

## **16.0 Maintenance of Traffic**

The Contractor shall coordinate with CDOT and the EJMT Maintenance personnel for implementation of any Maintenance of Traffic (MOT) activities necessary to meet the requirements of the Project.

### **16.1 Administrative Requirements**

#### **16.1.1 Traffic Operations**

##### **16.1.1.1 Maintenance of Traffic Task Force**

The Contractor shall establish an MOT Task Force to assure proper coordination with affected agencies. The MOT Task Force shall include, at a minimum, the Contractor's Public Information Coordinator, Contractor's Construction Manager, and the EJMT Maintenance staff. The Contractor shall submit the proposed list of Task Force members to CDOT for Acceptance within 30 days after NTP1.

The Contractor shall schedule and conduct MOT Task Force Meetings to present and discuss Contractor prepared narratives identifying processes and critical elements of all full closures and coordination activities. The MOT Task Force shall meet regularly during the active construction phase of the Project.

Within 14 days after Acceptance of the MOT Task Force members, the Contractor shall convene a Traffic Management Plan (TMP) kick-off meeting. The meeting will be used to develop agreement upon the level of detail required for the TMP as identified in this Section.

##### **16.1.1.2 Traffic Management Plan**

The Contractor shall prepare a TMP that defines the strategic plan for traffic management on the Project. The TMP shall address major aspects of the Work for individual construction areas, phases, and stages. The Contractor shall use the TMP as a planning and policy guide to develop and execute the project MOT program. The TMP shall be submitted to CDOT for Acceptance at least 30 days prior to NTP2.

These major aspects shall include, but are not limited to:

1. An overview and description of the proposed construction, subdivided as applicable, into the following components:
  - A. Area: A specific grouping of Work along the Project defined by the Contractor that creates segments of the Project for the purpose of planning and executing the Work.
  - B. Phase: A specific sequence of the construction Work in an area during which a major traffic movement is undertaken (e.g., a detour) and left in place until the Work is complete and traffic is redirected to another location. This shall require development of a specific Traffic Control Plan (TCP). In some cases, multiple TCPs may be necessary.
  - C. Stage: A subdivision of Work within a phase that combines similar components of Work to maintain efficiency.
2. A detailed approach to the development of TCPs and Methods of Handling Traffic (MHTs) on the Project.
3. A list of known or potential roadway, ramp, and lane closures, including the following information
  - A. Description of traffic shift
  - B. Description of detour
    - a. Identification of detour limits to be used in each construction phase.

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- b. Contractors' identification and coordination with other construction projects, within the vicinity of the proposed detour route. The impact of these construction projects shall be incorporated into the detour route planning and scheduling.
- C. Number of shifts expected
- D. Duration of shifts and detours

### **16.1.1.3 Coordination with CDOT Traffic Management Center**

Routine requests for use of the CDOT Traffic Management Center (CTMC) Variable Message Sign (VMS) boards shall be submitted to CDOT by 10:30 a.m. on Thursday of the week prior to when the VMS boards will be needed (Monday through Sunday of the following week). Requests for routine use of the VMS will be reviewed by noon Friday of the same week of the submittal. The Contractor shall coordinate directly with the CTMC following review by CDOT.

For after-hours operations only, the Contractor shall coordinate directly with the CTMC. The CTMC is available to the Contractor to modify VMS messages 24 hours a day, 7 days a week.

### **16.1.1.4 Coordination with EJMT Maintenance Staff**

The Contractor shall be responsible for coordination of required MOT and MHT activities with the EJMT Maintenance staff. The EJMT Maintenance staff will be the responsible party for implementing MHTs during the Project. Advance notice of one week shall be provided to the EJMT Maintenance staff for any Activities requiring roadway detours or closures necessary in the performance of the Work.

TCPs shall remain the responsibility of the Contractor.

### **16.1.1.5 Maintenance of Traffic Variance Process**

The Contractor may request an MOT variance for any closure, detour, or other restriction beyond the specified limits defined herein. The following information shall be included in each MOT variance request:

1. Summary of the variance request
2. Justification for the variance request, including a list of the criteria that cannot be met and the reasons for not being able to meet the criteria
3. Public notification methods and schedule
4. List of affected emergency services and the schedule for notification
5. List of affected agencies or private owners and the method(s) and schedule for notification
6. Description of additional public information surveys to be performed, if required
7. List of any potential safety hazards to which the public may be exposed
8. Proposed revisions to the Accepted TCP or current MHT
9. Proposed duration of closure, detour, or phasing change for which a variance is requested

The Contractor shall allow CDOT a minimum of 14 days for review and Approval of any MOT variance requests.

## **16.2 Design Requirements**

The Contractor's Professional Engineer in responsible charge of the MOT design shall prepare, review, and approve field design changes, Released for Construction documents, and a TCP.

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**16.2.1 Traffic Control Plans**

The Contractor shall prepare a TCP to control traffic on the Project. The TCP shall conform to the requirements specified herein, the Standard Specifications, and the most current version of the MUTCD. The TCP shall generally describe all lane and shoulder configurations, including widths, traffic control signing, pavement markings, traffic control devices, temporary signalization, construction access, construction parking, emergency access, work areas, and pedestrian/bicycle requirements necessary for each construction phase.

The TCPs shall be submitted to CDOT for Acceptance 14 days prior to implementation of the particular TCP.

Any major revision to the TCP, as determined by CDOT, shall require submission of a new TCP for Acceptance.

The tunnel shall have two lanes of traffic in each direction at all times with the following exceptions unless otherwise Approved by CDOT.

