

**TENDER DOCUMENTS
FOR
ROAD CONSTRUCTION**

6.5 KM CLAY CAP

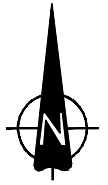
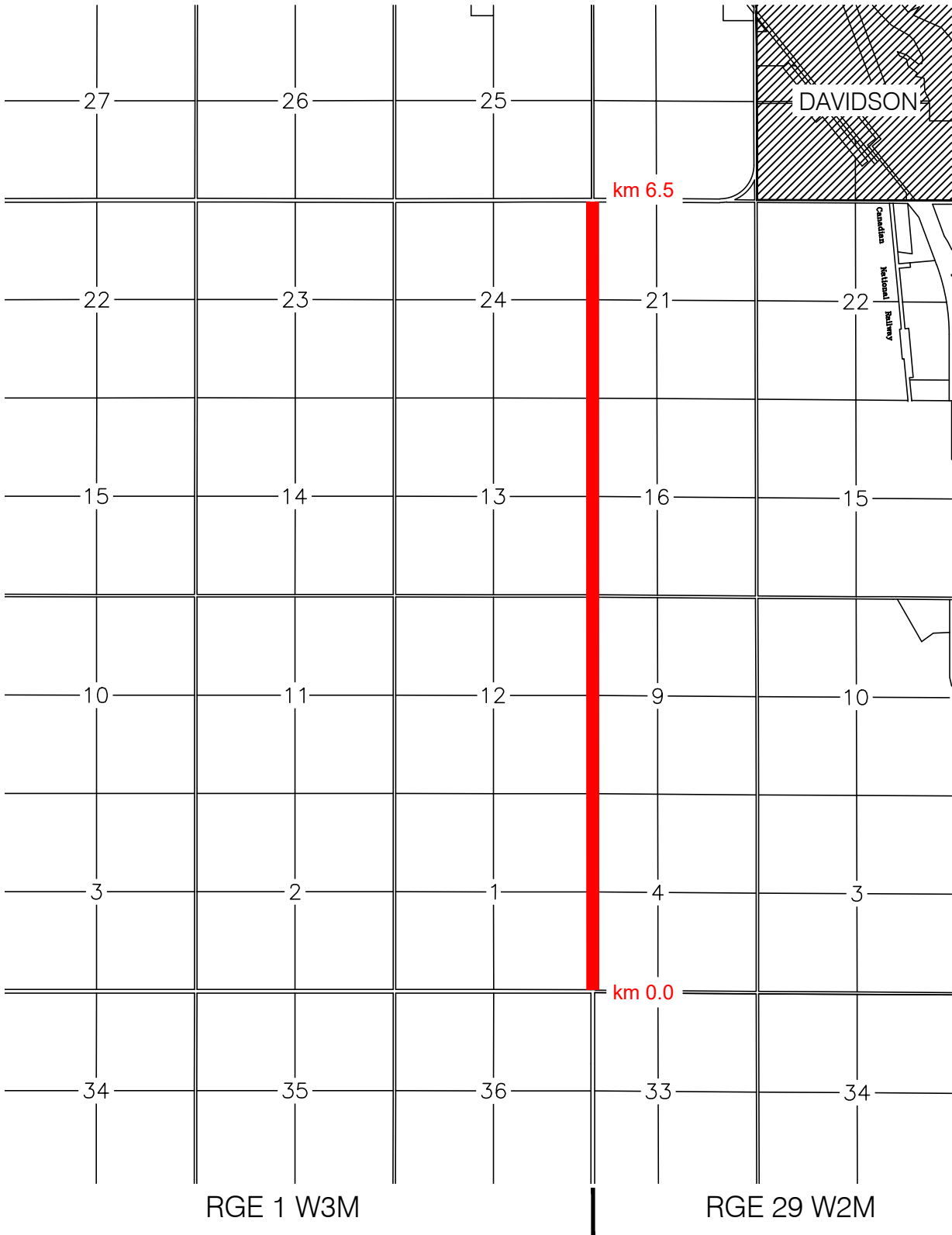
CONTRACT NO. ST242521

**RM OF ARM RIVER NO. 252
& SARM VIA RURAL INTEGRATED ROADS
FOR GROWTH**

DECEMBER 9, 2024



WSP CANADA INC.




TWP 26

TWP 25

RGE 1 W3M

RGE 29 W2M

<p>WSP Canada Inc. 4015 Millar Avenue Saskatoon, SK S7K 2K6</p>			<p>CLIENT LOGO</p>	<p>CLIENT</p> <p>RM OF ARM RIVER NO. 252</p>	
<p>PROJECT: RM OF ARM RIVER NO. 252</p>		<p>DWN BY: J. PRETZLAW</p>	<p>DATUM:</p>	<p>DATE: NOV 25, 2024</p>	
<p>TITLE: LOCATION PLAN</p>		<p>CHK'D BY: T. KONDRA</p>	<p>REV. NO.: -</p>	<p>PROJECT NO: ST242521</p>	
		<p>PROJECTION:</p>	<p>SCALE: NOT TO SCALE</p>	<p>FIGURE No. FIGURE 1</p>	



NOTICE TO BIDDERS

- Email submission of bids will be permitted. However, the R.M. of Arm River No. 252 cannot guarantee confidentiality of e-mailed documents and the Bidder assumes all risks associated with these forms of communication. All electronic bids will be required to provide copies of the Bid Bond.
 - Electronically submitted bid files shall be named: ST242521 – “Contractor’s Legal Name” to rm252@sasktel.net
 - Original copies of the successful Bidder’s bid documents and bonding shall be provided as soon as practicable.

Tender Package Construction Municipal

R.M. of Arm River

No. 252

Date: December 9, 2024

INSTRUCTION TO BIDDERS

1. Preparation of Tenders:

Tenders must be made on a standard tender form as per Clause (6), Page 7 of the “Tender for Contract for Subgrade Construction of Designated Roads”. Each Bidder shall specify on the tender form the unit price in both words and figures for each of the separate items called for. In case of conflict between the unit price in words and the unit price in figures, the unit price in words shall govern.

The Bidder shall sign his tender correctly in ink and his post office address must be shown.

2. Delivery of Tenders:

Each tender must be submitted in a sealed envelope plainly marked “Tender for Road Construction” and addressed to the Rural Municipality **or electronically** as stated in the Notice to Bidders. Tenders may be delivered by mail or in person to the office of the Rural Municipality and will be received **until 10:00 a.m. Central Standard Time on December 9, 2024**. No tender received after this time will be considered.

Rural Municipality of Arm River No. 252
Box 250
Davidson SK S0G 1A0
Phone No.: (306) 567-3103

3. Opening of Tenders:

All tenders will be opened and read **privately** at the office of the Rural Municipality at **10:00 a.m. Central Standard Time on December 10, 2024**.

4. No contract will be awarded except to responsible bidders capable of performing the class of work contemplated. If so requested by the Rural Municipality, the bidder shall furnish a complete statement of his experience and of the amount of capital and equipment available for the proposed work.

The Rural Municipality further reserves to itself the right to reject any or all tenders.

Following are some reasons for which tenders shall be rejected:

- a. If the bid is not submitted on the tender form furnished by the Rural Municipality or if the tender form is altered.
- b. If the tender form is not properly signed.
- c. If the tender form does not show a unit price, in both words and numbers, for every contract item where quantities are indicated.
- d. If there are any unauthorized additions or erasures or irregularities of any kind which tend to make the tender incomplete, indefinite or ambiguous as to its meaning.
- e. If the list of equipment is not supplied or the list of equipment is not sufficient to perform the class of work contemplated.
- f. If the capability form is not completed or the earthmoving capability of the Contractor listed is not sufficient to perform the class of work contemplated by the required completion date.
- g. If any unit bid price is, in the opinion of the Rural Municipality, unreasonably high or low.

TENDER FOR CONTRACT

Municipal

R.M. No. 252

FOR THE CLAY CAPPING OF DESIGNATED ROADS

UNDER THE RURAL INTEGRATED ROADS FOR GROWTH CAPITAL PROJECT FUNDING AGREEMENT BETWEEN SARM AND RM OF ARM RIVER NO. 252

For the Clay Cap of 6.5 kilometers of Grid Road.

Project No. ST242521

Located: E. 1, 12, 13, 24-26-1-W3M

In the Rural Municipality of Arm River No. 252

THE UNDERSIGNED, (hereinafter called the “Contractor”) having read over and examined the current “General Provisions” for the construction and/or surfacing of designated roads, available at the office of the Rural Municipality.

Having examined the plans, profiles (if any), specifications and special provisions furnished with this tender for the above mentioned work and which are listed as follows:

1. List of General Provisions

Page 1	Clause(1)	Definitions
	Clause(2)	Times and Manner of Payment
Page 2	Clause(3)	Borrow Pits
Page 3	Clause(4)	Materials
	Clause(5)	Supervision and Acceptance of Work
Page 4	Clause(6)	Liquidated Damages
	Clause(7)	Extension of Contract Time of Completion
Page 5	Clause(8)	Cancellation on Default
	Clause(9)	Extra Work (Force Account)
Page 8	Clause(10)	Labour
	Clause(11)	Payment by Contractor for Labour, Etc.
Page 9	Clause(12)	Accidents
Page 10	Clause(13)	Traffic and Detours
	Clause(14)	Performance Bond and Labour & Material Payment Bond
Page 11	Clause(15)	Liability Insurance
	Clause(16)	Assignment of Contract
Page 12	Clause(17)	Cancellation Without Fault of Contractor
	Clause(18)	Removal of Surplus Material and Refuse
	Clause(19)	Purchases

Page 13	Clause(20)	Unacceptable and Unauthorized Work
	Clause(21)	Errors or Omissions
	Clause(22)	Preservation of Stakes and Land Monuments
Page 14	Clause(23)	Change of Location
	Clause(24)	Appeal Procedure (Arbitration)

2. List of Standard Specifications

Page 1	Clause(1)	Equipment
	Clause(2)	Clearing
Page 2	Clause(3)	Grubbing
	Clause(4)	Culverts
Page 4	Clause(4) (a)	Removal of Existing Culverts
	Clause(4) (b)	Installation of Pipe Culverts
	Clause(4) (c)	Installation of Timber Culverts
Page 5	Clause(5)	Embankment
	Clause(5) (a)	Description
	Clause(5) (b)	Materials (Primary Grid and Grid)
	Clause(5) (c)	Materials (Main Farm Access)
	Clause(5) (d)	Embankment Construction
Page 6	Clause(5) (e)	Construction in Cut
	Clause(5) (f)	Construction Through Sloughs and Marshes
	Clause(5) (g)	Measurement and Payment
Page 7	Clause(6)	Rip-Rap
	Clause(7)	Excavation
Page 8	Clause(8)	Ditches
	Clause(9)	Borrow Pits
Page 9	Clause(10)	Classification of Excavation
	Clause(11)	Removal and Replacement of Topsoil
	Clause(12)	Rock
Page 10	Clause(12) (a)	Surplus Rock
	Clause(12) (b)	Solid Rock Classification
Page 11	Clause(13) (a)	Clay Surfacing
	Clause(13) (b)	Clay Haul
	Clause(13) (c)	Stripping of Clay Pits
Page 12	Clause(14)	Construction of Standard Approaches
	Clause(15)	Surface Widening
	Clause(16)	Road Intersections
	Clause(17)	Surface Widths on Curves and High Fills
	Clause(18)	Embankment Protection
Page 13	Clause(19)	Signing Construction and Detour Areas
	Clause(20)	Moisture-Density relations of Soils (Note: This specification will only be applicable when densities are to be specified for the contract).
	Clause(21)	Plans and Drawings

3. List of Standard Plans

Page 14	Standard Plan for Rip-Rap
Page 15	Standard Plan for Road Intersections and Approaches
Page 16	Standard Plan for Approach Slopes
Page 17	Standard Plan for Intersection Sight Triangles
Page 18	Standard Plan for Vertical Sight Distance at Intersections
Page 19	Standard Plan for Widening for Bridge Approaches
Page 20	Standard Plan for Construction Signs
Page 21	Standard Plan for Graveling Signs
Page 22	Standard Plan for Local Detour Signs
Page 23	Location of Dugout-Type Borrow Pits
Page 24	Standard Cross-Section Plan for Primary Grid Roads
Page 25	Summary of Basic Standards for Primary Grid Roads
Page 27	Standard Cross-Section Plan for Grid Roads
Page 28	Summary of Basic Standards for Grid Roads
Page 30	Standard Cross-Section Plan for Main Farm Access Roads
Page 31	Summary of Basic Standards for Main Farm Access Roads

4. List of Special Provisions

Page 1	Clause (1)	Occupational Health and Safety
	Clause (2)	Force Account Surcharge
	Clause (3)	Board Loss
	Clause (4)	Rental Rates
Page 2	Clause (5)	Note To Bidder
	Clause (6)	Moisture Density Relations
Page 3	Clause (7)	Watering
	Clause (8)	Approvals
	Clause (9)	Liability Insurance
	Clause (10)	Clearing & Grubbing
Page 4	Clause (11)	Diesel Fuel Adjustment
Page 6	Clause (12)	Supply & Install Geotextile Materials
	Clause (13)	Supply & Install Silt Fence
Page 7	Clause (14)	Supply & Install Erosion Control Blanket
Page 8	Clause (15)	Public Utilities
	Clause (16)	Order of Work
Page 9	Clause (17)	Borrow Sources
	Clause (18)	Mobilization
	Clause (19)	Bleach Wash

5. Hereby Tenders and Agrees:

- (1) To furnish all labour, materials, and equipment required to be furnished and to complete the work as outlined in the “General Provisions for the Construction of Designated Roads”, and in accordance with the plans, profiles (if any) forming part hereof, all in accordance with the terms and conditions as set forth herein, at and for the unit prices as set forth in Clause (6) hereof.
- (2) That unless in the meantime the Rural Municipality shall have advised the undersigned that this tender has been rejected, the same shall remain firm and open to acceptance by the Rural Municipality during a period of twenty (20) days following the date fixed for the opening of tenders in respect to such a contract.
- (3) To furnish a Performance Bond and Labour & Material Payment Bond in accordance with the provisions of Clause (14) of the “General Provisions for the Construction of Designated Roads”, within fifteen (15) days following advice from the Rural Municipality that this tender has been accepted.
- (4) That the quantities listed in Clause (6) hereof are estimates only and that the actual quantities may vary considerably from such estimates.
- (5) That payment will be made by the Rural Municipality on the basis of the design quantities as determined by the Municipality. Any portion of the project covered by the contract on which the design has been altered subsequent to the preparation of the plans shall be recalculated and the quantities so obtained shall be considered final.
- (6) The Council of the Rural Municipality, hereby appoints the following person(s) who shall administer the contract for the Rural Municipality as required in Clause (5) of the General Provisions.

The person (s) appointed shall be:

<u>Name</u>	<u>Position</u>	<u>Address</u>	<u>Phone No.</u>
Michelle Bublish	Administrator	Davidson, SK	306-567-3103
Tyler Kondra	Project Manager	Saskatoon, SK	306-281-8917

6. Unit Prices
 6-1 Unit Prices for Earth Work

ITEM	UNIT	ESTIMATED QUANTITIES	UNIT PRICE	EXTENDED ESTIMATED TOTAL PRICE
1. Clay Cap	(m ³) per cubic metre	42,500	_____dollars & _____cents (\$ _____)	
2. Haul on Clay Cap	(m ³ km) per cubic metre kilometer	45,000	_____dollars & _____cents (\$ _____)	
3. Disposal of surplus rock	(m ³) per cubic metre	300	_____dollars & _____cents (\$ _____)	
4. Providing, Loading, & Hauling of fieldstone, and construction of Rip Rap Protection to embankment and ditches in place.	(m ³) per cubic metre	30	_____dollars & _____cents (\$ _____)	
5. Clearing and grubbing of timber and brush from the right of way and other such areas as may be designated.	(ha) per hectare	To be included in excavation price.	To be included in excavation price.	To be included in excavation price.
6. Installing culverts in roadway as directed, including excavation and backfill				
500 mm diameter	(m) per metre	298	_____dollars & _____cents (\$ _____)	
7. Removing old culverts from roadway and disposing as directed.	(m) per metre	269	_____dollars & _____cents (\$ _____)	
8. Topsoil Removal and Replacement	(m ³) per cubic metre	7,500	_____dollars & _____cents (\$ _____)	
9. Gravel Incorporation	(km) per kilometre	6.5	_____dollars & _____cents (\$ _____)	
10. Supply & Install Geotextile	(m ²) per square metre	500	_____dollars & _____cents (\$ _____)	

ITEM	UNIT	ESTIMATED QUANTITIES	UNIT PRICE	EXTENDED ESTIMATED TOTAL PRICE
11. Supply & Install Silt Fence	(m) per metre	250	_____dollars & _____cents (\$ _____)	
12. Supply & Install Erosion Control Blanket	(m ²) per square metre	250	_____dollars & _____cents (\$ _____)	
TOTAL FOR EARTH WORK:				\$ _____

Note:

- (a) The Contractor shall be entitled to payment of \$50 per obstruction inside the right of way where backsloping requires him to work around these obstructions. The obstructions shall include telephone and/or power poles, and utility markers that have not been removed prior to construction.
- (b) Good and Services Tax shall be in addition to the Estimated Total Price shown in Clause (6).
- (c) Provincial Sales Tax shall be in addition to the Estimated Total Price shown in Clause (6).

7. Bid Evaluation

In addition to Clause (6) of the “Tender for Contract”, the Rural Municipality will evaluate the bids based on the following evaluation criteria in awarding this tender:

Criteria	Weighting
Cost	70 %
Contractor’s Experience from those listed in Clause (9)(c) of the “Tender for Contract”	20 %
Contractor’s references from those listed in Clause (9)(d) of the “Tender for Contract”	10 %
Total	100%

7.1 Cost Evaluation

7.1.1 The lowest bid will receive the maximum scoring available. All other bids will be proportionately discounted by the percentage it exceeds the low bid price. For example, a bid that is 20 % higher than the low bid will a score 20 % lower than the maximum.

7.1.1.1 Any rejected bids will not be used in the calculation of price weightings.

7.2 Experience Evaluation

7.2.1 Each bidder will be evaluated on the projects listed in Clause (9)(c) of the “Tender for Contract”. The Project Owner(s) must express satisfaction with the quality of work, efficient use of time and professional conduct of the bidder.

7.3 Bidder Reference Evaluation

7.3.1 The Rural Municipality reserves the right to evaluate a bidder’s scoring based on any information relevant to the bidder’s past projects and capacity of completing the tendered project from the references listed in Clause (9)(d) of the “Tender for Contract”. In general, references will be asked for information pertaining to the bidder’s past work on the following:

7.3.1.1 Timeliness of project delivery, clean-up and efficiency in contract completion

7.3.1.2 Level of project planning and organization

7.3.1.3 Adherence to contract specifications

7.3.1.4 Control of Subcontractors and Suppliers

7.3.1.5 Safety and Traffic Accommodation

8. List of Equipment

The Contractor proposes to provide the following items of equipment and machinery for the purpose of completing the work outlined in this contract and guarantees that the equipment will be available and used for the completion of the job in the best, manner possible.

9. Contractor Capability

The following information is considered essential to the acceptance and evaluation of any tender and should be completed:

(a) Contractor’s estimated seasonal earthmoving capacity for equipment listed in Clause (8) of the “Tender for Contract”.

