

UTILITY INSTALLATION AND TRAFFIC CONTROL MANUAL

2012

Engineering Department

THANKS

The Engineering Department would like to thank the following contributors for their assistance in updating this manual:

- Fort McMurray Construction Association
- Associated Engineering
- AECOM
- TELUS

RESOURCE DOCUMENTS:

- Copies of the Engineering Servicing Standards and Development Procedures manual are available online at:

www.woodbuffalo.ab.ca >chosed> Municipal Government >chosed> Municipal Departments >chosed> Engineering >chosed> Development Services Branch
- Copies of the Manual of Uniform Traffic Control Devices for Canada are available from:

Transportation Association of Canada
1765 St. Laurent Blvd.
Ottawa ON K1G 3V4
- For Urban Work Zone Layout, refer to the Alberta Transportation Traffic Accommodation in Work Zones, Urban Areas manual available online at:

www.transportation.alberta.ca >chosed> Technical Resources >chosed> Traffic Control & Signs >chosed> Traffic Accommodation in Work Zones

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PREFACE

This manual provides guidelines to address the impacts of work within municipal rights-of-way or on public property and controls its conduct through the use of *Utility Installation/Street Occupation* permits. Permitting and other requirements identified in this manual are authorized under the Roads and Transportation Bylaw No. 02/079. Applicable excerpts can be found in the Appendices. Penalties exist for non-compliance.

The applicable act(s), codes, or regulations supercede where there may be a conflict between these guidelines and any of the following:

- Traffic Safety Act
- Occupational Health and Safety Act
- Alberta Building Code
- Public health legislation
- Environmental legislation
- Others as may be applicable

This document refers to the Owner, **Development Owner**, or Applicant. These terms are synonymous and refer to the agency, company, or individual for whom the work is being undertaken, whether the work is done directly by that Development Owner, a consultant, a contractor or a sub-contractor. The Development Owner may in some cases be a property owner, property developer, a shallow utility (telecommunication, gas, power, or other) agency, or a Department of the Municipality, or a group of the above. Where the contractor is specifically identified in this document it includes a Development Owner, a shallow utility agencies or a Municipal Department doing their own work. Additional definitions can be found in the Definitions Appendix.

No provisions in the manual or other involvement by municipal authorities shall relieve the Development Owner or Contractor of responsibilities and liabilities relating to their operation under these or any other government act, code, or regulation.

Street occupation includes any work that interferes with traffic flow (e.g. testing or survey crews) or on-street parking (e.g. storage and garbage bins). Operations that take less than 15 minutes, such as unloading heavy equipment, do not require a permit; however, it must respect all applicable laws (e.g. no double parking), and where conditions require, must be done in conformance with an approved work zone.

Other related bylaws and permits include:

- Boulevard Crossing (Driveway) Permits Bylaw No. 02/079 - Contact the Engineering Department or e-permitting online at www.woodbuffalo.ab.ca >chose> Municipal Services >chose> E-Permitting.
- Noise Bylaw Work is not permitted outside Noise Bylaw hours unless prior approval is obtained from the Planning and Development Department.
- Special Event Permits - contact Community Strategies at (780)799-5865

PRIME CONTRACTOR, DUE DILIGENCE, AND LIABILITY

The Development Owner is the agency, company, or individual for whom the work is being undertaken, whether the work is done directly by that Development Owner, a contractor or a sub-contractor.

The Development Owner is assigned the responsibility via a permit to either be the Prime Contractor as described by the Occupational Health and Safety Act or to ensure it is properly assigned to their contractor. The Development Owner is also responsible for ensuring that due diligence is exercised in the performance of the work.

In accordance with Occupational Health and Safety legislation, ONLY trained or certified staff will be utilized in obtaining, placing, and maintaining the required temporary traffic control devices.

This is not meant to be a training manual, and it is assumed that knowledgeable, qualified persons will be employed to prepare and install all required traffic accommodation plans and traffic control devices.

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1. INTRODUCTION

When work is undertaken within municipal rights-of-way (on or adjacent to streets) or on public property, there is the potential for routine traffic or service delivery to be impeded or obstructed.

The majority of these situations can be addressed through traffic accommodation, the provision of notices, signs, and signals. When properly deployed, they provide continued service delivery as well as guidance to protect all classes of the motoring public, cyclists, pedestrians, and workers.

This manual explains the process used and provides guidelines to minimize impacts or disruptions. Although a chapter is provided on each section, this manual focuses on Advance Notification, Construction, and Restoration.

Pre-approval	chapter 2
Permitting	chapter 3
Advance Notification	chapter 4
Construction	chapter 6
Restoration	chapter 7
Warranty	chapter 8

PRELIMINARY PROCESS FLOW CHART

2. PRE-APPROVAL

GENERAL

Excepting emergency repair works, ALL work within municipal rights-of-way or on public property requires pre-approval for coordination of the work and to ensure the work fits within the existing infrastructure.

Typical conditions applied to pre-approval include adherence to this guideline and the Engineering Servicing Standards.

Some forms of pre-development review and pre-approval are, but not limited to:

- Development Permits
- Development Agreements
- Shallow Utility Line Assignments
- Municipal Capital Infrastructure Improvement Projects and Programs
- Municipal Maintenance Program Coordination
- Shallow Utility Repair and Maintenance Plans

These pre-approval formats do not generally provide the level of detail required to ensure uninterrupted service to the public. As such, they are subject to the permitting process.

Although application formats for pre-approval are not discussed here, they include:

- Use of the Municipality's e-permitting process (Accela)
- Descriptive letters with preliminary plans, submitted to the Municipality's Engineering Department
- Municipal or shallow utility submissions to the Municipality's Permit Coordinator (& ENVISTA Mapping Coordinator)

Issues regarding legal access, easements, or crossing agreements would be addressed at this stage of the process.

3. PERMITTING

GENERAL

All utility installations within, or street occupations of municipal streets must first be approved by the Engineering Department. The approval process includes identification of potential conflicts through the Municipality's use of ENVISTA software.

Only utility companies and Development Owners may apply for utility installations. Contractors employed by the owner may be issued permits upon producing a letter of designation or contract with the Development Owner, assigning them as Prime Contractor.

The Prime Contractor will be held liable for work within their control. The Development Owner will ultimately be held responsible for the effective delivery of all work, regardless of who obtains the permit.

3.1 APPLICATION REQUIREMENTS

This section identifies general submission requirements for applications for Utility Installation, Street Occupation, or Boulevard Crossing improvements. Submission requirements increase with the scale of improvements (how wide spread they might be) and duration of the works.

The detailed requirements for the Utility Installation/ Street Occupation Permit or other permits are noted on the permit forms and may include, but are not limited to:

- Location of the improvement works (usually supplemented by a sketch or drawing).
- Attachment of a copy of any pre-approved line assignment or development permit number (copy for attachment).
- Copy of any detailed information. For example, plot plan for a boulevard crossing, clearly highlighting any proposal of non-standard methods or materials.
- Name of the contractor performing the work.
- Proposed date of commencement, schedule (duration) by location/phasing of the works.
- Expected service interruptions and proposed mitigation plans.
- Scheduled completion of the works, including the time to fully restore the work zone (paving and landscape).
- Proposed Traffic Accommodation Plan (TAP) or Traffic Accommodation Strategy (usually limited to long-term projects that are more than 2 weeks and require weekly updates), Emergency Accommodation Plan, Service Delivery Plan (garbage pick-up, mail delivery, temporary access for residents or business patrons, and so on), and accessibility for special needs.
- Sample notifications proposed to be utilized. For example, public consultation meetings, advance notice signage and term of advance notice, notices (flyers), media coverage, social media updates, notices (leaflets), site notice boards, etc.

Additional requirements may be alluded to in other sections of this manual.

3.1.1 APPLICATION PROCESSING

Most proposals, with the exception of boulevard crossings, will be pre-approved by the Engineering Department as noted in Chapter 2.

In general, two weeks is required to review, process, and issue a utility installation permit.

Application(s) shall be made either at the Engineering Department office or via the Municipality's e-permitting process. More information is available online at www.woodbuffalo.ab.ca.

3.1.2 TYPICAL PERMIT CONDITIONS

All work must be performed in accordance with:

- Engineering Servicing Standards and Development Procedures Manual
- Utility Installation and Traffic Control Manual
- Approved project drawings and specifications
- Approved schedule

The Development Owner will indemnify and save harmless the Municipality from any and all losses, costs, damages, actions, causes of action, suits, claims, and demands resulting from anything done or omitted to be done by the Development Owner.

Permits are normally valid for a period of up to **thirty (30)** days from the date of issue, after which a resubmission must be made with new fees, unless a longer term is specifically approved in the permit.

No provisions in the manual, conditions in the permit or other involvement by municipal authorities, shall relieve the Development Owner of responsibilities and liabilities relating to the operation under any government act, code, or regulation.

No pavement cuts are permitted in surface pavements finished within the last three construction seasons, whether noted on the permit or not.

Whether noted on the permit or not, the permit conditions include:

- Developer's operation must maintain suitable separation from landscape features for their protection; for example, trees, street furniture, and public art.
- Observe the Noise Bylaw with respect to the operation of equipment, including back-up beepers, pile driving, etc.
- All contractors must have a valid Regional Municipality of Wood Buffalo Business License.
- Safe operations, including at minimum, daily monitoring of temporary traffic control devices.
- Obtain all required permits (e.g. Haul Route Permit)
- The Development Owner must protect all municipal and private property with the exception of those items with the express consent to alter or remove
- As-constructed drawings are required to be submitted to the Engineering Department.

