



REQUEST FOR QUOTATION (RFQ)

RFQ NUMBER: 2024-03-E

TRAFFIC LINE PAINTING

RFQ ISSUE DATE: April 4,2024

SUBMISSION DEADLINE: April 24,2024

Section 1.0 - REQUEST

- 1.1 The Town of Drayton Valley (as may be referred to hereinafter as the “Town”) is requesting a Quotation from qualified individuals and/or businesses for the delivery of traffic line painting for a contract of 2 years starting 2024 and ending 2026 for the municipality based on if performance meets expectation.
 - 1.2 Proponents are invited to provide alternative options or solutions to address the service need, however, the Town is under no obligation to deviate from the original specifications requested.
 - 1.3 **Submissions will be accepted at the Town until 2:00:00 p.m. Alberta time, April 24, 2024.**
 - 1.4 Responses must be mailed to the Town of Drayton Valley, Box 6837, Drayton Valley, AB, T7A 1A1 or hand-delivered to the Town of Drayton Valley Civic Centre, 5120-52nd Street, Drayton Valley, AB. The submission, whether mailed or hand-delivered must be in a sealed envelope and clearly marked as:
**Attention: Shelley Terry General Manager of Municipal Services
Request for Quotation
Traffic Line Painting
Town of Drayton Valley**
 - 1.5 Submission inquiries are to be directed to:

Bill Campbell
Public Works Manager
Email Address: bcampbell@draytonvalley.ca
- 1.6 SUBMISSION PROCESS
 - 1.6.1 Submission of Quotation
 - a. The Proponent must submit two (2) copies of its Submission with all accompanying schedules, appendices and addenda in a sealed envelope/package marked with the Proponent’s name and the RFQ title up to the Submission Deadline set out on the date and at the location shown on the title page of this RFQ, to the procurement contact identified in Section 1.4. Electronic submission will not be accepted.
 - b. Quotations received after the Submission Deadline or in locations other than the address indicated, will not be accepted. The Town may elect to extend the Submission Deadline.
 - c. Amendments to a Quotation may be submitted if delivered in writing prior to the Submission Deadline in a sealed envelope or package, marked with the Proponent’s name and the RFQ title.
 - d. Quotations may be withdrawn by written notice only, provided such notice is received at the administration office of the Town prior to Submission Deadline.
 - e. All costs associated with the preparation and submission of the Quotation, including any costs incurred by the Proponent after the Submission Deadline, will be borne solely by the Proponent.

1.6.2 Conflict of Interest

By submitting a Quotation, the Proponent warrants that neither it nor any of its officers or directors, or any employee with authority to bind the Proponent, has any financial or personal relationship or affiliation with any elected official or employee of the Town or their immediate families which might in any way be seen by the municipalities to create a conflict.

1.6.3 Evaluation of Quotations

- a. Quotations will be evaluated on the basis of the overall best value to the Town based on quality, service, price, and any other criteria set out herein. The evaluation will consist of two stages:
 - i. Stage 1 will consist of evaluating the Mandatory Requirements. If the Submission meets the Mandatory Requirements, the Submission will continue to Stage 2, otherwise, the submission will be deemed non-compliant and rejected.
 - ii. Stage 2 will consist of evaluating the Submission based on the Evaluation Criteria outlined in Section 1.6.4.b.
- b. After completion of Stage 2, the Town may elect to short list some of the Proponents and may require short listed Proponents to provide additional information or details, including making a presentation, supplying samples, demonstrations, and/or additional technical literature.
- c. The Town may elect to enter into negotiations with the leading Proponent or with any other Proponent concurrently. In no event will the Town be required to offer any modified terms to any Proponent prior to entering into an Agreement, and the Town will not be liable to any Proponent as a result of such negotiations.
- d. All sub-contractors of the Proponent will be included in the evaluation process. It is the responsibility of the Proponent to guarantee that all its sub-contractors will comply with all the requirements and terms and conditions set out herein.

1.6.4 Evaluation Criteria

Quotations will be evaluated for their adherence to, interpretation of and response to the request as set out in this document. The following established criteria will be used:

- a. Mandatory Criteria
 - i. Workers Compensation Board (WCB) clearance letter.
 - ii. Certificate of Recognition (COR) or Small Employer Certificate of Recognition (SECOR)
 - iii. Proof of Automobile Liability Insurance of \$5,000,000 minimum; and
 - iv. Proof of General/Professional Liability Insurance of \$5,000,000 minimum.
- b. Evaluation Criteria
 - i. Unit and/or hourly quotation: demonstrated budget breakdown for time and effort for service deliverable.
 - ii. Previous related experience and references.
 - iii. Team expertise: key personnel experience and certifications.
 - iv. Methodology: proposal conveys the Proponent's intent in a clear and concise manner with clear identification of services included and
 - v. Co-ordination of work with the Town historically.

1.6.5 Acceptance and Rejection of Quotations

- a. Notwithstanding any other provision in the Quotations documents, the Town has in its sole discretion, the unfettered right to:
 - i. accept any Quotations.

- ii. reject any Quotations.
 - iii. reject all Quotations.
 - iv. accept a Quotation which is not the lowest priced Quotation.
 - v. reject a Quotation even if it is the only Quotation received by the Town.
- b. All Quotations shall be irrevocable and remain open for acceptance for at least sixty (60) days after the Submission Deadline, whether another Statement of Qualifications has been accepted.
 - c. The Town is not under any obligation to award a Contract and may elect to terminate this RFQ at any time.

1.6.6 The Timeline for the RFQ process is as follows:

- a. RFQ issued – April 04, 2024
- b. RFQ closes – April 24, 2024
- c. Completion of evaluation process and award – April 28, 2024; and
- d. Signing of Services Agreement– May 1,2024.

Section 2.0 - REQUIREMENTS

2.1 Description of Work

The work involves the re-painting of traffic line markings in various locations within the Town of Drayton Valley for the 2024-2025 seasons. The Contractor shall:

- a. Supply all necessary materials, equipment, labor and traffic control to perform the work in accordance with the Standard Specifications for Highway Construction and Highway Pavement Marking Guide from Alberta Transportation and as directed by the Town of Drayton Valley.
- b. Perform all work while creating a minimum level of inconvenience to vehicular traffic and pedestrians.
- c. Successful proponent will ensure all dashed/solid lines, turning/straight arrows, pedestrian crossings, stop lines, crosshatch markings, and gore lines are done as required in the areas depicted in Schedule A.
- d. Successful proponent will maintain communication with public works manager to ensure:
 - Daily updates on progress of line painting including item counts/meterage.
 - Coordination with street sweeping operations.
 - Coordination with crack sealing operation.
 - Coordination with all other municipal construction work.
- e. Successful proponent will be required to have an initial site meeting with the Town prior to commencing work.