Excavation _____ Haul _____

(b) Contractor’s commitment to date for equipment listed in Clause (8) of the “Tender for Contract”.

Rural Municipality or Other Agency	Length	Excavation	Haul	Completion Date
1.				
2.				
3.				
4.				
5.				

(c) Contractor’s experience in the construction of Highway or Municipal Road Grading within the province of Saskatchewan in the past five (5) years.

Project 1	
Rural Municipality of Other Agency	
Owner Contact and Phone Number	
Length of Project	
Excavation	
Haul	
Completion Date	
Other Details	
Project 2	
Rural Municipality of Other Agency	
Owner Contact and Phone Number	
Length of Project	
Excavation	
Haul	
Completion Date	
Other Details	
Project 3	
Rural Municipality of Other Agency	
Owner Contact and Phone Number	
Length of Project	
Excavation	
Haul	
Completion Date	
Other Details	

Project 4	
Rural Municipality of Other Agency	
Owner Contact and Phone Number	
Length of Project	
Excavation	
Haul	
Completion Date	
Other Details	
Project 5	
Rural Municipality of Other Agency	
Owner Contact and Phone Number	
Length of Project	
Excavation	
Haul	
Completion Date	
Other Details	

(d) Contractor's references for three (3) separate projects occurring within the past five (5) years.

Reference Name	Title	Phone No.	Project Information
1.			
2.			
3.			

List of Sub-contractor(s) company name, address, and type of work they will be doing:

10. As evidence of good faith in the submission of this tender, enclosed herewith is a certified cheque payable to the Rural Municipality and drawn on one of the Chartered Banks of Canada in the amount of _____ dollars as a bid deposit, or alternatively, a bid bond. **The amount of the certified cheque or bid bond to be “5% of the tender amount”.**

This certified cheque or bid bond shall be retained by the Rural Municipality until the Performance Bond and Labour & Material Payment Bond has been furnished and the contract signed by both parties.

And the Contractor agrees that should anything occur having the effect of a withdrawal or attempted withdrawal of this tender during the time the same is required to be held firm as set forth in Clause (5), Item 2 hereof, or if, after having been advised by the Rural Municipality of the acceptance of this tender the undersigned should within the time as fixed by Clause (5), Item 3 hereof, the Rural Municipality shall have the right in addition to any other legal remedy available to it, to treat any contractual relationship arising out of this tender as being completely at an end and to retain as liquidated damages the money represented by such certified cheque or bid bond, and the same shall not be recoverable in any Court.

11. Liability Insurance

The successful Bidder will be required to provide a record from his insurance agent that sufficient insurance is carried according to Clause (15) of the “General Provisions for the Construction of Designated Roads”.

12. Commencement and Completion

No work shall be done until the contract has been executed by both parties thereto and the Performance Bond and Labour & Material Payment Bond has been filed by the Contractor and accepted by the Rural Municipality. The actual work must be commenced **as soon as possible once the necessary permits are obtained** and the Contractor shall perform the different parts of the work in the order as determined by the Rural Municipality. The rate of progress must be such that the whole will be completed **on or before October 15, 2025** or such later date as the Rural Municipality may for any reason determine and which is confirmed by a resolution of the Council.

Name of Individual, Partnership or Corporation

Business Address (Type or Print)

BY: _____
Name of Authorized Signing Officer
(Type or Print)

=====
CORPORATE SEAL

Contractor's G.S.T. Registration Number

Dated at _____

Signature of Authorized Signing Officer

 this day of 2024

Special Provisions

Municipal

R.M. No. 252

1. Occupational Health and Safety

1.1 In addition to General Provision 1200.1.3, Bids will be rejected if, prior to the time fixed for receiving Bids, Bidders have not obtained either:

1.1.1 A Saskatchewan Certificate of Recognition (COR) in accordance with General Provision 1450.2.3, or

1.1.2 A Letter of Equivalency in accordance with General Provision 1450.2.3.1.

1.1.3 A Letter of Intent from a Saskatchewan Safety Association to achieve COR prior to the start of this Contract.

1.1.3.1 If there is not sufficient evidence that COR can be achieved in order to complete the Contract with the Contractor specified start date the Municipality reserves the right to cancel the award and proceed with the next Bidder.

1.2 In accordance with General Provision 1450 for Occupational Health and Safety, and with part III of *The Saskatchewan Employment Act* and *The Occupational Health and Safety (Prime Contractor) Regulations* coming into force as of January 1, 2015, the Contractor shall assume the roles and responsibilities of the “prime contractor”.

2. Force Account

The force account surcharge will be an additional 0.68% of the total labour cost.

3. Board Loss

The rate for board loss will be \$9.00 per hour.

4. Rental Rates

The rental rates will be according to the most recent edition of the Roadbuilders and Heavy Construction Association of Saskatchewan equipment rental rates.

5. Note to Bidder

Embankment Construction

The embankment shall be formed of suitable material placed in successive layers, distributed over the full width of the cross-sectioning. Each layer shall not exceed 150 mm (0.15) in depth and shall be spread and bladed evenly by means of a suitable motor grader.

This is part of Standard Specifications No. 5 – Embankment and will be strictly enforced on this project.

6. Moisture-Density Relations of Soils - Contrary to the standard specifications, the following will apply.

A density requirement for earth excavation is specified in the tender form, each layer of the top **FIFTY (50)** centimetres of the subgrade shall be dried to at least the optimum moisture content and compacted to an average of not less than **NINETY-FIVE (95)** percent of the maximum density as determined by Test 920 (Standard Proctor).

- a. The foregoing will also apply to backfill for sub-cuts.
- b. The Engineer will determine from the test results the section to be considered for evaluation. The moisture and density will be considered satisfactory when:
 - all individual moisture test results are equal to or less than the optimum moisture content;
 - density test results are not less than **NINETY-FIVE (95)** percent of the maximum density;
 - all individual density tests are equal to or greater than **NINETY-FIVE (95)** percent of the maximum density.
- c. If the moisture of the soil is insufficient for compacting to the specified density and for finishing, the Contractor may elect to add water. The water shall be added in accordance with 7.0 Watering.

7. Watering7.1 Description

The work shall consist of loading, transporting and distributing water required to aid the compacting of embankments and subgrade preparation.

7.2 Materials

The R.M. shall furnish the source of water.

The water shall be free from undesirable quantities of organic matter and mineral salts. The quality will be subject to the approval of the R.M.

7.3 Construction

Watering equipment shall consist of water-tight tanks mounted on adequately powered trucks. The water shall be applied through a spray bar of such design as to provide a uniform unbroken spread of water the full width of the spray bar. A suitable device for positive shut off of the spray shall be so located as to permit control from the cab.

Water shall be distributed only if equipment is available to mix the materials or when the compaction operation is in progress.

7.4 Payment

Payment for the supply, loading and placing water will be paid for on an extra work basis.

8. Approvals

The awarding of this contract is contingent upon the Municipality receiving all necessary approvals from Ministry of Environment, Ministry of Highways, DFO, WSA, Navigable Waters and all other necessary regulatory agencies.

9. Liability Insurance

Refer to Clause (15) of the "General Provisions – Municipal" the Contractor shall maintain a comprehensive policy or policies of public liability and property damage insurance in the minimum of five million dollars (5,000,000)

10. Bid Item No. 5 – Clearing and Grubbing

Contrary to **Standard Specifications No. 2 – Clearing**, the bid item Clearing and Grubbing will consist of the removal of all timber, brush, stumps, rubbish or other such perishable material from within the limits of the **new 42 m right of way**, or adjacent to the right of way as directed by the Engineer and piling and disposing of the material in areas designated by the Municipality. This shall be a subsidiary obligation of the Contractor.

11. Diesel Fuel Adjustment

11.1 Adjustments for diesel fuel cost changes will be made to the Final Payment subject to the following conditions:

11.1.1 The Rural Municipality will establish a “Set Price” for diesel fuel for the Contract based on the most recent weekly price of diesel fuel on the date the Tenders for the Contract are opened.

11.1.2 An “Actual Price” for diesel fuel will be established for the work based on the price of diesel fuel at the start date of construction.

11.1.2.1 Once construction has started and the required adjustments are made, no further adjustment will be made.

11.1.3 The weekly prices established by the Rural Municipality will be obtained from an industry expert independent source for the Canada Standard Rack price of low sulphur diesel fuel at Regina, including all taxes except GST. These prices will not necessarily reflect the Contractor’s actual prices paid for diesel fuel, but are intended to be a valid comparison of diesel fuel price trends between the time of bidding and the start period of work.

11.1.3.1 The Ministry will not consider fuel invoices submitted by the Contractor.

11.1.4 All adjustments for a diesel fuel cost change will be based on the “Consumption Rate” for the applicable Contract Items and any other work as indicated in the Special Provisions.

11.1.5 If the price of diesel fuel changes by more than 7% from the Set Price to the Actual Price, an adjustment for a diesel fuel cost change will come into effect. If the price of diesel fuel changes by less than 7%, no adjustment will be made.

11.1.6 The adjustment will be based upon the “Consumption Rate” for the following Bid Items:

Bid Item	Consumption Rate
Topsoil Removal, Including Hauling	1.5 litres/cubic metre
Topsoil Replacement, Including Hauling	1.5 litres/cubic metre
Removal and Replacement of Topsoil, Including Haul	3.0 litres/cubic metre
Excavation, Including Hauling	1.5 litres/cubic metre

11.1.7 If the Actual Price exceeds the Set Price by more than 7%, the adjustment paid to the Contractor by the Rural Municipality will be:

$$\text{Adjustment} = (\text{Actual Price} - (1.07 \times \text{Set Price})) \times \text{Bid Item Final Quantity} \times \text{Consumption Rate}$$

11.1.8 If the Actual Price is less than 93% of the Set Price, the adjustment paid to the Rural Municipality by the Contractor will be:

$$\text{Adjustment} = (0.93 \times \text{Set Price} - \text{Actual Price}) \times \text{Bid Item Final Quantity} \times \text{Consumption Rate}$$

Example:

- Set Price at time of tender = \$ 0.90 / litre – (quote by local supplier on date of tender)
- Actual price at time of construction = \$ 1.00 / litre (quote by same supplier on date construction begins)
- Project has 50,000 cu.m. of excavation

If price of diesel rises by \$ 0.10 / litre

$$\begin{aligned} \text{Adjustment} &= \text{Actual price of } (1.00 - (1.07 \times [\text{set price}] 0.9)) \times 50,000 \text{cu.cm.} \times \\ &1.5 \text{ (consumption rate)} \\ &= (1.00 - 0.963) \times 50,000 \times 1.5 \\ &= \$ 2,775.00 \text{ **R.M. owes Contractor** } \end{aligned}$$

If price of diesel falls by \$ 0.10 / litre [Actual Price = \$0.80]

$$\begin{aligned} \text{Adjustment} &= (0.93 \times [\text{set price}] 0.90 - \text{actual price } 0.80) \times 50,000 \text{cu.m.} \times 1.5 \\ &\text{(consumption rate)} \\ &= (0.837 - 0.80) \times 50,000 \times 1.5 \\ &= \$ 2,775.00 \text{ **Contractor owes R.M.** } \end{aligned}$$

- If set price and actual price are within 7% up or down, the tender has no adjustment

12. Supply and Install Geotextile Materials

- 12.1. The Contractor shall install geotextile beneath all subcut areas as directed by the engineer.
- 12.2. The Contractor shall supply the geotextile material. The geotextile must be Geotex Non Woven 801 or equivalent.
- 12.3. Installation of the geotextile material shall be as per the manufacturer's specifications.
- 12.4. The quantity of geotextile will be measured in square metres of surface covered. No allowance will be made for overlapping.
- 12.5. Payment for supplying and installing geotextile materials will be at the contract unit price per square metre for Clause 6 – Bid Item 'Supply and Install Geotextile'. The unit price will be full compensation for completing the work.
- 12.6 The Contractor shall confirm quantity with the Engineer prior to ordering this material.

13. Supply and Install Silt Fence

- 13.1. The work shall consist of the installation of silt fence to prevent sediment, debris and foreign material from entering a waterbody as a result of the Work.
- 13.2. The Contractor will supply the silt fence material.
- 13.3. Silt fence shall be installed prior to any ground surface being disturbed unless otherwise directed by the Engineer.
- 13.4. Silt fence shall be installed in accordance with the manufacturer's recommendations or as directed by the Engineer.
- 13.5. The Contractor shall be responsible for monitoring, maintaining and repairing the silt fence until Final Acceptance of the Contract.
 - 13.5.1 The Contractor shall ensure that loading on the silt fence does not exceed loading limits. Material removed from the silt fence shall be disposed of as directed by the Engineer.
 - 13.5.2 The silt fence shall be free from trapped material at the time of Final Acceptance.

- 13.5.3 All work associated with monitoring, maintaining and repairing, including the removal and disposal of material trapped by the silt fence, will not be paid for directly but will be considered as a subsidiary obligation of the Contractor under this Contract.
- 13.6. The contractor shall repair or replace, at no direct expense to the Rural Municipality, any fence material damaged by their operations.
- 13.7. Silt fence shall remain in place at the completion of the Contract unless otherwise directed by the Engineer.
- 13.8. Supply and Install Silt Fence will be measured in lineal metres.
- 13.9. Payment for supplying and installing silt fence materials will be at the contract unit price per linear metre for Clause 6 – Bid Item ‘Supply and Install Silt Fence.’ The unit price will be full compensation for completing the work.
- 13.10 The Contractor shall confirm quantity with the Engineer prior to ordering this material.
14. Supply and Install Erosion Control Blanket
- 14.1. The work shall consist of the installation of erosion control blanket to prevent erosion.
- 14.2. Prior to installation of the blanket, the installation area shall be true to grade and cross-section and free from irregularities.
- 14.3. Erosion control blanket shall not be placed prior to seeding being completed unless otherwise authorized by the Engineer.
- 14.4. Erosion control blanket shall be installed at locations indicated on the Plans or as directed by the Engineer.
- 14.5. Erosion control blanket shall be installed in accordance with the manufacturer’s recommendations or as directed by the Engineer.
- 14.6. The Contractor shall repair or replace, at no direct expense to the owner any materials damaged by their operations.
- 14.7. The Contractor shall supply the erosion control blanket. The erosion control blanket must be SC 150 or equivalent.

- 14.8. Supply and Install Erosion Control Blanket will be measured in square metres of surface area covered. No allowance will be made for overlapping.
- 14.9. Payment for supplying and installing erosion control blanket materials will be at the contract unit price per square metre for Clause 6 – Bid Item ‘Supply and Install Erosion Control Blanket.’ The unit price will be full compensation for completing the work.
- 14.10 The Contractor shall confirm quantity with the Engineer prior to ordering this material.
15. Public Utilities
- 15.1. Properties of utility companies such as pole lines, conduits, gas pipes, oil pipes, water pipes, sewers, and tile lines which, in the opinion of the Engineer, may interfere with the completion of the work, will, except as otherwise provided in the contract, be moved by the owners. The Contractor shall ensure that all utilities, whether shown on the plans or not, that may interfere with construction are identified and marked.
- 15.2. The municipality will make available to the Contractor whatever underground utility information that it may possess but such service will not relieve the Contractor of his responsibilities.
- 15.3. The Contractor shall ensure that all of his employees are made aware of the location of any underground utilities and the importance of avoiding damage to them. The Contractor shall ensure all instructions issued by the Engineer for the preservation of any utilities are carefully observed by the contractor’s employees.
- 15.4. The Contractor shall preserve and protect all utilities. The Contractor shall assume full responsibility for reimbursing the owners for any damage, caused by his operations, to such properties.
- 15.5. The Contractor shall not hinder, or interfere with, any persons engaged in protecting or moving utility properties in the operation of the utility. No adjustment in unit prices shall be allowed because of delay or interference caused by such work.
16. Order of Work
- 16.1 **The RM is currently in the process of obtaining:**
- 16.1.1 The required permits and approval from Regulatory Authorities.

16.1.2 Crossing agreements and/or relocations of existing utilities.

16.2 No compensation will be paid for delays, staging of work or mobilization to or from the project due to any factors associated with Clauses 16.1, or any delays associated with environmental concerns or findings during construction.

17. Borrow Sources

17.1 The Contractor is advised that borrow locations have not been finalized.

17.1.1 Payment will be made for the actual quantities at the bid unit price. No compensation for an increase or decrease in unit price will be considered due to changes in borrow locations.

18. Mobilization

18.1 For this contract, mobilization will be a subsidiary obligation of the Contractor.

18.2 The Contractor is advised that no compensation will be made for any staging of work due to delays in moving utilities.

19. Bleach Wash

19.1 Prior to mobilization of equipment to site all Power Mobile Equipment will be required to have a bleach wash completed.

19.1.1 Payment for all cost associated with the completion of a bleach wash will not be paid for directly but will be considered as a subsidiary obligation of the Contractor under this contract.

19.1.2 Prior to commencement of work, proof of the bleach wash shall be provided.



OCCUPATIONAL HEALTH AND SAFETY - SECTION 1450

- Subsection 1450.1 Acts, Regulations and Policies to be Observed
- .2 Contractor Safety Program Requirements
 - .3 Contractor Safety Information and Reports
 - .4 Responsibility for Safety
 - .5 Safety Meetings and Inspections
 - .6 Apparel and Equipment
 - .7 Accident, Incident and Dangerous Occurrence Investigations

1450.1 ACTS, REGULATIONS AND POLICIES TO BE OBSERVED

- 1450.1.1 The Contractor shall observe and comply with the terms of *The Saskatchewan Employment Act (Part 3)*, *The Occupational Health and Safety Regulations, 1996* and *The Occupational Health and Safety (Prime Contractor) Regulations* which in any manner affect those engaged or employed on the Work or which in any way affect the conduct of the Work.
- 1450.1.2 The Contractor shall develop, implement and distribute Traffic Control Plans prior to commencement of the Work. Typically these plans shall be developed for plant sites, aggregate sources, stockpile sites, bridge construction sites, Roadway operations and other hazardous areas of the Project. Separate Traffic Control Plans will be required for each work site and Highway section.
- 1450.1.3 In accordance with *The Saskatchewan Employment Act Section 3-22(1)*, the Contractor shall establish a local OH&S committee on any Project where the anticipated work site duration equals or exceeds 90 days with 10 or more workers.
- 1450.1.4 The Ministry has adopted a zero-tolerance policy for harassment. If any unacceptable behaviour occurs, that person(s) shall be removed from the site.

1450.2 CONTRACTOR SAFETY PROGRAM REQUIREMENTS

- 1450.2.1 The Contractor shall have in place an OH&S Safety Program that meets or exceeds the requirements of *The Saskatchewan Employment Act (Part 3)* and *The Occupational Health and Safety Regulations, 1996*.
- 1450.2.2 The Contractor shall include in their safety program the applicable Safe Operating Practices (SOPs).
- 1450.2.3 The Contractor shall obtain and maintain a Certificate of Recognition (COR) in a health and safety program which is relevant to their industry. Only a COR issued by the Heavy Construction Safety Association of Saskatchewan, the Saskatchewan Construction Safety Association or the Saskatchewan Petroleum Industry Safety Association (Enform) will be accepted.
- 1450.2.3.1 For out-of-province Bidders who do not have a COR issued by one of the above-mentioned associations, a Letter of Equivalency issued by one of these associations will be accepted. All conditions in the letter must be adhered to by the Contractor.
- 1450.2.3.2 The Contractor shall ensure that subcontractors who do not have their own COR are familiar with and adhere to all provisions of the Contractor's Safety Program.

