# SPECIAL PROVISIONS
# &
# SUPPLEMENTAL SPECIFICATIONS

CSI-Inch/Pound

| | |
|---|---|
| **Project No:** | **F-0209(34)10** |
| **PIN Desc:** | **SR-209: 90th S.; Bangerter to 4800 W** |
| **Concept:** | **Preservation - Roadway** |
| **Location:** | **SR-209; MP 6.20 - 7.63** |
| **County:** | **SALT LAKE** |
| **Bid Opening:** | **December 13, 2016** |

Date

THIS PROJECT REQUIRES USING THE ELECTRONIC CERTIFIED PAYROLL PROGRAM. SEE ATTACHMENT TO NOTICE TO CONTRACTORS.

THIS IS A P&T (PRICE + TIME) PROJECT.

**Project # F-0209(34)10**
**Pin # 11110**

**May 12, 2016**

# 2012 - Standards

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Federal Projects With 8½ x 11 Plan Sheets

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Federal Projects With 8½ x 11 Plan Sheets

| | Section No. | Title – Type (current date) |
|---|---|---|
| 1. | 00120M | Bidding Requirements and Conditions – Supplemental Specification (02/26/15) |
| 2. | 00221S | Bidding Contract Time – Innovative Contracting (P+T) Special Provision (Calendar Day Projects) (07/08/15) |
| 3. | 00515M | Contract Award and Execution – Construction Special Provision, Innovative Contracting (P+T) Special Provision (02/26/15) |
| 4. | 00515M | Contract Award and Execution – Supplemental Specification (02/26/15) |
| 5. | 00555M | Prosecution and Progress – Construction Special Provision (02/24/16) |
| 6. | 00570M | Definitions – Supplemental Specification (10/22/15) |
| 7. | 00725M | Scope of Work – Innovative Contracting (P+T) Special Provision (03/12/15) |
| 8. | 00727M | Control of Work – Supplemental Specification (10/22/15) |
| 9. | 00820M | Legal Relations and Responsibility to the Public – Special Provision (02/26/16) |
| 10. | 00820M | Legal Relations and Responsibility to the Public – Supplemental Specification (08/27/15) |
| 11. | 01282M | Payment – Supplemental Specification (08/27/15) |
| 12. | 01315S | Public Information Services – Special Provision (07/01/15) |
| 13. | 01355M | Environmental Compliance – Supplemental Specification (10/31/13) |
| 14. | 01452S | Pavement Smoothness – Special Provision (09/01/16) |
| 15. | 01455M | Material Quality Requirements – Materials Special Provision (04/13/16) |
| 16. | 01455M | Material Quality Requirements – Supplemental Specification (02/25/16) |
| 17. | 01456M | Materials Dispute Resolution – Supplemental Specification (02/28/13) |
| 18. | 01554M | Traffic Control – Traffic and Safety Special Provision (03/30/15) |
| 19. | 01554M | Traffic Control – Supplemental Specification (11/06/14) |
| 20. | 01557S | Maintenance of Traffic – Special Provision (04/19/16) |
| 21. | 01571 | Temporary Environmental Controls – Supplemental Specification (06/25/15) |
| 22. | 01721M | Survey – Supplemental Specification (02/25/16) |
| 23. | 01892M | Reconstruct Catch Basin, Cleanout, Meter, Valve, Manhole, and Monument Boxes – Special Provision (09/14/15) |
| 24. | 02732S | Hot Mix Asphalt (HMA) Fine Graded Thin Overlay – Special Provision (08/01/16) |
| 25. | 02737S | Asphalt Pavement Soft Spot Repair – Special Provision (02/03/10) |
| 26. | 02741M | Hot Mix Asphalt (HMA) – Materials Special Provision (09/08/14) |
| 27. | 02742S | Project Specific Surfacing Requirements – Department Special Provision (07/19/16) |
| 28. | 02746M | Hydrated Lime – Materials Special Provision (11/14/12) |

Federal Projects With 8½ x 11 Plan Sheets

| | | |
|---|---|---|
| 29. | 02748M | Prime Coat/Tack Coat – Supplemental Specification (10/22/15) |
| 30. | 02765M | Pavement Marking Paint – Materials Special Provision (10/05/15) |
| 31. | 02765M | Pavement Marking Paint – Supplemental Specification (02/26/15) |
| 32. | 02768M | Pavement Marking Materials – Supplemental Specification (08/29/13) |
| 33. | 02771 | 02771 ADA Pedestrian Access Ramps – Supplemental Specification (02/25/16) |
| 34. | 02776 | Concrete Flatwork – Supplemental Specification (02/25/16) |
| 35. | 02890M | Retroreflective Sheeting – Supplemental Specification (11/06/14) |
| 36. | 02891M | Traffic Sign – Supplemental Specification (02/28/13) |
| 37. | 02924S | Invasive Weed Control – Department Special Provision (02/28/13) |
| 38. | 02961S | Rotomilling – Special Provision (08/17/11) |
| 39. | 03055M | Portland Cement Concrete – Supplemental Specification (10/22/15) |
| 40. | 13431M | Precast Concrete Fiber Optic and Utility Vault – Supplemental Specification (10/22/15) |
| 41. | 13551M | General ATMS Requirements – ATMS Special Provision (06/27/13) |
| 42. | 13551M | General ATMS Requirements – Supplemental Specification (04/25/13) |
| 43. | 13553M | ATMS Conduit – Supplemental Specification (10/22/15) |
| 44. | 13554M | Polymer Concrete Junction Box – Supplemental Specification (10/22/15) |
| 45. | 13555M | ATMS Cabinet – ATMS Special Provision (06/27/13) |
| 46. | 13555M | ATMS Cabinet – Supplemental Specification (08/27/15) |
| 47. | 13559M | Non-Intrusive Detector (NID) System – Supplemental Specification (08/27/15) |
| 48. | 13561M | ATMS Power Service – ATMS Special Provision (06/27/13) |
| 49. | 13594M | Fiber Optic Communication – Supplemental Specification (10/22/15) |

## I. 2012 Standard Specifications and Standard Drawings

The 2012 State of Utah Standard Specifications for Road and Bridge Construction and Standard Drawings Books apply on this project as static Specification and Drawing Books as well as all other applicable specification and drawing changes.

Refer to Part XVIII for other project specific specifications.

## II. List of Supplemental Drawings

This page will be periodically updated to list all approved drawings by date of issue. Include Supplemental Drawings that are applicable to the project at the end of Part IX, Typical Sections or Detail Sheets and Supplemental Drawings.

# Issue Date: September 19, 2012

Revised August 30, 2012

| | |
|---|---|
| BA 2E | Precast Concrete Half Barrier – 32 Inch New Jersey Shape |
| BA 3L | Precast Concrete Constant Slope Half Barrier – 42 Inch |
| BA 4B4 | W-Beam Guardrail Median Barrier Transition Hardware and Layout |
| BA 4D1 | W-Beam Guardrail Installations |
| BA 4E2 | W-Beam Guardrail with Curb and Gutter ≥ 5 Inches |
| BA 4F1 | W-Beam Guardrail Buried In Backslope Terminal |
| BA 4H4 | W-Beam Guardrail with Precast Barrier For Span ≥ 25 Ft |
| CB 11 | Precast Concrete Standard Manhole |
| DD 14B | Typical Rural 2 Lane Road Intersection (Low Speed) |
| GW 5A | Pedestrian Access |
| GW 5B | Pedestrian Access |
| GW 5C | Pedestrian Access |
| SN 14D | Freeway Sign Frame Fabrication Details |
| SN 14E | Freeway Sign Bracket Details |
| TC 1 | Traffic Control Drawing Series General Notes |
| TC 2B | Work Zone Signing |
| TC 3A | Hazard Mitigation |
| TC 4A | Standard Work Zone Signing General |
| TC 4B1 | Reduced Speed Work Zone Signing General |
| TC 4B2 | Reduced Speed Shoulder Work Zone Signing General |
| TC 4C | Traffic Control Project Limit Signing |
| TC 4D2 | Work Zone Specialty Signs |
| TC 7 | Median Crossover and 2-Lane, 2-Way Diversion |
| TC 18 | Blunt End Protection for W-Beam Guardrail and Concrete Barrier |
| TC 19 | Construction Access Points for Speeds of 55 MPH and Greater |

# Issue Date: November 14, 2012

Revised October 25, 2012

| | |
|---|---|
| PV 03 | Concrete Pavement Details 1 of 2 |
| PV 04 | Concrete Pavement Details 2 of 2 |

Federal Projects With 8½ x 11 Plan Sheets

## Issue Date: March 14, 2013

Revised February 28, 2013

| | |
|---|---|
| AT 5A | Ramp Meter Detection Layout |
| AT 5B | Ramp Meter Queue Detection Layout |
| AT 5C | Ramp Meter Detection Zone Number Assignment |
| BA 4D3 | W-Beam Guardrail Typical Line Post Embedment Special Conditions |
| CB 11 | Precast Concrete Standard Manhole |
| DD 8 | Structural Geometric Design Standards for Clearances |
| GW 4A | Concrete Driveways and Sidewalks |
| GW 4B | Concrete Driveways and Sidewalks |
| GW 5A | Pedestrian Access |
| GW 5B | Pedestrian Access |
| GW 5C | Pedestrian Access |
| GW 11 | Sidewalks and Shoulders On Urban Roadways |
| PV 9 | Dowel Bar Retrofit |
| SL 16 | Solar Traffic Counting Station |
| SN 10A | Slipbase Sign Base (B3) Hardware |
| SN 10B | Slipbase Sign Base (B3) Installation |
| TC 3A | Hazard Mitigation |

## Issue Date: May 9, 2013

Revised April 25, 2013

| | |
|---|---|
| AT 18 | Utility Marker Post Details |
| GW 12A1 | Active Pedestrian Controls for Railroad Crossings Sheet 1 of 2 |
| GW 12A2 | Active Pedestrian Controls for Railroad Crossings Sheet 2 of 2 |
| GW 12B1 | Passive Pedestrian Controls for Railroad Crossings Sheet 1 of 2 |
| GW 12B2 | Passive Pedestrian Controls for Railroad Crossings Sheet 2 of 2 |
| GW 12C1 | Pedestrian Controls Semi-Exclusive Railroad Alignments Sheet 1 of 2 |
| GW 12C2 | Pedestrian Controls Semi-Exclusive Railroad Alignments Sheet 2 of 2 |
| GW 12D | Pedestrian Controls Street Running Railroad Alignment Signalized Intersections |
| GW 12E | Pedestrian Controls Street Running Railroad Alignment Unsignalized Intersections |

## Issue Date: July 17, 2013

Revised June 27, 2013

| | |
|---|---|
| AT 6 | Conduit Details |
| CC 8A | Grading and Installation Details Crash Cushion Type G |
| CC 8B | Grading and Installation Details for “3R” Projects End Treatment Type G |
| DD 18 | Utility Location Requirements |
| ST 9 | Location of Bicycle Detector Pavement Markings at Intersection |
| ST 10 | Location of Bicycle Detector Pavement Markings in Bicycle Lane |

## Issue Date: September 16, 2013

Revised August 29, 2013

| | |
|---|---|
| BA 4C1 | W-Beam Guardrail Anchor Type 1 |
| BA 5B1 | Cable Barrier Placement |
| BA 5J1 | Cable Barrier Median Hazard Protection |
| BA 5J2 | Cable Barrier Span Greater Than or Equal 15 Ft to Less Than or Equal 30 Ft |
| ST 10 | Location of Bicycle Detector Pavement Markings in Bicycle Lane |

## Issue Date: November 21, 2013

Revised October 31, 2013

| | |
|---|---|
| AT 11A | CCTV Pole Mounting Details |
| AT 11B | Non-Intrusive Detector Mounting Details |
| AT 11C | Pole Mounted Cabinet Bracket |
| AT 15 | RWIS Site and Foundation Details |
| AT 16 | RWIS Tower Base and Service Pad Layout |
| AT 17 | RWIS Ground Rod Installation and Tower Grounding |
| BA 1E | Concrete Barrier Column Protection |
| BA 4B3 | W-Beam Guardrail Transition Curb Sections |
| BA 4G | W-Beam Guardrail Curve Breakaway Details |
| BA 5D1 | Median Cable Barrier W-Beam Double Sided and Freeway Crossover Anchor System (Type C; C.A.T., Brakemaster) |
| BA 5D2 | Median Cable Barrier W-Beam Double Sided and Freeway Crossover Anchor System (Type C; FLEAT-MT) |
| GW 1B | Raised Island and Plowable End Section |
| GW 1D | Median Reflector Details |
| GW 5C | Pedestrian Access |
| PV 10 | Utility Orientation/Adjustments in PCCP |
| SL 6 | Signal Head Details |
| SN 2A | School Speed Limit Assembly |
| SN 3 | Overhead School Speed Limit Assembly |
| SN 6 | Speed Reduction Sign Sequence |
| SN 13A | Tubular Steel Sign Mounting Requirements |

| | |
|---|---|
| TC 4D1 | Work Zone Specialty Signs |
| TC 4D2 | Work Zone Specialty Signs |
| TC 17 | Traffic Control Work Zone Guardrail Intermediate End Protection |

## Issue Date: March 13, 2014

Revised February 27, 2014

| | |
|---|---|
| BA 1E | Concrete Barrier Column Protection |
| DG 3 | Fill Height for Plastic and Concrete Pipe |
| DG 4 | Pipe Minimum Cover |
| DG 5 | Drainage Pipe Installation |
| DG 10 | Miscellaneous Pipe Details |
| SN 13C | Mounting Bar Placement for Small Signs |

## Issue Date: July 14, 2014

Revised June 26, 2014

| | |
|---|---|
| BA 1A2 | Concrete Barrier General Notes and Standard Details 2 of 2 |
| BA 2A | Precast Concrete Barrier – 32 Inch New Jersey Shape |
| BA 2C | Precast Concrete Barrier – 32 Inch New Jersey Shape, Median Small Sign Section |
| BA 2D | Cast-In-Place Concrete Barrier – 32 Inch New Jersey Shape, 42 Inch Constant Slope Barrier Transition |
| BA 2E | Precast Concrete Half Barrier – 32 Inch New Jersey Shape |
| BA 4G | W-Beam Guardrail Curve Breakaway Details |
| BA 5B1 | Cable Barrier Placement |
| BA 5B2 | Cable Barrier Placement |
| GW 1C | Raised Island Details |
| PV 3 | Concrete Pavement Details 1 of 2 |
| SL 16 | Solar Traffic Counting Station |
| TC 2C | Work Zone Advanced Warning Arrow Boards |

## Issue Date: November 20, 2014

Revised November 6, 2014

| | |
|---|---|
| GW 5A | Pedestrian Access |
| GW 5B | Pedestrian Access |
| GW 5C | Pedestrian Access |
| GW 5D | Pedestrian Access |
| PV 3 | Concrete Pavement Details 1 of 2 |
| SL 1A | Traffic Signal Mast Arm Pole and Luminaire Extension |
| SL 4 | Traffic Signal Mast Arm Pole Foundation |
| SL 7 | Pedestrian Signal Assembly |
| SN 2A | School Speed Limit Assembly |

Federal Projects With 8½ x 11 Plan Sheets

| | |
|---|---|
| SN 16A | Multi-Directional Breakaway Base for Steel I-Beam Supports, General Notes |
| SN 16B | Multi-Directional Breakaway Base for Steel I-Beam Sign Supports, Two Posts |
| SN 16C | Multi-Directional Breakaway Base for Steel I-Beam Sign Supports, Three Posts |
| SN 16D | Multi-Directional Breakaway Base for Steel I-Beam Sign Supports, Foundation Details |
| SN 16E | Multi-Directional Breakaway Base for Sign Post, (B7A) |
| SN 16F | Multi-Directional Breakaway Base for Sign Post, (B7B) |
| SN 16G | Multi-Directional Breakaway Base for Sign Post, (B7C) |
| SN 16H | Multi -Directional Breakaway Base for Round Pipe Single Post, (B7D) |
| SN 16I | Multi -Directional Breakaway Base for Round Pipe Double Post, (B7D) |
| ST 9 | Location of Bicycle Detector Pavement Markings at Intersection |
| ST 10 | Location of Bicycle Detector Pavement Markings in Bicycle Lane |
| TC 14A | Traffic Control Flagging Operation |
| TC 14B | Reduced Speed Signing for Pilot Car Operation (Conventional Roads) |

## Issue Date: March 12, 2015

Revised February 26, 2015

| | |
|---|---|
| EN 3 | Temporary Erosion Control (Slope Drain and Temporary Berm) |
| SL 1A | Traffic Signal Mast Arm Pole and Luminaire Extension 30 Ft Through 55 Ft |
| SL 1B | Traffic Signal Mast Arm Pole and Luminaire Extension 60 Ft Through 75 Ft |
| SL 2 | Traffic Signal Mast Arm Mounting Details |
| SL 4 | Traffic Signal Mast Arm Pole Foundation |

## Issue Date: May 14, 2015

Revised April 30, 2015

| | |
|---|---|
| DD 3 | Passing and Climbing Lanes |
| DD 19 | Marked Pedestrian Crosswalk Enhancement Flowchart |
| PV 4 | Concrete Pavement Details 2 of 2 |
| PV 6A | Rumble Strips Shoulder Details |
| PV 6B | Rumble Strips Depth and Location Details |
| PV 7A | Typical Rumble Strip Shoulder Sequencing and Applications |
| PV 7B | Typical Rumble Strip Center Line Sequencing and Application |
| PV 8 | Typical Rumble Strip Centerline Application |
| SL 17A | Pedestrian Signal Crosswalk |
| SL 17B | Pedestrian Hybrid Beacon Crosswalk |
| SL 17C | Flashing Beacon at a Crosswalk Intersection |

| | |
|---|---|
| SL 17D | Flashing Beacon at Midblock Crosswalk |
| SN 19A | Preferential Lane Signing and Pavement Marking Details |
| SN 19B | Preferential Lane Access Opening Details |
| SN 19C | Preferential Lane Median Signing Spacing Greater 1 Mile |
| SN 19D | Preferential Lane Median Signing Spacing Equal to or Less Than 1 Mile |
| ST 1 | Typical Pavement Markings No Pass Zone and Lane Reduction |
| ST 6A | Passing Lane Details |
| ST 6B1 | Freeway Climbing Lane Inside Widening Detail |
| ST 6B2 | Freeway Climbing Lane Outside Widening Detail |

## Issue Date: September 21, 2015

Revised August 27, 2015

| | |
|---|---|
| AT 12 | CCTV Foundations for CCTV Pole |
| BA 4D3 | W-Beam Guardrail Typical Line Post Embedment Special Conditions |
| SL 18 | Advance Warning Signal (AWS) System |

## Issue Date: November 10, 2015

Revised October 22, 2015

| | |
|---|---|
| AT 01 | Legend Sheet |
| AT 06 | Conduit Details |
| AT 07A | Polymer Concrete Junction Box Details |
| AT 07B | Precast Concrete Fiber Optic and Utility Vault Details |
| AT 10E | CCTV DIP Switch Settings |
| AT 12 | CCTV Foundations for CCTV Pole |
| AT 18 | Utility Marker Post Details |
| AT 19 | Utility Marker Post Locations |
| AT 20 | Electronic Toll Lanes Control Systems (ETC) |
| AT 21 | Electronic Toll Lanes Control Systems (ETC Gantry) |
| AT 22 | Attachment Details |
| AT 23 | ETC Equipment Wiring Diagram |
| BA 05A | Cable Barrier Typical Hardware and Foundation Requirements |
| SL 06 | Signal Head Details |

## Issue Date: March 10, 2016

Revised October 22, 2015

| | |
|---|---|
| DG 04 | Pipe Minimum Cover and Spacing |
| SL 12 | Highway Luminaire Slip Base Details |
| SL 14 | Highway Luminaire Pole Foundation Extension |

Federal Projects With 8½ x 11 Plan Sheets

## Issue Date: May 12, 2016

Revised April 28, 2016

| | |
|---|---|
| SL 1A | Traffic Signal Mast Arm Pole and Luminaire Extension 30 Ft Through 55 Ft |
| SL 1B | Traffic Signal Mast Arm Pole and Luminaire Extension 60 Ft Through 75 Ft |
| SL 1C | Traffic Signal Mast Arm Pole and Luminaire Extension 80 Ft Through 85 Ft |
| SL 1D | Traffic Signal Dual Mast Arm |
| SL 2A | Traffic Signal Mounting |
| SL 2B | Traffic Signal Mounting |
| SL 2C | Mast Arm Sign Mounting |
| SL 2D | Traffic Signal Head Wiring |
| SL 6 | Traffic Signal Heads |
| SL 13 | Highway Luminaire Arm and Vertical Extension |
| SL 18 | Advance Warning Signal (AWS) System |

## III. Materials Minimum Sampling and Testing Requirements

**Follow the requirements of the Materials Minimum Sampling and Testing Requirements: http://www.udot.utah.gov/go/mstr**

# IV. Notice to Contractors

# NOTICE TO CONTRACTORS

Sealed proposals will be received by the Utah Department of Transportation UDOT/DPS Building (4th Floor), 4501 South 2700 West, Salt Lake City, Utah. 84114-8220, until 2 o'clock p.m. Tuesday, December 13, 2016, and at that time the download process of bids from the Project Delivery System to UDOT will begin, with the public opening of bids scheduled at 2:30 for SR-209: 90th S.; Bangerter to 4800 W, Preservation - Roadway of SR-209; MP 6.20 - 7.63 in SALT LAKE County, the same being identified as Federal Aid Project No: F-0209(34)10.

**Federal Regulations:**
Davis-Bacon wages apply to this project and are made a part of these contract documents as required in the provisions of the Federal-Aid Highway Act of 1968. This contract is subject to all appropriate Federal Laws, including Title VI of the Civil Rights Act of 1964 and the Fair Labor Standards Act of 1938, (52 Stat. 1060).
**SEE CERTIFIED PAYROLL SPECIAL REQUIREMENTS ATTACHMENT.**

**Project Location:** SR-209; MP 6.20 - 7.63

**The principal items of work are as follows (for all items of work see attachment):**
HMA - 1/2 inch
Reconstruct Manhole
Rotomilling

**The project is to be completed:** to be determined by competitive bid.

**Other Requirements:**
All project bidding information, including Specifications and Plans, can be viewed, downloaded, and printed from UDOT's Project Development Construction Bid Opening Information website, http://eprpw.dot.utah.gov/bidopeninfo-upper.htm. To bid on UDOT projects, bidders must use UDOT's Electronic Bid System (EBS). The EBS software is also available on this website.

Project information can also be reviewed at the main office in Salt Lake City, its Region offices, and its District offices in Price, Richfield, and Cedar City.

Project Plans cannot be downloaded or printed from the website unless your company is registered with UDOT. Go to UDOT's website to register. Registered companies may also obtain a **CD**, that contains the Specifications and Plans, from the main office, 4501 South 2700 West, Salt Lake City, (801) 965-4346, for a fee of $20.00, plus tax and mail charge, if applicable, none of which will be refunded.

As required, a contractor's license must be obtained from the Utah Department of Commerce.

**Qualified Health Insurance**
A prime contractor is subject to qualified health insurance requirements if the prime contract is in the amount of $2,000,000 or greater. A subcontractor is subject to qualified health insurance requirements if the subcontract is in the amount of $1,000,000 or greater.

The Contractor shall demonstrate compliance with qualified health insurance requirements at the time of the execution of each initial prime contract. The Contractor shall demonstrate to the Department that the Contractor has and will maintain an offer of qualified health insurance coverage for the contractor's employees and the employees' dependents during the duration of the contract.

If a subcontractor of the Contractor is subject to qualified health insurance requirements, the Contractor shall place a requirement in the subcontract that the subcontractor shall obtain and maintain an offer of qualified health insurance coverage for the subcontractor's employees and the employees' dependents during the duration of the subcontract; and certify to the Department that the subcontractor has and will maintain an offer of qualified health insurance coverage for the subcontractor's employees and the employees' dependents during the duration of the prime contract.

**Bid Bond**
Each bidder must submit an electronic bid bond from an approved surety company using UDOT's Electronic Bid System (EBS); or in lieu thereof, cash, certified check, or cashier's check for not less than 5% of the total amount of the bid, made payable to the Utah Department of Transportation, showing evidence of good faith and a guarantee that if awarded the contract, the bidder will execute the contract and furnish the contract bonds as required.

The right to reject any or all bids is reserved.

If you need an accommodation under the Americans with Disabilities Act, contact the Construction Division at (801) 965-4346. Please allow three working days.

**Revised Date:**

# NOTICE TO CONTRACTORS

Additional information may be secured at the office of the Utah Department of Transportation, (801) 965-4346.

After the evaluations and final determination of proposals is complete, the State shall award the contract as soon as practicable to the lowest responsive and responsible bidder, subject to Section 63G-6a-709(2).

All bidders should note the State of Utah Procurement Code requires the awarded contractor, for the duration of any contract awarded through this bidding process, to make available company contact information to the Department of Workforce Services in accordance with Utah Code 35A-2-203.

Contractor shall provide information regarding job vacancies to the State of Utah Department of Workforce Services, which may be posted on the Department of Workforce Services website. Posted information shall include the name and contact information for job vacancies. This information shall be provided to the State of Utah Department of Workforce Services for the duration of this Contract. These requirements do not preclude a Contractor from advertising job openings in other forums throughout the State of Utah.

**Dated this 19th day of November, 2016.**
**UTAH DEPARTMENT OF TRANSPORTATION**
**Carlos M. Braceras, P.E., Director**

**Revised September 8, 2015**

# NOTICE TO CONTRACTORS

## *Special Requirements Attachment*
## CERTIFIED PAYROLL

Effective as of 11/02/2009, construction contractors awarded a Federal-aid construction project are required to submit weekly certified payrolls to the Utah Department of Transportation using the (UDOT) Electronic Certified Payroll Program available in the UDOT Project Development Business System (PDBS). Submittal may be accomplished using one of two available options;

**Option 1**

The Contractor creates and continues to use the company's existing payroll software program to import the weekly certified payroll.

*If Option 1 is chosen:*

The software program format utilized by the Contractor must be certified by UDOT prior to the first import submittal.

The Contractor is required to go over the errors that show on the Import Summary Report. The Contractor is required to fix the issues related to these errors. If the issues related to these errors cannot be resolved with the import feature, the Contractor will need to manually input the employee payrolls in which the errors pertain.

NOTE: The apprentice payroll information is not part of the import feature. Any apprentice payroll information needs to be manually entered.

**Option 2**

The Contractor can access and utilize the Contractor Module in PDBS and enter the certified payroll information and submit to the UDOT project office. After the first payroll submission, personal addresses and full social security numbers are not to be used. After the first payroll submission of an employee, contractors and subcontractors must use the last four digits of the employee's social security number as an identifier.

Effective as of September 8, 2015, a $50 disincentive will be charged for each payroll not entered into the UDOT Electronic Certified Payroll Program within 7 days of the Payroll Date. This disincentive applies to both the General Contractor and all Subcontractors where Davis Bacon Wages apply.

For questions contact the Civil Rights Office.

## V. Bidding Schedule

# Utah Department of Transportation
# Bidder's Schedule

**Bid Opening Date:** 12/13/2016
**Project Number:** F-0209(34)10
**PIN Description:** SR-209: 90th S.; Bangerter to 4800 W
**Concept:** Preservation - Roadway
**Location:** SR-209; MP 6.20 - 7.63

**Region:** REGION 2
**County:** SALT LAKE

**Funding:** FEDERAL
**Bid Items Version#:** 1 **DBE Goal:** 6.00%

| # | Item | Description | Quantity | Unit |
|---|---|---|---|---|
| **10 - ROADWAY** | | | | |
| 1 | 012850010 | Mobilization | 1 | lump sum |
| 2 | 01315001* | Public Information Services | 1 | lump sum |
| 3 | 01554000* | Traffic Control | 1 | lump sum |
| 4 | 01557000* | Maintenance of Traffic | 1 | lump sum |
| 5 | 01892002* | Reconstruct Cleanout Box | 1 | each |
| 6 | 01892004* | Reconstruct Valve Box | 26 | each |
| 7 | 01892005* | Reconstruct Manhole | 76 | each |
| 8 | 01892006* | Reconstruct Monument Box | 3 | each |
| 9 | 02732001* | HMA - 1/2 inch | 5853 | ton |
| 10 | 02737001* | Pavement Soft Spot Repair - Type A (Contingency Item) | 1000 | square yard |
| 11 | 02737002* | Pavement Soft Spot Repair - Type B (Contingency Item) | 500 | square yard |
| 12 | 02748004P | Emulsified Asphalt CQS-1 | 36 | ton |
| 13 | 02765006P | Pavement Marking Paint | 572 | gallon |
| 14 | 02768010P | Pavement Message (Preformed Thermoplastic) | 210 | each |
| 15 | 027680115 | Pavement Message (Preformed Thermoplastic Stop Line, Crosswalks - 12 inch) | 1393 | foot |
| 16 | 02771011P | Reconstruct Pedestrian Access Ramp | 22 | each |
| 17 | 02776002P | Concrete Curb and Gutter Type B1 | 160 | foot |
| 18 | 029610010 | Rotomilling | 70306 | square yard |
| **50 - SIGNALS** | | | | |
| 19 | 02892002P | Relocate Pedestrian Pushbuttons | 8 | each |
| 20 | 02892006P | Install Radar Detection | 1 | lump sum |
| **180 - TIME AND/OR LANE RENTAL** | | | | |
| 21 | 00221000* | Contract Time Date Range: 50 - 70 | 0 | day |

*Note: Item numbers ending with "*" or "P" identify a change to the Standard Specification, Supplemental Specifications or Measurement and payment. Read all related documents carefully.

## VI. Measurement and Payment

# Measurement and Payment

## Project # F-0209(34)10



10/24/2016 04:23:28 PM

| Item # | Bid Item Number | Bid Item Name | UOM |
|---|---|---|---|
| 1 | 012850010 | Mobilization | lump sum |

| Amount Paid | When Paid |
|---|---|
| The lesser of 25% of Mobilization or 2.5% of contract | With first estimate |
| The lesser of 50% of Mobilization or 5% of contract | With estimate following completion of 5% of contract |
| The lesser of 75% of Mobilization or 7.5% of contract | With estimate following completion of 10% of contract |
| The lesser of 100% of Mobilization or 10% of contract | With estimate following completion of 20% of contract |
| Amount bid in excess of 10% of contract price. | Project Acceptance-Final |

Includes all costs associated with Railroad Flagging, inspection, and cleanup crew according to Section 00725.

| | | | |
|---|---|---|---|
| 2 | 01315001* | Public Information Services | lump sum |

25% of bid item amount paid with first estimate.
Remaining portion of bid item paid as a percentage of the contract completed with each subsequent estimate.

| | | | |
|---|---|---|---|
| 3 | 01554000* | Traffic Control | lump sum |

25% of the bid item amount paid with first estimate.
Remaining portion of bid item paid as a percentage of the contract completed with each subsequent estimate.
Includes temporary pavement markings.

| | | | |
|---|---|---|---|
| 4 | 01557000* | Maintenance of Traffic | lump sum |

25% of the bid item amount paid with first estimate.
Remaining portion of bid item paid as a percentage of the contract completed with each subsequent estimate.

| | | | |
|---|---|---|---|
| 5 | 01892002* | Reconstruct Cleanout Box | each |

Includes all labor, equipment, and materials necessary to reconstruct cleanout box with a new frame and cover.

| | | | |
|---|---|---|---|
| 6 | 01892004* | Reconstruct Valve Box | each |

Includes all labor, equipment, and materials necessary to reconstruct valve box with a new frame and cover.

| | | | |
|---|---|---|---|
| 7 | 01892005* | Reconstruct Manhole | each |

Includes all labor, equipment, and materials necessary to reconstruct manhole box with a new frame and cover.

| | | | |
|---|---|---|---|
| 8 | 01892006* | Reconstruct Monument Box | each |

Includes all labor, equipment, and materials necessary to reconstruct monument box with a new frame and cover.

| | | | |
|---|---|---|---|
| 9 | 02732001* | HMA - 1/2 inch | ton |

Includes aggregates, asphalt binder, hydrated lime, and other additives, etc. Tack coat is paid separately.

| | | | |
|---|---|---|---|
| 10 | 02737001* | Pavement Soft Spot Repair - Type A (Contingency Item) | square yard |

Includes saw cutting, removal and disposal of existing asphalt pavement, compaction of base and installation of new HMA pavement. Installation includes all labor, equipment, and materials necessary to repair pavement. Estimated plan quantities are based on preliminary field review for bidding purposes only. Repair the actual quantities determined by the Engineer. Pavement Soft Spot Repair may be reduced, deleted, or increased over the bid quantities from the contract. The price of the actual quantity will be paid at the contract unit price if any of these situations occur.

| | | | |
|---|---|---|---|
| 11 | 02737002* | Pavement Soft Spot Repair - Type B (Contingency Item) | square yard |

Includes saw cutting, removal and disposal of existing asphalt pavement, compaction of existing base, geotextile fabric, UTBC and installation of new HMA pavement. Installation includes all labor, equipment, and materials necessary to repair pavement. Estimated plan quantities are based on preliminary field review for bidding purposes only. Repair the actual quantities determined by the Engineer. Pavement Soft Spot Repair may be reduced, deleted, or increased over the bid quantities from the contract. The price of the actual quantity will be paid at the contract unit price if any of these situations occur.

| | | | |
|---|---|---|---|
| 12 | 02748004P | Emulsified Asphalt CQS-1 | ton |
| | | | |
| 13 | 02765006P | Pavement Marking Paint | gallon |
| 14 | 02768010P | Pavement Message (Preformed Thermoplastic) | each |

Measurement
A. Letter = one message
B. Arrow = one message
C. Multi-headed arrow = one message per arrow
D. School crossbars = one message per 24 inch x 10 ft bar
E. Crosswalk = two message per lane and two messages per shoulder
F. Stop Bar = one message per lane and one message per shoulder
G. Railroad crossing markings = seven messages per lane
1. R = one message each (two required)
2. X = two messages
3. Transverse Bar = one message each (two required)
4. Stop Bar = one message

| Item # | Bid Item Number | Bid Item Name | UOM |
|---|---|---|---|
| | | H. Bike Lane Message = two messages<br>1. Bike Symbol = one message<br>2. Arrow = one message<br>I. Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price. | |
| 15 | 027680115 | Pavement Message (Preformed Thermoplastic Stop Line, Crosswalks - 12 inch) | foot |
| | | By the foot of 12 inch wide line according to Standard Drawings. | |
| 16 | 02771011P | Reconstruct Pedestrian Access Ramp | each |
| | | Includes all labor, equipment, materials, disposal, untreated base course, and incidental work to remove and construct a pedestrian access ramp according to GW Series Standard Drawings. Incidental work includes the removal and replacement of up to 100 sq ft of adjacent sidewalk, up to 40 ft of curb and gutter (measured along top-back-curb including the curb cut), up to 20 sq ft of landscaping, up to 130 ft of fencing, and repair of irrigation and asphalt damaged to construct pedestrian access ramp. | |
| 17 | 02776002P | Concrete Curb and Gutter Type B1 | foot |
| | | Measured along the roadway face. Includes excavation and untreated base course, removal of existing concrete curb and gutter. Install as directed by the Engineer. This item may be reduced, deleted, or increased over the bid quantities from the contract. The price of the actual quantity will be paid at the contract unit price if any of these situations occur. | |
| 18 | 029610010 | Rotomilling | square yard |
| | | Calculated from length multiplied by the average finished width of rotomilled surface | |
| 19 | 02892002P | Relocate Pedestrian Pushbuttons | each |
| | | Includes removal of existing pushbuttons, patch hole in existing signal pole (water tight), installation of new ped poles, bases, ped buttons, signs, standoffs, rerouting wiring, labor, potholes for utilities, equipment, and incidental materials necessary to relocate pedestrian pushbuttons. | |
| 20 | 02892006P | Install Radar Detection | lump sum |
| | | Includes all labor, equipment, and incidental materials necessary for a fully operational radar detection system. Integration will be by State forces. Return existing video equipment to Region 2 Signals. | |

## VII. PDBS Project Summary Report and Detailed Stationing Summaries Report

# Summary Report

**Project: F-0209(34)10** **Version: 1**

**SR-209; MP 6.20 - 7.63**

| Detail | Alt Group | Alt # | Description |
|---|---|---|---|
| **10 - ROADWAY** | 0 | 0 | |

| Item Number | Description | Qty | Unit |
|---|---|---|---|
| 012850010 | Mobilization | 1 | Lump |
| 01315001* | Public Information Services | 1 | Lump |
| 01554000* | Traffic Control | 1 | Lump |
| 01557000* | Maintenance of Traffic | 1 | Lump |
| 01892002* | Reconstruct Cleanout Box | 1 | Each |
| 01892004* | Reconstruct Valve Box | 26 | Each |
| 01892005* | Reconstruct Manhole | 76 | Each |
| 01892006* | Reconstruct Monument Box | 3 | Each |
| 02732001* | HMA - 1/2 inch | 5853 | Ton |
| 02737001* | Pavement Soft Spot Repair - Type A (Contingency Item) | 1000 | sq yd |
| 02737002* | Pavement Soft Spot Repair - Type B (Contingency Item) | 500 | sq yd |
| 02748004P | Emulsified Asphalt CQS-1 | 36 | Ton |
| 02765006P | Pavement Marking Paint | 572 | gal |
| 02768010P | Pavement Message (Preformed Thermoplastic) | 210 | Each |
| 027680115 | Pavement Message (Preformed Thermoplastic Stop Line, Crosswalks - 12 inch) | 1393 | ft |
| 02771011P | Reconstruct Pedestrian Access Ramp | 22 | Each |
| 02776002P | Concrete Curb and Gutter Type B1 | 160 | ft |
| 029610010 | Rotomilling | 70306 | sq yd |

| Detail | Alt Group | Alt # | Description |
|---|---|---|---|
| **50 - SIGNALS** | 0 | 0 | |

| Item Number | Description | Qty | Unit |
|---|---|---|---|
| 02892002P | Relocate Pedestrian Pushbuttons | 8 | Each |
| 02892006P | Install Radar Detection | 1 | Lump |

# Summary Report

**Project: F-0209(34)10** **Version: 1**

**SR-209; MP 6.20 - 7.63**

| Detail | Alt Group | Alt # | Description |
|---|---|---|---|
| **180 - TIME AND/OR LANE RENTAL** | 0 | 0 | |

| Item Number | Description | Qty | Unit |
|---|---|---|---|
| 00221000* | Contract Time | | Day |
| | Minimum Days: 50 Maximum Days: 70 | | |

# Detailed Report

**F-0209(34)10** **Version: 1**

**SR-209; MP 6.20 - 7.63**

**10 - ROADWAY** **Alt Group: 0** **Alt #: 0**

| Item Number | Description | Use Qty | Unit |
|---|---|---|---|
| **01892002*** | **Reconstruct Cleanout Box** | 1 | Each |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 1.0 | 4000 WEST |
| | | | | | 1.0 | |

| Item Number | Description | Use Qty | Unit |
|---|---|---|---|
| **01892004*** | **Reconstruct Valve Box** | 26 | Each |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 19.0 | Railroad to Bangerter Highway |
| 9000 SOU- | | | | | 7.0 | 4800 West to Railroad |
| | | | | | 26.0 | |

| Item Number | Description | Use Qty | Unit |
|---|---|---|---|
| **01892005*** | **Reconstruct Manhole** | 76 | Each |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 42.0 | Railroad to Bangerter Highway |
| 9000 SOU- | | | | | 34.0 | 4800 West to Railroad |
| | | | | | 76.0 | |

| Item Number | Description | Use Qty | Unit |
|---|---|---|---|
| **01892006*** | **Reconstruct Monument Box** | 3 | Each |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 2.0 | 4800 West to Railroad |
| 9000 SOU- | | | | | 1.0 | Railroad to Bangerter Highway |
| | | | | | 3.0 | |

# Detailed Report

**F-0209(34)10** **Version: 1**

**SR-209; MP 6.20 - 7.63**

**10 - ROADWAY** **Alt Group: 0** **Alt #: 0**

| Item Number | Description | Use Qty | Unit |
|---|---|---|---|
| **02732001*** | **HMA - 1/2 inch** | 5,853 | Ton |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 5,853.0 | 4800 West to Bangerter Highway |
| | | | | | 5,853.0 | |

| | | | |
|---|---|---|---|
| **02737001*** | **Pavement Soft Spot Repair - Type A (Contingency Item)** | 1,000 | sq yd |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 1,000.0 | 4800 West to Bangerter Highway |
| | | | | | 1,000.0 | |

| | | | |
|---|---|---|---|
| **02737002*** | **Pavement Soft Spot Repair - Type B (Contingency Item)** | 500 | sq yd |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 500.0 | 4800 West to Bangerter Highway |
| | | | | | 500.0 | |

| | | | |
|---|---|---|---|
| **02748004P** | **Emulsified Asphalt CQS-1** | 36 | Ton |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 36.0 | 4800 West to Bangerter Highway |
| | | | | | 36.0 | |

# Detailed Report

**F-0209(34)10** **Version: 1**

**SR-209; MP 6.20 - 7.63**

**10 - ROADWAY** **Alt Group: 0** **Alt #: 0**

| Item Number | Description | Use Qty | Unit |
|---|---|---|---|
| **02765006P** | **Pavement Marking Paint** | 572 | gal |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 572.0 | 4800 West to Bangerter Highway |
| | | | | | 572.0 | |

| | | | |
|---|---|---|---|
| **02768010P** | **Pavement Message (Preformed Thermoplastic)** | 210 | Each |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 210.0 | 4800 West to Bangerter Highway |
| | | | | | 210.0 | |

| | | | |
|---|---|---|---|
| **027680115** | **Pavement Message (Preformed Thermoplastic Stop Line, Crosswalks - 12 inch)** | 1,393 | ft |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 14.0 | Old Bingham / 9000 South |
| 9000 SOU- | | | | | 126.0 | 3820 West / 9000 South |
| 9000 SOU- | | | | | 518.0 | 4000 West / 9000 South |
| 9000 SOU- | | | | | 735.0 | 4800 West / 9000 South |
| | | | | | 1,393.0 | |

# Detailed Report

**F-0209(34)10** **Version: 1**

**SR-209; MP 6.20 - 7.63**

**10 - ROADWAY** **Alt Group: 0** **Alt #: 0**

| Item Number | Description | Use Qty | Unit |
|---|---|---|---|
| **02771011P** | **Reconstruct Pedestrian Access Ramp** | 22 | Each |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 2.0 | 8. 3730 W. - South ramps are apex style. |
| 9000 SOU- | | | | | 2.0 | 7. 3780 W. - Infeasible on North. Reconstruct only the South as Apex. |
| 9000 SOU- | | | | | 2.0 | 6. 3820 W. - South ramps are apex style. |
| 9000 SOU- | | | | | 2.0 | 5. 3900 W. - Infeasible on North. Reconstruct only the South as Apex. |
| 9000 SOU- | | | | | 2.0 | 4. MP 7.24 - Southern two quadrants are directional style ramps. |
| 9000 SOU- | | | | | 4.0 | 3. 4000 W. - All four quadrants are apex style ramps. |
| 9000 SOU- | | | | | 2.0 | 2. Old Bingham Hwy - Perpendicular ramps |
| 9000 SOU- | | | | | 4.0 | 1. 4800 West - All four quadrants are apex style ramps. |
| 9000 SOU- | | | | | 2.0 | 9. 3695 W. - South ramps are apex style. |
| | | | | | 22.0 | |

| | | | |
|---|---|---|---|
| **02776002P** | **Concrete Curb and Gutter Type B1** | 160 | ft |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | MP 6.2 | | | | 10.0 | C&G settled. MP is approximate. Approval of location by Engineer. |
| 9000 SOU- | MP 6.3 | | | | 10.0 | TBC broken. MP is approximate. Approval of location by Engineer. |
| 9000 SOU- | MP 6.67 | | | | 20.0 | C&G settled. MP is approximate. Approval of location by Engineer. |
| 9000 SOU- | MP 6.8 | | | | 40.0 | C&G settled and cracked.MP is approximate. Approval of location by Engineer. |
| 9000 SOU- | MP 7.1 | | | | 20.0 | C&G settled. MP is approximate. Approval of location by Engineer. |
| 9000 SOU- | MP 7.2 | | | | 20.0 | C&G settled. MP is approximate. Approval of location by Engineer. |
| 9000 SOU- | MP 7.24 | | | | 10.0 | TBC broken. MP is approximate. Approval of location by Engineer. |
| 9000 SOU- | MP 7.47 | | | | 30.0 | C&G settled. MP is approximate. Approval of location by Engineer. |
| | | | | | 160.0 | |

| | | | |
|---|---|---|---|
| **029610010** | **Rotomilling** | 70,306 | sq yd |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 70,306.0 | 4800 West to Bangerter Highway |
| | | | | | 70,306.0 | |

# Detailed Report

**F-0209(34)10** **Version: 1**

**SR-209; MP 6.20 - 7.63**

**50 - SIGNALS** **Alt Group: 0** **Alt #: 0**

| Item Number | Description | Use Qty | Unit |
|---|---|---|---|
| **02892002P** | **Relocate Pedestrian Pushbuttons** | 8 | Each |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 1.0 | 4800 WEST - NORTH EAST CORNER |
| 9000 SOU- | | | | | 1.0 | 4800 WEST - NORTH WEST CORNER |
| 9000 SOU- | | | | | 1.0 | 4000 WEST - SOUTH EAST CORNER |
| 9000 SOU- | | | | | 1.0 | 4000 WEST - SOUTH WEST CORNER |
| 9000 SOU- | | | | | 1.0 | 4000 WEST - NORTH EAST CORNER |
| 9000 SOU- | | | | | 1.0 | 4000 WEST - NORTH WEST CORNER |
| 9000 SOU- | | | | | 1.0 | 4800 WEST - SOUTH WEST CORNER |
| 9000 SOU- | | | | | 1.0 | 4800 WEST - SOUTH EAST CORNER |
| | | | | | 8.0 | |

| | | | |
|---|---|---|---|
| **02892006P** | **Install Radar Detection** | 1 | Lump |

| Line/Sheet | From Station | From Offset | To Station | To Offset | Qty | Comment |
|---|---|---|---|---|---|---|
| 9000 SOU- | | | | | 1.0 | 4000 WEST AND 4800 WEST |
| | | | | | 1.0 | |