2.3 Available Information:

The Town can supply the following information:

- a. Town of Drayton Valley Pavement Marking Location Map (Schedule A)
- b. Standard Specifications for Highway Construction, Section 7.2 Painted Roadway Lines (Schedule B)
- c. Highway Pavement Marking Guide, Figure TCS-C-201, TCS-C-401, TCS-C-401.1, TCS-C-405, AND TCS-C-405.1. (Schedule C)
- d. Approved Paint Formula Spec (Town preference) (Schedule D)

2.2 Minimum Quotation Requirements

Each Quotation shall contain the following information:

- a. a description of the Proponent's services, including experience.
- b. unit and hourly price quotations.
- c. proponent to state approximate service deliverable timeframe during line paint season, dependent on weather.
- d. type of industry-approved traffic line marking to be used with attached material specifications.
- e. list of vehicles and equipment used for traffic line painting, including their make, model, year of manufacture, physical and mechanical condition (may include photographs and applicable reports); and
- f. WCB clearance letter, COR or SECOR certificate, and proof of professional/general liability and automobile insurance coverage of minimum \$5,000,000.

2.3 Terms and Conditions

- a. The successful Proponent will enter into a contractual agreement (in the form of a Services Agreement) with the Town within fifteen (15) days after delivery of the Agreement to the successful Proponent by the Town.
- b. If the successful Proponent fails to execute and return the Agreement to the Town within fifteen (15) days, the Town may cease all discussions and have no obligation to the Proponent, and may, if it chooses to do so, award the Agreement to another Proponent, all without affecting any claim which the Town may have against the Proponent as a result thereof.
- c. The RFQ and the completed Quotation submission including the Price Form of the Successful Proponent will become Schedules of the Services Agreement.
- d. The Services Agreement will be for a negotiated term with the Town, and, at the Town's discretion, for an additional term.
- e. The Town may negotiate with the successful proponent to apply inset thermoplastic traffic line marking at a later date during the 2024 season in three pre-determined areas following initial service delivery as depicted in Schedule A.
- f. The Town prefers to apply Alkyd paint NOT water-based paints. Proponents are to bid using standard of paint.
- g. The successful proponent is required to retain prime contractor throughout the entire duration of this contract updating all insurance documentation on a yearly basis.

Section 3.0 – QUANTITIES & PRICE ESTIMATE

MMA Paint	Quantity	Price
Solid Yellow	32600	
Dash Yellow/White	800	
Solid White	20100	
Turn Arrows	117	
Straight Arrows	1	
Straight/Turn Arrow	2	
Crosswalk, 2 Bar. W/Glass Beads	60	
Crosswalk, Zebra. W/Glass Beads	125	
Stop Bars. Two coats W/Glass Beads	205	
Mobilization		
Total		

Low VOC Alkyd Paint	Quantity	Price
Solid Yellow	32600	
Dash Yellow/White	800	
Solid White	20100	
Turn Arrows	117	
Straight Arrows	1	
Straight/Turn Arrow	2	
Crosswalk, 2 Bar. W/Glass Beads	60	
Crosswalk, Zebra. W/Glass Beads	125	
Stop Bars. Two coats W/Glass Beads	205	
Mobilization		
Total		

Optional Work	Quantity	Price
Old Line/Markings Removal	TBD	

NOTE:

1. The above quantities are just estimation. Exact quantity and location of the traffic line painting will be reviewed and marked during the site visit after the contract is awarded.
2. Depending on submission bid price, the quantity could be subject to change.
3. This requires contractor to retain prime for the duration of the work.

Section 4.0 - SUBMISSION FORM



**REQUEST FOR QUOTATION SUBMISSION
TRAFFIC LINE PAINTING
PAGE 1 OF 2**

Proponent's Name: _____

Address _____

Mailing Address (if different from above) _____

Telephone: _____ Fax: _____

Key Contact Person: _____

Telephone (if different from above) _____

Email: _____

The undersigned Proponent, having carefully read and examined the RFQ, including all sections, and having full knowledge of the requirements described herein, does offer to provide the goods and/or services in accordance with the requirements, terms and conditions set out in the RFQ and in accordance with the pricing as described within.

Signature of Authorized Signatory

Date

Print Name and Title

REQUEST FOR QUOTATION SUBMISSION
TRAFFIC LINE PAINTING
PAGE 2 OF 2

REQUIRED DOCUMENTS

By initialing each item, the Proponent confirms it has completed and enclosed the following documentation in its Quotations, and has identified any deviations or items of non-compliance providing an explanation of where it does not comply.

Initial

- _____ 1. The Proponent confirms that it will comply with all occupational health and safety requirements, policies and procedures of the Town and all statutory occupational health and safety requirements under, or in connection with the *Worker's Compensation Act and the Occupational Health and Safety Act*. The Proponent warrants that it is in good standing as to all WCB assessments and requirements. A copy of the WCB clearance letter is attached.

- _____ 2. Safety certification and evidence of established safety program. Include a copy of the Certificate of Recognition (COR) from the *Alberta Construction Safety Association or SECOR* and a copy of the Table of Contents of the Proponents Safety Manual.

- _____ 3. Proof of Professional/General Liability and Automobile Liability Insurance with limit not less than \$5,000,000.

- _____ 4. Information on relevant experience performed during the last five (5) years. Indication of the number and size of other municipalities where like services have or are currently being provided.

