

**FEDERAL AID PROJECT
COLORADO
DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS
US 24 FROM WEST OF MANITOU TO WEST OF CHIPITA PARK**

The 2019 Standard Specifications for Road and Bridge Construction controls construction of this project. The following special provisions supplement or modify the Standard Specifications and take precedence over the Standard Specifications and plans.

PROJECT SPECIAL PROVISIONS

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**FEDERAL AID PROJECT
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SPECIAL PROVISIONS
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STANDARD SPECIAL PROVISIONS

<u>Name</u>	<u>Date</u>	<u>No. of Pages</u>
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Revision of Section 401 – Composition of Mixtures – Voids Acceptance	(October 1, 2019)	1
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Revision of Section 401 – Tolerances for Hot Mix Asphalt (Voids Acceptance)	(October 1, 2019)	1
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NOTICE TO BIDDERS

The proposal guaranty shall be a certified check, cashier's check, or bid bond in the amount of 5 percent of the Contractor's total bid.

Pursuant to subsections 102.04 and 102.05, it is recommended that bidders on this project review the work site and plan details with an authorized Department representative. Prospective bidders shall contact one of the following listed authorized Department representatives at least 12 hours in advance of the time they wish to go over the project.

Program Engineer -	Shane Ferguson Office Phone:	(719)227-3244
Resident Engineer -	Dave Watt Office Phone:	(719)227-3202
Project Engineer -	Davis Smith Cell Phone:	(719)659-8207

The above referenced individuals are the only representatives of the Department with authority to provide any information, clarification, or interpretation regarding the plans, specifications, and any other contract documents or requirements.

Questions received from bidders along with CDOT responses will be posted on the CDOT web site listed below as they become available.

<http://www.coloradodot.info/business/bidding/future-bidding-opportunities>

If the bidder has a question or requests clarification that involves the bidder's innovative or proprietary means and methods, phasing, scheduling, or other aspects of construction of the project, the Project Engineer will direct the bidder to contact the Resident Engineer directly to address the question or clarification. The Resident Engineer will keep the bidder's innovation confidential and will not share this information with other bidders.

The Resident Engineer will determine whether questions are innovative or proprietary in nature. If the Resident Engineer determines that a question does not warrant confidentiality, the bidder may withdraw the question. If the bidder withdraws the question, the Resident Engineer will not answer the question and the question will not be documented on the CDOT web site. If the bidder does not withdraw the question, the question will be answered, and both the question and CDOT answer will be posted on the web site. If the Resident Engineer agrees that a question warrants confidentiality, the Resident Engineer will answer the question, and keep both question and answer confidential. CDOT will keep a record of both question and answer in their confidential file.

All questions shall be directed to the CDOT contacts listed above no later than 7:00 A.M. Monday of the week of bid opening. Final questions and answers will be posted no later than Tuesday morning of bid opening week.

Questions and answers shall be used for reference only and shall not be considered part of the Contract.

DISADVANTAGED BUSINESS ENTERPRISE (DBE) CONTRACT GOAL

This is a federally-assisted construction project. As described in the CDOT DBE Standard Special Provision, the Bidder shall make good faith efforts to meet the following contract goal:

6 Percent DBE participation.

**COMMENCEMENT AND COMPLETION OF WORK
(WORKING DAY)**

The Contractor shall commence work under the Contract on or before the 15th day following Contract execution or the 30th day following the date of award, whichever comes later, unless such time for beginning the work is changed by the Chief Engineer in the "Notice to Proceed." The Contractor shall complete all work 90 Working Days in accordance with the "Notice to Proceed."

ON THE JOB TRAINING CONTRACT GOAL

The Department has determined that On the Job Training shall be provided to trainees with the goal of developing full journey workers in the types of trade or classification involved. The contract goal for On the Job Trainees working in an approved training plan in this Contract has been established as follows:

Minimum number of total On the Job Training required 1,280 hours

**REVISION OF SECTION 102
PROJECT PLANS AND OTHER DATA**

Section 102 of the Standard Specifications is hereby revised for this project as follows:

Subsection 102.05 shall include the following:

After the proposals have been opened, the low responsible bidder may obtain an electronic sets of plans and special provisions from the CDOT Business Management System (B2Gnow) website here: <https://cdot.dbesystem.com/>. Also, if they are available for the project, the low responsible bidder may also obtain cross sections, major structure plan sheets, and computer output data.

**REVISION OF SECTIONS 104 AND 105
PAVEMENT SURFACE COURSE MAINTENANCE**

Sections 104 and 105 of the Standard Specifications are hereby revised for this project as follows:

In subsection 104.04, third paragraph, delete the first sentence and replace with the following:

Portions of the roadway, excluding the pavement surface course, that are not included in the contract work will be maintained by the Department.

Subsection 105.19 shall include the following:

The Contractor shall be responsible for timely response to complete all pavement surface course maintenance for portions of the roadway that are not included in the contract work within the project limits, including the approach to project, as required. These services shall be available upon notice, and provided for at all times, including holidays and seasonal no work periods. The Contractor shall provide these services beginning when time count starts for the project through final acceptance. The Contractor shall submit a Pavement Surface Course Maintenance Plan (PSCMP) to the Engineer for acceptance at the Preconstruction Conference. The PSCMP shall include, but will not be limited to, the following:

- (1) Source of materials to be used for pavement surface course repairs (PSCR).
- (2) Type of materials to be used for PSCR.
- (3) Equipment available to use for PSCR.
- (4) Labor, including names and phone numbers, to perform PSCR.
- (5) Response Time. The Contractor and the traffic control supervisor (TCS) shall respond to the project site within 2 hours of notification.
- (6) Traffic Control. The Contractor shall perform traffic control as required until completion of the PSCR.
- (7) Pavement Marking. Full compliance pavement markings shall be in place on all PSCRs prior to opening to traffic.

The Contractor shall complete pavement surface course maintenance in accordance with the PSCMP. To implement the PSCMP, the Contractor shall develop and submit a method for handling repairs (MHR) for each different PSCR that shows the Contractor's proposed construction methods consistent with the PSCMP. Each proposed MHR will be approved in writing by the Engineer before the PSCR will be allowed to begin.

PSCRs shall be completed in a timely manner in accordance with the approved PSCMP. Unless otherwise approved, PSCRs shall be completed within 4 hours of notification.

Payment will be made under:

Pay Item
Hot Mix Asphalt (Patching)(Asphalt)

Pay Unit
Ton

**REVISION OF SECTIONS 105 AND 608
 DETECTABLE WARNINGS**

Sections 105 and 608 of the Standard Specifications are hereby revised for this project as follows:
 Subsection 105.03 shall include the following:

When corrective work is required for curb ramps, the Contractor shall submit a method statement in writing outlining the work to be performed. Corrective work for curb ramps shall not be performed until written approval has been received from the Engineer. All corrective work for curb ramps shall be at the Contractor's expense.

Subsection 608.01 shall include the following:

This work includes the installation of detectable warnings on concrete curb ramps as shown on the plans.

Subsection 608.02 shall include the following:

Detectable warnings on curb ramps shall be truncated domes of the dimensions shown on the plans or on Standard Plan M-608-1 Curb Ramps.

The final surface shall meet the requirements given in R305 of the PROWAG.

The domes and their underlying surface shall contrast visually with adjacent gutter, street or highway, or pedestrian access route surface, either light-on-dark or dark-on light, per R305.1.3 of the PROWAG. The contrasting colors shall not be black and white. Unless specified otherwise in the Contract, the color of the domes and their underlying surface shall be yellow conforming to Federal Color Standard 33538. Material for the truncated domes shall be one of the following:

- (1) Embeddable Surface Plates. The domes shall be prefabricated by the manufacturer as a pattern on embeddable surface plates. Plates shall be one of the plates allowed for use as detectable warnings listed on CDOT's Approved Products List. Prior to the start of work, the Contractor shall submit appropriate documentation from the manufacturer verifying that the required contrast has been met, along with a sample plate to the Engineer for approval.
- (2) Detectable Warnings Fabricated On Site. Material for on-site fabrication of detectable warnings shall be a liquid-applied epoxy composed of resins, reactive monomers, pigments, glass beads, and fillers. The material shall be low-VOC compliant. The installed product shall have the following properties:

DETECTABLE WARNINGS FABRICATED ON SITE

Property	Test	Requirement
Hardness	ASTM D 2240, Shore A	80 minimum after 24 hours
Tensile Strength	ASTM D 638	125 psi minimum at break
Adhesion	ASTM C 482	Concrete: 200 psi Asphalt: Cohesive failure of substrate
Skid Resistance		Shall remain Firm, Stable , and Slip-Resistant regardless of weather conditions

The color shall be integral to the material and shall be uniform throughout the domes and the underlying surface.

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**REVISION OF SECTIONS 105 AND 608
DETECTABLE WARNINGS**

Subsection 608.03 shall include the following:

(g) *Detectable Warnings for curbs ramps.*

1. Plates. Prior to installation of the plates, concrete conforming to subsection 608.02 shall be installed and consolidated as a base for the plates. The concrete shall be placed to a thickness that will allow the base surface of the plates to be at the same elevation as the adjacent concrete. The plates shall be embedded into the plastic concrete in accordance with the manufacturer's specifications.
2. Detectable Warnings Fabricated On Site. The detectable warnings shall be installed by a trained installer approved by the manufacturer. The detectable warnings shall be installed in accordance with the manufacturer's specifications. The general installation procedure shall be as follows:
 - (1) Prepare the surface to receive the detectable warnings.
 - (2) Apply the liquid material to the surface.
 - (3) Apply the template for the truncated domes.
 - (4) Apply the liquid material to the template.
 - (5) Remove the template.

If the manufacturer of the detectable warnings fabricated on site provides a standard warranty, the Contractor shall obtain that warranty and submit it to the Engineer.

Subsection 608.05 shall include the following:

Detectable warnings on curb ramps, including sand, pavers, plates, liquid epoxy, and all other work and materials necessary for fabrication, transport, and installation will not be measured and paid for separately, but shall be included in the work.

**REVISION OF SECTION 202
REMOVAL OF ASPHALT MAT (PLANING)**

Section 202 of the Standard Specifications is hereby revised for this project as follows:

Delete subsection 202.09, and replace it with the following:

202.09 Removal of Asphalt Mat (Planing). Prior to beginning planing operations, the Contractor shall submit a planing plan and a Quality Control Plan (QCP) for approval by the Engineer. The planing plan shall include at a minimum:

- (1) The number, types and sizes of planers to be used.
- (2) The width and location of each planing pass.
- (3) The number and types of brooms to be used and their locations with respect to the planers.
- (4) The proposed method for planing and wedging around existing structures such as manholes, valve boxes, and inlets.
- (5) The longitudinal and transverse typical sections for tie-ins at the end of the day.
- (6) If requested by the Engineer, a plan sheet showing the milling passes.

The QCP shall include as a minimum:

- (1) The schedule for replacing the cutting teeth.
- (2) The daily preventive maintenance schedule and checklist.
- (3) Proposed use of automatic grade controls.
- (4) The surface testing schedule for smoothness.
- (5) The process for filling distressed areas.
- (6) The schedule for testing macrotexture of the milled surface.
- (7) Corrective procedures if the milled surface does not meet the minimum macrotexture specification.
- (8) Corrective procedures if the milled surface does not meet the minimum transverse or longitudinal surface finish when measured with a 10-foot straightedge.

The Contractor shall not start the planing operation until the hot mix asphalt (HMA) mix design has been approved and a Form 43 has been signed by the Engineer.

The existing pavement shall be milled to the cross-slope as shown on the plans, and shall have a surface finish that does not vary longitudinally or transversely more than 3/8 inch from a 10-foot straightedge. A 10-foot straightedge shall be supplied by the Contractor.

All milled surfaces shall be broomed with a pick-up broom, unless otherwise specified, before being opened to traffic. A sufficient number of brooms shall be used immediately after planing to remove all milled material remaining in the roadway.

If the Contractor fails to adequately clean the roadway, work shall cease until the Engineer has approved the Contractor's revised written proposal to adequately clean the roadway.

The milled surface shall have a macrotexture equal to or less than 0.170 inches for single-lift overlays and 0.215 inches for multiple-lift overlays as tested in accordance with CP 77. Milled surfaces that do not meet these criteria shall require corrective action in accordance with the QCP. The Contractor shall be responsible for testing the macrotexture of the milled surface at the location directed by the Engineer in accordance with CP 77 at a stratified random frequency of one test per 10,000 square yards or a minimum of once per work day.

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**REVISION OF SECTION 202
REMOVAL OF ASPHALT MAT (PLANING)**

At the completion of each day's work, longitudinal vertical edges greater than 1 inch shall be tapered. No transverse vertical edges will be allowed. Longitudinal milled surface tie-ins to existing pavement shall be tapered to not less than a 3:1 slope, transverse milled surface tie-ins to existing pavement shall be tapered to not less than a 50:1 slope. Transverse tapered joints may be tapered with the planing machine, a temporary asphalt ramp, or other methods approved by the Engineer. No longitudinal joint between the milled and existing surfaces shall fall between 1 to 5 feet of any lane line.

