS

"Restricted Weeds" means those weeds classified as such by Alberta Regulation 171/2001, as amended, and made pursuant to the *Weed Control Act, R.S.A. 1980, c. W-6*, as amended.

"Noxious Weeds" means those weeds classified as such by Alberta Regulation 171/2001, as amended, and made pursuant to the *Weed Control Act, R.S.A. 1980, c. W-6*, as amended.

Terms of Application

1. The Applicant hereby requests that Alberta Infrastructure and Transportation refrain from using herbicides to control brush, restricted weeds and noxious weeds within the rights of way under its control and described as Designated Non-Treatment Areas in the attached list.

2. The Applicant warrants that he is the owner or has an interest by reason of being an occupant in the lands described as Designated Non-Treatment Areas in the attached list. The Applicant warrants that he has the full power and authority necessary to make this Application and comply with its terms.

3. The Applicant agrees to destroy all restricted weeds and control all noxious weeds and brush in the Designated Non-Treatment Areas to the standard required by Alberta Infrastructure and Transportation.

4. Should the Applicant fail to destroy restricted weeds, and control noxious weeds and brush to the standard acceptable to Alberta Infrastructure and Transportation, Alberta Infrastructure and Transportation may at any time and by any means including the use of herbicides, undertake such activities as are necessary to achieve proper control of restricted weeds, noxious weeds and brush.

5. The Applicant agrees to indemnify and save harmless Alberta Infrastructure and Transportation, its employees, agents and contractors from any and all claims, demands, actions, or costs of any claims, demands or actions, whatsoever, that may arise directly or indirectly out of the granting of this application by Alberta Infrastructure and Transportation. Further, the Applicant also releases Alberta Infrastructure and Transportation, its employees, agents or contractors from any claims, demands, or actions that may arise directly or indirectly out of any unintended spraying of the Designated Non-Treatment Areas by Alberta Infrastructure and Transportation, its employees, agents, or contractors.

6. This application expires on September 30 of the year of application. Unless this application is renewed by the Applicant, with the approval of Alberta Infrastructure and Transportation, Alberta Infrastructure and Transportation shall resume control of restricted weeds, noxious weeds, and brush in the Designated Non-Treatment Areas in accord with its standard practices.

7. Subject to the Applicant complying with the terms of this application, Alberta Infrastructure and Transportation agrees to refrain from the use of herbicides within the Designated Non-Treatment Areas.

Application Date: This _____ day of _____, 200__.

Signature of Applicant: _____.

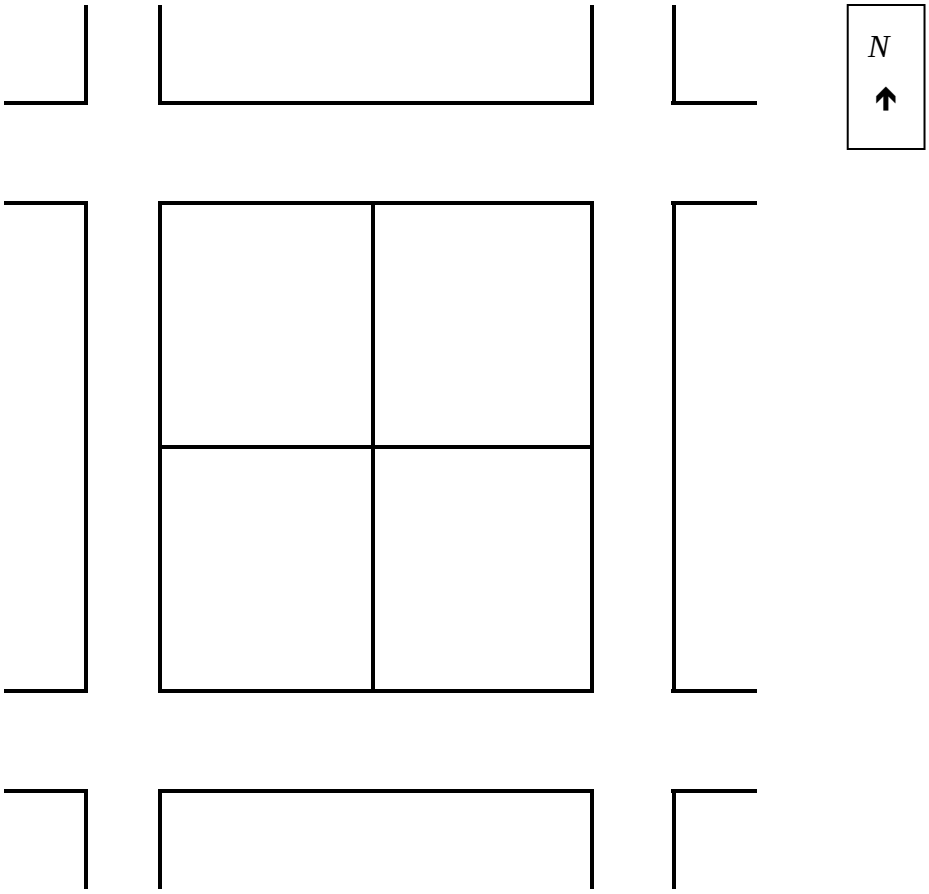
Designated Non-Treatment Areas

1. _____

2. _____

3. _____

(Please specify the designated non-treatment areas on the diagram below.)



Use additional pages for more Designated Non-Treatment Areas

Approved on behalf of Alberta Infrastructure and Transportation: _____

Date: _____.

cc: Maintenance Contract Inspector

SECTION J

(Performance Measures)

Procedures for Maintenance Contract Performance Measures

Commencing 2005 / 2006 Appraisal Year
MPMG Task Group

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Selective Surface Seals 22
Transverse Crack Repair – Spray Patch 23
Pothole Patching 23
Asphalt Pavement – Surface, Patching & Deep Patching 24
Roadway & Raised Median Cleaning 24
Painted Roadway Lines 25
Pavement Messages 25
Grading Gravel Surfaces 26
Regravelling 26
Supply & Apply Dust Abatement 27
Emergency Sign Package, Supply, Flag Person, Signs, Vehicle Supply/Arrow Boards 27
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Summary of Maximum Scoring for Maintenance Contract Performance Measures 34

Alberta Transportation

Introduction

In 1998, a task group including members of Alberta Roadbuilders and Heavy Construction Association (ARHCA) and Alberta Transportation (Trans) completed the initial “Maintenance Contractor Performance Measures” (CPM). Modifications have been made to CPM to update and improve the initial procedures. The updated procedures will come into effect commencing April 1, 2005.

This document attempts to clarify the processes and reduce any inconsistencies that exist in the practice of CPM. It is not intended to change either the “Spirit or Intent” of the original document.

Contractor Performance Measures has three components. This document clarifies procedures for all three components.

Alberta Transportation

Timeliness

The intent of “timeliness” is to measure the Contractor’s performance of “keeping up with the work” and completing work on a timely basis. Timeliness will cover 40% of the Contractor’s overall score for performance measurement.

A computer report generated by Trans staff will calculate the number of days a work item is reported to be completed late, that is days beyond it’s “due” or “completion” date.

The total number of “Work Item Days Late” will be tracked throughout the year and reviewed with the Contractor on a monthly basis, to determine if the Contractor is “keeping up” to the work ordered.

One standard report format will be adopted provincially, to measure timeliness, incorporating the following features:

- Indirect Operating Costs will not be considered.
- No hourly work will be counted other than if the Contractor provides a proposal with a time frame.
- The Contract Procedures Manual will be updated, to ensure consistent procedure, for the recording of dates.
- Highway Maintenance Work will be removed.
- Winter Response time for snowplow trucks is not considered in timeliness.
- Emergency work will not be considered in timeliness.
- When the work is completed, the date recorded is the actual last day of work, not the default date or date set, initially generated when the work order was cut.
- No winter or snow and ice control activities will be included, in the measure except for Ice Control Materials – Sand Stockpiles
- Critical work orders will not be closed, until they are completed or the end of the fiscal year, whichever comes first.
- Non Critical work orders not completed on time and are greater than or equal to 80% complete may be requested by the contractor to be closed at the end of the season.
- Late Non Critical work order less than 80% complete will not be closed until the end of the fiscal year.
- To encourage prompt completion, if Critical Work Activities Items Days Late will be multiplied by a factor of two or ten depending on the activity prior to being added to the total Work Order Item Days Late variable in calculating the Contractor’s Work Order Timeliness score. The list of critical activities and their weighted factors are shown in “Table of Weighted Highway Maintenance Activities”.

At the end of the year, the total number of 'work item days' will be placed into an index calculation. The formula for calculation of the Contractor's Timeliness Score out of 40 is shown below:

$$\text{Contractor's W.O. Timeliness Score} = 40 \times \frac{\text{Total Number of "Work Order Item Days" in Contract - Work Order Item Days Late}}{\text{Total Number of "Work Order Item Days" in Contract}}$$

It is appropriate for the Maintenance Contract Inspector to determine if work is planned or discretionary in nature. The following definitions apply:

Planned Work: Work that is ordered in advance of its need, to meet the operational demands of the Department and scheduling is mutually agreed upon by both parties. Planned work may have permissible longer due dates agreed upon at the time the work order is issued. Typically the Contractor will have a "work plan" or "work schedule" and the planned work requirements are usually accommodated within the plan.

Reactionary Work: Work that is ordered in a "reactive situation" that occurs and is not foreseen or planned. This type of work is required to maintain overall service for the motoring public.

When the completion of the Work is delayed through no fault of the Contractor, the Contractor shall provide the Engineer with written notice of the existence of circumstances over which he has no control and which affects the completion of the work. The Engineer may, at his discretion, extend the completion date specified in the Work Order. Refer to Contract Administrative Manual for further guidelines to extending work orders.

If the amount of work has varied appreciably from the original plan (+ 20 %), then an additional Work Order for the supplemental, work will be issued. Completion dates may be adjusted when the contractor can verify that the increased work has impacted the completion dates of other work.

This procedure stresses the need for the Contractor and Maintenance Contract Inspector to work together co-operatively for identification and planning of the work, prior to issuance of the work order.