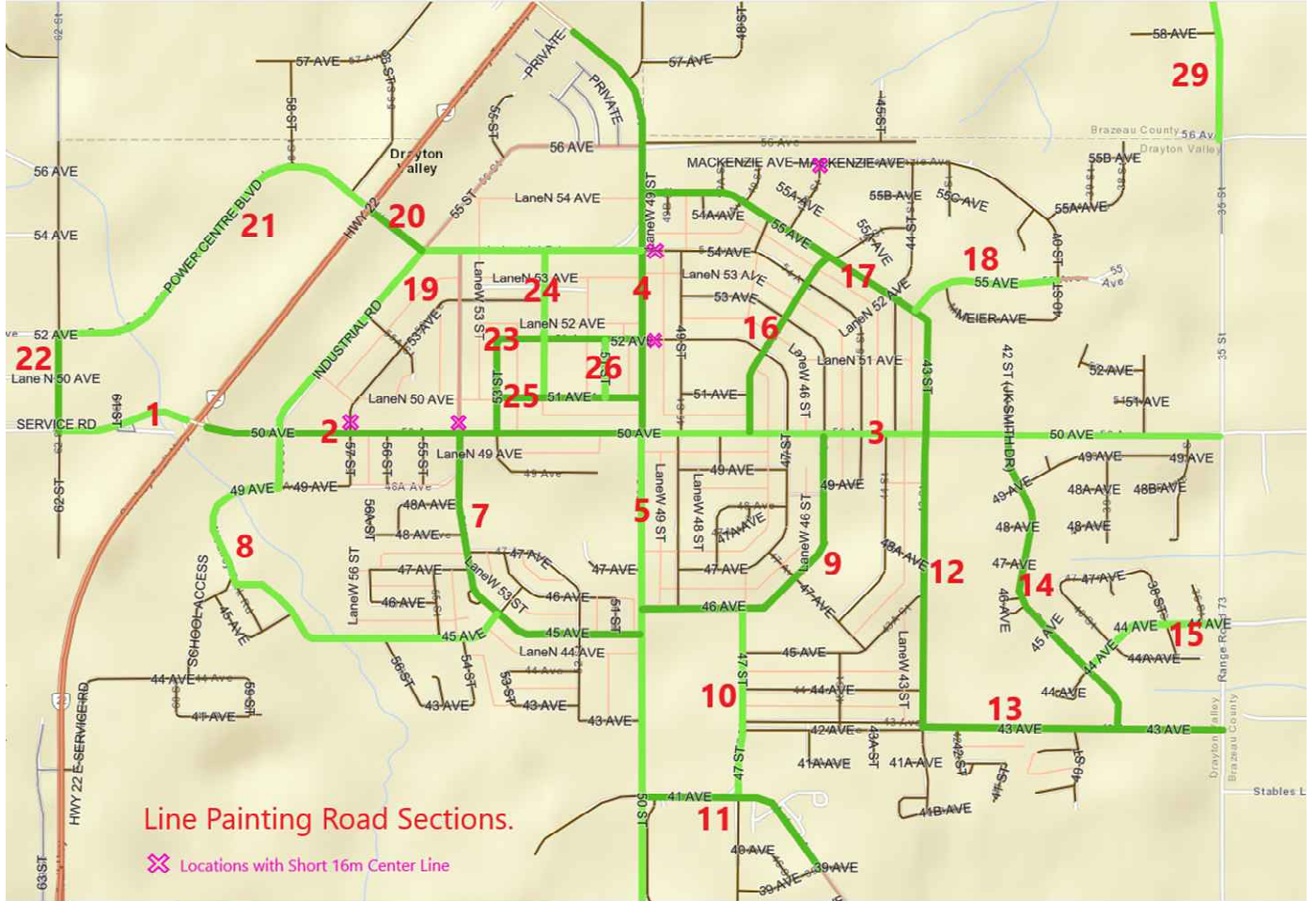
- _____ 5. Identification of key personnel to be assigned to this project/service delivery, setting out their names, responsibilities, qualifications, and relevant experience.

- _____ 6. Submission of a detailed price list of the fees for all the services, identifying the total all-inclusive fee which shall include any out of the pocket expenses for the provision of services for the agreement/contract period.

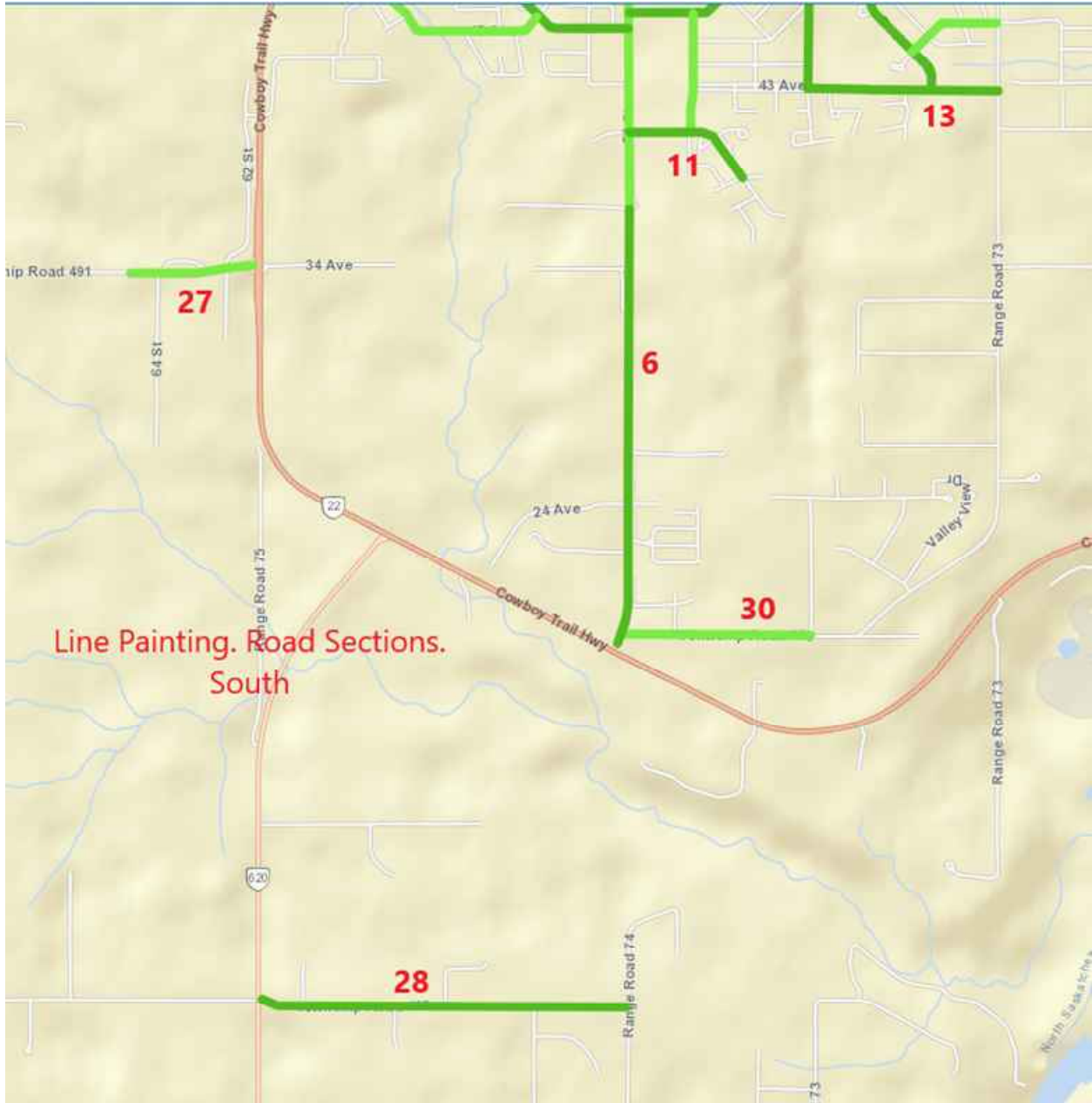
- _____ 7. Submission of a detailed list of any deviations and/or variations from the terms and conditions set out in this RFQ and, if applicable, detail proposed amendments.

SCHEDULE A

Town of Drayton Valley Pavement Marking Location Map







SCHEDULE B

SPECIFICATION 7.2 PAINTED ROADWAY LINES

Section 7

Specification 7.2, Painted Roadway Lines

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7.2 PAINTED ROADWAY LINES**7.2.1 GENERAL****7.2.1.1 Description**

This specification covers the painting and removal of roadway lines including edge lines, lane lines, continuity lines and directional dividing lines as shown on the Drawings.

