



P.O. Box 1749  
Halifax, Nova Scotia  
B3J 3A5 Canada

**Item No. 9.1.2**  
**Transportation Standing Committee**  
**September 10, 2014**

**TO:** Chair and Members of the Transportation Standing Committee

**SUBMITTED BY:** *Original signed*  
\_\_\_\_\_  
Peter Stickings Acting Director of Planning and Infrastructure

**DATE:** August 25, 2014

**SUBJECT:** Rural Road Standards for Sidewalk, Seven Lakes, Porters Lake

**ORIGIN**

Motion approved at the January 15, 2014, Transportation Standing Committee meeting that staff explore a fourth design guideline option for the multi-use trails using crusher dust.

**LEGISLATIVE AUTHORITY**

- Halifax Regional Municipality Charter, Part IX, Subdivision, Section 290 (1)
- Halifax Regional Subdivision By-Law, Section 23

**RECOMMENDATION**

It is recommended that crusher dust not be accepted as the surface course of a sidewalk in the right-of-way at the Seven Lakes Development, Porters Lake.

## **BACKGROUND**

### ***Seven Lakes Development Agreement:***

Harbour East Community Council has approved a development agreement (Case 17463) to allow for a development in Porters Lake known as The Villages of Seven Lakes. The development is an “open space” or conservation design residential development, and ownership of common elements such as septic systems, driveways, and conservation land will be through several condominium corporations.

The development incorporates a series of private pathways and trails providing pedestrian connections to parks and between streets. A linear community trail parallel with the public road was initially proposed by the developer, but proved problematic for a variety of reasons associated with the style of condominium ownership.

Subsequently, a public sidewalk within the public road right-of-way connecting Alps Road to Conrod Settlement Road, a distance of 7.1 km parallel to the public road, was presented by the developer at a Public Information Meeting held on March 8, 2012.

If Council wishes to pursue such a sidewalk in conjunction with the Seven Lakes development, the development agreement enables the consideration of this item as a non-substantive amendment to the development agreement. Approval of a non-substantive amendment may be made through the planning application process and decided by a resolution of Community Council, without a public hearing.

## **DISCUSSION**

### **Development Standards**

Sidewalks are required to be provided by developers in the Urban Service Area<sup>1</sup> where developments are serviced with central water and sewer services. Development in the Urban Service Area is characterized by higher density, a mixture of land uses, greater volumes of pedestrian and vehicular traffic, and narrower street right of ways with curb and gutter drainage.

Sidewalks are not required to be provided by developers in rural residential areas that rely on private well and septic systems and are characterized by large lots, wider street right of ways, ditches, and un-paved road shoulders.

The HRM Municipal Design Guidelines provide three design options to accommodate a concrete sidewalk within a rural road right-of-way, but each is intended for use when providing sidewalks on existing streets outside of the Urban Service Area. Most sidewalks outside of the Urban Service Area are provided on trunk highways or streets with significant pedestrian generators such as schools, recreation facilities, or commercial areas. Sidewalks are not typically needed on sub-division streets beyond the Urban Service Area where pedestrian traffic can be accommodated on the un-paved shoulder.

The Transportation Standing Committee has directed staff to consider a three metre wide crusher dust multi-use trail as a fourth design option in Seven Lakes development. There currently is no option for a crusher-dust sidewalk in the street right-of-way, however it is staff's experience that where crusher dust trails outside of the right of way that are maintained during the winter months often require extensive post winter grading and repairs. The only crusher dust trails that are maintained during the winter are trails in Point Pleasant Park, Shubie Park, and the linear trail in Clayton Park.

Asphalt has been used as a multi-use surface for sidewalks in new developments when the sidewalk is part of a regional trail network.

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<sup>1</sup> “Urban Service Area” refers to the area defined in the Regional Subdivision By-law where central piped services, curbs, gutters and sidewalks are required to be provided by developers in accordance with the Municipal Design Guidelines for Urban Streets

### Life Cycle Costs

The estimated annual maintenance costs for a crusher dust sidewalk in the Seven Lakes development would be \$152,000, compared to \$94,500 for an asphalt sidewalk. Based on a 40-year life cycle, the life cycle cost for the crusher dust sidewalk (maintenance and capital upgrades) would be \$3.5 million compared to \$2.1 million for an asphalt sidewalk.