3.1.3 FEES AND CHARGES

A fee will be charged to the Development Owner for all utility installations. The fee will in part address costs associated with the review of the submission details, schedule, coordination review, and inspections of construction and the completed works. Utility companies will be charged in accordance with prior Franchise or Municipal Access agreements with the Municipality.

Winter maintenance and warranty issues have occurred in the past. The Municipality may require a Performance Security. This Performance Security may be drawn on to address lack of appropriate maintenance as deemed necessary by the Municipality, default, or significant deviation or non-compliance in the works as approved.

3.1.4 MODIFICATIONS TO AN EXISTING PERMIT

On successful issuance of the permit, it will be entered into the Municipality's ENVISTA system. On discussion with the Engineering Department, changes or modifications to approved plans or schedules may require full resubmission of the proposal or application. Significant modifications may take an additional two weeks to process.

3.1.5 EMERGENCY PROCEDURES

Occasionally there is a need for "emergency" repairs necessary to restore essential service or prevent property damage. Maintenance is not considered emergency work. . A lack of good planning is not considered an emergency. Emergency repair work can be done without prior notification to the Municipality.

Every effort must be made to provide early notification of "emergency" work so that "emergency" approval can be provided. If the work is required to be undertaken outside of regular municipal working hours, notification shall be made the next working day to the Engineering Department. A permit is required if the repair work is to continue.

This shall not relieve the Owner from the responsibility of notifying the utility companies for locates, etc. prior to excavating or for obtaining any other required permits. Emergency repairs require the Development Owner to notify those agencies normally notified by the Municipality.

4. ADVANCE NOTIFICATION

GENERAL

Notification of your intent to perform work or to occupy a municipal right-of-way or public place is a crucial component used to inform residents, businesses, and the general public of potential disruptions. If properly informed, they can prepare for service disruptions.

Certain urban or critical rural areas require a higher level of notification based on the potential extent of service disruption and duration of the disruption. Requirements are assessed on a case-by-case basis and may be noted as conditions to the permit/approval process.

Notification can be broken down to various components as noted below.

Additional conditions may be applied to permits already issued when unexpected conditions or impacts are identified.

4.1 NOTIFICATION TO ESSENTIAL SERVICES

Notification through the permit process is undertaken by the Engineering Department for:

SURFACE TRANSPORTATION COMPANIES (min. 72 hours notice required) <ul style="list-style-type: none"> • Diversified Transportation • Sparksman Transportation 	EMERGENCY AGENCIES (min. 72 hours notice required) <ul style="list-style-type: none"> • Fire Department • R.C.M.P. and Bylaw
MUNICIPAL AGENCIES <ul style="list-style-type: none"> • Road Maintenance Branch • Fleet and Transit 	OTHER INTEREST GROUPS <ul style="list-style-type: none"> • Syncrude Canada Ltd.

Companies and municipal departments with access to the Municipality's ENVISTA system may, on their own initiative, view planned service disruptions.

See Section 4.1.2 for other service providers.

4.1.1 ADVANCE NOTICE TO THE PUBLIC

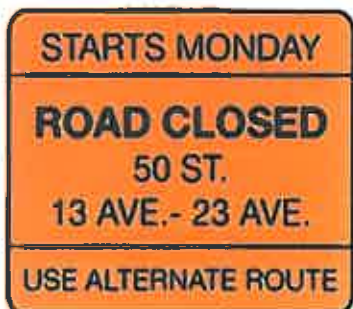
The quantity and type of advertising is based on a case by case basis, accounting for factors such as the duration, extent of the impact, variety of services disrupted, the class of roadway, etc. Some of the media that may be employed include:

- Public information session (Open house or consultation meetings)
- Fixed signs
- Media (radio and newspaper advertising)
- Internet (Municipal website and social media)
- Handbills delivered door-to-door
- Variable message signs (only where there are day-to-day changing conditions)

Localized service disruption, such as a curb repair, may only require that an affected resident be notified. Service disruptions lasting more than one day (asphalt milling and inlay programs) may require fixed signs and newspaper notification. Widespread work or work on a major roadway (deep utility replacement) may require a public information session.

The quantity, type, duration and timing (how far in advance of a closure), and method of delivery of each type of notice will be proposed by the Development Owner in their application. Otherwise, it may be set by the Municipality as a condition of approval of the permit application.

Examples of advance notice to the general public are as follows:



FULL ROAD CLOSURE BEACON ROAD

The Regional Municipality of Wood Buffalo advises that there will be a total road closure on Beacon Road from Ontario Drive to Trudeau Crescent from July 3, 2015, to July 18, 2015. The road closure is required to facilitate the reconstruction of the roadway in this area.

Residents of Ritz Subdivision are asked to use the west T-Bone Crescent entrance.

INSERT MAP OF AREA



REGIONAL MUNICIPALITY
OF **WOOD BUFFALO**

The Regional Municipality of Wood Buffalo apologizes for any inconvenience this road closure may cause.

Typical newspaper advertisement
(approximate size: 2 columns x 80 lines)

4.1.2 NOTICE TO OTHER SERVICE PROVIDERS

The Development Owner is responsible to ensure that impacts to services provided by other agencies are either maintained or mitigated to the least possible disruption and shall coordinate those services with the appropriate agency (e.g. Municipal Solid Waste Branch or Canada Post). The Municipality provides notice to public and private transit (essential services) and others as noted in Section 4.1 above.

The Development Owner must exercise due diligence and proper planning where such services may be impacted by an installation or occupation.

As early as possible, specific notice must be provided to each potentially impacted service provider to properly identify the impacts, understand the accommodations that may be required, and provide a plan to mitigate those impacts. This forms part of the Developers Traffic Accommodation Plan. The Development Owner may be required to pay for the accommodation of service alternatives by those service providers.

Some of the services that may be impacted include, but are not limited to the following:

- Residential or commercial solid waste or recyclable collections
- Transit, power, gas, or water service
- Telephone, cable TV and/or Internet services
- Postal delivery service
- Residential or patron parking
- Other road authorities (e.g. Alberta Transportation)

Some conditions that may require special accommodation include:

- Proper storage and disposal of site waste or by-products
- Drainage runoff – sedimentation control
- Haul route maintenance
- Over-dimensional load permit route impacts
- Provision of pilot vehicles where other access is not available
- Provision of crossing-guards where pedestrian routes are unprotected

Other permits may be required for some of these services or a strict set of guidelines/rules may apply. The Development Owner is responsible to ensure these permits are obtained and that guidelines and rules are followed.

Permits or guidelines and rules apply to:

- Use of hydrants (RESTRICTED)
- Installation of temporary water systems (Guideline)
- Operation of municipal valves (RESTRICTED to municipal staff)
- Materials accepted or limited by the landfill site

4.1.3 SITE SPECIFIC NOTICES

The Development Owner is required to issue individual notices/bulletins to any parties specifically affected by the proposed works (e.g. residences without water service due to water service repairs or connections, or whose access is temporarily closed or relocated). It is assumed that under most circumstances, essential services will be restored using temporary facilities, e.g. over-ground water service connections or nearby temporary refuse collection bins.

For non –emergency service disruptions of one day or more, notification of impacted businesses or residents is required a minimum of 10 working days in advance by the Development Owner. Written brochures or handbills are recommended and may be required under the permit. Samples may be provided with the submission of the Traffic Accommodation strategy.

Communications with impacted residents and businesses shall be recorded, with copies of any handbills, etc., as the Development Owners record that proper notification was attempted (in compliance with permit conditions) and to guard against complaints. Samples of brochures or notice flyers are to be kept, with the delivery method, date and time recorded on them. Door knocker visits are to be recorded with a description of each issue being presented to the occupant, e.g. water service interruption, date, time, and a description of the occupants' response or comments.

5. ELEMENTS OF TRAFFIC ACCOMMODATION

GENERAL

The method of traffic accommodation varies based on a number of elements such as the traffic profile. Impact to the public must be addressed as a priority, and only once public safety is addressed can the developer/contractor focus on establishing the work area, and the work to be undertaken.

Although discussion in this chapter is focused on traffic accommodation, the Development Owner must consider all accommodations for the continued delivery of other services, and the minimization of other impacts.

The following accommodation items are not discussed in detail:

- Noise control of equipment operation, back-up beeper and operations such as pile driving.
- Dust and sedimentation control on site and along haul routes, protection of the existing sewer systems, and from tracking or operations on gravel roads.