If the transverse joint is tapered with a temporary asphalt ramp, the milled surface at the joint shall be constructed as a butt joint the full depth of the lift of asphalt to be placed on the milled surface. The Contractor shall be responsible for maintaining this asphalt ramp until all corresponding HMA is placed. All work associated with this joint will not be paid for separately, but shall be included in the cost of planing.

If the transverse joint is tapered with a planing machine, a butt joint shall be cut into the taper the full depth of the lift of asphalt to be placed on the milled surface prior to commencement of resurfacing. All work associated with this joint will not be paid for separately, but shall be included in the cost of planing.

Other approved transverse joint tapers shall be maintained at the expense of the Contractor, and at a minimum shall incorporate a butt joint the full depth of the lift of asphalt to be placed on the milled surface prior to commencement of resurfacing.

Distressed or irregular areas identified in the planed surface by the Engineer shall be patched.

The roadway shall be left in a safe and usable condition at the end of each work day. The Contractor shall take appropriate measures to ensure that the milled surface does not trap or hold water. All required pavement markings removed by the planing shall be restored before the roadway is opened to traffic.

All milled surfaces to be overlaid with HMA shall be left open to traffic a minimum of 1 day and covered with new asphalt within 7 working days. All areas on this project that are not overlaid within the specified working days will be assessed a lane rental fee of \$11,000 per occurrence for each day or fraction thereof and any required surface repairs shall be paid for by the Contractor.

All planing shall be completed full width and parallel to the travel lanes before resurfacing commences unless otherwise directed by the Engineer.

All material generated by the planing operation shall become the property of the Contractor unless otherwise noted in the Contract.

Add subsection 202.091 immediately following subsection 202.09 as follows:

202.091 Equipment

Each planer shall conform to the following:

The planer shall have sufficient power, traction and stability to maintain an accurate depth of cut. The propulsion and guidance system of the planer shall be maintained in such condition that the planer may be operated to straight and true lines.

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**REVISION OF SECTION 202
REMOVAL OF ASPHALT MAT (PLANING)**

The planer shall be capable of operating with automatic grade controls (contact or non-contact) on both sides of the machine using a 30-foot averaging system or other approved grade control systems. The use of such controls shall be described in the Contractor's QCP.

The planer shall be capable of picking up the removed material in a single operation. A self-loading conveyor shall be an integral part of the planer. Windrows will not be allowed.

Subsection 202.12 shall include the following:

Macrotexture testing, macrotexture corrective actions, planers, brooms and all other work necessary to complete the item will not be measured and paid for separately, but shall be included in the work.

BASIS OF PAYMENT

Subsection 202.12 shall include the following:

Payment will be made under:

Pay Item

Removal of Asphalt Mat (Planing)

Pay Unit

Square Yard

**REVISION OF SECTION 202
RECLAIMED ASPHALT PAVEMENT MILLINGS**

Section 202 of the Standard Specifications is hereby revised for this project as follows:

Subsection 202.09 shall include the following:

The Contractor shall take possession of the Reclaimed Asphalt Pavement (RAP) millings removed from the existing asphalt mat on this project. The RAP millings may be used in the project as allowed in the Contract or as approved by the Engineer. Otherwise, they shall become the property of the Contractor and shall be disposed of at his expense outside the project limits.

Subsection 202.12 shall include the following:

Unless otherwise specified in the Contract, the disposal and hauling of the RAP millings to other locations or its use on the project or at other locations will not be measured and paid for separately, but shall be included in the work.

**REVISION OF SECTION 202
REMOVAL OF PAVEMENT MARKING (ASPHALT GROOVING)**

Section 202 of the Standard Specifications is hereby revised for this project as follows:

Subsection 202.05 shall include the following:

- (c) *Removal of Pavement Marking (Asphalt or Concrete Grooving)*. Pavement marking shall be removed by asphalt grooving or concrete grooving to provide a recessed channel in the pavement surface for the placement of permanent pavement markings at locations as shown on the plans. The channel shall have a transverse and longitudinally uniform depth of 60 mils. The dimensions of the channel shall match the length and width of the specified pavement marking, within a tolerance of 0.25 inches. Where broken line patterns are required, the grooved channel length shall not be continuous, but shall consist of individual grooved segments matching the required pavement marking pattern.

Asphalt, concrete, and pavement marking debris generated by the grooving process shall be collected and removed from the roadway and disposed of lawfully. Displacement of grooving debris to the roadway shoulder shall not be permitted. Collection and removal of grooving debris shall not be measured and paid for separately, but shall be included in the cost of the work.

BASIS OF PAYMENT

Subsection 205.12 shall include the following:

Payment will be made under:

Pay Item

Removal of Pavement Marking (Asphalt Grooving)

Pay Unit

Square Foot

**SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY A CDOT BIOLOGIST**

Section 240 is hereby added to the Standard Specifications for this project as follows:

DESCRIPTION

240.01 This work consists of protecting migratory birds during construction.

MATERIALS AND CONSTRUCTION REQUIREMENTS

240.02 The Contractor shall schedule clearing and grubbing operations and work on structures to avoid taking (pursue, hunt, take, capture or kill; attempt to take, capture, kill or possess) migratory birds protected by the Migratory Bird Treaty Act (MBTA).

(a) *Vegetation Removal.* When possible, vegetation shall be cleared prior to the time active nests are present. Vegetation removal activities shall be timed to avoid the migratory bird breeding season which begins on April 1 and runs to August 31. All areas scheduled for clearing and grubbing between April 1 and August 31 shall first be surveyed within the work limits by a CDOT biologist for active migratory bird nests. The CDOT biologist will also survey for active migratory bird nests within 50 feet outside of the work limits. Project personnel shall enter areas outside CDOT right of way only if a Form 730, *Permission to Enter Property*, has been signed by the property owner. The Contractor shall avoid all active migratory bird nests. The Contractor shall avoid the area within 50 feet of the active nests or the area within the distance recommended by the biologist until all nests within that area have become inactive. Inactive nest removal and other necessary measures shall be incorporated into the work as follows:

1. *Tree and Shrub Removal or Trimming.* Tree and shrub removal or trimming shall occur before April 1 or after August 31 if possible. If tree and shrub removal or trimming will occur between April 1 and August 31, a survey for active nests will be conducted by the CDOT biologist within the seven days immediately prior to the beginning of work in each area or phase of tree and shrub removal or trimming. The Contractor shall notify the Engineer at least ten working days in advance of the need for the CDOT biologist to perform the survey.

If an active nest containing eggs or young birds is found, the tree or shrub containing the active nest shall remain undisturbed and protected until the nest becomes inactive. The nest shall be protected by placing fence (plastic) a minimum distance of 50 feet from each nest to be undisturbed. This buffer dimension may be changed if determined appropriate by the CDOT biologist and approved by the Engineer. Work shall not proceed within the fenced buffer area until the young have fledged or the nests have become inactive.

If the fence is knocked down or destroyed by the Contractor, the Engineer will suspend the work, wholly or in part, until the fence is satisfactorily repaired at the Contractor's expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges, but will be charged as contract time.

2. *Grasses and Other Vegetation Management.* Due to the potential for encountering ground nesting birds' habitat, if work occurs between April 1 and August 31, the area shall be surveyed by the CDOT biologist within the seven days immediately prior to ground disturbing activities. The Contractor shall notify the Engineer at least ten working days in advance of the need for the CDOT biologist to perform the survey.

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SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY A CDOT BIOLOGIST

The undisturbed ground cover to 50 feet beyond the planned disturbance, or to the right of way line, whichever is less, shall be maintained at a height of 6 inches or less beginning April 1 and continuing until August 31 or until the end of ground disturbance work, whichever comes first.

If birds establish a nest within the survey area, an appropriate buffer of 50 feet will be established around the nest by the CDOT biologist. This buffer dimension may be changed if determined appropriate by the CDOT biologist and approved by the Engineer. The Contractor shall install fence (plastic) at the perimeter of the buffer. Work shall not proceed within the buffer until the young have fledged or the nests have become inactive.

If the fence is knocked down or destroyed by the Contractor, the Engineer will suspend the work, wholly or in part, until the fence is satisfactorily repaired at the Contractor's expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges, but will be charged as contract time.

- (b) *Work on structures.* The Contractor shall prosecute work on structures in a manner that does not result in a taking of migratory birds protected by the Migratory Bird Treaty Act (MBTA). The Contractor shall not prosecute the work on structures during the primary breeding season, April 1 through August 31, unless he takes the following actions:
- (1) The Contractor shall remove existing nests prior to April 1. If the Contract is not awarded prior to April 1 and CDOT has removed existing nests, then the monitoring of nest building shall become the Contractor's responsibility upon the Notice to Proceed.
 - (2) During the time that the birds are trying to build or occupy their nests, between April 1 and August 31, the Contractor shall monitor the structures at least once every three days for any nesting activity.
 - (3) If birds have started to build any nests, the nests shall be removed before they are completed. Water shall not be used to remove the nests if nests are located within 50 feet of any surface waters.
 - (4) Installation of netting may be used to prevent nest building. The netting shall be monitored and repaired or replaced as needed. Netting shall consist of a mesh with openings that are $\frac{3}{4}$ inch by $\frac{3}{4}$ inch or less.

If an active nest becomes established, i.e., there are eggs or young in the nest, all work that could result in abandonment or destruction of the nest shall be avoided until the young have fledged or the nest is unoccupied as determined by the CDOT Biologist and approved by the Engineer. The Contractor shall prevent construction activity from displacing birds after they have laid their eggs and before the young have fledged.

If the project continues into the following spring, this cycle shall be repeated. When work on the structure is complete, the Contractor shall remove and properly dispose of netting used on the structure.

- (c) *Taking of a Migratory Bird.* The taking of a migratory bird shall be reported to the Engineer. The Contractor shall be responsible for all penalties levied by the U. S. Fish and Wildlife Service (USFWS) for the taking of a migratory bird.

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**SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY A CDOT BIOLOGIST**

METHOD OF MEASUREMENT

240.03 Removal of nests will be measured by the actual number of man-hours spent removing inactive nests just prior to and during the breeding season, April 1 through August 31. During this period, the Contractor shall submit to the Engineer each week for approval a list of the workers who removed nests and the number of hours each one spent removing nests.

Netting will be measured by the square yard of material placed to keep birds from nesting on the structure. Square yards will be calculated using the length of netting measured where it is attached to the ground and the average height of the netting where it is attached to the structure.

BASIS OF PAYMENT

240.04 The accepted quantities measured as provided above will be paid for at the contract unit price for each of the pay items listed below that appear in the bid schedule.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Removal of Nests	Hour
Netting	Square Yard

Payment for Removal of Nests will be full compensation for all work and material required to complete the work.

Payment for netting will be full compensation for all work and material required to complete the item. Overlaps of netting will not be measured and paid for separately, but shall be included in the work. Maintenance and replacement, removal, and disposal of netting will not be measured and paid for separately, but shall be included in the work.

Clearing and grubbing will be measured and paid for in accordance with Section 201. Mowing will not be measured and paid for separately, but shall be included in the work.

Removal and trimming of trees will be measured and paid for in accordance with Section 202.

Fence (Plastic) will be measured and paid for in accordance with Section 607.

**REVISION OF SECTIONS 304 AND 703
AGGREGATE BASE COURSE (SHOULDERING MATERIAL)**

Section 304 of the Standard Specifications is hereby revised for the project as follows.

Subsection 304.01 shall include the following:

This work consists of furnishing and placing recycled asphalt pavement (RAP), crushed concrete or virgin aggregate base course for shouldering material in accordance with these specifications and in conformity with the lines and details shown on the plans or established.

Subsection 304.02 shall include the following:

Aggregate Base Course (Shouldering Material) shall be 100 percent reclaimed asphalt pavement material, 100 percent crushed concrete or 100 percent crushed virgin aggregate conforming to the requirements of Table 703-3.

Delete Subsection 304.04 and replace with the following:

304.04 Placing. Aggregate Base Course (Shouldering Material) shall be placed with a shouldering machine capable of shaping the material next to the roadway as shown in the plans. It shall be well compacted with a wheel roller after placement as directed by the Engineer. Aggregate Base Course (Shouldering Material) shall not be placed directly on new asphalt. Unless otherwise shown in the plans, stockpiling will not be permitted within the Right-of-Way for the project. The Contractor shall address these issues in the method statement for this work.

Subsection 304.07 shall include the following:

Aggregate Base Course (Shoulder Material) will be measured by the measured cubic yard of material, completed and accepted.

Subsection 304.08 shall include the following:

The accepted quantities will be paid for at the contract unit price per cubic yard.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Aggregate Base Course (Shoulder Material)	Cubic Yard

Payment will be full compensation for all labor, materials, equipment, and other items necessary and incidental to the completion of the work. Processing, hauling, placing and compacting of the Aggregate Base Course (Shouldering Material) will not be measured and paid for separately, but shall be included in the work.

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**REVISION OF SECTIONS 304 AND 703
AGGREGATE BASE COURSE (SHOULDERING MATERIAL)**

Subsection 703.03 shall include the following:

The material Aggregate Base Course (Shouldering Material) shall conform to Table 703-3A and the following.

The plasticity index shall be less than 5 when tested in accordance with AASHTO T89 and AASHTO T90 respectively. The material shall not contain clay balls, vegetable matter, or other deleterious substances.