Using crusher dust as a surface treatment for a sidewalk would be less expensive to build, more expensive to maintain, and would provide a lower level of service to the public.

Accordingly, the use of crusher dust would save the developer capital money while costing the city more on an annual basis.

### Relevance to Active Transportation Strategy

The proposed sidewalk is not part of the Regional AT system, but nonetheless would benefit both the Seven Lakes development as well as the surrounding community. The Porters Lake and Surrounding Area Active Transportation Plan is under development and, when completed and endorsed by Council will provide additional guidance concerning connectivity, assignment of benefit and construction standards.

### **FINANCIAL IMPLICATIONS**

A sidewalk will have to be maintained by HRM. If the non-substantive amendment to the development agreement is approved, increased funding will be required to TPW's annual operating budget for Municipal Operations for maintenance and renewal of the sidewalk. Annual maintenance costs for crusher dust sidewalk are estimated at \$152,000. Annual maintenance costs for an asphalt sidewalk are estimated at \$94,500.

The development is located in the Rural Tax Designation and under the current tax policy a separate area rate would be required to pay for the maintenance and renewal of the sidewalk.

### **COMMUNITY ENGAGEMENT**

The sidewalk was presented at the Public Information Meeting held by the developer as part of their development proposal. The community engagement process is consistent with the intent of the Community Engagement Strategy.

If a sidewalk is approved, there will be additional public consultation carried out to determine if there is sufficient support for the area rate. However, in this case the majority of the properties that will benefit from the sidewalk are undeveloped and public support will be largely consolidated in the developer and/or condominium corporations.

### **ENVIRONMENTAL IMPLICATIONS**

Implications not identified.

### **ALTERNATIVES**

1. The Committee could approve the staff recommendation and not accept crusher dust as the surface course of a sidewalk. If the staff recommendation is approved, the developer has the option of either providing an asphalt sidewalk or relying on the unpaved shoulders for pedestrian traffic as is the case in other subdivisions.
2. The Committee could agree to recommend that Council approve the use of a crusher dust sidewalk. The sidewalk would be built by the developer and the sub-standard surface would require an additional allocation of \$57,000 to the Road Options annual budget. This option is not recommended.

**ATTACHMENTS**

Attachment "A" - Information Report to Municipal Council, January 14, 2014

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A copy of this report can be obtained online at <http://www.halifax.ca/commcoun/index.php> then choose the appropriate Community Council and meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Peter Duncan, P.Eng., Manager, Infrastructure, 490-5449

Report Approved by: *Original signed*  
\_\_\_\_\_  
**For:** Brad Anguish, Acting Director, Community & Recreation Services, 490-4933

Business Unit Approval: *Original signed*  
\_\_\_\_\_  
Kathleen Llewellyn-Thomas, P.Eng, Director, Transportation and Public Works

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P.O. Box 1749  
Halifax, Nova Scotia  
B3J 3A5 Canada

## Attachment 1

### Item No. 1 Halifax Regional Council January 14, 2014

**TO:** Mayor Savage and Members of Halifax Regional Council

Original Signed by Director

**SUBMITTED BY:** \_\_\_\_\_  
Jane Fraser, Director of Planning and Infrastructure

**DATE:** August 29, 2013

**SUBJECT:** Rural Road Standard – Non-substantive Amendment to Development Agreement for Multi-Purpose Trail – Seven Lakes, Porters Lake

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### **INFORMATION REPORT**

#### **ORIGIN**

Motion approved at the June 25, 2013, meeting of Halifax Regional Council that Harbour East Marine Drive Community Council request that Regional Council direct staff to consider a new rural road standard to include the proposed multi-purpose trail for future consideration as a non-substantive amendment to the development agreement.

#### **LEGISLATIVE AUTHORITY**

- Halifax Regional Municipality Charter, Part IX, Subdivision, Section 290 (1)
- Halifax Regional Subdivision By-Law, Section 23

#### **BACKGROUND**

Harbour East Community Council has approved a proposed development agreement (Case 17463) to allow for a Classic Open Space Design development in Porters Lake. The proposed development includes a multi-use trail from Alps Road to Conrod Settlement Road within the public road right-of-way. Since the latest edition of HRM's Municipal Design Guidelines does not contemplate a multi-use trail within a rural road public right-of-way, HRM Council has directed staff to consider a new rural road standard to include the proposed multi-use trail for future consideration as a non-substantive amendment to the development agreement.