1450.3 CONTRACTOR SAFETY INFORMATION AND REPORTS

- 1450.3.1 Upon receipt, the Contractor shall supply the Ministry with copies of any of the following documents issued to them by Ministry of Labour Relations and Workplace Safety:
- 1450.3.1.1 Safety Notices of Contravention
 - 1450.3.1.2 Officer Reports
 - 1450.3.1.3 Compliance Undertakings
 - 1450.3.1.4 Summary Offences
- 1450.3.2 The Contractor shall, upon request, supply the Ministry with any current information regarding:
- 1450.3.2.1 WCB 116C1 and 116C3 Reports
 - 1450.3.2.2 The Contractor's current Internal OH&S COR Audit Report
 - 1450.3.2.3 The Contractor's current External OH&S COR Audit Report
 - 1450.3.2.4 The Contractor's Safety Policy Manual
 - 1450.3.2.5 The Traffic Accommodation Supervisor's "Certificate of Training in Work Zone Traffic Accommodation" issued by the Saskatchewan Safety Council
 - 1450.3.2.6 Flagpersons' "Certificate of Training in Workzone Flagging" issued by the Heavy Construction Safety Association of Saskatchewan
 - 1450.3.2.7 The Contractor's first aid certificates
 - 1450.3.2.8 The Contractor's blasting certificates
 - 1450.3.2.9 The Contractor's equipment training certificates
 - 1450.3.2.10 Any other relevant health and safety documentation as determined by the Engineer
- 1450.3.3 For out-of-province bidders, equivalent documents will be accepted.
- 1450.3.4 By entering into this Contract, the Contractor consents to allow the Ministry of Labour Relations and Workplace Safety to disclose to the Ministry all notices, reports, findings, etc. in connection with this Contract.

1450.4 RESPONSIBILITY FOR SAFETY

- 1450.4.1 The Contractor shall assume the roles and responsibilities of the "Prime Contractor", pursuant to *The Saskatchewan Employment Act (Part 3)* and *The Occupational Health and Safety (Prime Contractor) Regulations*, for Work performed under this Contract.
- 1450.4.2 The Contractor shall coordinate and provide direction for the safety of all persons within the Project site; including but not limited to employees, subcontractors, self-employed persons, suppliers, Ministry staff, consultant staff, utility companies, and the general public.
- 1450.4.3 The Contractor shall designate a competent individual to oversee and direct activities with respect to safety on the Project. The designated safety representative shall perform the following duties:
- 1450.4.3.1 Post their name and contact info at a conspicuous place on the Project.
 - 1450.4.3.2 Become familiar and regularly communicate with the safety representatives for all other employers and self-employed persons on site.
 - 1450.4.3.3 Ensure all other employers and self-employed persons on site have, and are abiding by, adequate policies and SOPs; and employ competent workers and equipment.
 - 1450.4.3.4 Develop, distribute, communicate and maintain an Emergency Response Plan.

- 1450.4.3.5 Perform safety inspections on equipment and operations prior to and during operations as required.
- 1450.4.3.6 Ensure, in as much as possible, all persons involved with the Project are working in a safe manner and complying with *The Saskatchewan Employment Act* and Regulations.
- 1450.4.3.7 Provide direction to others and coordinate all activities at the Project site that may affect worker health and safety, ensuring that the activities of one employer or self-employed persons do not affect the safety of another.
- 1450.4.3.8 Conduct, document and communicate safety meetings in accordance with Section 1450.5.
- 1450.4.3.9 Keep information referred to in Section 3-16 of *The Saskatchewan Employment Act* (Duty to provide information) on site and readily available to all.
- 1450.4.3.10 Provide information to medical and other authorized personnel, when required, as soon as possible.
- 1450.4.3.11 Develop and implement a policy statement to deal with potentially violent situations on the Project in accordance with Section 3-21 of *The Saskatchewan Employment Act*.
- 1450.4.3.12 Any other safety related duties as may be required under the Act and Regulations and otherwise.

1450.5 SAFETY MEETINGS AND INSPECTIONS

- 1450.5.1 Prior to commencement of the Work, a Pre-construction Meeting will be conducted by the Engineer. The Contractor shall ensure that its project supervisor, designated safety representative (unless exempted by the Engineer) and a representative from each major subcontractor are in attendance.
- 1450.5.2 Prior to commencement of Work on any Stage of the Project, the Contractor shall submit a statutory declaration and the accompanying inspection checklist to the Engineer (on the forms provided) stating that the Pre-project Safety Meeting and the Worksite Safety Inspection have been satisfactorily conducted and that it is safe to proceed with the Work.
 - 1450.5.2.1 The Pre-project Safety Meeting shall include a review of all relevant Safe Operating Practices (SOPs) and any other safety related issues. The Pre-project Safety Meeting shall be attended by all employees of the Contractor and subcontractors, as well as the Engineer and their staff. The results of this meeting shall be documented and signed by all attendees, with a copy provided to the Engineer.
 - 1450.5.2.2 The Worksite Safety Inspection shall identify potential safety hazards and ensure all safety devices required for the Project are in place and operational.
- 1450.5.3 The Ministry reserves the right to perform periodic worksite inspections at any time. The Ministry may suspend work in cases of recognized imminent danger or when the Contractor fails to comply with safety orders issued or fails to rectify previously identified worksite hazards. The Ministry's interpretation of a worksite hazard will be considered as final in all cases.
- 1450.5.4 The Contractor shall conduct regularly scheduled Tool Box Meetings to discuss, review and resolve safety issues. The Contractor shall ensure all employees of the Contractor and subcontractors on the Project attend. The results of these meetings shall be documented and signed by all attendees, with a copy provided to the Engineer.
- 1450.5.5 The Contractor is responsible to continually identify and correct project hazards to ensure the safety of all persons at the Project site, and the traveling public through the site, at all times. The Contractor shall continually assess, investigate and evaluate the worksite for potential hazards.

1450.6 APPAREL AND EQUIPMENT

- 1450.6.1 The Contractor shall ensure all employees, subcontractor's employees and other personnel who are working on the Project use the mandatory Personal Protective Equipment (PPE) meeting or exceeding Regulation requirements for the work being performed. PPE shall include (as necessary), but not be limited to: high visibility safety apparel, safety footwear, hard hats, eye protection, safety gloves and hearing protection.
- 1450.6.2 The Contractor shall ensure all employees and subcontractor's employees abide by the Ministry's PPE and apparel policies.
- 1450.6.3 Flagpersons shall wear high visibility clothing that provides a high level of contrast between the flagperson and the work environment.
- 1450.6.4 All other personnel employed on this Project shall wear high visibility safety apparel meeting the following standards:
- 1450.6.4.1 CSA Z96-09, Class 2 Level 2 garments, including vests and bib style overalls, minimum Table 2A for background material or ANSI/ISEA 107-2004, Class 2, Level 2 for vests.
 - 1450.6.4.2 CSA Z96-09, Class 3 Level 2 garments, including coveralls, minimum Table 2B for background material.
 - 1450.6.4.3 CSA Z96-09 Section 7, Flame Resistant (FR) Garment Applications, special performance allowances for garments intended for FR applications shall be followed where the Contractor determines that personnel employed on the Project may be exposed to an ignition source, flash fire or thermal effects of an electrical arc.
 - 1450.6.4.4 The choice of colour and striping for vests, bib style overalls and/or coveralls, for other than flagpersons, is at the discretion of the Contractor, but must meet the requirements of the CSA Z96-09 or ANSI/ISEA 107-2004 Standards.
- 1450.6.5 All self-propelled, non-steel tracked equipment used on the Project shall be equipped with a rotating or flashing amber light.
- 1450.6.6 All motor vehicles, except passenger cars, and all powered mobile equipment used on this Contract shall be equipped with a functioning audible alarm that activates automatically when the vehicle or equipment is placed in reverse. Any vehicle or equipment that does not comply with this clause shall not be used until the alarm is operational.

1450.7 ACCIDENT, INCIDENT AND DANGEROUS OCCURRENCE INVESTIGATIONS

- 1450.7.1 In addition to OH&S Regulations, the Contractor shall conduct an investigation where an accident, incident or dangerous occurrence involves employees of the Contractor or subcontractor. The Contractor shall also investigate accidents, incidents and dangerous occurrences involving the traveling public when the event is related to the Contractor's operation.
- 1450.7.1.1 The Contractor shall notify the Engineer in addition to the Ministry of Labour Relations and Workplace Safety immediately when any such event occurs.
 - 1450.7.1.2 The Contractor shall supply a copy of the investigation report to the Engineer and the Ministry of Labour Relations and Workplace Safety within 72 hours of the occurrence.

SPECIFICATION – 230

GRAVEL INCORPORATION

230 – SPECIFICATION FOR GRAVEL INCORPORATION

230 – 1 DESCRIPTION

The work will consist of traffic gravel uniformly mixed with the insitu material in the top of the subgrade.

230 – 2 MATERIALS

The gravel will be SUPPLIED, HAULED, & PLACED on the road by the Municipality.

The gravel will be mixed with insitu material from the top of the subgrade.

A water source will be supplied by the municipality.

230 – 3 CONSTRUCTION

The contractor may use any machine, combination of machines or equipment that will result in the gravel being uniformly mixed with the subgrade material in the top 75 millimetres of the finished road top. The mixture of gravel and subgrade material shall be packed enough to produce a smooth firm surface that will support normal road traffic without rutting or becoming unstable.

The amount of gravel to be blended into the subgrade may vary as directed by the Engineer but will normally be between 190 and 380 cubic metres per kilometre (400 to 800 cubic yards per mile). The width and depth of subgrade material scarified or loosened up may also vary as designated by the Engineer, however, the width will normally be two metres less than the finished road top width and the depth will be between 50 to 100 millimetres.

Adding water to the mixture will be directed by the Engineer if there is insufficient moisture to produce a stable driving surface.

All surplus rock (80 millimetres and larger) shall be removed from the surface and disposed of as directed by the municipality. All small rocks from thirty millimetres (30 mm) to eighty millimetres (80 mm) shall be bladed off the road top into the ditch or onto the sideslope.

R.M. No. 252

230 – 4 MEASUREMENT

Gravel incorporation will be measured in kilometres to the nearest tenth of a kilometre for the length of the project.

Surplus rock will be measured in cubic metres based on measured piles or pit measurements.

230 – 5 PAYMENT

Payment for gravel incorporation will be made at the unit price per kilometre. The unit price will be full compensation for spreading gravel, scarifying, mixing, blading, shaping, trimming, drying, compacting, and finishing to the required cross-section.

Payment for disposal of surplus rock will be at the unit price per cubic metre.

Payment for loading, hauling and applying water to the road, if required, will be made on an extra work basis.

GRAVEL STABILIZATION – Incorporation of Gravel into the Roadtop.

Gravel will be supplied, hauled to the road, and spread at a uniform rate by the Contractor. The amount of gravel may vary as directed by the Engineer but should average approximately 500 cubic yards per mile.

The work will consist of incorporating this gravel uniformly into the top of the subgrade. The Contractor may use any machine or combination of machines or equipment which will result in the gravel being evenly distributed throughout the subgrade material within 75 mm of the finished road top. This mixed subgrade material shall be packed enough to produce a smooth firm driving surface that will support normal road traffic without rutting. Payment for this work will be at the unit bid price per kilometre.

If this subgrade material becomes unstable due to insufficient moisture the Contractor will be required to add enough water to make it stable. The water will be supplied by the Municipality. The Contractor will be responsible for hauling the water and applying it to the road. Watering and the water hauling will be paid for on a force account basis.



AGREEMENT Municipal

THIS AGREEMENT, dated this _____ day of _____, 20 _____

by and between:

(hereinafter called the "Contractor")

and

The Rural Municipality of Arm River No. 252
of the Province of Saskatchewan.

WITNESSETH THAT:

The Contractor and the Rural Municipality undertake and agree that:

1. The Contractor will construct to Grid Standards, the road located:

E. 1, 12, 13, 24-26-1-W3M

in accordance with the Tender, General Provisions, Specifications, Special Provisions and Plans furnished with and identified in the Tender;
2. The aforesaid Tender, General Provisions, Specifications, Special Provisions, Plans and addenda hereto attached, together with the Contractor's bond, are hereby made and shall be considered part of this Agreement the same as if herein fully set forth;
3. IN CONSIDERATION WHEREOF, and upon the Contractor constructing and fully completing by October 15, 2025 the works herein contracted for in accordance with the agreements herein set forth the Rural Municipality agrees to pay unto the Contractor for the actual amount of work done and materials in place at the unit prices stated in the Contractor's attached tender;
4. As a condition precedent to the complete execution of this Agreement, the Contractor will furnish to the satisfaction of the Rural Municipality a good and sufficient Performance Bond and Labour & Material Payment Bond in the amount of dollars (\$ _____) to be conditioned upon the faithful performance of the covenants and agreements as herein set forth by it to be performed;
5. Neither party of the Contract shall assign, transfer or sublet the Contract, or any part thereof, without the written consent of the other.

Agreement Municipal

ST242521

- 6. “The Contractor agrees to indemnify and save harmless Canada, Saskatchewan, the Municipality, their officers, servants, employees or agents from and against all claims, demands, loss, costs, damages, actions, suits, or other proceedings by whomsoever brought or prosecuted in any manner based upon, or occasioned by an injury to persons, damage to or loss or destruction of property, economic loss or infringement of rights caused by or arising directly or indirectly from:
 - a) This Contract;
 - b) The performance of a Contract or the breach of any term or condition of it by the Contractor, it’s officers, servants, employees or agents; or
 - c) Any omission or other wilful or negligent act of the Contractor, their respective employees, officers, servants or agents.”

- 7. “The Contractor agrees that nothing in this contract is to be construed as authorizing the Contractor to contract for or to incur any obligation on behalf of the Municipality, Saskatchewan or Canada or to act as an agent for them.”

This Contract shall ensure to the benefit of and be binding upon the parties hereto, and their successors, executors, administrators and assigns.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date which is indicated first herein.

_____)	SIGNED, SEALED AND DELIVERED
_____)	
_____) SEAL	in the presence of
_____)	
_____)	
Contractor	(Witness)

Contractor's G.S.T. Registration Number

Rural Municipality of Arm River No. 252

_____ SEAL	
Reeve	(Witness)

Rural Municipal Administrator

General Provisions

Municipal

FOR THE CONSTRUCTION AND/OR OIL SURFACING OF DESIGNATED ROADS

1. **Definitions:**

a. Contractor:

The word "Contractor" shall, unless the content otherwise requires, include the authorized agents of the Contractor or the Foreman in charge of the work.

b. Rural Municipality:

The word "Rural Municipality" shall mean the Rural Municipal Council or its designated representative(s).

c. Interpretation:

Where there is any doubt as to the intention, or the correct interpretation of the specifications herein, the matter shall be referred to the Rural Municipality.

2. **Times and Manner of Payment:**

The Rural Municipality will well and truly pay or cause to be paid unto the Contractor for the said works at the price as shown in Clause 6 of the Tender. Payments will be made as follows:

Progress Payments

All progress payments for materials furnished and work performed will be based on estimates prepared and certified by the Engineer and submitted to the Council seven (7) days prior to the regular council meeting date. Progress payments to the Contractor will be made within ten (10) days after the regular council meeting date.

The monthly estimates and payments are approximate only but shall be as close to the actual value as is practicable and shall be subject to correction in the final estimate and payment.

Ten (10) percent of the monthly amount of each progressive estimate shall be retained as a holdback until the work is completed and has been accepted by the Rural Municipality.

Final Payment

Final payment will be made by resolution of the Council at the earliest practicable date following final inspection and acceptance of the work. The Contractor shall be paid the entire sum due after deducting all previous payments and all amounts to be retained or deducted under the provisions of the Contract. Such payment shall be known as the "Final Estimate".

Before making the final payment, the Rural Municipality may require the Contractor to submit a statutory declaration stating that all just claims against the Contractor or sub-contractor, as outlined in Clause (11) of the General Provisions have been paid or secured.

All payments are to be made according to measurements and records maintained by the Rural Municipality, and the decision of its Council in respect thereto shall be final.

The Rural Municipality shall, within thirty (30) days of the Engineer's acceptance of the work, make payment of the account in accordance with the agreement. Should the Rural Municipality fail to pay the sum named in any certificate of the Engineer or in any award by arbitration, upon demand when due, the Contractor shall receive, in addition to the sum named in the certificate, interest thereon at the rate of prime plus one (1) percent per annum.

The Contractor shall have thirty (30) days from receipt of the final quantity statement from the Rural Municipality or Engineer to advise the Rural Municipality of his non-acceptance of the quantities.

Any Contractor who has not maintained a permanent place of business in Saskatchewan for the twelve months immediately preceding the date of the contract shall make arrangements satisfactory to the Provincial Treasurer to ensure compliance with *Provincial Sales Tax*.

No final estimate will be paid until the Rural Municipality has certificates from the Provincial Treasurer that the Contractor has paid the Provincial Sales Tax and from the Workers' Compensation Board that all Workers' Compensation Board assessments have been paid.

3. **Borrow Pits:**

All pits required to provide earth for embankments will be provided by the Rural Municipality, and in removing material from any borrow pits, the Contractor must strictly adhere to the provisions of the specifications. Dugout-type borrow pits shall not be located less than ten (10) metres from the edge of the right-of-way without written approval from the Engineer.

If material is removed by the Contractor from any pits other than those provided by the Rural Municipality, the Contractor shall be liable for all claims for compensation or damages resulting from the removal of such material. Any such claim which is not promptly paid by the Contractor may be paid by the Rural Municipality out of the funds payable to the Contractor under the provisions of this contract.

4. **Materials:**

No claim for damages shall be made against the Rural Municipality on account of delays on the part of the Rural Municipality in the delivery of materials or performance of the work. Should there be unduly prolonged delays on the part of the Rural Municipality in the delivery of any materials or the performance of work, the Contractor shall be entitled to a corresponding extension of time within which to complete the work.

5. **Supervision and Acceptance of Work:**

The person or persons appointed by the Rural Municipality in Clause (5), Section 6 of the tender form shall have duties, authority and responsibilities as follows:

- a. To supervise the works to ensure the work is being carried out according to the contract documents, and give the Contractor written points of instruction.
- b. To act on behalf of the Rural Municipality to expedite removal or relocation of obstructions to the work such as fences and utilities, and to ensure the prompt arrangement for purchase, lease or easement of right-of-way and borrow pits; and to expedite prompt delivery of materials and supplies to be supplied by the Rural Municipality.
- c. To arrange and conduct a pre-job meeting with the Rural Municipality, Engineers and Contractor to discuss scheduling of the Contractor's work, delivery of materials by Rural Municipality, schedules of utility location, relocation or removal.
- d. To act as "Judge of Performance" of the Contractor's work.
- e. To inspect the finished work of the Contractor and provide a written acceptance or a written list of deficiencies.
- f. To ensure that the Contractor's invoices or the Engineer's payment certificate for work completed are dealt with by the Rural Municipal Council in the times and manner prescribed elsewhere in the contract documents.

Portions of improved road completed to the satisfaction of the Rural Municipality or the Engineer will be accepted during the progress of the work in sections of not less than 1.6 kilometres (1 mile) in length in each case. Upon acceptance of any such portion, the Contractor shall thereafter be relieved of further responsibility for maintenance of such portion, provided always that at any time during the progress of the remaining work under this contract the Rural Municipality may require the Contractor to do specified

maintenance work on any such accepted portion, on a "Force Account" basis as outlined in Clause (9) hereof.