**TABLE 703-3A
GRADATION REQUIREMENTS - SHOULDER MATERIAL**

Sieve Size	Mass Percent Passing Square Mesh Sieve
50 mm (2")	100
25 mm (1")	85 - 100
19 mm (3/4")	75 - 100
12.5 mm (1/2")	55 - 90
9.5 mm (3/8")	45 - 80
4.75 mm (No. 4)	25 - 55
1.18 mm (No. 16)	5 - 25
75 µm (No. 200)	0 - 5

**REVISION OF SECTION 403
HOT MIX ASPHALT TICKET COLLETION**

Section 403 of the Standard Specifications is hereby revised for this project as follows:

Subsection 403.05 shall include the following:

The Contractor shall collect the scale ticket on each load when it is delivered to the project site, and ensure that the information required in subsection 109.01 is shown on each ticket.

The scale tickets shall be available on site for CDOT personnel to inspect.

Each day the Contractor shall provide to the Engineer envelopes, which contain the previous day's signed tickets and the following:

1. On each envelope: Project number, date of paving, type of material, beginning and ending station, daily total and cumulative total.
2. One of the following:
 - a. Two adding machine tape tabulations of the weight tickets with corresponding totals run and signed by different persons,
 - b. One signed adding machine tape tabulation of the weight tickets that has been checked and signed by a second person,
 - c. Signed check tape of computer scale tickets that have a cumulative total. These scale tickets must be consecutive and without voids adjustments.
3. A listing of any overweight loads on the envelope, including ticket numbers and amount over legal limit.
4. A comparison of the actual yield for each day's placement to the theoretical yield. Theoretical yield shall be based on the actual area paved, the planned thickness, and the actual density of the mixture being placed. Any variance greater than +/- 2.5% shall be indicated on the envelope and a written explanation included.

The Contractor shall provide a vehicle identification sheet that contains the following information for each vehicle:

- 1) Vehicle number
- 2) Length
- 3) Tare weight
- 4) Number of axles
- 5) Distance between extreme axles
- 6) All other information required to determine legal weight.
- 7) Legal weight limit.

If the Contractor fails to provide the Engineer with the required information on a daily basis, paving will not be allowed to resume unless approved by the Engineer.

**REVISION OF SECTION 403
 HOT MIX ASPHALT**

Section 403 of the Standard Specifications is hereby revised for this project as follows:

Subsection 403.02 shall include the following:

The design mix for hot mix asphalt shall conform to the following:

Table 403-1						
Property	Test Method	Value For Grading				
				SX(100)		Patching
Air Voids, percent at: N (design)	CPL 5115			3.5 – 4.5		3.5 – 4.5
Lab Compaction (Revolutions): N (design)	CPL 5115			100		75
Stability, minimum	CPL 5106			30		28
Aggregate Retained on the 4.75 mm (No. 4) Sieve for S, SX and SG, and on the 2.36mm (No. 8) Sieve for ST and SF with at least 2 Mechanically Induced fractured faces, % minimum*	CP 45			65		65
Accelerated Moisture Susceptibility Tensile Strength Ratio (Lottman), minimum	CPL 5109 Method B			80		80
Minimum Dry Split Tensile Strength, kPa (psi)	CPL 5109 Method B			205 (30)		205 (30)
Grade of Asphalt Cement, Top Layer				PG 76-28		PG 58-28
Grade of Asphalt Cement, Layers below Top						PG 58-28
Voids in the Mineral Aggregate (VMA) % minimum	CP 48			See Table 403-2		See Table 403-2
Voids Filled with Asphalt (VFA), %	AI MS-2			65-80		65-80
Dust to Asphalt Ratio Fine Gradation Coarse Gradation	CP 50			0.6 – 1.2 0.8 – 1.6		0.6 - 1.2 0.8 – 1.6
Note: AI MS-2 = Asphalt Institute Manual Series 2 Note: Mixes with gradations having less than 40% passing the 4.75 mm (No. 4) sieve shall be approached with caution because of constructability problems. Note: Gradations for mixes with a nominal maximum aggregate size of one-inch or larger are considered a coarse gradation if they pass below the maximum density line at the #4 screen. Gradations for mixes with a nominal maximum aggregate size of 3/4" to 3/8" are considered a coarse gradation if they pass below the maximum density line at the #8 screen. Gradations for mixes with a nominal maximum aggregate size of #4 or smaller are considered a coarse gradation if they pass below the maximum density line at the #16 screen. *Fractured face requirements for SF may be waived by RME depending on project conditions.						

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**REVISION OF SECTION 403
 HOT MIX ASPHALT**

All mix designs shall be run with a gyratory compaction angle of 1.25 degrees and properties must satisfy Table 403-1. Form 43 will establish construction targets for Asphalt Cement and all mix properties at Air Voids up to 1.0 percent below the mix design optimum. CDOT will establish the production asphalt cement and volumetric targets based on the Contractor’s mix design and the relationships shown between the hot mix asphalt mixture volumetric properties and asphalt cement contents on the Form 429. CDOT may select a different AC content other than the one shown at optimum on the Contractor’s mix design in order to establish the production targets as contained on the Form 43. Historically, Air Voids adjustments typically result in asphalt cement increases from 0.1 to 0.5 percent. Contractors bidding the project should anticipate this change and factor it into their unit price bid.

TABLE 403-2

Nominal Maximum Size*, mm (inches)	Minimum Voids in the Mineral Aggregate (VMA)			
	***Design Air Voids **			
	3.5%	4.0%	4.5%	5.0%
37.5 (1½)	11.6	11.7	11.8	N/A
25.0 (1)	12.6	12.7	12.8	
19.0 (¾)	13.6	13.7	13.8	
12.5 (½)	14.6	14.7	14.8	
9.5 (¾)	15.6	15.7	15.8	
4.75 (No. 4)	16.6	16.7	16.8	16.9
	* The Nominal Maximum Size is defined as one sieve larger than the first sieve to retain more than 10%. ** Interpolate specified VMA values for design air voids between those listed. *** Extrapolate specified VMA values for production air voids beyond those listed.			

The Contractor shall prepare a quality control plan outlining the steps taken to minimize segregation of HMA. This plan shall be submitted to the Engineer and approved prior to beginning the paving operations. When the Engineer determines that segregation is unacceptable, the paving shall stop and the cause of segregation shall be corrected before paving operations will be allowed to resume.

CDOT approved Warm Mix Asphalt (WMA) may be allowed on this project in accordance with CP 59. Unique requirements for WMA design, production and acceptance testing as documented during CDOT WMA approval shall be submitted and approved prior to creation of the Form 43 and before any WMA production on the project. Delays to the project due to WMA submittal and review will be considered within the Contractor’s control and will be non-excusable.

Hot mix asphalt for patching shall conform to the gradation requirements for Hot Mix Asphalt (Grading SX).

A minimum of 1 percent hydrated lime by weight of the combined aggregate shall be added to the aggregate for all hot mix asphalt.

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**REVISION OF SECTION 403
HOT MIX ASPHALT**

Acceptance samples shall be taken at the location specified in either Method B or C of CP 41.

Subsection 403.03 shall include the following:

The Contractor shall construct the work such that all roadway pavement placed prior to the time paving operations end for the year, shall be completed to the full thickness required by the plans. The Contractor's Progress Schedule shall show the methods to be used to comply with this requirement.

Delete subsection 403.05 and replace with the following:

403.05 The accepted quantities of hot mix asphalt will be paid for in accordance with subsection 401.22, at the contract unit price per ton for the bituminous mixture.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Hot Mix Asphalt (Grading SX)(100)(PG 76-28)	Ton
Hot Mix Asphalt (Patching)(Asphalt)	Ton

Aggregate, asphalt recycling agent, asphalt cement, additives, hydrated lime, and all other work and materials necessary to complete each hot mix asphalt item will not be paid for separately, but shall be included in the unit price bid. When the pay item includes the PG binder grade, any change to the submitted mix design optimum asphalt cement content to establish production targets on the Form 43 will not be measured and paid for separately, but shall be included in the work. No additional compensation will be considered or paid for any additional asphalt cement, plant modifications and additional personnel required to produce the HMA as a result in a change to the mix design asphalt cement content.

Historically, typical asphalt cement increases reflected on the Form 43 are from 0.1 to 0.5 percent. However, the Contractor should anticipate the AC increases typical of his mixes. Contractors bidding the project should anticipate this change and factor it into their unit price bid.

When the pay item does not include the PG binder grade, asphalt cement will be measured and paid for in accordance with Section 411. Asphalt cement used in Hot Mix Asphalt (Patching) will not be measured and paid for separately, but shall be included in the work.

Excavation, preparation, and tack coat of areas to be patched will not be measured and paid for separately, but shall be included in the work.

**REVISION OF SECTION 606
GUARDRAIL**

Section 606 of the 2019 Standard Specification is hereby revised for this project as follows:

In subsection 606.03(a), delete the final paragraph and replace with the following:

The Contractor shall furnish steel posts and FHWA approved synthetic material blocks for guardrail and end sections as shown on the plans. Posts and guardrail shall be steel galvanized. Posts for end section shall be steel posts. Wood posts shall not be permitted for permanent installations.

**REVISION OF SECTION 612
FLEXIBLE DELINEATORS**

Section 612 of the Standard Specifications is hereby revised for this project as follows:

In subsection 612.02 (a) 2.B, delete the first paragraph and replace with the following:

- B. Base Anchoring. The posts shall be designed to facilitate a permanent installation that resists overturning, twisting, and displacement from wind and impact forces. It shall have an anchoring depth of 22½ to 23 inches per CDOT Standard Plan S-612-1 or manufacturer’s recommendation. A concrete foundation shall be used for delineator support in soft soils per the plans or as directed by the Engineer.

Delete subsection 612.02 (a) 2.E and replace with the following:

- E. Dimensions.
 - (1) Width. The post shall have a minimum width of 2 3/8 inches and a maximum width of 4 1/8 inches facing traffic with a 0.22-inch minimum wall thickness.
 - (2) Length. The post shall be of such length to provide a height of 48 inches above the edge of the pavement and to provide the required anchoring depth for the Drivable Method of installation. The post length shall adhere to the requirements outlined in S-612-1 for all other installation methods.

Subsection 612.02 (a) 2.F shall include the following:

- (8) The post (excluding post, clamp and cup mount types) shall have a simple non-mechanical flexible joint. The flexible joint shall have a square to round configuration that transitions from the ground anchor to the post and shall enable the posts to self-right after omni-directional impacts. The square end shall be molded to exactly fit inside the 2-inch square tubing opening and transitions to a round configuration to exactly fit inside the delineator post. The flexible joint shall be fully inserted in both ends to allow proper installation of securing hardware and self-righting properties.
- (9) The post shall be permanently sealed at the top and have a 13 inch flattened surface to accommodate up to three (3” by 3”) reflective sheets. A Type I delineator shall have one (3” by 3”) reflective sheet on one side, a Type II shall have two (3” by 3”) reflective sheets on one side and a Type III shall have three (3” by 3”) reflective sheets on one side. Reflective sheets shall be placed in a straight vertical column starting one inch from the top edge of the delineator. Type II and III delineators shall have reflective sheets separated by one inch vertically in the column. All reflective sheets shall be placed at the factory by the fabricator prior to on-site delivery of delineators. The texture of the projected surface shall be smooth and suitable for the adherence of reflective sheeting without preparation other than wiping with a clean cloth dampened with mineral spirits to remove oil-type contaminants.
- (10) The post shall be comprised of high density thermoplastic, consisting of a minimum of 70% by volume, post-consumer recycled HDPE, with an interstate green, premium U.V. inhibited, co-extruded HDTP shell and a flexible insert which transitions from square to round.
- (11) The anchor shall be galvanized steel perforated tubing.

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**REVISION OF SECTION 612
FLEXIBLE DELINEATORS**

Subsection 612.05 shall include the following:

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Delineator (Flexible) (Drivable) (Type I)	Each
Delineator (Flexible) (Drivable) (Type II)	Each
Delineator (Flexible) (Drivable) (Type III)	Each

**REVISION OF SECTION 626
PUBLIC INFORMATION MANAGEMENT
(TIER II)**

Section 626 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

This work consists of providing Public Information Management throughout the duration of the project. The Contractor shall submit the Public Information Management deliverables to the Project Engineer for approval. Prior to approval by the Engineer, the Region Communications Manager (RCM) will also review deliverables.