## **DISCUSSION**

The Regional Subdivision By-Law requires that the design of all public streets and highways within a subdivision be approved by an Engineer.

The HRM Municipal Design Guidelines set the minimum design and construction standards for all new public roads and streets constructed within the municipality, and are intended to be a uniform basis on which to review designs. The design guidelines cover the more common situations encountered by designers and they provide for variations to be approved by the Engineer, provided that factors such as safety, maintenance, operational, and environmental issues are considered.

With regard to a multi-use trail, the design guidelines contain three options (see attachments) to accommodate a 1.5 metre wide concrete sidewalk within the public right-of-way of a rural road. The provision of a 3 metre wide asphalt multi-use trail, within the road right-of-way, can be considered as a variance to the Municipal Design Guidelines and approved by the Engineer as described above. A multi-use trail of 3 meters can be used in each option but with an asphalt surface versus concrete, and an additional minimum right-of-way of 1.5 meters must be provided. This practise of providing an asphalt surface in lieu of concrete, to accommodate multiple uses, is often used in urban areas.

The developer must submit the request in writing. No specific action of Council is required to develop a new rural road standard. As is the case with any submission, special conditions may be required depending on the circumstances and details of the design.

If the multi-use trail is approved as an amendment to the development agreement, service standards for winter maintenance will need to be approved. The development is located in the Rural Tax Designation and, under the current tax policy, a separate area rate would be required to pay for the maintenance and renewal of rural sidewalks.

## **FINANCIAL IMPLICATIONS**

A multi-use trail within public road right-of-way will have to be maintained by HRM. If the non-substantive amendment to the development agreement is approved, increased funding would be required in TPW's annual operating budget for Municipal Ops to support the new service standard.

## **COMMUNITY ENGAGEMENT**

The multi-use trail was presented at the Public Information Meeting held by the developer as part of their public parkland dedication. The community engagement process is consistent with the intent of the Community Engagement Strategy.

**ATTACHMENTS**

Attachment A: HRM 45 Rural Type 1 Sidewalk  
Attachment B: HRM 46 Rural Type II Sidewalk  
Attachment C: HRM 47 Rural Type III Sidewalk