## VIII. Location Map

# UTAH
# DEPARTMENT OF TRANSPORTATION

## FEDERAL AID PROJECT

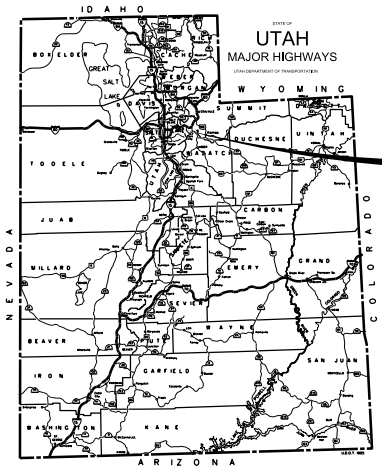
# F-0209(34)10 PIN: 11110

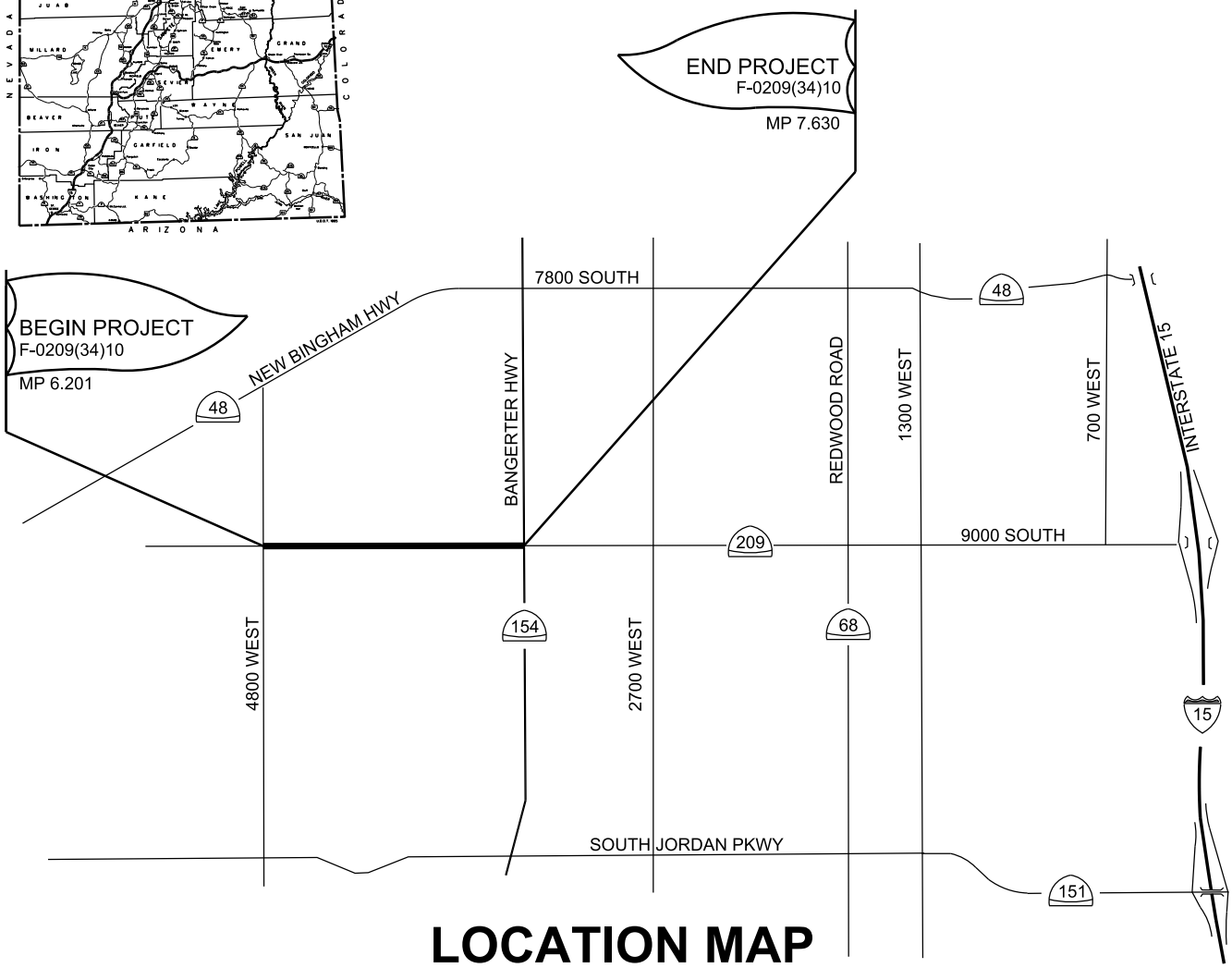
## SR-209: 90TH S.; BANGERTER TO 4800 W

## PRESERVATION - ROADWAY

## SALT LAKE COUNTY

## LENGTH = 1.429 MILES




# LOCATION MAP

DGN File: IP PWP:d0180747\11110 LM-01.dgn

PIN: 11110

03-OCT-2016

## IX. Typical Sections or Detail Sheets and Supplemental Drawings

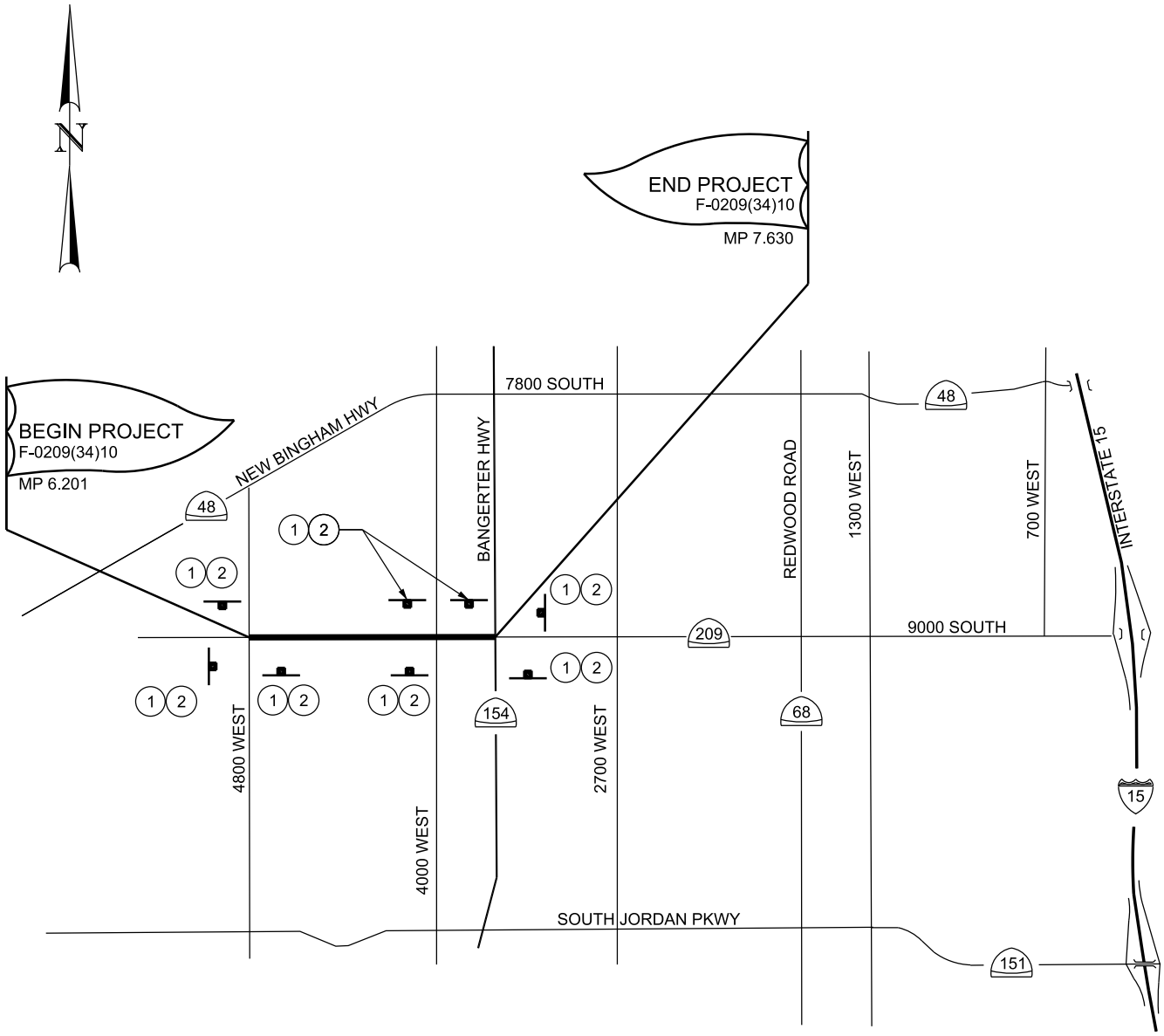
| | | |
|---|---|---|
| MOT-01 | Maintenance of Traffic | |
| TS-01 | Typical Section | |
| DT-01 | Details | |
| AT 01 | Legend Sheet | 10/22/2015 |
| AT 6 | Conduit Details | 10/22/2015 |
| AT 11B | Non-Intrusive Detector Mounting Details | 10/31/2013 |
| AT 11C | Pole Mounted Cabinet Bracket | 10/31/2013 |
| GW 4A | Concrete Driveways and Sidewalks | 02/28/2013 |
| GW 4B | Concrete Driveways and Sidewalks | 02/28/2013 |
| GW 5A | Pedestrian Access | 11/06/2014 |
| GW 5B | Pedestrian Access | 11/06/2014 |
| GW 5C | Pedestrian Access | 11/06/2014 |
| GW 5D | Pedestrian Access | 11/06/2014 |
| GW 11 | Sidewalks and Shoulders On Urban Roadways | 02/28/2013 |
| SL 7 | Pedestrian Signal Assembly | 11/06/2014 |
| TC 1 | Traffic Control Drawing Series General Notes | 08/30/2012 |
| TC 2B | Work Zone Signing | 08/30/2012 |
| TC 2C | Work Zone Advanced Warning Arrow Boards | 06/26/2014 |
| TC 3A | Hazard Mitigation | 02/28/2013 |
| TC 4A | Standard Work Zone Signing General | 08/30/2012 |
| TC 4B1 | Reduced Speed Work Zone Signing General | 08/30/2012 |
| TC 4B2 | Reduced Speed Shoulder Work Zone Signing General | 08/30/2012 |
| TC 4C | Traffic Control Project Limit Signing | 08/30/2012 |
| TC 4D1 | Work Zone Specialty Signs | 10/31/2013 |
| TC 4D2 | Work Zone Specialty Signs | 10/31/2013 |
| TC 14A | Traffic Control Flagging Operation | 11/06/2014 |
| TC 14B | Reduced Speed Signing for Pilot Car Operation (Conventional Roads) | 11/06/2014 |

NOTES:

1. USE THESE DETAILS IN ADDITION TO STANDARD DRAWINGS TC-1 THROUGH TC-19, SPECIAL PROVISIONS, MUTCD AND ATSSA. RESOLVE ANY DISCREPENCIES WITH THE ENGINEER PRIOR TO WORK.
2. OBTAIN ALL REQUIRED PERMITS FOR SIGN PLACEMENT.

2 PHASE VMS

| 6 DAYS PRIOR TO CONSTRUCTION (1) | DURING CONSTRUCTION (2) |
|---|---|
| CONST SR-209 | RD WORK SR-209 |
| BEGINS -DAY- | EXPECT DELAYS |

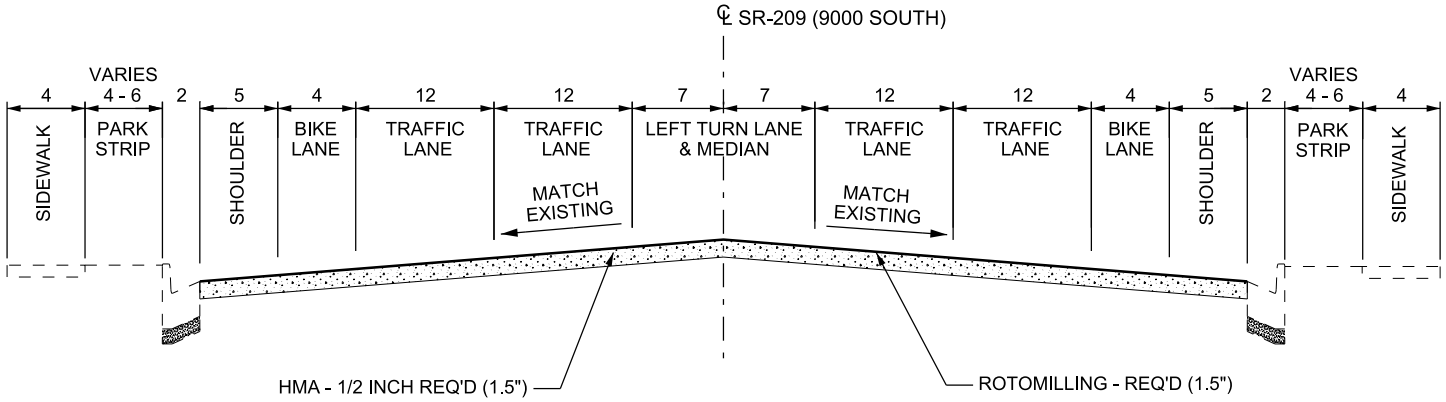



DGN File: IP PWP:d0180747\11110 MOT-01.dgn

PIN: 11110

03-OCT-2016

| PIN: 11110<br>PROJECT NO. F-0209(34)10 | SR-209: 90TH S.; BANGERTER TO 4800 W<br>MAINTENANCE OF TRAFFIC | SHEET NO.<br>MOT-01 |
|---|---|---|




# TYPICAL SECTION NO. 1

MP 6.20 to MP 7.63

DGN File: IP_PWP:d0180747\11110_TS-01.dgn

PIN: 11110

03-OCT-2016

| | | |
|---|---|---|
| PIN: 11110<br>PROJECT NO. F-0209(34)10 | SR-209: 90TH S.; BANGERTER TO 4800 W<br>TYPICAL SECTION | SHEET NO.<br>TS-01 |

DGN File: IP_PWP:d0180747\11110_DT-01.dgn

PIN: 11110

03-OCT-2016

| | | |
|---|---|---|
| PIN: 11110<br>PROJECT NO. F-0209(34)10 | SR-209: 90TH S.; BANGERTER TO 4800 W<br>DETAILS | SHEET NO.<br>DT-01 |

## ATMS LINE STYLE LEGEND

| FUTURE OR EXISTING | REQ'D | TYPE | CONDUCTOR TYPES |
|---|---|---|---|
| ---- # d ---- | —— # D —— | 4-CONDUIT DUCT BANK (# INDICATES NUMBER OF 4-CONDUIT DUCT BANKS 1, 2, OR 4) | FIBER OPTIC |
| ---- hv# ---- | —— HV# —— | HIGH VOLTAGE CONDUIT (# INDICATES SIZE IN INCHES - 1 1/2, 2, 3, OR 4) | 120, 240, OR 480VAC |
| ---- lv# ---- | —— LV# —— | LOW VOLTAGE CONDUIT (# INDICATES SIZE IN INCHES - 1 1/2, 2, 3, OR 4) | COPPER COMM OR POWER LESS THAN 120VAC |
| --- tal# --- | — TAL# — | TAIL CIRCUIT COMMUNICATIONS CONDUIT (# INDICATES SIZE IN INCHES - 1 1/2, 2, 3, OR 4) | FIBER OPTIC OR COPPER COMM |
| --- spr# --- | — SPR# — | SPARE CONDUIT (# INDICATES SIZE IN INCHES - 1 1/2, 2, 3, OR 4) | EMPTY |
| ---- xc ----- | | EXISTING CONDUIT | UNKNOWN OR AS SPECIFIED |
| --- ohp ---- | —— OHP —— | OVERHEAD POWER | N/A |
| --- ohc ---- | —— OHC —— | OVERHEAD COMMUNICATIONS | N/A |
| --- ohx ---- | | EXISTING OVERHEAD CONDUCTORS | UNKNOWN OR AS SPECIFIED |
| --- md# ---- | —— MD# —— | BUNDLED MICRODUCT (# INDICATED NUMBER OF INDIVIDUAL MICRODUCTS CONTAINED WITHIN OVER SHEATH; 2,3,4, OR 7) | MICRODUCT |

## ABBREVIATIONS

| ABBREVIATION | DEFINITION |
|---|---|
| ATMS | ADVANCED TRAFFIC MANAGEMENT SYSTEM |
| AWG | AMERICAN WIRE GAUGE |
| BNC | BAYONET NEIL-CONCELMAN |
| CAB | CABINET |
| CAT-# | CATEGORY - (# INDICATES CATEGORY NUMBER) CONDUCTOR |
| CCTV | CLOSED CIRCUIT TELEVISION |
| COMM | COMMUNICATIONS |
| DLC | DETECTOR LOOP LEAD-IN CABLES |
| DIA | DIAMETER |
| FRE | FIBERGLASS REINFORCED EPOXY |
| GND | GROUND CONDUCTOR |
| GRC | GALVANIZED RIGID CONDUIT |
| HAR | HIGHWAY ADVISORY RADIO |
| HDPE | HIGH DENSITY POLYETHYLENE |
| HFC | HYBRID FIBER CABLE |
| HMA | HOT MIX ASPHALT |
| LAN | LOCAL AREA NETWORK |
| NID | NON-INTRUSIVE DETECTOR |
| NTS | NOT TO SCALE |
| OC | OFF CENTER |
| PC | POLYMER CONCRETE |
| PCCP | PORTLAND CEMENT CONCRETE PAVEMENT |
| PTCC | PAN-TILT CONTROL CABLE |
| PTZ | PAN/TILT/ZOOM |
| PWR | POWER |
| RDPE | REMOTE DATA PORT ENCLOSURE |
| REQ'D | REQUIRED |
| RMS | RAMP METER STATION |
| ROW | RIGHT-OF-WAY |
| RPU | REMOTE PROCESSING UNIT (FOR RWIS) |
| RWIS | ROADWAY WEATHER INFORMATION SYSTEM |
| ## SMF | SINGLE MODE FIBER (## INDICATES NUMBER OF STRANDS) |
| TMS | TRAFFIC MONITORING STATION |
| TOC | TRAFFIC OPERATIONS CENTER |
| TSC | TRAFFIC SIGNAL CONTROLLER |
| TYP | TYPICAL |
| VAC | VOLTS (ALTERNATING CURRENT) |
| VID | VIDEO |
| VMS | VARIABLE MESSAGE SIGN |
| WIM | WEIGHT-IN-MOTION |
| WP | WORKING POINT |

## DETAIL CALLOUT LEGEND

| CALLOUT | MEANING |
|---|---|
| "X" / "Y" | SEE DETAIL "X" ON SHEET "Y" |

## CONDUCTOR LEGEND

| CALLOUT | DEFINITION |
|---|---|
| X-Y(Z) | X=QUANTITY<br>Y=WIRE SIZE (AWG)<br>Z=PURPOSE |

## EQUIPMENT LEGEND

| FUTURE OR EXISTING | REQ'D | EQUIPMENT TYPE |
|---|---|---|
| | | TYPE I FREEWAY VARIABLE MESSAGE SIGN (VMS) ASSEMBLY |
| | | ROADWAY WEATHER INFORMATION SYSTEM |
| | | OMNI DIRECTIONAL ANTENNA |
| | | YAGI DIRECTIONAL ANTENNA |
| | | CCTV CAMERA/PTZ/POLE AND FOUNDATION |
| | | VIDEO DETECTION |
| | | NON-INTRUSIVE DETECTOR (RADAR) |
| | | WIRELESS IN-PAVEMENT MAGNETOMETER |
| | | WIRELESS DETECTION ACCESS POINT |
| | | WIRELESS DETECTION REPEATER |
| | | DETECTOR LOOP |
| I-PC | I-PC | TYPE I- POLYMER CONCRETE JUNCTION BOX |
| II-PC | II-PC | TYPE II- POLYMER CONCRETE JUNCTION BOX |
| III-PC | III-PC | TYPE III- POLYMER CONCRETE JUNCTION BOX |
| V | V | COMMUNICATIONS VAULT |
| | | COMMUNICATIONS HUB |
| | | ATMS CABINET |
| | | SIGNAL CABINET |
| | | ADVANCED FLASHING BEACON SIGN ON POLE |
| | | MAST ARM WITH SIGNAL HEADS |
| | | SIGNAL HEAD |
| | | POLE |
| | | POWER POLE |
| M | M | POLE MOUNTED METER |
| ps | PS | POWER SERVICE POINT |
| | | UNDERGROUND SERVICE PEDESTAL |
| X F | X F | POLE MOUNTED TRANSFORMER |
| | | PAD MOUNTED TRANSFORMER |
| | | PAD MOUNTED TRANSFORMER WITH DISCONNECT |

## ELECTRICAL SCHEMATIC LEGEND

| FUTURE OR EXISTING | SYMBOL | EQUIPMENT |
|---|---|---|
| | | BREAKER |
| M | M | METER |
| N | N | NEUTRAL LUG |
| EG | EG | EQUIPMENT GROUND LUG |
| | | GROUND ROD |
| | | TRANSFORMER |
| | | BLADE SWITCH |
| | | FUSE |

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 10/22/2015 | MAA | ADDED MD ATMS LINE STYLE. |

UTAH DEPARTMENT OF TRANSPORTATION
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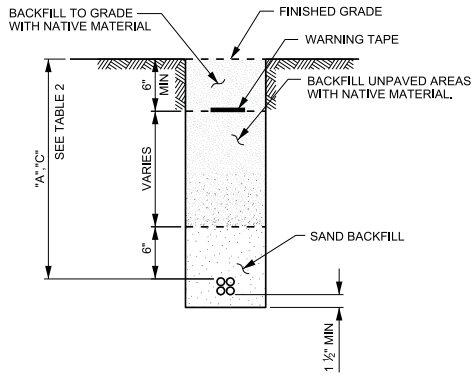
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — OCT. 22, 2015 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — OCT. 22, 2015 DATE
DEPUTY DIRECTOR

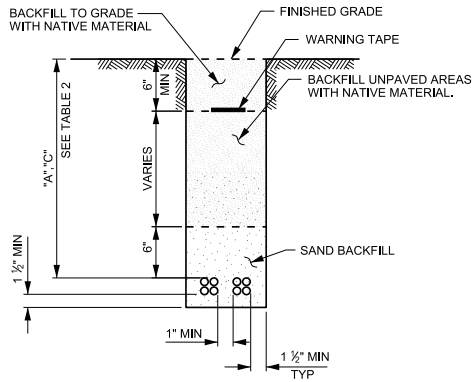
STANDARD DRAWING TITLE: LEGEND SHEET

STD. DWG. NO. AT 1

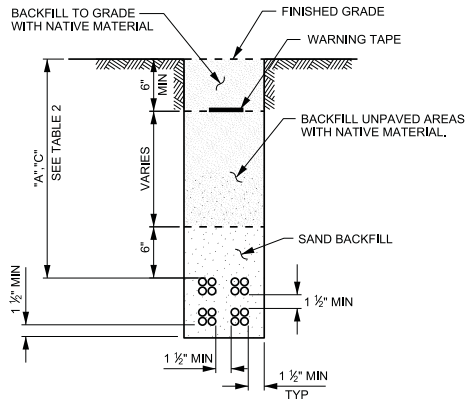
DGN: File:L:\Standard_Drawings\Imperial\2012\Approved_Supplemental_Issues\Supp14\Approved\AT01.dgn
02-NOV-2015



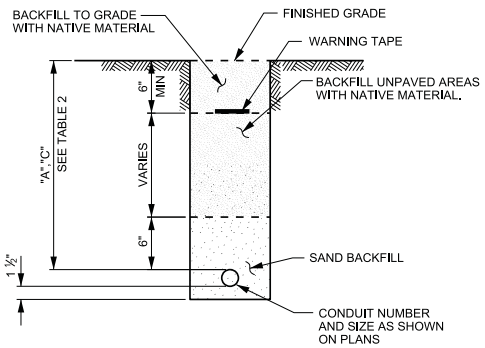

A 1-D MULTIDUCT CONDUIT



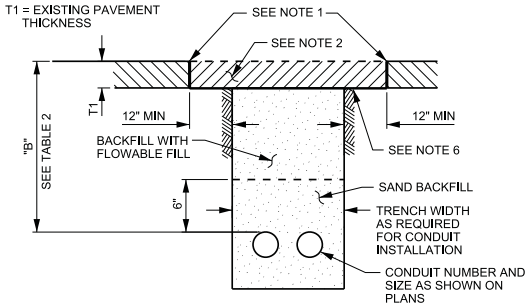

B 2-D MULTIDUCT CONDUIT




C 4-D MULTIDUCT CONDUIT




D NON-MULTIDUCT CONDUIT AND BUNDLED MICRODUCT




E CONDUIT TRENCHED IN ASPHALT PAVEMENT RESTORED WITH T PATCH

TABLE 1. T PATCH RESTORATION

| EXISTING ASPHALT PAVEMENT THICKNESS (T1) IN INCHES | RESTORATION T PATCH THICKNESS IN INCHES |
|---|---|
| 0 - 3 ½" | 3 ½" |
| 3 ½" - 7" | MATCH EXISTING DEPTH |
| 7" OR GREATER | 7" |

TABLE 2. MINIMUM CONDUIT DEPTH

| | DEPTH IN INCHES | AREA |
|---|---|---|
| A | 36 | OUTSIDE 20 FT OF PAVEMENT EDGE |
| B | 48 | HIGHWAY RIGHT-OF-WAY UNDER ASPHALT PAVEMENT SURFACE |
| C | 60 | WITHIN 20 FT OF PAVEMENT EDGE |

NOTES:

1. SAW CUT PAVEMENT EDGES. APPLY A HOT-POUR RUBBERIZED ASPHALT JOINT SEALANT OR APPROVED EQUAL, APPLIED AFTER PATCH IS INSTALLED.
2. USE HMA MATERIAL FOR T-PATCH. USE OPEN-GRADED SURFACE COURSE FOR THE TOP 1 INCH OF HMA FOR PATCHES GREATER THAN 12 FT WIDE. WHERE OPEN-GRADED SURFACE COURSE EXISTS, MATCH EXISTING PAVEMENT AND CROSS-SECTION.
3. USE SAND BACKFILL AND FLOWABLE FILL WITHIN EXISTING ROADWAY, PROPOSED ROADWAY, AND SIDEWALK PAVEMENT AREAS ONLY.
4. INSTALL DETECTABLE PULL TAPE IN ALL EMPTY CONDUITS.
5. EVENLY APPLY TACK COAT ON FINAL BACKFILL BEFORE INSTALLING T-PATCH.
6. USE ⅜" MINUS WELL-GRADED SAND.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 06/27/2013 | MAA | REVISED TABLE 2. DIMENSION B TO 48 INCHES. |
| 2 | 10/22/2015 | MAA | REVISED SAND BACKFILL DEPTH AND REVISED NOTE 3. |

UTAH DEPARTMENT OF TRANSPORTATION
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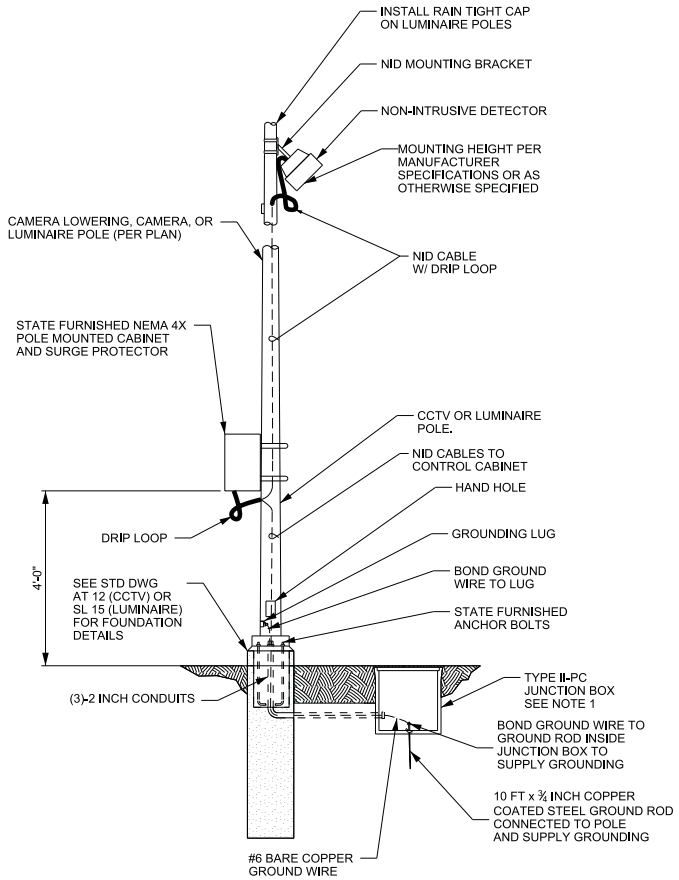
DEPUTY DIRECTOR — DATE

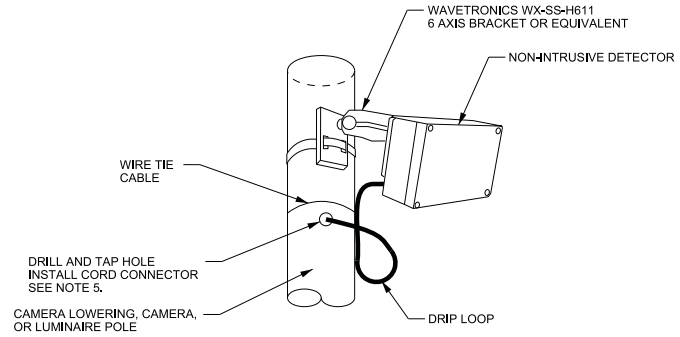
STANDARD DRAWING TITLE
CONDUIT DETAILS

STD. DWG. NO.
AT 6

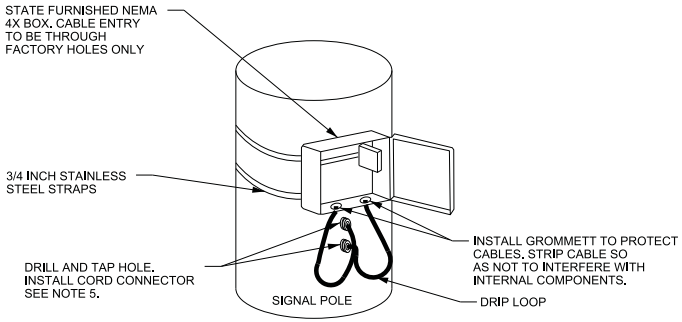
DGN: File:L:\Standard_Drawings\Imperial\2012\Approved_Supplemental_Issues\Supp14\Approved\AT06.dgn
02-NOV-2015




A NID MOUNTING DETAIL
NON-LOWERING POLE




B NID MOUNT ASSEMBLY DETAILS
NON-LOWERING POLE




C POLE MOUNT ENCLOSURE DETAILS
CABLE ENTRY THROUGH BOTTOM

NOTES:

1. JUNCTION BOX REQUIRED UNLESS POLE IS WITHIN 20 FT OF CONTROL CABINET. REFER TO STD DWG AT 7 FOR JUNCTION BOX DETAILS.
2. POLE MOUNTED CABINET REQUIRED UNLESS PAD MOUNTED ATMS CABINET IS PROVIDED.
3. REFER TO STD DWG SL 14 FOR LUMINAIRE POLE DETAILS.
4. LOCATE POLE A MINIMUM OF 1.2 TIMES THE AASHTO CLEAR ZONE DISTANCE AWAY FROM THE TRAVELED WAY, OR SHIELD ACCORDING TO THE CURRENT EDITION OF THE ROADSIDE DESIGN GUIDE.
5. SUPPLY AND INSTALL CORD CONNECTOR HUBBELL SHC1023ZP OR EQUAL. SIZE APPROPRIATELY FOR WIRE.
6. USE SIDE MOUNT NID BRACKET ON CAMERA LOWERING POLE. DO NOT MOUNT NID DIRECTLY ABOVE HAND HOLE OR IN THE CAMERA LOWERING PATH.
7. CABLE ENTRY INTO POLE MOUNT BOX TO BE THROUGH BOTTOM ONLY. DO NOT DRILL HOLES IN BACK OF BOX.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 10/31/13 | MAA | ADDED REFERENCES TO NON-LOWERING POLE. ADDED NID MOUNT NOTE. ADDED CABELING DETAIL. CHANGED MOUNTING STRAP SIZE. ADDED NOTES 6 AND 7 ON CABLE ENTRY AND NID MOUNTING. CHANGED DIMENSION OF CABINET HEIGHT ON DETAIL 2. |

UTAH DEPARTMENT OF TRANSPORTATION
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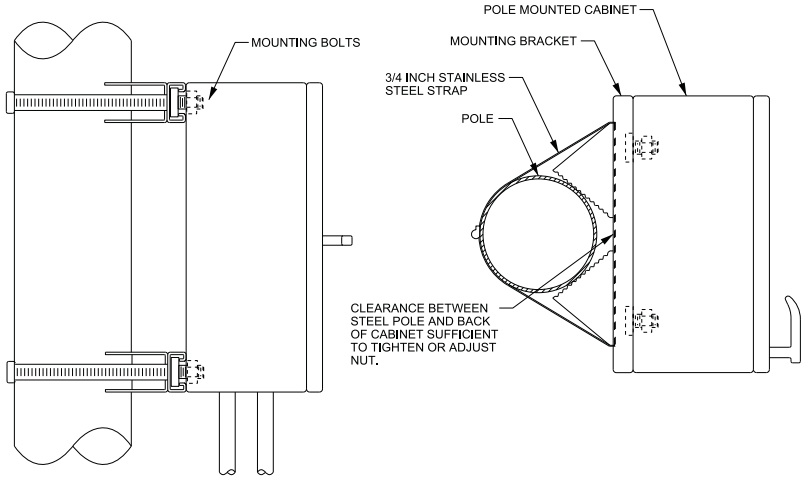
CHAIRMAN STANDARDS COMMITTEE APPROVED — OCT.31,2013 DATE
DEPUTY DIRECTOR — DATE

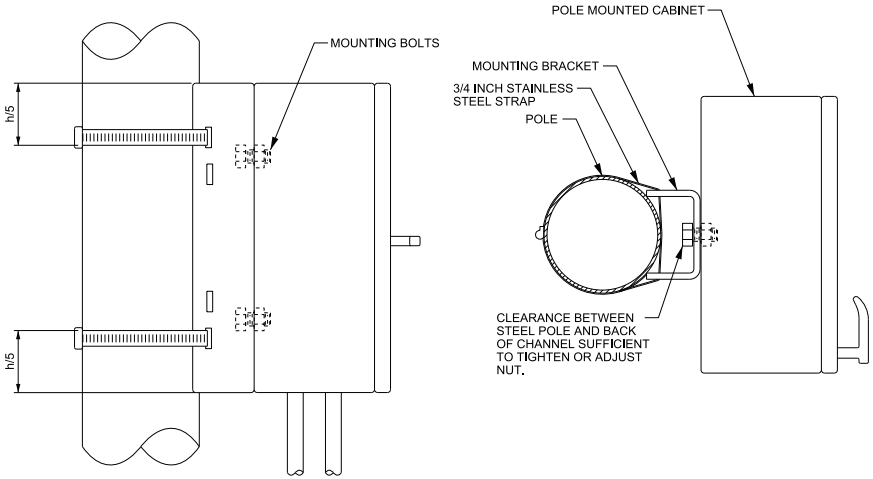
STANDARD DRAWING TITLE
NON-INTRUSIVE DETECTOR MOUNTING DETAILS

STD. DWG. NO.
AT 11B

20-NOV-2013 DGN File:L:\Standard Drawings\Imperial\2012Approved_Supplemental Issues\Supp7Approved\AT11B.dgn




## (A) POLE MOUNT CABINET DETAILS TYPE A




## (B) POLE MOUNT CABINET DETAILS TYPE B

NOTES:

1. USE MOUNTING HARDWARE INTENDED TO MOUNT CABINETS TO POLES. FOLLOW MANUFACTURER'S INSTRUCTIONS AND LOAD RATINGS.
2. USE TWO BRACKETS PER CABINET OR A FULL HEIGHT BRACKET.
3. USE TYPE A OR TYPE B MOUNTING SYSTEM HARDWARE AND MOUNTING SYSTEM. MUST BE APPROVED BY THE ENGINEER IN ADVANCE.
4. CONDUIT ENTRY TO BE THROUGH BOTTOM OF CABINET ONLY.
5. DO NOT WELD OR RIVIT BRACKET TO CABINET UNLESS FACTORY INSTALLED.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 10/31/13 | MAA | NEW DRAWING. |

UTAH DEPARTMENT OF TRANSPORTATION
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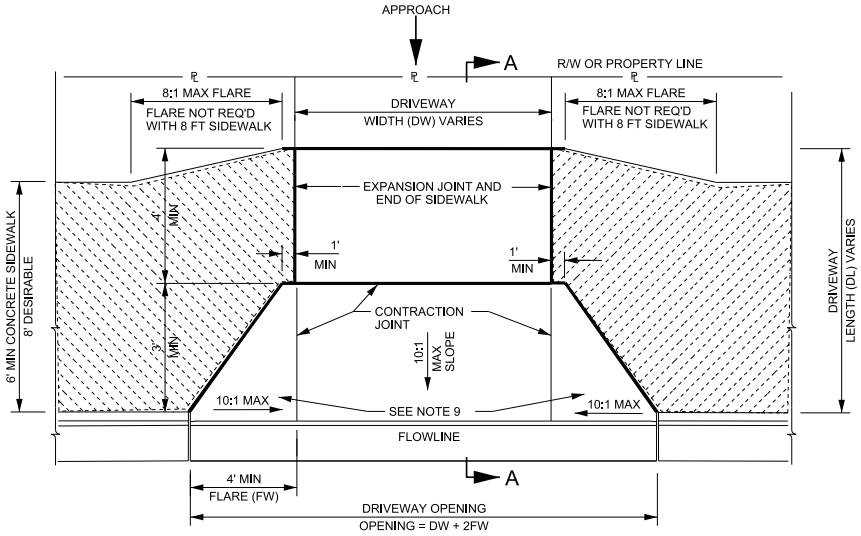
DEPUTY DIRECTOR

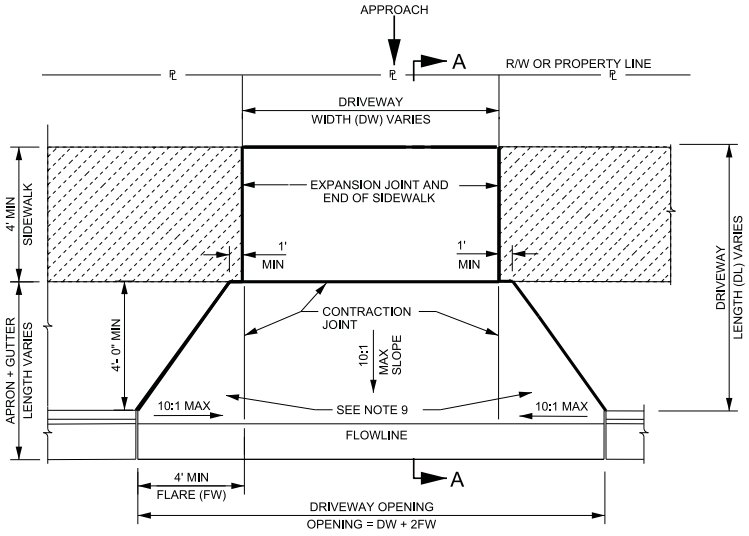
STANDARD DRAWING TITLE
POLE MOUNTED CABINET BRACKET

STD. DWG. NO.
AT 11C

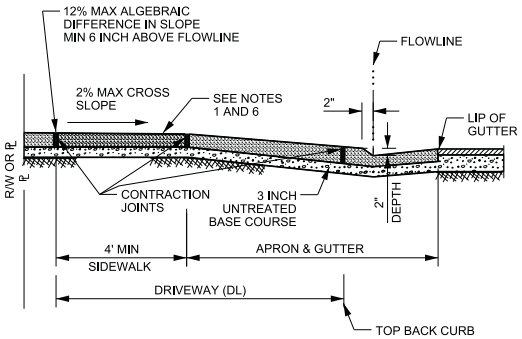
20-NOV-2013 DGN File:L:\Standard.Drawings\Imperial\2012Approved_Supplemental.Issues\Supp7Approved\AT11C.dgn




## FLARED DRIVEWAY WITH ADJACENT SIDEWALK

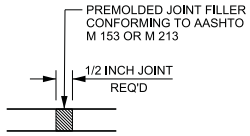



## FLARED DRIVEWAY WITH PARKSTRIP




## SECTION A-A

| DRIVEWAY FLARE AREA CHART | |
|---|---|
| FLARED DRIVEWAY | |
| DISTANCE FROM BACK OF CURB TO SIDEWALK | FLARE AREA |
| | |
| 3 FT | 18 $ft^2$ |
| 4 FT | 24 $ft^2$ |
| 6 FT | 36 $ft^2$ |
| 8 FT | 48 $ft^2$ |
| 10 FT | 60 $ft^2$ |
| | |
| ADD (DL)(DW) FOR | |
| TOTAL QUANTITY | |
| QUANTITY CALCULATED USING A 6 INCH CURB | |




## EXPANSION-CONTRACTION JOINT DETAIL

NOTES:

1. SIDEWALK CROSS SLOPE DIMENSIONS SHOWN ARE NOT SUBJECT TO CONVENTIONAL INDUSTRY TOLERANCES. CONSTRUCT SIDEWALKS AND RAMPS SUCH THAT THE MAXIMUM OR MINIMUM VALUES ARE NOT EXCEEDED. WORK THAT EXCEEDS THOSE VALUES WILL NOT BE ACCEPTED.
2. DRIVEWAY DIMENSIONS (MAX.& MIN.) ARE LOCATED IN UDOT "ADMINISTRATIVE RULE R930-6 ACCOMMODATION OF UTILITIES AND THE CONTROL AND PROTECTION OF STATE HIGHWAY RIGHTS OF WAY" CURRENT EDITION.
3. MAXIMUM DISTANCE BETWEEN CONTRACTION JOINTS 10 FT LATERALLY AND LONGITUDINALLY SPACED EQUALLY.
4. PROVIDE EXPANSION JOINTS IN CONCRETE SIDEWALK AT 30 FT INTERVALS AND WHERE CONCRETE SIDEWALK BUTTS AGAINST DRIVEWAY.
5. SIDEWALK INSIDE THE DRIVEWAY LIMITS IS PAID AS PART OF DRIVEWAY, NOT AS PART OF SIDEWALK.
6. FLARED CONCRETE DRIVEWAY
   A: RESIDENTIAL = 6 INCH THICK, COMMERCIAL = 7 INCH THICK. USE THESE THICKNESSES FOR APRON, SIDEWALK WITHIN DRIVEWAY AREA, APPROACH AND FLARE.
   B: DEPRESS THE LONGITUDINAL SLOPE OF THE SIDEWALK AT A MAXIMUM RATE OF 5 PERCENT TO MEET THE APRON - APPROACH ELEVATION IF THE GRADES SHOWN ON THE SLOPE DETAIL CANNOT BE MET. THE TOP BACK OF SIDEWALK IS TO BE A MINIMUM 6 INCHES ABOVE THE FLOWLINE OF CURB AND GUTTER AT ALL TIMES.
7. USE CLASS AA(AE) CONCRETE FOR SIDEWALK AND DRIVEWAYS.
8. USE UNTREATED BASE COURSE UNDER ALL SIDEWALKS AND DRIVEWAYS.
9. QUANTITIES FOR DRIVEWAYS INCLUDE FLARES TO TOP BACK OF CURB. CURB AND GUTTER PAID SEPERATELY THROUGH DRIVEWAY LOCATIONS.
10. REMOVE EXISTING SIDEWALK AND REPLACE BACK TO NEAREST EXPANSION JOINT.
11. APPROACH IS FROM OUTSIDE OF RIGHT-OF-WAY LINE TO ROADWAY.
12. APPROACH IS PART OF DRIVEWAY QUANTITIES.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 02/28/13 | JLL | ADDED NOTE 1. RENUMBERED EXISTING NOTES AND CALL OUTS. |

UTAH DEPARTMENT OF TRANSPORTATION
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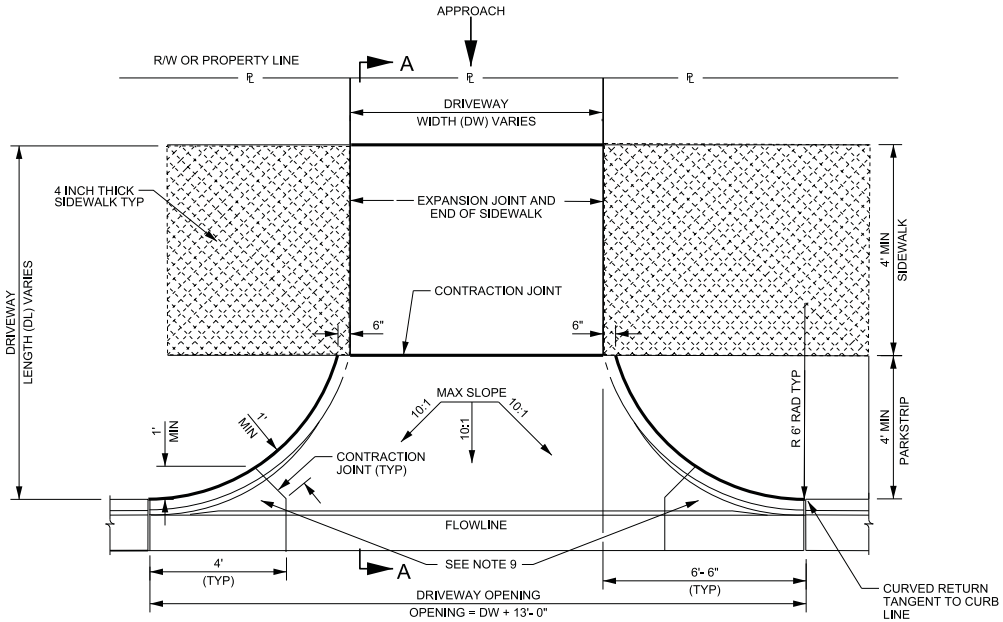
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — FEB.28.2013 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — FEB.28.2013 DATE
DEPUTY DIRECTOR

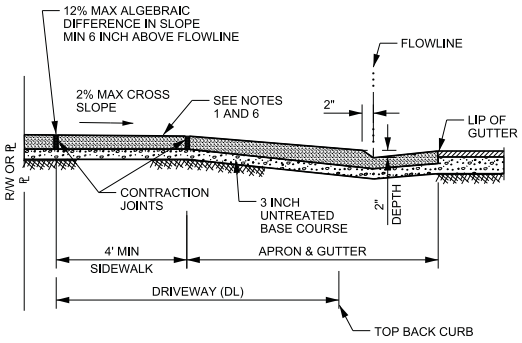
STANDARD DRAWING TITLE
CONCRETE DRIVEWAYS AND SIDEWALKS

STD. DWG. NO.
GW 4A

07-MAR-2013 DGN File: LV:\Standard_Drawings\Imperial\2012\Approved_Supplemental_Issues\Supp2Approved\GW04A.dgn



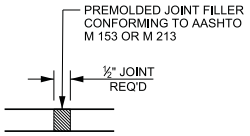

## OPEN CONCRETE DRIVEWAY




## SECTION A-A

| DRIVEWAY FLARE AREA CHART | |
|---|---|
| OPEN DRIVEWAY | |
| PARKSTRIP WIDTH | FLARE AREA |
| 4 FT | 15.00 $ft^2$ |
| 5 FT | 15.40 $ft^2$ |
| 6 FT | 15.45 $ft^2$ |

NOTES:
1. 6 FT RADIUS TYPICAL
2. $ft^2$ QUANTITY FOR BOTH SIDES OF DRIVEWAY




## EXPANSION-CONTRACTION JOINT DETAIL

NOTES:

1. SIDEWALK CROSS SLOPE DIMENSIONS SHOWN ARE NOT SUBJECT TO CONVENTIONAL INDUSTRY TOLERANCES. CONSTRUCT SIDEWALKS AND RAMPS SUCH THAT THE MAXIMUM OR MINIMUM VALUES ARE NOT EXCEEDED. WORK THAT EXCEEDS THOSE VALUES WILL NOT BE ACCEPTED.
2. DRIVEWAY DIMENSIONS (MAX.& MIN.) ARE LOCATED IN UDOT "ADMINISTRATIVE RULE R930-6 ACCOMMODATION OF UTILITIES AND THE CONTROL AND PROTECTION OF STATE HIGHWAY RIGHTS OF WAY" CURRENT EDITION.
3. MAXIMUM DISTANCE BETWEEN CONTRACTION JOINTS 10 FT LATERALLY AND LONGITUDINALLY SPACED EQUALLY.
4. PROVIDE EXPANSION JOINTS IN CONCRETE SIDEWALK AT 30 FT INTERVALS AND WHERE CONCRETE SIDEWALK BUTTS AGAINST DRIVEWAY.
5. SIDEWALK INSIDE THE DRIVEWAY LIMITS IS PAID AS PART OF DRIVEWAY, NOT AS PART OF SIDEWALK.
6. OPEN CONCRETE DRIVEWAY
   A: RESIDENTIAL = 6 INCH THICK, COMMERCIAL = 7 INCH THICK. USE THESE THICKNESSES FOR APRON, SIDEWALK WITHIN THE DRIVEWAY AREA, APPROACH, AND RADII.
   B: DEPRESS THE LONGITUDINAL SLOPE OF THE SIDEWALK AT A MAXIMUM RATE OF 5 PERCENT TO MEET THE APRON - APPROACH ELEV IF THE GRADES SHOWN ON THE SLOPE DETAIL CANNOT BE MET. THE TOP BACK OF SIDEWALK IS TO BE A MINIMUM 6 INCHES ABOVE THE FLOWLINE OF CURB AND GUTTER AT ALL TIMES.
7. USE CLASS AA(AE) CONCRETE FOR SIDEWALK AND DRIVEWAYS.
8. USE UNTREATED BASE COURSE UNDER ALL SIDEWALKS AND DRIVEWAYS.
9. QUANTITIES FOR DRIVEWAYS INCLUDE FLARES TO TOP BACK OF CURB. CURB AND GUTTER PAID SEPERATELY THROUGH DRIVEWAY LOCATIONS.
10. REMOVE EXISTING SIDEWALK AND REPLACE BACK TO NEAREST EXPANSION JOINT.
11. APPROACH IS FROM OUTSIDE OF RIGHT-OF-WAY LINE TO ROADWAY.
12. APPROACH IS PART OF DRIVEWAY QUANTITIES.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 02/28/13 | JLL | ADDED NOTE 1. RENUMBERED EXISTING NOTES AND CALL OUTS. |

UTAH DEPARTMENT OF TRANSPORTATION
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SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — FEB.28.2013 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — FEB.28.2013 DATE
DEPUTY DIRECTOR

STANDARD DRAWING TITLE
CONCRETE DRIVEWAYS AND SIDEWALKS

STD. DWG. NO.
GW 4B

07-MAR-2013 DGN File:L:\Standard.Drawings\Imperial\2012Approved_Supplemental_Issues\Supp2Approved\GW04B.dgn

## SLOPE TABLE

| | ITEM | MAX. RUNNING SLOPE * | MAX. CROSS SLOPE * |
|---|---|---|---|
| Ⓣ | TURNING SPACE | 2% | 2% (d) |
| Ⓡ | RAMP | 8.3% (a)<br>5.1% MIN | 2% (d) |
| Ⓑ | BLENDED TRANSITION | 5% | 2% (d) |
| Ⓒ | CLEAR SPACE/GUTTER ** | 5% (b) | 2% (d) |
| Ⓢ | SIDEWALK | -- | 2% |
| Ⓕ1 | FLARE WITHIN SIDEWALK | 10% (c) | -- |
| Ⓕ2 | FLARE NOT IN SIDEWALK | 25% (c) | -- |
| | CROSSWALK | 5% | 2% (e) (f) |

* RUNNING SLOPE IS IN THE DIRECTION OF PEDESTRIAN TRAVEL.
CROSS SLOPE IS PERPENDICULAR TO PEDESTRIAN TRAVEL.
** SEE CLEAR SPACE/GUTTER DETAIL C

(a) LENGTH OF RUNNING SLOPE FOR RAMPS IS NOT REQUIRED TO EXCEED 15 FT.