CONSTRUCTION REQUIREMENTS

- (a) *Public Information Manager (PIM)*. The Contractor shall designate a PIM who shall be responsible for all activities associated with Public Information Management for this project. Within ten days following the date of the Notice to Proceed, the Contractor shall submit the name, contact information, and resume qualifications of the PIM and the Backup PIM for approval by the Engineer. The RCM will also review the PIM's and Backup PIM's resume. The PIM shall be identified, approved, and able to perform all requirements in this Section at least 14 days before the start of work. If this is not feasible, the Contractor is responsible for the project start-up deliverables and the individual preparing the deliverables shall meet the minimum qualifications of the PIM. The PIM shall have a minimum of five years of professional experience in public/media relations, marketing, or other related field and good verbal and written communication skills. Administrative/business office experience is not considered experience in a related field. The PIM shall not be the Project Superintendent.
- (b) *Activities of the PIM*. From the Notice to Proceed through the Completion of Work, the PIM shall be responsible for the following:
 - (1) *Project Onboarding Checklist*. The PIM or Backup PIM shall complete and update the Project Onboarding Checklist (<https://form.jotform.com/71167524405150>) on a monthly basis or as requested by the Engineer. The checklist will assist the PIM and CDOT with tracking required activities and deliverables.
 - (2) *On-Call*. The PIM shall be available or on-call each day there is work on the project and shall be available upon the Engineer's request outside of normal working hours.
 - (3) *Public Information Office*. The Contractor shall establish a public information office equipped with a telephone, a local telephone number with voicemail, a computer, and an email address. The public information office may be located within the project office, off-site, or within the PIM's office. The telephone line will be the Project Hotline and shall be included on the Project Information signs. The voicemail greeting shall be updated at least weekly. The greeting shall include the project's completion date, forthcoming activities for the update period, and allow the caller to leave a voice message. The PIM shall answer calls, check voicemail and email messages, and respond to messages throughout each day that construction operations are in effect. The PIM, and when necessary the Engineer, shall respond to all inquiries with a phone call, a voice message, or an email within one work day. The PIM shall document the name, contact information, either a phone number or email address, and the action taken. Within two days of receiving the message, the PIM or Backup PIM shall enter message details and follow-up action into Dialog.

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**REVISION OF SECTION 626
PUBLIC INFORMATION MANAGEMENT
(TIER II)**

(4) *Lane Closure Reporting.*

- (i) *Dialog Project Account.* At the Pre-construction Conference, the PIM shall submit a “Request for Dialog Account” to the Engineer. The Engineer will provide the Contractor a login and password for the Dialog Customer Service Program and the Lane Closures and Updates Program. At least once per week, the PIM or Backup PIM shall be responsible for entering project information into the Dialog Project Account.
- (ii) *Weekly Lane Closures.* The PIM shall enter the planned weekly lane closures and updates into the Dialog Program by Thursday at 12:00 P.M. for the upcoming Sunday through Saturday. The information will be included on the website, www.cotrip.org, and a media report. The PIM shall develop Traffic Advisories that include lane closure and update information. The PIM or Backup PIM shall notify the Engineer and the RCM one week in advance of all planned “no work” periods. The Engineer will approve the Lane Closure and Updates by each Friday at 3:00 P.M.. Each Monday by 12:00 P.M., the PIM shall review www.cotrip.org and verify that the lane closure and update information is accurate. If corrections are necessary, the PIM shall coordinate those corrections to www.cotrip.org with the Engineer.
- (iii) *Real-Time Lane Closure Changes.* The PIM or Backup PIM shall notify the Engineer at least 24 hours in advance for changes to an approved Lane Closure. The Engineer will notify the PIM when the Dialog Program record is available for changes. After changes are made, the PIM shall notify the Engineer that the changes are ready for review and approval.

(5) *Public Information Collateral.* The PIM shall develop a variety of Public Information Collateral to share project information with the public as necessary for major project milestones such as long-term closures or impactful construction activities. Collateral includes the following:

- (i) *Photographs and Video Recordings.* The PIM shall take photographs and video recordings on regular intervals and submit them to the Engineer and the Region Communications Manager. A cell phone camera is permitted. Photographs and video recordings may capture traffic control, paving, slope repair, erosion control, bridge deck, and rail work activities. Photographs and video recordings may also include other key areas of work as identified by the Contractor or the Engineer and will be used in Public Information Collateral. The Contractor shall submit a minimum of two digital photographs or video recordings each month to the Engineer. Each photograph and video recording shall include project number, project code, date, time, location and station or milepost, and name of person taking the picture or video recording.
- (ii) *Web Page Updates.* The PIM shall work with CDOT to develop the latest project information for the internet web page content. The PIM shall supply information for the web page using the CDOT web page template. When applicable, the updates shall contain all appropriate web page links to and from other sites. The PIM shall provide updated information at least weekly. CDOT will update the web page.

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**REVISION OF SECTION 626
PUBLIC INFORMATION MANAGEMENT
(TIER II)**

- (iii) *Project Fliers.* The Contractor or PIM shall develop Project Fliers using the CDOT template and shall include CDOT’s logo, and at the Engineer’s discretion may include the project logo. The Contractor or PIM shall contact the Engineer for copies of the templates. At least 14 days prior to delivering Project Fliers, the Contractor or PIM shall prepare and submit a draft of the flier to the Engineer. The Engineer’s review will not exceed seven days. Fliers shall be approved by the Engineer before distribution. Fliers shall be delivered by email. The list of recipients shall be developed via <http://uspseverydoordirectmail.com>, the use of a mailing list from county GIS mapping, or other approved method. An email containing the flier shall be sent to stakeholders identified in the Stakeholder List. The RCM will post the Project Fliers on social media.

This project requires Project Fliers at the following milestones:

1. Initial Project Flier
2. Completion Project Flier

Initial Project Flier. At least four days prior to the start of work, the PIM shall deliver one approved flier per stakeholder. The Initial Project Flier shall provide the project start and end dates, project location, description of work, traffic impacts, scheduled work hours and work days, the Project Hotline, email address, web address, project map, photo of project area, and a construction safety message as defined by CDOT.

- (iv) *Media Relations.* The PIM shall develop media releases using the CDOT template. The releases shall include detour maps or other visual aids. The PIM shall develop media releases based on major construction milestones such as project start, lane shifts, a traffic switch, closures, and on other occasions as directed by CDOT. At least 14 days prior to the construction milestone, the PIM shall submit a draft to the Engineer for approval. The Engineer’s review will not exceed seven days. The media release shall be approved by the Engineer before distribution. CDOT will distribute media releases.

At least 14 days prior to the start of work, the Contractor or PIM shall submit for approval by the Engineer a media release summarizing the project scope, construction phasing, potential construction activities that impact traffic, the project end date, and a summary of project benefits.

CDOT will address all media inquiries and media requests. The PIM or Backup PIM shall immediately notify the Engineer of any on-site situations involving the media. When the media contacts the PIM or Contractor staff, the PIM shall provide the RCM’s contact information.

- (v) *Maps and Graphics.* The PIM shall develop maps, detour maps, and graphics for use in Public Information Collateral.

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**REVISION OF SECTION 626
PUBLIC INFORMATION MANAGEMENT
(TIER II)**

- (vi) *Weekly email newsletter.* To stakeholders with information from weekly lane closure report.
- (6) *Public Information Plan.* The PIM shall submit a Public Information Plan (PIP) within ten days of the Pre-construction Conference for approval by the Engineer. The PIP shall be specific to the project. The Plan shall include the public information strategies for community and business relations, government affairs and media relations, the stakeholder list, identification of public information issues, proposed outreach, and approach to crisis communications using the Public Information Collateral. The PIP shall be updated as necessary and as directed by the Engineer.
- (7) *Project Meetings.* The PIM shall participate in the weekly project meetings. The PIM shall discuss communication issues, and provide a status on the items in this specification.
- (8) *Language Assistance for LEP Persons.* CDOT is required to provide access to Limited English Proficient (LEP) persons. LEP persons are individuals for whom English is not their primary language and who have a limited ability to read, write, speak, or understand English. Examples of language assistance include translation of meeting notices and interpretation services at meetings. The PIM shall work with CDOT to provide interpretation services upon request by an LEP person. When the project is located in a community that has greater than five percent LEP persons, Public Information Collateral shall be translated for those individuals. The PIM shall document all measures taken to communicate with LEP persons and record all requests for language assistance.
- (9) *Outreach Events.* The Contractor shall provide appropriate technical staff and they shall participate in all Outreach Events.
- (i) *Stakeholder Meetings.* The PIM and the Contractor shall participate with CDOT on all meetings requested by the Engineer.
- (ii) *Tours and Special Events.* The PIM shall coordinate media, business, and government official tours of the construction areas and events. The PIM and the Contractor shall participate in tours and events.
- (c) *Response Protocol to CDOT and the Public.* The PIM shall follow Table 626-1 in responding to correspondence from stakeholders and the public.

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REVISION OF SECTION 626
PUBLIC INFORMATION MANAGEMENT
(TIER II)

TABLE 626-1
RESPONSE PROTOCOL

TYPE OF COMMUNICATION	TIMING OF RESPONSE
Project Hotline calls and voice messages	Answer calls and check messages throughout each work day. Respond the same day or within 24 hours. Enter details into Dialog within two days.
Email messages	Respond the same day. For high volume situations, respond within two work days. Enter details into Dialog within two days.
Calls from CDOT Staff	Respond as soon as possible, and within 24 hours.
Web page Inquiries	Respond the same day. For high volume situations, respond within two work days.
Public Meeting Inquiries	Respond within one week of the meeting.

- (d) *Deliverable Protocol.* The PIM shall conform to the Project Onboarding Checklist or Region Public Information Management Communication Checklist available from the Engineer and RCM.
- (e) *Public Information Management Contact Sheet.* The PIM shall complete and update a Public Information Management (PIM) Contact Sheet with the names and contact information of the individuals pertinent to Public Information for approval by the Engineer. At a minimum the Contact Sheet will include the Resident Engineer, the Project Engineer, Region Communications Manager, CDOT Website Administrator, CDOT Dialog Administrator, CDOT Colorado Traffic Management Center, Contractor Superintendent, PIM, and Traffic Control Supervisor. If applicable the contact sheet shall include the Region 1 Joint Operations Center and Region 2 Joint Operations Center. The PIP shall include the PIM Contact Sheet.
- (f) *Stakeholder List.* The PIM shall submit a Stakeholder List as part of the PIP. The Stakeholder List shall include stakeholder’s information including stakeholder group, contact name, telephone number, email, and notes on communication needs for the project and project impacts.

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**REVISION OF SECTION 626
PUBLIC INFORMATION MANAGEMENT
(TIER II)**

METHOD OF MEASUREMENT

Public Information Management will be measured as the number of calendar days elapsed between project Notice to Proceed and Completion of Work. Failure to provide acceptable Public Information Management will result in withholding of payment for the days affected.

BASIS OF PAYMENT

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Public Information Management (Tier II)	Day

Payment for Public Information Management will be full compensation for all work, materials and equipment to provide public information throughout the project in accordance with this specification.

If the Contractor fails to complete construction within the approved contract time, payment will not be made for Public Information Management for the period of time after expiration of the approved contract time. These items shall be provided at the Contractor's expense.

**REVISION OF SECTIONS 627 AND 713
PREFORMED THERMOPLASTIC PAVEMENT MARKING**

Section 627 of the Standard Specification is hereby revised for this project as follows:

Subsection 627.09 shall include the following:

(c) *Inlaid Preformed Thermoplastic Pavement Marking.* Shall be done for Xwalk and Stop Lines and FHWA Exit Ramp Arrows. The grooved width for inlaid preformed thermoplastic pavement marking is called for in the Contract, grooved width shall be the pavement marking width plus 1 inch, with a tolerance of $\pm \frac{1}{4}$ inch. The dimensions of the Xwalk marking shall 2ft x 8ft x 120 mils (thickness) typical. The dimension of the stop bar shall be 2ft x “length of need” x 120 mils (thickness). The FHWA Exit Ramp Arrow is composed of two 10ft x 8 in and one 16.5ft x 8 in lines, both 120 mils (thickness). The depth of the grooves shall be 130 mils \pm 5 mils. Groove position shall be a minimum of 2 inches from the edge of the pavement marking to the longitudinal pavement joint. Grinding of existing preformed thermoplastic pavement marking and the inlaying of proposed preformed thermoplastic pavement marking shall not be measured and paid for separately, but shall be included in the work. Word Symbols (Arrows), shall be Preformed Thermoplastic Pavement Marking and surface applied.

Grooving shall not be performed on bridge decks.

The preformed thermoplastic pavement marking shall be inlaid on new and existing pavements as shown in the Contract. The material shall be capable of use for patching worn areas of the same type according to the manufacturer’s recommendations.

Removal and application of temporary preformed thermoplastic pavement marking associated with wet-cutting of pavement shall be at the Contractor’s expense.

An epoxy resin primer shall be applied to all existing surfaces (concrete, asphalt, existing markings, etc.) prior to the application of any new preformed thermoplastic, plastic pavement marking. The epoxy resin primer shall conform to CDOT Standard Specifications subsection 708.07. Primer shall be required for all markings used including markings that manufacture does not require a primer. Primer and application will not be measured and paid for separately, but shall be included in the work.

Surface shall be dry and free of dirt, dust, chemicals, and/or significant oily substances. Application procedures for Portland concrete pavement shall be as described above except a compatible primer sealer shall be applied before application of marking to assure proper adhesion.

The following shall be included in the second and third paragraphs of subsection 627.13:

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Preformed Thermoplastic Pavement Marking (Xwalk-Stop Line)(Special)	Square Foot
Preformed Thermoplastic Pavement Marking (Word-Symbol)	Square Foot

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**REVISION OF SECTION 627 AND 713
PREFORMED THERMOPLASTIC PAVEMENT MARKING**

Subsection 713.12 shall include the following:

(a) General.