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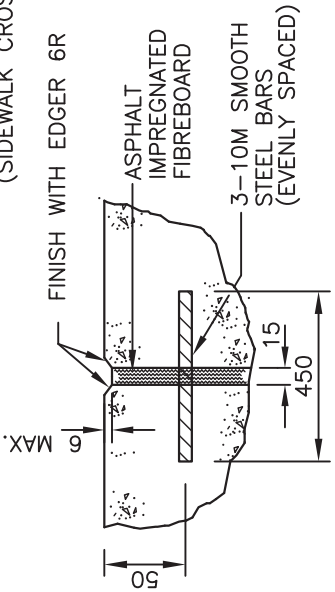
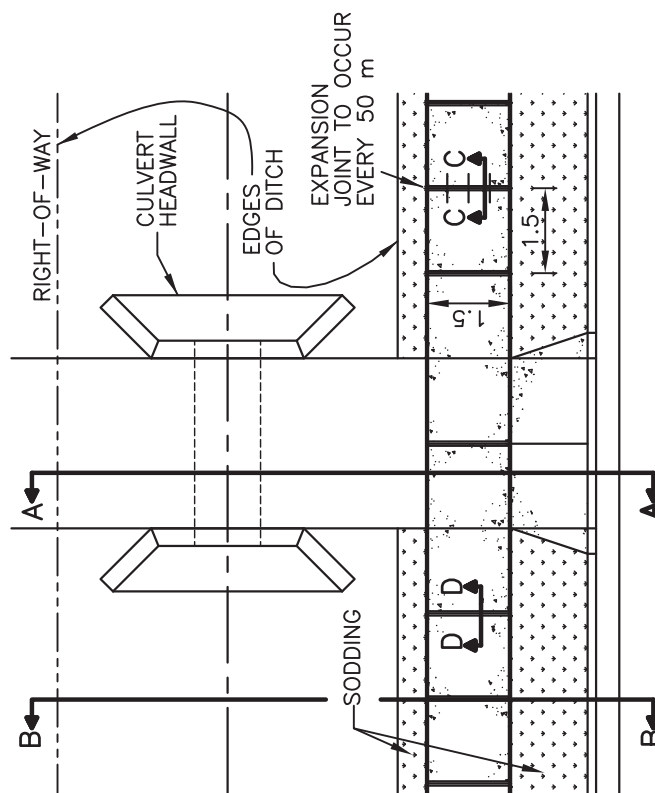
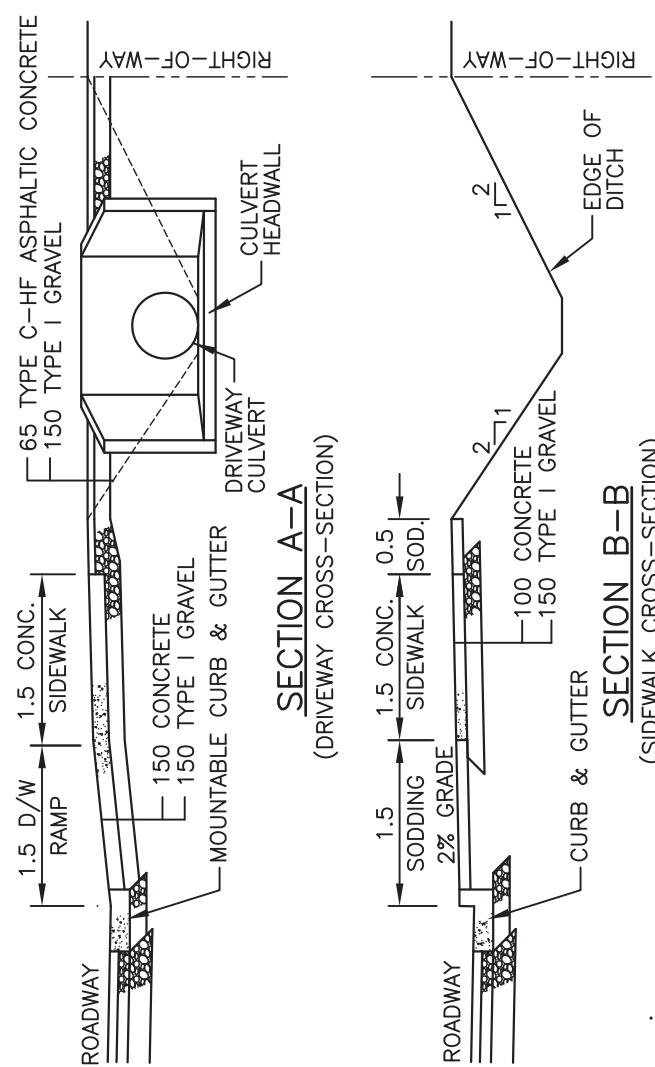
A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/cagenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Paul Burgess, M.Eng., P.Eng., Program Engineer

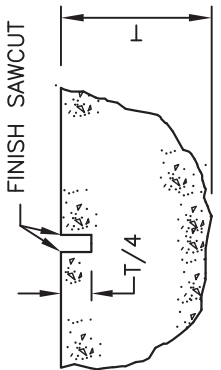
Report Approved by: \_\_\_\_\_  
Peter Duncan, Manager, Infrastructure, 490-5449

Business Unit Approval \_\_\_\_\_  
David Hubley, Acting Director, Transportation and Public Works, 490-4855

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**SECTION C-C**  
(EXPANSION JOINT)