Issuance of work orders on Friday afternoon for reactionary work should be for emergency situations only.

Table of Weighted Highway Maintenance Activities

X 1 Factor (Non-Critical Activities)	X 2 Factor (Critical Activities)	X 10 Factor (Critical Activities)
Crack Sealing; Hot & Cold Pour Emulsion	Dust Abatement (Calcium Chloride)	Supply Winter Sand/Salt Mixture
Crack Sealing; RACS	Dust Abatement (Other Materials)	Supply Salt
Subgrade Excavation	Mobile Equipment; Roadside Strip Spray	Pothole Patching by Hand
Subgrade Excavation-Subsurface Drain	Mobile Equipment; Spot Spraying	Asphalt Pavement Patching by Hand
Fogging	Hand Spraying	Emergency Patch, Proprietary Material
Surface Repair-Spray Patch		Emergency Patch (ASBC)
Crack Repair-Spray Patch		Cold Mix (Grader)
Asphalt Surface Treatment-Patching		Hot Mix; Rut Repair
Asphalt Surface Treatment-Minor Repair		Hot Mix (Paver)
Asphalt Surface Treatment-Major Repair		Hot Mix (Grader)
Asphalt Surface Treatment-New Construction		Line Painting
Deep Patching		Re-Gravel Main Alignment
Sweeping		Other Re-Graveling Spot Repairs
Pick Up Sweeping		
Pavement Markings; Painted		
Pavement Markings; Thermoplastic		
Milled Rumble Strips		
Mowing		
Culvert Maintenance Summer		
Culvert Repairs		
Culvert Replacement or New Installation		
Maintain Signs		
Maintain Delineators		
W-Beam		
Box Beam		
Repair or Remove Fence		
Wash Bridge Decks		

Alberta Transportation

Safety

Safety performance will form 20% of the Contractor's overall annual score for Contractor Performance Measures. There will be 20 points assessed, on the following criteria for safety performance:

Development of Safe Work Procedures System

a). Each year the Operations Manager shall identify which two activities she/he requires for safe work procedures, by April 01. The Contractor shall provide in writing, each year, those two safe work procedures, within a month of the Operations Manager's request.

The Operations Manager shall award one point, for this category. If the Contractor complies with this requirement fully, there shall be no deductions made.

A listing of activities for safe work procedures is shown below:

MAINTENANCE ACTIVITIES SAFE WORK PROCEDURES
Snow removal, plow truck
Snow removal by grader
Snowblowing & removal by loader & truck haul
Crack sealing & transverse crack repair
Surface seal (seal & for coating)
Pothole Patching
Sweeping (intersections, bridge deck, etc.)
Line Painting
Pavement Patching & Pavement Markings
Grading gravel surfaces (summer work) & re-gravelling and dust control
Maintaining guardrails, signs & delineator (includes washing)
Washing bridge decks
Bridge wood deck repair
Emergency road closures (dangerous good spills, road hazard, 3rd party accident response, fire calls, etc.)
Ferries
Mowing & brushing
Chemical vegetation control
Excavation or culvert repairs that involve lane closures.

b). A copy of the internal or peer safety audit or letter from ACSA with ACSA Audit Summary Sheet is to be provided to the Operations Manager, by the Contractor each year, for each Contract. Audit or letter is to be received by March 31, for the previous year.

Every Contractor that complies with this requirement fully shall be awarded two points.

Alberta Transportation

Accident Reporting and Investigation Process

a) The contractor shall provide notification of all serious injury or other accidents, involving employees of the contractor or his sub-contractors, engaged in primary highway maintenance work, within the execution of the maintenance contract.

The definition of serious injury is any injury or accident that is reportable by Section 18 of the Occupational Health and Safety Act.

An award of one point will be made by the Operations Manager, for this category if there are no failures in reporting accidents within 72 hours of the occurrence. During the performance evaluation appraisal period, the Operations Manager shall monitor the reporting situation. If, during the performance evaluation period, a report is missed or not reported after an ample opportunity to do so has occurred, then a deduction of one point will be made against the Contractor's safety score, for this item. Should the Contractor have more than one non-reporting incident, in this category, the Contractor's score for this item will be zero, regardless of the number of subsequent incidents.

b) The contractor should notify the Operations Manager, or designate, of all 3rd party accidents involving serious personal injury, fatalities, or property damage in excess of $1000 that involves the Contractor's staff or equipment, if the work has been ordered under the terms and conditions of the Maintenance Contract. Reporting to the Operations Manager or designate, would be done usually within seventy two hours of an occurrence.

The Operations Manager shall award initially two points, for this category. During the appraisal period, the Operations Manager shall monitor the reporting situation and shall deduct one point for every incident where the Contractor missed reporting. Notice of the missed incident shall be provided in writing, by the Operations Manager.

Conducting Health & Safety Work Site Meetings

The Contractor shall provide documentation that monthly safety meetings are held and Trans staff are invited, once a year.

This documentation shall normally take the form of a letter, inviting Maintenance Contractor Inspectors, Operations Managers and Regional Safety Officers to meetings. Or this may be done by a standing invitation, contained within the minutes of a biweekly meeting.

Scoring for this item shall be as shown below:

1 Point	If the Contractor has provided the letter/invitation.

Safety Pre-commencement Meetings for Subcontractors

Subcontractors (for the purpose of performance measurement) are defined as the following:

Subcontractor: Anyone, or any group, retained to do a significant portion of a major maintenance activity. Normally the Contractor is not involved in direct supervision of the work.

The Contractor should hold a pre- commencement meeting with Subcontractors to discuss application of the following:

1. Hazard Assessment
2. Safe Work Procedures and Practices

The Contractor shall be provided with three points for performance score for this item. A deduction of one point shall be made for each incident when sub-contractor pre-commencement meeting were not held, or not covering the two above noted items. This is to be determined by the minutes of the pre-commencement meeting, provided by the Contractor. Should any Contractor have more than three incidents, the Contractors performance score, for this item, shall remain at zero.

Each year the year-end report lists the subcontractors. It is expected that pre-commencement meetings will have been held with all subcontractors, with minutes of the meetings recorded and available to the auditors. Owner operators are not considered subcontractors in this case and may have their pre-commencement meetings included with the main contractor's pre-commencement meeting.

Traffic Accommodation for Work Zones

a) The Contractor shall provide documentation to confirm a standard process is used for traffic accommodation that meets the Department's standards.

Should Department staff identify deficiencies within work zones, the Contractor shall be advised of these deficiencies immediately. The Contractor shall be provided time to correct the situation (normally a day). After suitable time to correct passes and the situation continues, Department staff will identify the situation as an incident.

The Contractor shall be provided with five points for performance score for this item. A deduction of one point shall be made for each incident when Department staff have identified unsafe situations and the Contractor has failed to correct, within a reasonable time period. Should any Contractor have more than five incidents, the Contractor's performance score, for this item, shall remain at zero.

It is expected that each District shall keep a "master list" of warnings issued and after a reasonable time to correct (normally a day) there will be no incident issued.

Warning:

1st Occurrence - Identified and rectified by the Contractor (Warning, not an Incident). A warning will remain in effect for a two year term. Any re-occurrence within the two year period of the warning will implement an incident.

Incident:

2nd Occurrence - Once documented and if the same deficiency is identified anywhere in the Contract Area (within the performance measures year) issuing of an "Incident" would be recommended to the Operations Manager by the MCI or Safety Officer. Only the OM may issue an "Incident". With the OM's concurrence an "Incident" is issued and the Company Management is advised. The result will be a deduction of one point, to a maximum of five points in this category.

b) The contractor shall ensure that all flag-persons have been trained and certified. Department staff may request the flag-person on-site, to produce their card of certification.

The Contractor shall be provided with one point for performance score for this item. A deduction of one point shall be made for each incident when Department staff have identified situations where flag persons, who are not properly certified, were working. The Contractor will be provided the opportunity to confirm that the flag person was certified by providing either the card or ACSA certification list, valid at the date of the inspection.

Emergency Communications

The contractor shall provide documentation on how adverse / emergency road conditions are communicated in accordance with the contract specifications. This includes updating the communication plan by October 31. A list of the updated communication list is to be provided to the Operations Manager by October 31, of the performance appraisal period.

The Contractor shall be provided with one point for performance score for this item. If the communication list is not provided on time, then a deduction of that one point will be against the Contractor's Safety Performance Score, for this item.

Winter Preparedness Operator Training

The Contractor shall be provided with three points for performance score for this item. The Contractor shall provide documentation on the following components of winter operator training.

a) Road Builders Training Safety System (RSTS) snowplow safety training module, documentation that every plow truck operator has received this training.
1 POINT

b) Auditable and Traceable hands on training for all operators with less than one year experience.
1 POINT

c) Verification of attendance at pre-season meeting.
1 POINT

Specification Compliance

The Contractor's performance of "Maintenance Contract Specification Compliance" will make up 40 % of the Contractor's annual score for "Maintenance Contract Performance Measures". There will be up to 40 points assessed annually, for this category. Deductions from the Contractor's score 40 points will be done as shown below:

Contract specification compliance measures will come from four basic areas:

- Conformance to generic Quality Assurance Plan.
- "Punitive Damages" assessed against the Contractor.
- Contractor does not comply with specifications, known as "Specification Compliance".
- The Contractor's compliance with "Highway Maintenance Work".

Points will be distributed, for "Contract Specification Compliance", in the following fashion:

10 Points for "Punitive Damages"
5 Points for Warranty and Specification Compliance
5 Points for "Highway Maintenance Work"
20 Points for Quality Assurance Plan

Punitive Damages

Shown below is a listing of specific criteria that can arise where “Punitive damages are assessed against the Contractor”:

- Any work is done that is assessed that reduces unit price due to workmanship.
- If the Department has to hire someone else to get the work done on a timely basis. (If work is within the scope of the contract)
- If work ordered under a premium is not completed on time, if an opportunity had existed for the Contractor to do the work.

The value of the punitive damages is the value of the premium.