7.2.1.2 Contractor Quality Control Inspection Plan

The Contractor shall be totally responsible for quality control inspection throughout every stage of the Work to ensure that materials and workmanship comply with the requirements of this specification.

The Contractor shall develop and submit in writing to the Consultant a Quality Control Inspection Program (QCIP) that addresses all the elements that affect the quality of the line painting including but not limited to:

- Paint Application Rates,
- Glass Bead Application Rates,
- Pavement Surface and Atmospheric Conditions,
- Line Widths, Line Lengths and Space Lengths.

The Contractor shall maintain records of QCIP data, complaints from the public, and other details relevant to the Work and shall provide these records to the Consultant daily.

7.2.2 MATERIALS

The Contractor shall supply all paint and glass beads in accordance with Specification 5.20, Supply of Line Painting and Message Marking Materials.

7.2.3 EQUIPMENT**7.2.3.1 General**

The Contractor shall provide all equipment necessary for completion of the Work including but not limited to the painting truck, a pilot truck, a crash attenuator vehicle and all ancillary equipment such as fork lifts, hoists, pumps and transport vehicles required to load, unload and transport the paint and glass beads.

7.2.3.2 Painting Truck

The painting truck shall be self-propelled and equipped to meet or exceed the following requirements:

- (a) Two paint tanks each having a minimum capacity of 270 litres feeding three lines for a simultaneous two-colour application (two yellow directional dividing lines and one white edgeline).

- (b) Painting controls capable of adjusting the paint application for the length of dashed line required. Each spray gun shall have independent controls and adjustment mechanisms, and shall be operated from the operator's compartment.
- (c) The compressor shall have a minimum rated capacity of 4.25 cubic metres per minute.
- (d) Bead dispensers shall be electrically controlled, air operated, gravity fed with controls to adjust the bead flow. The bead dispensers shall be fed from tanks capable of holding a minimum of 45 kilograms of beads.
- (e) A television vehicle guidance, or a vehicle guidance system mounted on a retractable A-frame with a guide wheel and pointer system, to assist the truck driver in maintaining alignment on the existing lines.
- (f) A minimum of five spray guns and five bead dispensers mounted in the following configuration:
 - (i) Three spray guns and three bead dispensers mounted on an independently-controlled boom located on the left side of the truck to paint the directional dividing lines. The outer two spray guns and bead dispensers shall be in a configuration that will produce two lines of equal width with the distance between the two lines equal to the width of one line (100 mm). The inner spray gun and bead dispenser shall operate independently and shall be used to apply the directional dividing line where only a single directional dividing line is required. When a 200 mm wide line is required, 2 guns shall be used simultaneously.
 - (ii) Two spray guns and two bead dispensers mounted on an independently controlled boom on the right side of the truck to apply the right edge line. When a 200 mm wide line is required, 2 guns shall be used simultaneously.
- (g) Equipped to apply white or yellow paint from the three spray guns mounted on the left hand side of the paint truck and to switch from one colour to the other during operation.
- (h) Control of both independent booms, all spray guns, bead dispensers and painting controls from the operator's compartment(s).

7.2.3.3 Companion Vehicles

The painting vehicle shall be immediately followed by a vehicle equipped with a crash attenuator which meets National Cooperative Highway Research Program, Report 350 Test Criteria, Test Level 3 for 100 km/hour work zones. The weight of the crash attenuator vehicle including ballast, flashing arrow board and truck mounted crash attenuator shall be 6 300 to 12 000 kg.

The crash attenuator vehicle shall be followed by a ½ ton or larger truck acting as a pilot vehicle.

7.2.3.4 Safety Equipment

The painting truck and both companion vehicles shall be equipped with the following:

- (a) A two-way radio for voice communication.

- (b) An overhead revolving beacon with an amber lens a minimum of 180 mm high and 180 mm wide. The beacon shall be mounted on the top of the vehicle fully visible to traffic approaching from both front and rear.
- (c) A sequential arrowboard meeting the requirements as described in Specification 7.1, Traffic Accommodation and Temporary Signing.
 - (i) The arrowboard shall be controlled from a console located in the vehicle cab.
 - (ii) The arrowboard display shall be visible to traffic approaching the rear of the trucks.
- (d) A "slow moving vehicle" sign. The sign shall be mounted at the rear of the vehicle and be visible to the public only when the painting truck is applying paint.
- (e) A warning sign, mounted at the rear of the truck, stating "wet paint keep off". The sign shall have standard warning colours with letters having a minimum height of 150 mm and shall be visible to the public only when the truck is applying paint.

7.2.4 HIGHWAY OPERATIONS

7.2.4.1 **General**

All painting shall be carried out during hours of daylight between ½ hour after sunrise and ½ hour before sunset. Generally, the Contractor may paint lines during any day of the week but is cautioned that traffic volumes are usually higher on all highways on Friday, Saturday and Sunday. Line painting on highways with relatively high traffic volumes shall be performed between Monday and Thursday inclusive if so directed by the Consultant.

Operation of the painting truck against the flow of traffic will not be permitted.

Loading glass beads or paint onto the painting truck is not permitted on a roadway surface.

7.2.4.2 **Operation of Companion Vehicles**

7.2.4.2.1 General

The Contractor shall operate both companion vehicles in conjunction with the painting truck during the painting of all longitudinal lines. Companion vehicle operators shall not attempt to control traffic from inside the vehicle.

The actual operating parameters of the companion vehicles will be determined by the Contractor to safely accommodate traffic and will be based on site specific conditions such as sight distances, highway geometrics and traffic patterns and volumes. Typical operating parameters are as follows.

7.2.4.2.2 Crash Attenuator Vehicle

The crash attenuator vehicle shall follow behind the painting truck at a distance of 50 m to 400 m. Typically, on 4 Lane highways the crash attenuator vehicle should closely follow the paint truck to encourage traffic to maintain the passing lane and not pull in behind the paint vehicle. On 2 Lane roadways, traffic should still be encouraged to pass both vehicles in one pass, however actual conditions may dictate that the crash attenuator vehicle give way to allow safe passing.

On Single Lane Roads (for example on interchange ramps) the crash attenuator vehicle shall be driven in the travel lane to keep traffic from passing the painting truck.

7.2.4.2.3 Pilot Vehicle

On 2 lane and 4 Lane Highways the pilot vehicle shall be operated as follows:

- (i) On a 4 Lane Highway, the pilot truck shall be driven in the same travel lane as the paint machine, following it at a constant distance of approximately 2 km.
- (ii) On a 2 Lane Highway with a minimum 3 m shoulder, the pilot truck shall be driven along the right shoulder, not straddling the right edge line and following the painting truck at a constant distance of approximately 2 km.
- (iii) On a 2 Lane Highway with less than a 3.0 m shoulder, the pilot truck shall travel from approach road to approach road and stop until the paint machine has cleared the next approach road. Approach road in this context includes local roads, farm entrances, field entrances, etc. The pilot truck, when stopped in an approach road, shall sit parallel to the highway in order that the signs and arrowboard are fully visible to traffic approaching from the rear.