6. **Liquidated Damages:**

The Contractor shall perform fully, entirely and in an acceptable manner the work contracted for and within the time stated in the contract. Should he fail to do so, the Rural Municipality may deduct any monies due or coming due to the Contractor, all costs and expenses incurred by the Rural municipality resulting in such failure by the Contractor, such costs to include the cost of maintaining the necessary force of engineers and inspectors on the work during the additional time required to complete the contract and the costs and expenses of convening meetings of the council for the purpose of dealing with all matters arising from such failure on the part of the Contractor and any and all other expenses incidental thereto. This amount shall be considered as reasonable liquidated damages due to the Rural Municipality from the Contractor for his failure to complete the contract within the specified time limit.

For purposes of this section, "the cost of maintaining the necessary force of engineers and inspectors on the work" shall be deemed to include the wages, salaries, board, sustenance and travelling expenses of any or all supervising engineers, resident engineers, engineering assistants, head checkers, scalmen, gravel checkers, employees used in materials testing, instrumentmen, rodmen, chainmen, and grading inspectors who are employed on, or in connection with the work.

Should the liquidated damages, calculated as herein provided for, exceed the amount of monies due or coming due to the Contractor under this contract, the Contractor and his sureties shall be jointly and severally liable to pay such excess to the Rural Municipality.

7. **Extension of Contract Time of Completion:**

If the satisfactory execution and completion of the contract shall require work or material in substantially greater amounts or quantities than those set forth in the contract, then contract times shall be increased in the same proportion as the additional work bears to the original work contracted for. No allowance shall be made for delay or suspension of the prosecution of the work due to the fault of the Contractor. Provided, however, that upon receipt of written notice from the Contractor of the existence of causes over which he has no control and which must delay the completion of the work, the Rural Municipality may at its discretion by resolution of its council extend the date specified for the completion of the said work. In such case the Contractor shall become liable for liquidated damages for failure to perform work within the time as so extended in accordance with the provisions of the immediately preceding paragraph.

8. **Cancellation on Default:**

If, in the opinion of the Rural Municipality, the rate of progress, at any time, is not such as to ensure the completion of the work by the completion date as provided in Clause(12) of the "Tender Contract" or within such extended time as may have been granted under Clause(7) hereof, or if the Contractor shall neglect or refuse or fail in any respect to comply with any other provisions of this contract, the Rural Municipality reserves and may exercise the right to cancel or annul this contract and make other provisions for the work being completed. The Contractor shall not be entitled to claim damages on account of anticipated profits or for other reasons.

If the Rural Municipality exercises its right of cancellation as provided for in this clause, the Contractor shall not be entitled to receive any further payment under this contract until the said work has been wholly completed. At such time, if the unpaid balance of the amount to be paid under this contract exceeds the expense incurred by the Rural Municipality in completing the work; then such excess shall be paid to the Contractor by the Rural Municipality. If such expense exceeds such unpaid balance, the Contractor and his sureties shall be jointly and severally liable to pay such excess to the Rural Municipality.

The Rural Municipality, if it considers it advisable, may use all or any part of the Contractor's appliances, tools, materials, and means of construction as may be found in connection with said work and which may be required for the completion of the contract.

The cost of any such materials used in the work shall be allowed for at prices shown by proper vouchers and receipts, and reimbursement for any plant or tools so used and for any additional plant required shall be made on the basis of depreciation for the time it is used on the work at a rate that will equal the actual cost of the plant in twelve (12) months' use, and ten (10) percent for organization, superintendence, etc.

9. **Extra Work (Force Account):**

If, during the performance of the contract, it shall become necessary or desirable for the proper completion of the work to order additional work done or materials furnished, which are not susceptible to classification under the prices set out in this contract, the Contractor shall, if ordered in writing by the Municipal Engineer, do and perform such work and furnish such materials. The extra work will be paid for at a unit price or lump sum to be agreed upon previously in writing by the Contractor, the Rural Municipality Municipal Engineer.

Provided that, in the absence of agreement between the parties as to the basis upon which the Contractor is to be paid for such extra work, the Rural Municipality may require him to do the same on a "Force Account" basis. The Force Account rates will be the current rental rates set out by the Department of Highways and Transportation.

Extra work performed on a Force Account basis will be paid for in the following manner:

a. **Labour**

For labourers, foremen:

1. The actual rate of wages paid by the Contractor, but at rates not to exceed those for comparable labour currently employed on the project as determined by the Engineer, plus an allowance as designated in the special provisions of the contract, which shall cover statutory holiday pay, holiday pay, Canada Pension Plan, Workers' Compensation, unemployment insurance, public liability insurance, property damage insurance and supervision and profit. The current force account surcharge is indicated in Clause (1) of the "Special Provisions".
2. The foreman's allowance (hours) will be negotiated with the municipality on the basis of time required to supervise the hourly work.
3. An allowance as designated in the special provisions of the contract shall be added to the total of the above labour cost to cover board loss where the Contractor does not charge the full cost of meals and accommodation back to the employee. The rate of board loss is indicated in Clause (2) of the "Special Provisions".

b. **Materials**

For all materials purchased by the Contractor and used on Force Account work which is accepted by the Engineer, the Contractor will receive the actual cost of the materials delivered on the work, including freight and hauling charges as shown by original receipted bills, to which costs shall be added a sum equal to ten (10) percent thereof.

c. **Tools and Equipment**

1. For any machinery and equipment used, the Contractor shall be paid rental rates in accordance with the current schedule of rental rates set out by the Saskatchewan Highways and Transportation. The schedule of rental rates shall apply to all work done on Force Account during the fiscal year from the first day of April in one calendar year and ending on the last day of March in the next calendar year, both dates inclusive. Current schedule rates will be applicable for each succeeding fiscal year. If a particular piece of equipment is not listed in the schedule of rental rates, a rate will be established by the Municipality before any work is carried out on Force Account. The rate established will then apply for the duration of the contract.

The Contractor shall obtain approval in writing for equipment hired at rental rates exceeding those contained in the Schedule of Rental Rates prior to any work being done on Force Account. No allowance will be made for small tools and manual equipment. No percentage shall be added to the equipment rental rates.

2. Basic rental rates established from the schedule of equipment rental rates will be adjusted in accordance with the equipment model year as listed in Clause (3) of the "Special Provisions".
3. Equipment rental time will be recorded to the nearest one-half (1/2) hour.
4. Payment for transporting equipment to the job will be paid only for those units of equipment that are not normally required for the execution of the contract. The cost of transportation of equipment will be based on actual and reasonable out-of-pocket expenses. Self-propelled units will receive compensation of fifty (50) percent of the adjusted hourly rental rate plus the operator's wages.
5. No compensation will be paid for moving equipment required to complete portions of the contract which are advertised in the tender to be completed on an hourly basis.

d. **Records**

The following records shall pertain to Force Account work:

1. Work to be done on a Force Account basis must be authorized in writing by the Municipal Engineer before its commencement. The original and one copy of the authorization will be given to the Contractor.

The original is to be retained by the Contractor and the copy attached to the Saskatchewan Highways and Transportation standard Force Account forms.

2. The Contractor shall furnish original receipted bills to verify the cost of materials purchased by him and used on the extra work.
3. The cost of labour and equipment rental charges shall be furnished by the Contractor on the standard Force Account forms provided by the Saskatchewan Highways and Transportation.
4. Accounts for Force Account work must be submitted to the Municipality for payment within thirty (30) days from the date on which such Force Account work was completed.

5. The Municipality, if it deems it necessary, shall provide and place a timekeeper or timekeepers on the work for the purpose of keeping records of the costs of such Force Account work.
6. The Contractor shall not be entitled to anticipated profits which men, machinery, or equipment might have earned through not having been employed on Force Account work.

10. **Labour:**

The Contractor agrees that all persons employed on the work by the Contractor and any sub-contractor of the Contractor will, in respect of the construction to be carried out under this contract, employ only residents of Canada. In employing persons, the Contractor will refrain from discriminating against any person by reason of his race, sex, religious or political affiliations.

The Contractor shall, at all times during his absence from the work, have a competent superintendent or foreman as his representative on the job, and who shall receive instructions from the Engineer.

The Contractor shall, at all times, provide adequate supervision and sufficient labour and equipment for prosecuting the several classes of work to full completion in the manner and within the time required by the contract.

The Contractor shall only employ foremen and workmen who have sufficient skill and experience to perform properly the work assigned to them. Any person employed on the work who, in the opinion of the Municipality, is careless, incompetent, obstructs the progress of work, acts contrary to instructions or conducts himself improperly shall, on the requisition of the Municipality, be immediately discharged. Such person shall not again be employed on the job without the permission of the Municipality.

11. **Payment by Contractor for Labour, etc.:**

The Contractor shall promptly pay for all labour expended, services given and materials and supplies used in, upon, in respect of, or about the construction of the work, or any portion thereof, including any sum due for the labour or services of any sub-contractor foreman, workman, labourer or other person. The Contractor shall also pay any sum due for insurance premiums, whether such payments or insurance premiums are due by the Contractor, or any sub-contractor. The payments in respect of such labour, services, materials and supplies to include without prejudice to the foregoing generality all sums for:

- a. The services of any person or persons performing any work or labour in repairing machinery and equipment
- b. The use, rent or hire of:
 1. Vehicles or other plant or machinery;
 2. Motor power equipment of any kind;
- c. The furnishing of any hand tools
- d. The materials or supplies for any camp maintained for the feeding or keeping of men
- e. Supplies used for machinery or motor power equipment (except repair parts).

And the Contractor further agrees that the contract bond shall be held to cover all such claims referred to in this clause. In case any such sum or sums remain unpaid which, in the opinion of the Municipality should be paid, the Municipality shall have the right to pay such sum or sums, whether due by the Contractor or sub-contractor, out of any monies that may then or thereafter be or become due to the Contractor from the Municipality. It is agreed that so long as any such sum or sums remain unpaid, the payrolls, timebooks, account books, invoices and vouchers of the Contractor or any sub-contractor relating to any such unpaid sum or sums shall be open to inspection by the Municipality for the purpose of ascertaining the true sum or sums remaining unpaid.

The Contractor shall supply to the Municipality when and as often as requested, a statement showing all claims incurred by the Contractor, including all obligations incurred by each sub-contractor on the work covered by the contract, remaining unpaid at the date of submission of such statement. The submission of each statement by the Contractor, when so requested, shall be a condition precedent to the payment by the Municipality of any monies due or to accrue due to the Contractor under the contract.

12. **Accidents:**

The Contractor shall at all times, until the work is completed and accepted by the Municipality, take all necessary and sufficient precautions and steps to prevent and avoid accidents to workmen or other persons, or to the work or other property. He shall provide and maintain at this own expense such fences, barriers, signs, lights and watchmen as may be necessary.

In the event of injury or damage being suffered by any workman or other person having the right of action thereafter against the Contractor or against the Municipality, the Contractor shall and will indemnify and save harmless the Municipality from any and all actions, causes of action, claims, demands and remedies whatsoever which the workman or other person may have or pretend to have against the Municipality in respect of such damages or injury under the Workers' Compensation Act, or otherwise howsoever.

In the event of one or more actions, claims, or demands being made or commenced by any workman or workmen or other person or persons in respect of any injury or damages alleged to have been suffered as aforesaid, the Municipality shall be entitled to retain out of any monies owing or accruing due to the Contractor, until such actions, claims or demands are satisfied, an amount equal to the total of the claim or claims.

13. **Traffic and Detours:**

The Contractor shall at all times carry on the work in a manner that will create the least interference with traffic, consistent with the faithful performance of the work. He shall not close any portion of the highway, nor divert traffic outside the limits of the highway, except by written order of the Municipality.

Warning signs, as outlined in the Standard Specifications, are to be erected before the work is commenced and are not to be removed until the work has been completed. The Municipality or the Engineer may instruct the Contractor to cease construction operations until such time as proper signing has been erected. Failure by the Contractor to erect signs to the required specifications will render the Contractor liable for any action that may result due to his negligence.

14. **Performance Bond and Labour & Material Payment Bond:**

The Contractor covenants and agrees that he will furnish an Performance Bond and Labour & Material Payment Bond in the sum of not less than fifty (50) percent of the total estimated price as set forth in Clause(6) of "Tender for Contract" for the proper fulfilment of this contract (which shall include payment of any sums as required under Clause(11) hereof). Such Performance Bond and Labour & Material Payment Bond shall be in a form approved by and satisfactory to the Municipality, and shall be issued by a company authorized to issue such bonds within the Province of Saskatchewan, in which the Contractor shall be the principal and the said company the surety, both (including their heirs, executors, administrators and assigns) to be jointly and severally bonded thereunder. Such bond shall be furnished prior to the final execution of this contract by the Municipality.

15. **Liability Insurance:**

The bidder whose tender has been accepted shall, prior to or at the time of the execution of the contract, file with the Municipality a written declaration by his insurance company as evidence that he carries the following insurance, as well as any additional insurance or special coverage that is indicated in the Special Provisions.

Public Liability and Property Damage Insurance

The Contractor shall maintain a comprehensive policy or policies of public liability and property damage insurance in the minimum amount of five million dollars (\$5,000,000.00) inclusive, to protect him from all claims for damages, for bodily injury including death, and for property damage which may arise from any operation under the contract, whether such operations be by himself or by any sub-contractor or by anyone directly or indirectly employed by either of them.

The above described insurance shall include coverage for all owned and non-owned licensable vehicles employed under the contract.

Insurance shall not be cancelled by either party without notice by registered mail or personal delivery to the Municipality, and in no case until final acceptance of the work has been granted in writing. If any of the insurance is cancelled, the Contractor shall cease operations on the date of cancellation, and shall not resume operations until new insurance is in force.

The cost of the above described insurance, as well as the cost of any additional insurance or special coverage required by the Special Provisions, will be considered as incidental expense and no direct compensation will be made therefor.

16. **Assignment of Contract:**

The Contractor shall not, without the prior written consent of the Municipality, make any assignment of this contract or enter into any sub-contract for the execution of any of the works hereby contracted for, and no assignment or sub-contract, even though duly consented to, shall exonerate the Contractor from liability under this contract for the due performance of the works hereby contracted for, or for the fulfilment of any other term or terms of the contract. In such case, the Contractor shall be responsible for all acts, defaults, neglects and delays of any assignee or sub-contractor, or his servants, agents and employees, to the same extent as if no such assignment or sub-contract had been made or entered into.

17. **Cancellation Without Fault of Contractor:**

The Municipality shall have the right at any time to cancel this contract upon giving thirty (30) days notice in writing to the Contractor, in which event the Contractor shall be entitled to the full amount of the estimate for the work done by him under the terms and conditions of this contract up to the time of such cancellation.

The Contractor shall be reimbursed by the Municipality for such expenditures as in the judgement of the Council of the Municipality are not otherwise compensated for.

The Municipality shall have the right to make such reasonable alterations in the plans as it may consider necessary and such alterations shall not be considered as a waiver of any condition of the contract or as invalidating any provisions thereof, nor shall any change be made in the contract unit prices on account of such alterations.

18. **Removal of Surplus Material and Refuse:**

On the completion of the work entailed by the contract, or in the event of its cancellation, the Contractor shall promptly remove from the right-of-way of roads herein described, and from any adjoining road, all temporary structures, rubbish and waste materials resulting from his operations, and all equipment, supplies and surplus materials.

In the event of the Contractor failing to comply with this provision within a period of ten (10) days from the date of the completion or cancellation of this contract, the Municipality shall have the right to employ the necessary labour and do such work at the expense of the Contractor.

19. **Purchases:**

The Contractor agrees that all purchases of supplies, merchandise or equipment for use in connection with the work shall, when practicable, be purchased from residents of the Province of Saskatchewan.

20. **Unacceptable and Unauthorized Work:**

All work and materials which do not conform to the requirements of the contract shall be considered unacceptable.

Any unacceptable work found to exist prior to the final acceptance of the work shall be remedied or removed and replaced in an acceptable manner by the Contractor at his own expense, except that it shall be the Municipality's expense if the unacceptable work resulted from the use of defective material supplied by the Municipality.

Any work done by the Contractor prior to the execution of the contract by both parties, work done contrary to or regardless of the instructions of the Engineer, work done beyond the lines, grades and dimensions shown on the plans, or any extra work done without authority, may be considered as unauthorized work and may not be paid under the provisions of the contract.

If the Contractor fails to comply with an order for a corrective procedure, the Municipality may deduct from the contract price the difference in value between the unauthorized work as done and that called for by the contract.

21. **Errors or Omissions:**

The Contractor shall immediately report to the Engineer any omissions, inconsistencies or possible errors he may discover in the drawings, specifications or staking, and shall not proceed with any work in uncertainty.

22. **Preservation of Construction Stakes and Land Monuments:**

The Municipality will provide the Contractor with hub line stakes, one set of slope stakes and one set of re-grade stakes. Re-grade stakes that may be required to complete the grade to required road specifications as deemed necessary by the staff of the Department of Highways and Transportation shall be replaced at the Contractor's expense.

All such stakes, as well as legal survey pins and monuments, will be carefully preserved by the Contractor. If, in the opinion of the Municipality, the Contractor has been negligent in allowing the stakes to be destroyed, the cost of replacing such stakes shall be charged against the Contractor. This cost shall be calculated in the same manner as outlined under "Liquidated Damages".

23. **Change of Location:**

Major changes in the location as specified in the "Tender for Contract" cannot be made without consent of the Contractor.

If a minor location change is required, which results in a change in the character of the work, a negotiated price for the quantities involved in the area should be arrived at prior to the work being undertaken.

24. **Appeal Procedure: (Arbitration)**

- a. The parties agree that all disputes and differences between the parties bound by this contract concerning its interpretation, application, operation or alleged violation shall be finally and conclusively settled in accordance with the procedure hereinafter outlined, or shall be submitted for legal action.
- b. Either party to this contract may provide to the other party notice in writing of a dispute or difference between the parties to this contract concerning its interpretation, application, operation or alleged violation. Upon receipt of the notice, representatives of both the parties shall meet within three (3) working days of the receipt of such notice to discuss the dispute or difference as set out in such notice. Failing a satisfactory resolution of the dispute or difference within such period, or such longer time as the parties mutually agree in writing, then either of the parties may, after the expiration of such period, notify the other party in writing that he requires the matter to be submitted to arbitration.
- c. The Board of Arbitration shall consist of three persons constituted as follows:
 1. The party desiring arbitration shall appoint a member to the Arbitration Board and shall notify the other party of its appointee concurrently with providing the notice to submit the difference or dispute to arbitration;
 2. The party receiving the notice shall within five (5) days thereafter, appoint a member for the Board and notify the other party of its appointment in writing;
 3. The two arbitrators so appointed shall confer to select a third person to be Chairman and failing agreement, within a period of three (3) working days from the appointment of the second of them, either party may, upon the expiration of such period, apply to the Chief Justice of the Court of Queen's Bench for the Province of Saskatchewan who shall appoint such arbitrator to be Chairman of the Arbitration Board.
- d. The Arbitration Board shall convene its hearing, hear the parties and counsel acting on their behalf, and any and all evidence adduced relating to the difference or dispute between the parties under the provisions of the contract, and shall make its award within fourteen (14) days after the hearing. The award of the Arbitration Board shall be final and binding upon the parties.