DURATION OF THE WORK

- Mobile operations (e.g. line marking)
- Very short duration (e.g. spray patching)
- Short duration – 1 to 8 hours
- Long duration – 1 day and more

5.1 TRAFFIC ZONES

5.1.1 RUSH HOURS ON MAJOR ROADWAYS

A major roadway (arterials and some collectors) is one that is essential for the movement of high volumes of traffic. For the purpose of this manual, the following is a list of major roadways whether or not they are similarly classified elsewhere:

- | | | |
|--------------------------|-----------------------|-------------------------|
| • Highway 69 | • Franklin Avenue | • Confederation Way |
| • MacKenzie Boulevard | • King Street | • Millennium Drive |
| • Gregoire Drive | • Hospital Street | • Paquette Drive |
| • Beacon Hill Drive | • Hardin Street | • Loutit Road |
| • Abasand Drive | • Morrison Street | • Eagle Ridge Gate |
| • Prairie Loop Boulevard | • Thickwood Boulevard | • Eagle Ridge Boulevard |

Rush hours vary from location to location depending on the function of the road, but generally occur on municipal roadways Monday through Friday from 7:00 to 9:00 a.m. and 3:30 to 6:00 p.m. The Engineering Department will assess and confirm the rush hour period for each road application.

No work shall be done on major roadways during rush hours, except under emergency conditions.

Work on some major roadways may have to be done during night hours to minimize the impact on traffic flow. The Engineering Department will determine this prior to work commencement.

Complete road closures will not normally be considered on major roadways. Because of traffic conditions on major roadways, more than the minimum of ten (10) working days' notice may be required for proper review and permit processing. Furthermore, advance notice periods may be required for advertising prior to work commencement.

5.1.2 BUSINESS CENTER AND FACILITY ACCESS

Business centers and major facilities such the MacDonald Island Complex are major traffic generators, especially during the evening and weekends. Work shall be scheduled to start with the minimum impact to businesses and facilities.

5.1.3 RESIDENTIAL AREAS

Residential streets do not experience the same volume of traffic as arterial streets or business centers. As such, traffic control requirements (speed limits, hours of operation, parking impacts, etc.) may differ.

5.1.4 ADJACENT OR OVERLAPPING DETOURS & WORK ZONES

The most critical of traffic zones when establishing a new detour or work zone, is one where another detour or work zone already exists. The Municipality has adopted the use of ENVISTA software to identify and assess potential conflicts.

Coordination between adjacent or overlapping zones is highly dependent on the timing of proposed works. Where unclear or insufficient scheduling information is submitted, an application will NOT be approved.

Where a permit is approved, the Development Owner **MUST** ensure good coordination and establish who has the role of Prime Contractor. Coordination would include discussion of any other Development Owners accommodation, to ensure service delivery it is not rendered ineffective.

5.2 TRAFFIC MODES

Accommodation of cycle traffic and pedestrian is required where a public trail or a bicycle lane is present. Although the accommodation may be separate, it is to receive the same degree of attention as other vehicular traffic.

5.2.1 CYCLE TRAFFIC

A loose gravel surface or loose gravel on a hard surface is a cycling hazard. Post appropriate warning signs if these conditions exist as a result of the proposed work.



5.2.2 PEDESTRIAN TRAFFIC

Pedestrian traffic includes users with MOBILITY AIDES or devices. The Developer is expected to provide the same degree of protection for pedestrian traffic. Secure the work to provide the least interference and maximum safety for pedestrians. To that end, separate and protect vehicular traffic and pedestrian traffic from each other, and from any hazard arising from any proposed construction activities.



Traffic control devices for pedestrian detours shall be sized to fit the use, e.g. Sidewalk Closed Ahead sign should be 60 x 60 cm. Mounting can be on a-frames or tube type delineators to minimize the intrusion in the walking corridor, while highlighting the detour route.

Detour walkways (e.g. sidewalks and prepared trails) shall provide a clean and even surface, free of tripping hazards. They shall also provide positive drainage and adequate lighting, especially where deviations to the norm exist (e.g. at temporary curb ramps).

If it is necessary to divert pedestrian traffic from the original path then it will be done only with approval from the Engineering Department. Sidewalk closures, which are used as a last resort, require the entire sidewalk detour route to be fully posted.

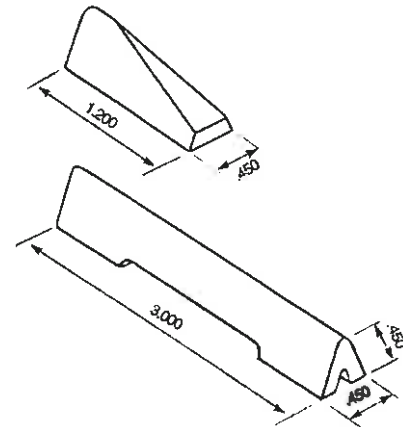
HANDRAILS AND BRIDGES shall be provided where excavation is immediately adjacent to a sidewalk. Bridge decks must be constructed of material that will support the weight of pedestrian traffic. Bridges must be properly designed and may require separate Safety Codes approval. Design details, which must be to the satisfaction of the Engineering Department, should be submitted with the application.

Laterally **PROTECTED WALKWAYS** may be established on the paved roadway surface where street occupation or construction restricts the sidewalk to 1.2 meters wide or less (e.g. utility manhole access). Except in rural applications, at no time will pedestrian traffic be allowed along travelled portions of the street without a physical separation of pedestrians and vehicles. This may require parking restrictions and fencing for work such as sidewalk repairs.

Snow fencing may be used for short durations of less than five (5) days. Mesh or solid fencing is required for durations of five days or more.



Low-profile concrete barriers (400mm high) may be utilized to supplement fencing where there is a greater risk of errant vehicles entering the protected walkway.



HOARDING OR SCAFFOLDING may be required to protect and channelize pedestrians over, around, or through work sites or provide protection from overhead hazards. Any enclosure shall have adequate lighting and accommodate mobility aides or devices. All proposed hoarding or scaffolding shall be properly designed and may require separate Safety Code approval. The design details must be to the satisfaction of the Engineering Department, and should be submitted with the application.

Where pedestrian (tripping) hazards such as excavations, uncured concrete, construction materials, or debris are in or adjacent to a pedestrian areas and they are to be left unattended (i.e. no security guard), they shall be **SECURELY FENCED** with 2-meter high mesh fencing. This may include the entire worksite in a high-pedestrian traffic area. Where a long-term work site will front on a sidewalk, a suitable plywood or other durable and properly protective enclosure may be required.

At the Prime Contractors risk, a contractor may post their own workers as security guard(s), but only if they are trained in those duties, and in the number commensurate with the hazard exposure.

5.2.3 SIDEWALK CROSSINGS

Whenever the work warrants a sidewalk crossing by vehicles, the sidewalks shall first be protected usually by planking, typically a minimum of 50mm in thickness. Planking is to be securely fastened and chamfered or beveled at the ends to provide for use of mobility aides or devices. A temporary bridge shall be provided for over the gutter to ensure uninterrupted drainage.

Traffic crossing the sidewalk may warrant the provision pedestrian crossing warning signs.

Work crossings of sidewalks shall be maintained in good condition and free from tracked earth, gravel, or mud.

5.2.4 PARKING LOT ACCESS

Where a driveway or building access is blocked by the work zone, the Developer is to establish alternate access for the residents or businesses.

5.3 DETOUR AND WORK ZONE ELEMENTS

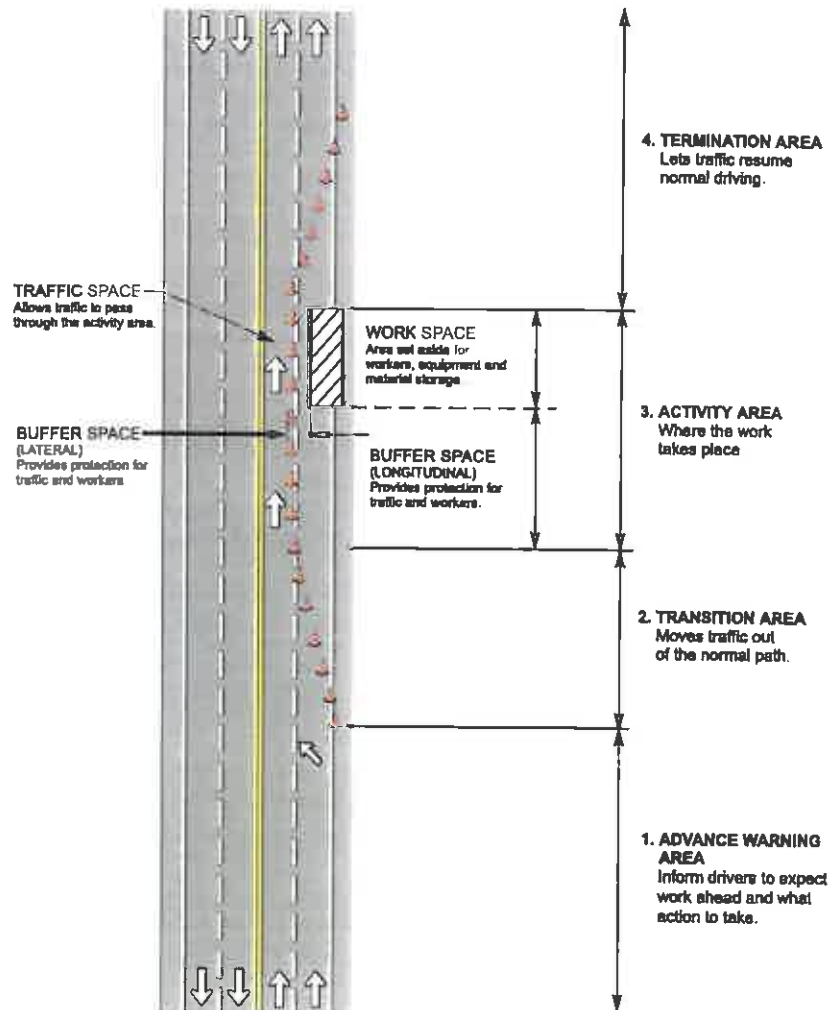
Since travel through construction areas is disruptive and confusing to motorists, temporary signs and devices indicating new traffic routes must be applied to the affected areas.