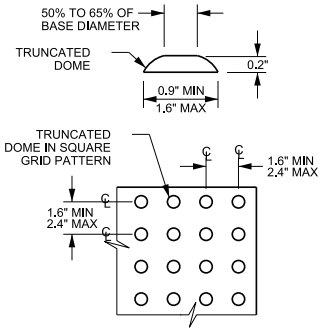
(b) MAINTAIN CONSISTENCY OF CLEAR SPACE RUNNING SLOPE ACROSS ENTIRE CURB CUT. WARP GUTTER PAN TO MEET REQUIRED CLEAR SPACE SLOPE AT CURB CUT.

(c) MEASURE FLARE SLOPE PARALLEL TO CURB LINE.

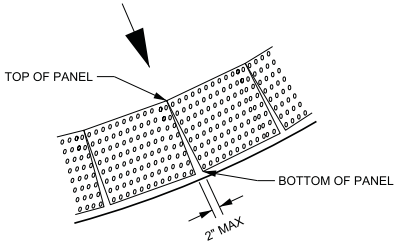
(d) DO NOT EXCEED THE ROADWAY PROFILE GRADE FOR THE CROSS SLOPE AT CROSSWALKS WITHOUT A STOP OR YIELD SIGN AND AT MID-BLOCK CROSWALKS.

(e) DO NOT EXCEED 5 PERCENT CROSS SLOPE AT CROSSWALKS AT INTERSECTIONS WITHOUT A STOP OR YIELD SIGN.

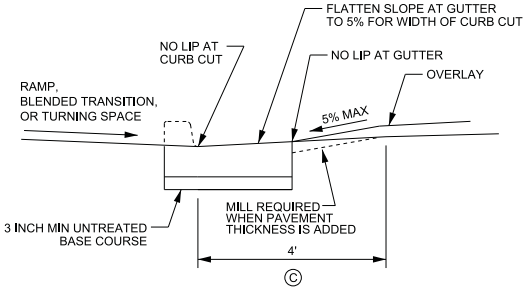
(f) DO NOT EXCEED A CROSS SLOPE EQUAL TO THE STREET OR HIGHWAY GRADE AT MID-BLOCK CROSSWALKS.




DETECTABLE WARNING SURFACE
DETAIL A




DETECTABLE WARNING SURFACE PANEL GAP
DETAIL B




CLEAR SPACE/GUTTER
DETAIL C

### GENERAL NOTES APPLICABLE TO THE GW 5 SERIES:

1. DIMENSIONS SHOWN IN THE SLOPE TABLE ARE NOT SUBJECT TO CONVENTIONAL INDUSTRY TOLERANCES. CONSTRUCT SIDEWALKS AND RAMPS SUCH THAT THE MAXIMUM OR MINIMUM VALUES ARE NOT EXCEEDED. WORK THAT EXCEEDS THOSE VALUES WILL NOT BE ACCEPTED.
2. SITE CONDITIONS WILL VARY. CONFIGURATION OF RAMP, BLENDED TRANSITION, TURNING SPACE, AND CLEAR SPACE MAY BE CHANGED, BUT THEY MUST MEET DIMENSIONS AND SLOPES SHOWN HERE. THE USE OF ITEMS SUCH AS FLARES AND CURBWALLS ARE AT THE DISCRETION OF THE ENGINEER.
3. PERPENDICULAR AND PARALLEL RAMPS SHOWN ON STD DWG GW 5B AND THE COMBINATION ACCESS NEXT TO GUTTER DETAIL SHOWN ON STD DWG GW 5D ARE ACCEPTABLE FOR USE AT MID-BLOCK OR CORNER INSTALLATIONS. REFER TO BLENDED TRANSITION DETAIL ON STD DWG GW 5B AND STD DWGS GW 5C AND GW 5D FOR OTHER EXAMPLES OF CORNER INSTALLATIONS.
4. RAMP GRADE BREAK MUST BE PERPENDICULAR TO THE RUNNING SLOPE.
5. TURNING SPACE WIDTH: USE THE LARGER OF THE CURB CUT WIDTH OR A 4 FT MINIMUM WIDTH X 4 FT MINIMUM DEPTH.
6. TURNING SPACE DEPTH: USE A 4 FT MINIMUM DEPTH WHEN THE TURNING SPACE IS UNCONSTRAINED. USE A 5 FT MINIMUM DEPTH WHEN THE TURNING SPACE IS CONSTRAINED. THE TURNING SPACE IS CONSTRAINED WHEN THERE IS A BARRIER SUCH AS A CURB ON THE REAR OF A PERPENDICULAR RAMP OR ON 2 OR MORE OF THE SIDES OF A PARALLEL RAMP.
7. CONSTRUCT BLENDED TRANSITIONS WITHOUT A TURNING SPACE ONLY WHEN TECHNICAL INFEASIBILITY PREVENTS THE INSTALLATION OF A TURNING SPACE.
8. LOCATE CURB CUT WITHIN CROSSWALK.
9. USE A 8 FT MINIMUM CURB CUT FOR BI-DIRECTIONAL CROSSWALKS. USE A 4 FT MINIMUM CURB CUT UPON APPROVAL OF THE REGION TRAFFIC OPERATIONS ENGINEER.
10. PROVIDE DETECTABLE WARNING SURFACE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS FOR FULL WIDTH OF CURB CUT AND 2 FT MINIMUM IN THE DIRECTION OF PEDESTRIAN TRAVEL. SEE DETECTABLE WARNING SURFACE DETAIL A FOR DIMENSIONS.
11. LOCATE DETECTABLE WARNING SURFACE SO THE OUTSIDE CORNER NEAREST THE STREET IS WITHIN 1 INCH OF THE BACK OF CURB.
12. PLACE DETECTABLE WARNING SURFACE PANELS ON A RADIUS IN A STRAIGHT LINE OR ACCORDING TO DETAIL B. TOP CORNERS OF ADJACENT PANELS TO TOUCH, BOTTOM CORNERS OF ADJACENT PANELS TO HAVE A 2 INCHES MAXIMUM GAP.
13. GRIND OFF REMAINING PORTION OF ANY CUT DOMES WHEN DETECTABLE WARNING SURFACE IS CUT. SEAL ALL CUT PANEL EDGES TO PREVENT WATER DAMAGE.
14. PROVIDE DETECTABLE WARNING SURFACE COLOR THAT CONTRASTS WITH ADJACENT WALKING SURFACE, GUTTER, STREET, AND PEDESTRIAN ACCESS ROUTE, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT.
15. CLEAR SPACE SIZE: USE A 4 FT MINIMUM DEPTH AND THE LARGER OF THE CURB CUT WIDTH OR A 4 FT MINIMUM WIDTH.
16. USE CLASS AA(AE) CONCRETE.
17. USE UNTREATED BASE COURSE UNDER ALL CONCRETE FLATWORK.
18. REFER TO STD DWG SL 7 FOR DISTANCE TO PEDESTRIAN SIGNAL BUTTON.
19. PLACE A R9-3 NO PEDESTRIAN SIGN AT BOTH ENDS OF THE CROSSWALK WHEN PEDESTRIANS ARE PROHIBITED FROM CROSSING AN UNMARKED CROSSWALK AT AN INTERSECTION.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 11/06/2014 | JLL | NEW DRAWING, CURRENT GW 05A, GW 05B, AND GW 05C NUMBERS CHANGED. |

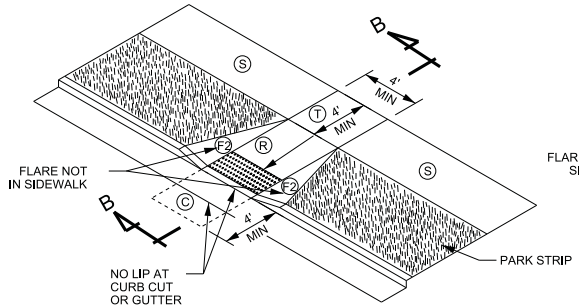
UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — NOV.06.2014 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — NOV.06.2014 DATE
DEPUTY DIRECTOR — DATE

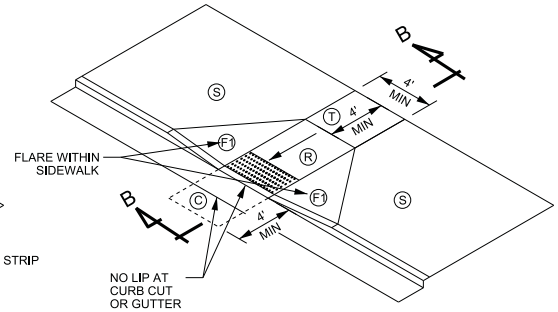
STANDARD DRAWING TITLE
PEDESTRIAN ACCESS

STD. DWG. NO.
GW 5A

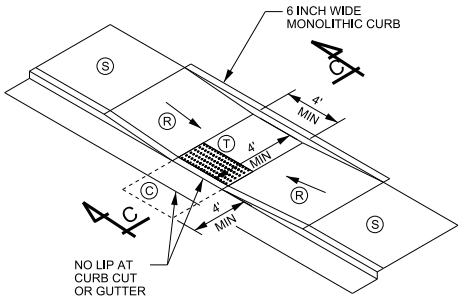
DGN File: LV:\Standard Drawings\Imperial\2012\Approved_Supplemental Issues\Supp18\Approved\GW05A.dgn
18-NOV-2014



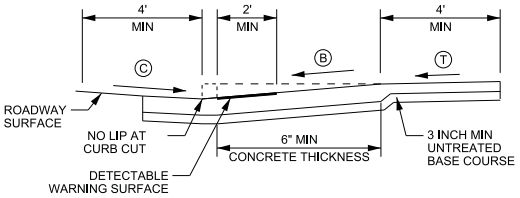

PERPENDICULAR RAMP
NOT WITHIN SIDEWALK



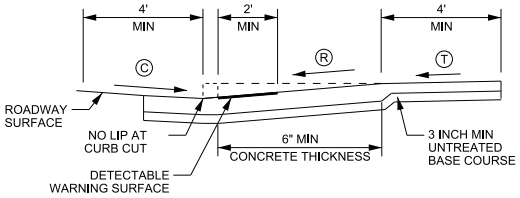

PERPENDICULAR RAMP
WITHIN SIDEWALK




PARALLEL RAMP
WITHIN SIDEWALK




SECTION A-A

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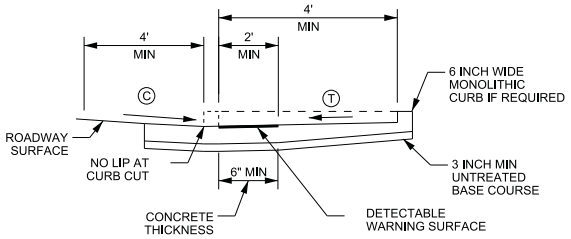
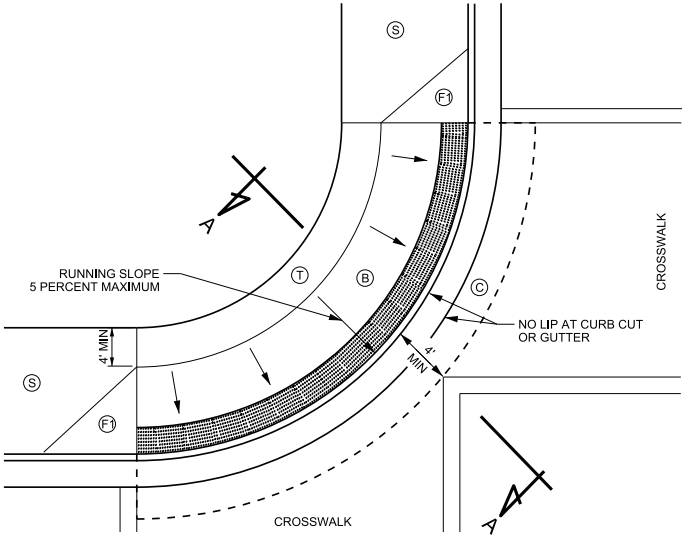
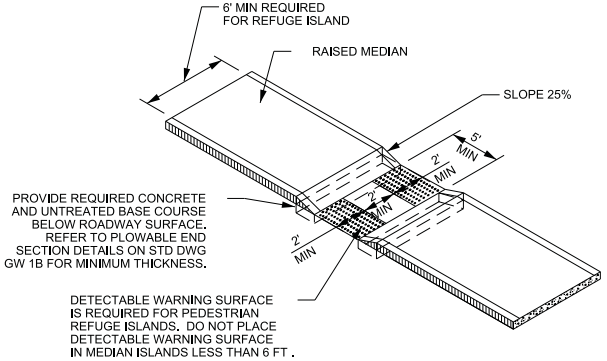



SECTION C-C




BLENDED TRANSITION AT CORNER DETAIL

SEE NOTE 5




MEDIAN BREAK EXAMPLE

SUPPLEMENTAL DRAWING

NOTES:

1. REFER TO STD DWG GW 5A FOR GENERAL NOTES PERTAINING TO THIS DRAWING.
2. REFER TO DWG GW 5A FOR SLOPE TABLE, DETECTABLE WARNING SURFACE DETAIL, DETECTABLE WARNING SURFACE PANEL GAP DETAIL, AND CLEAR SPACE/GUTTER DETAIL.
3. PERPENDICULAR AND PARALLEL RAMPS SHOWN ON THIS DRAWING ARE ACCEPTABLE FOR USE AT MID-BLOCK OR CORNER INSTALLATIONS.
4. REFER TO BLENDED TRANSITION DETAIL ON THIS DRAWING AND STD DWG GW 5C AND GW 5D FOR OTHER EXAMPLES OF CORNER INSTALLATIONS.
5. USE A 8 FT MINIMUM CURB CUT FOR BI-DIRECTIONAL CROSSWALKS. USE A 4 FT MINIMUM CURB CUT UPON APPROVAL OF THE REGION TRAFFIC OPERATIONS ENGINEER.

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 11/06/2014 | JLL | RENUMBERED FROM GW 5A TO GW 5B. COMPLETELY REVISED DRAWING. |

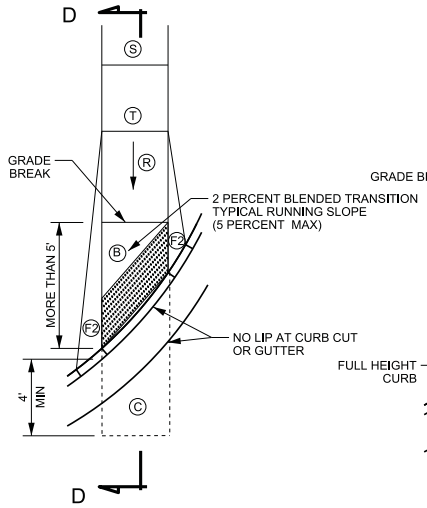
UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

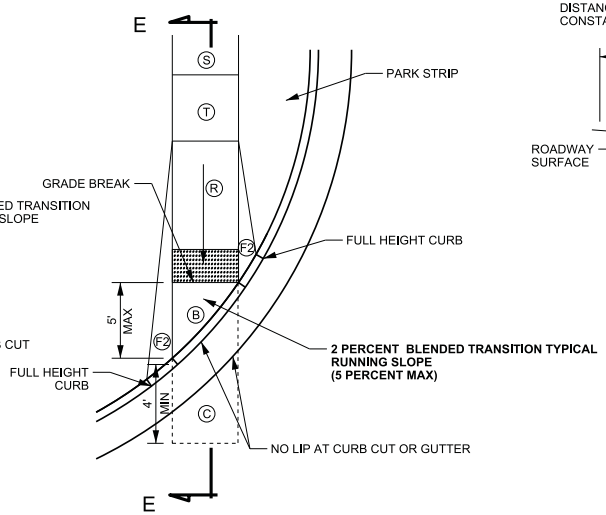
RECOMMENDED FOR APPROVAL — NOV.06.2014 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — NOV.06.2014 DATE
DEPUTY DIRECTOR

STANDARD DRAWING TITLE
PEDESTRIAN ACCESS

STD. DWG. NO.
GW 5B

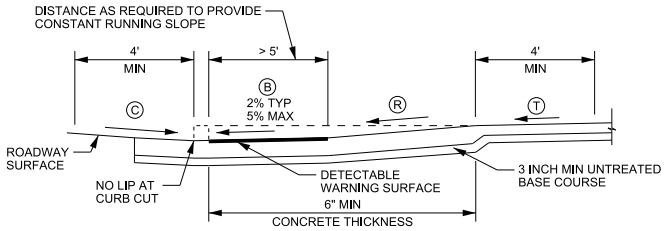
18-NOV-2014
DGN File:L:\Standard.Drawings\Imperial\2012Approved_Supplemental_Issues\SupplRepproved\GW05B.dgn



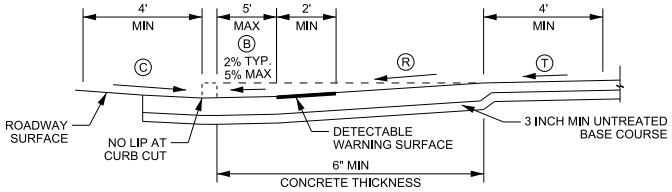




DIRECTIONAL PERPENDICULAR CORNER RAMP EXAMPLES

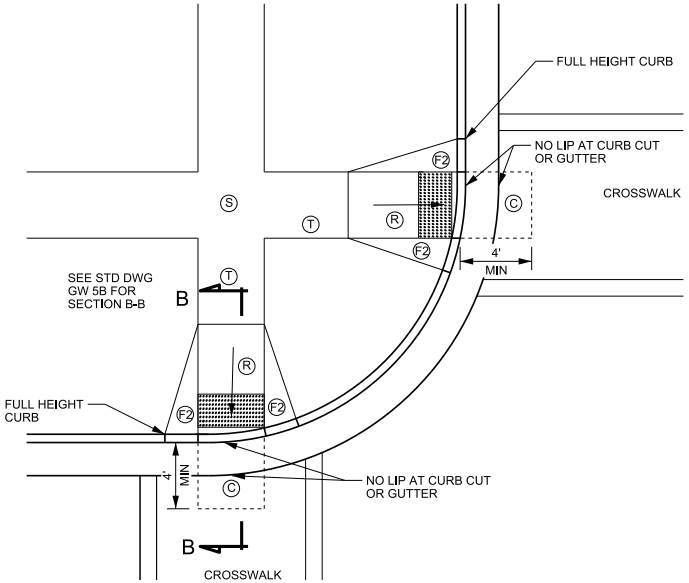
SEE NOTE 3



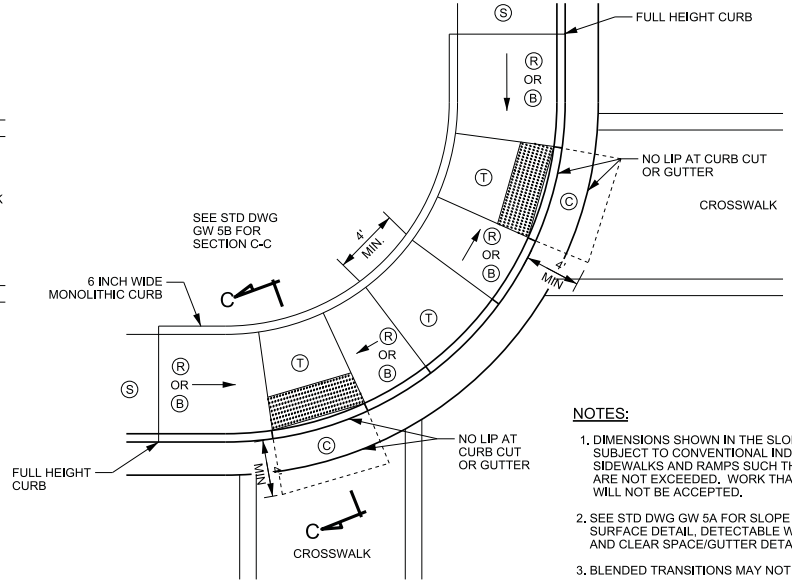

SECTION D-D




SECTION E-E




DUAL PERPENDICULAR CORNER RAMP EXAMPLE




DUAL PARALLEL CORNER RAMP EXAMPLE

NOTES:

1. DIMENSIONS SHOWN IN THE SLOPE TABLE ON STD DWG GW 5A ARE NOT SUBJECT TO CONVENTIONAL INDUSTRY TOLERANCES. CONSTRUCT SIDEWALKS AND RAMPS SUCH THAT THE MAXIMUM OR MINIMUM VALUES ARE NOT EXCEEDED. WORK THAT EXCEEDS THOSE VALUES WILL NOT BE ACCEPTED.
2. SEE STD DWG GW 5A FOR SLOPE TABLE, DETECTABLE WARNING SURFACE DETAIL, DETECTABLE WARNING SURFACE PANEL GAP DETAIL, AND CLEAR SPACE/GUTTER DETAIL.
3. BLENDED TRANSITIONS MAY NOT REQUIRE RAMP AND TURNING SPACE.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 11/06/2014 | JLL | RENUMBERED FROM GW 5B TO GW 5C. COMPLETELY REVISED DRAWING. |

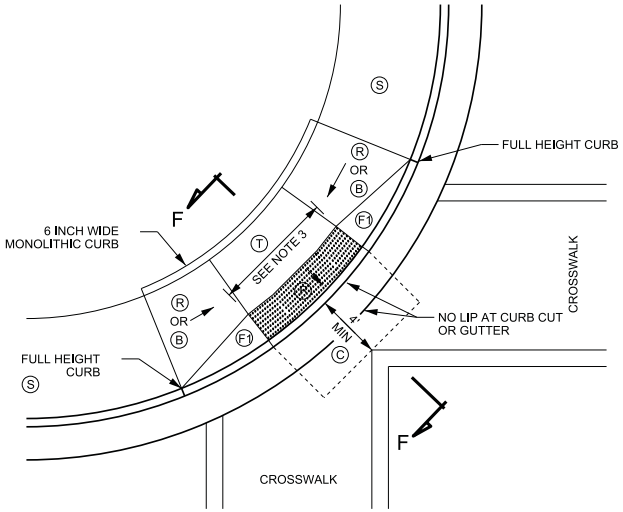
UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — NOV.06.2014 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — NOV.06.2014 DATE
DEPUTY DIRECTOR — DATE

STANDARD DRAWING TITLE: PEDESTRIAN ACCESS

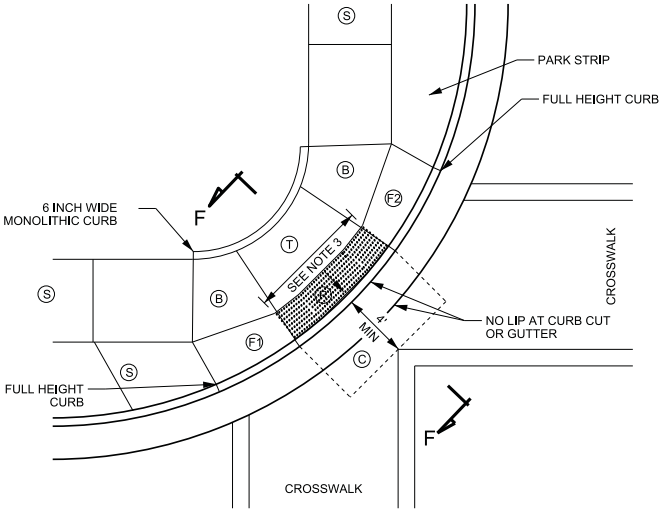
STD. DWG. NO. GW 5C

DGN File:L:\Standard Drawings\Imperial\2012\Approved_Supplemental Issues\Supp18\Approved\GW05C.dgn
18-NOV-2014



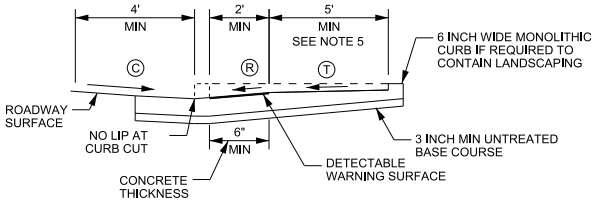

COMBINATION ACCESS AT APEX OF A CORNER EXAMPLE
FOR BI-DIRECTIONAL CROSSWALK NEXT TO GUTTER

SEE NOTE 6

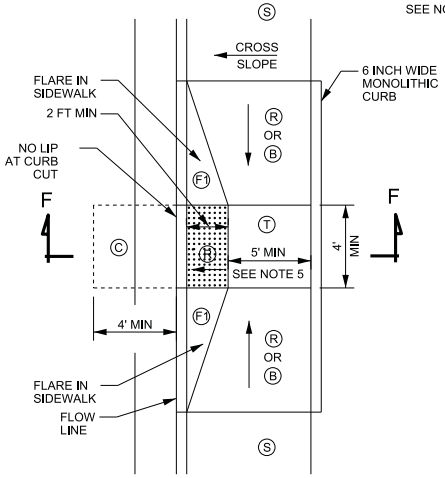



COMBINATION ACCESS AT APEX OF A CORNER EXAMPLE
FOR BI-DIRECTIONAL CROSSWALK WITH PARK STRIP OR WIDE SIDEWALK

SEE NOTE 6




SECTION F-F




COMBINATION ACCESS
NEXT TO GUTTER DETAIL

NOTES:

1. REFER TO STD DWG GW 5A FOR GENERAL NOTES PERTAIING TO THIS DRAWING.
2. REFER TO STD DWG GW 5A FOR SLOPE TABLE, DETECTABLE WARNING SURFACE DETAIL, DETECTABLE WARNING SURFACE PANEL GAP DETAIL, AND CLEAR SPACE/GUTTER DETAIL.
3. USE A 8 FT MINIMUM CURB CUT FOR BI-DIRECTIONAL CROSSWALKS. USE A 4 FT MINIMUM CURB CUT UPON APPROVAL OF THE REGION TRAFFIC OPERATIONS ENGINEER.
4. TURNING SPACE DEPTH: USE A 5 FT MINIMUM DEPTH WHEN THE TURNING SPACE IS CONSTRAINED. THE TURNING SPACE IS CONSTRAINED WHEN THERE IS A BARRIER SUCH AS A CURB ON THE REAR OF A PERPENDICULAR RAMP OR ON 2 OR MORE OF THE SIDES OF A PARALLEL RAMP.
5. THE TURNING SPACE IN SECTION F-F SERVES BOTH PARALLEL AND PERPENDICULAR RAMPS. THE MINIMUM DEPTH OF THE TURNING SPACE IS 4 FT WHEN THE REAR OF THE TURNING SPACE OF A PERPENDICULAR RAMP IS NOT CONSTRAINED.
6. DUAL RAMPS PREFERRED. USE COMBINATION ACCESS ONLY WITH APPROVAL OF THE REGION TRAFFIC ENGINEER.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 11/06/2014 | JLL | RENUMBERED FROM GW 5C TO GW 5D. COMPLETELY REVISED DRAWING. |

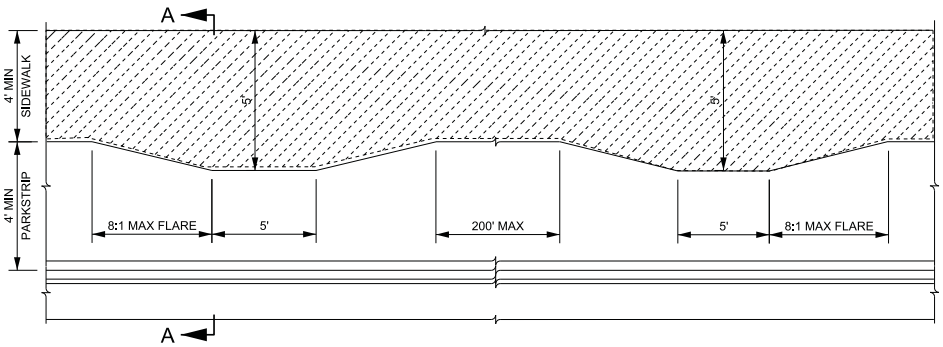
UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — NOV.06.2014 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — NOV.06.2014 DATE
DEPUTY DIRECTOR — DATE

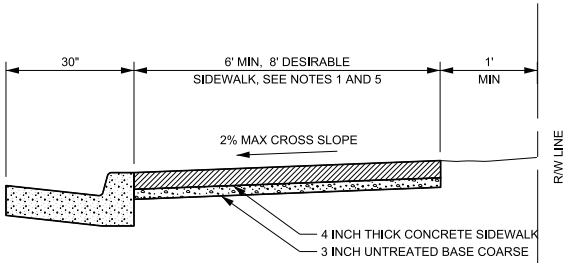
STANDARD DRAWING TITLE
PEDESTRIAN ACCESS

STD. DWG. NO.
GW 5D

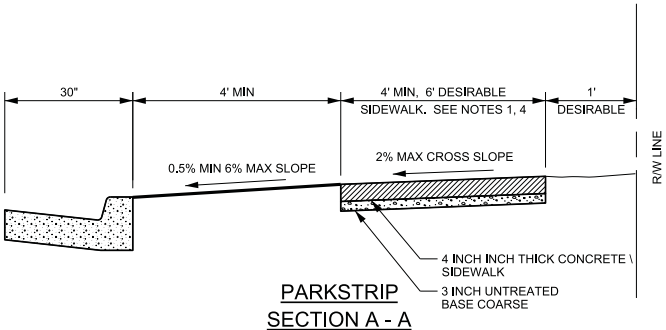
18-NOV-2014 DGN File:L:\Standard Drawings\Imperial\2012Approved_Supplemental Issues\Supp18Approved\GW05D.dgn



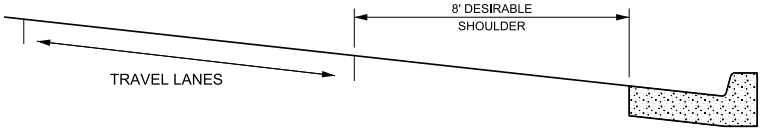

PARKSTRIP
PASSING AREA
SEE NOTE 4




NO PARKSTRIP




PARKSTRIP
SECTION A - A




URBAN ROADWAY SHOULDERS

NOTES:

1. SIDEWALK CROSS SLOPE DIMENSIONS SHOWN ARE NOT SUBJECT TO CONVENTIONAL INDUSTRY TOLERANCES. CONSTRUCT SIDEWALKS AND RAMPS SUCH THAT THE MAXIMUM OR MINIMUM VALUES ARE NOT EXCEEDED. WORK THAT EXCEEDS THOSE VALUES WILL NOT BE ACCEPTED.
2. USE CURRENT EDITION OF THE AASHTO A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS FOR DESIGN OF ROADWAY ELEMENTS NOT SHOWN ON THIS STANDARD DRAWING.
3. USE CURRENT EDITION OF THE AASHTO ROADSIDE DESIGN GUIDE FOR CLEAR ZONE REQUIREMENTS.
4. PROVIDE A 5 FT x 5 FT PASSING AREA ON SIDEWALKS OF LESS THAN 5 FT WIDE WHEN THERE IS NOT A HARD SURFACE PASSING AREA OF 5 FT MINIMUM WIDTH IN A 200 FT SEGMENT.
5. A MINIMUM OF 7 FT IS REQUIRED AT BACK OF SIDEWALK AT DRIVEWAY LOCATIONS TO MEET GRADING REQUIREMENTS.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 02/28/13 | JLL | ADDED NOTE 1, RENUMBERED EXISTING NOTES AND CALL OUTS. |

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

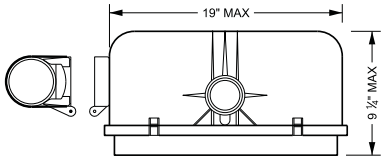
RECOMMENDED FOR APPROVAL — FEB.28,2013 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — FEB.28,2013 DATE
DEPUTY DIRECTOR

STANDARD DRAWING TITLE
SIDEWALKS AND SHOULDERS ON URBAN ROADWAYS

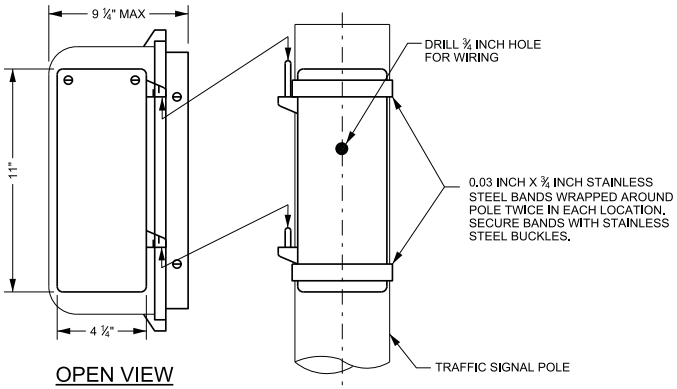
STD. DWG. NO.
GW 11

07-MAR-2013 DGN File:L:\Standard Drawings\Imperial\2012\Approved_Supplemental Issues\Supp3Approved\GW11.dgn

## CLAMSHELL MOUNTING HARDWARE

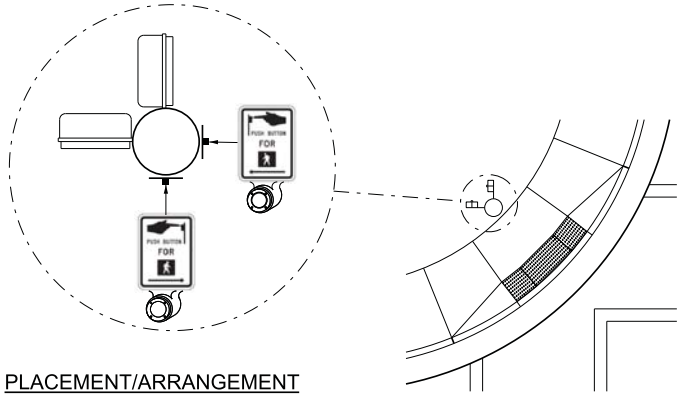



TOP VIEW

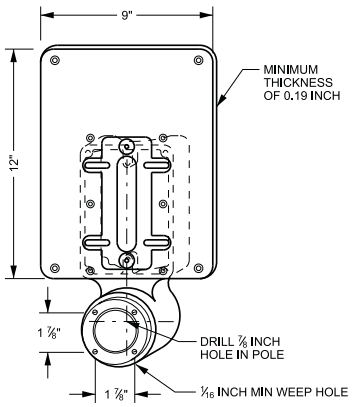



OPEN VIEW

## TYPICAL MOUNTING OF PEDESTRIAN SIGNAL AND PUSH BUTTON ON A SIGNAL POLE

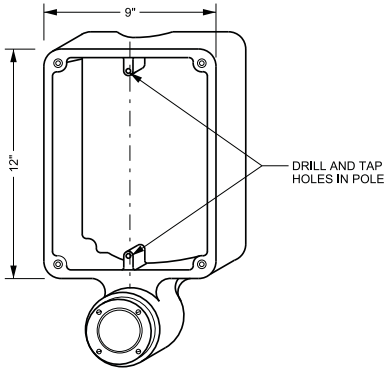



## PLACEMENT/ARRANGEMENT DETAIL



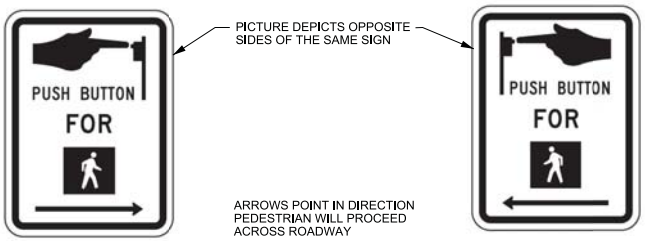

## OPTION 1

FRAME TO ACCOMMODATE 5 x 7 INCH SIGN WITH ADAPTOR PLATE FOR 9 x 12 INCH SIGN




## OPTION 2

FRAME TO ACCOMMODATE 9 x 12 INCH SIGN




## DOUBLE-SIDED R10-3 PUSH BUTTON SIGN

NOTES:

1. MOUNT PEDESTRIAN SIGNALS 9 FT - 3 INCH ± 6 INCH FROM CONCRETE LANDING TO BOTTOM OF HOUSING.
2. MOUNT PUSH BUTTONS 42 ± 2 INCH ABOVE CONCRETE LANDING. SEE STD DWGS GW 5A, 5B, AND 5C FOR LANDING DETAILS.
3. LOCATE PUSH BUTTON WITHIN TEN FEET OF THE ROADWAY SIDE EDGE OF THE DETECTABLE WARNING SURFACE, MEASURED FROM THE CENTER OF THE CURB CUT.
4. PROVIDE FRAME STANDOFF BRACKETS WHEN MOUNTING TWO SIGN FRAMES TO ONE PEDESTRIAN POLE. POINT ARROW ON SIGN R10-3 IN DIRECTION PEDESTRIAN WILL PROCEED ACROSS ROADWAY.
5. MOUNT PUSH BUTTON 16 INCHES OR LESS FROM EDGE OF THE LANDING SO THAT PUSH BUTTON IS ACCESSIBLE.

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| | | | |

**UTAH DEPARTMENT OF TRANSPORTATION**
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JAN.01.2012 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — JAN.01.2012 DATE
DEPUTY DIRECTOR

# PEDESTRIAN SIGNAL ASSEMBLY

STANDARD DRAWING TITLE

STD. DWG. NO.
SL 7

DGN: Files:L:\Standards_Drawings\Imperial\2012\Approved\Signals\SL\SL07.dgn
16-DEC-2011

## GENERAL NOTES (APPLIES TO ALL TC SERIES STANDARD DRAWINGS):

1. USE CURRENT EDITION OF UDOT STANDARDS FOR TRAFFIC CONTROL. USE THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR TRAFFIC CONTROL ELEMENTS NOT SHOWN IN THE TC STD DWG SERIES.

2. USE CURRENT EDITION OF STANDARD HIGHWAY SIGNS & MARKING BOOK FOR SIZE AND DESIGN OF STANDARD SIGNS.

3. SEE STD DWG TC 2A AND TC 2B FOR WORK ZONE SIGNING AND DEVICE REQUIREMENTS.

4. USE MINIMUM SIGN SIZE OF 48 x 48 INCHES FOR DIAMOND WORK ZONE WARNING SIGNS.

5. COVER OR REMOVE NON-APPLICABLE SIGNING, BOTH EXISTING AND WORK ZONE SIGNS.

6. REMOVE NON-APPLICABLE PAVEMENT MARKINGS FOR OPERATIONS LONGER THAN 3 DAYS.

7. REMOVE OR RELOCATE NON-APPLICABLE PORTABLE SIGN SUPPORTS AND SIGNS BEYOND TWICE THE WORK CLEAR ZONE (WCZ) DISTANCE, SEE SHEET TC 3A, TABLE 1.

8. REFER TO STANDARD SPECIFICATION 01554 FOR FLAGGING REQUIREMENTS AT OPERATING TRAFFIC SIGNALS.

9. PRE-CONSTRUCTION POSTED SPEED LIMIT: THE PERMANENT POSTED SPEED LIMIT PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

10. USE LANE WIDTH RESTRICTIONS OF LESS THAN 12 FT ONLY WHEN APPROVED BY THE REGION TRAFFIC ENGINEER WITH THE FOLLOWING MINIMUMS:
    A. PRE-CONSTRUCTION POSTED SPEED LIMIT LESS THAN 55 MPH, MINIMUM LANE WIDTH 10 FT.
    B. PRE-CONSTRUCTION POSTED SPEED LIMIT OF 55 MPH OR GREATER, MINIMUM LANE WIDTH 11 FT.

11. CLEAN AND RESTORE PAVEMENT MARKINGS, BOTH ON AND OFF THE PROJECT, THAT ARE OBSCURED BY WORK OPERATIONS AT THE END OF EACH DAY'S OPERATION.

12. OBTAIN APPROVAL FOR REGULATORY AND ADVISORY SPEED REDUCTIONS THROUGH THE REGION TRAFFIC ENGINEER. USE SPEED REDUCTIONS ONLY DURING IMPACTED TIMES AND AREAS. RESTORE EXISTING REGULATORY SPEED LIMIT PRIOR TO WORK AT LOCATIONS WHERE TRAFFIC IS NOT BEING IMPACTED BY WORK ACTIVITIES. SEE POLICY 06C-61.

13. USE THE PRE-CONSTRUCTION POSTED SPEED LIMIT PRIOR TO WORK ZONE TO COMPUTE THE SIGN SPACING, TAPER LENGTH, BUFFER ZONE, AND WORK CLEAR ZONE DISTANCES. USE THE WORK ZONE POSTED SPEED LIMIT TO DETERMINE THE TANGENT SPACING FOR CHANNELIZING DEVICES.

14. DO NOT USE TUBULAR MARKERS AS LANE CLOSURE TAPER DEVICES. USE DRUMS OR DIRECTION INDICATOR BARRICADES AS LANE CLOSURE TAPER DEVICES FOR SPEEDS 50 MPH AND GREATER.

15. USE A DOWNSTREAM TAPER FOR OPERATIONS LONGER THAN 3 DAYS.

16. ARROW BOARD PLACEMENT:
    A. PLACE ARROW BOARD ON THE SHOULDER OF THE ROADWAY OR, IF PRACTICAL, FURTHER FROM THE TRAVELED LANE. PLACE ARROW BOARD IN FIRST 1/3 OF TAPER IN THE CLOSED LANE WHEN NO ADEQUATE SHOULDER IS AVAILABLE. DELINEATE WITH RETROREFLECTIVE TEMPORARY TRAFFIC CONTROL (TTC) DEVICES.
    B. REMOVE ARROW BOARD WHEN NOT BEING USED OR SHIELDED BEHIND A TRAFFIC BARRIER AND TURNED AWAY FROM TRAFFIC. DELINEATE WITH RETRORELECTIVE TTC DEVICES IF THE PREVIOUS TWO OPTIONS ARE NOT FEASIBLE.

17. USE AN APPROVED WORK ZONE CRASH CUSHION OR END TREATMENT SYSTEM WITH TEMPORARY PRECAST CONCRETE BARRIER WHEN APPROACH ENDS ARE WITHIN THE AASHTO CLEAR ZONE. USE APPROVED TRUCK MOUNTED ATTENUATOR SYSTEM FOR ONLY 72 HOURS OR LESS.

18. USE PROPER LENGTH OF NEED FOR TEMPORARY BARRIER AS PER THE REQUIREMENTS OF THE CURRENT EDITION OF THE ROADSIDE DESIGN GUIDE. USE POSTED SPEED LIMIT PRIOR TO THE WORK ZONE FOR THE DESIGN OF THE REQUIRED LENGTH OF NEED. SEE STD DWG TC 3A FOR THE WORK ZONE FLARE RATE REQUIREMENT FOR TEMPORARY BARRIER. APPROVAL FROM THE REGION TRAFFIC ENGINEER IS REQUIRED FOR MODIFICATION TO THE REQUIRED FLARE RATE.

19. USE STEEL PLATE AHEAD SIGN (W8-24) IN ADVANCE OF PLATE WHEN STEEL PLATES ARE PLACED ON THE ROADWAY. PLACE BUMP SIGN (W8-1) WITH A DIAGONAL DOWNWARD POINTING ARROW (W16-7P) PLAQUE ADJACENT TO THE STEEL PLATE.

20. USE IDENTICAL LEGEND SUPPLEMENTAL LEFT SIDE SIGNING FOR HIGH-SPEED DIVIDED HIGHWAYS.

21. MAINTAIN PEDESTRIAN TRAFFIC AT EXISTING CROSSWALKS AND ON EXISTING SIDEWALKS. REROUTE ACCORDING TO STD DWG TC 6 WHEN PEDESTRIAN TRAFFIC CANNOT BE MAINTAINED.

22. DO NOT USE AUTOMATED FLAGGER ASSISTANCE DEVICES (AFADs).

23. DO NOT USE PROMOTIONAL OR OTHER INFORMATIONAL IDENTIFICATIONS OF PUBLIC OFFICIALS, CONTRACTORS, ORGANIZATIONAL AFFILIATIONS, RELATED LOGOS AND SYMBOLS ON TRAFFIC CONTROL DEVICES .

24. MEET STANDARD SPECIFICATION 01554 FOR CRASH WORTHINESS OF DEVICES.

25. REMOVE OR COVER ALL WORK ZONE REDUCED SPEED LIMIT ASSEMBLIES (RS2-1a) AND THE WORK ZONE REDUCED SPEED LIMIT AHEAD (W3-5 SERIES) SIGNS WHEN NO ONE IS WORKING, EXCEPT AS APPROVED BY THE REGION TRAFFIC ENGINEER. DO NOT COVER PRE-CONSTRUCTION POSTED SPEED LIMIT ASSEMBLIES (RS2-1a).