- e. The Arbitration Board may, within the consent of the parties, enlarge the time for the presentation of its award, and shall have such powers and exercise such authority as is provided for by the Arbitration Act for the Province of Saskatchewan, and the award of the Arbitration Board shall be enforceable as provided for by the Arbitration Act.
- f. Each party to the arbitration shall pay its own costs and expenses of arbitration, and one-half (1/2) of the costs and expenses of the Chairman and other expenses of the arbitration hearing.
- g. In view of the provisions of this Article, the parties agree that there shall be no termination or interruption of the work or the payments as provided for under the terms of this contract unless otherwise mutually agreed upon between the parties.

Standard Specifications Municipal

STANDARD SPECIFICATIONS AND STANDARD PLANS FOR SUBGRADE CONSTRUCTION OF DESIGNATED ROADS

1. **Equipment:**

All tools, machinery, plant and equipment used in handling materials and executing any part of the work, shall be maintained in efficient working order and where any of the machinery, plant or equipment is found to be unsatisfactory, it shall be improved or replaced.

2. **Clearing:**

Clearing consists of the removal and disposal of all timber, brush, stumps, rubbish, or other such perishable material from within the limits of the right-of-way, or adjacent to the right-of-way, from such areas as may be required for off-take ditches, channel changes, sight triangles, borrow pits, etc.

All timber and brush must be cut off close to the ground for the full width of the right-of-way and any other areas designated by the Engineer.

The clearing operation shall be completed at least three (3) kilometres ahead of the earthmoving operations.

All merchantable timber cut on the right-of-way and not required for constructional purposes shall be trimmed and cut in suitable lengths, and neatly piled at convenient locations for removal.

All timber, brush, etc., not required for construction or commercial purposes is to be piled at convenient points on the right-of-way and burned, the burning to be done at times and in a manner in conformity with the existing fire regulations applying in the district concerned. The portion of the debris which cannot be burned may be buried in disposal pits. Where burning is not possible, disposal shall be carried out at the direction of the Rural Municipality. The bid price for clearing and grubbing shall include the cost of excavating the disposal pits whether the excavated material is used in the embankment or not.

3. **Grubbing:**

Grubbing consists of the excavation and removal of all roots, stumps, etc., from such portions of the right-of-way as are necessary for efficient construction operations, also from such areas as may be required for off-take ditches, channel changes, sight triangles, borrow pits, etc. In the case of areas to be covered by embankments of 0.6 metres or more in height, stumps will not be required to be removed if they are cut close to the ground.

All stumps, roots and other fibrous material required to be removed shall be piled at convenient points on the right-of-way and completely burned, the burning to be done at times and in a manner in conformity with the existing fire regulations applying in the district concerned.

4. **Culverts:**

a. **Removal of Existing Culverts:**

In general, explosives shall not be used for the removal of pipe culverts. The use of explosives may be permitted for the removal of other types of culverts, but only with the permission of the Rural Municipality. Such permission, where granted, shall in no way relieve the Contractor of any liability for damage to persons or property resulting from the use of explosives.

The "removing" of corrugated metal, concrete pipe or timber culverts shall include the cost of all necessary excavation and the removing and disposing of such culverts as instructed or directed by the Rural Municipality. Pipe culverts shall be removed in such a manner and by such methods that no damage shall be done to the culverts. Where, due to the carelessness on the part of the Contractor, pipe culverts are damaged, such culverts shall be replaced at the Contractor's expense, by new culverts or a type approved by the Rural Municipality.

b. **Installation of Pipe Culverts:**

All pipe culverts must be carefully installed in a workmanlike manner; all joints must be as watertight as possible, having regard to the type of culvert being installed.

Culverts must be true to grade and line. When culverts are laid in hard ground, the bottom of the trench in which the culverts are to lie shall be rounded to fit the culvert as nearly as possible, that it may rest solidly on its bed. If the ground is soft or otherwise unsuitable for carrying the culverts, the unsound material shall be removed to the depth required by the Rural Municipality and replaced with suitable material. The backfill material of the type specified by the Rural Municipality when being replaced around the culvert shall be well tamped in place in layers not exceeding 150 millimeters in thickness. Culverts cannot be installed by a backhoe without prior approval from the Municipal Engineers.

Culverts to be strutted will be designated by the Rural Municipality or its agents. Struts shall be left in place as long as practicable and shall be removed by the Contractor.

All corrugated metal culverts shall be laid so that the horizontal seams come at the sides of the culvert, and shall be placed so that the horizontal seams in alternate lengths are, so far as possible, on alternate sides of the culvert.

The Contractor shall place all couplers required on pipe culverts, and where there is a unit price for installing pipe culverts, it shall include the cost of installing such couplers.

Where there is a unit price per metre set forth in the contract for installing pipe culverts, it shall include the cost of hauling pipes to the various culvert sites, excavation for culverts, installing culverts, including extensions of existing culverts, in their proper positions in the roadway, strutting where specified, including the supplying of struts, backfilling the trench, and bringing the roadway over the culvert to the required grade and cross-section. Where imported granular backfill material is required by the Rural Municipality, compensation additional to that described in this paragraph will be payable on the basis of the unit bid prices for supplying granular backfill material for culverts. The length of culvert for which the Contractor will receive payment is the total metres of invert length of the culvert installed.

All pipe culverts are to be supplied by the Rural Municipality and delivered to within the limits of the project.

c. **Installation of Timber Culverts:**

Where there is a unit price per cubic metre set forth in the contract for installing timber culverts, it shall include the unloading and hauling of material from the nearest shipping point to the culvert site, excavation for and installing culverts, including extensions of existing culverts, in the roadway in accordance with the plans and specifications, backfilling the trench, and bringing the roadway over the culvert to the same grade and cross-section which it had before the work of installing the culvert was commenced. The material used for backfilling shall be placed in the same manner as specified for pipe culverts. Where imported granular backfill material is required by the Rural Municipality, it shall be paid for on the same basis as for pipe culverts.

When material for timber culverts has been framed and treated with wood preservative before being delivered to the Contractor, care must be taken by the Contractor to see that the culvert is erected in strict accordance with the framing diagram shown on the plan of culvert supplied to the Contractor by the Rural Municipality. If, during erection it is found necessary to bore additional holes for drift bolts or to cut any of the treated lumber, such holes or cuts shall be given two separate applications of wood preservative which shall be supplied by the Rural Municipality.

All material for timber culverts is to be supplied by the Rural Municipality.

5. **Embankment:**

a. **Description:**

This item shall consist of constructing embankments (fills) in accordance with these specifications and in conformity with the grades and cross-sections shown on the plans herewith or as ordered by the Rural Municipality in case of any changes in plans.

b. **Materials: (Primary Grid, Grid Reconstruction and Special Roads)**

1. The embankment shall be constructed with soils acceptable for the purpose. The material shall be free from objectionable organic matter, frozen soil, stumps, trees or other objectionable material.

2. Silt soils conducive to objectionable frost heaving shall not be used in the 1.25 metre depth of embankment immediately above the normal high water table.
3. Stones having a dimension of 80 millimetres or more when measured in any direction shall be excluded from the top 0.3 metres of the finished embankment.
4. Treatment of Soils Containing Organic Material:

Topsoil containing objectionable organic matter shall be excavated and removed from those areas of a roadbed where the fill shall be less than *0.5 metres in depth. Upon permission from the Rural Municipality, such soil may be used in the construction of slopes of the embankment, approaches or ditch blocks.

*Note: 0.6m depth for Heavy Haul-High Volume roads.

c. **Materials: (Main Farm Access)**

1. The embankment shall be constructed with soils acceptable for the purpose.
2. Stones having a dimension of 80 millimetres or more when measured in any direction shall be excluded from the top 0.3 metres of the finished embankment.
3. Topsoil containing objectionable organic matter shall be capped with at least 0.3 metres of suitable material. Where clay cap is required, it shall be a minimum of 0.15 metres (150 millimetres).

d. **Embankment Construction:**

1. The embankment shall be formed of suitable material placed in successive layers, distributed uniformly over the full width of the cross-section. Each layer shall not exceed 150 mm, (0.15 m) in depth and shall be spread and bladed evenly by means of a suitable motor grader, except that the Engineer may approve the use of a bulldozer or other suitable equipment.

A Contractor shall ensure that there be no intermixing of unsuitable and suitable materials. The slopes in the surface of the embankment shall be shaped and trimmed to a uniform, smooth slope conforming to the cross-sections shown on the plans or as staked by the Engineer.

2. If the material on the surface has insufficient moisture to produce a stable surface as determined by the Engineer, water shall be added in quantities as directed by the Engineer. Payment for watering will be paid under Clause (9), "Extra Work" of the General Provisions.
3. If excess moisture exists in the constructed embankment, the Contractor shall be responsible for sufficient drying and/or aeration of the wet material to produce a smooth, firm driving surface that will support normal traffic without rutting of the road surface. Drying and/or aeration shall be carried out at no direct expense to the Rural Municipality.
4. If additional drying is desired by the Rural Municipality, it shall be carried out by the Contractor as directed by the Engineer. Drying and/or aeration shall be paid for under Clause (9), "Extra Work" of the General Provisions.

e. **Construction in Cut:**

Where the existing soil in a cut is such that it is not a suitable foundation for the roadway, the unsuitable material shall be removed or be treated in accordance with instructions to be obtained from the Rural Municipality.

f. **Construction Through Sloughs and Marshes:**

The construction of embankments through water and/or wet depressions shall be carried out with suitable materials in a manner which will tend to displace existing unstable materials to the edges of the embankment. The center portion shall be carried well forward of the shoulders of the embankment. When necessary, a surcharge of embankment material shall be carried at the forward end of the embankment to assist in displacing unsuitable material.

g. **Measurement and Payment:**

The volume of embankment will be measured in cubic metres by the average cross-section method for materials in the final position. Measurement of the volume is for the purpose of calculating haul only. Construction of embankments will not be paid for directly, but will be considered a subsidiary obligation of the Contractor under the tendered unit price for Common Excavation.

Haul will be determined from the mass diagram and will be computed by calculating the area (s) in cubic metres, hectometres between the mass curve (s) and the horizontal baseline. Payment for haul will be at the contract unit price per cubic metre, hectometre as specified under the tendered unit price for haul on Common Excavation.

6. **Riprap:**

Field stone required for riprapping embankments shall be not more than 460 millimetres (0.46 metres) or less than 150 millimetres (0.15 metres) in diameter.

Culverts to be riprapped will be designated by the Rural Municipality or its agent.

Payment will be based on actual quantities measured in final position by the Engineer based on the length, width and depth of areas riprapped. Riprap quantities for culverts shall not exceed the design quantities shown on the "Standard Plan for Riprap" on Page 14 of the Standard Specifications, unless otherwise specified by the Engineer.

7. **Excavation:**

The width of roadway and cross-section in cut shall be as shown on the standard cross-sections herewith, unless otherwise directed by the Rural Municipality.

The road surface in excavation shall be shaped by means of a blade grader to secure a smooth and even roadway. Materials obtained from excavation and used in embankment will be paid for only as excavation, where the contract price is a unit price for excavation.

The Contractor will be required to shape and trim both excavation and embankment to a uniform, smooth surface by means of a motor grader or other suitable equipment to conform to the standard cross-section, or as staked by the Engineer.

Payment for common excavation will be at the contract unit price per cubic metre based on calculated design quantities determined by the average cross-section method. Sub-cut volumes will be determined from the length, width and depth, or as designated by the Engineer. Any portion of the project on which the design has been altered subsequent to preparation of the plans and profiles shall be recalculated and the quantities so obtained considered final.

Payment for wet excavation will be at the contract price per cubic metre based on measured quantities determined by the average cross-section method or as designated by the Engineer.

8. **Ditches:**

Ditches shall be constructed along the side of the roadway or as directed by the Rural Municipality. They shall be built with a uniform gradient to a point of outlet and shall have their sides at the slopes shown on the standard cross-sections.

Side borrow pits along the line of the ditch shall not be excavated below the elevation of gradeline or ditch.

Special care shall be taken to have the ditches turned away from the embankment to prevent erosion of the sideslopes.

Drainage or off-take ditches either on or off the right-of-way shall be constructed as directed by the Rural Municipality.

Where the grade of ditch is excessive, the Rural Municipality may direct that check weirs be constructed.

9. **Borrow Pits:**

Borrow shall be resorted to only when sufficient quantities of suitable materials are not available from roadway and drainage excavation, to properly construct the embankments, subgrade and shoulders, and to complete the backfilling of structures. In no case shall material be borrowed until so ordered by the Rural Municipality, and then only from designated pits. No unsightly pits shall be left, and provision shall be made for the drainage of all borrow pits unless otherwise specified by the Rural Municipality.

If excess moisture exists in the material from the borrow pit and if drying is desired by the Rural Municipality it shall be carried out by the contractor as directed by the Engineer. Drying and/or aeration shall be paid for under clause (9) "Extra Work" of the General Provisions.

Dugout-type borrow pits must be located at least ten (10) metres from the edge of the right-of-way unless written approval is obtained from the Engineer.

10. **Classification of Excavation:**

Common excavation shall include the removal of all earth, loose stones, gravel, rock and all other materials, including sub-cuts, and the disposition of same in accordance with specifications, or as directed by the Rural Municipality.

Wet excavation shall include only material from designated areas which requires special equipment to excavate.

11. **Removal and Replacement of Topsoil:**

The Contractor shall be responsible for the removal and replacement of topsoil to a maximum depth of 0.15 metres from areas designated by the Engineer. Topsoil shall be piled at locations generally adjacent to the right-of-way or borrow area at intervals as designated by the Rural Municipality.

The excavated topsoil shall be distributed evenly on the designated areas to be reclaimed.

All loose rocks with a diameter greater than 0.1 metres shall be removed from the reclaimed area following the replacement of the topsoil.

Payment for the removal and replacement of topsoil at the contract price per cubic meter shall be full compensation for removing and replacing topsoil. In cases where there is a difference in quantities between topsoil removal and replacement items, payment will be made on the basis that each operation is of equal cost, or fifty (50) percent of the unit price.

Payment quantities will be calculated as the product of the area and depth of topsoil stripped.

12. **Rock:**

a. **Surplus Rock:**

Surplus rock is any rock, except that resulting from blasting operations, which:

1. has a dimension of 80 millimetres or more when measured in any direction;
2. has not been incorporated as part of the completed embankment;
3. has been set aside, outside embankment areas, for measurement.
4. Rock piles which exist within or adjacent to the right-of-way prior to construction operations will be classified as surplus rock, if measured and buried in pits.

5. During clearing operations, where it is impractical to separate the rock from the clearing piles, the rock shall be classified as surplus rock providing it is buried in pits.
6. Excessive rock encountered in borrow pits outside of the right-of-way shall not be classified as surplus rock. Payment for removal and disposal of such rock shall be considered under Clause (9), "Extra Work" of the General Provisions.

Surplus rock generally shall be buried in pits. A minimum of 0.3 metres of earth is required over buried rock.

Surplus rock may be piled off the right-of-way, at the discretion of the Municipal Engineers, rather than buried, and must be placed at least ten (10) metres from the edge of the right-of-way with the top of the rockpile being at least 0.6 metres lower than the shoulder elevation of the grade. Where surplus rock is piled off the right-of-way, the Contractor must provide the R.M. with written permission from the landowner.

Surplus rock will be measured in cubic meters in piles or in disposal pits. Surplus rock that is buried prior to being measured by the Engineer shall not be paid for as surplus rock.

The bid price for surplus rock will be full compensation for picking, loading, hauling, dumping, digging the disposal pits, piling, levelling the piles, placing in pits and restoring and levelling the ground surface over the buried rock except that any excavation from a rock disposal pit that is required and used in the embankment shall be paid for at common excavation prices up to an amount equal to the amount of rock disposed of in the pit.

b. **Solid Rock Classification:**

Solid rock material shall include solid masses of rock which cannot be excavated without drilling and blasting. It shall also include detached boulders having a volume of 0.8 cubic metres or more.

The work shall consist of excavating solid rock materials from the roadway, borrow pits, side ditches, sub-cuts, drainage ditches, channel improvements, dugouts and disposal pits.

The excavated rock materials may be placed in the embankment or otherwise disposed of in pits as directed by the Rural Municipality or its representatives. The material must be measured before being incorporated into the embankment or otherwise disposed of. Solid rock material that is not measured and is incorporated into the embankment or buried in disposal pits will be considered as common excavation.

The volume of rock materials in solid masses will be measured in cubic metres in its original position by the cross-section method.

Payment for solid rock excavation will be at the contract unit price per cubic metre.

The unit price will be full compensation for material, equipment and work required for drilling and blasting, excavating, loading, hauling, digging disposal pits, dumping and spreading rock material, forming embankments and shaping and trimming slopes and surfaces.

13. a. **Clay Surfacing:**

Material for clay surfacing shall be obtained from pits which have been designated by the Rural Municipality. Clay placed on the road shall be spread evenly as soon as dumped and brought to proper cross-section with a blade grader.

The unit price in the contract for clay surfacing shall be full compensation for excavating, loading, dumping, spreading and finishing on the road surface. The quantity shall be calculated from the Engineer's measurements of the pit(s) from which the clay is excavated. Rock picked from the clay surfacing shall be treated as surplus rock.

b. **Clay Haul:**

The unit price in the contract for haul of clay surfacing material shall be full compensation for hauling clay, based on the calculated average haul distance.

c. **Stripping of Clay Pits**

This item shall include full compensation for:

1. Excavation of all top soil, black dirt, or other organic material from the pit area prior to clay excavation.
2. Neatly piling or spreading or otherwise disposing of the stripping material in the manner and place specified by the municipality.

14. **Construction of Standard Approaches:**

All necessary road connections, private crossings, farm approaches and safety ramps shall be installed and constructed in accordance with the plan of "Standard Approaches" herewith and with these specifications as applying to embankment and excavation.

15. **Surface Widening:**

Where the surface width of the roadway requires widening to conform with the width of a bridge on the road, such widening shall be in accordance with the plan herewith showing "Widening of a Pile Bridge Approach".

16. **Road Intersections:**

All road intersections shall be such as to provide for clear sight distance as shown on the plan herewith attached for "Intersection Sight Triangles" where directed by the Rural Municipality.

17. **Surface Widths on Curves and High Fills:**

The travelled road surface width on curves and fills over 3.0 metres in height shall be increased by 1.0 metres from the normal travelled road surface width, such widening being accomplished in accordance with the instructions from the Rural Municipality.

18. **Embankment Protection:**

All embankments, fills, or roadway ditches and drainage structures which are subject to damage or erosion from wave action or water flow shall be protected from such damage or erosion in accordance with instruction to be obtained from the Rural Municipality.

19. **Signing Construction and Detour Areas:**

Warning and informational signs shall be used at all construction projects. All signs shall be fully reflectorized for nighttime visibility. Sign colors should be black and orange. Construction signs are the responsibility of the Contractor. Plans indicating minimum sign requirements are appended.