- The Contractor does not meet the winter snowplow “response” time requirement specification. The penalty will be applied as per specification 52.1

Any work ordered that is deficient, the value of the work plus the value of the penalty shall be accumulatively added to the accruing value of punitive damages.

- Quality of materials shall not be deemed as included in this category. The Contract has other specifications for deductions due to material quality. (i.e. cracksealing and salt materials)

Deductions from the score will be made on the cumulative value of punitive damage, so far that year, in the appraisal year. Points will be deducted, as shown below:

Under $5,000			Zero points deducted
$5,000	to	$ 10,000	One point deducted
$ 10,001	to	$ 15,000	Three points deducted
$ 15,001	to	$ 20,000	Five points deducted
$ 20,001	to	$ 25,000	Seven points deducted
$ 25,001	to	$ 30,000	Nine points deducted
Over $ 30,001			Ten points deducted

The Operations Manager shall keep a “running total” of punitive damages and review with the Contractor, on a regular basis, usually monthly or as mutually agreed time frame. Any points deducted will be at the end of the year, March 31, for the appraisal period.

Warranty and Specification Compliance

Criteria that fall under the classification as not complying “Specification Compliance”:

- The Contractor does not undertake warranty work after Department staff has issued a work order of required warranty work. This will be measured by the value non-pay work orders issued by Maintenance Contract Inspectors, for “warranty work”. This would only apply to work that remains undone, after the warranty period has expired. If the Repair work is done, within the warranty period, then it does not fit the criteria as being out of contract specification compliance. The value of the warranty work will be added to the accruing value of “punitive damages” if the warranty period is exceeded.

- The Contractor fails to perform work according to specification, after notice has been provided and sufficient time has passed, to enable the Contractor to correct the deficiency. Normally time to correct will be 30 days or a mutually agreeable time frame.

At the beginning of each appraisal period, the Contractor will be provided a score of 5 points, for this category. A deduction will be made of one point for each incident that occurs, within the appraisal period. If a Contractor has more than 5 incidents within the appraisal period, the Contractor’s score, for this category shall be zero.

Highway Maintenance Work

In regard to “Highway Maintenance Work”, the following are procedures for identification of non-compliance, for Highway maintenance work.

The Contractor fails to complete work under “Highway Maintenance Work” after Department staff have issued prior notice by any one of the following methods:

- Discussion in a Biweekly Meeting
- Written notice or issuance of a Work Order under the Highway Maintenance Work Item by Maintenance Contract Inspector, to the Contractor

Minutes of biweekly meetings or any written notice shall clearly identify exactly what the HMW deficiencies are. All activities to be completed by the earliest of the following:

- Mutually agreed time frame
- Within 30 days

Only one month is allowed from the time of biweekly meeting or issuance of written notice. For biweekly meetings, no extra time is permitted for biweekly meeting minutes preparation or acceptance of the minutes at the next biweekly meeting.

The Contractor shall be awarded five points for this category, at the beginning of the appraisal period. A deduction of one half point will be made for each month the Contractor has failed to complete “Highway Maintenance Work”, as defined above. Should the Contractor have incidents, as defined below, a deduction of one half point will be made, for each incident, within the appraisal period. If a Contractor has more than five points deducted, the Contractor’s score, for this category will be zero. Written notice of deduction is to be provided by the Operations Manager.

1. There are regular inspections that are not reported.
2. The Contractor fails to report specific site conditions, after prior notice had been issued by Department staff, to do so. Once prior notice has been issued a report of specific site conditions is to be provided to the Department within one day of the next normal day time inspection cycle.
3. If regular or planned “highway inspections” are not done on the dates specified.
4. Temporary replacement of a “Stop” or “Yield” sign is not done, after the Contractor has had an opportunity to do so.

Quality Assurance Plan

The Operations Manager (or designate) shall audit documentation required under the Contractor's specification for Quality Assurance Plan. The Operations Manager (or designate) will review 20 activities identified, for that appraisal period. A standard format will be adopted and a joint review done with the Contractor, before the end of the appraisal period. Up to one full point per activity with individual points assigned to each Q/A Process Item will be assessed to the Contractor for each activity that the Contractor can provide adequate documentation.
Note: Partial marks (points) will not be given for individual Q/A Process Items. (All or Nothing)

Universal "Quality Assurance Audit" Form:

A year end audit to be done on twenty of the following based on the following form.

Snow Removal & Ice Control

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Annual checks of spreader device and calibration.	One each per truck/year	Foreman	All trucks must have an inspection completed indicating working condition	.2	
2. Spot calibrate 5% of units For determining number of trucks round up from .5	Per year	Superintendent or designate	5% of all truck have a inspection completed indicating working condition	.2	
3. Payment in hours – time records submitted to Trans are physically spot-audited for time record accuracy	Audit 90% of the fleet/yr. Covering min. 2 storm events	Management or designate	Records have been inspected and a report completed	.2	
4. Site Q/A inspection of work to evaluate conformance to spec and accuracy of measurement	Four Random inspections per CMA per yr. (covering 20% of fleet)	Management or designate	Four random sites per CMA have been inspected – must include checking of the following items: Lights , driver's qualification, equipment compliance to the specification, required number of units	.4	

Mix & Stockpile Salt Treated Sand

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Volumetric measure – total volume of material	One pile/CMA	Superintendent or designate	One pile per CMA must be properly measured with details of the measurement provided	.4	
2. Application rate of salt is as specified	One pile/CMA	Superintendent or designate	Must provide details on the method for re-mixing of previously treated and mixing of new sand confirming correct application rate of salt as specified including bulk salt content calculations	.6	

Supply & Stockpile Sand

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Sieve analysis to be supplied by supplier 1 each per 800 tonnes of material supplied. If consistent material, OM may specify min. 1/source/yr. Results to be consistent with spec agreed to with Trans for specific sources	Random check sieves if supplier results not by an independent lab whose results are certified by a P. Eng. At one per source.	Foreman	Must provide copies of test results on one sample per 800 tonnes of material provided – testing to be completed by an independent lab or certified by a P. Eng	1.0	

Supply Sodium Chloride

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Each load to clearly show the net weight of Product being delivered	Independently re-weigh four loads per year	Superintendent or designate	Four loads have been independently re-weighed and proper documentation provided verifying accuracy of weight	1.0	

Cracksealing

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Use material from recognized product list with suppliers providing Q/C results for each batch of material supplied	Each batch	Foreman	Must provide copies of Q/C results for each batch from Supplier – material must be from the recognized product list	.2	
2. Audit supplier Q/C tests by independent test	One each per supplier	Superintendent	Must supply a copy of one test for each Supplier - tested by an independent testing lab	.3	
3. Audit crew compliance to specification and quantities.	500 lane metres per CMA per season	Superintendent or designate	500 lane metres (.5 km Hwy length) per CMA has been inspected checking that the cracks are clean and sealed	.5	

Crack, Rout & Seal

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Use material from recognized product list with suppliers providing Q/C results for each batch of material supplied	Each batch	Foreman	Must provide copies of Q/C results for each batch from Supplier - material must be from the recognized product list	.4	
2. Audit crew compliance to specifications and quantities. Use templates as per Drawing CBS-10.5M	500 lane metres per CMA per season	Superintendent or designate	500 lane metres (.5 km Hwy length) has been inspected record size of rout with use of template and note method used for cleaning and drying the crack	.6	

Selective Surface Seals

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Obtain supplier results for each batch of material supplied	Do an independent test to verify supplied Q/C results if quantity of product utilized exceeds 20,000 litres per year.	Superintendent	Must provide the Suppliers specification confirming that the material supplied meets requirements and confirm with a sample tested by an independent lab if quantity of product utilized exceeds 20,000 litres per year	.2	
2. Do aggregate sieve analysis – one per source	Do an independent Q/A test per year if sieve not done by an independent testing agency with results certified by a P.Eng.	Foreman	Must satisfy the requirement that the product meets specification if not a pre approved source has Q/A test completed by an independent lab	.2	
3. Site Q/A inspection of work to evaluate conformance to spec and accuracy of measurement.	Two each per CMA per year	Manager or designate	Two sites per CMA have been inspected while and a check to ensure accuracy of measurement and compliance to the specification	.6	

Transverse Crack Repair - Spray Patch

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Do aggregate sieve analysis	One per year per source	Foremen	Must provide copies of one test per source completed by an independent lab or certified by a P.Eng.	.2	
2. Obtain Q/C results if performed by supplier for oil	Verify from bill of lading – 1 load/yr.	Foreman	Must provide copies of Q/C results from each Supplier and copy of one independent test to verify	.2	
3. Site Q/A inspection of work to evaluate conformance to specification and accuracy of measurement	One per year	Superintendent or Management Designate	One site per CMA has been inspected , including a check of the actual length and width of spray patch	.6	

Pothole Patching

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
Site Q/A inspection of work to evaluate conformance to specification and accuracy of the measurement	One section of hwy. per CMA per year	Management or designate	One section of hwy. per CMA has been inspected checking size and number of potholes	1.0	

Asphalt Pavement – Surface, Patching & Deep Patching

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Asphalt Concrete Pavement Mix, provide mix design for the approved mix for each mix from each supplier and each source	One per each supplier per source per mix	Superintendent	Must provide copies of mix designs for the approved mix for each mix, each supplier and each source Note: Contractor Supply Only	.2	
2. Obtain Q/C results if performed by supplier, audit supplier testing Note: Contractor Supply Only	Minimum one independent test to verify asphalt, oil content and gradation as per mix design per year on a min. tonnage of 50 t.	Management or designate	Must provide copies of Q/C results from each Supplier and copy of one independent test to verify asphalt, oil content and gradation as per mix design	.2	
3. Spot check scales or weight of loads.	One per year per supplier	Superintendent or Foreman	Must check scales or weight of loads and provide an inspection confirming accuracy	.1	
4. Site Q/A inspection of work to evaluate conformance to specification and accuracy of measurement	One per CMA per year	Management or designate	One site per CMA has been inspected. A check measurement of the area being repaired vs requested quantities	.5	

Roadway & Raised Median Cleaning

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
Audit for compliance to specification	Four areas per CMA per year, covering all activities done in each CMA	Management or designate	Four areas per CMA have been inspected including a check measure of areas cleaned to ensure accuracy of measurement.	1.0	