**SECTION D-D**  
(CONTROL JOINT)

**NOTES:**

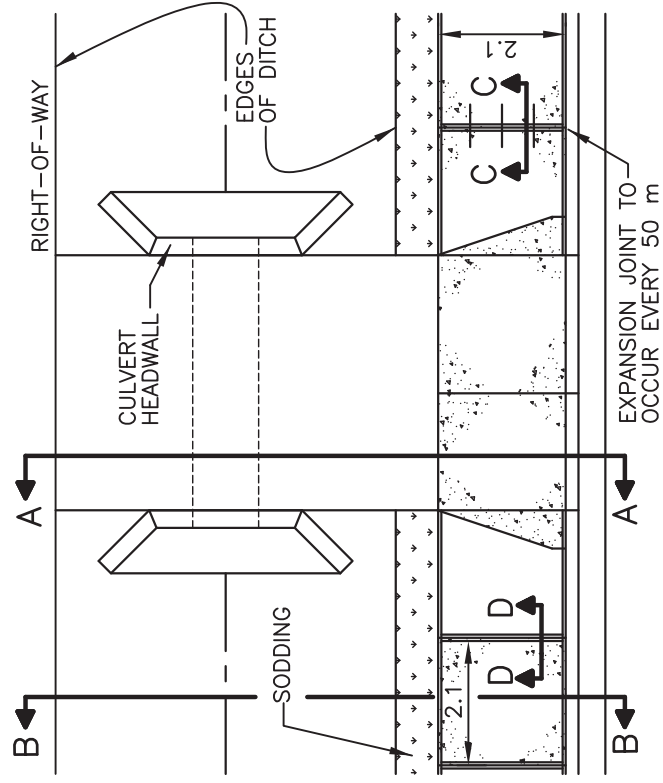
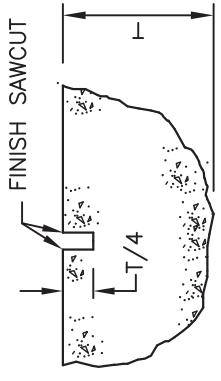
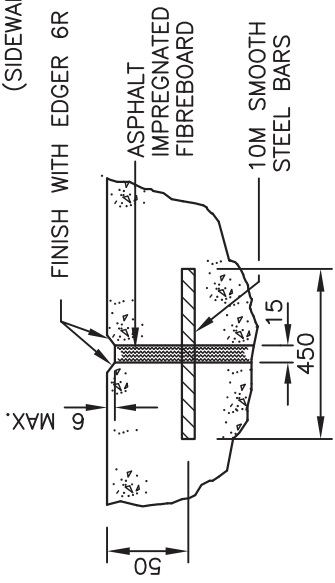
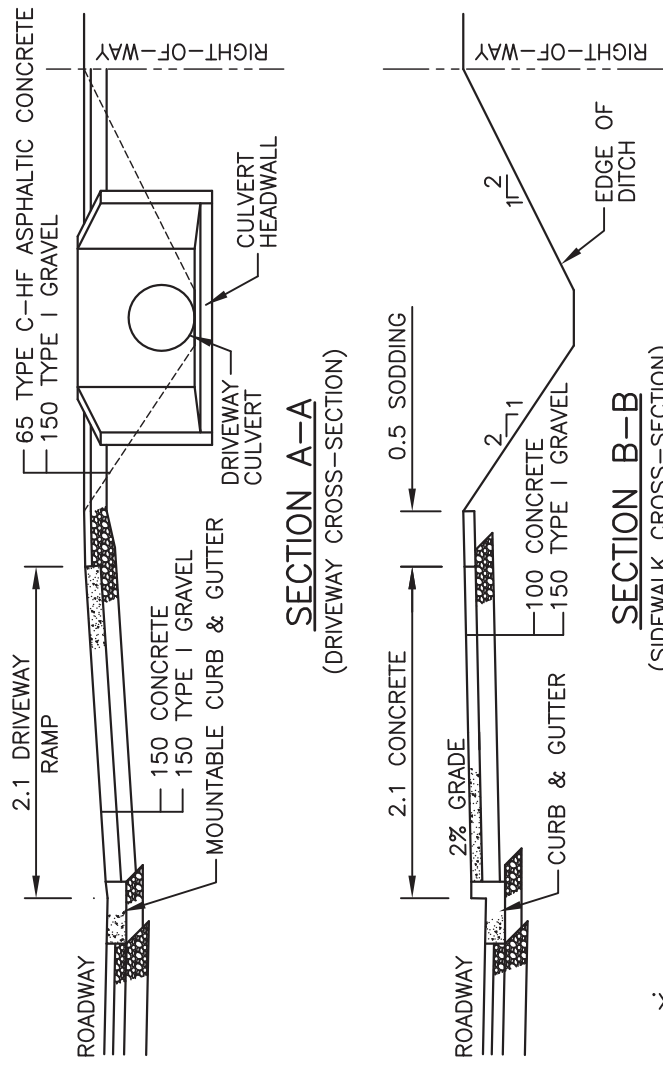
1. CONCRETE SIDEWALK AT COMMERCIAL DRIVEWAY TO BE 150 THICK WITH 150x150 WELDED WIRE MESH.
2. CRUSHED ROCK BASE TO EXTEND 150 BEYOND EDGE OF SIDEWALK STRUCTURE.
3. CONTROL JOINTS ARE TO BE SAW CUT.
4. SIDEWALKS ABUTTING COMMERCIAL AREAS ARE TO BE FULL WIDTH (3 m) AND 150 mm THICKNESS.
5. EXPANSION JOINT BARS ARE TO BE GREASED ON ONE SIDE OF THE JOINT.
6. DURING CONSECUTIVE POURS, THE END OF EACH POUR IS TO OCCUR AT AN EXPANSION JOINT. WHERE THIS IS NOT FEASIBLE, AN ADDITIONAL EXPANSION JOINT IS TO BE INSTALLED.
7. INSTALL A 9 m LONG CONCRETE LANDING PAD AT ALL BUS STOP LOCATIONS. INCREASE THIS TO 14.5 m FOR ARTICULATED BUS ROUTES.
8. WHEN BOULEVARD IS LESS THAN 1.5 m OR WHEN THE SIDEWALK ABUTS THE CURB & GUTTER, SLOPE SIDEWALK AND DRIVEWAY RAMP IN A STRAIGHT LINE GRADE FROM BACK OF SIDEWALK TO LIP ON CURB OPENING.