Material such as lines, legends, or symbols shall be capable of being affixed to HMA or PCC pavements. Marking shall be capable of conforming to pavement contours, breaks, and faults etc. by the use of the normal heat of a propane torch. Marking shall be capable of withstanding the actions of traffic at normal pavement temperatures. Marking shall have resealing characteristics such that it is capable of fusing with itself and previously applied thermoplastic pavement markings when heated with the torch.

(b) Physical Requirements.

1. Marking shall have a factory applied coated surface of beads in addition to the intermixed beads at the rate of 1 lb. ($\pm 10\%$) per 11 sq. ft. The factory applied coated surface beads shall have the following specifications:

- a) Minimum 80% round
- b) Minimum refractive index of 1.50.
- c) Minimum SiO₂ content of 70%
- d) Maximum iron content of 0.1%
- e) The additional beads shall follow the specifications below in reference to the **Colorado Blend** bead specification

<u>Size Gradation</u>	<u>% Retained</u>
14	0-3%
16	2-10%
18	10-30%
20	30-60%
30	50-80%
35	60-85%
45	95-100%
60	98-100%

(c) Performance.

Marking, when applied in accordance with manufactures recommendations shall demonstrate a uniform level of sufficient night time retro-reflection when tested in accordance to ASTM E1710-97. The applied material must have an initial minimum intensity reading of $500 \text{ mcd}\cdot\text{m}^{-2}\cdot\text{lx}^{-1}$ for white and $300 \text{ mcd}\cdot\text{m}^{-2}\cdot\text{lx}^{-1}$ for yellow as measured with a retro-reflectometer.

The top surface of the stencils (the same side as the factory applied surface beads) shall have an indicator system for the contractor to properly gauge the correct amount of heat to apply during installation. The indicator system shall have a positive visual indication, such as beads changing color or indents closing together, when the material has reached the correct installation temperature. The indicator system must also provide a positive, visual indication if the material has not reached the correct installation temperature.

**REVISION OF SECTION 630
UNIFORMED TRAFFIC CONTROL**

Section 630 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

This work consists of furnishing a uniformed police agency officer to perform uniformed traffic control (UTC) as approved by an MHT for the project.

This work includes furnishing a vehicle for the officer to use in performing uniformed traffic control.

The Contractor shall be responsible for scheduling all UTC's when required on approved MHT's.

The Contractor shall be required to contact the local police jurisdictions for use.

MATERIALS

- (a) *Qualifications.* The local agency officer shall have completed "The Safe and Effective Use of Law Enforcement Personnel in Work Zones" Training Course. The Contractor shall provide copies of documentation certifying the officer's successful completion of this course.
- (b) *Traffic Control Vehicles.* When called for in the Contract, the Contractor shall furnish white sedans to be used by uniformed police agency officers in the performance of Uniformed Traffic Control duties. The Contractor shall be responsible for licensing, insuring, servicing, and fueling the vehicle.

For each Traffic Control Vehicle furnished by the Contractor, the Contractor shall furnish Class 1 SAE certified light bar and control panel for exclusive use by uniformed police agency officers while performing Uniformed Traffic Control. The light bar shall have the following configuration:

- (1) minimum of 44 inches in length, and shall be either permanently or temporarily attached to the top of the vehicle.
- (2) flash red on the driver side and blue on the passenger side
- (3) equipped with an amber-colored directional device in the rear of the bar.
- (4) have alley and takedown lights.
- (5) The control panel shall be capable of controlling the front of the bar and the rear of the bar separately.
- (6) The traffic advisor shall be controlled separately.

The light bars shall be mounted on traffic control vehicles, and shall be maintained in good operating condition at all times. The Contractor shall obtain a permit from the police or sheriff department, as appropriate, for the use of the light bars. The Contractor shall keep the light bars covered at all times when the traffic control vehicle is being used by someone other than the authorized uniform police agency officer.

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REVISION OF SECTION 630 UNIFORMED TRAFFIC CONTROL

METHOD OF MEASUREMENT

Uniformed Traffic Control will be measured by the total number of hours that are required for uniformed traffic control including minimum shift hours required by the agency. The quantity to be measured for UTC will be the total number of UTC hours that have prior approval and authorized by the Engineer in accordance with an approved MHT. UTC hours will not be paid for time spent by the UTC prior to set up or after take down of construction traffic control devices unless approved by the Engineer.

Traffic Control Vehicle will be included in the Uniform Traffic Control work, and will include maintenance of each vehicle, light bars, licensing, insurance and fueling.

BASIS OF PAYMENT

The accepted number of hours of Uniformed Traffic Control will be paid for at the contract unit price per hour including vehicles.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Uniformed Traffic Control	Hour

Hours of Uniformed Traffic Control that are not authorized or approved will not be paid for. Scheduling of UTC for traffic control will not be measured and paid for separately, but shall be included in the work.

**REVISION OF SECTION 630
COURTESY PATROL**

Section 630 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

This work consists of providing Courtesy Patrol Service (CPS) to motorists within the project area and within ½ mile each direction of intersecting roadways. The work includes locating, providing roadside assistance and clearing traffic related incidents. The use of the Courtesy Patrol shall be integrated into the Traffic Incident Management Plan (TIMP).

MATERIALS

The Contractor shall provide tow truck vehicles needed to perform assistance services as described in this specification. Each tow truck shall be a Colorado licensed Class A vehicle with a minimum gross rating of 10,000 lbs. The tow truck shall have a dual wheel chassis and a four ton vehicle recovery rating. Each tow truck shall be equipped with the following:

- (1) Wheel lift towing equipment, including high visibility safety straps with a minimum lift rating of 3,000 pounds.
- (2) Hydraulic boom lift with a static rating of 5,000 pounds.
- (3) Winch with an 8,000 pound rating.
- (4) Cable with a 3,500 pound rating on the first layer of cable.
- (5) Tow slings rated at 3,000 pounds each.
- (6) Original Equipment Manufacturers (OEM) tow chains of 5/16 inch alloy.
- (7) OEM JT hook assembly.
- (8) Rear work lights.

The Contractor shall provide sufficient tow trucks to meet the coverage requirements of the TIMP. A spare truck shall be operational within 30 minutes of a breakdown of an onsite CPS truck.

The Contractor may use equivalent capacity flatbed trucks in lieu of tow trucks or a combination of both, as approved by the Engineer.

Each truck shall meet the following operating requirements:

- (1) The truck's exterior and interior shall be cleaned periodically. The operator's personal articles or equipment shall be removed from the interior of the truck prior to the start of each shift. All damage to the truck, and damage to personal articles and clothing shall be repaired or replaced at the Contractor's expense. The tow truck shall be regularly maintained in accordance with the manufacturer's recommendations.
- (2) The truck's exterior condition and color shall be approved by the Engineer.
- (3) One CDOT supplied sign shall be mounted on each side of the tow truck and shall be displayed at all times during project working hours. No personal or corporate names or symbols will be permitted to be displayed during the hours the tow truck is being used for CPS services. Signs that are lost, stolen or damaged shall be replaced at the Contractor's expense.

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**REVISION OF SECTION 630
COURTESY PATROL**

Prior to start of CPS operations, the Contractor shall submit for approval a complete list of items that will be available in each tow truck. At a minimum, these items shall include the following:

- (1) Five gallons of unleaded gasoline available in an easy access gas transfer system;
- (2) Five feet of safety chain
- (3) Five gallons of radiator, mixed with anti-freeze when required.
- (4) Four way lug wrench (Metric);
- (5) Four way lug wrench (English)
- (6) Rechargeable air bottle or portable air device (100 psi capacity), hoses and fittings to fit tire valve stems
- (7) Flashlight and spare batteries
- (8) Booster cables, 25 ft. long minimum, 3-gauge copper wire with heavy-duty clamps with one end adapted to truck's power outlets
- (9) Funnel with flexible spout
- (10) Five 36-inch traffic cones with reflectorized bands
- (11) Reflector vest for the operator
- (12) First aid kit, 16 units
- (13) Fire extinguisher, 5ABC
- (14) Hand broom
- (15) Snow shovel
- (16) 20 pounds of traction sand
- (17) Three 30-minute flares
- (18) Three reflective triangular warning devices
- (19) Adequate snow chains, as necessary
- (20) Cellular Phone

CONSTRUCTION REQUIREMENTS

(a) *CPS Qualifications.*

Each CPS operator shall be trained and certified in OSHA 10 Hour training and in basic first aid techniques, including CPR. The Contractor shall submit documentation confirming this training prior to the start of work. Retraining in these elements shall be provided every 24 months and verification shall be submitted within seven calendar days of completion.

(b) *Service Requirements.*

The CPS shall begin upon approval of the TIMP. The Engineer will provide this approval a minimum of five days of the expected start date. The CPS shall operate until project completion in accordance with subsection 105.21.

The CPS shall provide three types of service:

- (1) At the owner's consent, relocate the disabled vehicle to a shoulder of roadway or an appropriate drop site for additional assistance or repairs.
- (2) Assist local public agencies and law enforcement authorities as requested during a traffic related incident in the designated coverage area.
- (3) Safely remove light debris from the incident area and inform appropriate authorities if debris is too large or unsafe to remove.

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**REVISION OF SECTION 630
COURTESY PATROL**

The CPS shall perform services up to the safe capacity of his equipment and experience. If a major traffic incident is beyond the capacity of the CPS, the Contractor shall immediately contact law enforcement and the Engineer. The CPS shall remain on site with emergency lights flashing and appropriate traffic control placed around the incident until local law enforcement arrives.

The CPS shall inform the Engineer and the Contractor prior to responding to any incidents. The response shall include the location, time and estimated severity of the incident at a minimum.

The CPS operator shall maintain daily logs that include shift start and end times, roadways covered, and detailed incident data. Incident data shall include the date, type and time of incident, CPS arrival time, number of vehicles involved, motorist information, type of service provided, location of incident, number of lanes blocked and time lanes were cleared and opened to the traveling public. All logs shall be signed by the CPS and shall be submitted to the Engineer on a daily basis. In addition, the Contractor shall submit a weekly summary of incidents in electronic spreadsheet format.

(c) Courtesy Patrol Hours of Operation and Response Times.

The CPS shall cover all roadways and detours within the project limits, regardless of weather.

Service shall be provided during the weekdays 8:00 PM to 12:00 AM or as directed by the Engineer, with the exception of defined holidays in subsection 101.36 Unless approved by the Engineer otherwise.

The CPS shall respond to an incident in less than 15 minutes of occurrence during peak traffic and lane closures and 30 minutes of occurrence during non-peak periods. The response requirements will be waived when CPS trucks are responding to traffic incidents.

(d) Courtesy Patrol Coverage Area.

The Contractor shall determine the number of tow trucks required and shall submit a method statement to the Engineer for approval. The method statement shall include the number of tow trucks required and the location and spacing of these trucks. If the response times are not met, the Engineer may require additional testing or monitoring of CPS operations, such that adjustments may be made. All adjustments shall be implemented within three calendar days and shall be at the Contractors expense.

METHOD OF MEASUREMENT

Courtesy Patrol will be measured by the actual number of hours it is utilized in the project.

Tow trucks, equipment, maintenance, and CPS related items will not be measured and paid for separately, but shall be included in the work.

CPS certification and training will not be measured and paid for separately, but shall be included in the work.

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**REVISION OF SECTION 630
COURTESY PATROL**

BASIS OF PAYMENT

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Courtesy Patrol	Hour

The following items shall be considered incidental to the work:

- (1) Vehicles provided in excess of those stipulated in the TIMP.
- (2) Overtime, shift differential, or any other rate adjustments
- (3) Restocking of CPS related items

Cell phone usage will not be measured and paid for separately, but shall be included in the work.

**REVISION OF SECTION 630
PORTABLE MESSAGE SIGN PANEL**

Section 630 of the Standard Specifications is hereby revised for this project as follows:

Subsection 630.01 shall include the following:

This work includes furnishing, operating, and maintaining a portable message sign panel.

Add subsection 630.031 immediately following subsection 630.03 as follows:

630.031 Portable Message Sign Panel. Portable message sign panel shall be furnished as a device fully self-contained on a portable trailer, capable of being licensed for normal highway travel, and shall include leveling and stabilization jacks. The panel shall display a minimum of three - eight character lines. The panel shall be a dot-matrix type with an LED legend on a flat black background. LED signs shall have a pre-default message that activates before a power failure. The sign shall be solar powered with independent back-up battery power. The sign shall be capable of 360 degrees rotation and shall be able to be elevated to a height of at least five feet above the ground measured at the bottom of the sign. The sign shall be visible from one-half mile under both day and night conditions. The message shall be legible from a minimum of 750 feet. The sign shall automatically adjust its light source to meet the legibility requirements during the hours of darkness. The sign enclosure shall be weather tight and provide a clear polycarbonate front cover.

Solar powered message signs shall be capable of operating continuously for 10 days without any sun. All instrumentation and controls shall be contained in a lockable enclosure. The sign shall be capable of changing and displaying sign messages and other sign features such as flash rates, moving arrows, etc.