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 08/30/12 | SDD | REVISED NOTE 14, 17, & 25. |

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

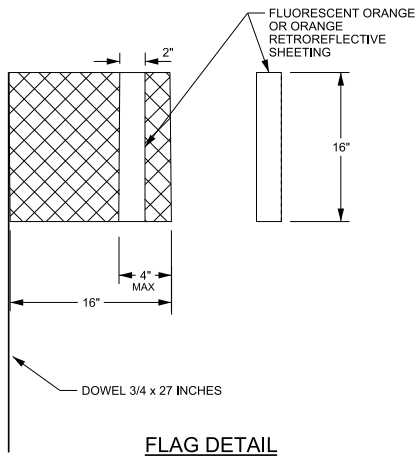
RECOMMENDED FOR APPROVAL — AUG.30.2012 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — AUG.30.2012 DATE
DEPUTY DIRECTOR — DATE

TRAFFIC CONTROL
DRAWING SERIES
GENERAL NOTES

STANDARD DRAWING TITLE

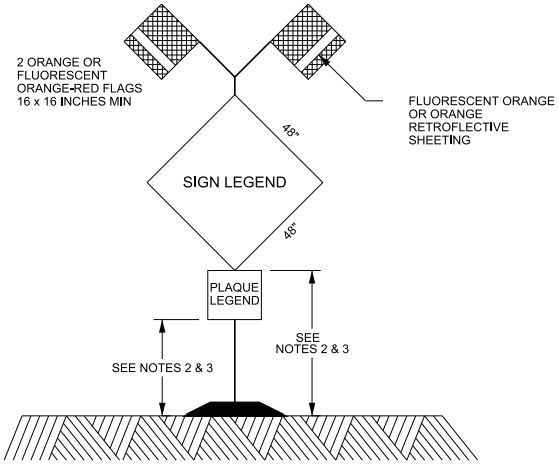
STD. DWG. NO.
TC 1

12-SEP-2012 DGN File:L:\Standard Drawings\Imperial\2012Approved_Supplemental Issues\SupplApproved\TC01.dgn



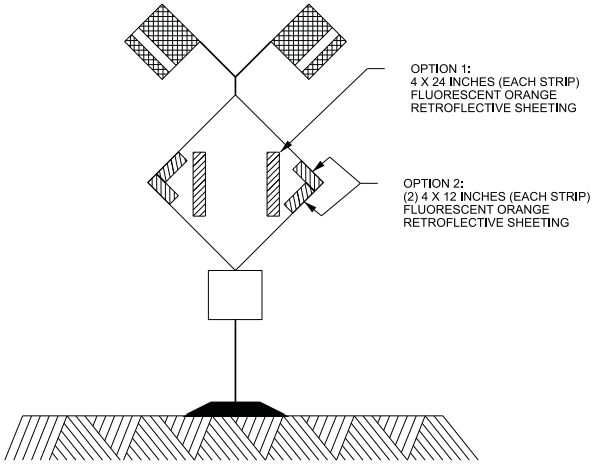

FLAG DETAIL

SEE NOTE 8




TYPICAL PORTABLE SIGN SUPPORTS
INSTALLATION WITH FLAGS
TRAFFIC SIDE DETAIL

SEE NOTES 4 & 6




TYPICAL PORTABLE SIGN SUPPORTS
INSTALLATION WITH FLAGS
BACK SIDE DETAIL

SEE NOTE 5

SEE NOTES 1 & 6

NOTES:

1. CLOSE ROADWAYS WITH TYPE 3 BARRICADES. EXTEND THE BARRICADES ACROSS INTENDED ROAD CLOSURE A MINIMUM OF 3/4 OF THE ROADWAY STARTING FROM THE CENTER OF THE ROADWAY AND EXTENDING IN BOTH DIRECTIONS TOWARD THE SHOULDERS. PLACE A "ROAD CLOSED" SIGN (R11-2) OVER THE CENTER LINE AND THE APPROPRIATE "DETOUR" ARROW SIGNS (M4-10 L OR R) ON EACH SIDE OF THE "ROAD CLOSED" SIGN. DETOUR ARROWS ARE NOT REQUIRED IF DETOUR IS NOT AT ROAD CLOSURE.
2. USE A 12 INCH MINIMUM MOUNTING HEIGHT TO THE BOTTOM OF THE LOWEST SIGN FOR SIGNS ON PORTABLE SUPPORTS.
3. USE A 36 INCH MINIMUM MOUNTING HEIGHT TO THE BOTTOM OF THE LOWEST SIGN FOR SIGNS ON PORTABLE SUPPORTS PLACED AMONG CHANNELIZING DEVICES.
4. USE A MINIMUM 7 FT MOUNTING HEIGHT FOR ALL GROUND MOUNTED SIGNS. REFER TO SN SERIES STANDARD DRAWINGS.
5. PLACE TWO FLUORESCENT ORANGE STRIPS OF RETROREFLECTIVE SHEETING, 4 x 24 INCHES, WITHIN 12 INCHES FROM THE RIGHT AND LEFT EDGES ON THE BACK OF SIGNS USED WITH PORTABLE SUPPORTS.
6. USE SANDBAGS WITH SAND OR OTHER COMPARABLE SOFT MATERIAL AS BALLAST. DO NOT PLACE BALLAST HIGHER THAN 12 INCHES ABOVE THE ROADWAY AND DO NOT COVER ANY RETROREFLECTIVE AREA OF RAILS OR SIGNS.
7. USE SIGNS ON PORTABLE SUPPORTS FOR 7 DAYS OR LESS. USE PERMANENTLY MOUNTED SIGNS FOR LONGER THAN 7 DAYS UNLESS USE OF PORTABLE SIGN SUPPORTS RECEIVES APPROVAL FROM THE REGION TRAFFIC ENGINEER.
8. USE 2 x 16 INCHES FLUORESCENT ORANGE OR ORANGE RETROREFLECTIVE SHEETING SECURELY FASTENED WITHIN 4 INCHES FROM THE OUTSIDE EDGE OF FLAG. ENSURE THE SHEETING IS VISIBLE FROM EACH SIDE.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 08/30/12 | SDD | MODIFIED BACKSIDE DETAIL. |

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — AUG.30.2012 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — AUG.30.2012 DATE
DEPUTY DIRECTOR — DATE

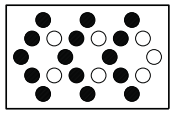
STANDARD DRAWING TITLE
WORK ZONE SIGNING

STD. DWG. NO.
TC 2B

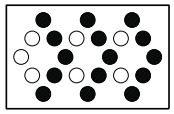
12-SEP-2012 DGN File:L:\Standard Drawings\Imperial\2012Approved_Supplemental_Issues\SupplApproved\TC02B.dgn

## CHEVRON ARROW

SEE NOTE 2

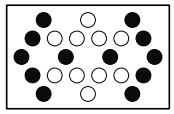


MERGE LEFT



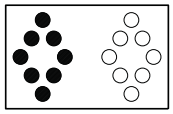
MERGE RIGHT

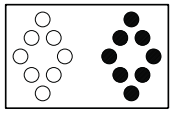
## FLASHING DOUBLE ARROW



MERGE RIGHT OR LEFT

## FLASHING CAUTION

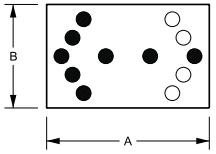




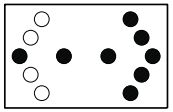
ALTERNATING DIAMOND

## FLASHING ARROW

(OPTIONAL)
SEE NOTE 3




MERGE LEFT



MERGE RIGHT

| | TYPE B | TYPE C |
|---|---|---|
| A | 60 INCHES | 96 INCHES |
| B | 30 INCHES | 48 INCHES |

ARROW BOARD DIMENSIONS

NOTES:

1. PLACE THE ARROW BOARD MOUNTING HEIGHT OF A MINIMUM OF 7 FT, MEASURED VERTICALLY FROM THE BOTTOM OF THE BOARD TO THE ROADWAY BELOW IT OR TO THE ELEVATION OF THE NEAR EDGE OF THE ROADWAY.
2. SEQUENTIAL ARROW MAY BE USED.
3. FLASHING ARROW MAY ONLY BE USED ON A 12 ELEMENT DISPLAY.
4. USE SHOULDER TAPER TO DELINEATE ARROW BOARD WHEN ON SHOULDER.
5. TYPE B - 4 INCH DIA SEALED - BEAM ELEMENT
   TYPE C - 5 INCH DIA SEALED - BEAM ELEMENT
6. DO NOT USE ARROW BOARDS TO INDICATE A LANE SHIFT.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 06/26/2014 | SDD | CORRECTED ARROW BOARD DIMENSIONS IN TABLE. |

**UTAH DEPARTMENT OF TRANSPORTATION**

STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JUN.26.2014 DATE

CHAIRMAN STANDARDS COMMITTEE APPROVED — JUN.26.2014 DATE

DEPUTY DIRECTOR — DATE

STANDARD DRAWING TITLE

WORK ZONE
ADVANCED WARNING
ARROW BOARDS

STD. DWG. NO.

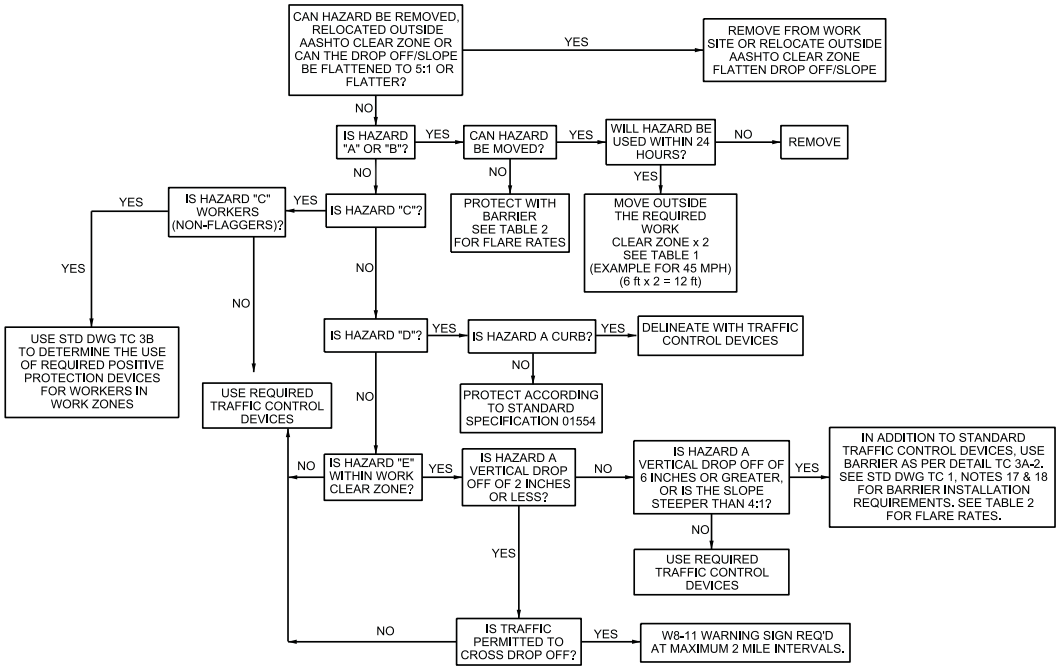
TC 2C

09-JUL-2014 DGN File:L:\Standard Drawings\Imperial\2012\Approved_Supplemental Issues\SupplRapproved\TC02C.dgn

# HAZARD MITIGATION

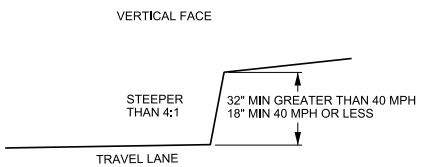
1. USE DETAIL TC 3A-1 AND TABLE 1 (WORK CLEAR ZONE) WHEN MITIGATING THE FOLLOWING HAZARDS:
   A. NON-WORKING EQUIPMENT OR VEHICLES
   B. STOCKPILED MATERIAL
   C. WORKING VEHICLES AND WORKERS (NON-FLAGGERS)
   D. OTHER OBJECTS AND FEATURES (I.E.: INCOMPLETE CURBS, BRIDGE PARAPETS, BARRIER BLUNT ENDS, POLES)
   E. SLOPES STEEPER THAN 4:1 OR A VERTICAL DROP OFF* OF LESS THAN 48 INCHES (SEE DETAIL TC 3A-2 FOR EXAMPLES)

2. MITIGATE ALL OTHER HAZARDS, SLOPES STEEPER THAN 4:1, OR VERTICAL DROP OFFS* 48 INCHES OR GREATER WITHIN AASHTO CLEAR ZONE AS APPROVED BY THE REGION TRAFFIC ENGINEER.




DETAIL TC 3A-1

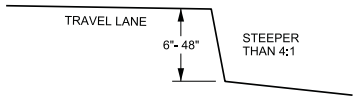
* DROP OFF IS A VERTICAL DIFFERENCE THAT MAY BE FROM THE WORK TO THE ROADWAY OR THE ROADWAY TO THE WORK.




BARRIER REQUIRED FOR SLOPES STEEPER THAN 4:1 AND GREATER THAN INDICATED HEIGHT UNLESS BACKSLOPE IS A SMOOTH UNIFORM SURFACE OF SUITABLE MATERIAL.

SLOPE MUST REMAIN STABLE AND NOT SPALL AT HEIGHT AND SPECIFIED SPEED.

SLOPE STEEPER THAN 4:1 AND VERTICAL EXCAVATION




WITHIN WORK CLEAR ZONE USE BARRIER

OUTSIDE WORK CLEAR ZONE USE DEVICES

GREATER THAN 48 INCH OBTAIN APPROVAL FROM REGION TRAFFIC ENGINEER

## TYPE "E" VERTICAL DROP OFF HAZARDS
## DETAIL TC 3A-2

TABLE 1
WORK CLEAR ZONE

| POSTED MPH | FT |
|---|---|
| 40 & LESS | 3 |
| 45 | 6 |
| 50 | 6.5 |
| 55 | 7.5 |
| 60 | 8 |
| 65 | 8.5 |
| 70 | 9 |
| 75 | 10.5 |
| 80 | 12 |

TABLE 2
WORK ZONE FLARE RATES TEMPORARY BARRIER

| POSTED MPH | FLARE |
|---|---|
| 70 OR GREATER | 20:1 |
| 65 | 18:1 |
| 60 | 17:1 |
| 55 | 16:1 |
| 50 | 14:1 |
| 45 | 10:1 |
| 40 OR LESS | 6:1 |

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 08/30/12 | SDD | REVISED TC 1 NOTE CALL OUTS. DELETED 01558 MARKING |
| 2 | 02/28/13 | SDD | VERTICAL DROP OFF REQUIREMENT. ADDED INCOMPLETE CURB TO TYPE "D" HAZARD IN DETAIL TC 3A-1. REVISED DETAIL TC 3A-2 VERTICAL FACE DESCRIPTION. |

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

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DEPUTY DIRECTOR

STANDARD DRAWING TITLE: HAZARD MITIGATION

STD. DWG. NO. TC 3A

DGN File:L:\Standard Drawings\Imperial\2012Approved\Supplemental Issues\SupsApproved\TC03A.dgn
07-MAR-2013

## TAPER, BUFFER ZONE & SIGN SPACING CHART

| ROAD TYPE | POSTED SPEED MPH (S) | MINIMUM TAPER LENGTH(L) | LENGTH OF BUFFER(BZ) | MINIMUM SIGN SPACING (SS) | | | | ONE LANE TWO-WAY FLAGGING |
|---|---|---|---|---|---|---|---|---|
| | | 12 FT LANE CLOSURE | DESIREABLE | A | B | C | D | TAPER LENGTH |
| | | FT | FT | FT | FT | FT | FT | FT |
| CONVENTIONAL | 30 AND LOWER | 180 | 200 | 100 | 100 | 100 | 100 | 50 |
| | 35 | 245 | 250 | 350 | 350 | 350 | 175 | |
| | 40 | 320 | 305 | | | | | |
| | 45 | 540 | 360 | 500 | 500 | 500 | 250 | 100 |
| | 50 | 600 | 425 | | | | | |
| | 55 | 660 | 495 | | | | | |
| | 60 | 720 | 570 | | | | | |
| | 65 | 780 | 645 | | | | | |
| FREEWAY/ EXPRESSWAY | 65 | 780 | 645 | 1000 | 1640 | 2640 | 500 | |
| | 70 | 840 | 730 | | | | | |
| | 75 | 900 | 820 | | | | | |
| | 80 | 960 | 910 | | | | | |

### 1- TAPER LENGTH FORMULAS

| SPEED | FORMULA |
|---|---|
| FOR SPEEDS OF 40 MPH AND LESS | $L=\frac{WS^2}{60}$ |
| FOR SPEEDS OF 45 MPH AND GREATER | L= WS |

L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = SPEED IN MPH

⅓ L = FOR SHOULDER CLOSURE TAPER
½ L = FOR LANE SHIFT TAPER

### 2- CHANNELIZING DEVICES

A) MERGING AND SHIFTING TAPERS: USE A MINIMUM OF 1 DEVICE PER FT OF LANE CLOSURE WIDTH, PLUS 1 ADDITIONAL DEVICE TO START.

B) SHOULDER, ONE-LANE TWO-WAY, AND DOWNSTREAM TAPERS: USE A MINIMUM OF 1 DEVICE PER 3 FT OF WIDTH (OR PORTION THEREOF), PLUS 1 ADDITONAL DEVICE TO START.

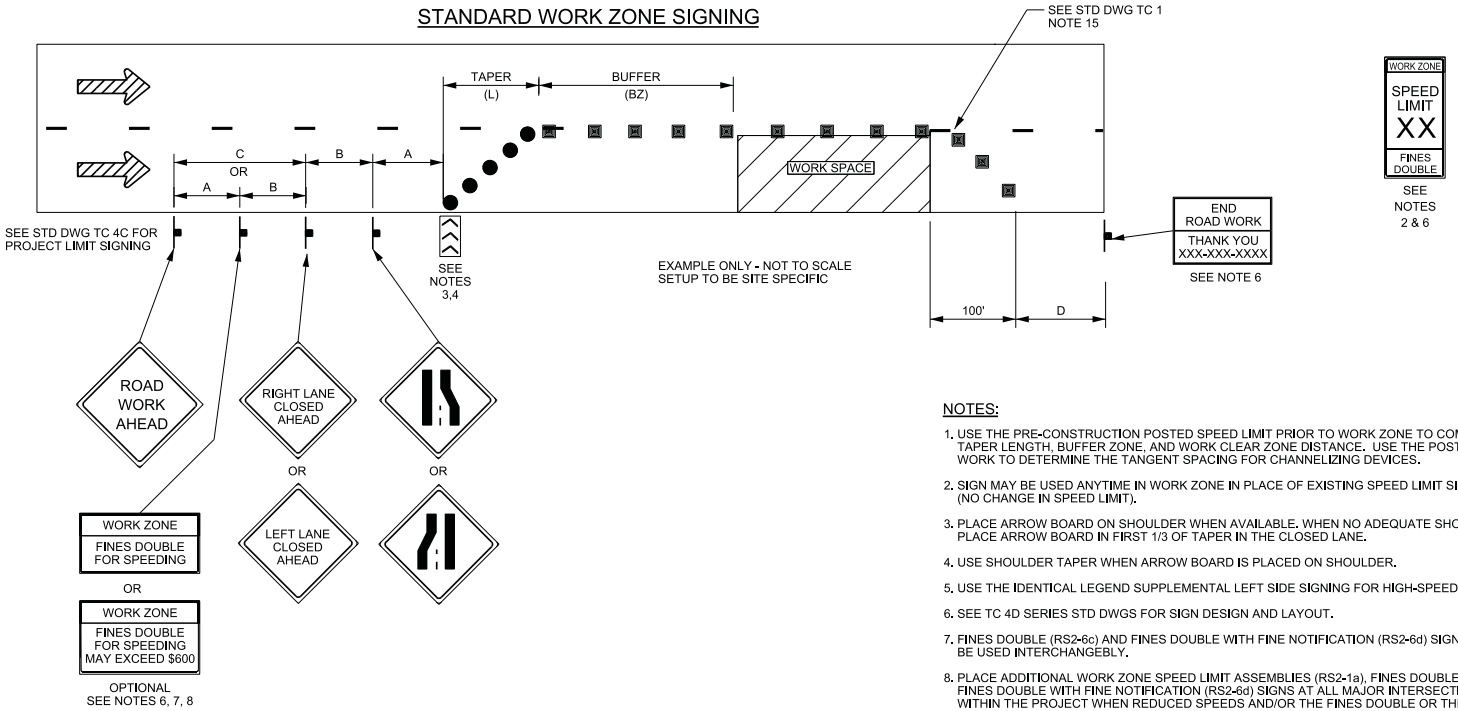
C) ON TANGENT: S x 2 = SPACING UP TO 120 FT MAXIMUM.

D) LENGTH OF BUFFER ZONE (BZ) IS THE DISTANCE FROM END OF LANE CLOSURE TAPER TO WORK SPACE, OR ANY OBSTRUCTION PRIOR TO WORK SPACE.

### TRAFFIC CONTROL DEVICE LEGEND

- SIGN (FIXED OR PORTABLE)
- CHANNELIZING DEVICE (SEE STD DWG TC 2A)
- DRUMS OR DIRECTIONAL INDICATOR BARRICADE
- FLAGGING STATION
- ARROW BOARD
- BARRIER
- DIRECTION OF TRAFFIC
- TYPE 3 BARRICADE
- DIRECTION OF WORK VEHICLE

## STANDARD WORK ZONE SIGNING




### NOTES:

1. USE THE PRE-CONSTRUCTION POSTED SPEED LIMIT PRIOR TO WORK ZONE TO COMPUTE THE SIGN SPACING, TAPER LENGTH, BUFFER ZONE, AND WORK CLEAR ZONE DISTANCE. USE THE POSTED SPEED LIMIT DURING WORK TO DETERMINE THE TANGENT SPACING FOR CHANNELIZING DEVICES.
2. SIGN MAY BE USED ANYTIME IN WORK ZONE IN PLACE OF EXISTING SPEED LIMIT SIGNS (NO CHANGE IN SPEED LIMIT).
3. PLACE ARROW BOARD ON SHOULDER WHEN AVAILABLE. WHEN NO ADEQUATE SHOULDER IS AVAILABLE, PLACE ARROW BOARD IN FIRST 1/3 OF TAPER IN THE CLOSED LANE.
4. USE SHOULDER TAPER WHEN ARROW BOARD IS PLACED ON SHOULDER.
5. USE THE IDENTICAL LEGEND SUPPLEMENTAL LEFT SIDE SIGNING FOR HIGH-SPEED DIVIDED HIGHWAYS.
6. SEE TC 4D SERIES STD DWGS FOR SIGN DESIGN AND LAYOUT.
7. FINES DOUBLE (RS2-6c) AND FINES DOUBLE WITH FINE NOTIFICATION (RS2-6d) SIGNS MAY BE USED INTERCHANGEBLY.
8. PLACE ADDITIONAL WORK ZONE SPEED LIMIT ASSEMBLIES (RS2-1a), FINES DOUBLE (RS2-6c), AND/OR FINES DOUBLE WITH FINE NOTIFICATION (RS2-6d) SIGNS AT ALL MAJOR INTERSECTIONS AND INTERCHANGES WITHIN THE PROJECT WHEN REDUCED SPEEDS AND/OR THE FINES DOUBLE OR THE FINES DOUBLE WITH FINE NOTIFICATION SIGNING OPTION IS USED.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 08/30/12 | SDD | REVISED TC 1 CALL OUT, CORRECTED LOCATION OF END ROAD WORK SIGN. |

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — AUG.30, 2012 DATE
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STANDARD DRAWING TITLE: STANDARD WORK ZONE SIGNING GENERAL

STD. DWG. NO. TC 4A

12-SEP-2012 DGN File:L:\Standard.Drawings\Imperial\2012Approved_Supplemental.Issues\SupplApproved\TC04A.dgn

## TAPER, BUFFER ZONE & SIGN SPACING CHART

| ROAD TYPE | POSTED SPEED MPH (S) | MINIMUM TAPER LENGTH(L) | LENGTH OF BUFFER(BZ) | MINIMUM SIGN SPACING (SS) | | | | ONE LANE TWO-WAY FLAGGING |
|---|---|---|---|---|---|---|---|---|
| | | 12 FT LANE CLOSURE | DESIREABLE | A | B | C | D | TAPER LENGTH |
| | | FT | FT | FT | FT | FT | FT | FT |
| CONVENTIONAL | 30 AND LOWER | 180 | 200 | 100 | 100 | 100 | 100 | 50 |
| | 35 | 245 | 250 | 350 | 350 | 350 | 175 | |
| | 40 | 320 | 305 | | | | | |
| | 45 | 540 | 360 | 500 | 500 | 500 | 250 | 100 |
| | 50 | 600 | 425 | | | | | |
| | 55 | 660 | 495 | | | | | |
| | 60 | 720 | 570 | | | | | |
| | 65 | 780 | 645 | | | | | |
| FREEWAY/ EXPRESSWAY | 65 | 780 | 645 | 1000 | 1640 | 2640 | 500 | |
| | 70 | 840 | 730 | | | | | |
| | 75 | 900 | 820 | | | | | |
| | 80 | 960 | 910 | | | | | |

### 1- TAPER LENGTH FORMULAS

| SPEED | FORMULA |
|---|---|
| FOR SPEEDS OF 40 MPH AND LESS | $L = \frac{WS^2}{60}$ |
| FOR SPEEDS OF 45 MPH AND GREATER | L= WS |

L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = SPEED IN MPH

⅓ L = FOR SHOULDER CLOSURE TAPER
½ L = FOR LANE SHIFT TAPER

### 2- CHANNELIZING DEVICES

A) MERGING AND SHIFTING TAPERS: USE A MINIMUM OF 1 DEVICE PER FT OF LANE CLOSURE WIDTH, PLUS 1 ADDITIONAL DEVICE TO START.

B) SHOULDER, ONE-LANE TWO-WAY, AND DOWNSTREAM TAPERS: USE A MINIMUM OF 1 DEVICE PER 3 FT OF WIDTH (OR PORTION THEREOF), PLUS 1 ADDITONAL DEVICE TO START.

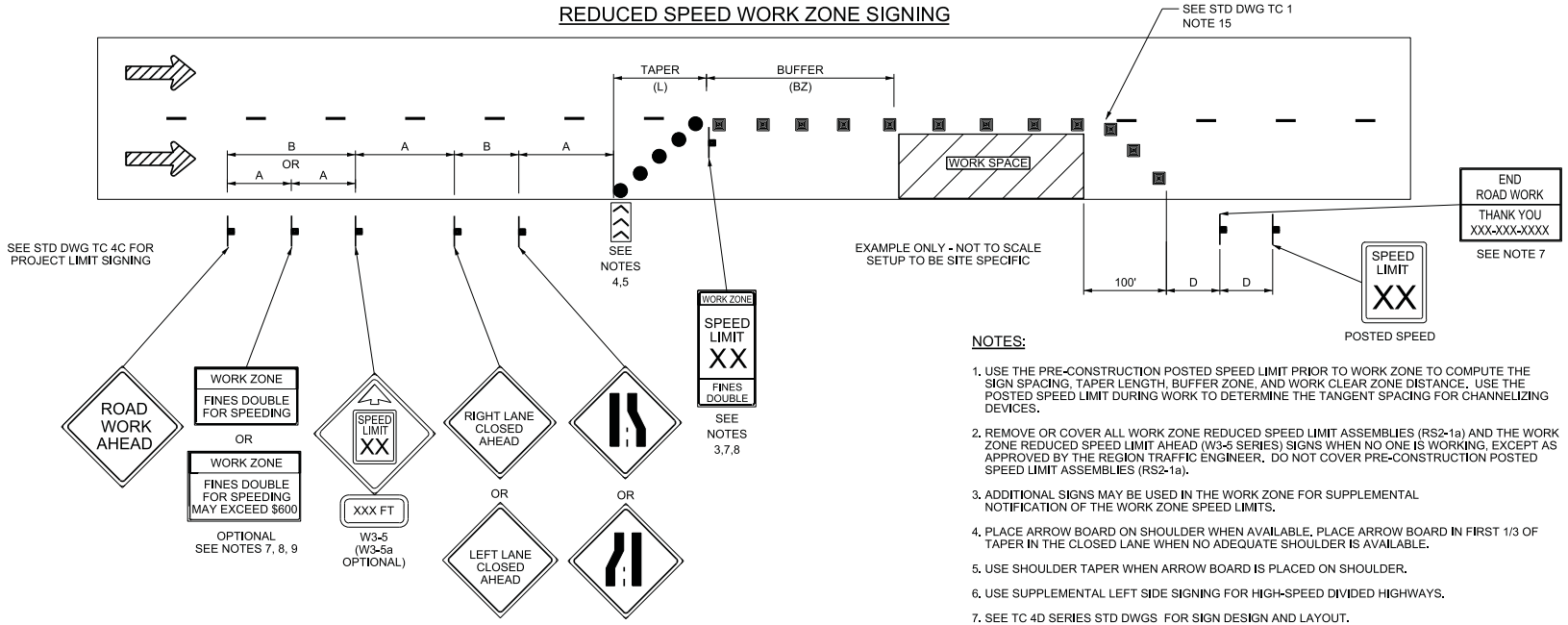
C) ON TANGENT: S x 2 = SPACING UP TO 120 FT MAXIMUM.

D) LENGTH OF BUFFER ZONE (BZ) IS THE DISTANCE FROM END OF LANE CLOSURE TAPER TO WORK SPACE, OR ANY OBSTRUCTION PRIOR TO WORK SPACE.

### TRAFFIC CONTROL DEVICE LEGEND

- SIGN (FIXED OR PORTABLE)
- CHANNELIZING DEVICE (SEE STD DWG TC 2A)
- DRUMS OR DIRECTIONAL INDICATOR BARRICADE
- FLAGGING STATION
- ARROW BOARD
- BARRIER
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- DIRECTION OF WORK VEHICLE

## REDUCED SPEED WORK ZONE SIGNING




### NOTES:

1. USE THE PRE-CONSTRUCTION POSTED SPEED LIMIT PRIOR TO WORK ZONE TO COMPUTE THE SIGN SPACING, TAPER LENGTH, BUFFER ZONE, AND WORK CLEAR ZONE DISTANCE. USE THE POSTED SPEED LIMIT DURING WORK TO DETERMINE THE TANGENT SPACING FOR CHANNELIZING DEVICES.
2. REMOVE OR COVER ALL WORK ZONE REDUCED SPEED LIMIT ASSEMBLIES (RS2-1a) AND THE WORK ZONE REDUCED SPEED LIMIT AHEAD (W3-5 SERIES) SIGNS WHEN NO ONE IS WORKING, EXCEPT AS APPROVED BY THE REGION TRAFFIC ENGINEER. DO NOT COVER PRE-CONSTRUCTION POSTED SPEED LIMIT ASSEMBLIES (RS2-1a).
3. ADDITIONAL SIGNS MAY BE USED IN THE WORK ZONE FOR SUPPLEMENTAL NOTIFICATION OF THE WORK ZONE SPEED LIMITS.
4. PLACE ARROW BOARD ON SHOULDER WHEN AVAILABLE. PLACE ARROW BOARD IN FIRST 1/3 OF TAPER IN THE CLOSED LANE WHEN NO ADEQUATE SHOULDER IS AVAILABLE.
5. USE SHOULDER TAPER WHEN ARROW BOARD IS PLACED ON SHOULDER.
6. USE SUPPLEMENTAL LEFT SIDE SIGNING FOR HIGH-SPEED DIVIDED HIGHWAYS.
7. SEE TC 4D SERIES STD DWGS FOR SIGN DESIGN AND LAYOUT.
8. FINES DOUBLE (RS2-6c) AND FINES DOUBLE WITH FINE NOTIFICATION (RS2-6d) SIGNS MAY BE USED INTERCHANGEABLY.
9. PLACE ADDITIONAL WORK ZONE SPEED LIMIT ASSEMBLIES (RS2-1a), FINES DOUBLE (RS2-6c), AND/OR FINES DOUBLE WITH FINE NOTIFICATION (RS2-6d) SIGNS AT ALL MAJOR INTERSECTIONS AND INTERCHANGES WITHIN THE PROJECT WHEN REDUCED SPEEDS AND/OR THE FINES DOUBLE OR THE FINES DOUBLE WITH FINE NOTIFICATION SIGNING OPTION IS USED.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 08/30/12 | SDD | REVISED NOTE 2, REVISED TC 1 CALL OUT. |

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — AUG.30, 2012 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — AUG.30, 2012 DATE
DEPUTY DIRECTOR

STANDARD DRAWING TITLE
REDUCED SPEED WORK ZONE SIGNING GENERAL

STD. DWG. NO.
TC 4B1

12-SEP-2012 DGN Files:L:\Standard.Dwings\Imperial\2012Approved_Supplemental.Issues\SupplApproved\TC04B1.dgn

## TAPER, BUFFER ZONE & SIGN SPACING CHART

| ROAD TYPE | POSTED SPEED MPH (S) | MINIMUM TAPER LENGTH(L) | LENGTH OF BUFFER(BZ) | MINIMUM SIGN SPACING (SS) | | | | ONE LANE TWO-WAY FLAGGING |
|---|---|---|---|---|---|---|---|---|
| | | 12 FT LANE CLOSURE | DESIREABLE | A | B | C | D | TAPER LENGTH |
| | | FT | FT | FT | FT | FT | FT | FT |
| CONVENTIONAL | 30 AND LOWER | 180 | 200 | 100 | 100 | 100 | 100 | 50 |
| | 35 | 245 | 250 | 350 | 350 | 350 | 175 | |
| | 40 | 320 | 305 | | | | | |
| | 45 | 540 | 360 | 500 | 500 | 500 | 250 | 100 |
| | 50 | 600 | 425 | | | | | |
| | 55 | 660 | 495 | | | | | |
| | 60 | 720 | 570 | | | | | |
| | 65 | 780 | 645 | | | | | |
| FREEWAY/ EXPRESSWAY | 65 | 780 | 645 | 1000 | 1640 | 2640 | 500 | |
| | 70 | 840 | 730 | | | | | |
| | 75 | 900 | 820 | | | | | |
| | 80 | 960 | 910 | | | | | |

### 1- TAPER LENGTH FORMULAS

| SPEED | FORMULA |
|---|---|
| FOR SPEEDS OF 40 MPH AND LESS | $L=\frac{WS^2}{60}$ |
| FOR SPEEDS OF 45 MPH AND GREATER | L= WS |

L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = SPEED IN MPH

⅓ L = FOR SHOULDER CLOSURE TAPER
½ L = FOR LANE SHIFT TAPER

### 2- CHANNELIZING DEVICES

A) MERGING AND SHIFTING TAPERS: USE A MINIMUM OF 1 DEVICE PER FT OF LANE CLOSURE WIDTH, PLUS 1 ADDITIONAL DEVICE TO START.

B) SHOULDER, ONE-LANE TWO-WAY, AND DOWNSTREAM TAPERS: USE A MINIMUM OF 1 DEVICE PER 3 FT OF WIDTH (OR PORTION THEREOF), PLUS 1 ADDITONAL DEVICE TO START.

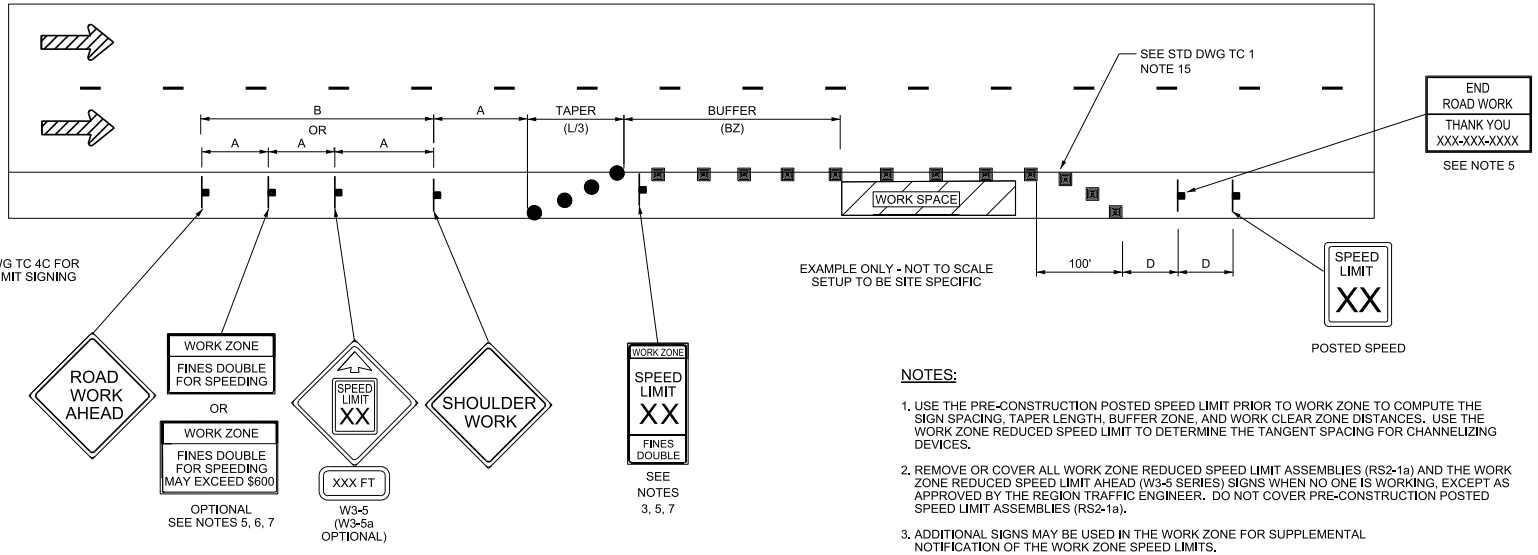
C) ON TANGENT: S x 2 = SPACING UP TO 120 FT MAXIMUM.

D) LENGTH OF BUFFER ZONE (BZ) IS THE DISTANCE FROM END OF LANE CLOSURE TAPER TO WORK SPACE, OR ANY OBSTRUCTION PRIOR TO WORK SPACE.

### TRAFFIC CONTROL DEVICE LEGEND

- SIGN (FIXED OR PORTABLE)
- CHANNELIZING DEVICE (SEE STD DWG TC 2A)
- DRUMS OR DIRECTIONAL INDICATOR BARRICADE
- FLAGGING STATION
- ARROW BOARD
- BARRIER
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- DIRECTION OF WORK VEHICLE

## REDUCED SPEED SHOULDER WORK ZONE SIGNING




### NOTES:

1. USE THE PRE-CONSTRUCTION POSTED SPEED LIMIT PRIOR TO WORK ZONE TO COMPUTE THE SIGN SPACING, TAPER LENGTH, BUFFER ZONE, AND WORK CLEAR ZONE DISTANCES. USE THE WORK ZONE REDUCED SPEED LIMIT TO DETERMINE THE TANGENT SPACING FOR CHANNELIZING DEVICES.
2. REMOVE OR COVER ALL WORK ZONE REDUCED SPEED LIMIT ASSEMBLIES (RS2-1a) AND THE WORK ZONE REDUCED SPEED LIMIT AHEAD (W3-5 SERIES) SIGNS WHEN NO ONE IS WORKING, EXCEPT AS APPROVED BY THE REGION TRAFFIC ENGINEER. DO NOT COVER PRE-CONSTRUCTION POSTED SPEED LIMIT ASSEMBLIES (RS2-1a).
3. ADDITIONAL SIGNS MAY BE USED IN THE WORK ZONE FOR SUPPLEMENTAL NOTIFICATION OF THE WORK ZONE SPEED LIMITS.
4. USE SUPPLEMENTAL LEFT SIDE SIGNING FOR HIGH-SPEED DIVIDED HIGHWAYS.
5. SEE TC 4D SERIES STD DWGS FOR SIGN DESIGN AND LAYOUT.
6. FINES DOUBLE (RS2-6c) AND FINES DOUBLE WITH FINE NOTIFICATION (RS2-6d) SIGNS MAY BE USED INTERCHANGEBLY.
7. PLACE ADDITIONAL WORK ZONE SPEED LIMIT ASSEMBLIES (RS2-1a), FINES DOUBLE (RS2-6c), AND/OR FINES DOUBLE WITH FINE NOTIFICATION (RS2-6d) SIGNS AT ALL MAJOR INTERSECTIONS AND INTERCHANGES WITHIN THE PROJECT WHEN REDUCED SPEEDS AND/OR THE FINES DOUBLE OR THE FINES DOUBLE WITH FINE NOTIFICATION SIGNING OPTION IS USED.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 08/30/12 | SDD | REVISED NOTE 2, REVISED TC 1 CALL OUT. |

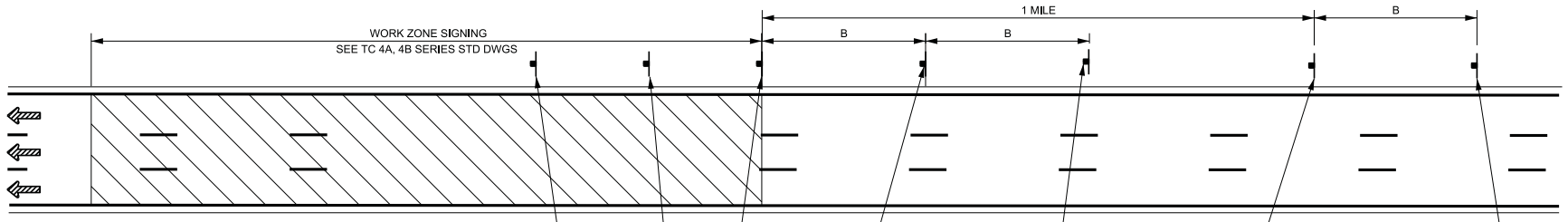
UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — AUG.30.2012 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — AUG.30.2012 DATE
DEPUTY DIRECTOR

STANDARD DRAWING TITLE
REDUCED SPEED SHOULDER WORK ZONE SIGNING GENERAL

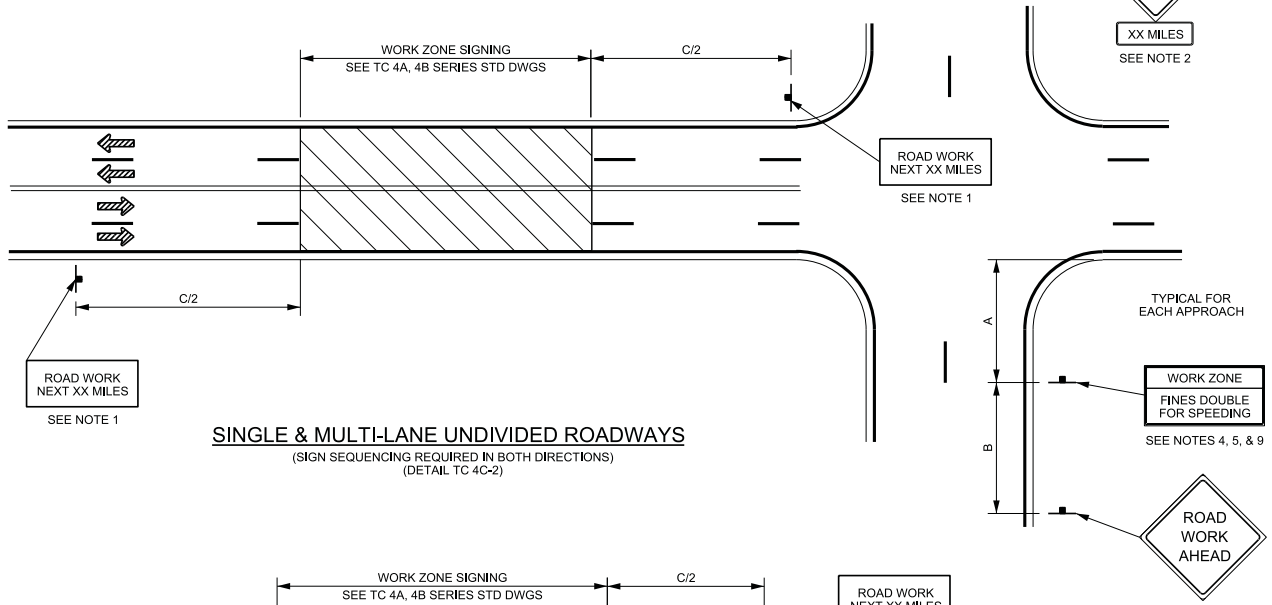
STD. DWG. NO.
TC 4B2

12-SEP-2012
DGN File:L:\Standard.Drawings\Imperial\2012Approved_Supplemental.Issues\SupplApproved\TC0482.dgn



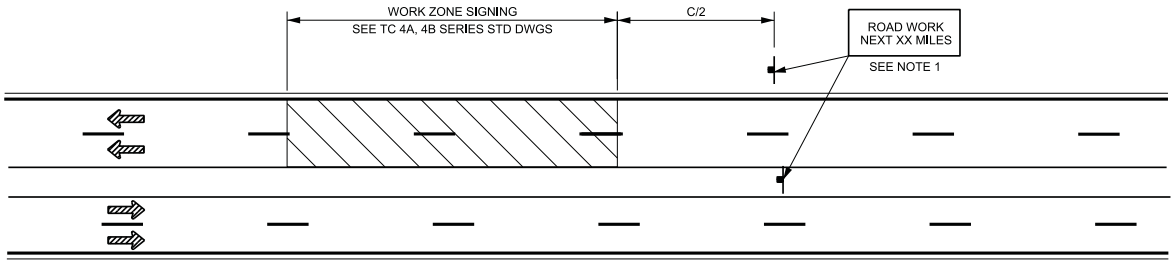

## FREEWAY & EXPRESSWAY

(DETAIL TC 4C-1)




## SINGLE & MULTI-LANE UNDIVIDED ROADWAYS

(SIGN SEQUENCING REQUIRED IN BOTH DIRECTIONS)
(DETAIL TC 4C-2)




## DIVIDED ROADWAYS

(DETAIL TC 4C-3)

### NOTES:

1. USE ROAD WORK NEXT XX MILES SIGN (G20-1) WHEN TRAFFIC CONTROL IS GREATER THAN 2 MILES IN LENGTH.
2. PLACE ROAD WORK AHEAD SIGN WITH AN "XX" MILES (W16-3aP) PLAQUE AT ROUTE SEPARATION POINT IF AN ALTERNATE ROUTE IS AVAILABLE AND SIGNIFICANT DELAYS ARE EXPECTED.
3. USE PROJECT LIMIT SIGNING IN BOTH DIRECTIONS IF TRAFFIC CONTROL AFFECTS TRAFFIC IN BOTH DIRECTIONS.
4. FINES DOUBLE (RS2-6c) SIGN IS OPTIONAL.
5. FINES DOUBLE (RS2-6c) AND FINES DOUBLE WITH FINE NOTIFICATION (RS2-6d) SIGNS MAY BE USED INTERCHANGEABLY.
6. PLACE ADDITIONAL WORK ZONE SPEED LIMIT ASSEMBLIES (RS2-1a), FINES DOUBLE (RS2-6c), AND/OR FINES DOUBLE WITH FINE NOTIFICATION (RS2-6d) SIGNS AT ALL MAJOR INTERSECTIONS AND INTERCHANGES WITHIN THE PROJECT WHEN REDUCED SPEEDS AND/OR THE FINES DOUBLE OR THE FINES DOUBLE WITH FINE NOTIFICATION SIGNING OPTION IS USED.
7. PLACE SIGNING ON RIGHT SHOULDER AND MEDIAN WHEN CONDITIONS PERMIT.
8. SEE STD DWG TC 4A FOR TAPER, BUFFER ZONE, AND SIGN SPACING CHART.
9. SEE TC 4D SERIES STD DWGS FOR SIGN DESIGN AND LAYOUT.
10. USE TRAFFIC BACKUP SIGNING WHEN VEHICLE QUEUES ARE EXPECTED OR OCCUR IN ADVANCE OF THE INSTALLED WORK ZONE ADVANCE WARNING SIGNS. PLACE TRAFFIC BACKUPS BE PREPARED TO STOP 1 MILE (WS4-3a) SIGNS TWO MILES IN ADVANCE OF THE WORK AREA. PLACE TRAFFIC BACKUPS BE PREPARED TO STOP "X" MILES (WS4-3b) SIGNS IN INCREMENTS OF ONE MILE WITH THE APPROPRIATE "X" MILES LEGEND TO STAY AHEAD OF ANTICIPATED QUEUE OF VEHICLES. PLACE ADDITIONAL ROAD WORK AHEAD SIGNS WITH A "XX" MILES (W16-3aP) PLAQUE IN ADVANCE OF FURTHERMOST UPSTREAM TRAFFIC BACKUP SIGNING.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 08/30/12 | SDD | REVISED NOTE 10. REMOVED END ROAD WORK SIGNS. REVISED WORK ZONE SIGNING AREA. |

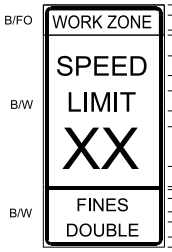
UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — AUG.30.2012 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — AUG.30.2012 DATE
DEPUTY DIRECTOR

STANDARD DRAWING TITLE
TRAFFIC CONTROL PROJECT LIMIT SIGNING

STD. DWG. NO.
TC 4C

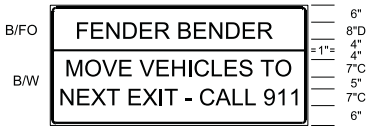
12-SEP-2012
DGN File:L:\Standard.Dwings\Imperial\2012Approved_Supplemental.Issues\SupplApproved\TC04C.dgn




| | RS2-1a | RS2-1a1 | RS2-1a2 |
|---|---|---|---|
| | 4" | 3" | 2" |
| | 6"C | 4.5"C | 3"C |
| | 2" | 1.5" | 1" |
| | 6" | 3" | 2" |
| | 8"E | 6"E | 4"E |
| | 6" | 5" | 2.75" |
| | 8"E | 6"E | 4"E |
| | 6" | 5" | 3" |
| | 16"E | 14"E | 10"E |
| | 6" | 3.5" | 2" |
| A | 4" | 3" | 2" |
| | 6"E | 4.5"E | 3"E |
| | 4.5" | 3" | 2.75" |
| | 6"E | 4.5"E | 3"E |
| | 6" | 4.5" | 3" |
| A | 1.5" | 1" | 0.5" |

RS2-1a - 48 X 96 INCHES FREEWAY AND EXPRESSWAY
RS2-1a1 - 36 X 72 INCHES CONVENTIONAL MULTI LANE
RS2-1a2 - 24 X 48 INCHES CONVENTIONAL SINGLE LANE

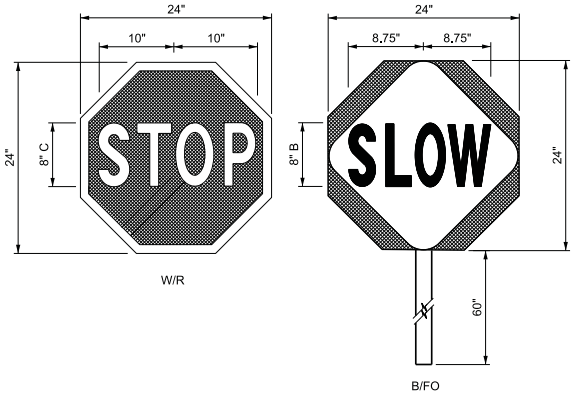
## RS2-1a SERIES WORK ZONE SPEED LIMIT SIGNS




96 X 48 INCHES

## RS16-4b WORK ZONE FENDER BENDER SIGN

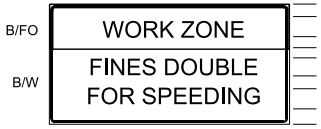
OPTIONAL, SEE NOTE 1




RS1-1 STOP SIGN

WS20-8a SLOW SIGN

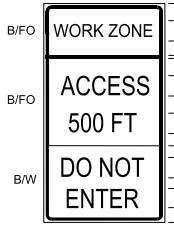
## FLAGGER STOP - SLOW PADDLE




| | RS2-6c | RS2-6c1 | RS2-6c2 |
|---|---|---|---|
| | 6" | 4" | 4" |
| | 8"E | 6"D | 4"D |
| | 3" | 3" | 3" |
| | 3" | 3" | 3" |
| | 8"D | 6"C | 4"C |
| | 6" | 4" | 4" |
| | 8"D | 6"C | 4"C |
| | 6" | 4" | 4" |