STANDARD DETAIL  
RURAL TYPE I  
SIDEWALK

DATE:	2013	REFERENCE	APPROVED
SCALE:	NTS	FIG. NO.	HRM 45





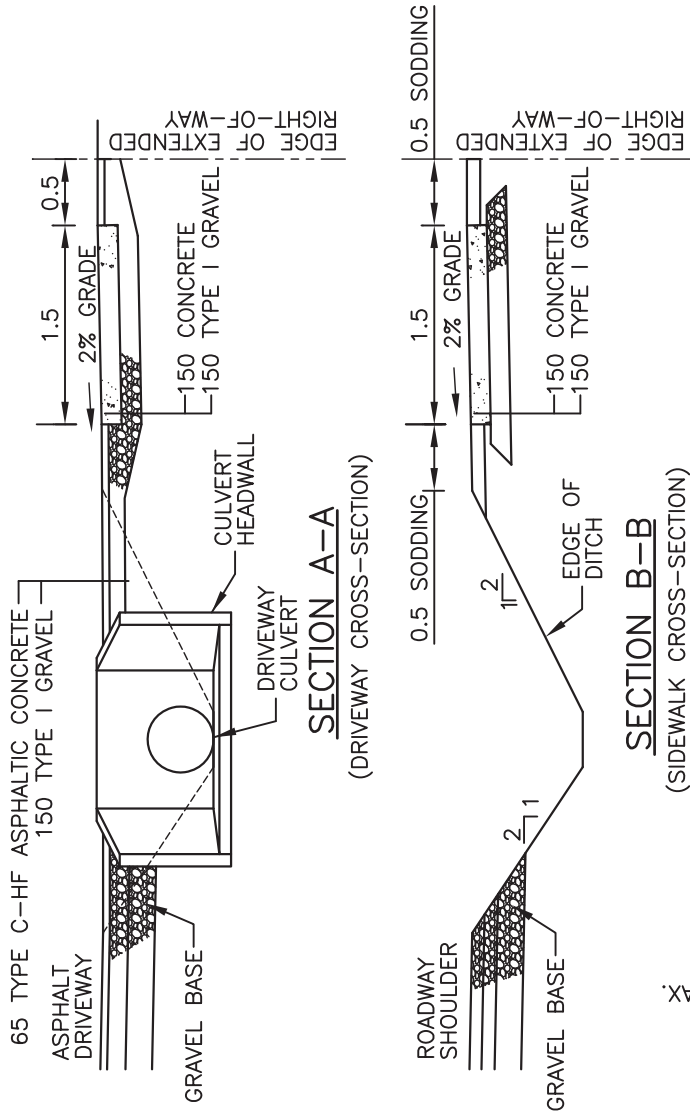
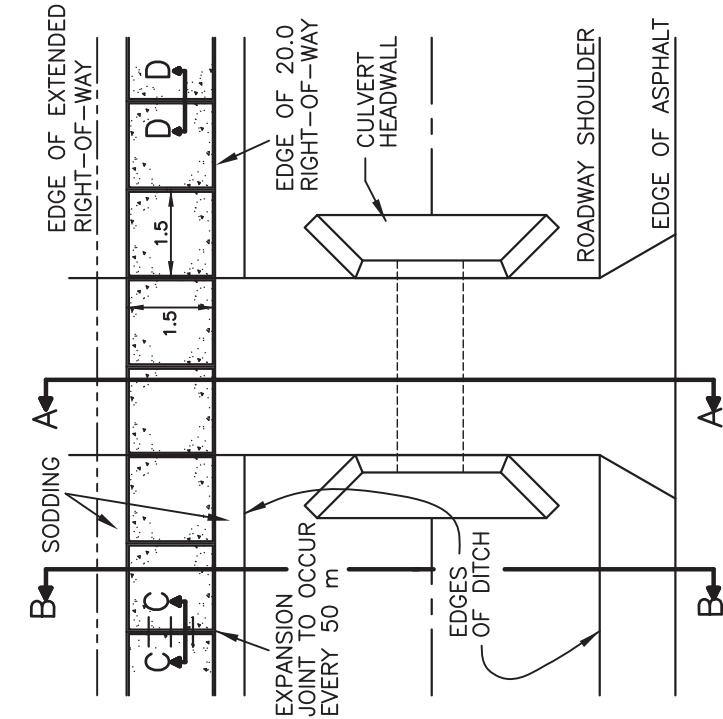
**NOTES:**