All temporary control devices are to follow the **MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CANADA**.

These devices include temporary signs, signal and pavement markings, a variety of barricade devices, and flagpersons.

Where conditions exist, but are not addressed in the Manual of Uniform Traffic Control Devices for Canada, those methods prescribed by Alberta Transportation's **TRAFFIC ACCOMMODATION IN WORK ZONES - URBAN AREAS MANUAL**, may be utilized. These again may be supplemented by a variety of text-only signs.

The types of traffic control devices required can be separated into five distinct zones as indicated in the following sections.



5.3.1 ADVANCED WARNING AREA

December 2012

These temporary traffic controls are erected prior to any changes in the traffic flow to inform the public in advance of an obstruction ahead. This will warn the public that conditions ahead have changes and to proceed in a more cautious manner.



Variable Message Sign boards may be utilized **ONLY** where conditions change daily or more frequently. Caution must be utilized to ensure the control systems are secure to prevent vandalism and the unauthorized changing of the message.

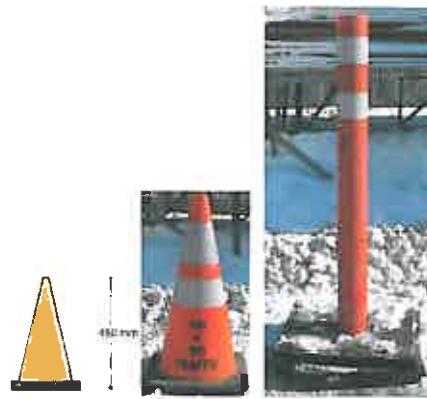
5.3.2 TRANSITION AREA

These temporary traffic controls are used to channelize traffic from its normal route to a new route that will circumvent the obstruction ahead. The length of the transition is dependent on the normal posted speed of the street. The adjacent table indicates the number of devices and spacing.

For lane closure durations of four (4) weeks or more, or between traffic lanes in the same direction, orange pavement markings may be used to supplement channelization traffic control devices.

Speed (km/h)	Number of channelization devices per (3.5m) lane width	Spacing of TC devices (meters)
30	5	6
40	6	8
50	7	10
60	9	11
70	13	13
80	13	15

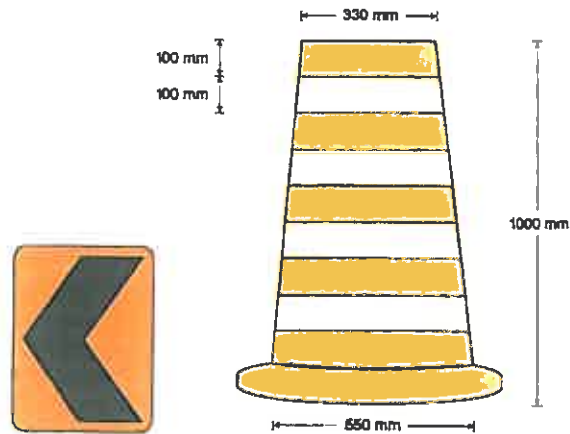
Cones may be used for daytime, short duration channelization. Cone heights shall be a minimum of 0.45 meters high for 60 km/hr or less, and 0.70 meters high for areas where speeds are more than 60 km/hr.



Fully reflective chevron panels shall be used on overnight worksites, or in a back-to back mounting for separating lanes of traffic.

Reflectorized drums or barrels may be used for longer term projects. They are required where the adjacent traffic speed is above 60km/h.

All channelization devices used overnight shall have illuminated flashers or be illuminated by light plants.



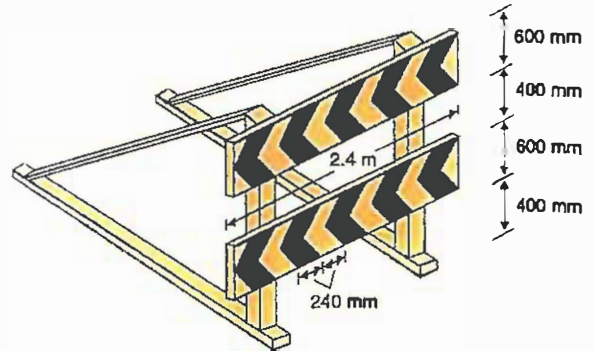
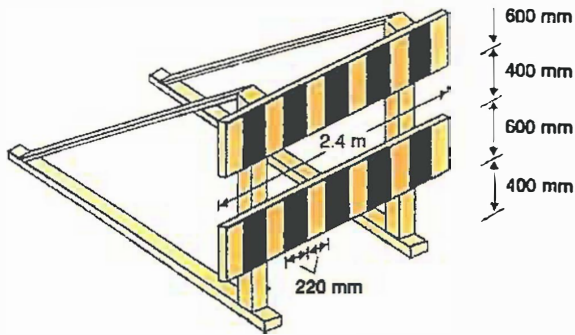
Where reconstructed roadways are opened before permanent pavement marking is completed, flexible adhesive polyurethane markers with reflective sheeting shall be utilized.

They may also be used to supplement temporary orange painted pavement markings where lane change detours are required for four (4) weeks or more, and may be supplemented by other visual markers.



5.3.3 BUFFER SPACE

Once the detour has been completely established, the buffer space may be established using reflectorized barricades placed in advance of the work site to protect workers and motorists.



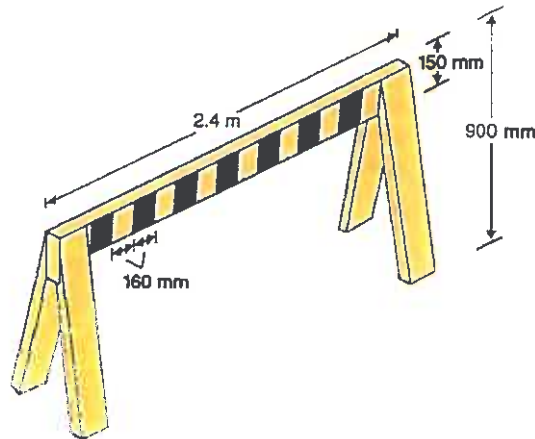
A Moving Operation would utilize A-frame mounted advanced warning signing and a mobile arrow board.

Moving operations require the use of flashing beacons on all vehicles, may require the use of arrow boards, and may require the use of impact attenuation devices/vehicles on higher speed roadways.

5.3.4 WORK SPACE

All other spaces **MUST BE ESTABLISHED** prior to the establishment of the workspace. Temporary traffic controls include warning and information signs, and at minimum, light barricades to guide motorists around the work site.

Where there is a higher risk of traffic entering the buffer space, the workspace may be protected utilizing full size concrete "Jersey" barriers.



5.3.5 TERMINATION AREA

These temporary traffic controls are the same as in the First Transition Zone and are used to direct the motorist back to normal traffic. Spacing is based on the posted speed through the work zone.



5.3.6 FACILITIES AND DRIVERS SERVICES WAY-FINDING SIGNS

Where normal routing to a facility (e.g. a public parking lot) is disrupted, supplementary guide or information signs (e.g. TAC IC series 60cm x 60cm or similar signs) may be required on the detour routing. These signs shall use a minimum of Engineer Grade reflective sheeting.

Where named or special facility routing is disrupted for 5 days or more, the use of formally fabricated signs is required.

Legend is 10 cm-high white text on a blue-background aluminum sign (single line 30cm, double line 50cm) blank, 120cm wide.

Directional arrow signs are on 40 cm high by 120cm wide sign blank.



Portable message/ advertising signs DO NOT conform to TAC Standards, therefore, they may ONLY be used for short-term periods (less than 5 days) and may require proper illumination for overnight use.



5.3.7 TEMPORARY SIGN SUPPORTS



For shorter durations (1 day to 4 weeks), standard 60cm x 60cm to 75cm x 75cm signs are to be posted on standard temporary sign posts. (Photo Right)

Signs, which are to remain in place for four (4) weeks or more, are to be mounted on a properly installed permanent-style sign post (in-ground mounting).

For daily-use temporary condition signs on longer projects, a post and concrete base is preferred. When not in-service, they are to be either laid down, repositioned (out of view), or utilize a suitable durable covering. The post should be a Telespar or U-channel post, with a minimum 45cm diameter x 20cm thick concrete base. Use of a reflective marker pylon on the base of the sign post shaft (as shown) is optional. (Photo Left)



A-frame supports for warning signs are to be used **ONLY** for short duration use, lasting less than eight (8) hours e.g. "Men at Work" signs which are removed overnight, or for other "moving" operations.



5.4 RECORD KEEPING OF TEMPORARY TRAFFIC CONTROL DEVICES AND WORK ZONE ELEMENTS

The jobsite supervisor will keep records of any work that interferes with traffic. These records are required in case of an accident at or near the worksite which could result in legal action against the contractor and developer

The Temporary Traffic Control records should be made at the time of the initial set-up and should include a sketch, a photograph, or a video of the worksite traffic controls. A daily inspection record shall also be maintained for jobs that remain in place for more than one day.