Each sign shall also conform to the following:

- (1) In addition to the onboard solar power operation with battery back-up, each sign shall be capable of operating on a hard wire, 100-110 VAC, external power source.
- (2) All electrical wiring, including connectors and switch controls necessary to enable all required sign functions shall be provided with each sign.
- (3) Each sign shall be furnished with an operating and parts manual, wiring diagrams, and trouble-shooting guide.
- (4) The portable message sign shall be capable of maintaining all required operations under Colorado mountain-winter weather conditions.
- (5) Each sign shall be furnished with an attached license plate and mounting bracket.
- (6) Each sign shall be wired with a 7-prong male electric plug for the brake light wiring system.

Subsection 630.13 shall include the following:

The portable message sign panel shall be on the project site at least 7 Calendar Days prior to the start of active roadway construction. Maintenance, storage, operation, relocation to different sites during the project, and all repairs of portable message sign panels shall be the responsibility of the Contractor.

Subsection 630.15 shall include the following:

Portable message sign panels will be measured one of the two following ways:

- (1) By the actual number of days each portable message sign is used on the project as approved by the Engineer.
- (2) By the maximum number of approved units in use on the project at any one time.

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**REVISION OF SECTION 630
PORTABLE MESSAGE SIGN PANEL**

BASIS OF PAYMENT

Subsection 630.16 shall include the following:

<u>Pay Item</u>	<u>Pay Unit</u>
Portable Message Sign Panel	Each

**REVISION OF SECTION 630
MOBILE ATTENUATOR**

Section 630 of the Standard Specifications is hereby revised for this project as follows:

Subsection 630.01 shall include the following:

This work shall consist of furnishing, operating, and maintaining a truck with an attached impact attenuator.

Subsection 630.09 shall include the following:

Mobile Attenuator Options:

Truck Mounted Attenuator. The Contractor shall supply a vehicle with a truck mounted attenuator approved by the FHWA to meet NCHRP 350 criteria for level TL-3 collisions. The attenuator shall be mounted to a suitable truck in a manner meeting the Manufacturer's specifications. The truck shall be furnished with a roof mounted Advance Warning Flashing or Sequencing Arrow Panel (B Type). The truck shall be used when setting up or taking down the work zone and shall be parked in the activity area protecting the construction work while work is being performed, unless otherwise directed.

Trailer Attenuator. The Contractor shall supply a vehicle with an attached trailer attenuator approved by the FHWA to meet NCHRP 350 criteria for level TL-3 collisions. The trailer attenuator shall be attached to a suitable host truck in a manner meeting the Manufacturer's specifications, to include factory-installed 20-ton (minimum) rated pintle hook and ½-inch (minimum) steel frame plate, or as specified by Manufacturer. The trailer shall be furnished with a mounted Advance Warning Flashing or Sequencing Arrow Panel (B Type).

The weight of the host truck shall be between 10,000 and 20,000 lbs, or as specified by the trailer attenuator manufacturer. The Contractor shall provide a certified scale ticket confirming the weight of the truck without trailer attached.

The Trailer Attenuator attached to its host truck shall be used when setting up or taking down the work zone and shall be parked in the activity area protecting the construction work while work is being performed, unless otherwise directed. A buffer zone shall be provided in front of the host truck, for worker safety. This buffer zone shall be in accordance with the manufacturer's recommendations, but shall be no less than 100 feet in length, unless otherwise directed.

Subsection 630.13 shall include the following:

Maintenance, storage, operation, and all repairs of Mobile Attenuator and associated vehicle shall be the responsibility of the Contractor.

Subsection 630.17 shall include the following:

Mobile Attenuators will be measured as the actual number of attenuators that are used during construction; or the actual number of authorized 24-hour periods that the attenuator is used.

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**REVISION OF SECTION 630
MOBILE ATTENUATOR**

Subsection 630.18 shall include the following:

<u>Pay Item</u>	<u>Pay Unit</u>
Mobile Attenuator	Each

Payment will be full compensation for all labor, materials and equipment required to operate and maintain the truck and attenuator for the duration of the project, including the attenuator and flashing panel.

**REVISION OF SECTION 630
TRAFFIC INCIDENT MANAGEMENT PLAN**

Section 630 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

This work consists of the design and implementation of a Traffic Incident Management Plan (TIMP) that shall be maintained throughout construction of this project. The TIMP shall be developed in accordance with the latest version of the *Guidelines for Developing Traffic Incident Management Plans for Work Zones* (Guidelines).

CONSTRUCTION REQUIREMENTS

The Contractor shall provide the following elements for traffic incident management:

- (1) Traffic Incident Management Plan (TIMP)
- (2) Design elements for effective traffic incident management
- (3) Courtesy Patrol
- (4) All additional elements the Contractor determines necessary.

(a) *Development of the TIMP.*

The Contractor shall develop and submit the TIMP as part of the project’s overall Traffic Control Management Plan. The TIMP shall be consistent with the traffic control plan and phasing plan approved by the Engineer. The TIMP shall be submitted at a minimum of one week prior to start of work for approval by the Engineer. Work shall not begin until written approval of the TIMP has been received.

The Contractor shall develop the TIMP at a level of detail commensurate with the project work, in accordance with the Guidelines.

1. Drop Sites.

The TIMP shall include at least two drop sites within the project limits or a reasonable distance from the project limits. The drop sites shall be used as temporary parking or repair area for vehicles towed from the project limits. The drop sites may also be used as accident investigation or motorist emergency pullout area. If possible, the drop sites shall also serve as an area for stranded motorists to obtain additional assistance for vehicle repair. Prior to moving a vehicle to the drop site, the Contractor shall obtain the following information from the driver or owner of the vehicle:

- (1) Motorist first and last name
- (2) Owners first and last name
- (3) Vehicles license plate number
- (4) Vehicle make and model
- (5) Condition of vehicle
- (6) Signature of driver

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**REVISION OF SECTION 630
TRAFFIC INCIDENT MANAGEMENT PLAN**

The Contractor shall maintain and submit a daily log that includes the time the vehicle was placed at the drop site, removed from the drop site, and vehicle information collected prior to moving the vehicle to the drop site. In addition, the Contractor shall submit a weekly summary of drop site activity in electronic spreadsheet format. Preferably, the drop sites should be well lit and have access to public telephones and public restrooms. Each drop site shall be capable of providing adequate parking for a minimum of two vehicles and adequate space shall be provided for a tow truck to safely unload a disabled vehicle. The drop site shall be located at a safe distance away from the roadway, preferably outside the clear zone. Unless arrangements are made with local businesses, the drop sites shall be maintained daily to be free of snow, debris, and easily accessible. Any claims for damages to vehicles while stored at the drop site shall be handled in conformance with subsection 107.15. The maintenance of the drop sites will not be measured and paid for separately, but shall be included in the work.

At the Contractor's discretion, local business parking areas may be used as drop sites. The Contractor shall coordinate with local businesses to ensure the vehicles can be parked at designated locations free of charge for a maximum of 12-hours per vehicle. The Contractor shall inform the motorist in writing to remove the vehicle from the drop site within 12 hours. All vehicles left longer than 12 hours at the drop site shall be moved to a local facility, upon approval of the Engineer. The Contractor shall be remitted for all towing costs in accordance with subsection 104.04. The Contractor shall verify the businesses at the drop site are open during the time the motorist is present, or the Contractor shall accompany the motorist to the vehicle for safe retrieval if requested by the motorist. The Contractor shall provide written documentation from the business owners indicating approval of the drop site, and if appropriate, maintenance of the drop site. Additional working relationships or contracts with the drop site businesses shall not be permitted.

If the motorist or the Contractor deems the drop site unsafe, the Engineer shall be contacted immediately to make alternate arrangements for the motorist.

2. TIMP Committee.

For larger projects, the Contractor may form a TIMP Committee, which shall consist of the Engineer, the Contractor, and appropriate response agencies as described in the Guidelines and commensurate with the project scope. For larger projects, the Contractor may establish subgroups within the Committee as described in the Guidelines and as approved by the Engineer.

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**REVISION OF SECTION 630
TRAFFIC INCIDENT MANAGEMENT PLAN**

3. Performance Measures.

The TIMP shall include appropriate performance measures and a target element for each measure. The Contractor shall refer to the Guidelines for examples of good performance measures and compliance targets. At a minimum, the following performance measures shall be included:

- (1) Appropriate response to incidents that occur within the project limits.
- (2) Regular coordination with the TIMP Committee based upon the scope of the project.
- (3) Ongoing coordination with existing CDOT TIMPs that include or surround the project area. The Contractor shall maintain consistency with all existing CDOT TIMPs. ♥Existing CDOT TIMPs are:
- (4) Maintaining contact lists, detour route descriptions, and other TIMP elements that change during the course of the work. Regular updates shall be provided to the Engineer as needed.
- (5) Conducting incident debriefings to address major incidents as defined in the TIMP.

Each performance measure shall be approved by the Engineer prior to the acceptance of the TIMP. The Contractor shall incorporate appropriate design elements from the plans to provide effective traffic incident management during construction. Design elements shall be based on strategies defined in the Guidelines.

(b) *Implementation of the TIMP.*

At a minimum, the Contractor shall implement procedures as stated in the TIMP and shall collect supporting data for performances measures and design elements as stated in the TIMP.

The Contractor shall revise the TIMP to be consistent with revisions in construction phasing or traffic control during the course of work. The revised TIMP shall be submitted to the Engineer for approval. The Engineer may stop work if the TIMP does not support the current construction phasing or traffic control. Work affected by the revised TIMP shall not begin until written approval has been received from the Engineer. No additional time will be granted to the Contractor for failure to comply with these requirements.

The Contractor shall confirm compliance to the performance measures as defined in the TIMP. At a minimum, the following shall be submitted to the Engineer in a bi-monthly performance report to determine acceptance of each measure:

- (1) Each performance measure.
- (2) An evaluation of compliance for each performance measure.
- (3) Appropriate support data.

METHOD OF MEASUREMENT

(a) *Development of the TIMP.*

Development of the TIMP will not be measured, but will be paid for as a single lump sum upon completion and acceptance of the TIMP.

(b) *Implementation of the TIMP.*

Implementation of the TIMP will be paid on a monthly basis, for the work that has been accepted by the Engineer.

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**REVISION OF SECTION 630
TRAFFIC INCIDENT MANAGEMENT PLAN**

BASIS OF PAYMENT

Development of the TIMP will not be measured, but shall be paid for as a single lump sum upon acceptance of the TIMP.

Implementation of the TIMP will be paid monthly as described under “Method of Measurement”. The first month shall begin upon written acceptance of the TIMP. The final month shall terminate at the completion of the final inspection, in conformance to subsection 105.21. Payment for the first and last month of implementation will be prorated using the following:

$$\text{prorated monthly payment} = \text{monthly payment} * \frac{\text{number of calendar days worked}}{\text{total number of calendar days}}$$

Each monthly implementation payment will be multiplied by a performance factor to adjust for non-compliance of performance measures. The performance factor will be based on the performance monitoring report as follows:

$$\text{performance factor} = \frac{\text{number of compliant measures}}{\text{total number of measures}} + \left(\frac{1}{2}\right) \frac{\text{number of noncompliant measures}}{\text{total number of measures}}$$

Any measure that does not have sufficient data to support determination of compliance will be considered as non-compliant.

If the Contractor fails to meet at least 50 percent of the performance targets in two consecutive months, no monthly payment will be made for that second month and in addition to each succeeding month in which the Contractor does not meet at least 50 percent of the performance targets.

The Engineer will further reduce the monthly performance factor as follows:

1. Five percent of the factor will be deducted for any month in which a TIMP update is not submitted.
2. Ten percent of the factor will be deducted for any month in which a scheduled agency coordination meeting is not held.
3. Five percent of the factor per incident will be deducted for any month in which an incident debriefing meeting is required, but is not held.
4. These incident factors will accumulate and reduce the final total amount paid.

The incorporation of the design elements for traffic incident management will not be measured and paid for separately, but shall be included in the work.

All additional signing, traffic control devices and flagging will be measured and paid for in accordance with Section 630. Appropriate signs or devices used for project related traffic control will be used to implement the TIMP and will not be paid for as part of the implementation of the TIMP.

Pay Item

Traffic Incident Management Plan Development

Pay Unit

Lump Sum

REVISION OF SECTION 632 NIGHT WORK LIGHTING

Section 632 is hereby added to the Standard Specifications for this project as follows:

DESCRIPTION

632.01 This work consists of furnishing, installing, operating, maintaining, moving, adjusting, and removing lighting to illuminate construction work spaces for night work. Night work will be defined as work performed between 30 minutes before sunset and 30 minutes after sunrise.

MATERIALS AND EQUIPMENT

632.02 The Contractor shall provide lighting for night work in the activity area work space where construction equipment, workers on foot, or both are present. The work space is that portion of the roadway closed to road users, or outside of the roadway, set aside for workers, equipment and materials performing contract work. The work space may be stationary or may move as the work progresses.

Illumination may be accomplished by using a combination of portable lights, floodlights, equipment mounted lights, or other lighting methods that will provide the required minimum lighting intensity. Light fixtures that are mounted on the construction equipment shall have a secure connection to minimize vibration and ensure that the view of the equipment operator is not obstructed. Portable lights shall be aimed either generally parallel or perpendicular to the roadway, aimed downward towards the work to avoid glare to oncoming drivers. Existing street and highway lighting shall not eliminate the need for the Contractor to provide work area lighting. Vehicle headlights shall not be permitted as the sole means of illumination while working.