Painted Roadway Lines

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Use recognized products list for paint and bead.	Each material		Must provide copy of certification for paint and beads from Supplier	.1	
2. Obtain supplier Q/C results for paint and beads	One per supplier per batch	Superintendent	Must provide copies of Q/C results for one test per batch from each Supplier	.1	
3. Produce or obtain daily application records	Verify to meet spec daily	Foreman	Must provide copies of daily field production records.	.2	
4. Audit daily application and payment quantity	One day's production per CMA per year	Superintendent	Must review, audit and provide copies of one days field production records per CMA – must include checking application rates and method of calculation of rates	.1	
5. Visual conformance to specification on highway	Four 5 km sections and minimum 2 intersections per CMA per year	Management	Four 5 km sections and a minimum 2 intersections per CMA including a check on the width of line placed and the application of bead to ensure compliance with the specification	.5	

Pavement Messages

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Obtain supplier Q/C results	One per supplier	Superintendent	Must provide a copy of Q/C from each Supplier	.2	
2. Visual audit application for conformance to specifications	One per CMA per year	Management or designate	One site per CMA has been inspected checking layout of message to ensure accuracy of measurement	.8	

Grading Gravel Surfaces

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	
Payment in hours – time records submitted to Trans are physically spot audited for time and record accuracy and completeness	One per grader - a maximum of 8 inspections	Management or designate	Records have been inspected and a inspection completed for up to a maximum of 8 graders.	1.0	

Regravelling

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Do aggregate analysis. If consistent material, OM may specify minimum 1 per source per year. Results to be consistent with spec agreed to with Trans for specified material.	One test per 800 tonnes per source	Foremen	Must provide copies of test results on one sample per 800 tonnes of material provided – testing to be completed by an independent lab or certified by a P.Eng	.2	
2. Spot check scales/weights of loads	One per source	Superintendent or designate	Must check scales or weight of loads	.2	
3. Site audit for conformance to specifications	One per CMA per year	Management or designate	One site per CMA has been inspected must include details of a check on the distance covered by a load (spreadrate)	.6	

Supply & Apply Dust Abatement

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Obtain Q/C results certifying analysis of product (copy with each load)	One each per source per batch	Superintendent	Must provide copies of Q/C results for each load	.1	
2. Audit product Q/C analysis – send sample for independent test	One per four loads	Superintendent	Must supply a copy of one test per four loads for each Supplier - tested by an independent testing lab confirming quality	.2	
3. Audit daily bulk application and payment quantity	One day per CMA per year	Superintendent	Must review, audit and provide copies of one day's field production records per CMA	.2	
4. Visual audit application results on highway for conformance to specification	One section per CMA per year	Superintendent	One section per CMA has been inspected, including a check on the application rate in the field	.5	

Emergency Sign Package, Supply, Flagperson, Signs, Vehicle Supply/Arrow Boards

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Do audit of all signs and verify equipment package complete and ready to mobilize	Twice per year per package	Foreman	Each emergency sign package has been inspected twice verifying complete and ready to mobilize	.5	
2. Spot audit compliance to specifications	One/yr./CMA	Management or designate	One activity per CMA have been inspected	.5	

Highway Maintenance Work

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Keep record of highway maintenance work on approved form	Check use of form	Foreman	Must provide documentation that the use of approved form has been reviewed with staff	.1	
2. Audit inspections for compliance	Four per CMA per year	Management or designate	Four inspections per CMA on approved form have been reviewed and documentation provided including copies of the inspection reports and check to ensure that minimum standards are met	.4	
3. Audit winter inspection circuits for completion of inspection and accuracy of road condition assessment	Four circuits per CMA per year	Management or designate	Four winter inspections per CMA on approved form have been checked and verified for completeness and accuracy of the road condition assessment within 24 hrs of completion of report and documentation provided including copies of the inspection reports	.5	

Mowing

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Audit check to verify cuts 150 mm in accordance with specification.	One day's production per CMA per year	Management or designate	One days production per CMA has been inspected. checking and verifying height of cut is in specification	.3	
2. Audit mowing width for partial right-of-way mowing	One day's production per CMA per year	Management or Designate	One days production per CMA has been inspected verifying mowing width for partial right-of-way mowing	.3	
3. Audit that hand trimming has been done as required	One day's production per CMA per year	Management or designate	One days production per CMA has been inspected verifying that hand trimming has been done as required	.4	

Vegetation Control

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Verify applicator has proper license	Once per year	Superintendent	Must provide copies of all applicator's licenses	.1	
2. Obtain copies of permits and advertisement	Once per year	Superintendent	Must provide copies of any required licenses and permits	.1	
3. Obtain production reports confirming application rate	For all areas	Foreman	Must provide copies of production reports for all areas verifying application rates and method of calculation of rates of application	.4	
4. Audit application of chemicals in accordance with specification	Once per season, one area per CMA	Superintendent	One area per CMA has been inspected including a check that the application of chemicals is in accordance with specifications	.2	
5. Audit production reports	One day per year per CMA	Management or designate	One days production report per CMA to be reviewed for completeness and accuracy with documentation provided verify that the application rate is appropriate for type of weeds targeted	.2	

Supply of Signs & Supply / Install Posts

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Supplier to provide certification that materials supplied meet specification and are from recognized products list	Once per year per supplier	Superintendent	Must provide the Suppliers specification confirming that the materials supplied meet requirements and are from the recognized products list	.5	
2. Spot audit installation to verify conformance to specifications	Four installations/ CMA/year	Management or designate	Four installations per CMA have been inspected - must include details verifying conformance to specifications	.5	

Work on Major Signs & Sign Structures

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Supplier to provide certification that materials supplied meet specifications and are from recognized products list.	Once per year per supplier	Superintendent	Must provide the Suppliers specification confirming that the materials supplied meet requirements and are from the recognized products list	.4	
2. Spot audit installation to verify conformance to specifications	Four per year per CMA	Management or designate	Four installations per CMA has been inspected	.6	

Supply & Install W-Beam Guardrail & Posts

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Supplier to provide certification that materials supplied meets specifications and are from recognized products list.	Once per year per supplier	Superintendent	Must provide the Suppliers specification confirming that the materials supplied meet requirements and are from the recognized products list	.3	
2. Spot audit installations to verify conformance to specifications and the posts have a date certificate attached.	Four installations per year per CMA	Management or designate	Four installations per CMA have been inspected for accuracy of measurement for spacing, height and depth of posts, verification that posts have a date certificate attached and are properly compacted	.7	

Bridge Structure Cleaning

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
Spot Audit to verify compliance to specification	One bridge per CMA per year.	Management or Designate.	One bridge per CMA has been inspected including a check on the accuracy of measurement	1.0	

Environmental Management Plan (EMP) for Highway Maintenance Yards

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
1. Check that EMPs are on site at every shop.	1 per year, per shop	Superintendent or Designate	Documentation that all shops have EMPs on site.	.1	
2. Documentation of staff being trained in requirements of EMP.	Once per employee	Foreman or Superintendent	Documentation of each individual trained in requirements.	.1	
3. Document effectiveness of the EMP.	1 per year	Superintendent	Document inspection of shop and yard as to conformation to the EMP.	.1	
4. Follow-up inspection of deficiencies.	As required	Superintendent	Document follow-up as required.	.1	
5. Inspection of Highway Maintenance yard by independent and qualified engineering consulting firm registered with A.P.E.G.G.A.	2 per year: 1 in Jan / Feb 1 in July / Aug	General Manager	Copy of consultant's inspection report within two weeks of inspection.	.1	
6. Notification to Alberta Transportation of when consultant is going to do inspection so that Alberta Transportation may attend.	2 per year	Superintendent or Designate	Copy of notification letter.	.1	
7. Records and logs are being kept to demonstrate that proper controls are in place working successfully and monitored.	Ongoing	Foreman	Records are being kept according to the Environment Protection and Enhancement Act and Water Control Regulations at all Highway Maintenance Yards.	.1	
8. Reporting to Alberta Environment any releases that have occurred or have potential to cause any adverse effect.	As occur	Foreman or Designate	Failure to report incidents according to the Release Reporting Regulation (Alberta Environment, 2001).	.1	

Q/A Process Items	Minimum Frequency	Responsibility	Assessment Criteria	Points	Score
9. All issues identified by Alberta Environment be reported to Alberta Transportation.	As occur	General Manager	Failure to report any occurrence.	.1	
10. Groundwater Quality Monitoring	2 per year	Superintendent or Designate	Copies of chloride and sodium testing of water at each site by qualified engineering consultants registered with A.P.E.G.G.A.	.1	

Summary of Maximum Scoring for Maintenance Contract Performance Measures

	Points	Score
Timeliness	40	
Total Points	40	
Safety		
Development of Safe Work Procedures		
a) Provide two work procedures	1	
b) Provide internal or peer audit	2	
Accident Reporting & Investigation Process		
a) No failure to report serious accident within 72 hours	1	
b) Notification of 3rd Party Accidents greater than $1000.00	2	
Conducting Health & Safety Work Site Meetings		
a) Invitation to safety meetings	1	
Safety Pre-Commencement Meetings for Subcontractors		
a) Minutes of all meetings showing discussion of Hazard Assessments and Safe Work Procedures and Practices	3	
Traffic Accommodations for Work Zones		
a) Incidents of failure to correct identified unsafe situations	5	
b) Incidents of flagpersons not properly certified	1	
Emergency Communications		
a) Updated communications list by October 31	1	
Winter Preparedness Operator Training		
a) Documentation of RSTS snowplow	1	
b) Auditable and trackable hands-on training	1	
c) Verification of attendance of pre-season meeting	1	
Total Points	20	
Specification Compliance		
Punitive Damages	10	
Warrranty and Specification Compliance	5	
Highway Maintenance Work	5	
Quality Assurance Plan	20	
Total Points	40	
Grand Total	100	

SECTION K

(EMP Guidelines)

Environmental Management Plan Guidelines
Highway Maintenance Yards

(Minimum Requirements)

Date: March 4, 2005

Environmental Management Plan Guidelines
Highway Maintenance Yards

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1. Definitions:

“Owner” means the “Fee Simple” owner of the Highway Maintenance Yard (HMY).