Unless otherwise Approved by CDOT, any lane closure required will be limited to the following times:

|           |                        |           |
|-----------|------------------------|-----------|
| Sunday    | 10:00 p.m. to Monday   | 6:00 a.m. |
| Monday    | 8:00 p.m. to Tuesday   | 6:00 a.m. |
| Tuesday   | 8:00 p.m. to Wednesday | 6:00 a.m. |
| Wednesday | 8:00 p.m. to Thursday  | 6:00 a.m. |
| Thursday  | 8:00 p.m. to Friday    | 6:00 a.m. |

Lane closure time frames presented above are inclusive of lane closure set up and pick up time, and are subject to weather cancellation.

No work will be allowed the week from December 22, 2014, to January 5, 2015, and from December 19, 2015, to January 4, 2016.

Air duct Work shall conform to the following restriction due to traffic conditions: Year-round a single (i.e. 1 of 4) tunnel air duct will be available to the Contractor. Year-round multiple air duct closures are available between the hours of 8:00 p.m. to 6:00 a.m. except as follows:

1. Additional Winter Scheduled Exception – Winter Schedule is Tuesday following Labor Day through Thursday prior to Memorial Day. Additional multiple air duct closures in the winter will be allowed between 2:00 p.m. and 8:00 p.m. on Monday, Tuesday, and Wednesday only.
2. Due to traffic conditions, the EJMT Maintenance staff may suspend air duct Work on certain days and or hours.

On holiday weekends, lane closures will not be allowed beginning on the day prior to and the day following the holiday weekend.

Lane closures shall be limited to one lane throughout the length of the tunnel. Two 15-minute tunnel closures per hour will be permitted as Approved by CDOT. The Contractor may propose an alternate method for Approval from CDOT.

CDOT reserves the right to direct the Contractor to leave the tunnel at any time due to emergencies or unforeseen circumstance, as they may occur. CDOT shall have the full authority to make this determination and direct the

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Contractor accordingly. To comply with tunnel emergency procedures, cell phones will be on-Site with the air duct work crew(s) supervisor as well as a two-way tunnel frequency radio at all times.

Prior to opening a lane to traffic, the Contractor shall ensure equipment, devices, and anchorages are secure and meet tunnel clearance requirements.

**16.2.2 Method of Handling Traffic**

The EJMT Maintenance staff shall prepare MHTs in accordance with the MUTCD.

**16.2.3 Design Speed and Posted Speed**

Minimum design and posted speeds for Work zones shall conform to Table 16-1.

**Table 16-1: Design and Posted Speeds for Work Zones**

| Location                                    | Design Speed (mph) | Posted Speed (mph)         |
|---|--------------------|----------------------------|
| I-70 Mainline (Match Existing posted speed) | 55                 | EJMT Maintenance Standards |

**16.2.4 Minimum Lane Requirements**

**16.2.4.1 Lane Restrictions**

Before any travel lanes or shoulders are closed, the Contractor shall submit an appropriate TCP to CDOT for Acceptance. The MHT/TCP shall be developed in accordance with the EJMT Maintenance Standards.

Lane restrictions must be submitted to CDOT by the Contractor by Thursday 10:30 a.m. of the week in advance of the work (for work Sunday through Saturday), unless required by construction emergencies or other reasonably unforeseen events.

**16.2.4.2 Working Time Violation Incidents**

If there is a violation of the working time limitations for traffic control as allowed for in this Section, a written notice to stop Work will be imposed on the Contractor at the start of the next Working Day. Work shall not resume until the Contractor assures CDOT, in writing, there will not be a reoccurrence of the working time violation. If more violations take place, CDOT will notify the Contractor in writing there will be a price reduction charge for each Working Time Violation Incident (WTVI). This WTVI price reduction charge shall be reflected on the Contractor’s monthly invoice. This price reduction will not be considered a penalty, but will be a price reduction for failure to perform Work in compliance with the Contract.

A WTVI is any violation up to 30 minutes in duration. Each 30 minutes or increment thereof will be considered a WTVI. A price reduction will be assessed for each successive or cumulative 30-minute period in violation of the working time limitations, as determined by CDOT. A 15-minute grace period will be allowed at the beginning of the second WTVI on the Project before the price reduction is applied. This 15-minute grace period applies only to the second WTVI.

WTVIs shall be in accordance with Standard Special Provision, Subsection 105.03.

**16.2.5 Detour Routes**

Unless otherwise specified, only State Highways shall be used for detour routes. Local Agency streets shall not be used as detour routes, staging areas, or for parking of contractor personal or work vehicles.

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**16.2.6 Trail and Pedestrian Impacts**

Existing sidewalks and pedestrian routes must be maintained at all times. The Contractor shall meet all requirements of ADA as specified in Book 1, Section 2.2.

**16.3 Deliverables**

The Contractor shall submit the following to CDOT for Review, Approval, and/or Acceptance:

**Table 16-2: Deliverables by the Contractor**

| <b>Deliverable</b>                                 | <b>Review, Acceptance, or Approval</b> | <b>Schedule</b>  |
|--|--|--|
| List of MOT Task Force members                     | Acceptance                             | Within 30 days following NTP1  |
| Traffic Management Plan (TMP)                      | Acceptance                             | 30 days prior to NTP2  |
| Requests to CTMC for modifications to VMS messages | Review                                 | 10:30 a.m. on Thursday of the week prior to when the VMS boards will be needed |
| MOT variance request                               | Approval                               | Minimum 14 days prior to the requested date for the change                     |
| Traffic Control Plan (TCP)                         | Acceptance                             | At least 14 days prior to implementation of the TCP                            |

All deliverables shall also conform to the requirements of Book 2, Section 3.