632.03 Portable Generator and Inverter Generator. The Contractor shall provide a portable generator, inverter generator, or both as needed to power the added equipment mounted lights on motorized equipment if the existing power supply on the equipment is insufficient to power the added lights. Fuel tank capacity and availability of fuel on site shall be sufficient to permit uninterrupted operation throughout the planned shift. All power sources shall be equipped with a ground-fault circuit interrupter. The generator shall be placed or temporarily mounted on the equipment without obstructing access onto the equipment or the view of the operator.

632.04 Light Meter. The Contractor shall furnish a light meter for use by the Engineer. The meter shall have a digital display calibrated to NIST standards, shall be cosine and color corrected with an accuracy of +/- 5 percent. The light meter shall remain the property of the Contractor after final acceptance.

CONSTRUCTION REQUIREMENTS

632.05 Lighting for night work shall include:

- (1) Minimum lighting intensity of 5 foot candles for work space illumination.
- (2) Illuminate the stationary work space as stated in (1) above where construction equipment, workers on foot or both are present.
- (3) Light sources shall be positioned not to interfere with or impede traffic in any direction and not cause glare for motorists or onto adjacent properties whenever possible. The Contractor shall make adjustments, use visors or shields, or both to minimize glare.

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**REVISION OF SECTION 632
NIGHT WORK LIGHTING**

- (4) Illumination for mobile operations within a closed travel lane with traffic control devices will be defined as 20 feet in front of and behind and 5 feet to each side of each piece of moving equipment.
- (5) The Contractor shall provide portable lights for Engineer's and contractor personnel performing materials testing for either mobile or stationary operations to illuminate the testing work space as stated in (1) above. For concrete operations at night, the Contractor shall illuminate the designated concrete truck washout location including the access and the wash out site.
- (6) Workers on foot, performing work within a moving work space (i.e. striping layout/installation, surveying, etc.) shall wear ANSI approved high visibility apparel and headwear for Class 3 risk exposure including vest, Class E pants or leg gaiters, and reflective tape on hard hats. Workers may use portable lighting that can be worn on the hard hats that provide 360 degree visibility.
- (7) Portable light towers and lights mounted on stands shall be sturdy and free-standing without the aid of guy wires or bracing. Minimum illumination levels as stated in (1) above shall be maintained at a distance of 5 feet on all sides of stationary equipment with either equipment mounted or free standing lights.
- (8) The Contractor shall ensure that all pieces of equipment have operating lights to illuminate operator's controls, backhoe and loader buckets, and illuminate the equipment reach limits around rotating equipment (i.e. the paving machine shall have illumination for the hopper, auger, and screed areas).
- (9) The TCS vehicle shall have the rear of the truck illuminated while installing, maintaining, and removing traffic control devices unless sufficient lighting levels exist with stationary lights.
- (10) The Contractor shall maintain a uniformity ratio no greater than 5:1 over the stationary work space. Uniformity ratio is the ratio of average to minimum horizontal illuminance within the work space. The uniformity ratio shall be determined by dividing the average of all light meter measurements by the light meter measurement at the darkest spot within the illuminated area.

632.06 Night Work Lighting Plan. The Contractor shall submit a lighting plan to the Engineer for review signed by the Contractor's designated person three days in advance of the Preconstruction Conference. The lighting plan shall appropriately describe the work and include the following:

- (1) Layout drawing and supplemental narrative showing light locations, equipment mounted lights, and configuration including both typical spacing and lateral placement for each work activity.
- (2) Tabulation of lights for those lights that are included within the Night Work Lighting pay item. Lights included in the tabulation such as tower lights, lights mounted on stands and lighting mounted to mobile equipment (not original equipment lights) but those additional equipment mounted lights or portable lights that provide the 20 feet in front and behind illumination zone shall have catalog cuts giving the specific brand names, model numbers, lamp type and wattage.
- (3) Narrative description of those operations where workers will be on foot in a moving work space.
- (4) Details of hoods, visors, louvers, shields or other means to be used to minimize glare.

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**REVISION OF SECTION 632
NIGHT WORK LIGHTING**

The plan shall be revised and updated by the Contractor as requested by the Engineer during the progress of the work to accommodate changes to the work.

632.07 Inspection of Lighting. Lighting inspection by the Engineer will be performed jointly with the Contractor’s designated person on a drive through the project to include (1) observation of the lighting setup to evaluate glare potential for drivers and workers and (2) light meter measurements to determine minimum illumination levels. The Contractor shall make adjustments to the lighting as needed based on the Engineer’s inspection. In the event of any failure of the lighting system, the Engineer may determine to discontinue work until the required level of illumination is restored. Delays due to insufficient lighting levels are the responsibility of the Contractor. Any corrections and deficiencies needed to provide the minimum illumination levels shall be addressed by the start of the next work shift.

The Engineer will take light meter measurements to verify the minimum lighting levels using a light meter provided by the Contractor during the night work shift. Light meter readings will be taken within the work space where work is being performed, in a horizontal plane, light sensor part of the meter held parallel to the ground with the sensor aimed upward, 3 feet above the pavement or ground surface. Meter readings will be taken at the source at 5 foot intervals out to the illuminated work space perimeter. These measurements will be documented and filed in the project records.

632.08 Lighting for Flagger Stations. For nighttime flagging, flagger stations shall be illuminated by an overhead light source providing a minimum lighting intensity level of 5 foot candles measured 1 foot out from the flagger’s chest. The flagger station light shall illuminate the station area with a radius of at least the width of the lane plus 5 feet, and be centered on the flagger in the initial flagging position. The size of the illuminated area shall be increased to account for flagger movements required to control traffic. The flagger station lighting shall be maintained at an adequate height above the pavement and be capable of being shielded through the use of visors, hoods, louvers, or screens as needed to minimize glare to approaching traffic and spilling over onto adjacent properties.

METHOD OF MEASUREMENT

632.09 Lighting for night work will not be measured but will be paid for as a single lump sum.

BASIS OF PAYMENT

632.10 Payment for lighting as shown on the Night Work Lighting Plan will include all labor, materials, and equipment necessary to complete and maintain the work. Payment for lighting will include portable 360° visibility lighting worn on hard hats.

Progress payments will be made based on the lump sum price bid as follows: 20 percent when the Lighting for Night Work Plan has been submitted, accepted, and satisfactory lighting of nighttime operations has begun; the remaining 80 percent will be paid in equal monthly progress payments for the remaining time lighting is required for the night work operations.

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**REVISION OF SECTION 632
NIGHT WORK LIGHTING**

Payment will be made under:

Pay Item

Night Work Lighting

Pay Unit

Lump Sum

Flagger station lighting, designated person, light meters, and additional power sources (generator and inverter) will not be measured and paid for separately but shall be included in the work.

FORCE ACCOUNT ITEMS

DESCRIPTION

This special provision contains the Department's estimate for force account items included in the Contract. The estimated amounts marked with an asterisk will be added to the total bid to determine the amount of the performance and payment bonds. Force Account work shall be performed as directed by the Engineer.

F/A Minor Contract Revisions

Contract cost adjustments to be made for item overruns or Force Account overruns. This amount will be added to the total bid to determine the amount of the performance and payment bonds.

F/A Fuel Cost Adjustment

Contract cost adjustments will be made to reflect increases or decreases in the monthly average prices of gasoline, diesel and other fuels from the average price for the month preceding the month in which bids were received for the Contract. These cost adjustments are not changes to the Contract unit prices bid.

F/A Roadway Smoothness Incentive

This work consists of the Contractor performing Smoothness Quality Control (SQC) testing and corrective work in accordance with the plans and specifications.

F/A Asphalt Cement Cost Adjustment

Contract cost adjustments will be made to reflect increases or decreases in the monthly average price of asphalt cement from the average price for the month preceding the month in which bids were received for the Contract. These cost adjustments are not a change to the contract unit prices bid.

F/A On-the-Job Trainee

The Contractor shall provide on the job training aimed at developing full journey workers in the skilled craft identified in the approved training plan. The Contractor shall provide at a minimum, required training hours listed in the Project Special Provisions.

F/A Quality Incentive Payment

Contract cost adjustments will be made to reflect the quality of HMA placed. These cost adjustments are not a change to the contract unit prices bid.

F/A Project First Program

A voluntary program that the Department actively encourages partnering and invites the Contractor and his subcontractors and suppliers to participate in partnering agreement for this project.

F/A Erosion Control

This work consists of any additional erosion control items that constructing, installing, and removing when required, Best Management Practices (BMPs) during the life of the Contract to prevent or minimize erosion, sediment, and pollution of any state waters.

FORCE ACCOUNT ITEMS

BASIS OF PAYMENT

Payment will be made in accordance with subsection 109.04. Payment will constitute full compensation for all work necessary to complete the item.

Force account work valued at \$5,000 or less, that must be performed by a licensed journeyman in order to comply with federal, state, or local codes, may be paid for after receipt of an itemized statement endorsed by the Contractor.

<u>Force Account Item</u>	<u>Estimated Quantity</u>	<u>Amount</u>
F/A Minor Contract Revisions	F.A.	\$ 177,700
F/A Fuel Cost Adjustment	F.A.	\$ 2,000
F/A Roadway Smoothness Incentive Payment	F.A.	\$ 151,000
F/A Asphalt Cement Cost Adjustment	F.A.	\$ 100,000
F/A On the Job Trainee	Hour	\$ 12,800
F/A Quality Incentive Payment	F.A.	\$ 119,000
F/A Project First Program	F.A.	\$ 4,400
F/A Erosion Control	F.A.	\$ 1,000

TRAFFIC CONTROL PLAN - GENERAL

The key elements of the Contractor's method of handling traffic (MHT) are outlined in subsection 630.10(a).

The components of the TCP for this project are included in the following:

- (1) Subsection 104.04 and Section 630 of the specifications.
- (2) 2009 Manual on Uniform Traffic Control Devices (MUTCD).
- (3) Standard Plan S-630-1, Traffic Controls for Highway Construction and Standard Plan S-630-2 (most current revisions).
- (4) Region 2 Lane Closure Strategy, Latest Edition.
- (5) Schedule of Construction Traffic Control Devices.
- (6) Signing Plans.
- (7) Construction phasing details.

Unless otherwise approved by the Engineer, the Contractor's equipment shall follow normal and legal traffic movements. The Contractor's ingress and egress of the work area shall be accomplished with as little disruption to traffic as possible. Traffic control devices shall be removed by picking up the devices in a reverse sequence to that used for installation. This may require moving backward through the work zone. When located behind a barrier or at other locations shown on approved traffic control plans, equipment may operate in a direction opposite to adjacent traffic.

CDOT may have entered into operating agreements with one or more law enforcement organizations for cooperative activities. Under such agreements, at the sole discretion of CDOT, law enforcement personnel may enter the work zone for enforcement purposes and may participate in the Contractor's traffic control activities. The responsibility under the Contract for all traffic control resides with the Contractor and any such participation by law enforcement personnel in Contractor traffic control activities will be referenced in either the Special Provisions or General Notes of the plans depending on whether the Contractor is to hire local law enforcement or if CDOT is contracting with Colorado State Patrol for uniformed traffic control. Nothing in this Contract is intended to create an entitlement, on the part of the Contractor, to the services or participation of the law enforcement organization.

Special Traffic Control Plan requirements for this project are as follows:

During the construction of this project, traffic shall use the present traveled roadway unless identified on the plans or approved by the Engineer.

The Contractor shall not have construction equipment or materials in the lanes open to traffic at any time unless approved by the Engineer.

At least one week prior to starting construction, the Contractor shall notify the Resident Engineer and/or Engineer of the date the Contractor intends to start construction.

All costs incidental to the requirements as listed in this specification shall be included in the 630 pay items contract prices for the project and will not be paid for separately.

TRAFFIC CONTROL PLAN – GENERAL

I. Project Working Times

(a) *Project Specific Working Time.* The Contractor shall not perform any work requiring a lane closure on the roadway within the hours as listed below, or as directed by the Region Traffic Engineer.

PROJECT SPECIFIC WORKING TIME								
State Highway Number	From	To	Beginning of Section MP	End of Section MP	Lanes	Facility Type	Direction	Operations
24A	7 PM	5 AM	289.54	293.65	4	EXPY	EB	
24A	7 PM	5 AM	293.65	297.08	4	EXPY	WB	

*** Weekend Operations apply from noon on Friday to midnight Sunday PM/Monday AM; Friday afternoon closures shall observe the most prohibitive of the weekday or weekend schedule. Working time variance from times as listed above shall require written request to Region 2 Traffic Engineer for approval. Request shall be submitted minimum 30 calendar days prior to planned work requiring a variance for review. See below for instructions, process, and requirements on submittal.

Weekend work will not be permitted unless approved by the Engineer or Region 2 Traffic Engineer.

