

## **18.0 MAINTENANCE DURING CONSTRUCTION**

### **18.1 Maintenance Administration**

#### **18.1.1 Responsibilities for Maintenance**

The responsibility for performing maintenance of the highway and interchange ramps will be shared by CDOT and the Contractor. The responsibility for performing maintenance of Federal Boulevard, 5<sup>th</sup> Ave. and 7<sup>th</sup> Ave. within the project limits shall be the responsibility of the Contractor. ADA compliant pathways with an all-weather surface shall be provided and maintained at all times. The requirements herein define those maintenance Work responsibilities that shall be performed by the Contractor and those that will remain the responsibility of CDOT. All Work shall conform to the CDOT *Highway Maintenance Level of Service Manual* and as shown in the Reference Documents.

##### **18.1.1.1 Initiation of Contractor Maintenance Responsibilities**

CDOT will be responsible for the highway maintenance until the issuance of NTP2. Once this occurs, the Contractor shall assume the maintenance responsibilities required herein. The City and County of Denver Public Works will be responsible for the maintenance of Federal Boulevard, 5<sup>th</sup> Ave. and 7<sup>th</sup> Ave. until the issuance of NTP2. Once this occurs, the Contractor shall assume the maintenance responsibilities required herein

##### **18.1.1.2 Termination of Contractor Maintenance Responsibilities**

All responsibilities assigned to the Contractor shall remain as defined until Final Acceptance.

#### **18.1.2 Maintenance Level of Service Plan**

The Contractor shall develop and submit to CDOT a Maintenance Level of Service Plan. The plan shall define the Contractor's complete strategy for the implementation, coordination, scheduling, and monitoring of maintenance Activities during the Project. For US6 and I25 the Plan shall conform to the CDOT *Highway Maintenance Level of Service Manual* and be updated every six months to reflect changes in the Contractor's construction Activities. The Maintenance Level of Service Plan shall also address the following components:

1. Maintenance Condition Survey

Every six months, the Contractor shall perform a detailed survey of maintenance conditions for the Highway and any Road provided for construction phasing until all of the Contractor's maintenance responsibilities are complete (Final Acceptance). The results of the survey shall be documented by the Contractor and submitted to CDOT for Acceptance.

2. Monthly Maintenance Progress Report

Monthly Maintenance Progress Reports shall be required for the full term of the Contractor's maintenance responsibilities. These reports shall detail all maintenance Activities performed, monitored maintenance condition of existing facilities, identification of any deficiencies from minimum standards, and an action plan for correcting the

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deficiencies. Monthly Maintenance Progress Reports shall be submitted to CDOT each month with the invoice submittal as required in Book 2, Section 2, Project Management.

The Maintenance Level of Service Plan shall be submitted to CDOT for Approval at least 15 Days prior to NTP2.

**18.1.3 Maintenance Responsibilities of the Contractor**

Except as specifically assigned to CDOT in Section 18.4 below, the Contractor shall perform all required maintenance Activities for all roadways within the project limits, including, but not limited to:

1. Patching and repair of existing pavements
2. Patching and repair of all existing structures included as a part of the Project
3. Repair of shoulder drop-offs
4. Replacement and repair of existing Hot Bituminous Pavement (HBP) shoulders
5. Snow and ice removal for lanes closed to traffic and behind all temporary barrier
6. Snow removal from public sidewalks within the project limits along 5<sup>th</sup> Ave., 7<sup>th</sup> Ave. and Federal Boulevard
7. Maintenance of pedestrian access along 5th Ave., 7th Ave. and Federal Boulevard
8. Compliance to ADA requirements for all-weather surfaces of all pathways and accesses at all times
9. Maintenance of delineators, temporary and permanent signs and pavement markings
10. Drainage maintenance
11. HBP overlays of existing pavements and structures utilized as detours or as a part of the Contractor's Maintenance of Traffic (MOT) plans
12. Replacement of damaged guardrail, bridge rail, barriers, and glare screens
13. Repair of impact attenuators
14. Pest control for buildings acquired within the CDOT Right-of-Way (ROW)
15. Vegetation control in conformance with local agency ordinances
16. Litter control
17. Graffiti removal (graffiti shall be removed within 24 hours of notification and surface shall be the same color as the original)
18. Activities described in Appendix A, Maintenance Performance Specifications (During Construction)
19. Debris removal responsive to providing the minimum lane requirements in Book 2, Section 16, Maintenance of Traffic
20. Sweeping to CDOT MLOS requirements

Snow removal operations in the lanes closed to traffic and behind all temporary barriers shall be done in a way to avoid placing snow back into open lanes to traffic. Snow must be removed far

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enough from the edge of travel lane that runoff from melting snow will not enter into the travel lanes.

Any items (debris) of value discovered by the Contractor in the highway shall be held by the Contractor no longer than 30 Days in consideration of claim by the original owner. This includes temporary advertisement signs. If the original owner does not claim these items within 30 Days, the Contractor shall then relinquish the items (debris) of value to CDOT's Maintenance Staff for storage and the Contractor may dispose of all advertising material at its discretion.

If repair or removal of items illegally dumped on any ROW or easement is required, the Contractor shall perform such services within 3 Working Days from the date discovered or reported.

**18.1.4 Maintenance Responsibilities of CDOT**

CDOT or the City and County of Denver Public Works will perform the following maintenance Activities:

1. Inspection of structures
2. Patching and repair of all existing structures excluded from the Project
3. Snow and ice control for all lanes open to traffic, prior to and during a snow event.