“Owned or Previously Owned” means Highway Maintenance Yards and satellite sites that were or are currently owned by Alberta Infrastructure and Transportation. This refers to all Government Highway Maintenance Yards and satellite sites regardless of when ownership changed hands.

“Government” means the Alberta Government of the province of Alberta, Canada.

“Contaminant” means any physical, chemical, biological or radiological product, substance or material that has an adverse affect on the environment

“Containment” means to control, hold back or confine a product, substance or material within a predetermined area.

“Designated Area” means the area used for all Salt and Salt/Sand storage, mixing and handling.

"Release" means to spill, discharge, leach, leak, seep, dispose of, spray, inject, inoculate, abandon, deposit, pour, emit, empty, throw, dump, place or exhaust.

"Storage" means the holding of a substance or thing for a temporary period at the end of which it is processed, used, transported, treated or disposed of.

“All Weather Shelter” means an indoor storage structure constructed on an impermeable floor of asphalt, concrete, or other suitable material that is graded away from the centre of the structure for drainage purposes. The pad shall extend around the exterior of the structure and be graded away from the building, such that runoff is prevented from entering the structure. The structure shall have a suitably sealed perimeter to prevent salt from leaking to the exterior. The roof and the exterior including end walls of the structure shall be of waterproof material, such that precipitation and moisture are prevented from entering the structure. A tarp supported by the pile is not considered an indoor structure.

“Highway Maintenance Contractor (HMC)” means the highway maintenance contractor for Alberta Transportation who is the occupant or potential occupant of a Highway Maintenance Yard.

“Highway Maintenance Yard” (HMY) means the lands and improvements used for highway maintenance operations, in whole or in part for Alberta Transportation.

“Risk Management” means a plan and actions to reduce, control or prevent exposure to contamination. A Risk Management plan must have a fully delineated contamination area, source control, monitoring wells and be approved by all the stakeholders including Alberta Environment.

2. Introduction:

A Joint Environmental Committee with representatives from Alberta Environment, Alberta Infrastructure and Transportation recommends a unified approach to the prevention and management of salt contamination at Highway Maintenance Yards (HMYs). One of the recommendations is for the Highway Maintenance Contractors (HMCs) to develop Environmental Management Plans (EMPs) that protect the environment.

This EMP Guideline is developed as a go forward document for inclusion in Alberta Infrastructure and Transportation's Highway Maintenance Request for Proposals.

It is intended that the HMC undertake the Owners responsibility on HMYs they occupy and that EMPs they develop and administer comply with this guideline and address all potential contaminants and environmental issues.

Alberta Infrastructure and Transportation has an interest in source control of contaminants and preventing contamination on HMYs the department owns or previously owned. This interest is necessitated by Alberta Infrastructure and Transportation's ongoing efforts and responsibility to develop Risk Management plans for adjacent lands that may be contaminated due to Alberta Government operations at these HMYs.

The Joint Environmental Committee has designated all Government owned or previously owned HMYs as "High, Medium, or Low Priority Sites". EMPs for these sites must comply with the following requirements.

- "High Priority Sites (Priority One)" are those sites that are within 300 meters of a watercourse or permanent open water body; in or near communities where the water supply is obtained from shallow aquifers (identified in Appendix A); where the average surficial soil texture (texture of 1.5 metre surface) has a median grain size greater than 75 microns. These sites require the construction of an "all weather" shelter of appropriate size to fully enclose (including end enclosures) the on-site salt requirements, salt unloading activities, annual volume of salt/sand storage, mixing and loading operations. The interior shall be considered the Designated Area.

- "Medium Priority Sites (Priority Two)" are those with limited or no information about contamination, and are not in close proximity to water supplies. These sites require construction of an "all weather" shelter of appropriate size to fully shelter the annual volume of salt/sand storage, an asphalt containment area (Designated Area) for salt impacted material and a lined containment pond for runoff water.

- "Low Priority Sites (Priority Three)" are those that are not considered to be a concern for contamination. Maintain the salt/sand pile covered with tarps and protected from wind and rain. These sites require construction of an asphalt

containment area (Designated Area) for salt impacted material and a lined containment pond for runoff water. Note: this category is not considered applicable for EMP's as all HMY's are considered a concern for contamination.

3. Purpose:

The purpose of the Environmental Management Plan Guideline is to ensure a consistent approach for Owners to implement, coordinate and maintain EMPs on HMYs.

This guideline is provided to document the minimum environmental requirements of an EMP. It is intended to provide a broad overview of environmental issues that face the industry, outline minimum EMP requirements, performance issues, basic monitoring and reporting requirements and to minimize misunderstandings in preparing EMPs.

This guideline is for use as a basis for preparing, reviewing and assessing the minimum requirements for source control at HMYs. These same guidelines apply to all Owned or Previously Owned HMYs where HMCs store or obtain mixed salt/sand products for use on a highway maintenance contract with Alberta Transportation including HMYs previously owned by the Government that are now owned or operated by third parties.

4. Objectives:

The primary objectives of the Environmental Management Plan Guideline are to ensure that the HMC :

- will comply with the *Environmental Protection and Enhancement Act, Alberta Fire Code, Canadian Environmental Protection Act (CEPA), Waste Control Regulation, Release Reporting Regulation, Water act, Storm Water and Drainage Regulation* and any other legislation pertaining to the protection of the environment at the HMY and adjacent properties,
- will conduct its operation in a manner that will protect the HMY and adjacent properties and will prevent situations hazardous to the health of individuals and the environment,
- will inspect the HMY, and conduct investigations necessary to ensure compliance with the EMP, any lease agreements and all environmental laws,

- will implement best practices to prevent the release of contaminants at the HMY. It is understood that some tracking or release of contaminants such as salt is inherent in the handling operations and that the best practices must ensure tracking is kept to a minimum,
- will promptly notify the regulatory authorities if there is a release of contaminants in accordance with the Alberta Environment - Release Reporting Guidelines,

- will be responsible for the full cleanup of any contaminant releases.
- will have an acceptable EMP complying with this guideline prior to commencing operations at the HMY,
- will provide an EMP that is specific to the HMY that consists of an itemized list of each product clearly describing the intended process for storage, handling and use of each such product. The EMP will include a site plan showing specific storage areas and additional plans as necessary to illustrate how materials will be stored, protected and secured,
- will monitor and maintain records of activities required to comply with the EMP,
- will monitor their performance as required by the EMP.

5. Responsibilities

5.1. Alberta Infrastructure and Transportation

- Ensure the HMCs are aware of the requirements for an acceptable EMP.
- Ensure Leasing Branch is advised of the successful HMC for each contract involving Government owned HMYs that are to be leased.

5.2. Highway Maintenance Contractor (HMC)

- Provide an EMP that complies with this guideline, ensures source control, meets all the environmental legislation, complies with the highway maintenance contract and where applicable, the requirements of the lease agreement for Government owned HMYs.
- Provide and acceptable EMP prior to commencement of the contract and where applicable, with sufficient time to execute a lease for Government owned HMYs prior to commencement of the contract.
- Pay all costs associated with maintenance and improvements required to comply with their EMP.

5.3. Contact List

Alberta Infrastructure and Transportation

Moh Lali - Director – Transportation	
Rob Tomalty - Area Manager, Lethbridge	(403-381-5393)
Steve Rawcliffe – Area Manager, Calgary	(403-297-3247)
Don Franks – Area Manager, Red Deer	(403-340-7652)
George Tribe – Area Manager, Edmonton South	(780-422-0356)
Arvid Hopp – Area Manager, North West	(780-460-4990)
Louis Levasseur – Area Manager, North East	(780-645-6286)

Alberta Environment

Emergency release reporting – 1-800-222-6514

6. Document Preparation and Administration:

- The HMC will prepare EMPs in a format of their choosing and will address all the issues referenced in the Environmental Management Plan Guideline.
- The HMC will keep copies of the EMP on-site that will be readily available for review by all the HMC staff and contractors as well as Alberta Infrastructure and Transportation's representative.
- The HMC will keep documentation that verifies that persons working at HMYs are suitably instructed to the extent they are involved in the use, handling and storage of products covered in the EMP and that they can and will comply with the requirements of the EMP.
- The HMC will review the effectiveness of the EMP on a regular basis and at least annually. If required, the HMC, Alberta Infrastructure and Transportation will recommend amendments to the EMP.

7. Quality Assurance Monitoring and Reporting:

- The HMC will at their own cost arrange for semi-annual inspections and any required follow up inspections by an independent and qualified engineering consulting firm registered with A.P.E.G.G.A. to determine compliance with the EMP. One inspection in summer season (July – August) and another in winter season (January – February). The HMC shall notify Alberta Infrastructure and Transportation of the time and dates of inspections so they may attend and they may do independent inspections at that time. The HMC shall make corrections identified in the reports and arrange for immediate follow up inspections. Copies of the inspection reports shall be provided to Alberta Infrastructure and Transportation within four weeks of completion.
- Alberta Infrastructure and Transportation and Alberta Environment may conduct additional investigations to ensure compliance with the EMP's and lease agreements. The HMC shall make corrections identified in the engineering reports or on-site inspections where they are found to be non-compliant.
- Alberta Infrastructure and Transportation may, but is not obligated to enter HMY's owned by Alberta Infrastructure and Transportation to rectify situations where the HMC is in any way failing to comply with the lease agreement or EMP requirements.
- The HMC will keep records and logs to demonstrate that proper controls are in place, working successfully and monitored.
- The HMC will immediately report to Alberta Environment any releases that have caused or have the potential to cause an adverse effect. Reporting requirements are described in the *Release Reporting Regulation* (Alberta Environment, 2001). Examples of reportable releases include, but are not limited to, overflowing catchment area, containment ponds or significant spills outside the containment area and any release of contaminants that leave the HMY.
- The HMC will notify Alberta Environment of all oil, diesel, gasoline or dangerous good spills no matter what the size of the spill. Fisheries and Oceans as well as the Coast Guard also require notification where the spill occurs near a stream, river or water body.
- The HMC will report to Alberta Infrastructure and Transportation any environmental related issues and complaints by the public or adjacent landowners.