7.2.4.3 **Arrowboard Message**

The crash attenuator vehicle, pilot truck and the painting truck are to display the same message at all times. The message shall be one of the following:

- (a) On 2 Lane Highway - a bar (6 horizontal lights flashing) is preferred but if a bar cannot be shown on the type of arrowboard used, the 4 corner lights flashing is an acceptable alternative.
- (b) On a 4 Lane Highway - a right arrow when operating in the left lane and a left arrow when operating in the right lane.
- (c) On a Single Lane Road (for example the exit leg of an interchange) - four flashing corner lights or a bar.

7.2.5 PAINTING ROADWAY LINES

7.2.5.1 **Areas to be Painted**

The Contractor shall paint lane lines, continuity lines, edge lines and directional dividing lines on the highway sections, interchanges or intersections specified, as well as the lines through towns, at truck turnouts, rest areas, points of interest and weigh scale turnouts. At intersections, edge lines shall be painted to the right-of-way limit or the point where the pavement ends whichever occurs first.

On pavement overlay projects, the Contractor shall ensure that the start and finish of "No-Passing Zones" are consistent with those on the underlying pavement, unless otherwise directed by the Consultant.

On new construction, the start and finish of "No-Passing Zones" will be determined and laid out by the Consultant.

7.2.5.2 Pavement Surface and Atmospheric Conditions

Painting shall not be performed during the following conditions:

- (i) When the temperature is below 0°C for alkyd paints and 10°C for waterborne paints.
- (ii) When wind conditions cause overspray.
- (iii) When the visibility is less than 700 m.
- (iv) During periods of rainfall.

Areas to be painted shall be clean and dry during the application of paint.

Areas to be painted shall be inspected by the Contractor to ensure they are clean, free of sand and debris, and suitable for painting. Sweeping, when required, shall be completed by the Contractor.

7.2.5.3 Paint and Bead Application

All painted lines shall be uniformly applied at a minimum rate of not less than 38 l/km of solid 100 mm wide line. Glass beads shall be applied immediately following the paint application at a uniform minimum application rate of not less than 600 g/l of paint.

The Contractor may heat alkyd paint to a maximum temperature of 65°C prior to application to the roadway surface to reduce drying time. The Contractor shall use due care in heating the paint because of its volatile nature. Waterborne paints shall not be heated.

7.2.5.4 Acceptance Criteria

All painted lines shall not exceed a dimensional width of 110 mm for specified 100 mm wide line. No tolerance below 100 mm is allowed for the specified 100 mm wide line.

All painted lines shall not exceed a dimensional width of 210 mm for specified 200 mm wide line. No tolerance below 200 mm is allowed for the specified 200 mm wide line.

All painted direction dividing, lane dividing or continuity lines shall not exceed a maximum dimensional length deviation of +/- 100 mm for specified 3 m length of line.

All spaces between painted direction dividing, lane dividing or continuity lines shall not exceed a maximum dimensional length deviation of +/- 100 mm for specified 6 m or 3 m length of space.

All paint shall be applied at the proper locations in accordance with the Drawings or as directed by the Consultant.

All paint and glass beads shall be uniformly applied.

All painted lines shall be uniform in thickness and free of tire tracking, with no splatter, excessive overspray or other defects.

7.2.5.5 Removal, Repair or Replacement of Unacceptable Painted Lines

All painted lines that do not meet the requirements of this specification shall be removed and correctly applied or repaired by the Contractor.

In cases where the paint is "tracked" by vehicles tires, the lines may be repaired by reapplying paint and glass beads to the damaged areas.

In cases where incorrectly painted lines need to be removed, the Contractor shall use methods and equipment that will totally eliminate the pattern of the lines without damaging the integrity of the pavement surface. The methods and equipment used for such work shall be reviewed and accepted by the Consultant prior to their use. Obliterating incorrectly painted lines through the sole use of paint, liquid asphalt, slurry seal or other similar materials will not be permitted.

7.2.5.6 Painting of Temporary Roadway Lines for Seasonal Shutdown

When the Contract is carried over from one season to the next, all newly constructed asphalt pavement or asphalt stabilized surfaces shall be provided with temporary roadway lines as directed by the Consultant. All temporary roadway lines shall be painted in conformance with all of the requirements of this specification.

7.2.5.7 Removal of Existing Painted Lines

Removal of existing painted lines shall be carried out as described in Subsection 7.2.5.5, Removal, Repair or Replacement of Unacceptable Painted Lines.

7.2.6 MEASUREMENT AND PAYMENT

7.2.6.1 Painting Roadway Lines

Measurement of painted roadway lines will be made in kilometres along the centreline of the roadway for the length of road painted, including the length of road through intersections. Intersections and interchanges will be counted separately and will include all roadway lines which would not be covered by the standard painting operation. Only those intersections or interchanges specified in the Contract or identified by the Consultant will be counted separately for payment. At locations such as truck turnouts and points of interest turnouts where additional lines are required beyond normal limits, individual lines will be measured separately and paid for under the applicable bid item.

Payment for painting roadway lines will be made at the unit price or prices bid for "Roadway Lines – Supplying Paint and Painting" for the type of line painted.

Payment for painting intersection and interchange lines will be made at the unit prices bid for "Intersection Lines - Supplying Paint and Painting" or "Interchange Lines - Supplying Paint and Painting", as applicable.

These payments will be full compensation for inspecting the areas to be painted; sweeping and cleaning the surfaces to be painted; supplying and applying the paint and glass beads; traffic accommodation; and all labour, equipment, tools and incidentals necessary to complete the Work to the satisfaction of the Consultant.

7.2.6.2 Temporary Roadway Line Painting

When the Contractor is required to paint roadway, intersection and/or interchange lines as a temporary measure at the end of a construction season, payment will be made in accordance with this section.

7.2.6.3 Removal of Existing Painted Lines

Standard Specifications for Highway Construction – Edition 16, 2019

Measurement for removal of existing painted lines will be made in metres or kilometres of line removed, whichever is specified.

Payment will be made at the unit price bid for "Removal of Existing Painted Lines", and will be full compensation for all labour, equipment, tools and incidentals necessary to complete the Work to the satisfaction of the Consultant.