RS2-6c 96 X 48 INCHES FREEWAY AND EXPRESSWAY
RS2-6c1 60 X 36 INCHES CONVENTIONAL 45 MPH AND GREATER
RS2-6c2 42 X 30 INCHES CONVENTIONAL 45 MPH AND LESS

## RS2-6c SERIES WORK ZONE FINES DOUBLE SIGNS

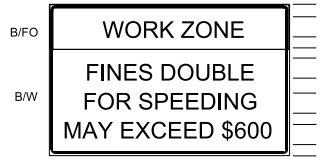



| | RS5-1c | RS5-1c1 |
|---|---|---|
| | 6" | 5" |
| | 6"D | 5"C |
| | 4" | 3" |
| | 5" | 3" |
| | 8"D | 6"C |
| | 6" | 4" |
| | 8"E | 6"C |
| | 4" | 3" |
| | 4" | 3" |
| | 8"E | 6"C |
| | 4" | 4" |
| | 8"E | 6"C |
| | 6" | 5" |

RS5-1c - 60 X 78 INCHES FREEWAY AND EXPRESSWAY
RS5-1c1 - 36 X 60 INCHES CONVENTIONAL

## RS5-1c SERIES WORK ZONE ACCESS ADVANCE SIGNS

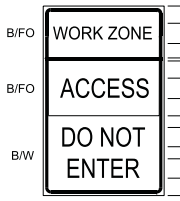
SEE NOTE 2




| | RS2-6d | RS2-6d1 | RS2-6d2 |
|---|---|---|---|
| | 5" | 5" | 4" |
| | 8"E | 6"D | 4"D |
| | 3.5" | 3" | 3" |
| | 3" | 3" | 3" |
| | 8"D | 6"C | 4"C |
| | 5" | 4" | 3" |
| | 8"D | 6"C | 4"C |
| | 5" | 4" | 3" |
| | 8"C | 6"C | 4"C |
| | 5.5" | 5" | 4" |

RS2-6d - 108 X 60 INCHES FREEWAY AND EXPRESSWAY
RS2-6d1 - 78 X 48 INCHES CONVENTIONAL 45 MPH AND GREATER
RS2-6d2 - 54 X 36 INCHES CONVENTIONAL 45 MPH AND LESS

## RS2-6d SERIES WORK ZONE FINES DOUBLE SIGN WITH FINE NOTIFICATIONS




| | RS5-1b | RS5-1b1 |
|---|---|---|
| | 6.25" | 5.25" |
| | 6"D | 5"C |
| | 4.25" | 3.75" |
| | 5.25" | 4.5" |
| | 8"D | 6"C |
| | 5.25" | 4.5" |
| | 4" | 3.25" |
| | 8"E | 6"C |
| | 4" | 4" |
| | 8"E | 6"C |
| | 6" | 4.75" |

RS5-1b - 60 X 66 INCHES FREEWAY AND EXPRESSWAY
RS5-1b1 - 36 X 54 INCHES CONVENTIONAL

## RS5-1b SERIES WORK ZONE ACCESS SIGNS

NOTES:

1. USE THE WORK ZONE FENDER BENDER SIGN TO REQUIRE MOTORISTS TO MOVE THEIR VEHICLE OUT OF THE TRAFFIC LANES AND TO THE NEXT EXIT IF THEY HAVE BEEN INVOLVED IN A CRASH.
2. RECOMMENDED DISTANCE TO ACCESS 500 FT FREEWAY AND EXPRESSWAY AND 250 FT CONVENTIONAL ROADS.
3. PLACE TWO FLUORESCENT ORANGE STRIPS OF RETROREFLECTIVE SHEETING, 4 x 24 INCHES, WITHIN 12 INCHES FROM THE RIGHT AND LEFT EDGES ON THE BACK OF SIGNS USED WITH PORTABLE SUPPORTS.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 10/31/13 | JLL | MODIFIED SIGN NAMES, ADDED ADDITIONAL SIZE FOR RS2-1a SIGN, MOVED RS5-1 SIGNS AND NOTE 2 FROM TC04D2, MODIFIED SLOW PADDLE DESIGN, MODIFIED NOTE 1. |

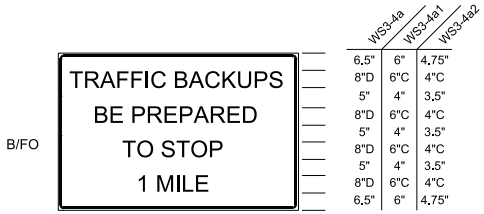
**UTAH DEPARTMENT OF TRANSPORTATION**
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — OCT.31,2013 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — OCT.31,2013 DATE
DEPUTY DIRECTOR — DATE

STANDARD DRAWING TITLE: WORK ZONE SPECIALTY SIGNS

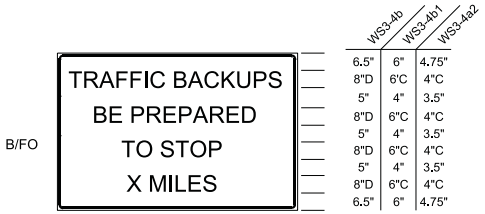
STD. DWG. NO.
TC 4D1

20-NOV-2013 DGN File:L:\Standard Drawings\Imperial\2012\Approved_Supplemental Issues\Supp7Approved\TC04D.dgn




WS3-4a - 114 X 60 INCHES FREEWAY AND EXPRESSWAY
WS3-4a1 - 72 X 48 INCHES CONVENTIONAL 45 MPH AND GREATER
WS3-4a2 - 54 X 36 INCHES CONVENTIONAL 45 MPH AND LESS

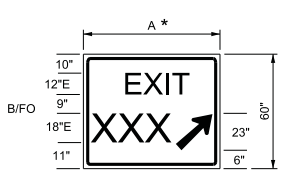
WS3-4a SERIES




WS3-4b - 114 X 60 INCHES FREEWAY AND EXPRESSWAY
WS3-4b1 - 72 X 48 INCHES CONVENTIONAL 45 MPH AND GREATER
WS3-4b2 - 54 X 36 INCHES CONVENTIONAL 45 MPH AND LESS

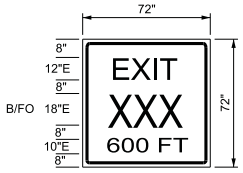
WS3-4b SERIES

## WS3-4 SERIES TRAFFIC BACKUP SIGNS




E5-1aW SERIES

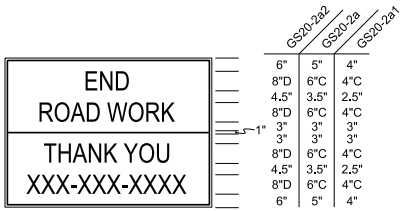
* SEE TABLE 1 FOR WIDTH




ES5-1dW SERIES

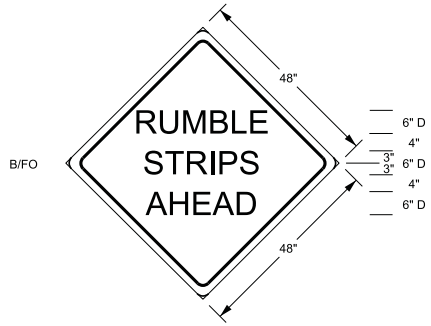
## ES5-1W SERIES WORK ZONE EXIT SIGNS

XXX EXIT NUMBER




GS20-2a2 - 84 X 60 INCHES OVERSIZED
GS20-2a - 60 X 48 INCHES FREEWAY AND EXPRESSWAY
GS20-2a1 - 42 X 36 INCHES CONVENTIONAL
XXX CONTRACTOR'S PHONE NUMBER
NO INTERNET OR EMAIL ADDRESSES

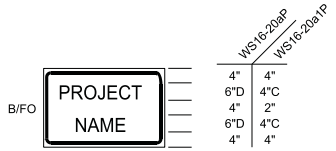
## GS20-2a SERIES END ROAD WORK INFORMATION SIGNS




## WS28-1 RUMBLE STRIPS AHEAD SIGN

| SIGN WIDTH | | |
|---|---|---|
| | NUMBER OF DIGITS | A |
| ES5-1aW1 | X | 78 INCHES |
| ES5-1aW2 | XX | 78 INCHES |
| ES5-1aW3 | XXX | 96 INCHES |

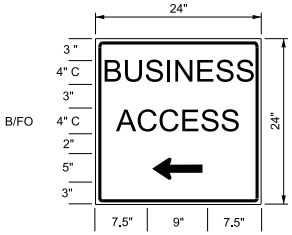
## ES5-1aW SERIES WORK ZONE EXIT GORE SIGNS TABLE 1




WS16-20aP - 60 X 24 INCHES FREEWAY AND EXPRESSWAY
WS16-20a1P - 36 X 18 INCHES CONVENTIONAL

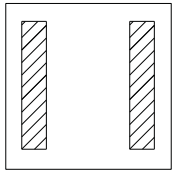
## WS16-20aP SERIES WORK ZONE ACCESS PROJECT IDENTIFIER PLAQUES

SEE NOTE 1




FRONT

USE BLACK LEGEND ON FLUORESCENT ORANGE RETROREFLECTIVE SHEETING.



BACK

PLACE TWO 4 X 18 INCHES FLUORESCENT ORANGE RETROREFLECTIVE STRIPS VERTICALLY ON THE SIGN BACK.

## GS20-5 SERIES BUSINESS ACCESS SIGNS

LEFT ARROW SHOWN

NOTE:

1. USE PROJECT IDENTIFIER ONLY. DO NOT INCLUDE PROMOTIONAL OR OTHER INFORMATIONAL IDENTIFICATIONS OF PUBIC OFFICIALS, CONTRACTORS, ORGANIZATIONAL AFFILIATIONS, RELATED LOGOS AND SYMBOLS.
2. PLACE TWO FLUORESCENT ORANGE STRIPS OF RETROREFLECTIVE SHEETING, 4 x 24 INCHES, WITHIN 12 INCHES FROM THE RIGHT AND LEFT EDGES ON THE BACK OF SIGNS USED WITH PORTABLE SUPPORTS.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 08/30/12 | SDD | NEW RS5-1c WORK ZONE ACCESS ENTRANCE SIGN DETAIL. |
| 2 | 10/31/13 | JLL | WS16-19P DETAIL DIMENSION CORRECTION. MODIFIED SIGN NAMES. ADDED SIGN NAMES TO TABLE 1. REDUCED SIZE REQUIREMENT OF THE GS20-2A SIGN. CORRECTED DIMENSIONS ON WS4-3a, W4-3b, AND RS5-1c SIGNS. MOVED RS5-1 SIGNS AND NOTE 2 TO TC04D2. ADDED NEW WS28-1 SIGN. |

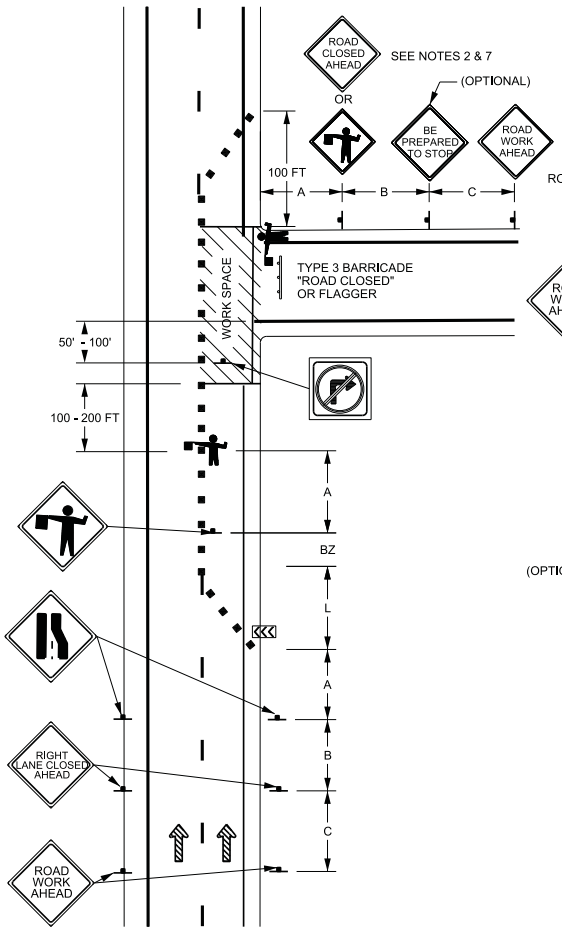
UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — DATE OCT.31.2013
CHAIRMAN STANDARDS COMMITTEE APPROVED — DATE OCT.31.2013
DEPUTY DIRECTOR — DATE

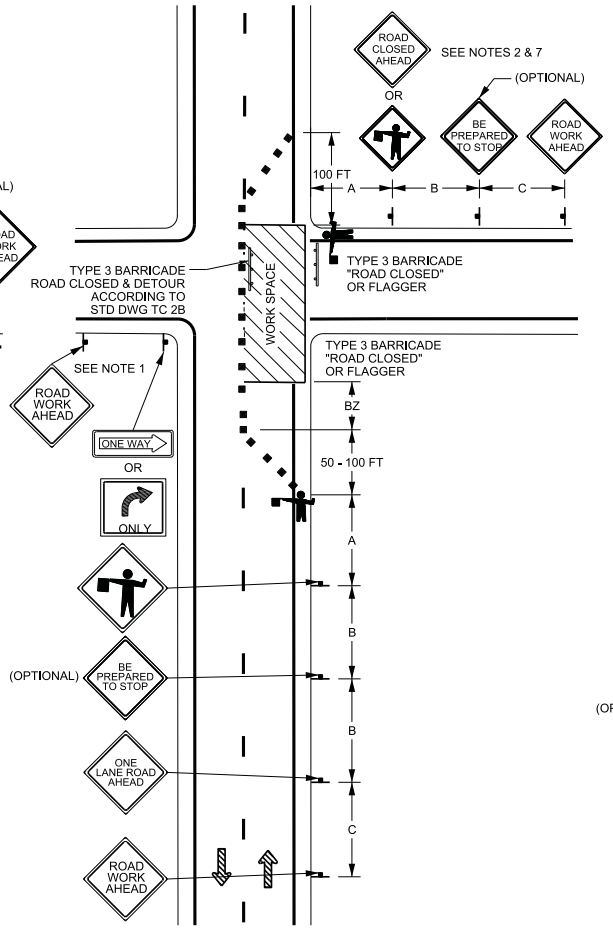
STANDARD DRAWING TITLE
WORK ZONE SPECIALTY SIGNS

STD. DWG. NO.
TC 4D2

20-NOV-2013
DGN File:L:\Standard.Drawings\Imperial\2012\Approved_Supplemental.Issues\Supp7Approved\TC04D2.dgn

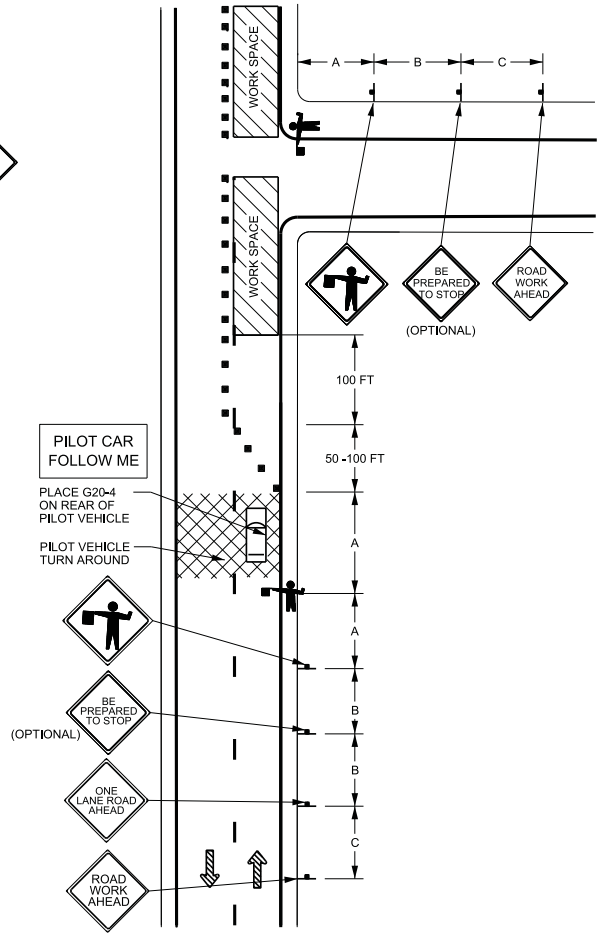



FLAGGING OPERATION - ONE WAY WITH POTENTIAL ENCROACHMENT BY WORK VEHICLE DETAIL TC 14-1




FLAGGING OPERATION - TWO WAY WITH ONE LANE CLOSED DETAIL TC 14-2

SEE NOTE 6




FLAGGING OPERATIONS WITH USE OF PILOT VEHICLE DETAIL TC 14-3

SEE NOTE 6

NOTES:

1. USE A FLAGGER AT ALL INTERSECTING ROADWAYS. REFER TO STANDARD SPECIFICATION 01554 FOR REQUIREMENT AT OPERATING TRAFFIC SIGNALS.
2. PROVIDE FLAGGING IF TURNING TRAFFIC CONFLICTS WITH ONE-WAY TRAFFIC.
3. PROVIDE A DETOUR WHEN ROAD CLOSURE EXCEEDS 24 HOURS.
4. SEE STD DWG TC 4A FOR TAPER, BUFFER ZONE AND SIGN SPACING CHART AND TRAFFIC CONTROL DEVICE LEGEND.
5. SEE STD DWG TC 4C FOR PROJECT LIMIT SIGNING.
6. USE SAME SIGN SEQUENCE, SPACING, AND FLAGGER FOR OPPOSITE DIRECTION OF TRAFFIC.
7. USE ADVANCED ROAD CLOSURE SIGNING IF ROAD CLOSED AHEAD SIGN IS USED.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 11/06/2014 | JLL | REVISED DRAWING NUMBER FROM TC 14 TO TC 14A. PLACED CHANELLIZERS TO DEFINE WORK SPACE IN DETAIL TC 14-3. ROTATED SIGNS ON CROSS-STREETS TO VERTICAL. |

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — NOV.06,2014 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — NOV.06,2014 DATE
DEPUTY DIRECTOR — DATE

STANDARD DRAWING TITLE
TRAFFIC CONTROL FLAGGING OPERATION

STD. DWG. NO.
TC 14A

DGN File:L:\Standard.Drawings\Imperial\2012\Approved_Supplemental_Issues\Supp18Approved\TC14A.dgn
18-NOV-2014

## TAPER, BUFFER ZONE & SIGN SPACING CHART

| ROAD TYPE | POSTED SPEED MPH (S) | LENGTH OF BUFFER(BZ) | MINIMUM SIGN SPACING (SS) | | | | ONE LANE TWO-WAY FLAGGING |
|---|---|---|---|---|---|---|---|
| | | | A | B | C | D | TAPER LENGTH |
| | | | FT | FT | FT | FT | FT |
| CONVENTIONAL | 50 | 425 | 500 | | | 250 | 100 |
| | 55 | 495 | | | | | |
| | 60 | 570 | | | | | |
| | 65 | 645 | | | | | |

### CHANNELIZING DEVICES

A) SHOULDER, ONE-LANE TWO-WAY, AND DOWNSTREAM TAPERS: USE A MINIMUM OF 1 DEVICE PER 3 FT OF WIDTH (OR PORTION THEREOF), PLUS 1 ADDITONAL DEVICE TO START.

B) ON TANGENT: S x 2 = SPACING UP TO 120 FT MAXIMUM.

C) LENGTH OF BUFFER ZONE (BZ) IS THE DISTANCE FROM END OF LANE CLOSURE TAPER TO WORK SPACE, OR ANY OBSTRUCTION PRIOR TO WORK SPACE.

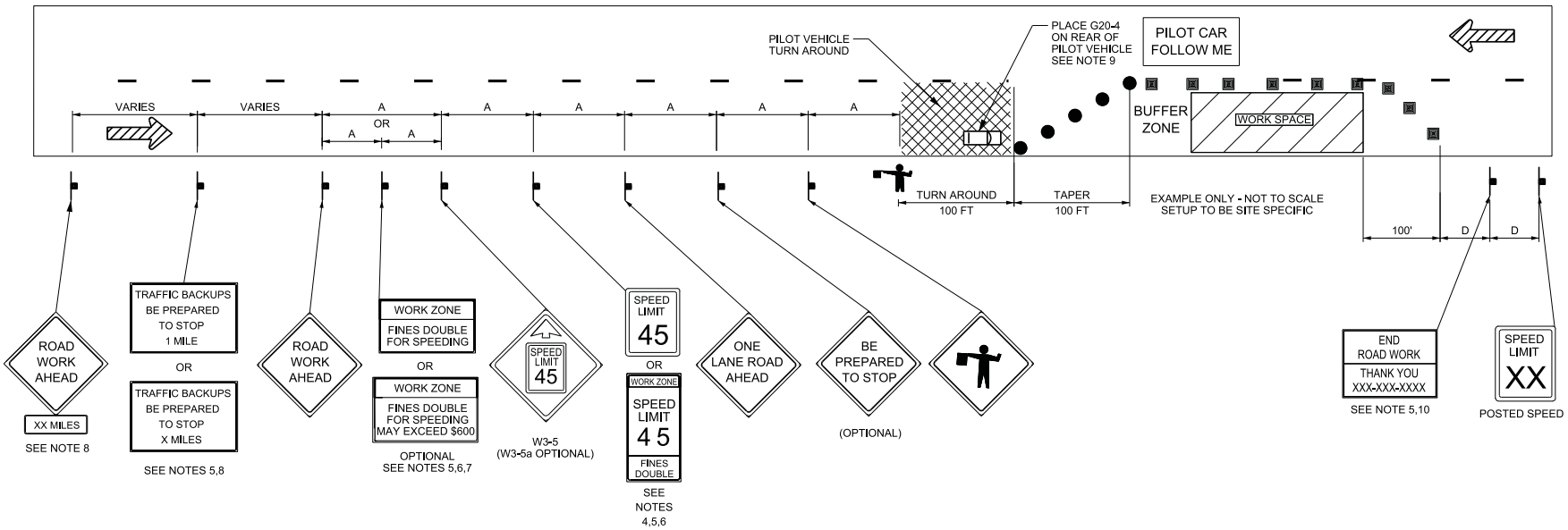
### TRAFFIC CONTROL DEVICE LEGEND

- SIGN (FIXED OR PORTABLE)
- CHANNELIZING DEVICE (SEE STD DWG TC 2A)
- DRUMS OR DIRECTIONAL INDICATOR BARRICADE
- FLAGGING STATION
- DIRECTION OF TRAFFIC
- PILOT CAR

## REDUCED SPEED SIGNING FOR PILOT CAR OPERATION IN A WORK ZONE (CONVENTIONAL ROADS ONLY)

SEE STD DWG TC 4C FOR PROJECT LIMIT SIGNING

SIGNING SIMILAR FOR OPPOSITE DIRECTION OF TRAVEL




### NOTES:

1. MAY BE USED WITH A PILOT CAR OPERATION ON A CONVENTIONAL ROAD WITH THE APPROVAL OF THE REGION TRAFFIC ENGINEER.
2. USE THE PRE-CONSTRUCTION POSTED SPEED LIMIT BEFORE THE WORK ZONE TO COMPUTE THE SIGN SPACING, TAPER LENGTH, BUFFER ZONE, AND WORK CLEAR ZONE DISTANCE. USE THE POSTED SPEED LIMIT DURING WORK TO DETERMINE THE TANGENT SPACING FOR CHANNELIZING DEVICES.
3. REMOVE OR COVER THE WORK ZONE REDUCED SPEED LIMIT SIGN (RS2-1a) AND THE WORK ZONE REDUCED SPEED LIMIT AHEAD (W3-5 SERIES) SIGNS WHEN PILOT CARS ARE NOT IN USE.
4. ADDITIONAL SIGNS MAY BE USED IN THE WORK ZONE FOR SUPPLEMENTAL NOTIFICATION OF THE WORK ZONE SPEED LIMITS.
5. SEE TC 4D SERIES STD DWGS FOR SIGN DESIGN AND LAYOUT.
6. FINES DOUBLE (RS2-6c) AND FINES DOUBLE WITH FINE NOTIFICATION (RS2-6d) SIGNS MAY BE USED INTERCHANGEABLY.
7. PLACE ADDITIONAL WORK ZONE SPEED LIMIT ASSEMBLIES (RS2-1a), FINES DOUBLE (RS2-6c), AND FINES DOUBLE WITH FINE NOTIFICATION (RS2-6d) SIGNS AS NEEDED AT ALL MAJOR INTERSECTIONS AND INTERCHANGES WITHIN THE PROJECT WHEN REDUCED SPEEDS AND THE FINES DOUBLE OR THE FINES DOUBLE WITH FINE NOTIFICATION SIGNING OPTION ARE USED.
8. USE TRAFFIC BACKUP SIGNING WHEN VEHICLE QUEUES ARE EXPECTED OR OCCUR IN ADVANCE OF THE INSTALLED WORK ZONE ADVANCE WARNING SIGNS. PLACE TRAFFIC BACKUPS BE PREPARED TO STOP 1 MILE (WS4-3a) SIGNS TWO MILES IN ADVANCE OF THE WORK AREA. PLACE TRAFFIC BACKUPS BE PREPARED TO STOP "X" MILES (WS4-3b) SIGNS IN INCREMENTS OF ONE MILE WITH THE APPROPRIATE "X" MILES LEGEND TO STAY AHEAD OF ANTICIPATED QUEUE OF VEHICLES. PLACE ADDITIONAL ROAD WORK AHEAD SIGNS WITH A "XX" MILES (W16-3aP) PLAQUE IN ADVANCE OF FURTHERMOST UPSTREAM TRAFFIC BACKUP SIGNING.
9. PILOT VEHICLE SPEED NOT TO EXCEED 40 MPH.
10. DO NOT USE END ROAD WORK SIGN WHEN PILOT CAR OPERATION TERMINATES WITHIN THE PROJECT LIMITS.
11. COVER PRE-CONSTRUCTION POSTED SPEED LIMIT SIGNS THAT ARE BETWEEN THE WORK ZONE REDUCED SPEED AHEAD SIGN (W3-5 SERIES) AND THE FLAGGING STATION.
12. USE ONLY ON HIGHWAYS WITH POSTED SPEEDS OF 50 MPH OR GREATER.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 11/06/2014 | JLL | NEW DRAWING. |

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — NOV.06.2014 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — NOV.06.2014 DATE
DEPUTY DIRECTOR

STANDARD DRAWING TITLE: REDUCED SPEED SIGNING FOR PILOT CAR OPERATION (CONVENTIONAL ROADS)

STD. DWG. NO. TC 14B

DGN File:L:\Standard Drawings\Imperial\2012\Approved_Supplemental_Issues\Supp18\Approved\TC14B.dgn
18-NOV-2014

## X. Standard Drawings Index

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UTAH DEPARTMENT OF TRANSPORTATION

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| AT 2B | Ramp Meter Details | 01/01/12 |
| AT 3 | Ramp Meter Overhead Sign Panel | 01/01/12 |
| AT 4 | Typical Ramp Meter Signal Head Mounting | 01/01/12 |
| AT 5A | Ramp Meter Detection Layout | 02/28/13 |
| AT 5B | Ramp Meter Queue Detection Layout | 02/28/13 |
| AT 5C | Ramp Meter Detection Zone Number Assignment | 02/28/13 |
| AT 6 | Conduit Details | 10/22/15 |
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| AT 19 | Utility Marker Post Locations | 10/22/15 |
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| AT 21 | Electronic Toll Lanes Control Systems (ETC Gantry) | 10/22/15 |
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Federal Projects With 8½ x 11 Plan Sheets

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Federal Projects With 8½ x 11 Plan Sheets

| | | |
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| | | |
|---|---|---|
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| | | |
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| CB 10C | Standard Catch Basin and Cleanout Box Schedule of Installation 42 Inch to 60 Inch RCP 48 Inch to 72 Inch CMP | 01/01/12 |
| CB 11 | Precast Concrete Standard Manhole | 02/28/13 |
| CB 12 | Precast Concrete Drainage Box | 01/01/12 |

**Crash Cushions (CC)**

| | | |
|---|---|---|
| CC 1 | Crash Cushion and End Treatment Markings | 01/01/12 |
| CC 2 | Crash Cushion Drainage Details Guideline A | 01/01/12 |
| CC 3 | Crash Cushion and End Treatments Drainage Details Guideline B | 01/01/12 |
| CC 4A | Details for Placement Crash Cushions Type A, B, And D | 01/01/12 |
| CC 4B | Crash Cushion Mounted On Median Island | 01/01/12 |
| CC 4C | Crash Cushion Split Median Island w/RR Crossing | 01/01/12 |
| CC 5A | Grading and Placement Details Crash Cushion Type C Brakemaster | 01/01/12 |
| CC 5B | Grading and Placement Details Crash Cushion Type C C.A.T | 01/01/12 |
| CC 5C | Grading and Placement Details Crash Cushion Type C FLEAT-MT | 01/01/12 |
| CC 6 | Crash Cushion Type E Sand Barrel Details | 01/01/12 |
| CC 7A | Grading and Installation Details End Treatment Type F Quad Trend 350 | 01/01/12 |
| CC 7B | Grading and Installation Details End Treatment Type F BEAT-SSCC | 01/01/12 |
| CC 8A | Grading and Installation Details Crash Cushion Type G | 06/27/13 |
| CC 8B | Grading and Installation Details for “3R” Projects End Treatment Type G | 06/27/13 |
| CC 9A | Grading and Installation Details End Treatment Type H | 01/01/12 |
| CC 9B | Maintenance Only Grading and Installation Details End Treatment Type H | 01/01/12 |

**Diversion Boxes (DB)**

| | | |
|---|---|---|
| DB 1A | Standard Diversion Box/Cover Plate/Grating for 18 Inch DIA. or 24 Inch DIA. Pipe | 01/01/12 |

| | | |
|---|---|---|
| DB 1B | Standard Diversion Box Hinged Lid Details for 18 Inch DIA or 24 Inch DIA Pipe | 01/01/12 |
| DB 1C | Standard Diversion Box Bicycle Safe Grating Details for 18 Inch DIA or 24 Inch DIA Pipe | 01/01/12 |
| DB 1D | Standard Diversion Box Three Gate Box Sections for 18 Inch DIA or 24 Inch DIA Pipe | 01/01/12 |
| DB 1E | Standard Diversion Box Three Gate Box Sections for 18 Inch DIA or 24 Inch DIA Pipe | 01/01/12 |
| DB 1F | Standard Diversion Box Three Gate Box Sections for 18 Inch DIA or 24 Inch DIA Pipe | 01/01/12 |
| DB 2A | Standard Diversion Box w/Interchangeable Walls, Bottom Slab, Walls, and Apron Details | 01/01/12 |
| DB 2B | Standard Diversion Box w/Interchangeable Walls, Quantities Schedule | 01/01/12 |
| DB 2C | Standard Diversion Box w/Interchangeable Walls, Hand Slide Gate Details | 01/01/12 |
| DB 2D | Standard Diversion Box Type G Hand Slide Gate Details | 01/01/12 |
| DB 2E | Standard Diversion Box Hinged Lid (Solid Cover Plate) Type A Details Type I Plan | 01/01/12 |
| DB 2F | Standard Diversion Box Hinged Lid (Solid Cover Plate) Type A Details Type II Plan | 01/01/12 |
| DB 2G | Standard Diversion Box Hinged Lid Solid Cover Type B Details | 01/01/12 |
| DB 2H | Standard Diversion Box Hinged Lid Solid Cover Type B and C Details | 01/01/12 |
| DB 3A | Standard Diversion Box with Manhole Cover Situation and Layout | 01/01/12 |
| DB 3B | Standard Diversion Box with Manhole Cover Up to 42 Inch RCP and Up To 54 Inch CMP | 01/01/12 |
| DB 3C | Standard Diversion Box with Manhole Cover 48 Inch to 72 Inch RCP and 60 Inch to 84 Inch CMP | 01/01/12 |
| DB 4 | Standard Transition Concrete Lined Ditch to Pipe or Diversion Box | 01/01/12 |

**Design Drawings (DD)**

| | | |
|---|---|---|
| DD 1 | Superelevation, Widening, and Edge Detail | 01/01/12 |
| DD 2 | Surface Ditch, Benched Slope, and Cut Ditch Details | 01/01/12 |
| DD 3 | Passing and Climbing Lanes | 04/30/15 |
| DD 4 | Geometric Design for Freeways (Roadway) | 01/01/12 |
| DD 5A | Entrance and Exit Ramps At Crossroads | 01/01/12 |
| DD 5B | Entrance and Exit Ramps At Crossroads | 01/01/12 |
| DD 6 | Entrance and Exit Ramp Geometrics | 01/01/12 |
| DD 7 | Freeway Crossover | 01/01/12 |
| DD 8 | Structural Geometric Design Standards for Clearances | 02/28/13 |
| DD 9 | Structural Geometric Design Standards | 01/01/12 |
| DD 10 | Rural Multi Lane Highways Other Than Freeways | 01/01/12 |

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| | | |
|---|---|---|
| DD 11 | Rural Two Lane Highways | 01/01/12 |
| DD 12 | Frontage and Access Roads (Under 50 ADT) | 01/01/12 |
| DD 13A | Typical Rural 2 Lane Road T-Intersection (High Speed) | 01/01/12 |
| DD 13B | Typical Rural 2 Lane Road T-Intersection (Low Speed) 40 MPH or Less | 01/01/12 |
| DD 14A1 | Typical Rural 2 Lane Road Intersection (High Speed) 45 MPH or Higher | 01/01/12 |
| DD 14A2 | Typical Rural 2 Lane Road Intersection (High Speed) with Left Turn Acceleration Lane | 01/01/12 |
| DD 14B | Typical Rural 2 Lane Road Intersection (Low Speed) | 08/30/12 |
| DD 15 | Embankment for Bridge Placement | 01/01/12 |
| DD 16 | Grade-Separated Arterials Other Than Freeways 50 to 60 MPH | 01/01/12 |
| DD 17 | Clear Zone and Lateral Offset to Obstruction | 01/01/12 |
| DD 18 | Utility Location Requirements | 06/27/13 |
| DD 19 | Marked Pedestrian Crosswalk Enhancement Flowchart | 04/30/15 |

**Drainage (DG)**

| | | |
|---|---|---|
| DG 1 | Fill Height for Metal Pipe (Steel) | 01/01/12 |
| DG 2 | Fill Height for Metal Pipe (Aluminum) | 01/01/12 |
| DG 3 | Fill Height for Plastic and Concrete Pipe | 02/27/14 |
| DG 4 | Pipe Minimum Cover and Spacing | 02/25/16 |
| DG 5 | Drainage Pipe Installation | 02/27/14 |
| DG 6 | Safety Slope End Section for Circular and Arched Pipes | 01/01/12 |
| DG 7 | Gasketed Joints or Coupling Bands for CMP | 01/01/12 |
| DG 8 | Metal Culvert End Section | 01/01/12 |
| DG 9 | Concrete Pipe Culvert End Sections | 01/01/12 |

**Environmental Controls (EN)**

| | | |
|---|---|---|
| EN 1 | Temporary Erosion Control (Check Dams) | 01/01/12 |
| EN 2 | Temporary Erosion Control (Silt Fence) | 01/01/12 |
| EN 3 | Temporary Erosion Control (Slope Drain and Temporary Berm) | 02/26/15 |
| EN 4 | Temporary Erosion Control (Drop Inlet Barriers) | 01/01/12 |
| EN 5 | Temporary Erosion Control (Pipe Inlet and Gutter Inlet Barriers) | 01/01/12 |
| EN 6 | Temporary Erosion Control (Sediment Trap and Stabilized Construction Entrance) | 01/01/12 |
| EN 7 | Temporary Erosion Control (Straw Bale Barrier) | 01/01/12 |

**Fence and Gates (FG)**

| | | |
|---|---|---|
| FG 1A | Right Of Way Fence and Gates (Wood Post) | 01/01/12 |
| FG 1B | Right Of Way Fence and Gates (Wood Post) | 01/01/12 |
| FG 2A | Right Of Way Fence and Gates (Metal Post) | 01/01/12 |
| FG 2B | Right Of Way Fence and Gates (Metal Post) | 01/01/12 |
| FG 3 | Swing Gates Type I for Gates Less Than 17 FT | 01/01/12 |

| | | |
|---|---|---|
| FG 4A | Standard Wildlife Escape Ramp Details | 01/01/12 |
| FG 4B | High Migratory Wildlife Escape Ramp Details | 01/01/12 |
| FG 4C | Corner Brace Wildlife Escape Ramp Details | 01/01/12 |
| FG 4D | Wildlife Pole Fence Detail | 01/01/12 |
| FG 5 | Swing Gates Type II for Gates Wider Than 17 FT | 01/01/12 |
| FG 6 | Chain Link Fence | 01/01/12 |

**Grates, Frames, and Trash Racks (GF)**

| | | |
|---|---|---|
| GF 1 | Manhole Frame and Grated Cover | 01/01/12 |
| GF 2 | Manhole Frame and Solid Cover | 01/01/12 |
| GF 3 | Rectangular Grate and Frame | 01/01/12 |
| GF 4 | Directional Flow Grate and Frame | 01/01/12 |
| GF 5 | Solid Cover and Frame | 01/01/12 |
| GF 6 | Manhole Steps | 01/01/12 |
| GF 7 | Standard Screw Gate and Frame | 01/01/12 |
| GF 8 | 2 FT x 2 FT Grate and Frame | 01/01/12 |
| GF 9 | 28 Inches x 24 Inches Directional Flow Grate and Frame | 01/01/12 |
| GF 10 | Standard Trash Racks 90 Degree Crossing Angle | 01/01/12 |
| GF 11 | Standard Trash Racks | 01/01/12 |
| GF 12 | Standard Trash Racks | 01/01/12 |
| GF 13 | Open Curb Inlet Grate and Frame | 01/01/12 |
| GF 14 | Solid Cover for Std Dwg DB 1 | 01/01/12 |
| GF 15 | Standard Screw Grate and Frame | 01/01/12 |
| GF 16 | Perpendicular Grate and Frame | 01/01/12 |

**General Road Work (GW)**

| | | |
|---|---|---|
| GW 1A | Raised Island | 01/01/12 |
| GW 1B | Raised Island and Plowable End Section | 10/31/13 |
| GW 1C | Raised Island Details | 06/26/14 |
| GW 1D | Median Reflector Details | 10/31/13 |
| GW 2 | Concrete Curb and Gutter Types | 01/01/12 |
| GW 3 | Concrete Curb and Gutter Details | 01/01/12 |
| GW 4A | Concrete Driveways and Sidewalks | 02/28/13 |
| GW 4B | Concrete Driveways and Sidewalks | 02/28/13 |
| GW 5A | Pedestrian Access | 11/06/14 |
| GW 5B | Pedestrian Access | 11/06/14 |
| GW 5C | Pedestrian Access | 11/06/14 |
| GW 5D | Pedestrian Access | 11/06/14 |
| GW 6 | Right Of Way Marker | 01/01/12 |
| GW 7 | Newspaper and Mailbox Stop Layout | 01/01/12 |
| GW 8 | Newspaper and Mailbox Supports | 01/01/12 |
| GW 9A | Delineation Hardware | 01/01/12 |
| GW 9B | Linear Delineation Panel and Installation Details | 01/01/12 |
| GW 10 | Delineation Application | 01/01/12 |
| GW 11 | Sidewalks and Shoulders On Urban Roadways | 02/28/13 |

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| | | |
|---|---|---|
| GW 12A1 | Active Pedestrian Controls for Railroad Crossings Sheet 1 of 2 | 04/25/13 |
| GW 12A2 | Active Pedestrian Controls for Railroad Crossings Sheet 2 of 2 | 04/25/13 |
| GW 12B1 | Passive Pedestrian Controls for Railroad Crossings Sheet 1 of 2 | 04/25/13 |
| GW 12B2 | Passive Pedestrian Controls for Railroad Crossings Sheet 2 of 2 | 04/25/13 |
| GW 12C1 | Pedestrian Controls Semi-Exclusive Railroad Alignments Sheet 1 of 2 | 04/25/13 |
| GW 12C2 | Pedestrian Controls Semi-Exclusive Railroad Alignments Sheet 2 of 2 | 04/25/13 |
| GW 12D | Pedestrian Controls Street Running Railroad Alignment Signalized Intersections | 04/25/13 |
| GW 12E | Pedestrian Controls Street Running Railroad Alignment Unsignalized Intersections | 04/25/13 |

**Paving (PV)**

| | | |
|---|---|---|
| PV 1 | Joints for Highways with Concrete Traffic Lanes and Shoulders | 01/01/12 |
| PV 2 | Pavement/Approach Slab Details | 01/01/12 |
| PV 3 | Concrete Pavement Details 1 of 2 | 11/06/14 |
| PV 4 | Concrete Pavement Details 2 of 2 | 04/30/15 |
| PV 5 | Urban Concrete Pavement Details | 01/01/12 |
| PV 6A | Rumble Strips Shoulder Details | 04/30/15 |
| PV 6B | Rumble Strips Depth and Location Details | 04/30/15 |
| PV 7A | Typical Rumble Strip Shoulder Sequencing and Applications | 04/30/15 |
| PV 7B | Typical Rumble Strip Center Line Sequencing and Application | 04/30/15 |
| PV 8 | Typical Rumble Strip Centerline Application | 04/30/15 |
| PV 9 | Dowel Bar Retrofit | 02/28/13 |
| PV 10 | Utility Orientation/Adjustments in PCCP | 10/31/13 |

**Signals (SL)**

| | | |
|---|---|---|
| SL 1A | Traffic Signal Mast Arm Pole and Luminaire Extension 30 Ft Through 55 Ft | **04/28/16** |
| SL 1B | Traffic Signal Mast Arm Pole and Luminaire Extension 60 Ft Through 75 Ft | **04/28/16** |
| SL 1C | Traffic Signal Mast Arm Pole and Luminaire Extension 80 Ft Through 85 Ft | **04/28/16** |
| SL 1D | Traffic Signal Dual Mast Arm | **04/28/16** |
| SL 2A | Traffic Signal Mounting | **04/28/16** |
| SL 2B | Traffic Signal Mounting | **04/28/16** |
| SL 2C | Mast Arm Sign Mounting | **04/28/16** |
| SL 2D | Traffic Signal Head Wiring | **04/28/16** |
| SL 3 | Underground Service Pedestal Details | 01/01/12 |

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| | | |
|---|---|---|
| SL 4 | Traffic Signal Mast Arm Pole Foundation | 02/26/15 |
| SL 5 | Traffic Signal Pole | 01/01/12 |
| SL 6 | Traffic Signal Heads | **04/28/16** |
| SL 7 | Pedestrian Signal Assembly | 11/06/14 |
| SL 8 | Traffic Signal Cabinet Base Details | 01/01/12 |
| SL 9 | Traffic Signal Loop Detector Details | 01/01/12 |
| SL 10 | Traffic Counting Loop Detector Details | 01/01/12 |
| SL 11 | Highway Luminaire Pole Ground Mount | 01/01/12 |
| SL 12 | Highway Luminaire Slip Base Details | 02/25/16 |
| SL 13 | Highway Luminaire Arm and Vertical Extension | **04/28/16** |
| SL 14 | Highway Luminaire Pole Foundation Extension | 02/25/16 |
| SL 15 | Single Transformer Substation Details | 01/01/12 |
| SL 16 | Solar Traffic Counting Station | 06/26/14 |
| SL 17A | Pedestrian Signal Crosswalk | 04/30/15 |
| SL 17B | Pedestrian Hybrid Beacon Crosswalk | 04/30/15 |
| SL 17C | Flashing Beacon at a Crosswalk Intersection | 04/30/15 |
| SL 17D | Flashing Beacon at Midblock Crosswalk | 04/30/15 |
| SL 18 | Advance Warning Signal (AWS) System | **04/28/16** |

**Signs (SN)**

| | | |
|---|---|---|
| SN 1 | Signs At Railroad Crossings | 01/01/12 |
| SN 2A | School Speed Limit Assembly | 11/06/14 |
| SN 2B | School Speed Limit Assembly | 01/01/12 |
| SN 3 | Overhead School Speed Limit Assembly | 10/31/13 |
| SN 4 | Object Markers "T" Intersection and Pavement Transition Guidance | 01/01/12 |
| SN 5 | Typical Installation for Milepost Signs | 01/01/12 |
| SN 6 | Speed Reduction Sign Sequence | 10/31/13 |
| SN 7A | Placement of Ground Mount Signs | 01/01/12 |
| SN 7B | Placement of Ground Mount and Barrier Mount Signs | 01/01/12 |
| SN 8A | Temporary Use Ground Mounted Timber Sign Post | 01/01/12 |
| SN 8B | Temporary Use Ground Mounted Square Steel Sign Post | 01/01/12 |
| SN 9A | Small Sign Tubular Steel Post Base with Concrete (B1) (Socket System) | 01/01/12 |
| SN 9B | Small Sign Tubular Steel Post Base (B2A) (Triangular Steel Anchor System) | 01/01/12 |
| SN 9C | Small Sign Tubular Steel Post Base with Concrete (B2B) (Triangular Steel Anchor System in Concrete) | 01/01/12 |
| SN 10A | Slipbase Sign Base (B3) Hardware | 02/28/13 |
| SN 10B | Slipbase Sign Base (B3) Installation | 02/28/13 |
| SN 11A | Surface Mounted Tubular Steel Sign Base (B4A) | 01/01/12 |
| SN 11B | Side Mounted Tubular Steel Sign Base (B4B) | 01/01/12 |
| SN 12A | Barrier Mounted Tubular Steel Sign Bases (B5A and B5B) | 01/01/12 |
| SN 12B | Barrier Mounted Tubular Steel Sign Bases 20 SQ Ft or Less | 01/01/12 |
| SN 13A | Tubular Steel Sign Mounting Requirements | 10/31/13 |
| SN 13B | Tubular Steel Sign Mounting Hardware | 01/01/12 |

| | | |
|---|---|---|
| SN 13C | Mounting Bar Placement for Small Signs | 02/27/14 |
| SN 14A | Freeway Sign Post Requirements | 01/01/12 |
| SN 14B | Freeway Sign Base and Post Requirements (B6A-B6B-B6C) | 01/01/12 |
| SN 14C | Freeway Sign Foundation and Fuse Plate Requirements | 01/01/12 |
| SN 14D | Freeway Sign Frame Fabrication Details | 08/30/12 |
| SN 14E | Freeway Sign Bracket Details | 08/30/12 |
| SN 15 | Mounting Brackets and Clamps | 01/01/12 |
| SN 16A | Multi-Directional Breakaway Base for Steel I-Beam Supports, General Notes | 11/06/14 |
| SN 16B | Multi-Directional Breakaway Base for Steel I-Beam Sign Supports, Two Posts | 11/06/14 |
| SN 16C | Multi-Directional Breakaway Base for Steel I-Beam Sign Supports, Three Posts | 11/06/14 |
| SN 16D | Multi-Directional Breakaway Base for Steel I-Beam Sign Supports, Foundation Details | 11/06/14 |
| SN 16E | Multi-Directional Breakaway Base for Sign Post, (B7A) | 11/06/14 |
| SN 16F | Multi-Directional Breakaway Base for Sign Post, (B7B) | 11/06/14 |
| SN 16G | Multi-Directional Breakaway Base for Sign Post, (B7C) | 11/06/14 |
| SN 16H | Multi -Directional Breakaway Base for Round Pipe Single Post, (B7D) | 11/06/14 |
| SN 16I | Multi -Directional Breakaway Base for Round Pipe Double Post, (B7D) | 11/06/14 |
| SN 17 | Freeway Crossover Signing | 01/01/12 |
| SN 18 | Chevron Alignment Signs | 01/01/12 |
| SN 19A | Preferential Lane Signing and Pavement Marking Details | 04/30/15 |
| SN 19B | Preferential Lane Access Opening Details | 04/30/15 |
| SN 19C | Preferential Lane Median Signing Spacing Greater 1 Mile | 04/30/15 |
| SN 19D | Preferential Lane Median Signing Spacing Equal to or Less Than 1 Mile | 04/30/15 |

**Striping (ST)**

| | | |
|---|---|---|
| ST 1 | Typical Pavement Markings No Pass Zone and Lane Reduction | 04/30/15 |
| ST 2 | Typical Pavement Markings Entrance Ramps | 01/01/12 |
| ST 3A | Typical Pavement Markings Exit Ramps | 01/01/12 |
| ST 3B | Typical Pavement Markings Exit Ramps | 01/01/12 |
| ST 4 | Crosswalks, Parking, and Intersection Approaches | 01/01/12 |
| ST 5 | Painted Median and Auxiliary Lane Details | 01/01/12 |
| ST 6A | Passing Lane Details | 04/30/15 |
| ST 6B1 | Freeway Climbing Lane Inside Widening Detail | 04/30/15 |
| ST 6B2 | Freeway Climbing Lane Outside Widening Detail | 04/30/15 |
| ST 7 | Pavement Markings at Railroad Crossing | 01/01/12 |
| ST 8 | School Crossing and School Message | 01/01/12 |
| ST 9 | Location of Bicycle Detector Pavement Markings at Intersection | 11/06/14 |

| | | |
|---|---|---|
| ST 10 | Location of Bicycle Detector Pavement Markings in Bicycle Lane | 11/06/14 |

**Structures and Walls (SW)**

| | | |
|---|---|---|
| SW 1A | Welded End Guard Unit | 01/01/12 |
| SW 1B | Precast Concrete Cattle Guard | 01/01/12 |
| SW 2 | Noise Wall Placement Options | 01/01/12 |
| SW 3A | Precast Concrete Noise Wall 1 of 2 | 01/01/12 |
| SW 3B | Precast Concrete Noise Wall 2 of 2 | 01/01/12 |
| SW 4A | Precast Concrete Retaining/Noise Wall 1 of 3 | 01/01/12 |
| SW 4B | Precast Concrete Retaining/Noise Wall 2 of 3 | 01/01/12 |
| SW 4C | Precast Concrete Retaining/Noise Wall 3 of 3 | 01/01/12 |
| SW 5 | Precast Pilaster Post | 01/01/12 |
| SW 6 | Precast Concrete Panel Surface Texture Options | 01/01/12 |

**Traffic Control (TC)**

| | | |
|---|---|---|
| TC 1 | Traffic Control Drawing Series General Notes | 08/30/12 |
| TC 2A | Work Zone Channelization Devices | 01/01/12 |
| TC 2B | Work Zone Signing | 08/30/12 |
| TC 2C | Work Zone Advanced Warning Arrow Boards | 06/26/14 |
| TC 2D | Delineator Mounted Work Zone Sign Bracket | 01/01/12 |
| TC 3A | Hazard Mitigation | 02/28/13 |
| TC 3B | Hazard Mitigation and Positive Protection Devices | 01/01/12 |
| TC 4A | Standard Work Zone Signing General | 08/30/12 |
| TC 4B1 | Reduced Speed Work Zone Signing General | 08/30/12 |
| TC 4B2 | Reduced Speed Shoulder Work Zone Signing General | 08/30/12 |
| TC 4C | Traffic Control Project Limit Signing | 08/30/12 |
| TC 4D1 | Work Zone Specialty Signs | 10/31/13 |
| TC 4D2 | Work Zone Specialty Signs | 10/31/13 |
| TC 5 | Traffic Control Urban Intersection with Roadways Under 50 MPH | 01/01/12 |
| TC 6 | Temporary Pedestrian Access Route | 01/01/12 |
| TC 7 | Median Crossover and 2-Lane, 2-Way Diversion | 08/30/12 |
| TC 8 | Traffic Control Lane Closure | 01/01/12 |
| TC 9 | Work Zone Business Access Signing | 01/01/12 |
| TC 10 | Traffic Control Expressway and Freeway Crossover/Turn Around | 01/01/12 |
| TC 11 | Traffic Control Exit Ramp Gore | 01/01/12 |
| TC 12 | Traffic Control Entrance Ramp Gore | 01/01/12 |
| TC 13 | Traffic Control Shoulder Haul Road | 01/01/12 |
| TC 14A | Traffic Control Flagging Operation | 11/06/14 |
| TC 14B | Reduced Speed Signing for Pilot Car Operation (Conventional Roads) | 11/06/14 |
| TC 15 | Traffic Control 2 Lane/2 Way Seal Coat with Cover Material | 01/01/12 |
| TC 16 | Traffic Control for Non-Durable Pavement Marking | 01/01/12 |

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| | | |
|---|---|---|
| TC 17 | Traffic Control Work Zone Guardrail Intermediate End Protection | 10/31/13 |
| TC 18 | Blunt End Protection for W-Beam Guardrail and Concrete Barrier | 08/30/12 |
| TC 19 | Construction Access Points for Speeds of 55 MPH and Greater | 08/30/12 |

## XI. Use of Minority or Women Owned Banks

Federal Department of Transportation regulations and the Utah Department of Transportation encourage all contractors and suppliers to thoroughly investigate the services offered by banks controlled or owned by minorities or women and utilize their services as when possible.