The record should include the following:

- Permit number
- Location
- Weather conditions
- Start date and time of Temporary Traffic Control set-up
- Jobsite supervisor's name, department, and company
- Who set up the Temporary Traffic Control
- Sketch or photograph of Temporary Traffic Control devices
- Notes on existing permanent traffic control devices that are removed or bagged
- Notes on existing Temporary Traffic Control devices set by others on nearby projects, and accommodations made to ensure the other parties' devices are not rendered ineffective. Discussions may be required to determine who is the Prime Contractor in those overlap areas.
- Time of removal of the Temporary Traffic Control

The Daily Inspection Record should include the following:

- Time of arrival on site
- Condition of the Temporary Traffic Control at the time of arrival
- Note any damaged or missing traffic control devices
- Steps taken to correct deficiencies
- Time of departure and condition of Traffic Control Devices (signs such as "Men at Work" or "Speed Fines Double" that have been covered or taken out of service
- Steps taken to secure the worksite

To maintain their effectiveness, temporary signs and devices must be kept clean and in the proper location at all times. Repair or replace damaged signs immediately.

Temporary "No Parking" restrictions REQUIRE these records and may be required for Court purposes.

Condition of pedestrian fencing or other accommodations should be included in the records.

6. CONSTRUCTION PHASES

GENERAL

Impact to the public must be addressed as a priority, and only once public safety has been addressed, then the developer and contractor focus on the work area and the work to be undertaken.

The construction or occupation phase of the works has a number of stages:

- Preparing the area by removal of existing parking
- Setting a reduced speed limit, where approved
- Setting up the detour
- Setting up the work area
- Ongoing maintenance of any detours and the work zone

6.1 EXISTING CONTROLS

The Developer may change existing control devices ONLY as expressly approved in the approved permit.

6.1.1 Temporary Removal of Permanent Traffic Control Devices

The Development Owner must arrange with the Road Maintenance Branch, Transportation Section for the temporary removal or making "Out of Service" of permanent traffic control devices such as signs (e.g. speed signs) or signals. Work of this nature will require a minimum of one (1) weeks' notice. The Development Owner may be permitted to "bag" or cover some traffic control devices.

As RB-1 Black on White Speed Limit signs can only be approved for use by Municipal Council, TC-23 (Black on Orange) signs **MUST** be used when the detour or work zone has a reduced speed limit.

Use TC-23 with the appropriate tab signs **ONLY where expressly approved in the permit.**

A Speed Fines Doubled – Ends sign **MUST** be used if the Speed Fines Doubled –Begins sign is used.

Where not required overnight, these signs as with all other unused signs (e.g. Men at Work) will be taken out of service.



A RB-1 Black on White Speed Limit sign can **ONLY** be used, located where traffic is to return to the normally posted speed limit, beyond the end of the construction works.



Minimum 30
meter space



Minimum 30
meter space



Removal of existing parking and other restrictions, or establishing new temporary parking restrictions to clear the detour or work zone is permitted **ONLY** where expressly approved in the permit.

Once the new restrictions are properly installed as a condition of the permit, Bylaw Services may be utilized to enforce those restrictions. Bylaw Services **WILL REQUIRE** a copy of your permit, Traffic Accommodation Plan and the sign installation record for court purposes.

Temporary parking bans to clear the detour and work space, and to establish the work zone, must be as described in the permit application. Bylaw Enforcement is required to be called to chalk tires once the No Parking Zone has been properly established. Enforcement staff will not issue tags or tickets if the temporary parking bans are not properly established.

Instances where Bylaw tags or tickets are issued and the records are not made available may be deemed as a failure to meet permit conditions.

6.2 DETOUR SETUP

Detours shall be established in a manner to provide for the least possible disruption to traffic. They shall be kept to the most direct or practical route. Where required, detours may include temporary lighting.

6.2.1 TYPICAL DETOUR SIGNS

Detour routes are to be established prior to the establishment of work space.

Complete road closures will be considered only if no alternative is available and an acceptable detour can be established. This will be determined by traffic volume, emergency vehicle access, and will be at the Engineering Department's discretion.

On long detour routes, intermediate signs shall be used to reinforce that drivers are still on the designated detour route. They are also used at any change of direction.

Where multiple detours routes cross the TC-12 Detour D-1 route (D-2 and so on) route signs, etc. shall be utilized.



6.3 WORK SPACE SETUP

The work space shall only be set up once all required detouring is in place.

Work space shall be established in a manner to provide for the least disruption to traffic possible. The space shall be kept to the minimum necessary to perform the work. Where required, this includes temporary lighting.

At no time will it be permitted to depend on temporary condition signs to compensate for an unorganized work site.

6.3.1 TYPICAL WORK SPACE SIGNS

Standard signs, signals, and layouts are to be established as prescribed:

- Firstly, by Manual of Uniform Traffic Control Devices for Canada (MUTCDC) and,
- Where the MUTCDC does not provide the required level of detail, those detouring and work space situations shall be supplemented by the Alberta Transportation's Traffic Accommodation in Work Zones, Urban Areas manual.

These signs may be supplemented by a variety of text-only signs where standardized signs are not available.

If neither of these manuals identifies a suitable sign, signal or layout, the Development Owner may propose their own approach or consult the Municipality for direction.

Signs may be required to be bilingual or multi-lingual (e.g. French or Cree) in jurisdictions where there is a significant presence of persons using another language.



6.4 EMERGENCY PROCEDURES

Emergency conditions occasionally occur on work sites. They may include medical illness or injury, motor vehicle or heavy equipment collisions, roadway obstructions (debris on road), water ponding, or dangerous goods incidents.

If it is within the ability of the Development Owner or their contractor to minimize the loss in such an emergency situation, and where workers, materials or equipment are readily available to assist, the Development Owner or contractor is expected to assist in reducing the impact.

Notification of the appropriate authorities is the minimum expected. Any other assistance provided must be undertaken only if it is safe to do so.

An on-site foreman shall be assigned to report to the Incident Commander where an emergency situation that requires longer than 15 minutes to restore exists.

ALL emergencies, which are within the scope of the Development Owner's permit area, are to be first verbally reported to the Engineering Department's Construction hotline and then in writing.

6.5 UNDERTAKING THE WORK

Access for **EMERGENCY VEHICLES** shall be maintained at **ALL TIMES**.

All detour and work space areas must be properly posted and barricaded prior to commencing work.

The Development Owner or Contractor is to designate a Traffic Control Person, usually a Supervisor, for **EACH** worksite.

When traffic lanes are required to be open during rush hour or other periods, trenches and small excavation sites shall be bridged with steel plates.

The Development Owner shall ensure that all materials incorporated into the works and their methods of incorporation meet the minimum quality control standards.

To minimize the area impacted, the Development Owner shall use straight-wall trenching and shoring procedures for all installations. Open trench procedures may be permitted if shoring is deemed not practical by the Municipality.

Waste material shall not be stored onsite.

6.5.1 ACCOMMODATION OF OVERNIGHT OR PERIODS OF INACTIVITY

When traffic lanes are required to be open after regular work hours, on weekends, or holidays, trenches and small excavation sites may be required to be bridged with steel plates for these short periods at the discretion of the Engineering Department.

Extraneous barricades, equipment, and detour signs must be removed to restore traffic to minimize distractions, excepting those signs that have to be maintained (e.g. bump signs) until the entire work is completed.

Low intensity battery operated flashing lights shall be used on any sign or obstruction within or beyond the buffer zone, and are recommended for use on the traffic approach and the side adjacent to traffic for work space enclosures.

Signs which are not in effect shall be hooded with a durable material firmly secured over the sign face, laid down, or turned away from traffic when work is terminated and it is planned that the signs will be placed back into service on the next work day. Plastic bags are not permitted. All permanent traffic control signs shall be put back into operation at this time.

Inactive periods still require daily monitoring and maintenance.



6.5.2 DETOUR AND WORK SPACE MAINTENANCE

Access for EMERGENCY VEHICLES shall be maintained at **ALL TIMES**.

Failure to maintain the detour and work space (a condition of the permit) may be deemed as a failure to meet permit conditions.

The Prime Contractor is responsible to maintain all temporary traffic control devices in a clean, legible and effective condition at all times. Damaged signs are to be repaired or replaced immediately.

Daily or more frequent inspection and record keeping is required to show due diligence.

Remove equipment no longer required on the job from the site immediately.

No material storage is permitted in active traffic lanes. No storage of construction materials is permitted outside the protected work zone. Unless it is to be utilized as backfill, remove excavated material immediately from the site.

No parking of construction equipment vehicles is permitted in restricted parking areas (e.g. in front of hydrants).

Use only rubber-tired vehicles on street surfaces. Tracked vehicles equipped with street pads may be used if approved by the Engineering Department.

No parking of private or employee vehicles is permitted within the work zone.

Careful pre-planning and potential staging of the work is required as amendments to the approved plans. The same review and approval periods apply.

6.6 MAINTENANCE MONITORING

In addition to other agencies with jurisdiction, the Engineering Department and other Municipal representatives may attend the site to determine if permit conditions are being met. The Development Owner shall make the site available for these reviews at any reasonable stage.