(b) *Variance Process for Project Specific Working Time Matrix.*

1. Contractor will have **10 working days** to submit a variance request to Region 2 Traffic Engineer in advance of planned work requiring a proposed variance for review. Submittal documents shall follow the process submittal as detailed in Section II.C and Figure 5 of the Region 2 Lane Closure Strategy, Third Edition (2019), or current edition. At minimum, variance submittal request shall include: Current Project Schedule, Proposed Project Schedule (based on variance request), Proposed Working Times, MHT’s or TMP, and Supportive reasoning narrative for variance request.
 - A. Request for variance will be submitted through the Engineer for accuracy check prior to submittal to the Region 2 Traffic Engineer.
 - B. Region 2 Traffic Engineer will either approve or reject the request within **five (5) working days** of receipt of submittal from the Engineer.
 - C. Contractor will then have **five (5) additional working days** to alter/change request based on comments from Region 2 Traffic Engineer if rejected and resubmit.
 - D. Appeal request for variance will be submitted through the Engineer for accuracy check prior to submittal to the Region 2 Traffic Engineer
 - E. Region 2 Traffic Engineer will either approve or reject appeal request within **five (5) working days** of receipt of submittal from the Engineer.
2. Contractor shall have two appeal (Steps C, D, E) opportunities to alter or change request. After two appeal attempts by the Contractor, the request will no longer be accepted by the Engineer.
3. Engineer will be required to keep communication log and all documentation of variance request for construction project files.

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TRAFFIC CONTROL PLAN – GENERAL

II. Method of Handling Traffic (MHT) and Traffic Management Plan (TMP)

Request for a lane closure shall be made at least **seven (7) calendar days** in advance of the time the lane closure is to be implemented. Lane closures will not be allowed to remain unless being utilized continuously for the intended purpose for which they were set up.

As part of the Traffic Control Plan - General and as required by the Contract, the Contractor shall develop detailed MHT plans in accordance with the accepted Construction Traffic Control Plan and Phasing Plans. The detailed MHT plans shall include the Contractor's construction activities, phases, and required elements of the construction traffic control required for the completion of the project. The Engineer may require additional information for specific tasks or construction activities.

(a) MHT plans shall address or include at a minimum the following:

- (1) Design details and location of detours, including speed reduction and special signing requirements.
- (2) Traffic control required for the placement of all signing, traffic control devices, drum channelizing devices, temporary pavement markings, and any other related devices or required work items.
- (3) Traffic control for the placement of temporary barriers.
- (4) Portable Message Sign Panels and other specialty device placement and use, including messages.
- (5) Placement of temporary pavement markings.
- (6) Oversize load restrictions, notification and handling for specific work activities and proposed overall project handling.
- (7) Road closure points and barricade placement.
- (8) Use of special construction signs.
- (9) Work zone protection.
- (10) Site specific details, and handling of isolated work elements.
- (11) Flagging stations and illumination, if required.
- (12) Control of construction access points and prevention of unauthorized use.
- (13) Emergency vehicle handling.
- (14) Method of handling bicycles and pedestrians.
- (15) Number of flaggers and support personnel for all work.
- (16) Construction Speed Zoning.
- (17) Night work requirements and device placement.
- (18) Coordination requirements for adjoining projects.

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TRAFFIC CONTROL PLAN – GENERAL

(19) Maintenance of access to businesses and homes.

During the resurfacing work, only one lane may be closed to traffic at any time unless approved by the Engineer. Traffic shall not be delayed for more than 10 minutes, or as directed by the Engineer.

The Contractor and subcontractors shall equip their construction vehicles with flashing amber lights. Equipment to be used at night shall also be equipped with flashing amber lights. Flashing amber lights on vehicles and equipment shall be visible from all directions.

Any signs damaged due to the Contractor's operations shall be replaced in kind or repaired by the Contractor at no additional cost to the project.

Vertical cuts or fills greater than 1 inch resulting from construction operations adjacent to traffic lanes shall be temporarily sloped at a 4:1 or flatter slope, or delineated immediately after removal operations to safeguard the traveling public. Material will not be measured and paid for separately.

(b) Reduction in Speed Limits (CDOT Form 568) Submittal

Link: <https://www.codot.gov/library/forms/cdot0568.pdf>

Submittal Instructions:

For 568 requests on I-25 from MP 94.00 (Pueblo Blvd) to MP 163.5 (El Paso County Line) and US 24 from I-25 Jct through Woodland Park (MP 284.684 @ Lafayette Ave Intersection):

Send to: Jason Nelson, Region 2 Traffic Engineer
Email: jason.nelson@state.co.us

For 568 requests on all other highways in Region 2:

Send to: Matthew Jagow, Region 2 Traffic Resident Engineer
Email: matthew.jagow@state.co.us

1. Requirements and Process

- A. Must be submitted using the most current form (see above referenced link).
- B. Must be submitted with approved MHTs or TMPs (as applicable).
- C. Must be submitted minimum **ten (10) working days** prior to proposed requested implementation date as indicated on form.
 - (a) Region 2 Traffic Engineer or Region 2 Traffic Resident Engineer will notify the Engineer of either approval or rejection with comments to address for resubmittal.
 - (b) If rejected, Engineer and Contractor will have **five (5) additional working days** from date of reply to resubmitted for re-review by Region 2 Traffic personnel indicated above for approval.
 - (c) Region 2 Traffic Engineer or Region 2 Traffic Resident Engineer will notify the Engineer of either approval or rejection.

TRAFFIC CONTROL PLAN – GENERAL

(d) If rejected, Region 2 Traffic Engineer or Region 2 Traffic Resident Engineer will indicate to Engineer if a 568 request can be resubmitted for re-review.

2. Distribution Requirements

- A. Region 2 Traffic personnel as listed above will be required for distributing approved 568s to the Engineer and appropriate Law Enforcement Agencies as listed in the Public Information Management specification – Revision of Section 626 Project Special Provision.
- B. The Engineer will be required to distribute approved 568s to the following entities if applicable:
 - (1) Region 2 Resident Engineer in charge of project
 - (2) Region 2 Program Engineer in charge of project
 - (3) Local Region 2 Maintenance Area Ops and Foreman
 - (4) Local Public Works Departments, as necessary
 - (5) Other Stakeholders as necessary, listed in this project’s Public Information Management specification

III. Modified Holiday Working Times and Schedule Modifications

The Contractor shall coordinate all operations requiring traffic control with special events as directed by the Engineer.

Additional legal holidays, when designated by the Governor or the President of the United States, will also be recognized by the State.

Contractor shall coordinate all construction activity with any conflicting special events as informed by the Engineer. Contractor shall show in construction schedule any identified events as either limited or non-working days as directed by the Engineer. Contractor will not be charge contract time during these events.

IV. Vehicle and Pedestrian/Bicycle Access Management

The Contractor shall not install construction traffic control devices that block or impede sidewalks at ramp intersections for pedestrians, disabled persons, or bicyclists. The Contractor is restricted from storing materials, equipment, or construction traffic control devices (signs, cones, etc.) in any median, shoulder, or sidewalk area.

The Contractor shall maintain continuous access at ramp intersections within the project for pedestrians, bicyclists, and disabled persons. When the existing access route is disturbed by construction, an alternate route shall be provided as designated on the plans.

The Contractor shall maintain access to all properties at all times unless otherwise directed by the Engineer. The costs of maintaining access will not be paid for separately but shall be included in the work.

During non-working hours, the roadways shall be restored to a safe travel condition for the free flow of traffic. Any maintenance required to restore the roadways to this condition, including pavement patching and grading, shall be done prior to opening the areas to traffic or completing work for the day.

TRAFFIC CONTROL PLAN – GENERAL

When the Contractor removes, obliterates, or overlays any pavement markings, the Contractor shall replace them on a daily basis prior to opening the affected areas to traffic. All temporary pavement markings shall fully comply with the Standard Specifications and Special Provisions.

The Contractor shall clean the roadway of all construction debris before opening it to traffic.

The Contractor shall not place tack coat on any surface to be paved where traffic will be forced to travel upon prior to bituminous material application.

V. Project Communications

Contractor shall notified Engineer within 48 hours of anticipated schedule change.

Contractor shall copy identified stakeholders, as directed by the Engineer, on all lane closure submittals.

VI. Project Special Traffic Control Guidelines

It is anticipated that this project will require temporary intersection closures during the Contractor’s operations of installing mast arms at locations shown on the plans.

Roadway closures shall have a written letter justification from the Contractor to the Region 2 Traffic Engineer stating reasoning, dates scheduled, working times of operation, and applicable MHTs or TMPs.

The Engineer will be required to notify the Region 2 Joint Operations a minimum of 48 hours prior to when work is scheduled to begin.

Region 2 Joint Operations Center (JOC)
5615 Wills Blvd, Pueblo CO 81008
Phone: (719) 562-5555

VII. Project Coordination

Contractor shall refer to Public Information Management Project Special Provision in contract for list of identified stakeholders needed to identify and notify of construction impacts, operation activities, etc., as directed by the Engineer.

Other Stakeholders Groups if not previously identified in Public Information Management Project Special Provisions:

Maintenance:	Maint. Area Ops	Phone: (719) XXX-XXXX	Email:
Access:	Valerie Sword	Phone: (719) 546-5415	Email: valerie.sword@state.co.us
R2 Bike/Ped Cord:	Roger Graham	Phone: (719) 251-6976	Email: roger.graham@state.co.us
ADA Cord:	Betsy Jacobsen	Phone: (303) 757-9982	Email: betsy.jacobsen@state.co.us
MPO/TPRs	Name	Phone:	Email:
County Commissioners	Name	Phone:	Email:
Local Public Works	Name	Phone:	Email:
Local PD	Name	Phone:	Email:
Local EMS Services	Name	Phone:	Email:
Oversized/Overweight	Name	Phone:	Email:

UTILITIES

Known utilities within the limits of this project are:

Tier 1	Tier 2	Utility Company	Contact Information		
			Name	Email	Phone
X		BHE	Santiago Tijerina	santiago.tijerina@blackhillscorp.com	719-243-8329
X		Comcast	Brendan Loesel	Bloesel2@sefnco.com	719-426-1800
X		Centurylink	Ken Davis	ken.davis2@centurylink.com	719-428-8107
X		CSU		askus@csu.org	888-278-6847
	X	Cascade Metro			719-447-1777
X		CDOT Region 2	Joe Pirera	joesepp.pirera@state.co.us	719-582-0948
X		CDOT Fiber Backbone	Milo Lopez	michael.lopez@state.co.us	720-202-6441

The work described in these plans and specifications requires coordination between the Contractor and the utility companies in accordance with subsection 105.11 in conducting their respective operations as necessary to complete the utility work with minimum delay to the project.

The work listed below shall be performed by the Contractor in accordance with the plans and specifications, and as directed by the Engineer. The Contractor shall keep each utility company advised of any work being done to its facility, so that the utility company can coordinate its inspections for final acceptance of the work with the Engineer.

The work listed below will be performed by the contractor:

All utilities within the project shall be avoided. The Contractor shall modify construction plans to avoid existing underground facilities as needed, and as approved by the Engineer. Please note that UNCC marks only its members' facilities – Other facilities, such as ditches and drainage pipes may exist, and it is the Contractor's responsibility to investigate, locate and avoid such facilities.

The contractor shall positively identify all existing utilities that may be in conflict with the work and to the satisfaction of the project engineer. This work is incidental to the project.

The work listed below will be performed by the utility owners or their agents:

No work by utility owners is anticipated.

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UTILITIES

GENERAL:

This project does not require a Subsurface Utility Engineering (SUE) investigation however, It is the intent of this project to protect the existing buried utilities in place during construction operations. There are no utility relocations anticipated for the completion of the project work. The Contractor shall be responsible for verifying the location of all utilities in close proximity to any required excavation work for the purpose of identifying conflicts not otherwise addressed in the plans and specifications. The Contractor shall be responsible for potholing and verifying the location of all utilities in close proximity to any required excavation work in advance for the purpose of identifying conflicts not addressed in the plans and specifications as well as for the purpose of determining the extent of the conflict, and whether relocation or adjustment is required. This work will be paid for by contract bid item – Potholing. The Contractor shall share its potholing information with the impacted utilities in advance so that the utilities can coordinate the relocation work and accommodate the Contractor's work schedule. To the extent practicable, the Contractor shall be required to work around and protect existing utilities in place for the purpose of maintaining service. Close coordination with the utility owners will be required in making a determination of whether or not existing facilities can be protected in place. Damage to existing utilities resulting from construction operations wherein the utility has elected to leave its facility in place and the Contractor has expressed concern over protecting the same in place shall be the utility owner's responsibility. The Contractor shall be responsible for coordinating the relocation work with the impacted utility in the event it cannot adjust or modify the layout to avoid the conflict. Any required relocation work performed by the impacted utility will be at no cost to the project unless otherwise directed by the Project Engineer.

The Contractor shall comply with Article 1.5 of Title 9, CRS ("Excavation Requirements") when excavation or grading is planned in the area of underground utility facilities. The Contractor shall notify all affected utilities at least two (2) business days, not including the day of notification, prior to commencing such operations. The Contractor shall contact the Utility Notification Center of Colorado (UNCC) at (8-1-1) or 1-800-922-1987 to have locations of UNCC registered lines marked by member companies. All other underground facilities shall be located by contacting the respective company. Utility service laterals shall also be located prior to beginning excavating or grading.

The location of utility facilities as shown on the plan and profile sheets, and herein described, were obtained from the best available information.

All costs incidental to the foregoing requirements will not be paid for separately but shall be included in the work.