## XII. Bid Conditions
## DISADVANTAGED BUSINESS ENTERPRISE (DBE)

POLICY

**"Policy Statement"**

It is the policy of the DEPARTMENT to take all necessary and reasonable actions to ensure DBEs as defined herein will have equal opportunity to participate in the performance of contracts financed in whole or in part with US Department of Transportation (DOT) funds under this agreement as modified herein.

**"Objectives"**

The objectives of this policy are to:

1. Ensure nondiscrimination in the award and administration of DOT assisted contracts;

2. Create a level playing field on which DBEs can compete fairly for DOT assisted contracts;

3. Ensure the DBE program is narrowly tailored in accordance with applicable law;

4. Ensure only firms who fully meet 49 CFR 26 eligibility standards are permitted to participate as DBEs;

5. Remove barriers to the participation of DBEs in Federal aid contracts;

6. Assist the development of firms who can compete successfully in the marketplace outside the DBE program; and

7. Provide appropriate flexibility in establishing and providing opportunities for DBEs.

**“Responsibilities”**

Implementation of the DBE Program is accorded the same priority as compliance with all other legal obligations incurred by the DEPARTMENT in financial assistance agreements with DOT.

1. The Civil Rights Office will be the DBE liaison officer, who will have direct, independent access to the Executive Director concerning DBE program matters. The Civil Rights Office will be responsible for implementing all aspects of the DBE program. Adequate staff will be assigned to administer the DBE program.

2. The ENGINEER is responsible for supervision of the DBE participation covered by the Contract.

## DBE BID AND PERFORMANCE CONDITIONS

**“Obligations”**

The contractor, subcontractor, service provider, sub recipient, or supplier at any lower tier will not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor will carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the DEPARTMENT deems appropriate.

**“Assurances”**

Each contract between the DEPARTMENT and the Contractor and each subcontract at any lower tier must include the following assurance:

> The contractor, subcontractor, service provider, sub recipient, or supplier will not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor will carry out applicable requirements of 49 CFR 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the DEPARTMENT deems appropriate, which may include, but is not limited to:
> 1. Withholding monthly progress payments;
> 2. Assessing sanctions;
> 3. Liquidated damages/Disincentives; and/or
> 4. Disqualifying the contractor from future bidding as non-responsible.

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A. CONTRACT GOAL

1. The DEPARTMENT has determined that one or more contractors can reasonably be expected to compete for the work contained in the proposal for this project. It is, therefore, the direction of the DEPARTMENT that DBE firms will have an affirmative action opportunity to contract for the following percentage of work under this contract:

If the DBE goal which is indicated in Section A, CONTRACT GOAL, of APPENDIX A, BID CONDITIONS, DISADVANTAGED BUSINESS ENTERPRISE (DBE) **is greater than 0.0 percent**, submit DBE Commitment. Refer to Bidding Requirements, Section D, Subsection 1,a, of this Special Provision. (The commitment dollar amount up to the amount of the assigned goal is Race Conscious DBE participation. Any commitment dollar amount in excess of the assigned goal is Race Neutral Participation.)

**CONTRACT DBE GOAL:_____6_____ Percent**

**NOTE: At the time of Bid on Additive Projects, DBE commitment can only be made on Base bid items. No Additive bid items may be committed.**

2. GOALS

a. GOAL FOR BID EVALUATION

The above entered DBE percentage is a goal for bid evaluation to determine responsiveness of the proposal as it relates to this specification. Percentages for bidding purposes will be calculated using dollar values and quantities as shown in proposals received for this project. Bidders will compute the percentage of their DBE commitment by dividing the dollar amount of work being committed to certified DBE firms by the total dollar amount of the proposal. This will be the percentage of their DBE commitment reported in the Electronic Bidding System (EBS) software.

b. RACE CONSCIOUS GOAL

At the time of bid, DBE participation is considered race conscious on projects that are assigned a Goal for Bid Evaluation. The DBE commitment becomes a contract specification upon award. The Bidder must submit with its Bid Proposal a DBE Commitment, prepared within the EBS software, that indicates:

(1) Name of DBE firm
(2) Work items to be performed
(3) Total dollar amount of commitment

If the DBE commitment does not meet or exceed the assigned goal, the Bidder must submit with the Bid Proposal documentation of good faith efforts.

c. RACE NEUTRAL GOAL

At the time of bid, DBE participation is considered race neutral on projects that are NOT assigned a Goal (0%) for Bid Evaluation. In this instance, the DBE participation does not become a contract specification upon award. The Bidder must take equal opportunity action to allow DBEs to compete for and perform on subcontracts. Only work classifications that the Bidder will subcontract need to be considered in evaluating equal opportunity action in the bid preparation.

d. GOAL FOR CONTRACT PERFORMANCE

The Bidder’s DBE Commitment becomes an attachment to the Bid Proposal and is a condition of award, and thereby becomes a contract specification.

The committed dollar amount meeting the project goal for bid evaluation will be considered race conscious participation. Any dollar amounts in excess of the project goal for bid evaluation will be considered race neutral participation.

It is the intent of this Policy that the DBE Firm(s) listed for race conscious participation, as a minimum level of participation, will perform to the extent indicated in the Bidder's DBE Commitment. The minimum level of DBE participation includes:

(1) Indicated DBE firm(s),
(2) Indicated work item(s) (bid items),
(3) Indicated total dollar amounts.

Listed bid items will be considered committed in their entirety unless Bidders designate otherwise in their DBE Commitment. If the DBE will perform only a part of the bid item, i.e., haul only, the Bidder must indicate what part the DBE will perform (Partial Performance). If the DBE will perform only a part of the quantity of the bid item, the Bidder must indicate the estimated quantity of the work to be performed by the DBE (Partial Quantity).

***Substitutions of DBE subcontractor(s), work item(s), or decreases of total dollar amount(s)* as indicated in the Bidder's DBE Commitment will not be allowed without prior submission of written justification to the ENGINEER and approval of the ENGINEER and the Civil Rights Office.**

**After award of a contract, substitutions will not be allowed without prior submission of a written "hold harmless" statement from the DBE.**

***Any change by the Contractor or the Department in the DBE commitment requires the change be approved by Change Order from the Civil Rights Office. The Contractor will not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE, unless the required approval is obtained.**

**Substitution of race neutral participation in excess of the Goal for Bid Evaluation requires equal opportunity efforts to substitute with other DBE participation.**

*DEPARTMENT generated decreases of quantities in individual bid items do not require prior approval of the Civil Rights Office—but must be fully justified by the ENGINEER at the conclusion of the project in the Explanation of Overruns and Under-runs Statement. The ENGINEER'S justification will show the total estimated quantity, the final pay quantity as shown on the final estimate invoice, the quantity of the under-run, and the percent of under-run for the individual item. The explanation for the under-run will include the reasons for the under-run and will include as much detail as possible.

**There is a difference between the under-run of quantity on individual bid items versus the under-run of DBE commitment on DBE committed bid items, in the approval process. Refer to asterisks (*) above.**

e. GOAL FOR FINAL COMPLIANCE

Percentages for final compliance will be based on actual payments to DBEs. Over-runs and under-runs on individual contract items may require adjustments to the predetermined DBE percentage for a project if those items were not related to DBE performance. "The predetermined percentage for a project" refers to the percentage of the Contractor's DBE Commitment that becomes a contract specification upon award.

B. DEFINITIONS

For the purpose of this Special Provision, the following terms are defined:

1. Contract means a legally binding relationship obligating a seller to furnish supplies or services including but not limited to construction and professional services; and the buyer to pay for them.

2. Contractor means one who participates through a contract or subcontract (at any tier).

3. Disadvantaged Business Enterprise or DBE means a for profit small business concern.

   a. That has been certified to DBE status by the UUCP.

   b. That is at least 51 per cent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, where51 percent of the stock is owned by one or more such individuals; and

   c. Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

   d. Whose size is limited to the combined average annual gross receipts of **$23,980,000** from the previous three fiscal years. The Secretary of Transportation may adjust this amount from time to time for inflation.

      OR

      Whose size is limited to the current SBA Business size standard(s), found in 23 CFR part 121, tied to North American Industry Classification System (NAICS) Codes appropriate to the type(s) of work the firm seeks to perform in DOT-assisted contracts.

4. DBE Goals mean:

   a. UDOT's overall goal on DOT-assisted projects. The current approved DBE Goal and Methodology can be found at the following website:

      http://www.udot.utah.gov/main/f?p=100:pg:0:::1:T,V:2250,

   b. The race neutral portion of the overall goal reflects the level of DBE participation that would be expected without the effects of discrimination.

   c. The race neutral portion of the overall goal reflects the level of DBE participation achieved in response to assigned DBE goals. The race conscious portion of the overall goal reflects the level of DBE participation achieved in reponse to the assigned DBE project goals.

5. DBE Joint Venture means an association of a DBE firm and one or more other firms to carry out a single, for profit business enterprise, for which the parties combine their property, capital, efforts, skills, and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture to a degree commensurate with its ownership interest.

   The DBE Joint Venture must follow the directions found in the Joint Venture Bidding Process. This process is located at the following link: http://eprpw.dot.utah.gov/applets-production/ProjectExplorer/ProjectExplorer.asp then click on EBS Information.

   The DEPARTMENT's Civil Rights Office prior to bid opening must approve a DBE Joint Venture in order to be utilized for the satisfaction of contract DBE goals. For DBE participation counted towards goal see 49 CFR Part 26.55.

6. Equal Opportunity Action requires individuals to be considered on the basis of individual capacities and not on the basis of any characteristics generally attributed to the group.

   If a bidder requests or accepts bids for subcontract work, the bidder will request and accept bids from DBEs in the work classifications that potentially will be subcontracted.

7. Good Faith Efforts indicates the efforts made to achieve a DBE goal or other requirements by their scope, intensity, and appropriateness to the objective, which can reasonably be expected to fulfill the program requirements.

8. Lack of Financial Fitness is a performance-based definition based solely on failure to pay promptly. There is no reference to financial status or financial capability.

9. Prompt Payment means payment, including retention, made no later than 30 work days after receipt of payment by the Contractor or Subcontractor, Service Provider or Supplier at **any** lower tier.

10. Race Conscious is the committed dollar amount at the time of bid focused specifically on assisting only DBEs. UDOT must establish contract goals to meet the race conscious portion of its overall DBE goal. To ensure that the DBE program continues to be narrowly tailored to overcome the effects of discrimination, UDOT may adjust the use of contract goals as follows:

    a. If during the course of any year it is determined the overall goal will be exceeded, UDOT will reduce or eliminate the use of contract goals to the extent necessary to ensure the use of contract goals does not result in exceeding the overall goal.

    b. If it is determined that UDOT will fall short of its overall goal, then appropriate modifications in the use of race neutral and/or race conscious measures will be made to allow UDOT to meet the overall goal.

11. Race Neutral is the dollar amount that exceeds the committed amount at the time of bid and is, or can be, used to assist all small businesses. UDOT must meet the maximum feasible portion of its overall DBE goal by using race -neutral means of facilitating DBE participation. Race neutral DBE participation includes:

    a. Awarding a subcontract on a prime contract that does not carry a DBE goal,

    b. Awarding a subcontract on a prime contract in which the DBE was not considered in making the award even if there is a DBE goal.

    For the purposes of this part, race neutral includes gender neutrality.

12. Regular Employee is a person who:

    a. Would be working for the DBE firm under subcontract with any other contractor.

    b. Is a permanent employee of the DBE firm

       Or

       Has been recruited through the traditional recruitment and/or employment centers.

    c. Has not recently been employed by the prime contractor on the present project, another subcontractor on the present project, or the renter-leaser of equipment being used on the present project.

    d. Is not an employeeof a construction crew that regularly works for a non-DBE.

    e. Is not a licensed contractor who is at the time “unemployed” or “between jobs.”

13. Regular Equipment is owned or leased and operated on a long term agreement and not on an ad hoc or contract by contract agreement.

    a. The equipment would be used by the DBE firm on any other subcontract with any other contractor.

    b. The equipment would be owned by the DBE firm.

       Or

       The equipment would be leased/rented from traditional equipment lease/rental sources.

    c. The DBE firm would have a rental/lease agreement for any rented or leased equipment.

    d. The equipment cannot belong to:

       (1.) Prime Contractor
       (2.) Another subcontractor on the present project.
       (3.) Supplier of materials being installed by the DBE firm.

    e. The equipment cannot come from and be operated by another contractor.

14. Reasonable Bid

Any bid that meets the Department bidding requirements and is not greater than 10% above the Engineer's Estimate or exceeds available funds.

15. Responsible Bidder

A responsible bidder has the apparent ability and capacity to perform the contract requirements.

In addition to UDOT prequalification, when applicable, a responsible bidder is defined as one who has signed (manually or electronically) and submitted a bid with the DBE Bid Conditions Assurance of good faith effort included. Part I of this Policy certifies the intention to meet the DBE goal of a proposed contract or to continue a good faith effort. These goals may be met by subcontracting or leasing contracts with a DBE or purchasing material from a DBE, provided that the work or material becomes a part of a proposed contract.

16. Responsive Bidder

a. A responsive bidder is a bidder who unequivocally offers to provide services or supplies in conformity with the material terms of the solicitation. In addition to UDOT prequalification and other bidding requirements, a responsive bidder in relationship to this Policy is defined as one who submits evidence of proposed subcontract performance with certified DBE firms to achieve the required dollar amount necessary to achieve the percentage goal.

b. Bidders may be considered as presumptively responsive if they have failed to satisfy the advertised DBE goal set for the proposed contract but have certified in their bid that good faith efforts have been expended to meet the goal and they will continue during the performance of the contract to locate, solicit, and involve DBE firms for contract performance. Documentation of the bidder's good faith efforts must be included with the bid package for the DEPARTMENT's review and assessment. The DEPARTMENT will render any bid non-responsive that fails to do so.

17. Satisfactory Completion of a subcontract occurs when:

    a. The subcontractor has satisfactorily completed in all respects the work under the Contract.

    b. The Contractor and the subcontractor have notified the ENGINEER in writing that the work of the subcontractor has been completed.

    c. The Engineer will be given a reasonable length of time to check quantities if necessary. Checking quantities does not guarantee the absolute correctness of quantities.

    d. The Contractor and the subcontractor have satisfactorily executed and delivered to the ENGINEER all documents, certificates and proofs of compliance required by the Contract. The satisfactory execution and delivery of these documents, certificates and proofs of compliance to the ENGINEER is a material requirement of the contract.

    e. The ENGINEER accepts in writing the work of the subcontract.

    f. Satisfactory Completion refers only to payment of retainage and accrued interest. A determination of Satisfactory Completion and payment in full for work performed does not relieve the contractor nor the subcontractor from any contractual obligation.

18. Satisfactory Performance means work performed and materials furnished in conformity with the plans and specifications.

19. Service Provider means a broker or a middle man. A business person who buys, sells or performs a service for another in exchange for a mark up or commission.

20. Subcontractor

    A subcontracting arrangement is generally considered to exist when a person or firm assumes an obligation to perform a part of the contract work and the following conditions are present.

    a. The person or firm performing the work is specifically experienced and equipped for such work.

    b. Compensation is related to the amount of work accomplished rather than being on an hourly basis.

c. Choice of work methods, except as restricted by the specifications, and the furnishing and controlling of labor and equipment are exercised by the subcontractor with only general supervision being executed by the prime contractor.

d. Personnel involved in the operation are under the direct supervision of the subcontractor and are included on the subcontractor's payroll.

All conditions involved will be considered and no one condition alone will normally determine whether a subcontract actually exists.

In all cases, a DBE subcontractor must be an independent organization, and the ownership and control by the socially and economically disadvantaged individual(s) must be real and continuing.

The prime contractor, a subcontractor, or a supplier will not be responsible for the various operating and management activities of a DBE firm.

21. Supplier

Provides or furnishes materials, goods or services that may be incorporated into the project. The supply transaction is to be documented by an appropriate purchase agreement that includes the required provisions for Federal-aid construction projects.

22. UUCP The Utah Unified Certification Program (UUCP) provides “one-stop shopping” to applicants for DBE certification, such that an applicant is required to apply only once for a DBE certification that is honored by all recipients of Federal-aid Funds in the State of Utah.

C. DETERMINATION OF DBE CONTRACTOR’S ELIGIBILITY BY UUCP

1. Any Contractor may apply to the UUCP for status as a DBE. Applications will be made on forms provided by the UUCP entitled “UNIFORM CERTIFICATION APPLICATION” or “Information for Determining DBE Joint Venture Eligibility,” Form No. R-817. Application need not be made in connection with a particular bid. Only work contracted to certified DBE prime contractors or subcontractor to firms that have applied for and have been granted status as a DBE by the UUCP will be considered toward contract goals as established in Subsection A.

2. It will be the Contractor's responsibility to submit a DBE application so that the UUCP has time to review it. The UUCP will review applications in a timely manner but is not committed to approve DBE status within any given period of time. The UUCP must have ample lead time to review, evaluate, and verify information provided with an application.

3. The DEPARTMENT will maintain a UUCP Unified DBE Directory of DBE Contractors, vendors, service providers and suppliers that is updated as changes occur for the purpose of providing a reference source to assist any bidder in meeting the requirements of this bid condition. Bidders must use the most current DBE information available on the web site when submitting bids. A current UUCP DBE directory representing certified DBE Contractors is available through the UDOT Civil Rights Office, and also on the Internet at (click on this link):

   http://www.udot.utah.gov/main/f?p=100:pg:::::V,T:,198

   An electronic file of the UUCP DBE Directory is available for download to use in the Electronic Bidding System (EBS) at the following URL (click on this link):

   http://www.udot.utah.gov/main/f?p=100:pg:::::V,T:,317

4. In meeting the requirements of this bid condition, bidders are in no way limited to the DBE Directory referred to in 3 above in seeking out and negotiating with the DBE Contractors and determining which items of work will be subcontracted to DBE Contractors. Bidders will exercise their own judgments in selecting any subcontractor to perform any portion of the work.

   DBE credit will not be allowed toward race conscious goals for a firm or joint venture that has not been DBE certified by the UUCP.

## D. BIDDING REQUIREMENTS

All bidders must satisfy the bidding requirements of this section D BIDDING REQUIREMENTS. A DBE prime contractor's performance does not count toward fulfilling the DBE goal. A prime bidder who is a DBE contractor will meet the DBE goal by using other DBE subcontractors or by using good faith efforts.

### 1. DBE Bid Assurance

a. Race Conscious Goal

Race conscious measure or program is one that is focused specifically on assisting only DBEs. This goal is the amount the prime must commit to DBEs at the time of bid or a good faith effort must be documented.

### 2. DBE Race Conscious Commitment

For a bid to be considered responsive, Bidders will submit the following information regarding DBE compliance with the EBS prepared Bid Proposal:

Submit a DBE Commitment of work that will be subcontracted to certified DBE firm(s) as listed in the UUCP's Directory or DBE firms that have been approved by the UUCP prior to bid opening.

a. The names of DBE firms that will participate in the contract;

b. A specific description of the work each named DBE firm will perform (list specific bid items). Listed bid items will be considered committed in their entirety unless Bidders designate otherwise in their DBE Commitment.

(1.) If mobilization is a bid item partially committed to a DBE, indicate the dollar amount of the DBE mobilization.

(2.) If a partial quantity is committed to a DBE, indicate the quantity committed to the DBE.

(3.) If a partial performance of an item is committed to a DBE, explain what part of the item the DBE will perform;

c. The dollar amount of participation by each named DBE firm;

d. If the contract goal is not met, evidence of good faith efforts is required at the time of bid.

The DBE Commitment is to be included in the prepared bid, and said information will be kept confidential and will be reviewed to determine the apparent low bidder has either met the DBE Contract Goal or has documented acceptable Good Faith Efforts.

3. DBE Race Neutral Participation

Race Neutral DBE participation includes anytime a DBE;

a. wins a Prime Contract through customary bidding procedures,

b. is awarded a subcontract on a prime contract that does not carry a DBE goal (0% goal),

c. wins a subcontract from a prime contractor that did not consider its DBE status in making the award (e.g., a prime contractor that uses a strict low bid system to award subcontracts).

4. DBE Written Confirmation

Low Bidder will submit to the Civil Rights Office within three (3) work days after the bid opening written confirmation from each DBE participating in the contract as provided in the Prime Contractor's DBE Commitment. The written confirmation will include the following information:

a. A description of the work to be performed (list specific bid items). Listed bid items will be considered committed in their entirety unless Contractors designate otherwise in their DBE commitment.

(1) If mobilization is a bid item that is partially committed, confirm the dollar amount of the mobilization to be performed.

(2) If a partial quantity is committed, confirm the quantity to be performed.

(3) If a partial performance of an item is committed, confirm what part of the item will be performed.

(4) Unit bid prices for each bid item committed to a DBE.

(5) Total dollar amounts (mathematical extensions) for each bid item committed to a DBE

b. The dollar amount of participation by each named DBE firm.

5. Good Faith Efforts

Bidders who fail to meet the DBE goal for bid evaluation must demonstrate with documentary evidence they made good faith efforts . Bidders are required to include the Good Faith Efforts Documentation with the EBS prepared Bid Proposal. The said information will be kept confidential and not reviewed unless the Bidder is otherwise determined to be the low Bidder or UDOT and authorized representatives elect to review said information in making their determination as to award of the contract. For the bid to be considered responsive, Bidders will include with the BID PROPOSAL specific documentary evidence that good faith efforts have been made to meet the goal.

Attached hereto and marked Exhibit A, and by this reference made a part hereof, is a list of actions that may be used to prove the type of efforts prospective Bidders should consider in their attempts to demonstrate good faith efforts. The list of actions, as contained in Exhibit A, is not intended to be an exclusive list of efforts that a prospective Bidder may wish to consider in demonstrating good faith efforts to satisfy DBE participation requirements. The determination of good faith efforts will be based upon the information and documentation of the actions supplied by the Bidder with their bid proposal. The DEPARTMENT reserves the right to investigate and verify such information or to request the low dollar Bidder clarify information submitted within 7 days of the time of bid. The 7 days will be reduced to 5 days beginning January 1, 2017.

Contacts that have been made with DBE firms regarding potential work to be subcontracted and the results of such contacts are to be submitted with the EBS prepared Bid Proposal in Race Neutral DBE Documentation which contains:

(1) The work classifications that will be subcontracted
(2) DBE firms contacted
(3) Method of contact (i.e. emails, letters, postings, etc.)
(3) Result of contact
(4) Name and contact info of anticipated DBE subcontractor(s)
(5) Anticipated work items to be performed by DBEs
(6) Anticipated dollar amount of subcontract(s)

The DBE information submitted includes the NAICS code applicable to the kind of work the DBE will perform on the contract, and, when a non-DBE subcontractor is selected over a DBE, copies of the quotes from each DBE and non-DBE subcontractor. The bidder will make copies of DBE subcontracts available upon request.

The following items are types of efforts that should be made for acceptable Good Faith Efforts:

(1) Conducting market research and solicit through all reasonable means DBEs with capability to do the proposed work
(2) May include attending pre-bid meetings and matchmaking events
(3) Posting notices; sending emails
(4) Solicit as early as possible
(5) Unbundling
(6) Establishing flexible timeframes

6. Award of the Contract

The award of the contract, if awarded, will be made to the apparent successful responsive, responsible Bidder who submitted a reasonable bid for the contract and has complied with this Subsection D Bidding Requirements.

7. Administrative Reconsideration

Good faith efforts as used herein will be determined on a case by case basis. If it is determined that the apparent low Bidder has failed to meet the requirements of Exhibit A, the bidder will be provided an opportunity for administrative reconsideration.

a. Official(s) who did not take part in the original determination will perform the administrative reconsideration.

b. The Bidder will have the opportunity to provide written documentation or argument concerning whether the goal was met or adequate good faith efforts were made.

c. The Bidder will have the opportunity to meet in person with the reconsideration official to discuss whether the goal was met or adequate good faith efforts were made.

d. The Bidder will be notified in writing of the decision and the basis for the decision.

e. The reconsideration decision is administratively final and is not appealable to FHWA or the DOT.

E. COUNTING DBE PARTICIPATION TOWARD GOALS FOR BID EVALUATION

1. The DEPARTMENT will recognize and grant DBE credit toward the goal for bid evaluation (race conscious goals) for work committed to DBE contractors ONLY in the types of work for which DBE certification has been granted by the UUCP prior to bid opening. It is necessary that all bidders refer to the UUCP DBE Directory for direction and guidance. A current copy of the DBE directory is available through the Civil Rights Office and on the Internet at (click on this link):

   http://www.udot.utah.gov/main/f?p=100:pg:::::V,T:,198

   An electronic file of the DBE Directory is available for downloading to use in the Electronic Bidding system (EBS) at the following URL (click on this link):

   http://www.udot.utah.gov/main/f?p=100:pg:::::V,T:,317

2. Commitments to DBEs that exceed the Goal for Bid Evaluation will be considered as both race conscious and race neutral. The dollar amount of the Goal for Bid Evaluation will be considered to be race conscious participation. Any dollar amounts in excess of the Goal for Bid Evaluation will be considered as race neutral participation.

3. When a DBE bids as a prime contractor and utilizes themselves as a DBE participant, their commitment will be counted as race conscious. The prime contractor is still encouraged to use other DBE subcontractors.

F. COUNTING DBE PARTICIPATION TOWARD GOALS FOR PERFORMANCE

Subcontracts to DBEs that exceed the Goal For Bid Evaluation will be considered in part as race conscious participation and in part as race neutral participation. Any dollar amounts in excess of the Goal For Bid Evaluation will be considered as race neutral participation.

It is intended that the Contractor will utilize the subcontractors designated in the DBE Commitment in the performance of the contract. Any changes in the Contractor's DBE Commitment, such as substitution of a DBE subcontractor, substitution of contract items, or decrease in total dollar amount must be approved by the DEPARTMENT and must be covered by a Change Order. Unauthorized substitutions or eliminations may result in the imposition of sanctions. Failure to meet the Goal for Performance established at the time of award by the Contractor's DBE Commitment, without adequate justification, including concurrence of the ENGINEER and Civil Rights Office, will result in the imposition of sanctions as provided in Part I of this Special Provision.

1. Contractors may count toward their contract goals a portion of the total dollar value of a joint venture contract eligible under the standards of this bid condition equal to the percentage of the ownership and controls of the DBE partner in the joint venture.

2. The ENGINEER will recognize and grant DBE credit for work performed by DBE contractors ONLY in the types of work for which DBE certification has been granted by the UUCP prior to bid opening. It is necessary all Bidders refer to the UUCP'DBE Directory for direction and guidance. A current copy of the UUCP DBE directory is available through the Civil Rights Office and on the Internet at (click on this link):

   http://www.udot.utah.gov/main/f?p=100:pg:::::V,T:,198

   An electronic file of the DBE Directory is available for download to use in the Electronic Bidding system (EBS) at the following URL (click on this link):

   http://www.udot.utah.gov/main/f?p=100:pg:::::V,T:,317

3. Contractors may count only the value of the work actually performed by the DBE toward the DBE goals.

   a. Work performed by the DBE’s own forces using “regular employees” and “regular equipment.”

   b. The cost of supplies and materials obtained and purchased by the DBE and equipment leased for the work of the contract.

c. Work that a DBE subcontracts to a lower tier DBE firm.

4. Contractors may not count toward the DBE goals:

a. Supplies and material purchased and equipment leased by the DBE from the prime Contractor or its affiliates or another subcontractor on the project.

b. Work that a DBE subcontracts to a lower tier non-DBE firm.

5. Contractors may count toward their goals only expenditures to a DBE that performs a commercially useful function in the work of the contract.

a. A DBE performs a “commercially useful function” when it is responsible for the execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself.

b. The DEPARTMENT will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.

c. A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, the DEPARTMENT must examine similar transactions, particularly those in which DBEs do not participate.

d. A DBE does not perform a commercially useful function if it does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved.

6. The DEPARTMENT will use the following factors in determining whether a DBE trucking company is performing a commercially useful function:

   a. The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.

   b. The DBE must be responsible for the management and supervision of the entire trucking arrangement for the purpose of meeting DBE goals.

   c. The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.

   d. The DBE may lease trucks from another DBE firm, including an owner operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.

   e. The DBE may also lease trucks from a non DBE firm, including from an owner operator. The DBE who leases trucks from a non DBE is entitled to credit for the total value of the transportation services provided by non-DBE lessees as long as the DBE provides the employees for the leased trucks.

   f. A lease must indicate the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

7. Contractors may count expenditures with DBEs for materials or supplies as provided in the following:

   a. If the materials or supplies are obtained from a DBE manufacturer, 100 percent of the cost of the materials or supplies counts toward DBE goals.

      For purposes of this paragraph, a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.

b. If the materials or supplies are purchased from a DBE regular dealer, 60 percent of the cost of the materials or supplies counts toward DBE goals.

For purposes of this paragraph, a regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

(1) To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.

(2) A firm may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating or maintaining a place of business if the firm both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment will be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis.

(3) Packagers, brokers, manufacturers' representatives, or other persons or firms who arrange, or expedite transactions are not regular dealers.

(4) A DBE trucking company that picks up a product from a manufacturer or regular dealer and delivers the product to the Contractor performs a delivery service. Credit will not be given based on a percentage of the cost of the product; credit will be allowed only for the cost of the transportation service.

8. If the materials or supplies are purchased from a service provider, the fees or commission charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies, count toward the DBE goals.

   A Service Provider is a business that is neither a manufacturer nor a regular dealer but simply transfers title of a product from manufacturer to ultimate purchaser or a firm that puts a product into a container for delivery. A service provider charges a fee or a commission for assistance in the procurement of the materials and supplies, or fees or transportation for the delivery of materials or supplies required on a job site.

   a. Only the fees, commissions, or transportation performed by the DBE service provider count toward the DBE goals. The DEPARTMENT must determine the fees are reasonable and not excessive as compared with fees customarily allowed for similar services.

   b. No portion of the cost of the materials and supplies count toward the DBE goals. Documentary evidence of the supply agreements, i.e., sales contract, purchase order, etc., will be submitted to the Resident Engineer or Consultant Engineer at the Preconstruction Conference. The agreement will set forth the estimated quantities, unit prices, total dollar amounts, material guarantees, delivery, and payment requirements including the requirements listed part E, 4, e, of this DBE Special Provision.

9. Prompt payment for the work accomplished is an integral part of the concept of a commercially useful function.

   See Section F, Subsection 6.a for a definition of “commercially useful function.”

10. When a DBE subcontractor is terminated, or fails to complete its work on the contract for any reason, the Contractor must make good faith efforts to find another DBE subcontractor to substitute for the original DBE. Direct these good faith efforts at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to meet the contract goal established for the project. Document the good faith efforts. If the Department requests documentation under this provision, submit the documentation within 7 days, which may be extended for an additional 7 days if necessary at the request of the contractor, and the Department will provide a written determination to the contractor stating whether or not good faith efforts have been demonstrated.

Failure by the contractor to carry out the requirements of this part is a material breach of the contract and may result in the termination of the contract or such other remedies set forth in that section you deem appropriate if the prime contractor fails to comply with the requirements of this section.

G. CONTRACTOR'S RESPONSIBILITY

1. It is the Contractor's responsibility to determine the level of professional competence and financial responsibility of any proposed DBE subcontractor. The Contractor will ascertain the proposed DBE subcontractor is particularly experienced and equipped for the work of the subcontract.

2. It is the Contractor's responsibilities to monitor and assure DBE's listed to fulfill DBE goals perform a commercially useful function.

H. DBE SUBCONTRACTOR'S FAILURE TO PERFORM SUCCESSFULLY

If, during the performance of the contract, the Prime Contractor determines a DBE subcontractor is unable to perform successfully, the Contractor will make good faith efforts to replace the DBE subcontractor with another DBE to fulfill the Goal for Bid Evaluation. For Race Conscious DBE participation, the Contractor will consider the uncompleted DBE committed work items as well as other work items as a part of the good faith efforts. All substitutions of DBE subcontractors will receive prior approval by the Civil Rights Office.

**The Contractor** will not substitute DBE subcontractor(s), work item(s), nor decrease dollar amount(s) as indicated in the Contractor's DBE Commitment Substitutions for the **good cause reasons** defined in 49 CFR 26.53 without performing the following steps:

1. Give notice in writing to the DBE subcontractor, with a copy to Civil Rights, of their intent to substitute and the reason of its request.

2. Obtaining a written response from the DBE stating why they would object or oppose to the substitution or decrease. The Contractor must give the DBE five (5) days to respond to the notice of substitution.

3. Obtain Civil Rights Office written consent prior to any substitution, termination or decrease of DBE commitment.

The Contractor will not substitute DBE subcontractor(s), work item(s), nor decrease dollar amount(s) as indicated in the Contractor's DBE Commitment without prior submission of written justification to the ENGINEER and without prior approval of the ENGINEER and the Civil Rights Office.

Unauthorized substitutions of the DBE(s), under-runs of work item(s), or decreases in dollar amount(s) may result in the imposition of sanctions as allowed under Section I.

UDOT reserves the right to authorize completion of the work that was subcontracted to a DBE who is unable to perform successfully by either of the following methods:

1. Approve, at no additional cost to the DEPARTMENT, a replacement DBE subcontractor and, when appropriate, modify the contract to provide for reasonable extra time necessary to obtain a DBE replacement at no additional cost to the DEPARTMENT.

2. Direct the Contractor to perform at unit bid prices. In the event this option is selected, the percentage DBE goal will be adjusted as may be appropriate.

I. <u>SANCTIONS</u>

1. The Contractor's DBE Commitment becomes a 3-part commitment comprised of the DBE Contractor(s), work item(s) and dollar amount(s). The Commitment becomes a contract specification upon award of the contract and becomes the minimum goal for contract performance.

   If the Contractor fails to achieve the minimum goal established in the contract at the time of the award of the contract or later modified, the

contract payments will be reduced as a disincentive by an amount equal to the dollar amount of work not performed by the DBE. The dollar amount of any sanction will be computed using the unit prices indicated in the DBE subcontract.

Exceptions:

a. Any authorized adjustment in the DBE Commitment that has been approved by the ENGINEER and Civil Rights Office.

b. Race neutral participation.

2. The ENGINEER will deduct maximum points for Compliance with EEO when completing the Contract Performance Report.

J. RECORD KEEPING

1. The DEPARTMENT must create and maintain a Bidders list consisting of all firms bidding on prime contracts and bidding or quoting subcontractors on DOT-assisted projects. For every firm, the following information must be submitted annually:

a. Firm name

b. Firm address

c. Firm's status as a DBE or non-DBE

d. Age of firm

e. Annual gross receipts of the firm.

Every firm bidding or quoting as a prime or subcontractor at any level on DOT-assisted projects must register annually with UDOT.

NOTE: Items (a) and (b) will be completed in the current bidding software by using the 'Quote Comparison' and submitted with your bid.

2. With the bid or no later than 10 work days after bid opening date, each and every prime bidder must submit to the DEPARTMENT a list of all firms bidding and/or quoting as subcontractors, service providers or suppliers.* The Prime Bidder must also submit for each and every firm sub-quoting the following information:

a. Firm Name

b. Firm address

c. Work classification(s) bid by subcontractor, service provider or supplier:

(1) Building
(2) Concrete: Curb & gutter, Flatwork, Inlet Boxes, etc.
(3) Concrete: Structural
(4) Consulting firms
(5) Demolition
(6) Electrical: Hwy lighting, signals & fiber optics
(7) Equipment rentals and sales
(8) Excavation
(9) Fencing
(10) Grading
(11) Guardrail
(12) Landscaping & erosion control
(13) Miscellaneous
(14) Painting: Highway structures
(15) Painting: Highway striping & painted messages
(16) Paving: Asphalt highway & runway, etc.
(17) Paving: Concrete
(18) Paving: Miscellaneous
(19) Pipe Culverts, drainage, sewer & water
(20) Reconstruction : Manholes, etc.
(21) Rotomilling
(22) Sawing & sealing
(23) Signs permanent
(24) Steel reinforcing
(25) Steel structural
(26) Surveying
(27) Traffic Control: Flagging
(28) Traffic Control: Temp. Signs and Devices
(29) Trucking
(30) Supplier: Manufacturer
(31) Supplier: Regular Dealer
(32) Supplier: Service Provider

*NOTE: This requirement can be met with the ‘Quote Comparison’ function in the current bidding software. The report must be printed and faxed to the Civil Rights Department at (801) 965-4101.

## Exhibit A

Suggested Actions and Required Documentation to Demonstrate

## Good Faith Efforts to Comply With DBE Requirements

A Bidder must show that it took necessary and reasonable steps to achieve a DBE goal that, by their scope, intensity, and appropriateness, can reasonably be expected to fulfill the program requirement. The efforts employed should be those that would be taken if a Bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere pro forma efforts are not good faith efforts to meet the DBE contract requirements.

| |
|---|
| Documentary evidence of each action taken must be submitted with the Bid Proposal. |

The following is taken, with some modification, from CFR 49 Part 26, Appendix A. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive.

**GUIDANCE CONCERNING GOOD FAITH EFFORTS**

I. When the DEPARTMENT establishes a contract goal on a Federal aid contract, a Bidder must, in order to be responsive, make good faith efforts to meet the goal. The Bidder can meet this requirement in either of two ways:

A. The Bidder can meet the goal, documenting commitments for participation by DBE firms sufficient for this purpose.

B. If it doesn't meet the goal, the Bidder can document adequate good faith efforts. This means that the Bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement of this part that, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.

II. In any situation in which the DEPARTMENT has established a contract goal, CFR 49, Part 26 requires UDOT to use the good faith efforts mechanism of this part. It is up to the DEPARTMENT to make a fair and reasonable judgment whether a Bidder that did not meet the goal made adequate good faith efforts. It is important for the DEPARTMENT to consider the quality, quantity, and intensity of the different kinds of efforts that the Bidder has made. The efforts employed by the Bidder should be those that one could reasonably expect a Bidder to take if the Bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere pro forma efforts are not good faith efforts to meet the DBE contract requirements. The DEPARTMENT emphasizes, however, that its determination concerning the sufficiency of the firm's good faith efforts is a judgment call: meeting quantitative formulas is not required.

III The U. S. Department of Transportation also strongly cautions the DEPARTMENT against requiring that a Bidder meet a contract goal (i.e., obtain a specified amount of DBE participation) in order to be awarded a contract, even though the Bidder makes an adequate good faith efforts showing. This rule specifically prohibits UDOT from ignoring bona fide good faith efforts.

IV. The following is a list of types of actions that UDOT should consider as part of the Bidder’s good faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

A. Soliciting through all reasonable and available means (e.g. attendance at pre bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The Bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The Bidder must determine with certainty if

the DBEs are interested by taking appropriate steps to follow up initial solicitations.

B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime Contractor might otherwise prefer to perform these work items with its own forces.

C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

D. Negotiating in good faith with interested DBEs.

(1) It is the Bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.

(2) A Bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration.

(a) The fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable.

(b) No specific price differential has been established by 49 CFR 26. This approach allows flexibility.

(c) Along with the reasonableness of the cost necessarily comes the fact that prime Contractors are not expected to bear unreasonable costs.

(d) Any burden that a non-DBE subcontractor might face is also limited by the reasonableness of competing bids.

(3) The ability or desire of a prime Contractor to perform the work of a contract with its own organization does not relieve the Bidder of the responsibility to make good faith efforts. Prime Contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

(4) The ability or desire of a prime Contractor to bundle the work of a subcontractor who wishes to perform all the work of the subcontract with its own organization does not relieve the Bidder of the responsibility to require a subcontractor to make good faith efforts. Subcontractors are not required to accept higher quotes from lower tier DBEs if the price difference is excessive or unreasonable.

E. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The Contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the Contractor's efforts to meet the project goal.

F. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.

G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

H. Effectively using the services of available minority/women community organizations; minority/women Contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case by case basis to provide assistance in the recruitment and placement of DBEs.

NOTE: The DBE 'Contact Log' in EBS, submitted as part of the Bid Proposal, can be used to document the following efforts:
IV. A.
IV. C.
IV. D. (1)

The 'Quote Comparison' in EBS, submitted as part of the Bid Proposal, can be used to document the following efforts:
IV. B.
IV. D. (3)

V. In determining whether a Bidder has made good faith efforts, the DEPARTMENT may take into account the performance of other Bidders in meeting the contract. For example, when the apparent successful Bidder fails to meet the contract goal, but others meet it, UDOT may reasonably raise the question of whether, with additional reasonable efforts, the apparent successful bidder could have met the goal. If the apparent successful Bidder fails to meet the goal, but meets or exceeds the average DBE participation obtained by other Bidders, you may view this, in conjunction with other factors, as evidence of the apparent successful Bidder having made good faith efforts.

Submit with the Bid Proposal documentary evidence to prove that good faith efforts were accomplished:

1. Submit copies of all solicitations: correspondence, faxes, advertisements, telephone logs with dates, times, names of persons contacted, nature of conversation, DBEs' responses, and etc.

2. If DBEs submitted quotes that were not used because the range of additional costs was determined to be excessive or unreasonable, submit the range that has been determined by the Bidder to be a reasonable range of additional costs and explain how that range was determined.

3. As a part of demonstrating a reasonable range of additional costs, submit copies of all subcontractor quotes, copies of spread sheet(s) which compare all DBE quotes with non-DBE quotes and which include bid item(s) quoted, work classifications, quantities, prices, and dollar amounts.

4. Submit a narrative of specific names and types of information, assistance, considerations given, and efforts to assist DBEs under Item IV, subparts C through F.

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## DBE BID ASSURANCE

DBE PARTICIPATION

If the DBE goal which is indicated in Section A, CONTRACT GOAL, of APPENDIX A, BID CONDITIONS, DISADVANTAGED BUSINESS ENTERPRISE (DBE) **is greater than 0.0 percent**, submit DBE Commitment.

By signing the BID REPORT (either manually or electronically), it is understood that those individuals who sign as owners or authorized representatives of the Bidder, have read and are familiar with APPENDIX A, SPECIAL PROVISION, BID CONDITIONS, DISADVANTAGED BUSINESS ENTERPRISE and hereby certify that good faith efforts (when applicable as defined by Section IX, Bid Conditions, D.5) have been utilized to meet or exceed the goal of the DBE Program as established by the DBE Special Provision.

Indicate intended DBE commitment.

_____ We intend to meet or exceed the contract goals as per the DBE Commitment which is submitted with the Bid Proposal (when project goal is greater than 0.0).

_____ We have not met the advertised DBE Project goal. A Good Faith Effort is required. We have provided the required documentation per 49 CFR, Part 26.53.

Documentation of Good Faith Efforts is not required on a 0.0 percent goal project.

## XIII. Attention Contractors
## E.E.O. Affirmative Action Requirements on
## Federal and Federal-Aid Construction Contracts of $10,000 or More

Include the Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity, Executive Order (EO) 11246, as amended (incorporated by reference & Appendix A - below) and the Standard Federal Equal Employment Opportunity Construction Contract Specifications set forth in §60-4.3 (incorporated by reference) in all requests for bids/solicitations on all contracts and subcontracts of $10,000 or more

Include in Appendix A, Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity, the goals established by the Office of Federal Contract Compliance Programs (OFCCP) for minority and female participation in each craft on all contracts and subcontracts.

### APPENDIX A (EO 11246)

The OFCCP goals for minority representation in each trade are shown below. The goal for female utilization (6.9 percent) applies to all contracts and subcontracts irrespective of their geographical location.

| COUNTY | GOAL | COUNTY | GOAL | COUNTY | GOAL |
|---|---|---|---|---|---|
| Beaver | 12.6 | Box Elder | 5.1 | Cache | 5.1 |
| Carbon | 5.1 | Daggett | 5.1 | Davis | 6.0 |
| Duchesne | 5.1 | Emery | 5.1 | Garfield | 12.6 |
| Grand | 10.2 | Iron | 12.6 | Juab | 5.1 |
| Kane | 12.6 | Millard | 5.1 | Morgan | 5.1 |
| Piute | 5.1 | Rich | 5.1 | Salt Lake | 6.0 |
| San Juan | 10.2 | Sanpete | 5.1 | Sevier | 5.1 |
| Summit | 5.1 | Tooele | 6.0 | Uintah | 5.1 |
| Utah | 2.4 | Wasatch | 5.1 | Washington | 12.6 |
| Wayne | 5.1 | Weber | 6.0 | | |

These goals are applicable to all contractors' or subcontractors' construction work (whether or not it is Federal or Federally assisted) performed in the covered area.

The Bidder's attention is called to the "Equal Opportunity Clause" (form FHWA 1273- II 1 b, included in this contract) and the "Standard Federal Equal Employment Specifications" set forth in 41 CFR Part 60-4 (incorporated by reference).

Compliance with the Executive Order and the regulations in 41 CFR part 60-4 is based on the implementation of the "Equal Opportunity Clause," specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and the efforts to meet the goals.

Provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification lists the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract will be performed.