No provisions in the manual or other involvement by Municipal or other authorities shall relieve the Development Owner of responsibilities and liabilities relating to their operation under any Government act, code or regulation.

6.6.1 PHOTOGRAPHIC RECORDS

In addition to record keeping with respect to sign, detour, and work zone establishment and maintenance, pre-construction photographs and photographs documenting progress of the work are **HIGHLY** recommended to ensure full and proper restoration, and to limit damage and liability claims.

Where there is a dispute as to what conditions pre-existed, the Municipality shall dictate the restoration standard of Municipal infrastructure based on timely photographs and other available documentation.

6.6.2 DEVIATION OR NON COMPLIANCE WITH PERMIT CONDITIONS

The Development Owner is required to ensure that the public (including the provision of services by others), their workers, and the work space are fully protected at all times.

If the permit conditions are not met, the Development Owner may have their permit revoked. If this occurs, the Municipality may choose to restore the site at the Development Owner's expense. This restoration may include only the safe termination of the works. The Municipality will have the option to employ a third party to complete the work at the cost of the Development Owner; such support may include the retention of consulting and project management services.

Failure to maintain the detour and work space may be deemed as a failure to meet permit conditions.

7. RESTORATION

GENERAL

If permanent signs (e.g. speed signs) or signals have been removed or put out of service, the Development Owner shall contact and arrange with the Road Maintenance Branch, Transportation Section, to put back into service. Work of this nature will require a minimum of one (1) weeks' notice.

7.1 RESTORATION STANDARDS

Unless otherwise prescribed in the Permit, the Municipality's standards shall be used. The Development Owner, however, may choose to apply a higher standard.

The Development Owner shall ensure that all materials incorporated into the works and their methods of incorporation meet the minimum standards.

Private installations, such as driveways or sidewalks impacted by excavation shall be re-established to full Municipal standards (equivalent to the adjacent street), regardless of whether they met that standard prior to construction or not. This includes the installation of cement stabilized base, where required, unless a higher alternate standard is proposed by the Development Owner.

7.2 WINTER INSTALLATIONS

Due to the difficulty of backfilling and restoring utility installations to acceptable standards during the winter months, all efforts must be made to perform work during summer conditions.

If the installation must be done in the winter, the Development Owner is still obligated to comply with all Engineering Servicing Standards. The Development Owner will be permitted to temporarily backfill the trench until the following spring; after which the temporary backfill must be removed and replaced to the full standard.

- When asphalt is not available, temporarily reinstate the surface using a minimum thickness of 75mm of concrete. Filcrete is not acceptable for this purpose.
- The Development Owner is responsible for all maintenance required to keep the temporary surface in satisfactory repair for its intended purpose.
- The temporary surface shall be finished and maintained flush with the existing roadway such that bump or other hazard signs are not required.
- The Development Owner shall supply and maintain any other traffic control devices that the Municipality requires to address winter operations.

7.3 TESTING

Upon request, the Development Owner shall provide the Engineering Department results of all quality control testing, indicating that all work complies with the approved standards.

8. WARRANTY

The Development Owner is responsible for the workmanship of their installation for a period of two (2) years from the date of completion.

APPENDIX: SAMPLE DOCUMENTS

- UTILITY INSTALLATION/STREET OCCUPATION PERMIT
- RECORD OF TEMPORARY TRAFFIC CONTROL
- GENERAL CONSIDERATIONS FOR A TRAFFIC ACCOMMODATION STRATEGY AND PLAN
- TRAFFIC ACCOMMODATION STRATEGY FOR CABLE CONSTRUCTION
- SHALLOW UTILITIES
- STANDARDS FOR TEMPORARY CONTROLS
- FLAGPERSONS
- EXCERPT OF BYLAW #02/079
- DEFINITIONS



UTILITY INSTALLATION/STREET OCCUPATION PERMIT (SAMPLE ONLY)



REGIONAL MUNICIPALITY
OF WOOD BUFFALO

UTILITY INSTALLATION/STREET OCCUPATION PERMIT

PERMIT NO: _____ DATE ISSUED: _____
 AUTHORITY: BLANK (By Law # 07/35,85/51.07/043) S125 ☐ ATCO GAS (By Law # 02/079) ☐
 TELUS/SHAW/BELL (By Law # 1009) ☐ ATCO ELECTRIC (By Law # 1009) ☐
 RMWB (By Law # 02/079) ☐

Development Owner: _____	
Address: _____	
Work Description: _____	
Telephone: _____	After Hours: _____
Development Permit No.: _____	Work Order No.: _____

Contractor: _____	
Address: _____	
Work Description: _____	
Contact Person: _____	After Hours: _____
Telephone: _____	After Hours: _____

Location: _____			
Roadway	Boulevard/Parkland	Median	
Sidewalk/Walkway	Curb & Gutter	Trees & Shrubs	
Other: _____	_____		
Purpose: _____	Install Utility	Repair Utility	
Street Occupation: _____	_____		
Date of Commencement: _____	Date of Completion: _____		
Will Work Involve Road Closure/Detour:	No <input type="checkbox"/>	Yes <input type="checkbox"/>	FULL/PARTIAL
From: _____	To: _____		

Detour Plan Approval: _____	Date: _____
Road Maintenance Department	

I hereby agree that the work stipulated in this Permit shall be performed in accordance with the Regional Municipality of Wood Buffalo's Engineering Standards, Procedure Manual for Installation of Utilities, Traffic Control & Utilities Manual and approved project drawings and specifications. In case of default, I acknowledge and confirm that the Regional Municipality of Wood Buffalo has the right to complete the work shown in this permit and charge me for the costs of the same. I shall indemnify and save harmless the Regional Municipality of Wood Buffalo from any and all losses, costs, damages, actions, causes of action, suits, claims & demands resulting from anything done or omitted to be done by the development owner in pursuance or purported pursuance of this permit. This permit is valid for up to 30 days from the date issued unless otherwise stated. After that time period a new permit will be required and appropriate fees will be charged.

OWNER: _____
 (Please print) (Signature)

Approval: _____
 Manager Engineering Services

SPECIAL CONDITIONS: APPLICANT TO CONTACT SHALLOW UTILITIES FOR LOCATES.

RECORD OF TEMPORARY TRAFFIC CONTROL DEVICES (SAMPLE ONLY)

RECORD OF TEMPORARY TRAFFIC CONTROL

PROJECT		ADDRESS	
WORK ORDER		CONTACT NAME	
PHONE #	CELL	FAX	
COMPANY		DATE	
COMPLETED		PAGE	OF
		Inspected by	

Date yyyy/mm/dd	Time 24:hr	Traffic Control Plan	Type of Set-up	As per Plan	Type of Deficiency and Location	Photo Taken	Action Taken

Typical Types of Set-ups and Common Abbreviations:

RLCA: Right Lane Closed Ahead
LLCA: Left Lane Closed Ahead
2RLCA: Right Lanes Closed Ahead
2LLCA: Left Lanes Closed Ahead
TWT or 2WT: Two Way Traffic
SWC: Sidewalk Closed
HOADING: Hoarding Permit

NPAT: No Parking Anytime
NTT: No Through Traffic
LTO: Local Traffic Only
RC: Road Closed
RLCA BD: Right Lane Closed Ahead Both Directions
LLCA BD: Left Lane Closed Ahead Both Directions

GENERAL CONSIDERATIONS FOR A TRAFFIC ACCOMMODATION STRATEGY

- Roadway and Adjacent Users Accommodation:
 - Accommodation of emergency vehicles, transit, etc.
 - Traffic volumes
 - Effect of restrictions on upstream flow
 - Over-dimensional loads
 - Alternate service delivery by others, waste management, mail, etc.
 - Parking – resident, patron
- Stakeholder information/ engagement
 - Acceptance by other Authorities, e.g. Alberta Transportation
- Scheduling:
 - Duration of the work
 - Rush hours, statutory holidays, and special events
- Site specific safety issues:
 - Class of roadway
 - Type of surface
 - Speed limits
 - Existing controls and their temporary removal
 - Storm runoff/contamination management
 - Site control – fencing, security guards
- Active support and Guidance
 - Use of pilot vehicles or crossing guards
- Seasonal issues:
 - Potential weather impacts
 - Temporary lighting requirements
- Maintainability
 - Available staff for monitoring and maintenance of the accommodations
 - Snow clearance,
 - Haul routes -tracking and sweeping
- Site Operations
 - Storage of materials and waste (spill piles)
 - Staff offsite parking
- Permits and Clearances
 - Required/ obtained

GENERAL CONSIDERATIONS FOR A TRAFFIC ACCOMMODATION PLAN

- Effective Application of Traffic Control Devices
 - Use of only the traffic control devices that are necessary
 - Use of non-typical lane widths
 - Extent of traffic control, separate for the immediate worksite
 - Guidance – Use of pilot vehicles or crossing guards
- Geometrics:
 - Available sight distances
 - Intersecting roadways

TRAFFIC ACCOMMODATION PLAN (SAMPLE ONLY)

LOCATION

{Utility} will be tying into existing fibre on {location} and installing a fibre-optic line along the north boundary of {named road} to {location} where it crosses the roadway to provide service to {civic address}.

Specific locations are described in Section 1 and are shown on the attached drawings.