- Representatives for Alberta Infrastructure and Transportation will advise the HMC of any environmental related issues and complaints by the public or adjacent landowners.
- The HMC will provide groundwater quality monitoring.
  - Provisions at minimum shall include one monitoring well to be located hydraulically up-gradient and two wells down-gradient.
  - One of the down-gradient wells shall be located immediately down-gradient from the run-off containment pond where a pond is utilized.
  - Unless gravels are encountered throughout the profile, the well shall be designed to allow collection of groundwater samples from the uppermost water bearing formation. Where no water is encountered, depth of placement of the piezometers for the protection of the groundwater aquifer is at the discretion of the hydrogeologic specialist registered by A.P.E.G.G.A...
  - The HMC shall arrange initial sampling of chloride and sodium concentrations as soon as the groundwater levels have stabilized in the monitoring wells. Subsequent sampling and testing shall be done semi-annually.
  - The groundwater sampling and laboratory analyses shall be directed by an independent and qualified engineering consulting firm registered with A.P.E.G.G.A.. Analytic sampling is to meet CAEAL (Canadian Association of Environmental Analytical Laboratories) requirements. Calcium and magnesium are to be included within the sampling to determine SAR (sodium adsorption ration). All results shall be provided to Alberta Infrastructure and Transportation within 60 days of sampling.
  - The HMC shall be responsible for all costs associated with monitoring well installation, maintenance, sampling and analysis. Costs for additional samples requested in excess of the frequency specified above will be the responsibility of the party requesting the samples.
- The HMC will obtain the necessary approvals required by the Alberta Environment *Water Act, the Environmental and Protection Act* and the *Stormwater Management Guidelines*, prior to making changes to the HMY landscape. The HMY is responsible for all costs associated with applications, approvals, modifications as a result of the above act and regulation, as well as any moving or relocating sand, salt or structures put in place prior to the required approvals. Approvals can take 30 days from the date of application, but may take much longer depending on the circumstances.

8. Product Storage and Handling

This section provides a summary of the products and operational issues to be considered by the HMC in the preparation of an EMP. The HMC is fully responsible for assessment of the site to ensure all the environmental issues are identified and addressed in the EMP.

8.1. Product Identification and Labeling

8.1.1. Product Identification, Storage and Handling

The following table identifies many of the products that are commonly stored and handled at the HMY and provides a brief description of their potential for release into the environment. When released into the environment, these products may be contaminants and therefore the HMC must address their potential release in their EMP. This is not an all-inclusive list. The HMC must provide an all-inclusive list of products in use or storage.

product	Storage and Handling Issues	
Salt **Pre-wetting Brine**	• Spillage on the ground and/or becoming airborne during delivery and salt shed filling process. • Spillage on the ground and/or becoming airborne during movement of salt from the salt shed to the mixing area. • Precipitation falling on the sand/salt pile carries salt out of the designated area. • Truck parked in heated garage. • Condition of containment ponds. • Saline water disposal from containment ponds. • • Mag Chloride and Calcium Chloride may be stored in tanks in the designated area outside or in a separate area with 100% secondary containment. • Sodium Chloride may be stored inside the shops where secondary containment is provided or (1) the municipality approves where a spill goes to the municipal drain or (2) the leaching cesspools have been changed to a suitably sized storage tank.	• Sand/salt mixture falling from loaded trucks as they drive on the site. • Equipment used for handling, relocation and mixing of salt or sand/salt mixture is used for other purposes, thereby depositing salt at the location where the equipment is used. • Snow piles created on the site during snow removal operation. • Washing of trucks on the site. • • The type of brine, concentrations and methods of storage and handling must be clearly posted and addressed in an environmental management plan.
Engine Fuel	• Leaking underground fuel storage tanks. • Leaking aboveground fuel storage tanks. • Spillage while refueling at the designated refueling area. • Spillage while refueling at random locations on the site. • Leaking fuel tanks and slip tanks on vehicles and equipment. • Spillage during removal from vehicle or equipment fuel tank.	• Leakage during storage prior to disposal. • Spillage and dripping on the site during cleaning/rust proofing of truck boxes or other equipment. • Spillage or improper disposal of fuel used as a cleaning solvent. • Leakage from 45-gallon drums stored for future use.
Engine Oil and Filters	• Leakage from dispensing equipment • Spillage during oil change procedure. • Spillage and dripping on the site during cleaning/rust proofing of truck boxes or other equipment.	• Leaking vehicles and equipment. • Leakage from empty oil containers prior to disposal. • Leakage/spilling during storage prior to disposal.
Lubricating Grease	• Leakage from dispensing equipment. • Spillage during lubrication procedure.	• Leakage from empty grease containers and dispensers prior to disposal. • Leakage from storage tanks or containers.
Automotive Antifreeze	• Leakage from dispensing equipment. • Spillage during filling, mixing procedures. • Leaking vehicles and equipment.	• Spillage during removal from engine or flushing procedures. • Leakage from storage tanks or containers.
Solvents	• Leakage from dispensing equipment. • Improper ventilation of airborne vapors. • Spillage during cleaning of vehicle and equipment parts.	• Spillage during thinning of paints and cleaning of painting tools or equipment. • Leakage from storage tanks or containers.
Liquid/Solid Asphalt, Liquid Paint	• Leakage from dispensing equipment. • Spillage during filling, mixing procedures. • Leakage from application equipment.	• Leakage from storage tanks or containers.
Soil Sterilants, Herbicide, Insecticide	• Leakage from dispensing equipment. • Spillage during filling, mixing procedures. • Inadequate labeling of mixed product. • Regulation compliant storage area	• Improper cleaning of application equipment and containers. • Leakage from any containers during storage. • WHMIS compliant
Automotive Batteries	• Improper charging procedure, location and storage and disposal.	

Pre-treated Timber, Oily Rags, Absorbents, Tires, Aerosol Cans	• Inadequate storage locations and procedures. • Excessive quantities. • Lengthy storage time.

8.2. Storage Containers and Tanks (environmentally sensitive products)

8.2.1. General

- ♦ The HMC will dispose of, in an appropriate manner, residue/waste from equipment cleaning, drippings, etc. Such disposal methods and locations will be identified in the EMP.
- ♦ The HMC will clearly label all product containers and tanks identifying the product being contained in accordance with WHMIS regulations.

8.2.2. Containers

- ♦ The HMC will ensure that no sources of ignition, such as smoking or open flames, are present where inflammable products are stored.
- ♦ The HMC will maintain containers in good condition. The containers will be accurately and sufficiently labeled with no residue on the outside of containers. Containers in questionable condition should be placed in an overpack container and removed from site.
- ♦ The HMC will ensure leaking containers have contents transferred to secure container or be placed in an overpack container.
- ♦ The HMC will ensure that stacking of containers in storage will be done in a manner that will not cause the containers to be damaged or ruptured by excessive weight, falling or tipping.
- ♦ The HMC will store and label all containers in a containment area.

8.2.3. Storage Tanks

- ♦ The HMC will construct, operate, and inspect tank systems used for storage, blending, or processing of liquids to ensure that they are environmentally sound.
- ♦ The HMC will ensure that all tanks, stationary or portable, located or kept on site, have secondary containment. Secondary containment may necessitate the construction of an earthen berm around a tank or provisions of a designated location with secondary containment for a portable tank.
- ♦ The HMC will ensure all hoses used for transfer purposes are free of cracks or defects. When not in use, hoses are to be placed in a manner to prevent leakage or a method provided to capture any leakage.
- ♦ The HMC will place a drip pan or bucket under the hose connections to contain any drippings during transfer of liquids into or out of tanks.

8.3. Solid Asphalt Mix Storage

- The HMC will not prepare asphalt mix on Government owned HMYs unless approved in writing by Alberta Infrastructure and Transportation.

9. Spill Prevention and Response Requirements

- The HMC will operate the facility to minimize the possibility of a fire, explosion or unplanned release of substances. A site specific Contingency or Emergency Response Plan must be in place that has been prepared by the HMC to minimize health and environmental hazards arising from fires, explosions, or any other unplanned release of substances.
- The HMC must be aware of the applicable legislation such as the *Release Reporting Regulation* with respect to spills, spill response, and reporting requirements.
- The HMC will equip the facility with appropriate spill response equipment and documented procedures
- On Government owned HMYs, the HMC will ensure that Alberta Infrastructure and Transportation is contacted in a timely manner in the event of any fire, explosion, or release of substance.

10. Contamination Risk Areas

HMYs have areas that are affected by high concentrations of potential contaminants. These areas require ongoing monitoring and care to ensure adequate source control. The HMC will keep records and logs to demonstrate that proper controls are in place, working successfully and monitored.

10.1. Designated Area

- The HMC will ensure that the designated area has an impervious surface such as asphalt. The boundaries of the designated area will be designed and constructed so that the salt and salt/sand mix is confined to the area. The minimum recommended asphalt thickness is 100mm. 150mm rolled design curbs or similar height perimeter edge banking should be considered in the design.
- The HMC will ensure the exposed surface is examined each spring for drainage and condition and all necessary maintenance is performed. The pavement base should be evaluated as salt may have contaminated the base to the point that it may not be capable of supporting the intended loads.
- The HMC will ensure proper drainage flow and crack sealing to direct surface runoff to a saline water containment pond.
- The HMC will ensure that the designated area is large enough to accommodate the storage of salt impacted snow so as to have any melt-water runoff directed to the saline water containment pond.
- The HMC will ensure that any detritus or salt impacted material accumulating on the designated area is added to the salt/sand pile or disposed of in accordance with the appropriate legislation. Such material shall not be stored off the designated area.

- The HMC will prepare detailed plans and operating procedures for all requirements of the EMP to ensure salt will be confined to the designated area. The plans will detail the containment area as well as a containment pond for saline runoff water.
- The HMC will immediately clean up all salt spilled outside the designated area. Spills will be reported as per the *Release Reporting Regulation* (Alberta Environment 2001) and recorded in the Owner's onsite logbook.