Under Section 303 of EO 11246, only the U. S. Department of Labor (DOL) has the authority to determine compliance with EO 11246 and its implementing regulations. The Federal Highway Administration (FHWA) and the State highway agency (UDOT) do not have independent authority to determine compliance with EO 11246, 41 CFR Chapter 60, or the minority and female participation goals established by the Office of Federal Contract Compliance Programs (OFCCP), pursuant to 41 CFR Chapter 60.

If the State highway agency (UDOT) or the FHWA becomes aware of any possible violations of EO 11246 or 41 CFR Chapter 60, each has the authority and the responsibility to notify the OFCCP.

## APPENDIX B

As used in these specifications:

a. Covered area: The geographical area described in the solicitation from which this contract resulted;
b. Director: Director, Office of Federal Contract Compliance Programs, United State Department of Labor, or any person to whom the Director delegates authority;
c. Employer identification number: The Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
d. Minority includes:
    (i) Black (all persons having origins in any of the black African racial groups not of Hispanic origin);
    (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
    (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
    (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

## XIV. Specific Equal Employment Opportunity Responsibilities

1. General

   a. The State Transportation Agency (STA) and Federal Highway Administration (FHWA) have the authority and the responsibility to ensure compliance with 23 USC Section 140 and Title VI of the Civil Rights Act of 1964, as amended, and related regulations, including 49 CFR Parts 21 and 23, and 23 CFR Parts 200, 230, and 633. Pursuant to this authority, the STA and the FHWA will conduct compliance reviews of contractors on federally funded highway projects to determine compliance with these laws and related regulations. The STA will prepare complete, written reports of findings of the compliance reviews. The FHWA will analyze the reports, and the evidence on which they are based.

   b. A contractor's EO requirements are in the contract provisions referenced in the FHWA-1273 (included herein). These include contractor acceptance of Section II, 1 c, and the obligation of the contractor to comply with specific EO activities at a minimum.

   c. Submit form PR-1391 in July and at other times when such information is required by the STA or the FHWA; and submit other documentation and reports as requested by the STA or the FHWA.

2. Equal Employment Opportunity (EEO)

   a. Where minorities and women have been excluded from certain classifications in a contractor's work force, the EEO affirmative action requirements specified in the contract will be implemented in good faith to provide EEO.

   b. The contractor will use the avenue afforded by the Training Special Provision (included herein) to increase minority and female employment in crafts where they have been underrepresented.

3. Minority and Female Average Availability Percentages – Utah

   a. Average percentages for minority (M) and female (F) availability in each trade, by County, are shown below. Availability is defined as "an estimate of the number of qualified minorities or women available for employment in a given job group."

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| COUNTY | M | F | COUNTY | M | F | COUNTY | M | F | COUNTY | M | F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Beaver | 6.8 | 3.0 | Box Elder | 9.9 | 5.0 | Cache | 9.9 | 5.0 | Carbon | 12.3 | 3.0 |
| Daggett | 12.3 | 3.0 | Davis | 8.9 | 3.0 | Duchesne | 12.3 | 3.0 | Emery | 15.5 | 5.0 |
| Garfield | 15.5 | 5.0 | Grand | 15.5 | 5.0 | Iron | 6.8 | 3.0 | Juab | 8.2 | 4.0 |
| Kane | 15.5 | 5.0 | Millard | 6.8 | 3.0 | Morgan | 11.1 | 3.0 | Piute | 15.5 | 5.0 |
| Rich | 9.9 | 5.0 | Salt Lake | 21.6 | 5.0 | San Juan | 15.5 | 5.0 | Sanpete | 8.2 | 4.0 |
| Sevier | 15.5 | 5.0 | Summit | 11.1 | 3.0 | Tooele | 8.2 | 4.0 | Uintah | 12.3 | 3.0 |
| Utah | 11.9 | 4.0 | Wasatch | 11.1 | 3.0 | Washington | 10.0 | 4.0 | Wayne | 15.5 | 5.0 |
| Weber | 17.8 | 5.0 | | | | | | | | | |

b. The use of these average percentages in no way precludes the contractor from performing and documenting good faith efforts to recruit and employ minorities and females.

4. Compliance Determinations

a. The list below is a set of “Good-Faith Efforts” criterion established in FHWA’s regulatory and policy requirements that may be used to determine a contractor’s good faith efforts:

1. Contractor’s EEO Policy
2. Dissemination of the EEO Policy
3. Authority and Responsibility of EEO Officer
4. Periodic EEO meetings (EEO indoctrination)
5. Notices/posters on bulletin board
6. Advertising as an “EEO Employer”
7. Recruitment – Systematic and direct recruitment efforts with sources likely to yield minorities and women
8. Educate all new supervisors within 30 days of reporting to duty
9. Encourage present employees to refer minorities and women
10. Evaluates the spread of wages to determine whether discrimination exists
11. Investigates all complaints, promptly, and appropriate corrective action is taken
12. Assist in locating, qualifying, and increasing the skills of minorities and women
13. Fully uses training programs and advises employees and applicants of opportunities
14. Minorities and women exist in contractor’s training program
15. Ensure nonsegregated facilities
16. Minorities and women are employed in all occupations, crafts, and job classifications on an equal basis
17. Procedures establishing the monitoring of subcontractors’ compliance with nondiscrimination, EO and EEO obligations

18. The need for adequate records and reports
19. Minorities and women reach accumulating work hours expected based on their representation
20. Ensure a workplace free of harassment, intimidation, and coercion

b. Affirmative Action is determined based on the evaluation of the contractor's compliance with all of the above good faith efforts and on the contractor's efforts to achieve maximum results from the actions.

c. A contractor is in compliance when there is no evidence of discrimination in employment, training, DBE, Indian Preference provisions, equal opportunity requirements, or evidence every good faith effort has been made.

d. Include in the EEO Policy a commitment to provide a workplace free of harassment, intimidation, and coercion; ensure the policy is posted on the project bulletin board; ensure foreman and superintendents are trained in prevention of harassment, intimidation, and coercion; and take other affirmative actions as necessary to satisfy the requirements of 41 CFR 60 4.3.7a. At the time annual registration is due, the contractor will acknowledge that they have a workplace free of harassment, intimidation, and coercion.

5. Training Special Provisions

This Training Special Provisions supersedes subparagraph II 6b of the FHWA-1273, and is an implementation of 23 U.S.C.C.140 (a).

Provide training as follows as part of the equal employment opportunity affirmative action program:

Provide on-the-job training aimed at developing full journeymen in the type of trade or job classification involved.

The number of training hours to be trained under the special provision is _____0____ (amount to be filled in by the State Highway Department (STA)).

If a portion of the contract work is subcontracted, determine how many, if any, of the trainees are to be trained by the Subcontractor. Make this training special provision applicable to the subcontract. Retain the primary responsibility for meeting the training requirements imposed by this special provision. Where feasible, 25 percent of apprentices or trainees in each occupation will be in their first year of apprenticeship or training.

Distribute the number of trainees among the work classifications on the basis of needs and the availability of journeymen in the various classifications within a

reasonable area of recruitment. Prior to commencing construction, submit to the State highway agency for approval the number of trainees to be trained in each selected classification and training program to be used. Specify the starting time for training in each of the classifications. The STA gives credit for each trainee employed on the contract work that is currently enrolled or becomes enrolled in an approved program. Reimbursement is made for the trainees as specified in this provision.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. Demonstrate the steps taken to achieve compliance with Federal Projects With Full Size Plan Sheets this Training Special Provision. This training commitment is not intended nor used to discriminate against any applicant for training, whether a member of a minority group or not.

Do not employ a trainee in any classification in which they have successfully completed a training course leading to journeyman status or in which they have been employed as a journeyman. Include appropriate questions in the employee application or by other suitable means to satisfy this requirement. Document the findings in each case. The training program selected, and approved by the STA and the FHWA, establishes the minimum length and type of training for each classification in that program. The STA and the FHWA approves a program if it meets the equal employment opportunity obligations and qualification of the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and training are considered acceptable if administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program is obtained from the State prior to commencing work on the classification covered by the program.

Provide training in the construction crafts rather than clerk typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification if approved by the division office. Some off-site training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Trainees are paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program will apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

Furnish the trainee a copy of the program to be followed in providing the training. Provide each trainee with a certification showing the type and length of training satisfactorily completed.

Provide for the maintenance of records and furnish periodic reports documenting their performance under this Training Special Provision. UDOT form, Monthly Training Summary satisfies this reporting requirement. Contractor will accomplish entry of this information electronically by entry into PDBS at least monthly for the duration of the project.

a. Training Program Description: As part of the Equal Employment Opportunity Affirmative Action Program, the Contractor will provide on-the-job training aimed at developing full journey status in the type of trade or job classification involved. The number of hours of training to be provided under this contract will be as shown on the bid schedule. Apprentices must be enrolled in an Office of Apprenticeship Training Employer and Labor Services (OATELS - formerly BAT) approved program.

b. OBJECTIVE: Training and upgrading of minorities and women toward journey status is the primary objective of this program. The Contractor will enroll minorities and/or women, where possible, and document good faith efforts prior to the hire of non-minority males in order to demonstrate compliance with this Training Special Provision. This training commitment is not intended, and will not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

c. PROJECT TRAINING GOAL: The formula for determining the training goal specified in the Training Special Provision will be as follows:

| DESCRIPTION | SAMPLE | | | | |
|---|---|---|---|---|---|
| Engineer's estimate times 33% equals total labor dollars. | $25,000,000 | X | 33% | = | $8,250,000 |
| Total labor $ divided by $50/hr equals total labor hours. | $8,250,000 | ÷ | *$50/hr | = | 165,000 hrs. |
| Total labor hours times 5% equals project training hours. | 165,000 hrs. | X | 5% | = | 8,250 hrs. |

*$50.00 = labor cost per hour per employee – to be adjusted periodically to accommodate increase in cost.

e. GENERAL: Prior to beginning construction on the contract, the Contractor will submit Form C-130 (Formerly OJT100) indicating the training program to be used, the number of hours of training to be provided by classification, and the anticipated starting time for training in each selected classification.

f. Training should begin within 2 weeks of the anticipated start dates of project as outlined on the OJT 100 Form, unless otherwise authorized by the Resident Engineer (RE). Only after submission of documentation by the Contractor and approval by the RE, of efforts made in good faith, will authorization of a delay be made.

g. The Contractor will review annually the training and promotion potential of minority and women employees and will encourage eligible employees to apply for such training and promotion.

h. METHOD OF MEASUREMENT: The Contractor will be credited for each approved apprentice/trainee employed on the project and reimbursed on the basis of hours worked in the program to which he/she is indentured, as listed on the certified payrolls, and reported monthly, by the Contractor in the UDOT PDBS Contractor module, OJT Hours Worked screen. There will be no credit for training provided under this section prior to the Contractor's submittal and approval by the RE of the Apprentice/Trainee Certification from the appropriate agency. This certification expires 90 days from the date of issue, and must be renewed by the Contractor in order to keep the apprentice/trainee's hours eligible for reimbursement.

i. BASIS OF PAYMENT: Payment for contractor participating in the Apprenticeship Training Program will be made at a rate of $10.00 a hour, 20 hours per week, up to a maximum of 600 hours per project unless otherwise specified in accordance with 5,C of this provision. Payment will be made at the contract unit price of $10.00 for each hour of approved apprenticeship training actually provided. If the

contractor provides training for more than the number of hours specified on the bid schedule, the payment of $10.00 per hour continues to be paid for all hours of training provided, up to a maximum of double the assigned goal. No reimbursement will be provided to the contractor for hours in excess of twice the assigned training goal per project. All reimbursement payments made to the contractor for training must be paid to the agency administering the training program. Certified documentation showing the payment to the training agency is required to be submitted to the UDOT Civil Rights EEO and Labor Specialist when the project is complete.

A contractor will have fulfilled his/her responsibilities under this Training Special Provision if he/she has provided acceptable training to the number of trainees specified on the C-130 (Formerly OJT100) and the number of hours specified and shown on the bid schedule. EXAMPLE (a): Training Goal = 750 hours; Hours specified on bid schedule = 750. Contractor may use any number of trainees to satisfy the number of hours specified on the bid schedule but the number of trainees specified on the Form C-130 (Formerly OJT100) must be used unless change is approved by RE. EXAMPLE (b): Training Goal = 2000 hours; Hours specified on bid schedule = 2,000. Contractor may use any number of trainees to satisfy the number of hours specified on the bid schedule.

Any request for adjustment to the OJT Training Form or goal MUST be submitted and approved by the UDOT Civil Rights Office prior to substantial completion of project. Good Faith Efforts and mitigating circumstances will be considered in approval process.

DISINCENTIVES: Where the Contractor has failed, by the end of the project, to provide the required number of hours of training and has failed to submit acceptable good faith efforts documentation which establishes exactly why he/she was unable to do so, the Contractor will be assessed an amount equal to the following disincentives to be deducted from the final progress payment:

Federal Projects With 8 ½ x 11 Plan Sheets

| **DESCRIPTION** | **SAMPLE** | | | | |
|---|---|---|---|---|---|
| Number of hours of training not provided, times the journey worker hourly scale plus benefits | **HOURS OF TRAINING NOT PROVIDED** | ***JOURNEY WORKER** | **BASE PLUS FRINGE** | **TOTAL HOURLY WAGE OF TRAINEE** | **DISINCENTIVES** |
| | 600 | OPERATOR – Blade Smooth/Finish | 23.80 + 9.76 | = 33.56 | 20,136.00 |
| | 500 | CARPENTER | 16.13 + 2.80 | = 18.93 | 9,465.00 |
| | 600 | IRONWORKER | 21.84 + 9.92 | = 31.76 | 19,056.00 |
| | 700 | OPERATOR – Bulldozer | 18.05 + 7.08 | = 25.13 | 17,591.00 |
| **Total training hours not provided** | 2,400 | | | **Project Total Disincentives** | 66,248.00 |

*The journey worker scale is based on the classification identified in the approved programs submitted previously on the form C-130 (Formerly OJT100).

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(This form C-130 (Formerly OJT100) replaces the required Training Letter of Commitment and is to be completed and submitted to the UDOT Resident Engineer before or at the pre-construction meeting for the project. Form is found on the UDOT web site, Construction forms, DBE, EEO and Labor Forms).

## TRAINING COMMITMENT FORM

(This form replaces the required Training Letter of Commitment and is to be completed and submitted to the UDOT Resident Engineer before or at the preconstruction meeting for the project.)

**Date:** _____

**Project #** _____ **Location** _____

**Company** _____

**Address** _____

**City** **State** **ZIP** **Phone** _____

| Craft/Classification | Training Program | # Trainees | Starting Date | Approx # Hrs |
|---|---|---|---|---|
| | | | | |
| | | | | |
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| | | | | |

**Signature** _____ **Title** _____ Date _____

## XV. Title VI Appendix A and E

Title VI of the Civil Rights Act of 1964 – Non – Discrimination Notice; Attachment A

# NON-DISCRIMINATION NOTICE

In accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C 2000d to 2000d-4 and the Title 49, Code of Federal Regulations. The text below, in its entirety, is in all contracts entered into by UDOT. All of the text except the final section, entitled "Incorporation of Provisions," should be included in any contract entered into by any UDOT contractor.

During the performance of this contract, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

### A. COMPLIANCE WITH TITLE VI OF THE CIVIL RIGHTS ACT OF 1964 FOR FEDERAL-AID CONTRACTS

1. **Compliance with Regulations:** The contractor shall comply with the Regulation relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as Regulations), which are herein incorporated by reference and made a part of this contract.

2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, sex, age, disability, income status, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

3. **Solicitations for Subcontractors, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, sex, age, disability, income status, or national origin.

4. **Information and Reports:** The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the (Recipient) or the (Name of Appropriate Administration) to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the contractor shall so certify to the (Recipient), or the (Name of Appropriate Administration) as appropriate, and shall set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the (Recipient) shall impose such contract sanctions as it or the (Name of Appropriate Administration) may determine to be appropriate, including, but not limited to:

   a. Withholding of payments to the contractor under the contract until the contractor complies, and/or

   b. Cancellation, termination or suspension of the contract, in whole or in part.

6. **Incorporation of Provisions:** The contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

The contractor shall take such action with respect to any subcontractor procurement as the (Recipient) or the (Name of Appropriate Administration) may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with litigation with a subcontractor or supplier as a result of such direction, the contractor may request the (Recipient) to enter into such litigation to protect the interests of the (Recipient), and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

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## Title VI of the Civil Rights Act of 1964 – Non – Discrimination Notice; Attachment E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

### Pertinent Non-Discrimination Authorities:

- Title Vl of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.),* (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.),* as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 610 l*et seq.),* (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether suh programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. §47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-lncome Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

FHWA-1273 -- Revised May 1, 2012

# XVI. Required Contract Provisions
## FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Nonsegregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Compliance with Governmentwide Suspension and Debarment Requirements
XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

## I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

   The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

   Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

   Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

## II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1.** **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2.** **EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3.** **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4.** **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5.** **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If

the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

**6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and

all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

**10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

## III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom.

The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

## IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

### 1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

**2. Withholding**

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

**3. Payrolls and basic records**

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee ( e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a “Statement of Compliance,” signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

**4. Apprentices and trainees**

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5.** **Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6.** **Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. **Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. **Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. **Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. **Certification of eligibility.**

    a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

    b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

    c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

## V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. **Withholding for unpaid wages and liquidated damages.** The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4.** **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

   a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

      (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

      (2) the prime contractor remains responsible for the quality of the work of the leased employees;

      (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

      (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

   b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

**VII. SAFETY: ACCIDENT PREVENTION**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

**VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

## IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

## X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

### 1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

**2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

**2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

## XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

   a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

   b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1 During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

# CARGO PREFERENCE ACT (CPA)

## DESCRIPTION

The Federal Highway Administration (FHWA) in partnership with the Federal Maritime Administration (MARAD) has mandated the implementation of 46 CFR 381 making the cargo preference requirements applicable to the Federal Aid Highway Program.

The requirements of this Special Provision apply to items transported by ocean vessel.

## CONTRACT REQUIREMENTS

**A. General**

Utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. Gross tonnage is computed separately for dry bulk carriers, dry cargo liners, and tankers.

Furnish a legible, English language copy of a rated ‘on-board’ commercial ocean bill-of-lading for each shipment of cargo described in the previous paragraph. Furnish the bill-of-lading within 20 days following the date of loading for shipments originating in the United States and within 30 working days following the date of loading from shipments originating outside the United States.

Furnish bills-of-lading to the Engineer and to the following:

Division of National Cargo
Office of Market Development
Maritime Administration
Washington, DC 20590

**B. Subcontracts**

Include the language in Section “A, General” of this Special Provision in all subcontracts issued pursuant to this contract.

## XVII. Wage Rates Applicable

# GENERAL DECISION FILE FOR PROJECTS REPORT

**Date:** 11/15/2016

**Project #:** F-0209(34)10

**General Decision #:** UT20160065 **Modification:** 0 **Publication Date:** 01/08/2016

**Counties:** SALT LAKE, UT

Note: Under Executive Order (EO) 13658, an hourly minimum wageof $10.15 for calendar year 2016 applies to all contractssubject to the Davis-Bacon Act for which the solicitation wasissued on or after January 1, 2015. If this contract is coveredby the EO, the contractor must pay all workers in anyclassification listed on this wage determination at least$10.15 (or the applicable wage rate listed on this wagedetermination, if it is higher) for all hours spent performingon the contract in calendar year 2016. The EO minimum wage ratewill be adjusted annually. Additional information on contractorrequirements and worker protections under the EO is availableat www.dol.gov/whd/govcontracts.

| Contractor Code | | Hourly Rate | Fringes |
|---|---|---|---|
| **Designation:** ENGI0003-074 | **Survey Date:** 7/1/2013 00:00:0( | | |
| **110276** | (2a) Blade/Grader | $25.89 | 15.65 |
| **110345** | (3) Front End Loader (Over 5 cu. yds.), Backhoe Loader Combination, Rotomill | $25.37 | 15.65 |
| **110357** | (4) Asphalt Laydown Machine, Asphalt Paver, Bulldozer, Front End Loader (2 to 5 cu. yds.), Grade Setter, Scraper, Oil Distributor | $24.37 | 15.65 |
| **110347** | (5) Asphalt Roller, Front End Loader (Under 2 cu. yds.), Horizontal Directional Drill | $23.37 | 15.65 |
| **110296** | (6) Screed | $22.41 | 15.65 |
| **110297** | (7) Roller (Dirt and Grade Compaction) | $21.50 | 15.65 |
| **110332** | Crane (35 to 100 tons) -2 | $26.99 | 15.65 |
| **110333** | Crane (Over 100 tons) -1 | $28.33 | 15.65 |
| **110331** | Crane (Under 35 tons) -3 | $25.70 | 15.65 |
| **110341** | Crane Oiler -5 | $22.59 | 15.65 |
| **110348** | Crane Piledriver 5 | $22.59 | 15.65 |
| **110211** | Operator: Power Equipment: (1) Mechanic | $27.55 | 15.65 |
| **Designation:** IRON0027-009 | **Survey Date:** 7/1/2015 00:00:0( | | |
| **120176** | IRONWORKER STRUCTURAL | $26.18 | 19.10 |

# GENERAL DECISION FILE FOR PROJECTS REPORT

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**Counties:** SALT LAKE, UT

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| Contractor Code | | Hourly Rate | Fringes |
|---|---|---|---|
| **Designation:** IRON0847-001 | **Survey Date:** 8/1/2013 00:00:0( | | |
| **120261** | IRONWORKER, REINFORCING | $26.61 | 11.60 |
| **Designation:** LABO0295-031 | **Survey Date:** 7/1/2014 00:00:0( | | |
| **130012** | LABORER: (1) Traffic Control, sets cones and barrels | $20.59 | 8.65 |
| **130071** | LABORER: (4) Asphalt Raker, Asphalt Shoveler | $21.11 | 8.65 |
| **Designation:** SUUT2008-078 | **Survey Date:** 9/10/2008 00:00:( | | |
| **140241** | CARPENTER, Includes Form Work | $18.03 | 3.44 |
| **140015** | CEMENT MASON/CONCRETE FINSHER | $16.53 | 2.79 |
| **140277** | ELECTRICIAN, Includes Low Voltage Wiring for Traffic Cameras and Installation of Traffic Signals | $21.56 | 5.00 |
| **140017** | LABORER: Common or General | $12.86 | 2.66 |
| **140019** | LABORER: Flagger | $7.43 | 1.57 |
| **140023** | LABORER: Grade Checker | $12.87 | 3.59 |
| **140020** | LABORER: Landscape | $12.27 | 2.66 |
| **140021** | LABORER: Mason Tender-Cement/Concrete | $13.17 | 3.21 |
| **140022** | LABORER: Pipelayer | $12.60 | 2.79 |
| **140091** | LABORER: Power Tool Operator: (Chain/Concrete Saw, Dirt Compactor (Hand Held), Hand Held Drill and Jackhammer Only) | $13.75 | 4.65 |

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| Contractor Code | | Hourly Rate | Fringes |
|---|---|---|---|
| **Designation:** SUUT2008-078 | **Survey Date:** 9/10/2008 00:00:0 | | |
| **140039** | OPERATOR: Backhoe/Excavator/Trackhoe | $17.96 | 6.81 |
| **140278** | OPERATOR: Bobcat/Skid Steer/Skid Loader | $13.06 | 3.31 |
| **140327** | OPERATOR: Broom/Sweeper | $16.78 | 6.55 |
| **140031** | OPERATOR: Concrete Finishing Machine | $18.76 | 6.55 |
| **140032** | OPERATOR: Concrete Pump, Truck Mounted | $19.18 | 4.23 |
| **140033** | OPERATOR: Rock Chip Spreader | $16.29 | 7.08 |
| **140038** | OPERATOR: Tractor | $18.01 | 6.73 |
| **140076** | OPERATOR: Trencher | $24.35 | 6.70 |
| **140041** | PAINTER (Parking Lot and Highway Striping Only) | $14.05 | 1.62 |
| **140089** | SIGN INSTALLER (Permanent and Temporary Road Signs Only) | $12.27 | 2.66 |
| **Designation:** TEAM0222-027 | **Survey Date:** 7/1/2015 00:00:0 | | |
| **150385** | TRUCK DRIVER (Dump Truck, Bottom-end or side) 105 cu. yds. to less than 130 cu. yds | $21.98 | 10.73 |
| **150381** | TRUCK DRIVER (Dump Truck, Bottom-end or side) 14 cu. yds. to less than 35 cu. yds | $21.06 | 10.73 |
| **150382** | TRUCK DRIVER (Dump Truck, Bottom-end or side) 35 cu. yds. to less than 55 cu. yds | $21.26 | 10.73 |

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| Contractor Code | | Hourly Rate | Fringes |
|---|---|---|---|
| **Designation:** TEAM0222-027 | **Survey Date:** 7/1/2015 00:00:0( | | |
| **150383** | TRUCK DRIVER (Dump Truck, Bottom-end or side) 55 cu. yds. to less than 75 cu. yds | $21.46 | 10.73 |
| **150047** | TRUCK DRIVER (Dump Truck, Bottom-end or side) 75 cu. yds. to less than 95 cu. yds | $21.66 | 10.73 |
| **150380** | TRUCK DRIVER (Dump Truck, Bottom-end or side) 8 cu. yds. to less than 14 cu. yds | $20.91 | 10.73 |
| **150384** | TRUCK DRIVER (Dump Truck, Bottom-end or side) 95 cu. yds. to less than 105 cu. yds | $21.86 | 10.73 |
| **150379** | TRUCK DRIVER (Dump Truck, Bottom-end or side) Less than 8 cu. yds | $20.76 | 10.73 |
| **150099** | TRUCK DRIVER (Lowboy) | $23.83 | 10.73 |
| **150051** | TRUCK DRIVER (Oil Distribution) | $21.46 | 10.73 |
| **150052** | TRUCK DRIVER (Pickup) | $20.59 | 10.73 |
| **150053** | TRUCK DRIVER (Sweeper) | $20.91 | 10.73 |
| **150386** | TRUCK DRIVER (Water, Fuel & Oil Tank) 1,200 gal. to less than 2,500 gal | $20.76 | 10.73 |
| **150390** | TRUCK DRIVER (Water, Fuel & Oil Tank) 10,000 gal. to less than 15,000 gal | $21.71 | 10.73 |
| **150106** | TRUCK DRIVER (Water, Fuel & Oil Tank) 15,000 gal. to less than 20,000 gal | $21.96 | 10.73 |
| **150387** | TRUCK DRIVER (Water, Fuel & Oil Tank) 2,500 gal. to less than 4,000 gal | $20.91 | 10.73 |

# GENERAL DECISION FILE FOR PROJECTS REPORT

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| Contractor Code | | Hourly Rate | Fringes |
|---|---|---|---|
| **Designation:** TEAM0222-027 | **Survey Date:** 7/1/2015 00:00:0( | | |
| **150391** | TRUCK DRIVER (Water, Fuel & Oil Tank) 20,000 gal. to less than 25,000 gal | $22.31 | 10.73 |
| **150392** | TRUCK DRIVER (Water, Fuel & Oil Tank) 25,000 gal. and over | $22.46 | 10.73 |
| **150388** | TRUCK DRIVER (Water, Fuel & Oil Tank) 4,000 gal. to less than 6,000 gal | $21.21 | 10.73 |
| **150389** | TRUCK DRIVER (Water, Fuel & Oil Tank) 6,000 gal. to less than 10,000 gal | $21.46 | 10.73 |
| **150190** | TRUCK DRIVER (Water, Fuel & Oil Tank) less than 1,200 gal | $20.64 | 10.73 |

**Note: Executive Order (EO) 13658 establishes an hourly minimum wage of $10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.**

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

## XVIII. Special Provisions and Supplemental Specifications

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 00120M**

# BIDDING REQUIREMENTS AND CONDITIONS

**Delete Article 1.6, paragraph A and replace with the following:**

A. Meet Department requirements for prequalification before submitting a proposal on all projects where the Department Engineer's advertised estimate is greater than or equal to $3 million.
   1. Prequalification information is due at least 10 calendar days before submitting a proposal on projects requiring prequalification.

**Delete Article 1.15, paragraph A20 and replace with the following:**

20. Unsatisfactory performance on previous or current contracts or serving probation for actions on another project.

**Delete Article 1.15, paragraph B and replace with the following:**

B. The bidder may appeal in writing to the Department Deputy Director according to Utah Code Section 63G-6-801 through 806, as amended if the Department refuses to accept a proposal for any of the foregoing reasons.

**Delete Article 1.17 and replace with the following:**

## 1.17 PROPOSAL DELIVERY

A. Electronically transmit the proposal before the time specified in the Notice to Contractors.

B. A manually submitted bid must include both a signed hard copy and electronic version. Electronic media device (CD/Flash Drive) must not be blank or unreadable and must contain the correct electronic bid items txt file in the indicated format.
   1. File format- Proj#_UDOTContractorID_bidopendate.txt
   2. The signed hard copy takes precedence over a manually delivered electronic version in the case of discrepancies or initialed changes to unit prices or DBE commitment.

**Delete Article 1.18 and replace with the following:**

## 1.18 WITHDRAWING OR REVISING PROPOSALS

A. A proposal may be withdrawn or revised before the time set for receiving proposals.

B. Provide the request for withdrawal to the Department with a telephone call followed by documented electronic communications including a company authorized signature and the UDOT Contractor ID before the time set for receiving proposals.

C. Revise and save bid proposal using the current version of the Department's Electronic Bid System. Transmit to Department authorized repository before the time set for receiving proposals.

**Delete Article 1.20 and replace with the following:**

## 1.20 SUSPENSION

A. A Contractor will be placed on suspension if its contractor ratings performed by the Department do not meet the minimum standard outlined in the contractor rating process for any Department or Department administered projects.

1. The Contractor will not be allowed to bid on Department or Department administered projects while on suspension.

**Add Article 1.21, paragraph A14**

14. Contractor ratings performed by the Department do not meet the minimum standard outlined in the contractor rating process.

**Add Article 1.27:**

## 1.27 PUBLIC OPENING OF PROPOSALS

A. Proposals are publicly opened at the time indicated in the invitation for bids.

**Add Article 1.28:**

## 1.28 CONTRACTOR LICENSING

A. Apply and conform to the laws of Utah relative to the licensing of contractors.
   1. A contractor's license is required before submitting a bid. Exception: A Contractor may submit a bid on a Federal-aid highway project if they can become licensed in Utah before beginning construction (notice to proceed).
   2. Failure to do so will result in forfeiture of award.

B. Obtain a commercial license to perform work in Utah.
   1. A license will be required to proceed with work.
   2. All license requirements and application to perform heavy highway construction in the state of Utah requires the applicable license for the category of work being performed.
      a. The Prime contractor is required to hold an E-100 classification title/code or the applicable license relating to their specific category of work being performed.
      b. A Sub-contractor is required to hold the applicable license relating to their specific category of work being performed. Licensing is governed by:

      Utah Department of Commerce
      Occupational/Professional Licensing
      P O Box 145741
      Salt Lake City, UT 84114-6741
      (801)530-6628

July 8, 2015

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 00221S**

# BIDDING CONTRACT TIME

**Add Section 00221**

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

A. Procedures for bidding contract time for the Price + Time bidding process.
   1. Includes incentive/disincentive for early/late completion of project milestones.

B. Description of time component pricing, and time related incentive or disincentive.
   1. Refer to Section 00515M for information regarding bidding time and determination of the low bidder.
   2. Time is a bid item that captures societal costs and is used for evaluation of the low bidder. Incentive/Disincentive is the only time related payment. Refer to this Section, article 1.7.

### 1.2 RELATED SECTIONS

A. Section 00515M: Contract Award And Execution

B. Section 00555: Prosecution and Progress

### 1.3 REFERENCES **Not Used**

### 1.4 DEFINITIONS **Not Used**

### 1.5 SUBMITTALS **Not Used**

## 1.6 TIME COMPONENT

A. Determine the bid price for the time component as follows.
   1. Measure contract time in calendar days.
   2. Determine the number of consecutive calendar days required between each start milestone and finish milestone in Table 1.
      a. Consider all requirements of the contract when determining the number of calendar days,
      b. Include the days of the start milestone and finish milestone in the number of calendar days.

B. The Department does not guarantee that any milestone can be completed in the minimum calendar days shown in Table 1.

C. Bidders are responsible to complete the milestones within the time bid and according to project requirements.

D. The Department will consider the bid non-responsive if the bidder:
   1. Does not submit a bid for the time component.
   2. Submits a time component bid for any awardable portion of the contract which is outside the minimum or maximum range.

E. Negative amounts are not permitted for time related bid items.

F. Time is bid in calendar days. Consider seasonal project specific weather conditions during bid preparation.

**Table 1**

| Determination of Calendar Days | | | | | | |
|---|---|---|---|---|---|---|
| **A** | **B** | **C** | **D** | **E** | **F** | **G** |
| **TIME SEGMENT** | **START MILESTONE** | **FINISH MILESTONE** | **TIME-RELATED COST-RATE** | **TIME-RELATED COST-RATE METHOD** | **MIN** | **MAX** |
| | | | Dollars per calendar ay | User Cost or Liquidated Damages | Calendar Days | Calendar Days |
| 1 | June 5, 2017 | Substantial Completion | $3,500 | User Cost | 50 | 70 |

## 1.7 INCENTIVES/DISINCENTIVES RELATED TO "TIME"

A. Contract time related charges are determined by multiplying the number of calendar days accrued for each time segment by its corresponding time related cost rate and summing the products.

B. Document accrued time charges per time segment for the duration of the project.

C. Payments or deductions to the Contractor will be based on the difference between the time related bid amounts and the actual time charges assessed for the completed project.
   1. Payment for the incentive will be made in the project accounting system after substantial completion.
   2. Deduction for any milestone disincentive will be made on the first progress payment after the total number of calendar days bid for a milestone has passed without completion as defined in Table 1.

D. Incentive
   1. The Contractor is eligible for incentive when a milestone is achieved before the number of calendar days bid as determined by the Department.
   2. Payment is made at the rate shown in column D for the difference between the number of calendar days bid and the actual number of calendar days used to achieve the milestone when Column E is defined as "User Cost."

3. Payment is made at the rate shown in the schedule of liquidated damages in Section 00555 based on the original contract amount when Column E is defined as “Liquidated Damages.”
4. The maximum dollar amount eligible for incentive payment for all combined milestones is $ 17,500.

E. Disincentive
1. When the time related cost in Column E is defined as “User Cost.”
   a. The Contractor is assessed a disincentive when a milestone is not achieved within the number of calendar days bid as determined by the Department.
   b. Disincentive is assessed at the rate shown in column D for the difference between the number of calendar days bid and the actual number of calendar days used to achieve the milestone.
   c. There is no maximum dollar amount for disincentive charges.
   d. Liquidated damages are charged in addition to disincentive for the difference between the maximum calendar days and the actual number of days to achieve the milestone if milestone completion is not achieved prior to the maximum calendar days shown in Table 1. Refer to Section 00555.

2. When the time related cost in Column E is defined as “Liquidated Damages.”
    a. The Contractor is assessed disincentive at the rate shown in the schedule of liquidated damages in Section 00555 based on the original contract amount.
    b. Disincentive is assessed for the difference between the number of calendar days bid and the actual number of calendar days used to achieve the milestone.
    c. Disincentive applies until milestone completion or the maximum calendar days defined in Column G, whichever occurs first.

F. Liquidated Damages
    1. Liquidated damages are assessed according to Section 00555 for the difference between the number of maximum calendar days from Column G and the actual number of calendar days used to achieve the milestone.

G. Timeline of Incentive, Disincentive, and Liquidated Damages
    1. Refer to Figure 1

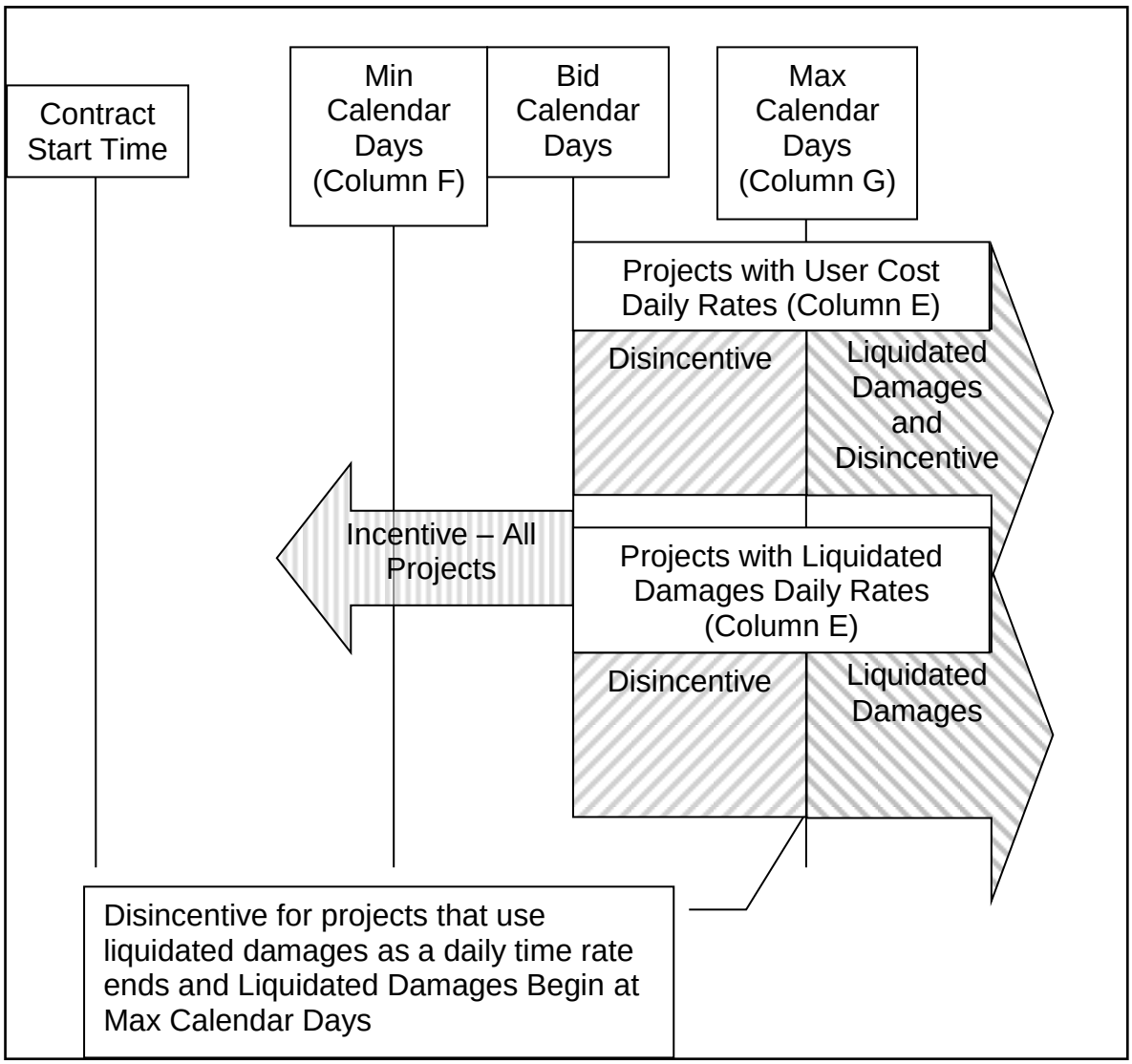


Figure 1 – Timeline of Incentive, Disincentive, and Liquidated Damages

**PART 2 PRODUCTS Not Used**

**PART 3 EXECUTION Not Used**

END OF SECTION

February 26, 2015

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 00515M**

# CONTRACT AWARD AND EXECUTION

**Delete Article 1.6 and replace with the following:**

## 1.6 PROPOSAL CONSIDERATION

A. This project uses a price + time or price + time + lane rental bidding process. These processes provide:
   1. For the determination of the low bidder based on the price of construction plus the costs associated with contract time and lane rental.
   2. An incentive/disincentive for completion of project time-related milestones based on durations established by Contractor bid as applicable.
   3. An incentive/disincentive for minimizing duration of lane and shoulder closures based on durations established by Contractor bid as applicable.

B. The Department publicly opens properly executed proposals using the current version of the Electronic Bid System (EBS) to compare bids on the basis of the summation of the products of the quantities and the unit bid prices.
   1. The Department makes the results of the comparisons available to the public.
   2. The unit bid prices govern if a discrepancy exists between unit bid prices and extensions.

C. The Department reserves the right to reject any or all proposals, waive technicalities, or advertise for new proposals.

D. The bidder can request withdrawal of a bid after bid opening by:
   1. Submitting to the Director for Construction and Materials a notarized affidavit within 24 hours after bid opening declaring a clerical or mathematical error in bid preparation.
   2. Submitting accompanying declaration with original work sheets used in bid preparation.
   3. Describing specific errors in detail.

4. Verifying that error has a significant monetary effect in the amount of 3 percent of the bid or greater.

E. The bidder may not request bid withdrawal for judgmental errors.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 00515M**

# CONTRACT AWARD AND EXECUTION

**Delete Article 1.11, paragraph A and replace with the following:**

A. The awarded Contractor must return the signed contracts, properly executed contract bonds, National Safety Rating Scores, and all required insurances to the Department within 20 calendar days after notice of award.
   1. The bidder can withdraw the proposal without penalty if the Department does not execute the contract within 30 calendar days after receiving requisite signed contracts, bonds, and insurances.
   2. The contract is not considered in effect until executed by all parties.

**Delete Article 1.11, paragraph B and replace with the following:**

B. Qualified Health Benefit Plan
   The Department will issue a Notice to Proceed after the Contractor demonstrates that an offer of qualified health insurance coverage has been or will be maintained for the employees and their dependents for the duration of any contract entered between the Department and the Contractor.
   1. Provide certification of equivalency to a "qualified health insurance" plan as required by Utah Code 72-6-107.5.
   2. Demonstrate compliance of this requirement before the Notice of Proceed or approval to sublet work. Refer to http://www.udot.utah.gov/go/standardsreferences for guidance on this process for Qualified Health Insurance Coverage.
   3. Failure to demonstrate compliance of this requirement may result in cancellation of the contract.
   4. Provide two statements to "demonstrate" compliance. Statements need to be signed originals and on company letterhead. Separate letters for each subsidiary, contracting with Department, are required.
      a. Provide an original signed statement from the Contractor stating that they will maintain an offer of Qualified Health Insurance coverage as required by Utah Code 72-6-107.5 for the duration of any contract between Contractor and UDOT.

b. Provide a written statement of actuarial equivalency from:
   1) The Utah Insurance Department;
   2) An actuary selected by the contractor or the contractor's insurer; or
   3) An underwriter who is responsible for developing the employer group's premium rates.

February 24, 2016

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 00555M**

# PROSECUTION AND PROGRESS

**Delete Article 1.11 and replace with the following:**

A. Minimize interference with traffic during performance of the work.

B. Holiday and Sunday Work:
   1. Do not perform any work without written approval except for repairing or servicing equipment, protecting work, maintaining or curing concrete, and maintaining traffic on Category II holidays as defined in Section 00570. Including the following holidays:

      - Fourth of July - from 3 p.m. Friday, June 30th to 5 a.m. Wednesday, July 5th.
      - Pioneer Day - from 3 p.m. Friday, July 21st to 5 a.m. Tuesday, July 25th.
      - Labor Day - from 3 p.m. Friday, September 1st to 5 a.m. Tuesday, September 5th.

   2. Provide notice to the Engineer before 12:00 noon the Wednesday before any Sunday or Category I holiday work as defined in Section 00570, unless otherwise restricted in the contract.

C. Night work:
   1. Provide 5 calendar days' notice to the Engineer before starting night work.
   2. Provide adequate lighting for performing satisfactory inspection and construction operations.
   3. Control noise and vibration in accordance with Section 01355.
   4. The Contractor must obtain a variance to the noise ordinance for night work. There is no guarantee that a variance will be issued. Coordinate with James Bennett of Salt Lake Valley Health Department, 385-468-3793, jbennett@slco.org

D. The Contractor is responsible to obtain all permits required to perform the work, including night work permits.

E. Traffic Limitations:

1. See Table 1 below for 9000 S lane closure limitations.
2. The intersections of 4800 W and 4000 W may be closed for a maximum of three consecutive nights between 11:00 pm and 4:00 am.
3. Failure of the Contractor to cease work and open the traffic lanes to traffic as specified in this article will result in a price adjustment per Section 01554, article 1.12, paragraph B.
4. Maintain access to all businesses, residents, and side streets at all times including right and left turn lanes.
5. Notify all owners and/or occupants two weeks in advance of any impact to property access.
6. Driveways may only be closed if work is being done directly in front of them. If a business has more than one driveway then one driveway must remain open at all times.
7. Do not close lanes if no work is taking place.
8. Do not split open traffic lanes going the same direction.

<table>
<tr><th colspan="8">Table 1: 9000 South Lane Restrictions</th></tr>
<tr><th rowspan="2">Time</th><th colspan="2">Monday - Friday</th><th colspan="2">Saturday</th><th colspan="2">Sunday</th><th rowspan="2">Time</th></tr>
<tr><th>EB</th><th>WB</th><th>EB</th><th>WB</th><th>EB</th><th>WB</th></tr>
<tr><td>0:00 – 0:59</td><td rowspan="6">1 LANE OPEN</td><td rowspan="12">1 LANE OPEN</td><td rowspan="9">1 LANE OPEN</td><td rowspan="12">1 LANE OPEN</td><td rowspan="24">1 LANE OPEN</td><td rowspan="24">1 LANE OPEN</td><td>0:00 – 0:59</td></tr>
<tr><td>1:00 – 1:59</td><td>1:00 – 1:59</td></tr>
<tr><td>2:00 – 2:59</td><td>2:00 – 2:59</td></tr>
<tr><td>3:00 – 3:59</td><td>3:00 – 3:59</td></tr>
<tr><td>4:00 – 4:59</td><td>4:00 – 4:59</td></tr>
<tr><td>5:00 – 5:59</td><td>5:00 – 5:59</td></tr>
<tr><td>6:00 – 6:59</td><td rowspan="3">2 LANES OPEN</td><td>6:00 – 6:59</td></tr>
<tr><td>7:00 – 7:59</td><td>7:00 – 7:59</td></tr>
<tr><td>8:00 – 8:59</td><td>8:00 – 8:59</td></tr>
<tr><td>9:00 – 9:59</td><td rowspan="6">1 LANE OPEN</td><td rowspan="3">2 LANES OPEN</td><td>9:00 – 9:59</td></tr>
<tr><td>10:00 – 10:59</td><td>10:00 – 10:59</td></tr>
<tr><td>11:00 – 11:59</td><td rowspan="6">2 LANES OPEN</td><td>11:00 – 11:59</td></tr>
<tr><td>12:00 – 12:59</td><td>12:00 – 12:59</td></tr>
<tr><td>13:00 – 13:59</td><td rowspan="9">1 LANE OPEN</td><td>13:00 – 13:59</td></tr>
<tr><td>14:00 – 14:59</td><td>14:00 – 14:59</td></tr>
<tr><td>15:00 – 15:59</td><td rowspan="3">2 LANES OPEN</td><td rowspan="4">2 LANES OPEN</td><td>15:00 – 15:59</td></tr>
<tr><td>16:00 – 16:59</td><td>16:00 – 16:59</td></tr>
<tr><td>17:00 – 17:59</td><td rowspan="6">1 LANE OPEN</td><td>17:00 – 17:59</td></tr>
<tr><td>18:00 – 18:59</td><td rowspan="6">1 LANE OPEN</td><td rowspan="6">1 LANE OPEN</td><td>18:00 – 18:59</td></tr>
<tr><td>19:00 – 19:59</td><td rowspan="5">1 LANE OPEN</td><td>19:00 – 19:59</td></tr>
<tr><td>20:00 – 20:59</td><td>20:00 – 20:59</td></tr>
<tr><td>21:00 – 21:59</td><td>21:00 – 21:59</td></tr>
<tr><td>22:00 – 22:59</td><td>22:00 – 22:59</td></tr>
<tr><td>23:00 – 23:59</td><td>23:00 – 23:59</td></tr>
</table>

F. Pedestrian access ramps may be closed for a total of 5 continuous calendar days per pedestrian ramp provided safe passage of pedestrians and bicyclists is maintained through the work zone according to the Americans with Disabilities Act and the MUTCD. Comply with Section

01554, article 1.8, paragraph G. Closures beyond 5 days will be assessed a price adjustment per Section 01554, article 1.12, paragraph B..

G. Stripe traffic lanes or provide temporary traffic markings before removing traffic control. (Temporary striping is paid under traffic control).

H. Notify the Engineer and Third Party Public Information Manager 14 calendar days in advance of any work that may be done on or adjacent to private property.

I. Contact Police, Fire and Emergency Services in the area at least 7 calendar days prior to beginning work. Inform them in writing of work location, lane closures and schedule as work progresses. Give the Engineer a copy of the work plan. Provide 24 hour contact information.

J. Contractor will not be allowed on any private property without written approval from the property owner unless there is an acquired construction easement.