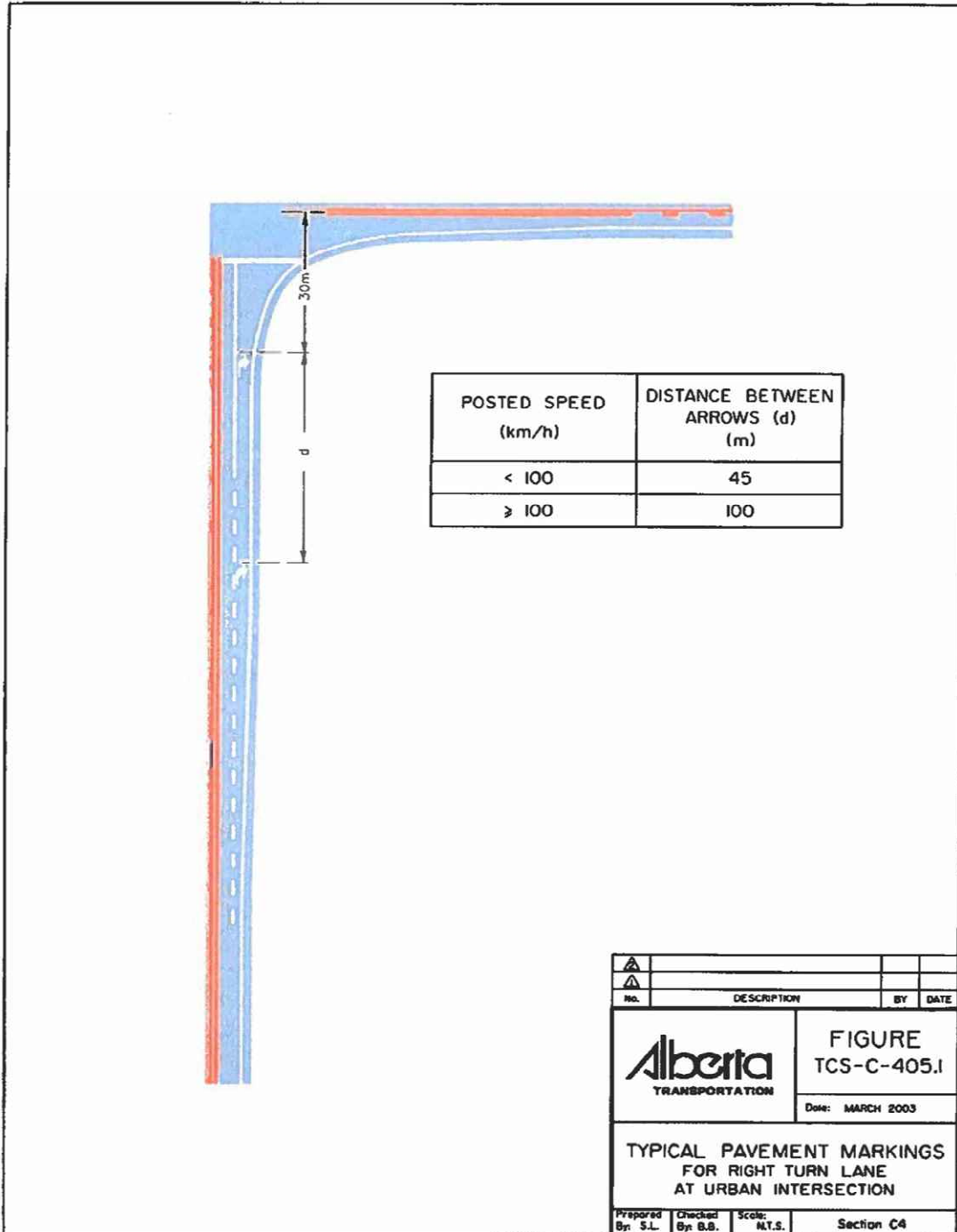
The repair or removal of incorrectly painted roadway lines shall be carried out by the Contractor at his expense.

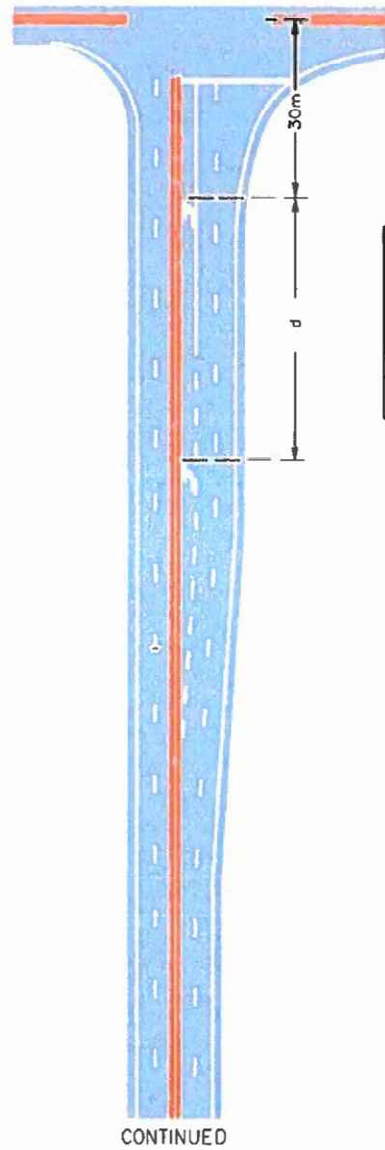
7.2.7 WARRANTY

Contrary to Section 1.2.55, Contractor's Warranty Period and Final Acceptance, the warranty period for painted roadway lines will be 60 days.

SCHEDULE C

LONGITUDINAL PAVEMENT MARKINGS AND TYPICAL PAVEMENT MARKING FIGURE

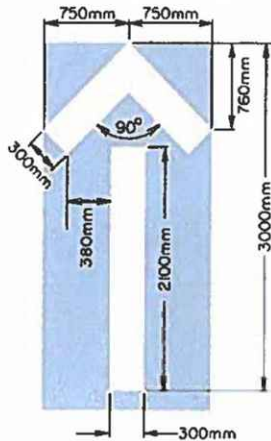




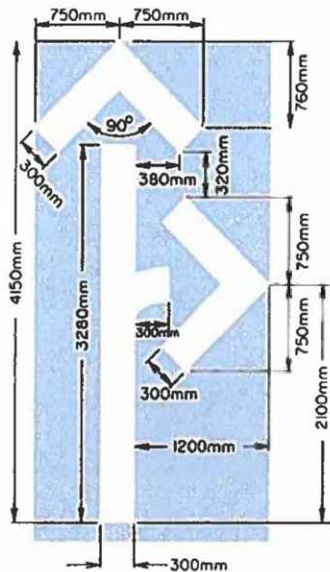
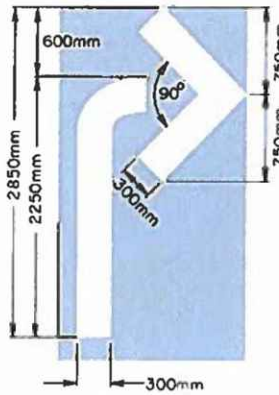
POSTED SPEED (km/h)	DISTANCE BETWEEN ARROWS (d) (m)
< 100	45
≥ 100	100

		FIGURE TCS-C-405	
		Date: MARCH 2003	
TYPICAL PAVEMENT MARKINGS FOR LEFT TURN LANE AT URBAN INTERSECTION			
Prepared By: S.L.	Checked By: B.B.	Scale: N.T.S.	Section C4