1. CONCRETE SIDEWALK AT COMMERCIAL DRIVEWAY TO BE 150 THICK WITH 150x150 WELDED WIRE MESH.
2. CRUSHED ROCK BASE TO EXTEND 150 BEYOND EDGE OF SIDEWALK STRUCTURE.
3. CONTROL JOINTS ARE TO BE SAW CUT.
4. SIDEWALKS ABUTTING COMMERCIAL AREAS ARE TO BE FULL WIDTH (3 m) AND 150 mm THICKNESS.
5. EXPANSION JOINT BARS ARE TO BE GREASED ON ONE SIDE OF THE JOINT.
6. DURING CONSECUTIVE POURS, THE END OF EACH POUR IS TO OCCUR AT AN EXPANSION JOINT. WHERE THIS IS NOT FEASIBLE, AN ADDITIONAL EXPANSION JOINT IS TO BE INSTALLED.
7. INSTALL A 9 m LONG CONCRETE LANDING PAD AT ALL BUS STOP LOCATIONS. INCREASE THIS TO 14.5 m FOR ARTICULATED BUS ROUTES.
8. WHEN BOULEVARD IS LESS THAN 1.5 m OR WHEN THE SIDEWALK ABUTS THE CURB & GUTTER, SLOPE SIDEWALK AND DRIVEWAY RAMP IN A STRAIGHT LINE GRADE FROM BACK OF SIDEWALK TO LIP ON CURB OPENING.



STANDARD DETAIL  
RURAL TYPE II  
SIDEWALK

DATE:	2013	REFERENCE	APPROVED
SCALE:	NTS		FIG. NO.
			HRM 46



**NOTES:**

1. CONCRETE SIDEWALK AT COMMERCIAL DRIVEWAY TO BE 150 THICK WITH 150x150 WELDED WIRE MESH.
2. CRUSHED ROCK BASE TO EXTEND 150 BEYOND EDGE OF SIDEWALK STRUCTURE.
3. CONTROL JOINTS ARE TO BE SAW CUT.
4. SIDEWALKS ABUTTING COMMERCIAL AREAS ARE TO BE FULL WIDTH (3 m) AND 150 mm THICKNESS.
5. EXPANSION JOINT BARS ARE TO BE GREASED ON ONE SIDE OF THE JOINT.
6. DURING CONSECUTIVE POURS, THE END OF EACH POUR IS TO OCCUR AT AN EXPANSION JOINT. WHERE THIS IS NOT FEASIBLE, AN ADDITIONAL EXPANSION JOINT IS TO BE INSTALLED.
7. INSTALL A 9 m LONG CONCRETE LANDING PAD AT ALL BUS STOP LOCATIONS. INCREASE THIS TO 14.5 m FOR ARTICULATED BUS ROUTES.



STANDARD DETAIL

RURAL TYPE III SIDEWALK

DATE: 2013	REFERENCE	APPROVED
SCALE: NTS		FIG. NO. HRM 47

SECTION D-D  
(CONTROL JOINT)