Construction will commence once all approvals are received.

SUMMARY

Project Name:	
Project Number:	
Project Contact:	
Proposed Start Date:	
Duration of Construction:	
Subdivision/ Roadway Name:	
Specific Location:	
Roadway Geometry: Width of Pavement: Distance from edge of pavement to centerline of installation:	
Crossing Construction Method:	Directional Drill
Posted Speed Limit:	50 km/h
Traffic Volume:	{####} Vehicles per hour (peak hour)

DESCRIPTION OF THE WORK

The project includes the following general components:

- Brushing along the edge of the existing tree line to clear the alignment
- Open cut trenching using a rubber tired backhoe to a 1.5 meter depth
- Directional drilling of all existing driveway crossings
- Bedding and installation of cable, as the trench progresses
- Backfill to the trench in lifts and installation of warning tape, as the cable installation progresses, with no more than 50 meters of trench open at any one time
- Restoration of surface

SITE SPECIFIC INFORMATION

In accordance with the pre-approved line assignment dated {XXXX} (copy attached):

1. The route will start at an existing vault within the {Site}. The cable route travels {direction} along the {named} side of the {named road}. At the {location} the route turns {direction} and crosses {named road} and travels off the Municipal right-of-way to the {civic address} site.
2. The work will be performed under direction and in consultation with {Utility Owner}. The work will consist of installation of new {type} cable within and crossing the {named} road right-of-way. All work will be completed in the existing ditch backslope, during daylight hours. This will involve the use of excavating equipment, directional drill, conduit and cable installation equipment (wire truck/conduit reel), and backfilling equipment.
3. In conjunction with Alberta One Call and {others location services}, the Construction Supervisor will identify all underground facilities to verify detailed locations of all underground facilities crossing and in proximity to the construction area.
4. All site access will be from existing field approaches off the {named} road to reduce the project's effect on the {named} road as well as reduce the safety risks associated with {named} road. The work is expected to take approximately three (3) weeks within the {named} road right-of-way. The work poses minimal traffic hazards in that all work will be performed on the ditch backslope of the roadway and the one roadway crossing will be completed by directional drill. Since it does not require work on the driving surface of {named} road and therefore does not require a traffic disruption or detour. Equipment will remain on the Municipal right-of-way during times of construction. Construction may be affected by weather conditions and any changes to the schedule will be reported to the Municipality.
5. All open excavations will be tended to immediately following facility installation and inspection. If there is any open excavation at the end of the workday, it will be covered to Municipal standards and marked appropriately.
6. To reduce the impact on the Municipality's right-of-way, work will not proceed unless weather and ground conditions permit.
7. If on-site circumstances change and required change for public or personnel safety, a revised drawing and strategy will be submitted to the Municipality for approval.
8. In addition to the above, sign placement will be evaluated at the initiation of the work by the Construction Supervisor. If sight lines or other conditions are inadequate, additional signs or controls will be placed by the Supervisor, or as may be required by the Municipality.
9. Signage will meet Municipal standards with respect to size, colour, sheeting material, and message content as shown in the associated drawings.

10. The construction supervisor will ensure that the installation and removal of signs along the roadway is done in accordance with Municipal guidelines. Installation and removal of signs shall be done from the shoulder of the road surface with the flow of traffic. See {our company} Traffic Safety Policy, as attached.
11. The Municipality will be notified if work takes longer than expected to complete or if modifications are made after work commences.
12. All documents with regards to this project shall be presented on company letterhead.

Where any portion of this Strategy or the attached Traffic Accommodation Plan is found to be deficient, improvements will be made and the Municipality and/or other authorities will be notified of those improvements.

Our Emergency Assistance List and Emergency Response plan is attached.

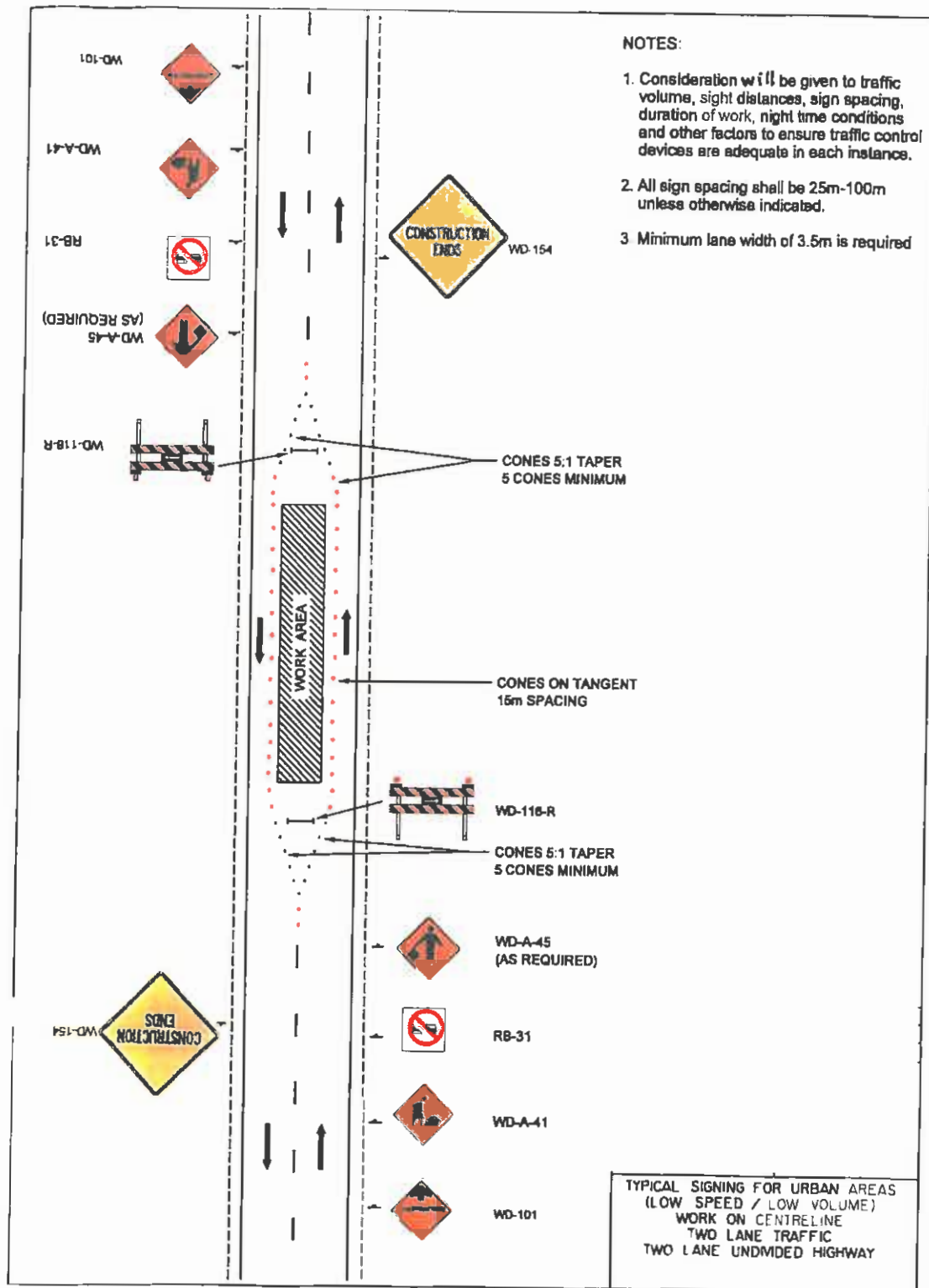
TRAFFIC SAFETY POLICY OF {OUR COMPANY}

- A. **Introduction:** {Name} Utility Limited and its contractors are committed to providing personnel with the most recent safety standards and regulations in accordance with the Traffic Safety Act. It is strictly enforced that these standards are met and whenever possible exceeded.
- B. **Primary Responsibility:** The Project Manager and the Construction Supervisor are responsible for assessing the work site and surrounding area in order to develop and implement a plan in accordance with the Traffic Accommodation Strategy.
- C. **Traffic Accommodation:** The Project Manager/Construction Supervisor are responsible for assessing and reviewing work sites prior to commencement of work. Upon arrival on site, the work is assessed and an appropriate Work Hazard Assessment Plan is developed and implemented as according to {Name} Utility Limited safety policies. In all cases, existing approaches and Municipality roads will be used to access the work site.
- D. **Compliance:** {Name} Utility Limited and its contractors are committed to ensuring that all personnel and work sites are in compliance with the Traffic Accommodation Strategy as well as {Name} Utility Safety Limited's safety policies. To ensure compliance, work sites and personnel are periodically audited.

Our Health and Safety Certificate of Recognition is attached.

Our Company Safety Manual is available at the following URL:

The (SAMPLE) Traffic Accommodation Signage Plan for Stage 1 of this project is as follows:



SHALLOW UTILITIES

It is the applicant's responsibility to ensure all utility companies potentially involved are contacted. Alberta One Call 1.800.242.3447 should be utilized where available. The following utilities may require to be contacted.

It should be noted that the Regional Municipality of Wood Buffalo and some others listed below are not members of Alberta First Call and must be contacted directly.

Locates for municipal utilities will be provided on a cost recovery basis.