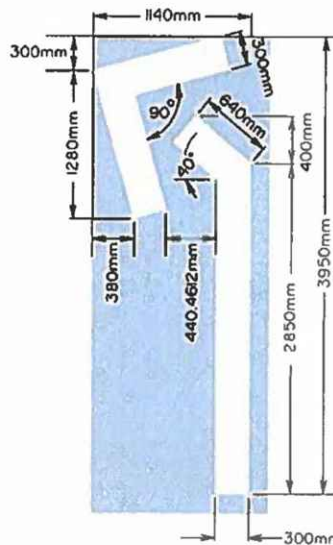
STRAIGHT THROUGH
(1.78 sq m)



RIGHT TURN ONLY
(1.26 sq m)



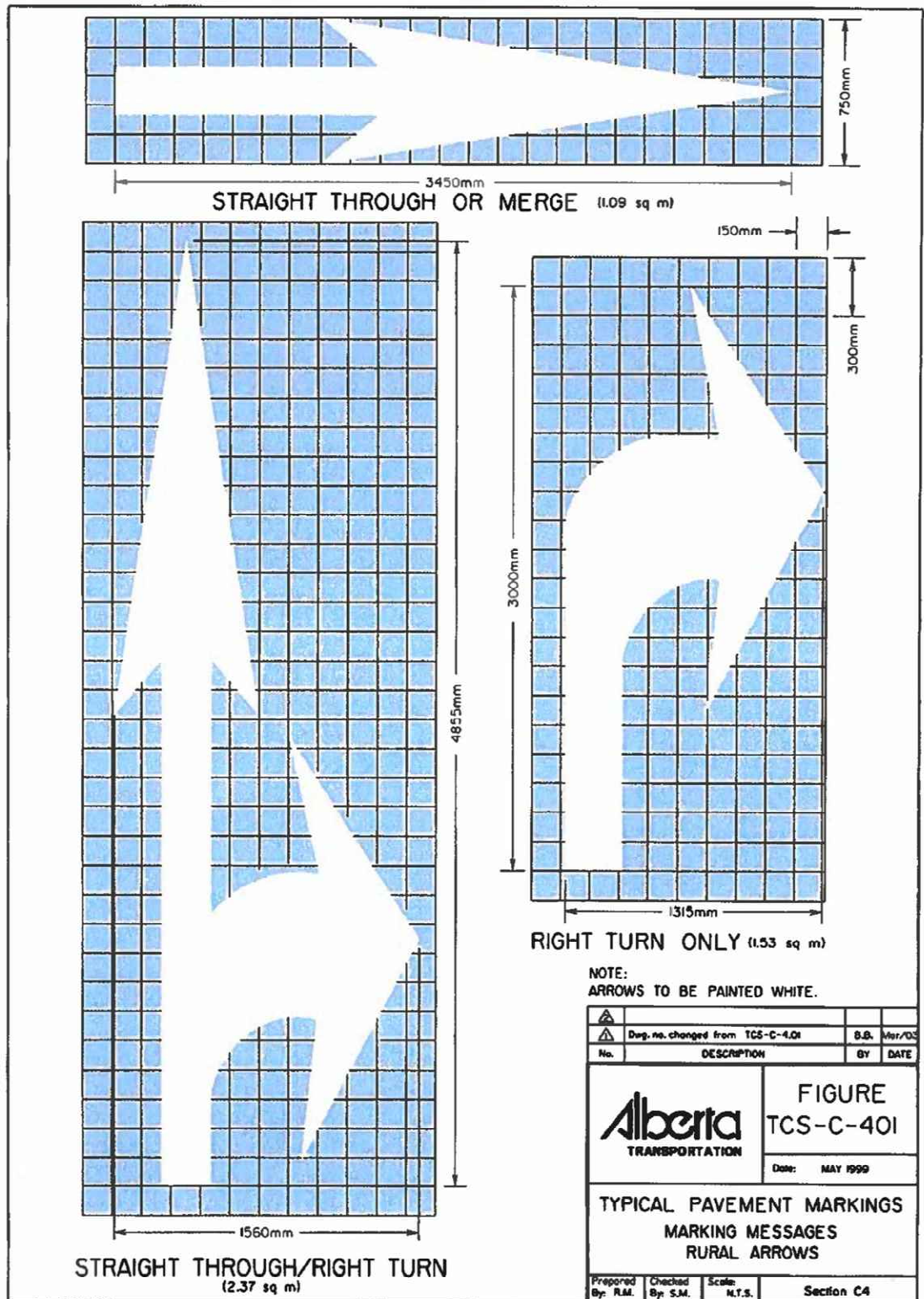
STRAIGHT THROUGH/RIGHT TURN
(2.16 sq m)



LEFT MERGE
(1.67 sq m)

NOTE:
ARROWS TO BE PAINTED WHITE.

▲	Rev. no. changed from TCS-C-4.02	B.B.	Mar/03
No.	DESCRIPTION	BY	DATE
		FIGURE TCS-C-401.1	
		Date: MAY 1999	
TYPICAL PAVEMENT MARKINGS MARKING MESSAGES URBAN ARROWS			
Prepared By: R.M.	Checked By: S.M.	Scale: N.T.S.	Section C4



LINE TYPE	PATTERN	USE
SOLID		<ul style="list-style-type: none"> EDGE LINES LANE LINES PROHIBITING LANE CHANGES
SIMULTANEOUS SOLID AND BROKEN		<ul style="list-style-type: none"> LANE LINES FOR SPECIAL CASES PROHIBITING LANE CHANGES FROM LANE BOUNDED BY SOLID LINE
BROKEN		<ul style="list-style-type: none"> LANE LINES
BROKEN		<ul style="list-style-type: none"> CONTINUITY LINES
BROKEN		<ul style="list-style-type: none"> GUIDING LINES FOR INTERSECTION MOVEMENT
SOLID WIDE (CRITICAL AREAS)		<ul style="list-style-type: none"> EDGE LINES FOR CRITICAL AND SPECIAL LANE DESIGNATION (eg. RAMPS, BUS LANES, AND HOV LANES)
BROKEN WIDE (CRITICAL AREAS)		<ul style="list-style-type: none"> LANE LINES FOR CRITICAL AND SPECIAL LANE DESIGNATION (eg. RAMPS, BUS LANES, AND HOV LANES)
BROKEN WIDE (CRITICAL AREAS)		<ul style="list-style-type: none"> CONTINUITY LINES FOR CRITICAL AREAS (eg. RAMPS)
DOUBLE SOLID		<ul style="list-style-type: none"> DIRECTIONAL DIVIDING LINES PROHIBITING PASSING FROM EITHER DIRECTION
SIMULTANEOUS SOLID AND BROKEN		<ul style="list-style-type: none"> DIRECTIONAL DIVIDING LINES PROHIBITING PASSING FROM LANE BOUNDED BY SOLID LINE
BROKEN		<ul style="list-style-type: none"> DIRECTIONAL DIVIDING LINES PERMITTING PASSING
SOLID		<ul style="list-style-type: none"> EDGE LINE (LEFT EDGE OF DIVIDED HIGHWAY) DIRECTIONAL DIVIDING LINES (URBAN SITUATION)