**18.1.5 Limits of Maintenance Responsibilities**

The longitudinal limits of the Contractor's maintenance responsibilities on the Project shall conform to the limits of the Project, including all portions of the Work.

The lateral limits shall be the ROW mainline, and ramps within the Project Site. Any other areas disturbed by Contractor Activities, outside of these limits, shall be the sole maintenance responsibility of the Contractor.

**18.1.6 Excluded Areas**

There are no exclusions within the Project limits.

**18.1.7 Payment for Maintenance During Construction**

Progress payments for maintenance during construction shall be according to Book 2, Section 2, Project Management.

**18.2 Performance Specifications**

In performance of maintenance on the Project, the Contractor shall comply with the CDOT *Highway Maintenance Level of Service Manual*. Specifically, the Contractor shall adhere to the requirements for data collection and measurement for equating level of service (LOS) on the Highway and incorporate these requirements into its performance of all maintenance Work according to the maintenance of LOS plan.

## **18.3 Right-of-Way Construction Requirements**

### **18.3.1 Risk of Loss, Obligation to Maintain and Repair**

The Contractor shall comply with requirements in Book 2, Section 8, Right of Way, and shall maintain improvements and provide reasonable safety and security measures to preserve any acquired ROW or easements (temporary or permanent). The Contractor shall prevent, minimize, or correct problems such as vandalism, trespassing, rodent infestation, weed control (in accordance with any local agency ordinances), illegal dumping or disposal of rubble, and other debris on all areas of the Project that are under the Contractor’s maintenance responsibility.

#### **18.3.1.1 Loss Prevention Methods**

Once the Contractor permission to enter has been acquired, in accordance with Book 2, Section 8, Right of Way, the Contractor shall manage and minimize losses to the property by utilizing some or all of the following loss prevention methods:

1. Daily site inspections
2. Installation of chain link security fencing along property boundaries
3. Installation of locking devices, accessible by Project personnel only on buildings, structures, and other improvements located on a parcel
4. Monthly inspection and application of pest/rodent control measures on each parcel
5. Coordination with local law enforcement agencies and neighborhood watch groups to increase awareness about vandalism, illegal dumping, or indication of trespass or other illegal Activity on any parcel
6. Any other means and method determined necessary by CDOT or the Contractor to manage and minimize loss to the property or improvement

## **18.4 Deliverables**

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

<b>Deliverable</b>	<b>Review, Acceptance or Approval</b>	<b>Schedule</b>
Maintenance Level of Service Plan	Approval	At least 15 Days prior to NTP2, then update every 6 months
Maintenance condition surveys	Acceptance	Concurrent with the Maintenance Level of Service Plan update
Maintenance progress reports	Review	Concurrent with each Monthly Invoice submittal

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

## **18.5 Appendices**

Appendix A Maintenance Performance Specifications (During Construction)

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**APPENDIX A**

**MAINTENANCE PERFORMANCE SPECIFICATIONS (DURING CONSTRUCTION)**

The following is an item Activities listing from CDOT's *Highway Levels of Service Manual*, for which the Contractor shall be responsible during construction.

**Maintenance Program Area: Roadway Surface (150)**

<b>Survey Item</b>	<b>CDOT Activities Number</b>
Patching/Minor Surface Repair	152
Patching-Machine, Overlay and Leveling	154
Blading – Existing Unpaved Surface/Shoulder	162
Building / Restoring Unpaved Surface/Shoulder	163
Base Stabilization and Repair	164

**Maintenance Program Area: Roadside Facilities (200)**

<b>Survey Item</b>	<b>CDOT Activities Number</b>
Drainage Structures Clean, Repair or Replace	202
Maintenance of Ditches and Streambeds	206
Slope Repair	210
Fence, Gate Cleaning & Maintenance	216
Litter Barrel and Trash Cleanup	218
Sweeping – Machine	220
Sweeping – Hand	222

**Maintenance Program Area: Roadside Appearance (250)**

<b>Survey Item</b>	<b>CDOT Activities Number</b>
Vegetation Control – Dry Land	252
Vegetation Control – Bluegrass	253
Vegetation Control – Hand Mowing, Weeding	254
Vegetation Control – Herbicide & Pesticide App	256
Vegetation Control – Irrigation	258
Tree Planting, Removal, Trimming	260

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**Maintenance Program Area: Traffic Services (300)**

<b>Survey Item</b>	<b>CDOT Activities Number</b>
Traffic Signs	302, 303
Delineators, Mile Markers	304
Metal Guardrail	306
Concrete Guardrail	307
Pavement Striping, Pavement Markings	308, 310
Roadway, Sign Lighting	312
Traffic Signals	314
Energy Attenuators	316
Electrical Wiring	320
Interconnect Systems	326

**Maintenance Program Area: Structure Maintenance (350)**

<b>Survey Item</b>	<b>CDOT Activities Number</b>
Bridge Decks	353
Bridge Superstructure	354
Bridge / Structure Painting	355
Bridge Curbs, Railings	356
Bridge Structure Bearings	357
Bridge Substructure	358
Bridge Approaches, Slopes	360
Bridge Deck Expansion Devices	364

**Maintenance Program Area: Snow and Ice Control (400)**

<b>Survey Item</b>	<b>CDOT Activities Number</b>
Snow Removal (Lanes Closed to Traffic)	402
Ice Control – Drainage Related	403