10.2. Sanitary Sewage Systems

- The HMC will not use the sanitary sewage systems as catchment areas for saline rain or snow melt water, or for any other contaminants.
- The HMC must obtain written approval from the municipality before connecting new drainage systems used for washing salt impacted vehicles and equipment to municipal systems
- The HMC may direct sanitary sewage containing saline water from washing salt impacted vehicles and equipment to a holding tank, provided that the holding tank is pumped out and the effluent is disposed of in accordance with the applicable regulations.
- The HMC will not use municipal ditches, roadway ditches, natural drainage courses or property for any saline water runoff.

10.3. Fuel and Oil Storage or Use Areas

- The HMC will maintain fuel storage tanks to current *Alberta Fire Cod*e standards.
- The HMC will register fuel storage tanks with the Petroleum Tank Management Association of Alberta.
- The HMC will not use above ground farm type, fuel storage tanks.
- The HMC will not use underground fuel storage tanks.
- The HMC will provide and maintain a surface, such as concrete, in the vehicle refueling area to contain spills.
- The HMC will provide and maintain containment areas where oil or petroleum products are stored or used. These areas will be of sufficient size to contain 100% of the stored products. This includes fuel used to clean or rust proof truck boxes or other equipment. Note: Not required for unopened containers 4 liters or smaller.
- The HMC will clean up all spills and recycle or dispose of spilled materials in accordance with the *Environmental Protection and Enhancement Act* and the *Waste Control Regulation*.
- The HMC will keep records as required by the *Environmental Protection and Enhancement Act* and the *Waste Control Regulation* for all contaminants disposed of and these records will be made available upon request.
- The HMC will not use fuel or oils over absorbent material with the intent of deliberately releasing a contaminant and disposing of the contaminated absorbing material.

10.4. Treated Lumber Storage Areas

- The HMC will store treated timber products in an area specifically marked for the purpose.
- The HMC will ensure that treated timber products are covered.
- The HMC will keep the stored quantities at a reasonable amount.
- The HMC will remove unusable or broken material from the site at least annually. Disposal will be in accordance with the *Environmental Protection and Enhancement Act* and the *Waste Control Regulations*.

11. Salt Storage and Handling Requirements

Extreme care must be exercised in the storage, handling and delivering of salt to ensure salt is not released to the environment. Best practices must ensure good housekeeping standards are maintained. Extensive contamination occurs due to the cumulative effect when salt is released over a localized area.

11.1. Salt Shed Operations

- The HMC will store salt in a salt shelter or covered structure.
- The HMC will inspect the salt shelter annually and take remedial action to maintain the structure.
- The HMC will keep the salt shed doors closed when there is no salt operation in progress.

11.2. Salt Off-loading Requirements

- The HMC will ensure that a trained person perform or supervise all aspects of the off-loading of the salt into the salt shed or shelter.
- The HMC may load salt into the shed by conveyor or blow salt into the shed by providing a piping system with filtered air vents designed for the purpose. The piping system will be thoroughly cleaned before and after each use and will have operating procedures posted on the shed. The type of filters and frequency of cleaning and changing will be part of the operating procedures. The shed doors and other openings will be closed and sealed during blowing operations to ensure air escaping the shed does so only through the filter sections.
- The HMC will clean salt spilled during the off-loading operations on completion.
- The HMC will adjust operations or stop off-loading immediately if airborne salt is observed leaving the designated area, or the shelter in the case of High Priority sites.

12. Salt/Sand Management Practices

Containment of salt and salt impacted materials is a mandatory lease agreement requirement on Government owned HMYs. Every effort should be taken to ensure salt is fully contained.

12.1. Salt/Sand Mixing Requirements

- The HMC will undertake all pickled salt/sand mixing, storage and handling in the Designated Area.
- The HMC will contain all salt/sand within the Designated Area at all times.
- The HMC will develop and comply with a detailed procedure that ensures salt dust or spray does not leave the Designated Area.
- The HMC will not carry out the pre-winter mixing operation when wind conditions cause any salt dust or spray to become airborne and migrate off the designated area.
- The HMC will ensure that persons involved in the mixing operation are properly instructed and familiar with the requirements to limit salt and salt dust or spray to the designated area.

12.2. Salt/Sand Stockpile Carry-over Requirements

- The HMC will work with Alberta Infrastructure and Transportation to minimize the quantity of salt/sand stockpile carry-over at the end of each highway maintenance period.
- The HMC will undertake all reasonable activities to prevent salt water leaching or flowing into natural drainage courses, roadway ditches or onto adjacent lands.

12.3. Salt/Sand Covering Requirements

- The EMP must comply with the following requirements at all HMY's:
  - "High Priority Sites (Priority One)" As a minimum, these sites require the construction of an "all weather" shelter of appropriate size to fully shelter the on site salt requirements, salt unloading activities, annual volume of salt/sand storage, mixing and loading operations. The interior shall be the Designated Area.
  - "Medium Priority Sites (Priority Two)" As a minimum, these sites require construction of an "all weather" shelter of appropriate size to fully shelter the annual volume of salt/sand storage, an asphalt containment area (Designated Area) for salt impacted material and a lined containment pond for runoff water.
  - "Low Priority Sites (Priority Three)" As a minimum, these sites require the salt/sand pile to be covered with tarps and protected from wind and rain, construction of an asphalt containment area (Designated Area) for salt impacted material and a lined containment pond for runoff water. *(see note in section 2. Introduction: Low Priority Sites)*
  - Tarps used for covering salt/sand piles must be firmly secured to solid anchors suitable for the purpose.
  - Salt/sand piles must be covered with tarps at all times during rainy season generally mid May to October. Salt/sand piles must also be suitably protected from wind erosion for the balance of the year.

- Shelters used for covering salt/sand piles may be temporary metal, wood or fabric structures. The shelters should be installed on wood or concrete pony walls of sufficient height and construction to accommodate the volume of material stored and loading equipment activity. The shelters must be adequately sealed to prevent entry of water and escape of dust.

12.4. Equipment Maintenance and Cleaning Requirements

- The HMC will only clean salt and road grit from equipment on the designated area.
- The HMC will not wash salt from plow trucks or equipment on the HMY unless an adequate catchment and disposal system for the saline water is provided, and as provided in 10.2 of this guideline.
- The HMC will clean maintenance shop sumps regularly during the salt/sand application season to minimize the amount of salt impacted grit in the system.

13. Saline Water Containment and Disposal (salt impacted runoff water)

Government owned or previously owned HMY sites require the construction and maintenance of a saline water containment pond. The containment pond must be designed to capture all the runoff from the containment or Designated area.

13.1. Saline Water Containment Pond Design and Construction

The HMC will consider the following when planning the design of a saline water containment pond:

- The amount of space available in the yard.
- The topography: The pond will be located in an area down-gradient from the designated area.
- The number of times a year that it is desirable to remove the brine from the pond.
- Annual precipitation: Alberta Infrastructure and Transportation recommends that the pond design and operation be based on annual precipitation as opposed to unusual storm events (e.g. 1 in 50 year, 1 in 100 year etc.). The reason for this is the required storage volume will be very high for infrequent storm events compared to average annual precipitation. Precipitation information is available at www.agric.gov.ab.ca.
- The size of the designated area: The designated area consists of the salt shed, the mixing area, the pickled material storage pile, handling area, snow storage and the saline water containment pond.
- The freeboard in the containment pond: Sufficient freeboard in the pond needs to be provided for normal storm events. Where possible pond water should back up onto the designated area to provide additional runoff storage.
- The containment pond liner: Heavy polyethylene liner material that is UV protected and resistant to chemicals is required and installed as per manufacturer's specification. Particular attention must be paid to the bedding material for the liner.

- The preceding design information is intended to assist with basic design and is not intended to be all the information that needs consideration. Site specific information is required (e.g. topographical survey) to complete the design. Alberta Infrastructure and Transportation, Site and Environmental Services, is available to liaison with the HMC on pond design and approve proposals prior to construction on government owned HMYs.
- The saline water containment pond liner will be inspected annually. The process and findings will be documented in the onsite log book.

13.2. Saline Water Disposal

- The HMC will ensure that all runoff from the designated area is collected in the saline water containment pond and the HMC must remove water when the levels reach the designed high water line to ensure adequate free board is available. The designated high water line will be clearly indicated on the pond structure.
- The HMC will remove the saline water from site to an acceptable disposal location. Note: Acceptable disposal locations are salt-water injection wells or other locations accepted by Alberta Environment.
- The HMC will not under any circumstances discharge salt impacted water from the containment ponds at the site. Note: Even though the designated area may have been washed down and appears clean there will be residual salt. Even small amounts of salt discharged at the site repeatedly will have a cumulative effect, which is not acceptable.
- The HMC will keep a log on site of all disposals. The information in the log will include dates, approximate volumes pumped, and manifests/receipts from disposal sites.

14. Site Drawings and Sketches

- The HMC will keep site drawings showing locations of all building improvements and storage areas.
- The HMC will keep site drawings showing topographical elevations and site drainage flow directions.
- The HMC will keep engineered construction drawings for the saline water containment pond and associated apparatus.
- The HMC will keep sketches that detail contaminant storage areas, tanks and containers.