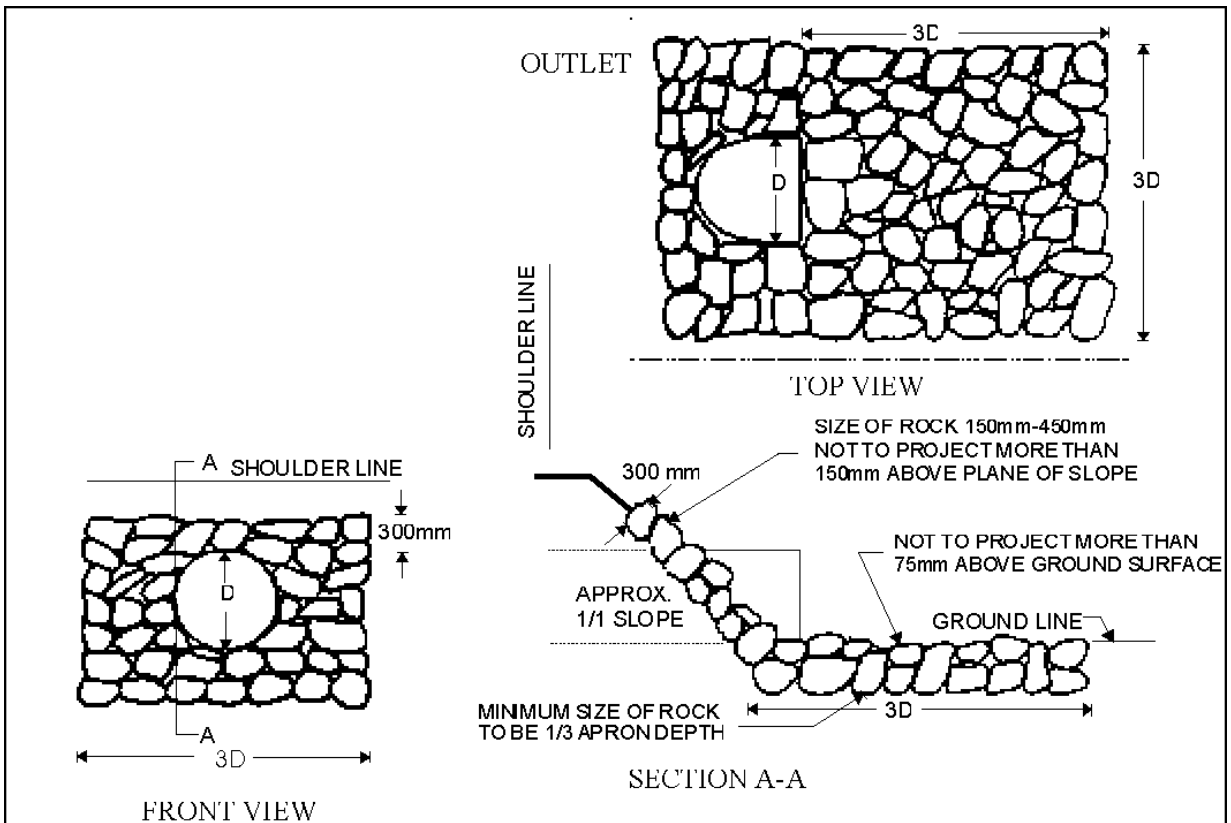
20. **Moisture-Density Relations of Soils:**

If a density requirement for earth excavation is specified in the tender form, each layer of the top fifty (50) centimetres of the subgrade shall be dried to at least the optimum moisture content and compacted to an average of not less than one hundred (100) percent of the maximum density as determined by Test 920 (Standard Proctor).

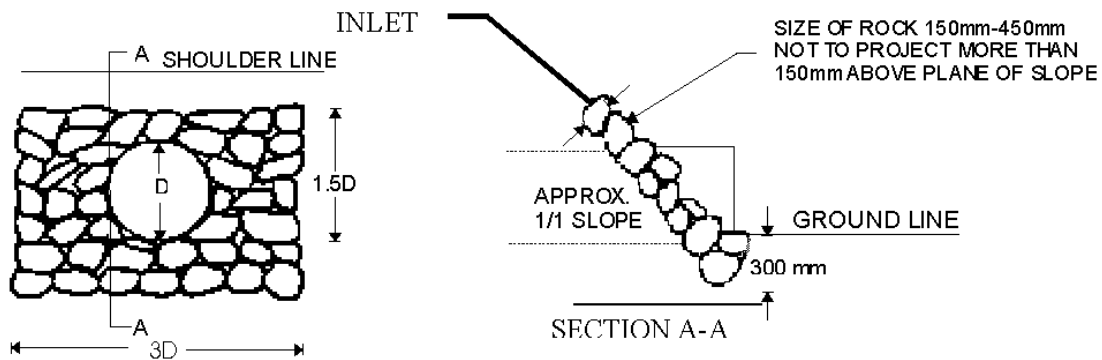
- a. The foregoing will also apply to backfill for sub-cuts.
- b. The Engineer will determine from the test results the section to be considered for evaluation. The moisture and density will be considered satisfactory when:
 - all individual moisture test results are equal to or less than the optimum moisture content;
 - density test results average not less than one hundred (100) percent of the maximum density;
 - all individual density tests are greater than ninety-eight (98) percent of the maximum density.
- c. If the moisture in the soil is insufficient for compacting to the specified density and for finishing, the Contractor may elect to add water. The water shall be added in accordance with the specifications for watering (Specification 250).

21. **Plans and Drawings:**

The plans herewith are incorporated as a part of these standard specifications.



D (mm)	400	500	600	700	800	900	1000	1200	1400	1600	1800
APRON DEPTH	450mm						600mm				750mm

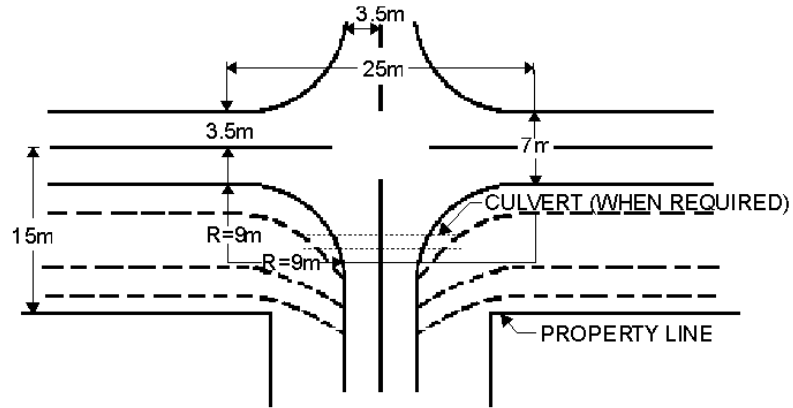


D (mm)	400	450	500	600	700	800	900	1000	1200	1400	1600	1800
INLET	1	1	1	1	1	2	2	2	3	4	6	7
OUTLET	1	1	2	2	3	4	5	7	10	14	17	27
TOTAL	2	2	3	3	4	6	7	9	13	18	23	34

HAND PLACED RIP-RAP FOR PIPE CULVERTS - MUNICIPAL Subgrade Construction

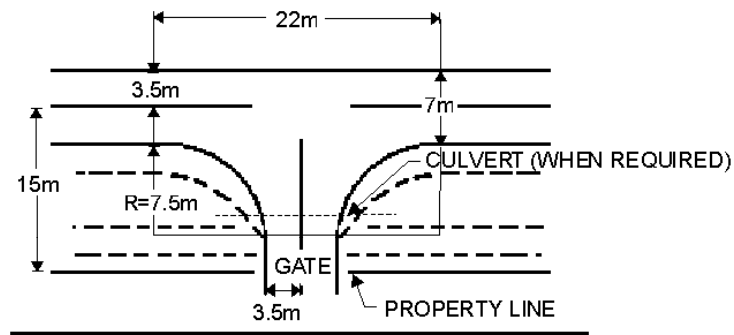
RECOMMENDED BY:		DIRECTOR TECH. STDS. & POLICIES	DATE		STANDARD PLANNING NO	53110
APPROVED BY:		ASSIST. DEPUTY MINISTER OPERATIONS DIVISION	DATE		SHEET	14 of 32

MUNICIPAL ROAD INTERSECTION

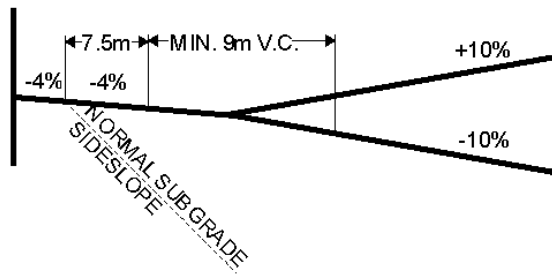


NOTE:
 USE R=15M FOR ALL MAIN FARM ACCESS, PRIMARY GRID AND HIGHWAY INTERSECTIONS

FARM ENTRANCE AND FIELD APPROACH



APPROACH CROSS SECTION

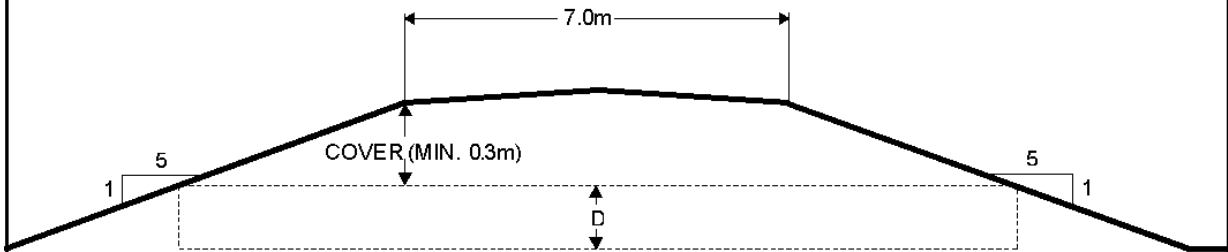


NOTE:
 1. USE MIN. 9m V.C. FOR FARM ENTRANCES AND FIELD APPROACHES.
 2. TRAFFIC GRAVEL SHALL BE PLACED TO THE EDGE OF THE RIGHT-OF-WAY ON ALL ROAD INTERSECTIONS AND FARM ENTRANCES

STANDARD APPROACHES - MUNICIPAL Subgrade Construction

RECOMMENDED BY:		DIRECTOR TECH. STDS. & POLICIES	DATE	STANDARD PLANNING	53111
APPROVED BY:		ASSIST. DEPUTY MINISTER OPERATIONS DIVISION	DATE	SHEET	15 of 32

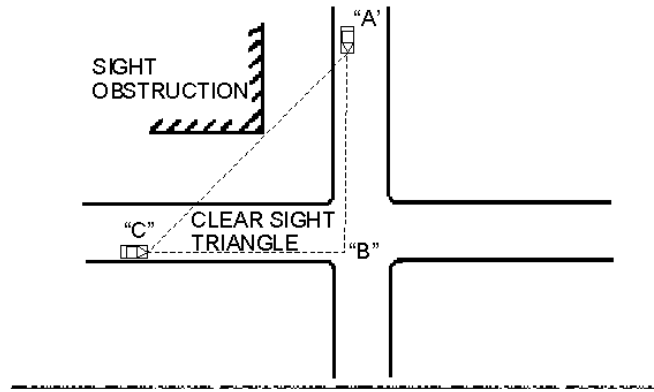
TYPICAL CROSS SECTION



CULVERT SIZE	COVER	CULVERT LENGTH
400mm	0.3m	10m
400mm	0.4m	12m
400mm	0.6m	13m
500mm	0.3m	10m
500mm	0.4m	12m
500mm	0.6m	13m
600mm	0.3m	10m
600mm	0.4m	12m
600mm	0.6m	13m

STANDARD APPROACH - MUNICIPAL
Subgrade Construction

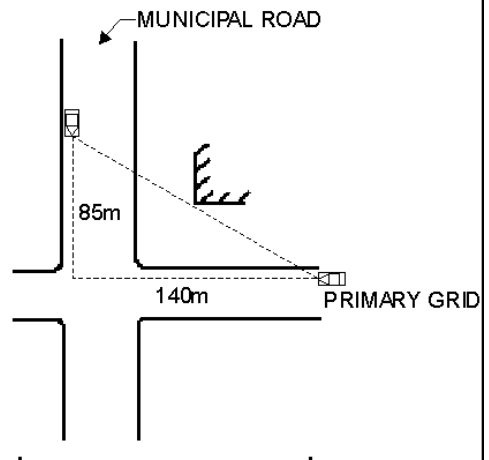
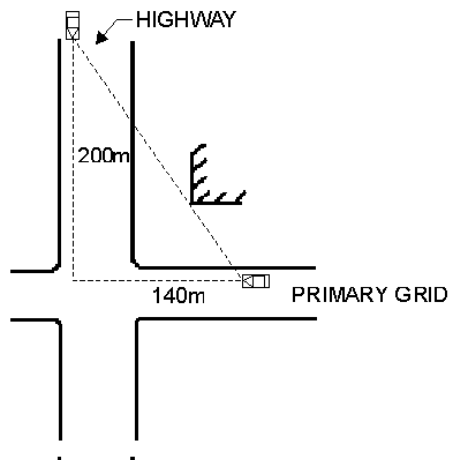
RECOMMENDED BY:		DIRECTOR TECH. STDS. & POLICIES	DATE		STANDARD PLAN NO	53112
APPROVED BY:		ASSIST. DEPUTY MINISTER OPERATIONS DIVISION	DATE		SHEET	16 of 32



THE RECOMMENDED CLEAR SIGHT TRIANGLES FOR GRID ROAD INTERSECTIONS WITH ALL OTHER ROADS, INCLUDING HIGHWAYS, SHALL BE BASED UPON THE STOPPING SIGHT DISTANCE (S.S.D.) OF THE RESPECTIVE DESIGN SPEEDS OF THE ARTERIES INVOLVED

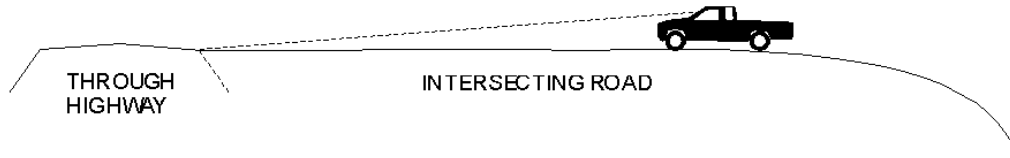
THE S.S.D. FOR THIS PURPOSE SHALL BE AS FOLLOWS:

	SPEED	S.S.D.
HIGHWAY	100km/hr	200m
PRIMARY GRID	80km/hr	140m
MAIN FARM ACCESS ROAD & MUNICIPAL	60km/hr	85m



SIGHT TRIANGLES - MUNICIPAL
Subgrade Construction

RECOMMENDED BY:		DIRECTOR TECH. STDS. & POLICIES	DATE	STANDARD PLAN NO	53113
APPROVED BY:		ASSIST. DEPUTY MINISTER OPERATIONS DIVISION	DATE	SHEET	17 of 32



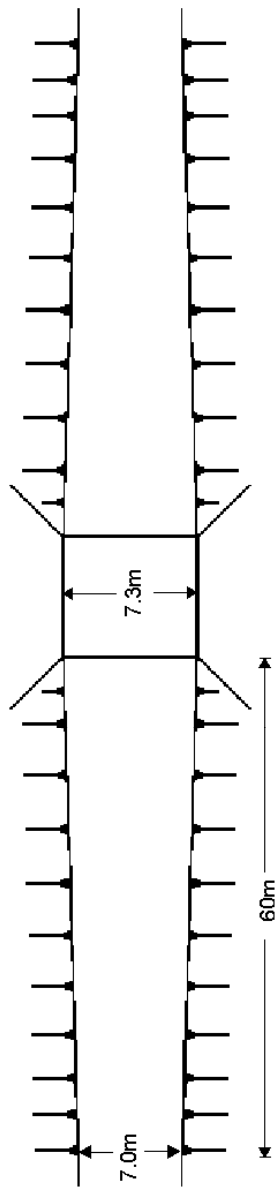
(1) The minimum sight distance is:

DESIGN SPEED OF INTERSECTING ROAD km/hr	MINIMUM SIGHT DISTANCE m
130	370
120	355
110	340
100	310
90	280
80	240
70	200
60	160

- (2) Height of Eye 1.05 metres above the road surface.
 (3) Sight distance to be measured to the road surface (edge of shoulder) of the through highway.
 (4) The design speed to be used for the intersecting road will be:
- (a) Special roads, Grid roads, access to urban areas, picnic and camp sites – use design speed.
 - (b) Primary Grid roads – 80km/hr.
 - (c) Other Municipal roads – 60km/hr.
 - (d) Minimum design speed to be used – 60km/hr.

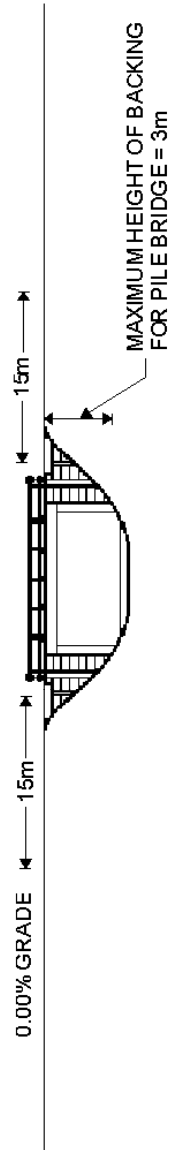
VERTICAL SIGHT DISTANCE AT INTERSECTIONS - MUNICIPAL
Subgrade Construction

RECOMMENDED BY:		DIRECTOR TECH. STDS. & POLICIES	DATE		STANDARD PLANNING NO	53114
APPROVED BY:		ASSIST. DEPUTY MINISTER OPERATIONS DIVISION	DATE		SHEET	18 of 32



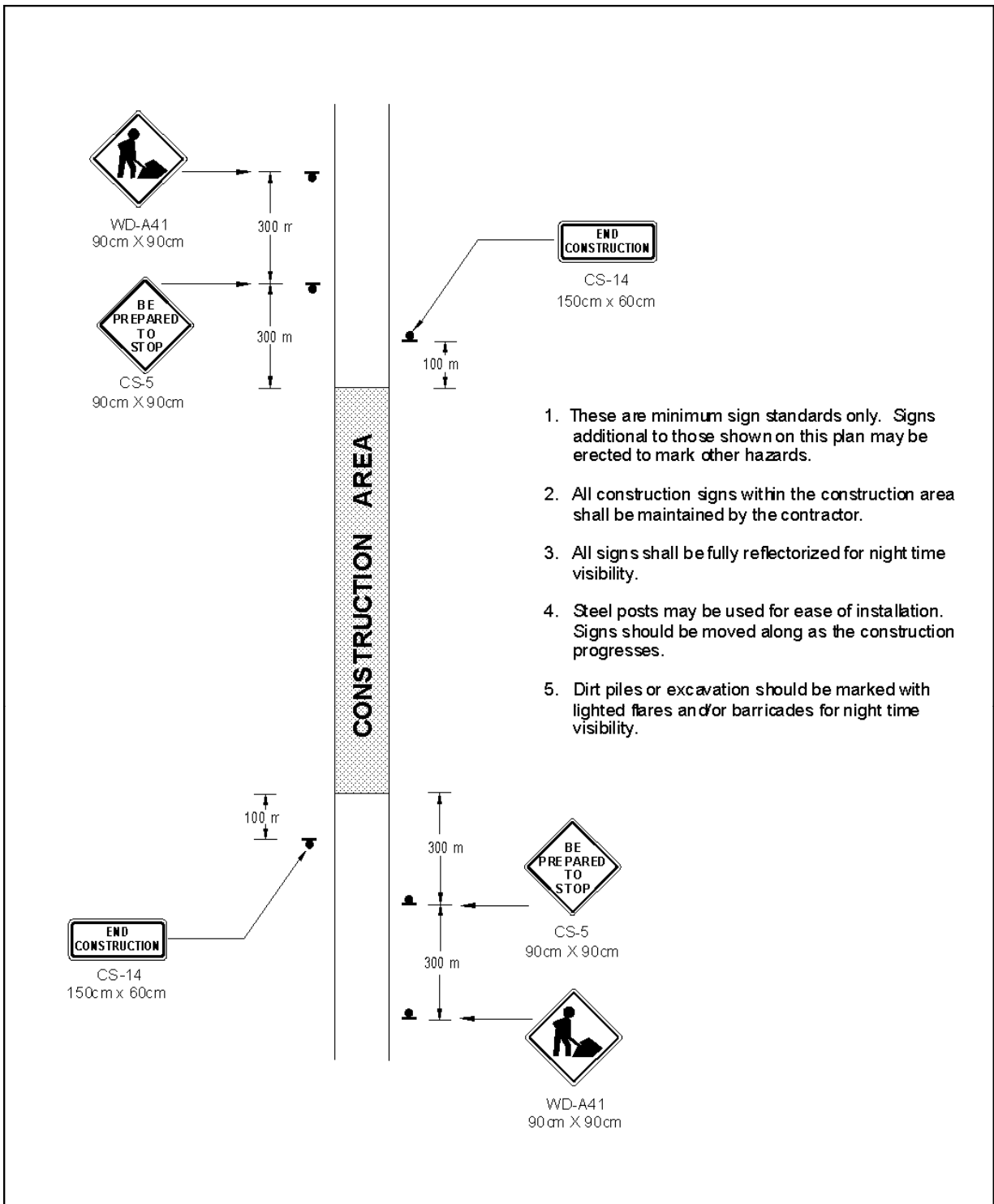
NOTE:

1. FOR 7m ROADWAY WIDTHS THE ROADWAY SHALL BE WIDENED 0.3m ON BRIDGE APPROACHES AS SHOWN ABOVE
2. FOR ROADWAY WIDTHS OF 8.6m AND 10m THE BRIDGE WIDTH SHALL EQUAL THE ROADWAY WIDTH



**PILE BRIDGE APPROACH WIDENING - MUNICIPAL
Subgrade Construction**

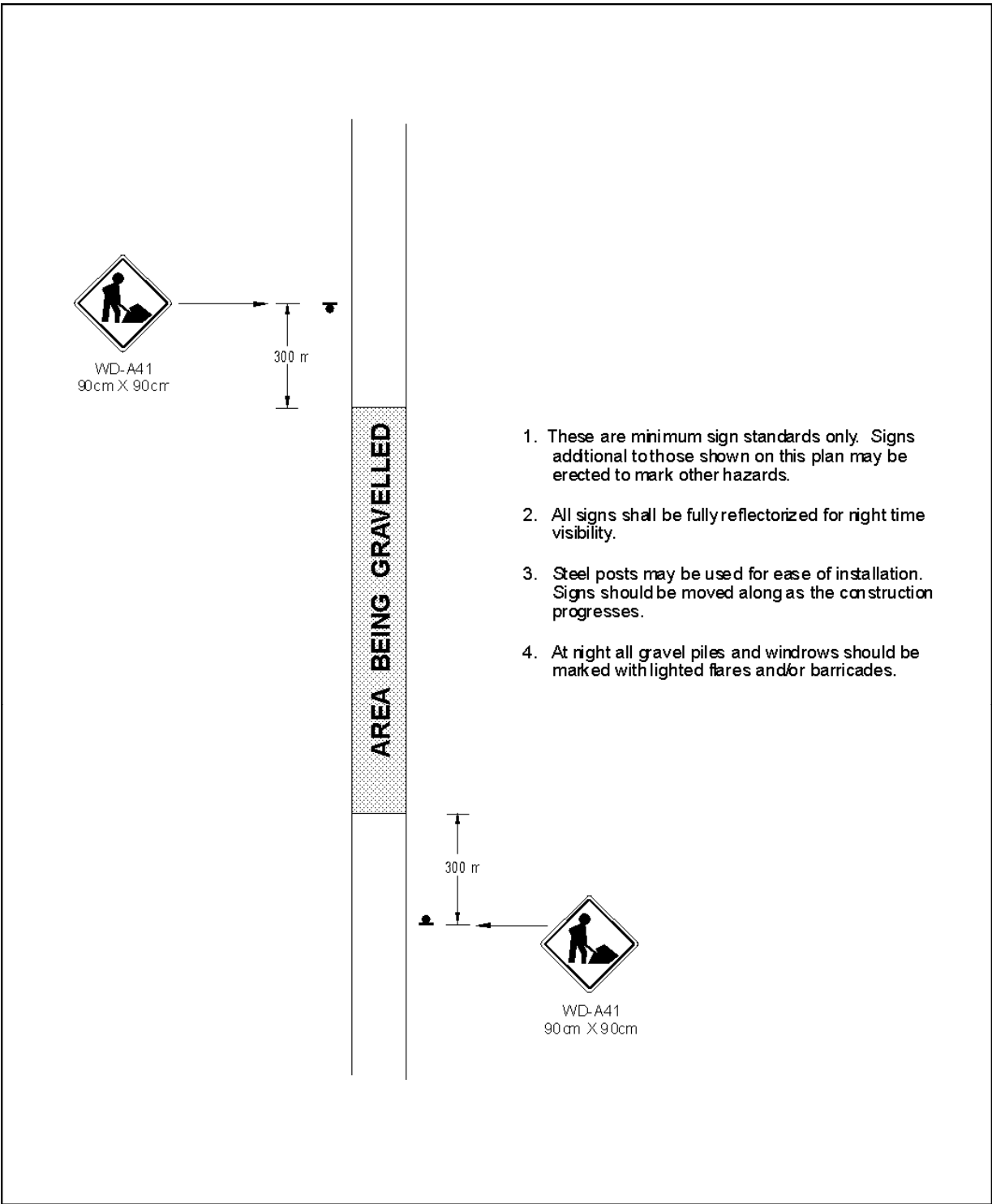
RECOMMENDED BY:		DIRECTOR TECH. STDS. & POLICIES	DATE	STANDARD PLAN NO	53115
APPROVED BY:		ASSIST. DEPUTY MINISTER OPERATIONS DIVISION	DATE	SHEET	19 of 32



1. These are minimum sign standards only. Signs additional to those shown on this plan may be erected to mark other hazards.
2. All construction signs within the construction area shall be maintained by the contractor.
3. All signs shall be fully reflectorized for night time visibility.
4. Steel posts may be used for ease of installation. Signs should be moved along as the construction progresses.
5. Dirt piles or excavation should be marked with lighted flares and/or barricades for night time visibility.

CONSTRUCTION AREA SIGNS - MUNICIPAL
Subgrade Construction

RECOMMENDED BY:		DIRECTOR TECH. STDS. & POLICIES	DATE		STANDARD PLAN NO	53100
APPROVED BY:		ASSIST. DEPUTY MINISTER OPERATIONS DIVISION	DATE		SHEET	20 of 32

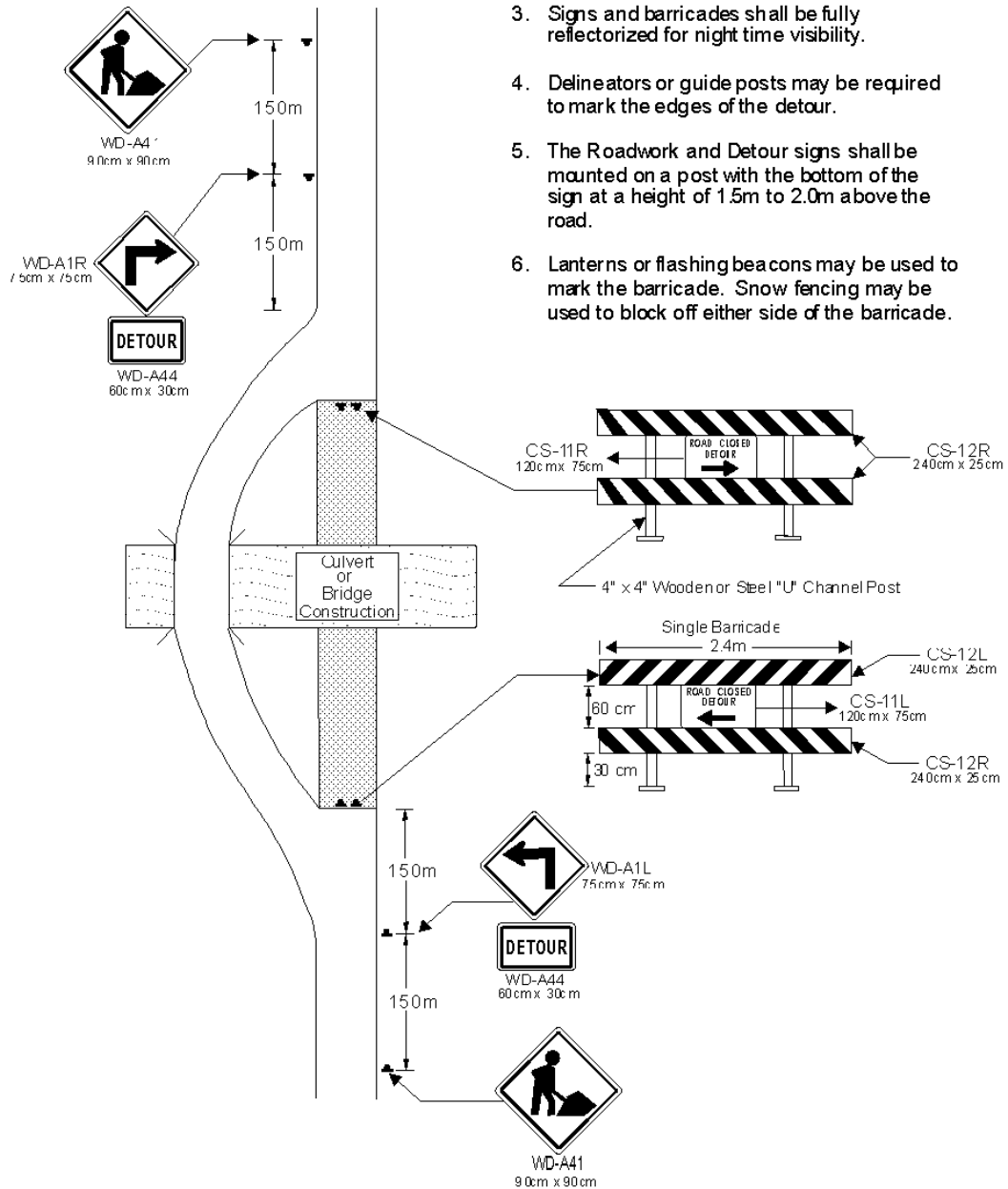


1. These are minimum sign standards only. Signs additional to those shown on this plan may be erected to mark other hazards.
2. All signs shall be fully reflectorized for night time visibility.
3. Steel posts may be used for ease of installation. Signs should be moved along as the construction progresses.
4. At night all gravel piles and windrows should be marked with lighted flares and/or barricades.

**GRAVELLING AREA SIGNS - MUNICIPAL
Subgrade Construction**

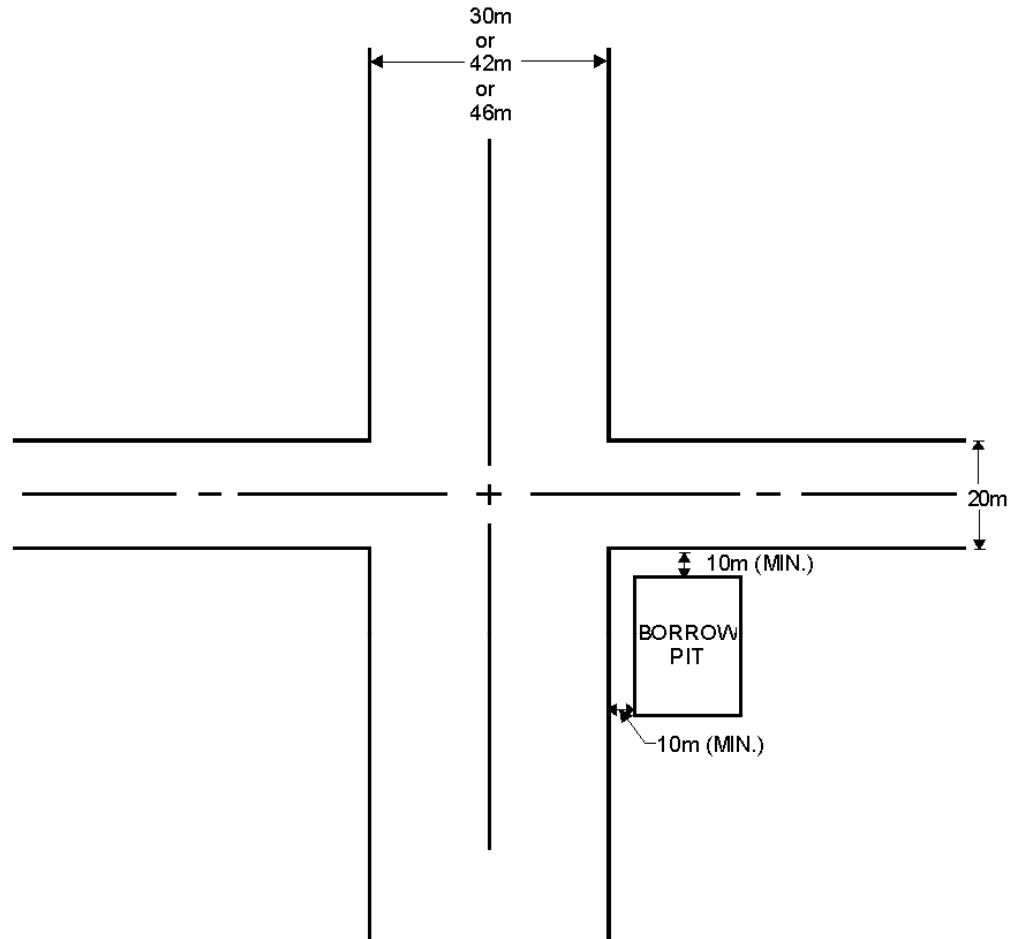
RECOMMENDED BY:		DIRECTOR TECH. STDS. & POLICIES	DATE		STANDARD PLAN NO	53103
APPROVED BY:		ASSIST. DEPUTY MINISTER OPERATIONS DIVISION	DATE		SHEET	21 of 32

1. All signs within the construction area shall be maintained by the contractor.
2. These are minimum sign standards only. Signs additional to those shown on this plan may be erected to mark other hazards not shown on this plan.
3. Signs and barricades shall be fully reflectorized for night time visibility.
4. Delineators or guide posts may be required to mark the edges of the detour.
5. The Roadwork and Detour signs shall be mounted on a post with the bottom of the sign at a height of 1.5m to 2.0m above the road.
6. Lanterns or flashing beacons may be used to mark the barricade. Snow fencing may be used to block off either side of the barricade.



DETOUR SIGNING - MUNICIPAL
Subgrade Construction

RECOMMENDED BY:		DIRECTOR TECH. STDS. & POLICIES	DATE	STANDARD PLANNING NO	53105
APPROVED BY:		ASSIST. DEPUTY MINISTER OPERATIONS DIVISION	DATE	SHEET	22 of 32



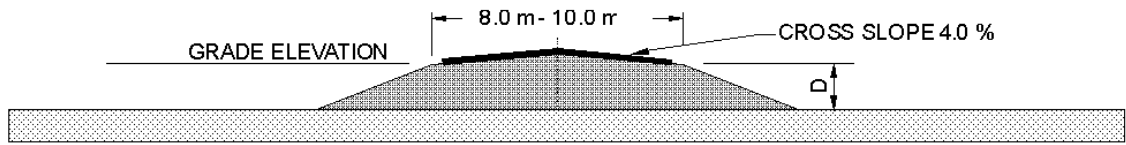
NOTE:
 DUGOUT STYLE PITS SHOULD BE AVOIDED IF AT ALL POSSIBLE BECAUSE OF THEIR ADVERSE EFFECT ON ADJACENT PROPERTY AND SAFETY OF THE MOTORISTS.

LOCATION OF DUGOUT - TYPE BORROW PITS - MUNICIPAL
 Subgrade Construction

RECOMMENDED BY:		DIRECTOR TECH. STDS. & POLICIES	DATE		STANDARD PLANNING NO	53116
APPROVED BY:		ASSIST. DEPUTY MINISTER OPERATIONS DIVISION	DATE		SHEET	23 of 32

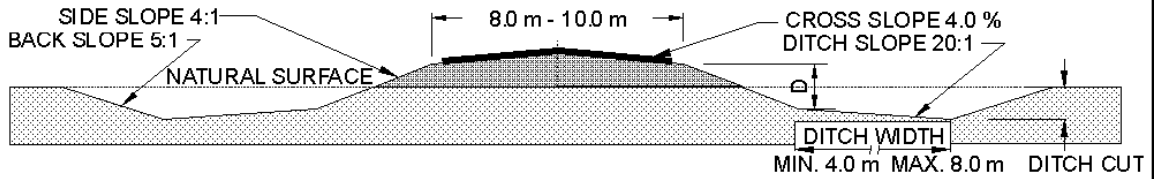
CROSS SECTION OF EMBANKMENT

D LESS THAN 3.0 m - SIDE SLOPES 4:1
 D FROM 3.0 m to 4.0 m - TOE OF SLOPE 12.0 m FROM SHOULDER
 D EXCEEDS 4.0 m - SIDE SLOPES 3:1
 FILLS OVER 4.0 m TO BE WIDENED 1.0 m



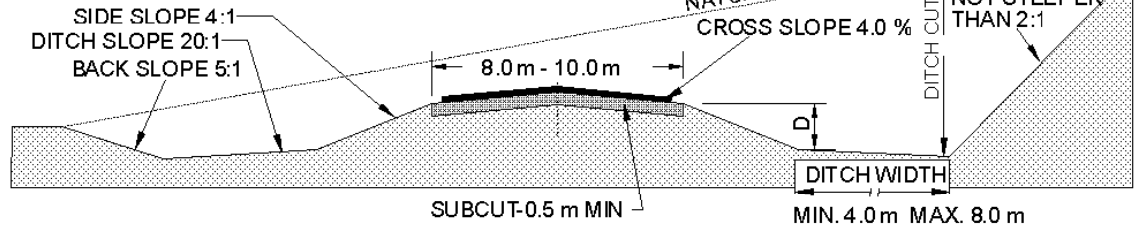
CROSS SECTION OF EMBANKMENT AND SIDE DITCH

D NOT LESS THAN 1.0 m NOR GREATER THAN 1.5 m



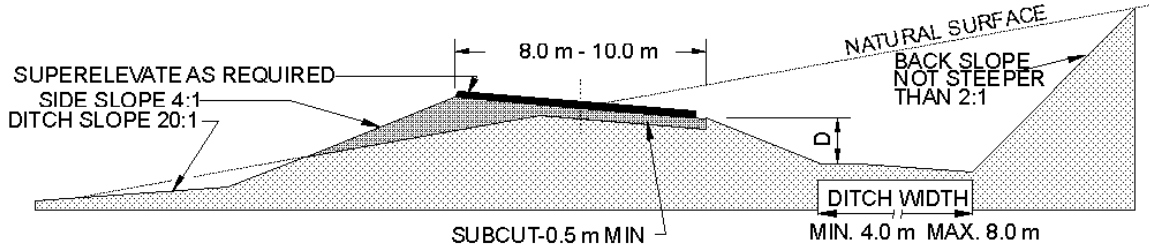
CROSS SECTION OF CUT

D NOT LESS THAN 1.0 m NOR GREATER THAN 1.5 m



CROSS SECTION OF SIDEHILL ROADWAY ON A CURVE

D NOT LESS THAN 1.0 m NOR GREATER THAN 1.5 m



Note:

1. Basic subgrade widths: 8.0 m or 8.6 m for gravel surface.
8.6 m or 10.0 m for asphalt mat.
2. Minimum width of right-of-way: 42 m or 46 m.
3. Design speed: 80 km/h - 100 km/h.
4. Asphalt mat: 7.4 m wide.
5. Asphalt surface: 40 mm minimum.