Notification through the Alberta One-Call or directly by the developer for:

- 1) Shallow Utilities Companies
 - a. ATCO Electric (One-Call) or TransAlta Utilities
 - b. ATCO Gas (One-Call)
 - c. Telus (One-Call)
 - d. Shaw Cable (1.800.DIG.SHAW)
 - e. Bell (One-Call)
 - f. Axia (One-Call)
- 2) Municipal Agencies (minimum 72 hours' notice required)
 - a. Underground Services Branch – water and sewer tie-ins
 - b. Water Meter Branch – water service interruptions
 - c. Roads Maintenance Branch -traffic signals locates or service outages
 - d. Information Technologies Branch – potential Municipal fiber optic impacts

STANDARDS FOR TEMPORARY CONTROLS

Signs shall conform to The Transportation Association of Canada "Manual of Uniform Traffic Control Devices for Canada" with respect to shape, colour, dimension, proportion and legend (symbols, wording, lettering).

Increases in size above the minimum standards are permissible and desirable where investigation has shown that a larger sign is needed for adequate emphasis. The size of any sign must depend on the length of its message and the size and spacing of the letters required for adequate visual impact. Wherever practical, the overall dimensions of the signs should be increased in 15 cm. increments.

Location	Advanced Warning	Work Zone
Rural	900 x 900mm	750 x 750mm
Hamlet	900 x 900mm	750 x 750mm
Urban	750 x 750mm	750 x 750mm

All temporary construction signs shall have a black legend on an orange background.

Flags or a LED (flashing) boarder outline may be utilized to improve visibility.

ILLUMINATION AND REFLECTORIZATION

All traffic control signs shall be a minimum of "Engineer Grade" reflective sheeting. Where signs are to remain in place overnight, a minimum of "High Intensity" reflective sheeting shall be used. Regulatory signs (Double Fines or speeds) shall be on "Diamond Grade" reflective sheeting.

Illumination of signs or the work site may be required. Illumination for signs may be by a light within or behind the sign, or jointly for the work site and for signs by independent mounted floodlights.

Low intensity battery operated flashing lights shall conform to the Institute of Transportation Engineers Standards.

MATERIALS

Durable metal or plastic signs may be used, reflective as noted above. Plywood is permitted only as a substrate for larger signs, faced with properly adhered reflective sheeting or for mounting of aluminum blanks. No other materials shall be used unless specifically approved by the Engineering Department. It is recommended that non-corrosive fasteners shall be used for attaching signs to their supports to avoid discolouration.

NON-STANDARD SIGNS

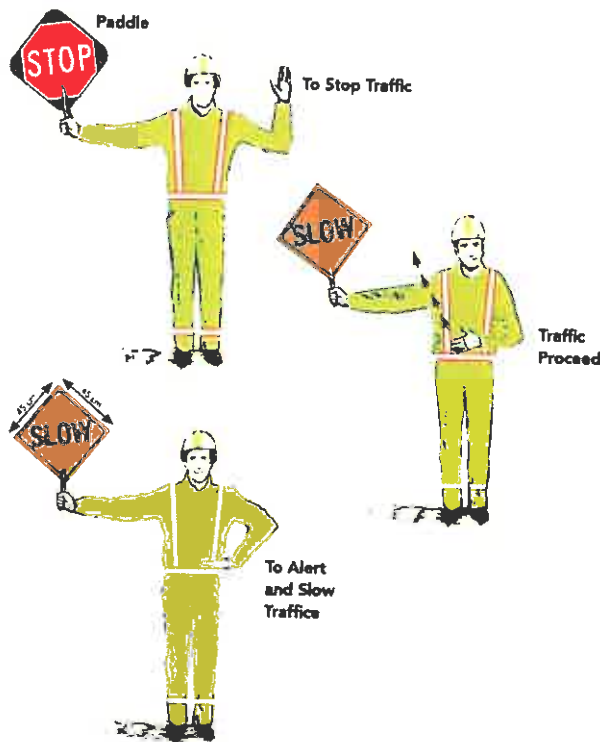
All non-standard sign are to be approved by the Engineering Department. In situations where messages are required other than those herein provided for, the signs shall be of the same colour as standard signs of the same type.

Permission shall be obtained from the Engineering Department in cases where a sign or device is not of the same type or not consistent with the MUTCDC or the provisions of this manual.

IDENTIFICATION

The ownership of the sign should be clearly displayed on the back of the sign.

FLAGPERSONS



The use of flagpersons is mandatory where equipment is intermittently blocking or regularly entering a traffic lane, where one lane is being used for two-way traffic, or when work is done at intersections. Flagpersons may be required at the discretion of the Engineering Department, where there is traffic congestion.

The flagperson shall give the motorist sufficient warning as to what is required of them. The flagperson shall face oncoming traffic allowing the motorist to observe all signals. The flagperson shall stand apart from the remainder of the construction operation and ensure that traffic from one direction is clear before signaling other traffic to proceed.

A flagperson for occasional traffic interruptions shall wear at minimum a blaze orange safety vest during the day. Flagpersons shall be dressed so as not to distract motorists from their signals. All requirements of Occupational Health and Safety shall be complied with regard to personal protective equipment. Flagpersons need to be competent, trained workers to safely and effectively undertake their duties.

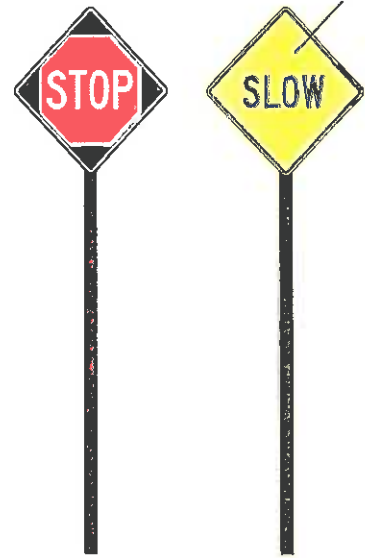
The figures illustrate the various hand signals to be utilized by flagpersons for controlling traffic.

A designated flagperson (stationed for 15 minutes or more) shall utilize High Visibility Safety Apparel to CSA Z96-02, and use a flashlight with a red cone at dawn, dusk, and in darkened conditions. A minimum of Class 3 Coveralls are required for designated flagpersons.

Designated flagpersons shall be trained to Alberta Construction Safety Association standards at minimum.

A Flagperson Warning sign shall be used where and when a designated flagperson is posted. A "Men at Work" sign shall be utilized where there is an occasional need for a flagperson.

An occasional flagperson must use a Stop/Slow short handled traffic paddle at minimum, where a designated flagperson requires a full height traffic paddle.



EXTRACT OF BYLAW NO. 02/079

- 1.01 This Bylaw may be cited as the Regional Municipality of Wood Buffalo "Roads and Transportation Bylaw."
- 9.05 A person who holds a permit shall be responsible for all costs and expenses incurred by the Municipality for the repair of any curb stops, valves, hydrants, sidewalks, curbs, pavement, landscaping and any other such appurtenances to highways resulting from hauls made pursuant to any permits issued under this Bylaw.
- 11.20 The Chief Administrative Officer or his delegate is hereby authorized to issue or revoke permits on behalf of the Municipality under Part 8, Part 9, and Part 13.
- 13.19 Except as authorized by the Chief Administrative Officer or his delegate, no person shall break, tear or remove any planking, pavement, sidewalk, curbing, concrete, cement or other road surface nor make any excavations in or under any street, lane, park or public place in the Municipality without first obtaining a Utility Installation/Street Occupancy Permit issued by the Chief Administrative Officer or his delegate.

DEFINITIONS

Owner, Development Owner, or Applicant: These terms are synonymous and refer to the agency, company, or individual for whom the work is being undertaken, whether the work is done directly by that Development Owner, a consultant, a contractor or a sub-contractor. The Development Owner may in some cases be a property owner, property developer, a shallow utility (telecommunication, gas, power, or other) agency, or a Department of the Municipality, or a group of the above. Where the contractor is specifically identified in this document it includes a Development Owner, a shallow utility agencies or a Municipal Department doing their own work.

Contractor: includes a Development Owner, a shallow utility agency, or a Municipal Operations Department doing their own work, or a contractor retained by the Development Owner to do work in Municipal rights-of-way or on Municipal (public) property.

Prime Contractor: The Development Owner is assigned the responsibility via a permit to either be the Prime Contractor as described by the Occupational Health and Safety Act or to ensure it is properly assigned to their contractor.

Consultant or Engineer: is a representative of the Development Owner, designated in writing and that designation may be in the form of a service contract. The Consultant or Engineer may in some cases be a Department of the Municipality.

Contractor: is a representative of the Development Owner, designated in writing and that designation may be in the form of a service contract. The Contractor may in some cases be a Department(s) of the Municipality.

Engineering Servicing Standards and Development Procedures manual: refers to the current copy as produced by the Engineering Department of the Municipality.

Manual of Uniform Traffic Control Devices for Canada: refers to the current copy, supplemented by a variety of other manuals such as the Sign Pattern Manual, etc as produced by the **Transportation Association of Canada**

Utility Installation/Street Occupation permit: a condition of work within municipal rights-of-way or on public property as authorized under the Roads and Transportation Bylaw #02/079.

Incident Commander (Section 6.4 Emergency Procedures): a senior fire department, RCMP, or lead shallow utility staff as the case may require.