15. APPENDIX A

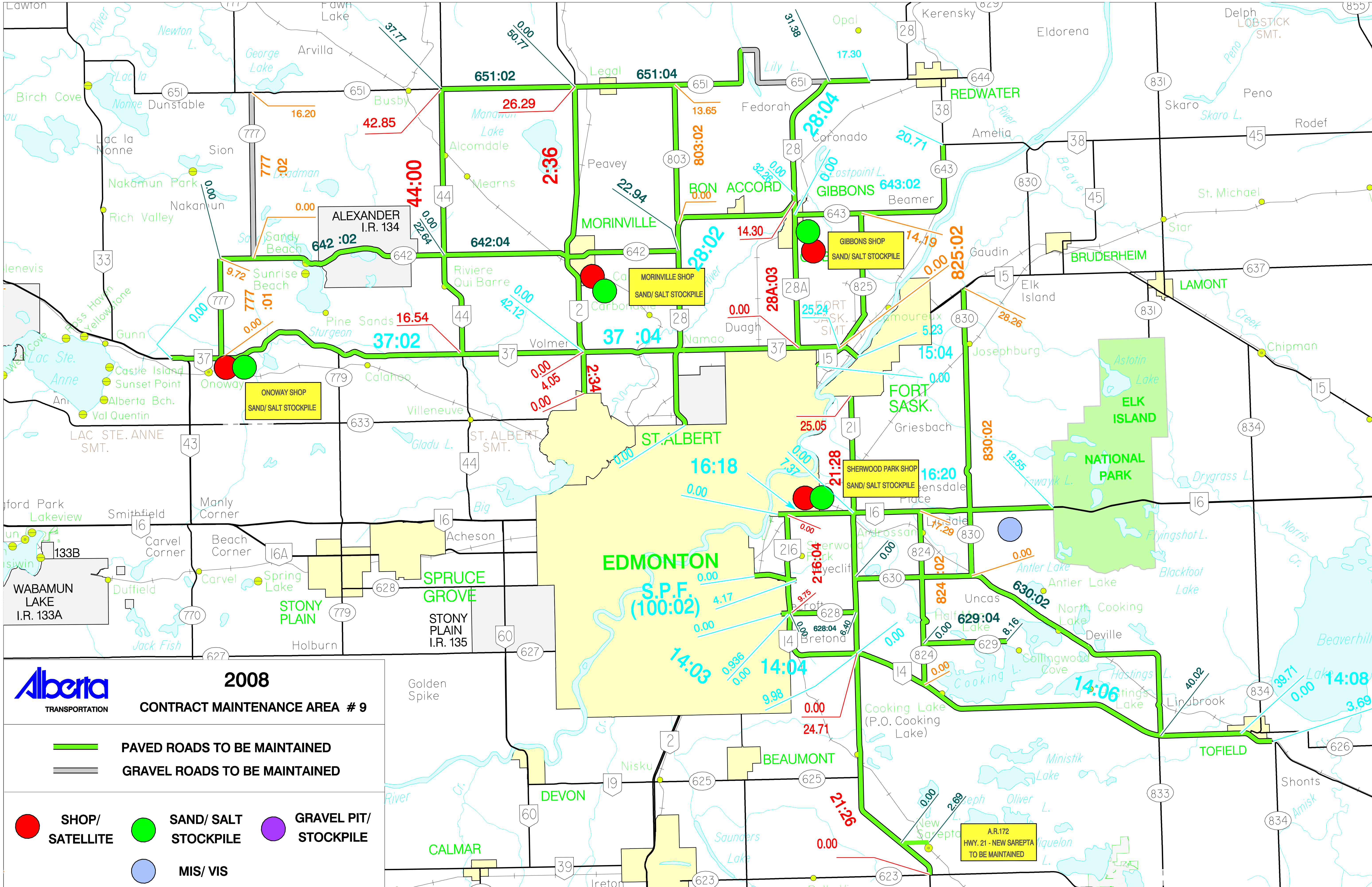
The following communities are known by Alberta Environment to have sensitive ground water supplies and to obtain water from shallow aquifers referred to in priority 1 sites. *

Village of Andrew
Village of Bon Accord
Town of Canmore
Village of Chauvin
Village of Cremona
Municipality of Crowsnest Pass
Village of Delburne
Town of Eckville
Village of Entwistle
Village of Forestberg
Village of Ft. Assiniboine
Town of Hardisty
Town of High River
Town of Killam
Village of Longview
Village of Lougheed
Town of Okotoks
Town of Oyen
Village of Rosalind
Village of Sedgewick
Town of Smoky Lake
Town of Sundre
Town of Turner Valley

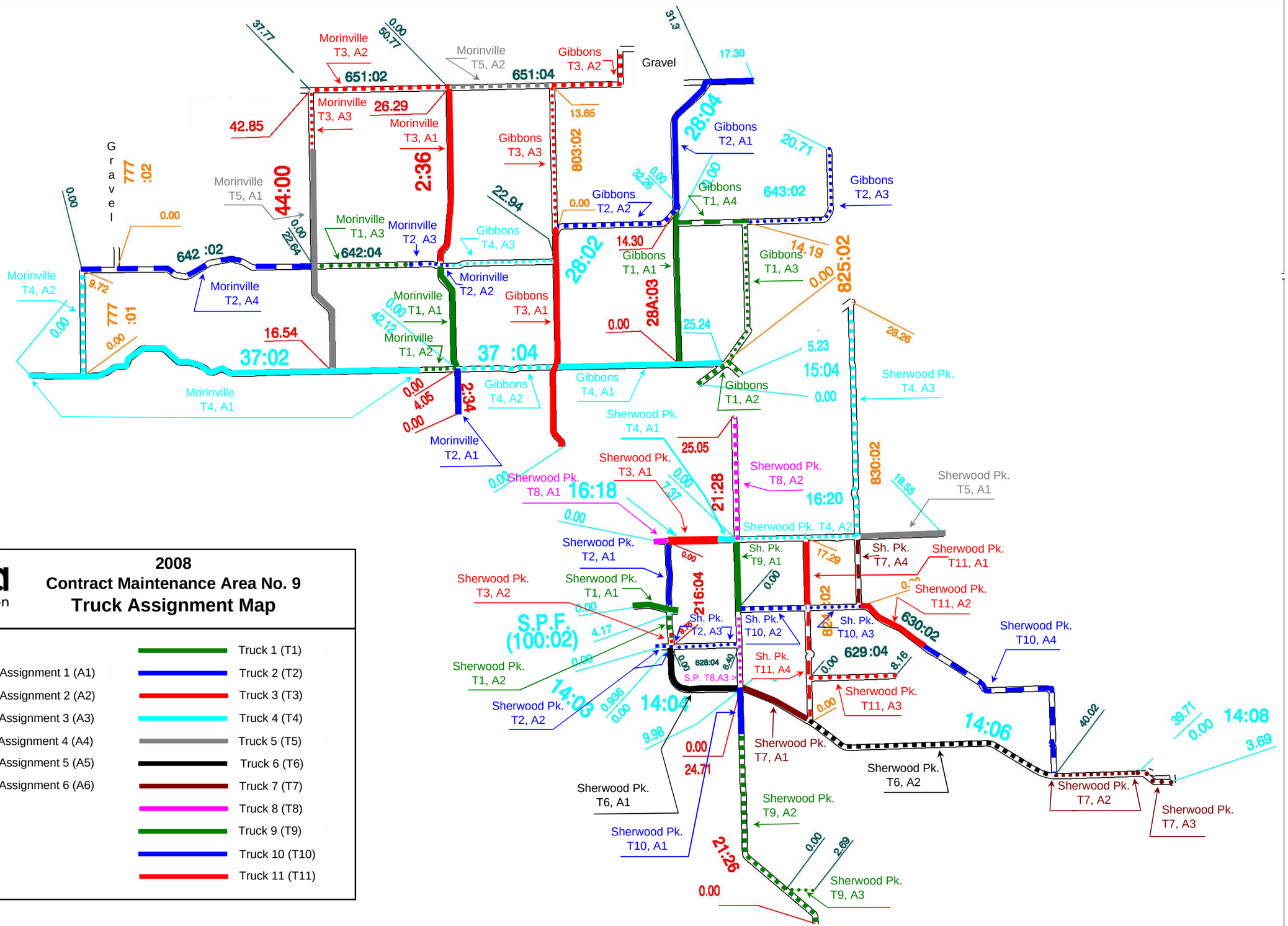
* This list was developed through the former MUST Program (Management of Underground Storage Tanks) for incorporation into the 1992 Alberta Fire Code to identify specific communities where secondary containment would be requirement for installation of underground petroleum storage tanks.

SECTION L

(Maps)



Alberta
TRANSPORTATION
2008
CONTRACT MAINTENANCE AREA # 9
PAVED ROADS TO BE MAINTAINED
GRAVEL ROADS TO BE MAINTAINED
SHOP/ SATELLITE
SAND/ SALT STOCKPILE
GRAVEL PIT/ STOCKPILE
MIS/ VIS
EDMONTON
S.P.F.
(100:02)
ST. ALBERT
16:18
SPRUCE GROVE
STONY PLAIN
STONY PLAIN I.R. 135
MORINVILLE
GIBBONS
BON ACCORD
REDWATER
BRUDERHEIM
LAMONT
FORT SASK.
ELK ISLAND NATIONAL PARK
BEAUMONT
DEVON
CALMAR
TOFIELD
LEGAL
ALEXANDER I.R. 134
WABAMUN LAKE I.R. 133A
LAC STE. ANNE SMT.
ST. ALBERT SMT.
LOBSTICK SMT.
FORT SASK. SMT.
ONOWAY SHOP SAND/ SALT STOCKPILE
MORINVILLE SHOP SAND/ SALT STOCKPILE
GIBBONS SHOP SAND/ SALT STOCKPILE
SHERWOOD PARK SHOP SAND/ SALT STOCKPILE
A.R.172 HWY. 21 - NEW SAREPTA TO BE MAINTAINED
651:02
651:04
642:04
643:02
37:02
37 :04
28:02
28:04
44:00
2:36
2:34
803:02
825:02
830:02
28A:03
21:28
216:04
630:02
629:04
14:03
14:04
14:06
14:08
15:04
16:20
21:26



Alberta Transportation

2008

Contract Maintenance Area No. 9

Truck Assignment Map

Assignment	Truck
Assignment 1 (A1)	Truck 1 (T1)
Assignment 2 (A2)	Truck 2 (T2)
Assignment 3 (A3)	Truck 3 (T3)
Assignment 4 (A4)	Truck 4 (T4)
Assignment 5 (A5)	Truck 5 (T5)
Assignment 6 (A6)	Truck 6 (T6)
	Truck 7 (T7)
	Truck 8 (T8)
	Truck 9 (T9)
	Truck 10 (T10)
	Truck 11 (T11)