	Dwg. no. changed from TCS-C-2.01	B.B.	Mar/03
No.	DESCRIPTION	BY	DATE

Alberta
TRANSPORTATION

FIGURE
TCS-C-201

Date: MAY 1999

LONGITUDINAL
PAVEMENT MARKINGS
DIMENSIONS AND DEFINITIONS

Prepared By: P.G.	Checked By: S.J.M.	Scale: N.T.S.	Section C2
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Schedule D

Approved Paint Formula Specification



PAINT – YELLOW ALKYD

TEST METHODS			TOLERANCE	YM220
Hiding Power	CGSB 1-GP-71(14.7)	(m ² /l)	±10 %	2.92
Specific Gravity	ASTM D 1475	(25/25°C)	±0.050	1.448
Skinning	CGSB 1-GP-71(10.1)		NON	NON
Accelerated Storage Stability	ASTM D1309	(0-10)	±1	6
BYK Gardner Color Guide Model #6805	ASTM E313	Brightness	±5 %	45.33
		Yellowness (White)	±10%	80.48
Bleeding	ASTM D868, D969	(contrast)	±1	8
Abrasion Resistance	ASTM D4060	(mg)	90 - 120 %	100.2
Flexibility	ASTM D522	(mm)	±20 %	0.0
Drying Time(minutes)	ASTM D1640	Set to Touch	±2 min.	2.8
	ASTM D711	Dry to Traffic *	±20 %	10.6
Viscosity	ASTM D562	(Krebs)	±5	82.2
Non-Volatile Content	CGSB 1-GP-71(17.1)	(% wt.)	±2 % (absolute)	73.2
Pigment Content	CGSB 1-GP-71(21.1)	(% wt.)	±2 % (absolute)	54.8
Non-Volatile Vehicle	CGSB 1-GP-71(19.1)	(% wt.)	±2 % (absolute)	18.4
Particle Coarseness	ASTM D185	(% retained 45 µm)	±0.3 % (absolute)	0.74
Fineness of Grind	ASTM D1210	(Hegman)	±1	2.0
Water Resistance	ASTM D870		±1	8M
Water Content	CGSB 1-GP-71(24.1)	(%)	±0.2 % (absolute)	n/a
Gloss	ASTM D523	(60°)	±3	3.4
Colour (Yellow)	CGSB 1-GP-12C	(505-308)	Match	Lighter
Six Month Settlement	ASTM D869	(0-10)	5 min	6
Flash Point	CGSB 1-GP-71(3.1)	°C		-9.0

SUPPLIER
International Striping Products (ISP)

* Dry to Traffic requirements are relative to the pre-qualified tender sample at the time of testing

Paint Table – White Alkyd – 2021 M:\SPE\TSB\GMS\Materials\Paint formulations Approvals Test Deck\2021 Approved Formulations\Summer paints for 2021\TrafficPaintTable2021YellowAlkyd.docx

Classification: Protected A

PAINT – WHITE ALKYD

			SUPPLIER International Striping Products (ISP)	
TEST METHODS			TOLERANCE	WM220
Hiding Power	CGSB 1-GP-71(14.7)	(m ² /l)	±10 %	3.1
Specific Gravity	ASTM D 1475	(25/25°C)	±0.050	1.508
Skinning	CGSB 1-GP-71(10.1)		NON	NON
Accelerated Storage Stability	ASTM D1309	(0-10)	±1	7
BYK Gardner Color Guide Model #6805	ASTM E313	Brightness	±5 %	80.35
		Yellowness (White)	±10%	16.56
Bleeding	ASTM D868, D969	(contrast)	±1	2**
Abrasion Resistance	ASTM D4060	(mg)	90 - 120 %	110.7
Abrasion Resistance	ASTM D968	(l/mil)	90 - 120 %	
Flexibility	ASTM D522	(mm)	±20 %	0.0
Drying Time(minutes)	ASTM D1640	Set to Touch	±2 min.	2.8
	ASTM D711	Dry to Traffic *	±20 %	12.5
Viscosity	ASTM D562	(Krebs)	±5	88.0***
Non-Volatile Content	CGSB 1-GP-71(17.1)	(% wt.)	±2 % (absolute)	74.3
Pigment Content	CGSB 1-GP-71(21.1)	(% wt.)	±2 % (absolute)	59.0
Non-Volatile Vehicle	CGSB 1-GP-71(19.1)	(% wt.)	±2 % (absolute)	15.3
Particle Coarseness	ASTM D185	(% retained 45 µm)	±0.3 % (absolute)	0.94
Fineness of Grind	ASTM D1210	(Hegman)	±1	2.5
Water Resistance	ASTM D870		±1	8F
Water Content	CGSB 1-GP-71(24.1)	(%)	±0.2 % (absolute)	n/a
Gloss	ASTM D523	(60°)	±3	4.7
Colour (Yellow)	CGSB 1-GP-12C	(505-308)	Match	-
Six Month Settlement	ASTM D869	(0-10)	5 min	8
Flash Point	CGSB 1-GP-71(3.1)			-7.0

* Dry to Traffic requirements are relative to the pre-qualified tender sample at the time of testing,

**Additional effort may be required to control bleeding,

***Viscosity may be an issue.

Paint Table – White Alkyd – 2021

M:\SPE\TSB\GMS\Materials\Paint formulations Approvals Test Deck\2021 Approved Formulations\Summer paints for 2021\TrafficPaintTable2021White

Classification: Public

1. GENERAL

This section provides the specification for the supply of MMA spray plastic traffic marking material.

2. PRODUCT

MMA spray plastic shall conform to the following specification

Tests	Minimum Requirements	Maximum Requirements	Test Method A.S.T.M.
Abrasion Resistance * (maximum loss /grams)	-	0.45g	D4060
Reflectance White - Yellow -	75% 45%	- -	E1347
Retroreflectance (with proper bead application)	200 millicandelas per square metre per lux		
Specific Gravity @ 25° C (77°F)	1.8	-	D792
Hardness	A-2 Shore 70		D2240
Water Absorption		0.5%	D570
Chemical resistance to anti-freeze brake fluid motor oil diesel fuel, gasoline calcium chloride sodium chloride transmission fluid	No signs of degradation after 7 days immersion		
Adhesion ** (to Portland Cement)	200 psi		
Skid Resistance (Field Base)	45 units		E303

* Abrasion resistance, maximum weight loss when subjected to 200 revolutions on Taber Abrader at 25° C using H-22 Calibrade wheels weighted to 500 grams with sample kept continuously wet with distilled water. Prepare test sample with representative material placed on 100mm square plate, 2 ±0.1 mm thickness.

** Adhesion to asphalt is dependent on the tensile failure strength of the substrate. This compound shall be resistant to the effect of ultra-violet light.

3. GLASS BEADS

Glass Beads shall conform to specification Section 02761.

END OF SECTION