TYPICAL CROSS SECTIONS
 PRIMARY GRID & SPECIAL ROADS (SURFACED) - MUNICIPAL
 7008 46m +/- RIGHT-OF-WAY
 Subgrade Construction

RECOMMENDED BY:		DIRECTOR TECH. STDS. & POLICIES	DATE	STANDARD PLANNING	51010
APPROVED BY:		ASSIST. DEPUTY MINISTER OPERATIONS DIVISION	DATE	SHEET	24 of 32

GENERAL STANDARDS OF CONSTRUCTION FOR ELIGIBILITY UNDER THE PRIMARY GRID AND SPECIAL ROADS PROGRAMS

Summary Description of Basic Standards:

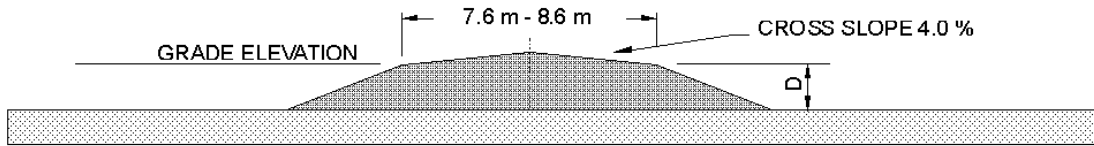
1. Minimum width of right-of-way: 42 m to 46 m. (purchased)
2. Full width of right-of-way to be cleared.
3. The standard basic top widths for Primary Grid roads are 8.6 m top for gravel surfaced primary grids, 8.6 m for oil surfaced primary grids, and for traffic greater than 250 vehicles per day 10.0 m top.
4. Sideslopes - 4:1 up to "D" of 3.0 m
- "D" from 3.0 m to 4.0 m - Toe of slope 12.0 m from shoulder.
- 3:1 over 4.0 m.
5. Backslopes - Minimum 5:1, with a maximum of 2:1.
- 5:1 backslope is to be maintained until top of backslope reaches edge of right-of-way.
6. Minimum radius of curvature 300 m. Spirals required with radius of 350 m and less.
7. Maximum gradient - 8%. Preferable maximum gradient - 6%.
8. Stopping sight distance 140 m - 80 km/h.
9. Clear vision at road intersections - minimum of 85 m from the point of intersection on municipal roads and grid intersections to a maximum of 140 m on Grid roads using 80 km/h design speed.
10. Installation of all necessary drainage structures and construction of drainage ditches.
11. Construction of all road connections and approaches.
12. The average shoulder elevation of the road surface to be approximately 0.5 m above the adjacent ground surface except in cuts.

13. Road surface shall be no less than 1.5 m above high water level or ground water table (ie., level to which free water would rise in a hole sunk in the ground).
14. Road surface, sideslopes, ditches and backslopes shall be bladed smooth to conform to the standard cross-section.
15. Gravel surfacing required at the rate of 330 m³/km for 8.0 m top widths, but less than 10 m and 400 m³/km for top widths of 10m or greater. Gravel must conform to the specifications thereof as set out in the Standard Specifications for Gravel Surfacing.
16. Curves must be constructed with the proper super-elevation.

Full details of standards and methods of construction with which Primary Grid roads are required to conform to be eligible for the Main Market Road Grant are given in the "Standard Specifications for Subgrade Construction" and for "Gravel Surfacing" and the plans therewith, copies of which can be obtained from Department of Highways and Transportation.

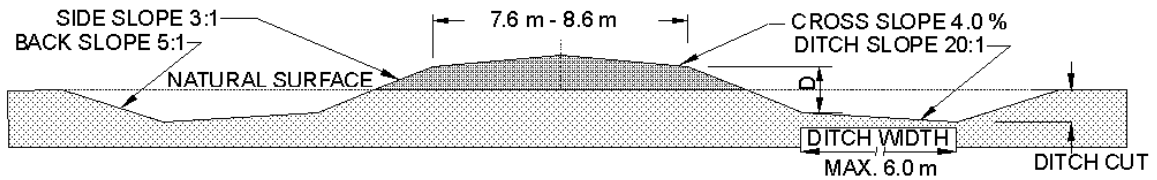
CROSS SECTION OF EMBANKMENT

D LESS THAN 2.0m - SIDE SLOPES 3:1 (MINIMUM).
 D FROM 2.0 m to 3.0 m - TOE OF SLOPES 6.0 m FROM SHOULDER
 D EXCEEDS 3.0 m - SIDE SLOPES 2:1
 FILLS 2.0 m TO 3.0 m - 8.0 m TOP WIDTH
 FILLS OVER 3.0m - 8.6 m TOP WIDTH
 (ON CURVES - WIDEN ABOVE BY 0.6 m - MAX. 8.6 m)



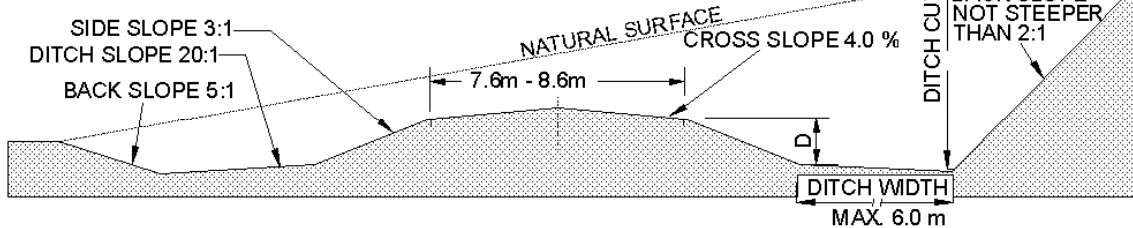
CROSS SECTION OF EMBANKMENT AND SIDE DITCH

D = NOT LESS THAN 1.0 m NOR GREATER THAN 1.2 m
 D CAN BE REDUCED TO 0.8 m WHEN NOT REQUIRED FOR DRAINAGE OR SNOW CLEARANCE.



CROSS SECTION OF CUT D = 1.0 m TO 1.2 m

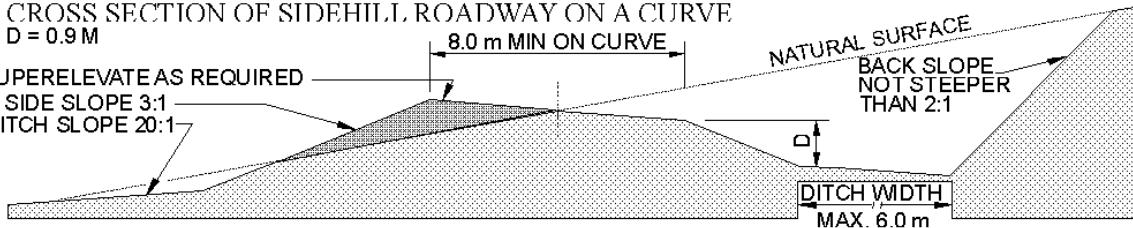
MINIMUM 0.5m D IN TOTAL CUT SECTION & REDUCE DITCH WIDTH TO 3.0m.



CROSS SECTION OF SIDEHILL ROADWAY ON A CURVE

D = 0.9 m

SUPERELEVATE AS REQUIRED
 SIDE SLOPE 3:1
 DITCH SLOPE 20:1



Note:

1. Basic top width: 7.6 m.
2. Right-of-way: purchased minimum - 30.0 m.
3. Design speed: 80 km/h.
4. Snow clearance: when shoulder grade elevation is 0.3 m or less above natural surface at 15.0 m to 20.0 m from centerline then backslope must be flattened out to 20.0 m from centerline.

TYPICAL CROSS SECTIONS
 GRID & SPECIAL ROADS (GRAVEL) - MUNICIPAL
 7600 30m +/- RIGHT-OF-WAY
 Subgrade Construction

RECOMMENDED BY:		DIRECTOR TECH. STDS. & POLICIES	DATE	STANDARD PLAN NO	51020
APPROVED BY:		ASSIST. DEPUTY MINISTER OPERATIONS DIVISION	DATE	SHEET	27 of 32

GENERAL STANDARDS OF CONSTRUCTION FOR ELIGIBILITY UNDER THE GRID AND SPECIAL ROAD GRAVEL PROGRAM

Summary Description of Basic Standards:

1. Minimum right-of-way width - 30 m. (Purchased) 42 m - 46 m is acceptable for reconstruction of these road classes.
2. Full width of right-of-way to be cleared.
3. The standard basic top width for Grid roads is 7.6 m. On all curves and on fills over 2 m in height, the top width is to be a minimum of 0.6 m wider than the basic top width (maximum 8.6 m).

Top widths should be widened as follows:

Fills 2 m to 3 m - 8.0 m top width

Fills over 3 m - 8.6 m top width

These widths are to be used even if guard rails are not required.

4. Sideslopes - 3:1 up to 2 m (minimum).
 - Variable 2 m to 3 m, or 2 m to 4 m if using 4:1 sideslopes (toe of slope to be 6 m or 8 m from shoulder).
 - 2:1 over 3 m or 4 m.

Sideslopes can be flattened above 3:1 where this will aid in disposing of objectionable material.

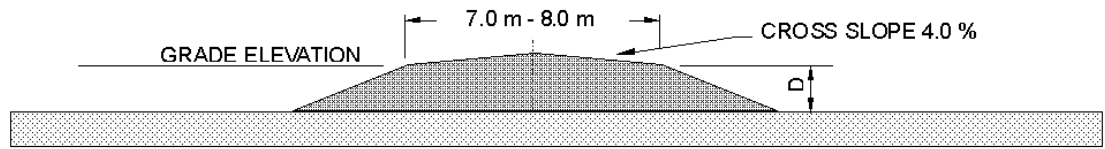
5. Backslopes - 5:1, with a maximum of 2:1.
 - 5:1 backslope is to be maintained until top of backslope reaches the edge of right-of-way.
6. Snowclearance - When shoulder grade elevation is 0.3 m or less above natural surface at 15.0 m to 20.0 m from centre line then the backslope must be flattened using a variable slope of 5:1 to 2:1 maximum to 20 m from centre line.
7. Minimum radius of curvature - 300 m.
8. Maximum gradient - 9%. In unusual circumstances - 11%.

9. Stopping sight distance - 140 m (minimum for 80 km/h design).
10. Clear vision at road intersection - minimum of 85 m from the point of intersection on municipal roads and grid intersections to a maximum of 140 m on Primary Grid roads using 80 km/h design speed.
11. Installation of all necessary drainage structures and construction of drainage ditches. Riprap only where necessary to avoid undue erosion.

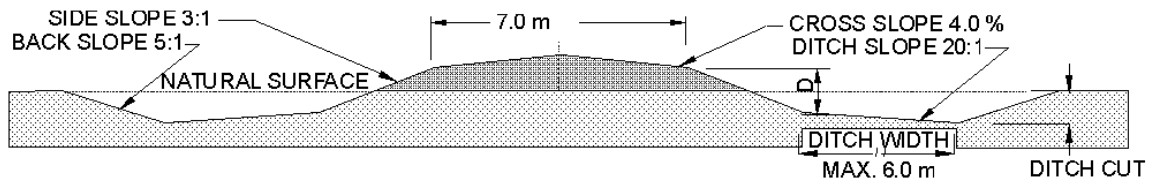
- Minimum culvert diameter of 400 m.
12. Construction of all road connections and approaches.
13. The average shoulder elevation of the road surface to be approximately 0.5 m above the adjacent ground surface, except in cuts.
14. Road surface shall not be less than 1 m above high water level on ground water table (ie., level to which free water would rise in a hole sunk in the ground).
15. Road surface, sideslopes, ditches and backslopes shall be bladed smooth to conform to the standard cross-section.
16. Gravel surfacing required at the rate of 230 m³/km for road top widths up to 8.0 m and 330 m³/km for 8.0 m top widths. Gravel must conform to the specifications thereof as set out in the Standard Specifications for Gravel Surfacing.
17. Curves must be constructed with the proper super-elevation.
18. Alignment - Curves are preferred over T-intersections, with a minimum radius of 300 m curves for all necessary road diversions with an absolute minimum radius of 250 m.

CROSS SECTION OF EMBANKMENT

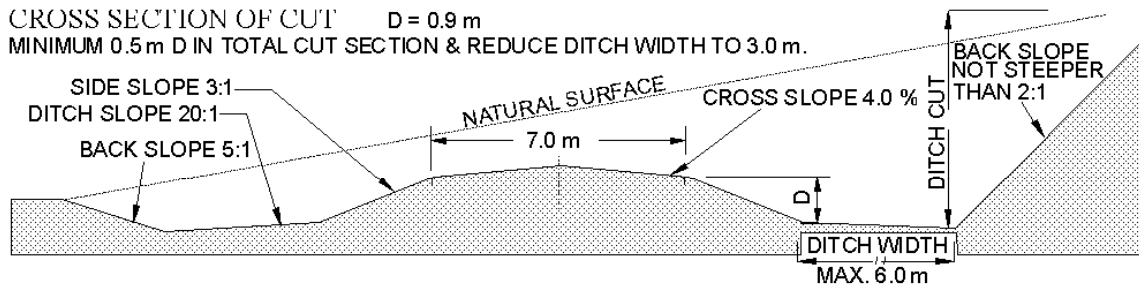
- D LESS THAN 2.0 m - SIDE SLOPES 3:1
- D FROM 2.0 m to 3.0 m - TOE OF SLOPES 6.0 m FROM SHOULDER
- D EXCEEDS 3.0 m - SIDE SLOPES 2:1
- FILLS 2.0 m TO 3.0 m - 7.6 m TOP WIDTH
- FILLS OVER 3.0 m - 8.0 m TOP WIDTH
- (ON CURVES - WIDEN ABOVE BY 1.0 m)



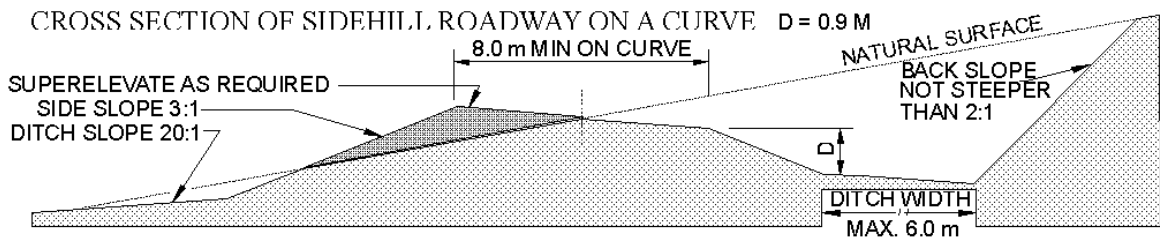
CROSS SECTION OF EMBANKMENT AND SIDE DITCH D = 0.9 m D CAN BE REDUCED TO 0.8 m WHEN NOT REQUIRED FOR DRAINAGE OR SNOW CLEARANCE.



CROSS SECTION OF CUT D = 0.9 m MINIMUM 0.5 m D IN TOTAL CUT SECTION & REDUCE DITCH WIDTH TO 3.0 m.



CROSS SECTION OF SIDEHILL ROADWAY ON A CURVE D = 0.9 m



Note:

1. Basic top width: 7.0 m.
2. Right-of-way: purchased minimum - 30.0 m.
or easement minimum - 46.0m.
3. Design speed: 60 km/h vertical, 80 km/h horizontal
4. Snow clearance: when shoulder grade elevation is 0.3 m or less above natural surface at 15.0 m to 20.0 m from centerline then backslope must be flattened out to 20.0 m from centerline.

TYPICAL CROSS SECTIONS MAIN FARM ACCESS ROADS - MUNICIPAL 7000 30m +/- RIGHT-OF-WAY Subgrade Construction

RECOMMENDED BY:		DIRECTOR TECH. STDS. & POLICIES	DATE	STANDARD PLANNING	51030
APPROVED BY:		ASSIST. DEPUTY MINISTER OPERATIONS DIVISION	DATE	SHEET	30 of 32

GENERAL STANDARDS OF CONSTRUCTION FOR ELIGIBILITY UNDER THE MAIN FARM ACCESS ROAD PROGRAM

Summary Description of Basic Standards:

1. Minimum right-of-way width - 30 m purchase or 46 m easement.
2. Full width of right-of-way to be cleared.
3. The standard basic top width for Main Farm Access roads is 7 m. On all curves and on fills over 2 m in height, the top width is to be a minimum of 0.6 m wider than the basic top width.

Top widths should be widened as follows:

Fills 2 m to 3 m - 7.6 m top width
Fills over 3 m - 8.0 m top width

These widths are to be used even if guard rails are not required.

4. Sideslopes - 3:1 up to 2 m.
 - Variable 2 m to 3 m (toe of slope to be 6 m from shoulder).
 - 2:1 over 3 m.

Sideslopes can be flattened above 3:1 where this will aid in disposing of objectionable material.

5. Backslopes - 5:1, with a maximum of 2:1.
 - 5:1 backslope is to be maintained until top of backslope reaches the edge of right-of-way.
6. Snow clearance - When shoulder grade elevation is 0.3 m or less above natural surface at 15.0 m to 20.0 m from centre line then the backslope must be flattened using a variable slope of 5:1 to 2:1 maximum to 20 m from centre line.
7. Minimum radius of curvature - 250 m.
8. Maximum gradient - 9%. In unusual circumstances - 11%.
9. Stopping sight distance - 85 m (minimum 60 km/hr design).

10. Clear vision at road intersection - minimum of 85 m from the point of intersection on municipal roads and grid intersections to a maximum of 85 m on Main Farm Access roads using 60 km/h design speed.
11. Installation of all necessary drainage structures and construction of drainage ditches. Riprap only where necessary to avoid undue erosion.

- Minimum culvert diameter of 400 m.
12. Construction of all road connections and approaches.
13. The average shoulder elevation of the road surface to be approximately 0.5 m above the adjacent ground surface, except in cuts.
14. Road surface shall not be less than 1 m above high water level on ground water table (ie., level to which free water would rise in a hole sunk in the ground).
15. Road surface, sideslopes, ditches and backslopes shall be bladed smooth to conform to the standard cross-section.
16. Gravel surfacing required at the rate of 230 m³/km with gravel conforming to the specifications thereof as set out in the Standard Specifications for Gravel Surfacing.
17. Curves must be constructed with the proper super-elevation.
18. Alignment - T-intersections at road intersections and a preferred minimum radius of 300 m curves for all necessary road diversions with an absolute minimum radius of 250 m.