K. Maintain signal detection, pedestrian push buttons, and communication throughout the duration of the project. New detection must be installed, inspected, and operational before removal of old detection. Contact Region 2 Signals Inspector Sean Montgomery (801-514-9283) at least 7 days prior to signal work with any questions and to schedule integration.

L. Traffic is allowed on the milled surface for up to 48 hours.

M. Contractor to coordinate with UTA for access to UTA right of way https://www.rideuta.com/Doing-Business/Property-Management

N. Coordinate traffic restrictions with the Bangerter 4 project.

O. Two left turn lanes must remain open at all times at the intersection of Bangerter and SR-48.

P. Replace and repair landscaping, including sprinklers and sod, associated with the acquisition of Parcel 109. Including landscaping adjacent to Parcel 109 and within the park strip affected by the pedestrian ramp construction.

Q. Right-of-Way Limitations:
   1. On portions of F-0209(34)10 (road/street), work may commence on existing UDOT or City owned Rights of Way and properties cleared for construction as part of this project.
   2. The Contractor shall verify legal rights for entry are obtained before construction activities occur on any property.

3. For legal rights for entry obtained after the date of this agreement, the Contractor must obtain written approval from the Resident Engineer before entering upon those properties.
4. No physical entry is allowed on the properties listed in Table 2 until UDOT has secured a right of entry on the property.
5. None of the properties listed in Table 2 shall be on the critical path until the committed clearance date as shown in Table 2.
6. Do not enter or commence work on any property unless the necessary legal rights for entry are obtained. Contractor is responsible to enforce this requirement with the subcontractors. Any physical entry on the property without the necessary legal rights for entry is considered trespassing. Contractor assumes all liability for any trespass. Contractor will indemnify, defend, and hold harmless the State of Utah, UDOT, its employees and agents from and against all claims, damages, injuries, suits and costs, including attorneys' fees, or increased costs caused by the Contractor's entry upon parcels without having the necessary legal rights for entry.

**Table 2: Right of Way Limitations**

| Parcel No. | Owner Name | Property Address | Committed Clearance Date |
|---|---|---|---|
| 105 | Genuine Parts Company, a Georgia Corporation | 8915 South 4000 West, West Jordan, UT | March 1, 2017 |
| 109 | Louie Family West Jordan, LLC, a Delaware limited liability company | 3863 West 9000 South, West Jordan, UT | March 1, 2017 |

**Add Article 1.14 paragraph E:**

E. Contract time **will not** be suspended during the period between the first and second application of pavement marking paint. **Contractor should take this into account when bidding number of days.** Substantial completion does not occur until all applications of pavement marking paint are installed.

1. Apply the second application of pavement marking paint at least 15 days but no later than 30 days after the first application.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 00570M**

# DEFINITIONS

**Delete Article 1.2 and replace with the following:**

**1.2 Related Sections**

A. Section 00725: Scope of Work

B. Section 01280: Measurement

C. Section 01282: Payment

**Add Article 1.3, paragraph B:**

B. UDOT Specification Writers' Guide

**Delete Article 1.6, paragraph A45 and replace with the following:**

45. MUTCD Utah Manual on Uniform Traffic Control Devices (This applies to all references to the MUTCD in Department Standard Specifications and Drawings, Supplemental Specifications and Drawings, Special Provisions, and Plan Sheets.) Refer to http://www.udot.utah.gov/go/standardsreferences for a link to the Utah MUTCD.

**Delete Article 1.7, paragraph A38 and replace with the following:**

38. **Debarment** – Action taken by the Department or federal government pursuant to policies or regulations that prohibits a person or company from performing work on a public project.

**Delete Article 1.7, paragraph A49, Table 1 and replace with the following:**

Table 1

| Holiday Categories | |
|---|---|
| **Category I** | **Category II** |
| Martin Luther King, Jr. Day | New Year's Day |
| Presidents' Day | Memorial Day |
| Columbus Day | Independence Day |
| Veteran's Day | Pioneer Day |
| | Labor Day |
| | Thanksgiving Day |
| | Christmas Day |

**Delete Article 1.7, paragraph A66 through A104 and replace with the following:**

66. **Probation** – Action taken by the Department pursuant to Department policies that prohibits a person or company from bidding on Department or Department administered projects.
67. **Profile Grade** – The trace of a vertical plane intersecting the top surface of the proposed wearing surface, usually along the longitudinal centerline of the roadbed. Profile grade means either elevation or gradient of such trace according to the context.
68. **Project** – The specific section of the highway or other specific property on which construction is to be performed together with all improvements to be constructed under the contract.
69. **Proposal** – A bidder's written response to a Department request for proposals. See Value Engineering Change Proposal.
70. **Responsible Bidder** – A bidder able to perform the specified work as determined by the Department.
71. **Responsive Bid** – A bid that meets all requirements of the invitation for bids.
72. **Resources** – The labor, equipment, materials, and incidentals necessary to perform work on a contract bid item or other element of work.
73. **Right-of-Way** – A general term denoting land, property, or interest acquired for or devoted to transportation purposes.
74. **Roadbed** – The graded portion of highway within top and side slopes, prepared as a foundation for the pavement structure and shoulders.
75. **Roadbed Material** – Material in cuts, embankments, and embankment foundations from the subgrade down that supports the pavement structure.

76. **Roadside** – The areas between the outside edges of the shoulders and the right-of-way boundaries including unpaved median areas between inside shoulders of divided highways and areas within interchanges.
77. **Roadside Development** – Items necessary for the preservation or replacement of landscape materials. Features may include suitable plantings and other improvements or ground cover to preserve and enhance the appearance and stability of the highway right-of-way or acquired easements for scenic improvements.
78. **Roadway** – The portion of a highway within the construction limits.
79. **Shoulder** – The portion of the roadway adjacent to the traveled way where vehicles may stop for emergencies and which supports base and surface courses.
80. **Sidewalk** – That portion of the roadway constructed exclusively for pedestrian use.
81. **Significant Change in Character of Work –** Work that differs materially in kind or nature from that involved or included in the original contract or results in the total quantity of a major contract item, as defined in this section, varying from the original contract quantity by more than 25 percent.
82. **Site of Work –** As defined in Title 29 CFR Part 5.2 (l).
83. **Specifications** – The compilation of provisions and requirements for the performance of prescribed work.
    a. **Special Provisions** – A unique specification or a modification or revision to the standard specifications applicable to an individual contract.
    b. **Supplemental Specifications** – Approved additions and revisions to the Standard Specifications.
    c. **Standard Specifications** – Specifications approved for general application and repetitive use.
84. **Specifications Format** – See the Specification Writer's Guide. Refer to http://www.udot.utah.gov/go/standardsreferences.
    The titles or headings of the sections, parts, articles, paragraphs, and sub-paragraphs in Standard Specifications and Special Provisions are intended for convenience of reference and have no bearing on their interpretation.
85. **Stabilization** – Modification of soils or aggregates by incorporating materials that increases load-bearing capacity, firmness, and resistance to weathering or displacement.
86. **State** – The State of Utah acting through its authorized representative.
87. **Structures** – Bridges, culverts, catch basins, drop inlets, retaining walls, cribbing, manholes, endwalls, buildings, sewers, service pipes, underdrains, foundation drains, and other such features that may be encountered in the work.

88. **Subcontractor** – An individual or legal entity to which a Contractor sublets part of the work.
89. **Substantial Completion** – Substantially complete. The day, determined by the Engineer, when all of the following have occurred:
    a. The public, including vehicles and pedestrians, has full and unrestricted use and benefit of the facilities both from the operational and safety standpoint including all Intelligent Transportation Systems (ITS) and Advanced Traffic Management Systems (ATMS).
    b. All safety features are installed and fully functional, including, but not limited to, illumination, signing, pavement markings, all coats of striping paint, barrier, guardrail, impact attenuators, delineators, and all other safety appurtenances.
    c. All remaining bid items in the contract are complete in addition to safety features. Only minor corrective work and replacement of temporary substitute facilities remains for physical completion.
    d. The Contractor and Engineer mutually agree that all work remaining will be performed without lane closures, trail or sidewalk closures, or further delays, disruption, or impediment to the public.
90. **Substructure** – All of the structure below the girders or main load carrying members of simple and continuous span bridges, including abutments, bent caps, columns, bents, footings, wingwalls, and skewbacks of arches.
91. **Superintendent** – The Contractor's authorized employee in responsible charge of the work.
92. **Superstructure** – All of the structure except the substructure as defined in this section.
93. **Surety** – The legal entity or individual, other than the Contractor, executing a bond furnished by the Contractor.
94. **Time Related Cost (Time component)** – A bid item that identifies a daily value based on user costs or liquidated damages. Time value is the sum of the products of the time-related cost rates multiplied by the time bid by the Contractor to achieve the milestones specified.
95. **Town, City, or District** – A subdivision of the county used to designate or identify the location of the contract.
96. **Traveled Way** – The portion of the roadway designated for the movement of vehicles, excluding shoulders and auxiliary lanes.
97. **Unbalanced Bid**
    a. **Mathematically Unbalanced** – A bid containing lump sum or unit bid items that do not include reasonable actual costs plus a reasonable proportionate share of the bidder's anticipated profit, overhead costs, and other indirect costs.

b. **Materially Unbalanced** – A mathematically unbalanced bid that generates a reasonable doubt that awarding the contract to the bidder will result in the lowest ultimate cost to the Department.

98. **Unrestricted Traffic** – No traffic control measures in use that obstruct, delay, or in any way impede traffic flow, other than those specifically permitted in the contract.

99. **User Costs** – Costs incurred by the traveling public due to construction activities.

100. **Utility** – All privately, publicly, or cooperatively owned lines, facilities, and systems for producing, transmitting, or distributing communications, power, heat, gas, oil, water, waste, and storm water not connected with the highway drainage, signal systems, and other products that directly or indirectly serve the public. The utility company.

101. **Value Engineering Change Proposal** – A change proposed by the Contractor and considered by the Department intended to result in project cost savings to contract pay items without reducing the essential functions and characteristics of the project. Refer to Section 00725.

102. **Work** – The elements, activities, and incidentals necessary to complete a project (including labor, materials, equipment, and the interim products and stages attained in the course of reaching completion), and all alterations, amendments, or extensions made by change order or other written orders of the Engineer.

103. **Working Day** – Any calendar day, except:
    a. Contract designated holidays or days restricted in the contract.
    b. Days when the Contractor is specifically required by the contract or letter from the Engineer to suspend operations through no fault of the Contractor.
    c. Days when the Engineer determines that inclement weather or adverse conditions interfere with the progress of the work.
        1) When the Engineer determines that inclement weather prevents the Contractor from working for at least 50 percent of the normal working day.
        2) The day may be considered a working day even though conditions may improve and the major portion of the day could be considered suitable for operations if weather stops the Contractor's crew from beginning work at the normal starting hour and the crew is released as a result.
    d. Saturdays and Sundays for submittals and notifications.

104. **Working Drawings** – Drawings produced by the Contractor that supplement the contract drawings to provide information not included in the contract documents but that is required to fabricate, erect, transport, or temporarily support the structure or structural elements in the completion of the work. Working drawings do not supersede the contract drawings.

105. **Written Permission of the Engineer** – A letter signed by the Engineer granting specific permission and outlining limitations of the permission.

March 12, 2015

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 00725M**

# SCOPE OF WORK

**Delete Article 1.2 and replace with the following:**

## 1.2 RELATED SECTIONS

A. Section 00221S: Bidding Contract Time

B. Section 00555: Prosecution and Progress

C. Section 00570: Definitions

D. Section 00727: Control of Work

E. Section 01282: Payment

F. Section 01355: Environmental Compliance

G. Section 01554: Traffic Control

H. Section 01741: Final Cleanup

**Delete Article 1.5 and replace with the following:**

## 1.5 SUBMITTALS

A. Refer to this Section, article 1.7, paragraph C.

**Add the following to paragraph 1.6 Contract Intent:**

B. ***The project*** consists of the following work:
   1. Rotomilling 1.5” of existing asphalt and replacing with 1.5” HMA.
      a. Mill and overlay must wrap around the radius of publicly owned cross streets to the point of tangency (PT) or as directed by the Engineer.
      b. Do not wrap the side street if there is a cross gutter.

2. Lowering valves, manholes, and cleanout boxes prior to the roto-milling operations and then raising them back to the finished surface.
3. Reconstructing monuments.
4. Installing radar detection at the intersections of 4000 W and 4800 W. Prior to installation contact Shaun Montgomery at (801) 514-9283. Make radar units operational prior to the beginning of any rotomilling. Return existing video units to the Engineer.
   a. 4000 W: All directions need Matrix installed, and Advance Sensors for the eastbound and westbound directions.
   b. 4800 W: All directions need Matrix installed, and Advance Sensors for the eastbound and westbound directions.
5. Removing pedestrian pushbuttons and installing new pedestrian pushbuttons on new pedestrian poles at all four quadrants of 4000 W and 4800 W. Seal the holes from the removed pedestrian buttons to be water tight.
6. Repairing all soft spots within the project limits as determined by the Engineer.
7. Reconstructing all pedestrian ramps throughout the project limits as directed by the Engineer.
8. Reestablishing all pavement markings and pavement messages within the project limits.
9. Reconstructing curb and gutter throughout the project limits as directed by the Engineer.

C. Document and furnish a copy of the size, location, and type of the following items in an acceptable format:
   1. Pavement Markings
   2. Pavement Messages
   3. Manholes
   4. Valves
   5. Monuments

   Do not proceed with work until the Engineer reviews and accepts the documentation. The Engineer will have two days to review the documentation.

D. Layout pavement markings and messages according to the documentation or as otherwise directed by the Engineer.

**Delete Article 1.7 and replace with the following:**

**1.7 PARTNERING**

A Implement partnering according to the Partnering Field Guide. Refer to http://www.udot.utah.gov/go/standardsreferences.

B. Share all partnering costs equally with the Department.

C. Submit certificates for all required individuals, as listed in the Partnering Field Guide before execution of the first month's construction estimate. Failure to comply will result in 25 percent of the first estimates Mobilization payment up to $25,000 being withheld until all individuals have completed the required training.

**Add Article 1.19, paragraph J5:**

5. Time savings resulting from a VECP are not financially compensated to the Contractor above the maximum dollar amount eligible for incentive payment as specified in Section 00221S.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 00727M**

# CONTROL OF WORK

**Delete Article 1.26 and 1.27 and replace with the following:**

## 1.26 CLAIMS HIGHER LEVEL REVIEW

A. Make a good-faith effort to settle the claim by utilizing the Partnering Escalation Ladder identified in the Partnering Field Guide prior to submitting a claim and requesting a meeting with the Claims Review Board.

B. Submit a written request for a higher-level review to the Engineer within 10 calendar days after receiving the Engineer's decision or offer if not accepting the Engineer's denial of a claim, or a settlement offer. Attach to the written request for a higher-level review all required information. Refer to this Section, Article 1.23, paragraph D.

C. Failure to submit a request within this 10-day time frame is considered acceptance of the Engineer's claim denial or offer.

## 1.27 CLAIMS REVIEW BOARD

A. A Claim will be referred to the Claims Review Board (CRB) when requested by the Contractor as provided in this Section.

B. The purpose of the CRB is to provide an independent and impartial review of submitted claims, written findings, and recommendations to the Department's Deputy Director.

C. Scheduling a hearing or utilizing the CRB does not relieve the Contractor or Department of complying with all Contract terms and conditions, and does not waive any notice or timeliness requirements. Proceed diligently with all work during the CRB process.

D. The Director of Construction or designee schedules a hearing before the CRB when deemed to be in the best interest of both the Contractor and the Department based on the Contractor's request for a higher-level review.
   1. The claim may be presented informally with or without legal counsel.

2. Notify the Department at least 10 calendar days before the meeting when using legal counsel.
3. Legal counsel will be allowed to attend the presentation, and will be allowed to make brief opening and closing remarks and advise their clients. No other participation by legal counsel at the presentation will be permitted.

E. Parties will bear their own costs.
1. All costs associated with preparation and participation in the CRB meeting will be the responsibility of each party.
2. The Contractor will not receive compensation for travel, time, research activities, time away from the project, presentation preparation, presentation time or any other activities associated with the preparation for or participation in the CRB process.

F. Pre-presentation Requirements

1. The Department and the Contractor will prepare concise written statements describing the claim and each party's position with reasoning and submit to the Project Controls Engineer who will distribute them to the other party a minimum of 7 calendar days before the scheduled presentation.
2. The parties will submit their visual presentation to the Project Controls Engineer who will distribute it to the other party a minimum of 7 calendar days before the scheduled presentation, if either party chooses to prepare a visual presentation.

G. Presentation
1. The party that is in attendance will prevail in their position on the claim if either the Department or the Contractor fails to appear before the CRB on the date and time scheduled for the presentation without justifiable cause.
2. The Contractor will submit their position first, followed by the Department.
3. The duration of each party's presentation will be determined when the Claim meeting is scheduled and will be agreed to by both parties.
   a. The duration may vary depending on the complexity and size of the claim.
4. Only information or claims related to the Contractor's original claim may be discussed in the hearing.
   a. No new information may be submitted.
   b. The CRB will inform the party that no additional information or claims are permitted if the Contractor or Department attempts to submit new information.

5. Recording the meeting by tape, court reporter, or video is prohibited.
6. This presentation is informal, allowing for the Contractor and Department to present their positions, and for all parties to exchange questions and answers.
7. The meeting will be conducted as follows:
    a. The chairman informs the meeting attendees of the procedures and format of the meeting.
    b. Both parties may deliver brief opening and closing remarks.
    c. The Contractor presents their claim in detail as supported by previously submitted information and documentation.
        1) The presentation can be verbal or visual.
    d. The Department presents its detailed position as supported by previously submitted information and documentation.
        1) The presentation can be verbal or visual.
8. The CRB may allow rebuttals by both parties during the meeting after both the Contactor and Department make their presentations.
    a. Rebuttals will not be heard after the meeting has ended.

H. Offer of Settlement or Rejection of Claim
1. The Department Deputy Director makes an offer of settlement within 45 calendar days of the claim hearing if the offer is less than the amount required to be reviewed by the Transportation Commission.
2. The decision of the Department Deputy Director is administratively final.
    a. The CRB hearing ends all administrative appeal processes available to the Contractor.
    b. The Contractor may elect to file a complaint in State court if the claim is rejected, or if the sum tendered by way of settlement is not acceptable to the contractor.

I. Acceptance or Rejection
1. Provide written notice to the Deputy Director of acceptance or rejection of the offer or rejection of the claim within 7 days of the date of the Deputy Director's offer.
    a. The Department will promptly process any required payments or contract changes if both the Department and Contractor agree to resolve the Claim.

**Delete Article 1.28, paragraph B and replace with the following:**

B. Employ a qualified safety person.
   1. Required qualifications
      a. Verifiable broad based safety background.
      b. One of the following degrees or certifications:
         1) College degree in Occupational Safety & Health (OSH) related field
         2) Associate Safety Professional (ASP)
         3) Certified Safety Professional (CSP)
         4) Certified Industrial Hygienist (CIH)
         5) Construction Health and Safety Technician (CHST)
         6) Associate in Risk Management (ARM)
         7) OSHA 500, or other nationally recognized OSH related field certification approved by UDOT Risk Management
      c. Must stay current on certification via the OSHA 502 or equivalent of 8 Continuing Education Units (CEU) in OSH related fields every 3years.
   2. Responsibilities
      a. Perform on-site safety inspections on a monthly basis, for jobs 45 days or longer in duration. Refer to the UDOT Safety and Health Manual.
      b. Coordinate all safety related efforts with the on-site competent safety person.
      c. Cannot perform production-related responsibilities on the project.

February 26, 2016

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 00820M**

# LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

**Delete Article 1.18, paragraph B.4 and replace with the following:**

1. Railroad Protective Liability Insurance in the amount of $2 Million per Occurrence/ $6 Million Aggregate

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 00820M**

# LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

**Delete Article 1.13 and replace with the following:**

## 1.13 PROTECTING AND RESTORING PROPERTY AND LANDSCAPE

A. Preserve public and private property during the work.

B. Secure legal right to access the property before any work is performed on public or private property. All damage as a result of trespass will be the financial responsibility of the Contractor including additional acquisition costs.

C. The Engineer verifies the location of monuments and property line markers and provides written approval before they are moved, disturbed, or damaged.

D. Accept liability for any damage to public or private property resulting from defective work, materials, or non-execution of the contract until contract completion.

E. Restore damaged property and items removed temporarily during construction to a condition similar or equal to that existing before the damage at no cost to the Department.

F. Temporarily discontinue work if remains of prehistoric dwelling sites or artifacts of historical or archeological significance are encountered. Refer to Section 01355.

**Delete Article 1.17, paragraph C and replace with the following:**

C. Contractor and the Department agree to provide each other with a copy of the summons and complaint within a reasonable time if served with a lawsuit or Notice of Claim. Do not file a responsive pleading on behalf of the Department until receiving written notice that the Department chooses to have Contractor handle the defense. The Department will provide the Contractor such written notice in a timely manner allowing the Contractor adequate time to respond to the summons.

**Delete Article 1.17, paragraph F3 and replace with the following:**

3. Notify claimants of their right to request re-examination of denied or partially denied claims of $5,000 or less by the:
   UDOT Claims Re-Examination Board
   4501 South 2700 West
   West Valley City, UT 84114-8430
   Phone: (801) 965-4715
   a. The information provided to the claimant includes:
      1) A time deadline for requesting re-examination equal to seven days after notification of denial or partial denial
      2) Address and name of the person to whom it should be directed
      3) General information helpful in making a determination
      4) Department project number and location
   b. The claim can be overturned by the Department if claimant is not notified of right to request re-examination.

**Add Article 1.17, paragraph F5:**

5. The Claims Re-examination Board cannot review any claim filed in the small claims court, district court, or appealed to the district court.
   a. The person in charge of responding to Claims Re-examination Board requests will put the following paragraph on all written correspondence:

      "Parties seeking to file a claim before the Claims Re-examination Board must certify that the claim has not been filed in or heard by a small claims or district court."

**Delete Article 1.18, paragraph B.2.a and replace with the following:**

a. Provide General Liability insurance with the following minimum limits of liability:
   1) $1 million Bodily Injury and Property Damage – Each Accident
   2) $3 million General Aggregate
   3) $3 million Products and Complete Operations Annual Aggregate

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 01282M**

# PAYMENT

**Delete Article 1.8, paragraph A1 and replace with the following:**

1. The Department does not allow compensation for loss of expected reimbursement or loss of anticipated profits suffered or claimed by the Contractor resulting either directly from such alterations or indirectly from unbalanced allocation among the contract items of overhead expense and subsequent loss of expected reimbursement or from any other cause.

**Delete Article 1.9, paragraphs C and D and replace with the following:**

C. Negotiated lump sum or unit prices for changes to the contract work will be based on the Contractor's estimate to do the work as validated by the Engineer's independent cost assessment. Support the price with a detailed cost estimate that includes the following information:
   1. Estimated labor hours based on agreed upon productivity rates.
      a. Use the actual cost of wages and benefits for the labor rates applied to the estimated man hours.
      b. Include certified accounting records verifying these costs or make them available upon request of the Engineer.
   2. Estimated material quantities based on agreed upon quantities.
      a. Use actual material costs as verified by supplier estimates or invoices.
      b. Use agreed to production rates for material produced on site.
   3. Estimated equipment hours based on agreed upon productivity rates.
      a. Use the lesser of the following for determining equipment costs:
         1) Rental rates obtained from the Rental Rate Blue Book for Construction Equipment according to this Section article 1.11.

2) Actual cost of the equipment to the Contractor based on internal equipment billing rates or actual rental rates supported by rental agreements for equipment applied to the estimated equipment hours. Include certified accounting records substantiating these costs or make them available upon request of the Engineer.

4. A 15 percent markup will be paid on all expenses identified above. This markup compensates the Contractor for home office overheads and profit.
5. The following additional markups will be allowed on the total of all work according to change order performed solely by subcontractors:
   a. 15 percent markup on first $75,000 of total subcontracted work.
   b. 10 percent markup on total of subcontracted work between $75,000 up to $250,000.
   c. 7.5 percent markup on total of subcontracted work exceeding $250,000.
6. No other expenses will be compensated unless approved by the Engineer.

**Delete Article 1.10, paragraph A2 and replace with the following:**

2. The Department does not compensate for the following:
   a. Labor inefficiencies caused by the Contractor.
   b. Consequential damages, including but not limited to, loss of bonding capacity, loss of bidding opportunities, and insolvency.
   c. Attorney's fees, claims preparation expenses, or litigation costs.

**Delete Article 1.11 and replace with the following:**

## 1.11 FORCE ACCOUNT

A. The Engineer may require the Contractor to work on a force account basis for the convenience of the Department or when the Contractor and Engineer are unable to negotiate an agreed upon price for changed or added work. Costs reimbursed according to this Section are considered full and complete compensation for the work performed.

B. Labor will be reimbursed at the actual cost of wages, benefits and burdens. A 15 percent markup will be paid on all labor expenses. This markup compensates the Contractor for field overheads, home office overheads, and profit.

1. Provide daily field records showing the labor hours charged to the force account work. The Engineer must approve these records daily.
2. Include certified accounting records verifying these costs or make them available upon request of the Engineer.

C. Materials installed and accepted by the Engineer as part of the force account work will be paid for at actual cost plus a 15 percent markup. The markup compensates the Contractor for field overheads, home office overheads, and profit.

1. Provide daily field records showing the materials installed as part of the force account work. The Engineer must review and approve these records daily.
2. Include copies of invoices and certified accounting records verifying these costs or make them available upon request of the Engineer.

D. Compensation for Equipment

1. The Department will pay the following:
   a. Hourly rates for machinery or special equipment, excluding small tools, authorized by the Engineer. Hourly rental rates are determined by the monthly rental rate found in the Rental Rate Blue Book for Construction Equipment divided by 176. The total hourly rates have been computed from equipment costs currently in effect and do not include costs for operating personnel.

      Obtain this publication through:
      Equipment Watch
      1735 Technology Drive, Suite 410
      San Jose, CA 95110-1313
      Phone: (800) 669-3282
      Fax: (800) 224-3527
      Refer to http://www.udot.utah.gov/go/standardsreferences.

      The rates require adjustment by a Regional Factor and a Depreciation Factor with operating and standby rates established as follows:

      1) Operating Rate – Hours the equipment is actually in use. This includes ownership and operating costs adjusted for depreciation and region factors.

2) Standby Rate – Compensation for equipment required to be at the work site but not operating. This rate is 50 percent of the adjusted ownership and operating costs computed above. The duration of allowable standby time must be approved in writing by the Engineer with a maximum of eight hours per day or 40 hours in a week.

3) The Department uses the shown capacity that is closest to the manufacturers when the manufacturer's rated capacity falls between those shown in the Rental Rate Blue Book for Construction Equipment.

4) Agree upon all rates in writing before beginning work.

5) Obtain approval from the Engineer for any equipment rental rates not provided before the start of any force account work.

2. The Department does not pay for pickup trucks used solely for transportation.

3. Provide daily field records showing the equipment hours charged to the force account work. The Engineer must review and approve these records daily.

4. Provide certified accounting records verifying these costs.

E. Subcontract work will be reimbursed in the same manner as the Contractor's work is reimbursed as described above.

1. The following additional markups will be allowed on the total of all work according to force account performed soley by subcontractors:

   a. 15 percent markup on first $75,000 of total subcontracted work.

   b. 10 percent markup on total of subcontracted work between $75,000 up to $250,000.

   c. 7.5 percent markup on total of subcontracted work exceeding $250,000.

2. Provide daily field records showing the subcontract labor, material, and equipment charged to the force account work. The Engineer must review and approve these records daily.

3. Provide certified accounting records verifying these costs.

**Delete Article 1.12 paragraph C and replace with the following:**

C. Payments are based on estimates prepared by the Engineer of the value of work performed and materials in place under the contract and for payment for material on hand according to this Section. Payment will not be made for material and work without complete acceptance documentation.

**Delete Article 1.13 title and paragraph A and replace with the following:**

**1.13 PAYMENT FOR MATERIAL ON HAND (Stockpile)**

A. Present the delivery copies of invoices. The Department may include advance partial payments for acceptable nonperishable materials purchased expressly for incorporation in the work when delivered in the vicinity of the project or stored in approved storage place.

1. The Engineer determines the amount to be included in the estimate but in no case will the amount exceed the value of the materials as shown on the delivery invoice or 75 percent of the in-place price, whichever is less.
2. Furnish evidence that the stockpiled materials are irrevocably obligated to the project when the approved storage location is other than the project site.
3. The Department does not pay when the invoice value of such materials, as determined by the Engineer, amounts to less than $2,000 or if materials are to be stored less than 30 calendar days, unless otherwise specified.
   a. The Department will waive the 30 day limit and pay advance payment for Pavement Marking Tape if the Pavement Marking Tape placement is delayed more than one week beyond the original CPM schedule date.
4. Furnish the Engineer certified paid invoices or a certified statement with a copy of the check showing payment within 60 calendar days following the date of the estimate invoice on which the stockpile material is to be paid by the Department.
5. Material will be removed from the next partial estimate as stockpiled materials if proper invoices showing payment to the supplier is not received.

**Add Article 1.14, paragraph A4:**

4. An affidavit may be required, as determined by the Engineer, from all Subcontractors certifying they have been paid for all labor and materials incorporated into the project.

**Delete Article 1.15, paragraph A3 and replace with the following:**

3. This provision is automatically invoked and becomes effective when the change in the cost of fuel warrants the adjustment during the course of construction of the project and remains in effect for the duration of the project.
   a. Adjustments are then made on all future partial estimates.

**Add Article 1.16, paragraph A3:**

3. The Contractor can choose to opt out of the Asphalt Cost Adjustment (ACA).
   a. Check the appropriate box on the bid proposal indicating the intent to opt out of the ACA.
   b. The ACA cannot be reactivated on a project for which the Contractor has opted out.

**Delete Article 1.16, paragraph C.1.a.2) and replace with the following:**

2) The high reported wholesale asphalt price (per ton) from the Argus Asphalt Report for Rocky Mountain and West coast asphalt prices for:
   Denver
   Las Vegas
   Montana
   Phoenix
   Salt Lake City
   Wyoming

July 1, 2015

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 01315S**

# PUBLIC INFORMATION SERVICES

**Delete Section 01315 in its entirety and replace with the following:**

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

A. Responsibilities of Contractor Public Information Contact for the duration of a project.

### 1.2 RELATED SECTIONS

A. Section 00555: Prosecution and Progress

B. Section 01554: Traffic Control

### 1.3 REFERENCES **Not Used**

### 1.4 DEFINITIONS

A. Contractor Public Information Contact: Person from the Contractor, who is regularly on the project site and will be responsible for coordinating public needs with the Third-party Public Information Manager and UDOT Engineer.

B. Logbook: Book where communication with Engineer, Third- party Public Information Manager, and stakeholders is documented.

C. Project Hotline: Phone number established by the Third-party Public Information Manager available for stakeholders to reach the project team.

D. Public Information (PI) Services: Tasks performed to inform and update stakeholders about construction activities, which may include distributing fliers and PI contact information, updating UDOT Traffic, and creating media materials.

E. Region Communications Manager (RCM): Person who oversees communications and public information services on projects in the Region.

F. Stakeholder: Any person, business, agency, community or organization affected by construction project impacts.

G. Third-party Public Information Manager (PIM): Person hired by UDOT to perform public information services on a project.

## 1.5 SUBMITTALS

A. Provide a copy of the logbook to UDOT Engineer and third-party PIM on a weekly basis, or as needed.

## 1.6 PERFORMANCE REQUIREMENT

A. Designate the Contractor Public Information Contact at the project pre-construction conference.
   1. Responsible for coordinating PI needs with Engineer and Third-party PIM.
      a. Contractor Public Information Contact duties take precedence over other assigned duties.

## 1.7 PIC RESPONSIBILITIES

A. Maintain daily, or as needed, communication with Engineer and Third-party PIM.

B. Document correspondence with Engineer, third-party PIM, and stakeholders in logbook.

C. Attend weekly construction meeting with project team to gather schedule updates, share stakeholder inquiries, and coordinate PI needs.

D. Work with Engineer and Third-party PIM to resolve PI questions and concerns within 24 hours of initial stakeholder inquiry. Third-party PIM will respond to stakeholder. (Safety issues must be resolved immediately)

## 1.8 PAYMENT PROCEDURES

A. Department makes:
   1. Partial payments for the pay item Public Information Services as the work progresses when the Contractor provides public information services according to this specification.

2. Payments based on a percentage of project completion.

B. The Engineer and Third-party PIM monitor and evaluate the Contractor Public Information Contact and all PI services. Failure to provide public information services according to this specification results in a weekly deduction of between $1,000 and $10,000.

## PART 2 PRODUCTS

### 2.1 OFFICE SPACE AND EQUIPMENT - GENERAL

A. Telephone Services

B. Labor and material required to perform the duties and responsibilities of this section.

## PART 3 EXECUTION

### 3.1 ESTABLISH LOCAL PUBLIC INFORMATION SERVICES

A. Provide contact information to Engineer and Third-party PIM.

B. Maintain logbook.

1. Document correspondence with Engineer, Third-party PIM, and stakeholders.
   a. Date, time
   b. Contact information
      1. Name, phone number, address and/or email address
   c. Description of inquiry
   d. Response
   e. Subsequent responses or actions taken during construction

2. Work with Third-party PIM to coordinate, answer and determine course of action to respond to all inquiries within 24 hours of initial request. (Safety issues must be resolved immediately). Action may include a phone call, written correspondence and/or in-person meeting, which Third-party PIM will coordinate.

3. Provide copy of logbook to Engineer and Third-party PIM on a weekly basis, or as needed.

C. Respond to questions from UDOT Engineer and Third-party PIM concerning activities and schedules within 24 hours.

D. Participate in meetings held with stakeholders, as needed.

E. Communicate deviations from schedule established in the weekly update meeting to Engineer and Third-party PIM.

F. Communicate project activities that affect traffic and access to the Engineer and Third-party PIM.
   1. Contact them within 15 minutes of a major accident or other unexpected occurrence that impedes traffic flow, alters traffic routes significantly or causes other disruption to the traveling public in the project area.

G. Forward all media inquiries and interview requests regarding the project to the Third-party PIM, who will pass the information along to the RCM and UDOT Central Communications via the 24-hour UDOT Media Hotline, 801-746-9932.

END OF SECTION

**Supplemental Specification**
**2012 Standard Specifications Book**

**SECTION 01355M**

# ENVIRONMENTAL COMPLIANCE

**Delete Article 3.7, paragraph A1 and replace with the following:**

1. Cultural and Paleontological – Initiate consultation with a Department staff archaeologist to determine cultural resource survey needs and clearance requirements. The Department staff archaeologist provides clearance to the Engineer through written notification.

September 1, 2016

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 01452S**

# PAVEMENT SMOOTHNESS

(International Roughness Index Specification)

**Delete Section 01452 and replace with the following:**

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

A. Process and procedures for acceptance testing and determination of a minimum International Roughness Index (IRI) and Incentive/Disincentive for smoothness of Hot Mix Asphalt (HMA), Open Graded Surface Course (OGSC), Bonded Wearing Course (BWC), Stone Matrix Asphalt (SMA), Micro-Surfacing, Portland Cement Concrete Pavement (PCCP) and Portland Cement Concrete Pavement (PCCP) rehabilitation using a profiler approved and certified by the Department.

### 1.2 RELATED SECTIONS

A. Section 02735: Micro-Surfacing

B. Section 02741: Hot Mix Asphalt

C. Section 02742S: Project Specific Surfacing Requirements

D. Section 02744S: Stone Matrix Asphalt

E. Section 02752: Portland Cement Concrete Pavement

F. Section 02786: Open Graded Surface Course

G. Section 02787: Bonded Wearing Course

H. Section 02981: Grinding Pavement

### 1.3 REFERENCES

A. AASHTO R 43: Quantifying Roughness of Pavements

B. AASHTO R 54: Accepting Pavement Ride Quality When Measured Using Inertial Profiling Systems

C. AASHTO R 57: Operating Inertial Profiling Systems

D. UDOT Materials Manual of Instruction
E. AASHTO M 328: Inertial Profiler

## 1.4 DEFINITIONS

A. Category 1
   1. Newly constructed pavement surfaces having two or more opportunities for improving ride.

B. Category 2
   1. Newly constructed pavement surfaces without two or more opportunities for improving ride.

C. Opportunity to Improve Ride
   1. Placing Granular Borrow, Untreated Base Course, Treated Base Course, Open-Graded Surface Course (OGSC), Bonded Wearing Course (BWC), Stone Matrix Asphalt (SMA), Rotomilling, Cold-In-Place Recycling, Hot-In-Place Recycling, and each lift of paving.
   2. Lane leveling is not considered an opportunity to improve ride.

D. Pavement Section
   1. Each travel lane or median, 0.1 mile long, sections include:
      a. All traffic lanes
      b. Ramps
      c. Medians 8 ft and wider
      d. Turn lanes
      e. Approach slabs with final riding surfaces placed as part of the contract

   2. Each pavement section is laid out consecutively from the start of the project.

   3. Localized Roughness Criteria also applies to bike lanes and shoulders.

E. Structure Section
   1. Each travel lane or median, 0.1 mile long, sections include
      a. Bridges, approach slabs and pavement within 25 feet of the approach slab with final riding surfaces placed as part of the contract.

F. Wheel Path
   1. A continuous parallel line 2.5 ft inside the lane or median lines.

G. Mean Roughness Index (MRI)
   1. Average of two wheel path IRIs taken from each pavement section.

H. Localized Roughness
   1. Profile deviations in a continuous 25-ft pavement.

## 1.5 SUBMITTALS

A. Certifications for Profilers and Operators.

B. Summary report of acceptance profile testing for the project, including electronic file. Refer to AASHTO R 43.

C. Original raw data files compatible with the ASTM E2560 standard. Refer to AASHTO R 43.
   1. Data files collected before corrective work
   2. Data files collected for final acceptance

## 1.6 GENERAL REQUIREMENTS

A. Certify operators and equipment according to UDOT Materials Manual of Instruction 995.

B. Perform all work necessary to prepare the pavement for testing, including sweeping; this is incidental to the work and is not measured for payment.
   1. Seal asphaltic based pavements after corrective grinding.
   2. Include all costs and resources for smoothness testing, preparation, and correction, including traffic control, temporary pavement markings, grinding or milling, disposal of waste material, and flush coat for ground areas in the surfacing bid items.

C. Perform Independent Assurance testing with the Department as directed by the Engineer according to AASHTO R 54 *Verification Testing.*

## 1.7 ACCEPTANCE

A. The Department evaluates longitudinal deviations for all roadways using acceptance profiles performed by the Contractor.

   1. Determine IRI using the most recent version of Profile Viewer and Analysis (ProVAL) software. Refer to AASHTO R 54 and ASTM E2560. Areas of localized roughness will be identified using the ProVAL “Smoothness Assurance” analysis, calculating IRI with a

continuous short interval of 25 ft [7.62 m] and the 250-mm filter applied.

2. Determine MRI for each Pavement Section with 250-mm filter applied.

B. Limit transverse pavement deviations to less than 3/16 inch from the lower edge of a 10-foot straightedge.

C. Pavement smoothness is evaluated before and after corrective work. Final pavement smoothness acceptance is based on the final profile of all Pavement Sections of the project.

D. Limit localized roughness as specified in Section 02742S
   1. Include profile deviations from bridge decks, approach slabs and transitions, manholes, valves, and other facilities in the profile when the contract requires the adjustment, new construction or reconstruction of these facilities.
   2. Exclude profile deviations from bridge decks, approach slabs and transitions, manholes, valves, and other facilities in the profile when the contract does not include adjustment, new construction or reconstruction of these facilities.
   3. Limit profile deviations in shoulder or bike lane as specified in 02742S.

## 1.8 INCENTIVE/DISINCENTIVE

A. The Department applies Incentive/Disincentive for final smoothness to Category 1 pavement surfaces longer than 1,000 ft and structure sectionsRefer to Section 02742S.
   1. Prorate incentives/disincentives for partial pavement sections.
   2. Not eligible for incentives:
      a. Pavement requiring corrective action at the time of acceptance testing. Disincentives are based on the MRI obtained at the time of final acceptance re-testing.
      b. Non-PCCP Pavement Section where grinding exceeds 20 $yd^2$; disincentive remains applicable. The minimum disincentive for these pavement sections is $1,000 each.
      c. Pavements with grinding on the final surface of OGSC, BWC, and Microsurfacing.

B. The Department applies Incentive/Disincentive for Category 2 pavements according to Section 02742S.
   1. The department calculates the percent of improvement using the following formula:

$$\frac{MRI_o - MRI_f}{MRI_o} \times 100$$

Where:

$MRI_o$ = MRI of original roadway surface
$MRI_f$ = MRI of final corrected roadway surface

C. The Department does not apply Incentive/Disincentive to:
   1. Pavements shorter than 1,000 ft
   2. Shoulders
   3. Bike lanes
   4. Medians narrower than 8 ft
   5. Horizontal curves with a centerline curvature radius less than 900 ft and areas within the superelevation transitions to these short radius curves
   6. Tapers
   7. Surfaces within 15 ft of bridge decks and approach slabs not paved as part of the contract

## PART 2 PRODUCTS

### 2.1 PAVEMENTS

A. Hot Mix Asphalt (HMA). Refer to Section 02741

B. Open Graded Surface Course (OGSC). Refer to Section 02786

C. Bonded Wearing Course (BWC). Refer to Section 02787

D. Stone Matrix Asphalt (SMA). Refer to Section 02744S

E. Micro-Surfacing. Refer to Section 02735

F. Portland Concrete Pavement (PCCP). Refer to Section 02752

### 2.2 FLUSH COAT

A. Tack coat. Refer to Section 02748

## PART 3 EXECUTION

### 3.1 PAVEMENT PROFILE CORRECTION

A. Perform preliminary profiling and roadway smoothness evaluation to identify any defects exceeding acceptance limits.
   1. Correct defects before performing acceptance testing.

a. Measure and correct localized roughness defects in the underlying surface before placement of the final OGSC, BWC, SMA, or Micro-Surfacing surface course.
b. Correct localized roughness defects across lanes, medians, and shoulders in widths terminating at a lane line, edge of pavement, or center of the lane by grinding with a device approved by the Engineer. Refer to Section 02981
   1) Include areas not eligible for incentive/disincentive. Refer to this Section, article 1.8, paragraph. B,.
c. Taper corrected areas for smooth transverse transitions and surface drainage.
d. Re-profile for correction verification before acceptance testing.
e. Seal corrected areas in BWC, OGSC, HMA, SMA, and Micro-Surfacing with a flush coat application.
   1) Apply the emulsion according to Section 02748 for tack coat.

## 3.2 ACCEPTANCE TESTING

A. Notify the Engineer in writing at least two working days before performing acceptance testing for pavement smoothness.
   1. After all corrective work has been performed
   2. Clearly define each of the pavement sections to be evaluated.

B. Perform acceptance testing for smoothness.
   1. Collect longitudinal profiles in each wheel path and in the center of each paved shoulder and bike lane using Department certified profilers and operators in accordance with AASHTO R 54, R57 and M328.
   2. Determine the MRI for each Pavement Section.
   3. Determine localized roughness using IRI.

   4. Submit a summary report to the Engineer within two working days that includes pavement section identification, profile results, and bump locations showing localized roughness corrections by pavement section.

## 3.3 PAVEMENT THICKNESS

A. Determine PCCP thickness after smoothness acceptance testing.

B. Re-test other pavements for thickness after grinding as directed by the Engineer.

END OF SECTION

April 13, 2016

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 01455M**

# MATERIAL QUALITY REQUIREMENTS

**Delete Article 1.16, paragraph B1 and replace with the following:**

1. All manufacturing processes of the steel and iron material in a product such as melting, rolling, extruding, machining, bending, grinding, drilling, and coating must occur within the United States.

**Delete Article 1.16, paragraph C1c and replace with the following:**

c. Material descriptions, quantities, and means of material identification such as heat numbers, lot numbers, and other industry identification markings for each process the material underwent so the final product can be tracked through a step process from melting to final product.
d. Tracking quantities is not required for coating operations and for mill certifications.

**Delete Article 1.16, paragraph D1 and replace with the following:**

1. Track the use of all permanent foreign steel incorporated in the project.

**Delete Article 1.16, paragraph E and replace with the following:**

E. The following are exempt from Buy America except as noted:

1. Temporary steel or iron materials.
2. Materials left in place for the Contractor's convenience that could be removed without damaging the completed work
3. Items such as nuts, bolts, washers, screws, concrete chairs, spacers, mailboxes, and other steel or iron parts that may be considered miniscule or non-structural to the whole of the project.
4. Fencing stays, clips, staples, or other miscellaneous fencing components.
5. Manufactured assemblies that are less than 51 percent by weight steel or iron content when it is delivered to the job site for installation.
   a) Pre-cast items such as pipe, manholes, and drainage boxes must meet the Buy America requirements.
6. The major steel and iron components of the following and other similar assemblies must meet the requirements of Buy America:
   a) Guardrail, guardrail posts, end sections, terminals, cable barrier, steel or iron pipe, conduit, grates, manhole covers and risers, mast arms, poles, standards, trusses, supporting structural members for signs, luminaires, and traffic control systems.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 01455M**

# MATERIAL QUALITY REQUIREMENTS

**Add Article 1.4, paragraph B:**

B. Approved Products List (APL) - A list of products and materials that the Department accepts as meeting the requirements in the Department's Standard Specifications and Drawings. Refer to the Department Materials Web site to access the APL at http://www.udot.utah.gov/go/standardsreferences.

1. The APL does not include all acceptable products. It includes products submitted by manufacturers and reviewed by the Approved Products Panel.
2. Inclusion in the APL is not a product endorsement by the Department.

**Add Article 1.5, paragraph E:**

E. Completed APL Compliance Form and Manufacturer Instructions printed from the Department's Approved Products List Web site. Refer to the Department Materials Web site to access the APL at http://www.udot.utah.gov/go/standardsreferences. Refer to this Section, Article 1.18.

**Delete Article 1.11, paragraph A4 and replace with the following:**

4. Lot identification or manufacturer's identification of the certified materials or assemblies delivered to the project

**Add Article 1.11, paragraph D:**

D. Provide the APL Compliance Form and Manufacturer Instructions instead of a Certificate of Compliance if the product is listed in the Department's APL. Refer to this Section, article 1.18.

1. Do not use the APL Compliance Form for acceptance when a project special provision modifies the product requirements in the Standard Specifications.

**Add Article 1.18:**

## 1.18 APL COMPLIANCE FORM

A. Provide the completed APL Compliance Form and Manufacturer Instructions printed from the Department's Approved Products List website instead of a Certificate of Compliance if the product is listed in the Department's APL. Refer to the Department Materials Web site to access the APL at http://www.udot.utah.gov/go/standardsreferences.

1. The Engineer will evaluate the suitability of the product for its intended use according to the restrictions in the APL.
2. Do not use the APL Compliance Form for acceptance when a project special provision modifies the product requirements in the Standard Specifications.

B. Buy America requirements still apply when acceptance is based upon the APL Compliance Form. Refer to this Section, article 1.16.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 01456M**

# MATERIALS DISPUTE RESOLUTION

**Delete Article 1.6, paragraph C and replace with the following:**

C. Include the following items in the engineering analysis where applicable:
   1. Data supporting the Contractor's test results. Data must be based on project quality control testing.
      a. Split sample testing performed within the applicable contract.
      b. Contractor's test data for the disputed results along with all supporting test data and calculations for calculated values such as bulk specific gravity, maximum specific gravity, and ignition oven results for disputing VMA in asphalt concrete.
      c. Successful laboratory correlation information when required by material specification.
   2. Slump, air, yield, and similar items for disputing compressive strength of Portland cement concrete.
   3. Statistical analysis or identification of outliers.
   4. Procedures or issues leading to disputed acceptance test results.
   5. Incentive/Disincentive calculations based on both Contractor and Department test values, individually.

March 30, 2015

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 01554M**

# TRAFFIC CONTROL

**Add Article 3.8:**

## 3.8 NOTIFICATION OF LANE CLOSURES AND SUBSEQUENT OPENINGS

A. Provide advance notification of every lane closure on designated state Routes to the engineer.
   1. Notify the engineer as soon as it is known that a lane closure is necessary to execute the work and at a minimum, 72 hours before the closure.
   2. Notify the engineer immediately when the schedule, location, or need for an upcoming lane closure changes.
   3. Include in the notification the route, the beginning and ending milepost/mile marker, number of lanes to be closed, direction of the closure, the date and time of the beginning of closure, and the date and time of the ending of the closure.
   4. Notification of the engineer may be made in person or via email, phone call or text message.

B. Provide advance notice of every lane closure to third-party public involvement consultant for entry into UDOT Traffic Lane Closure system via UDOT Traffic website. Information should be provided to third-party public involvement consultant 72 hours prior to each closure.

   1. Refer to Section 01315.

C. Provide real-time notification of every lane closure, and subsequent lane opening, via UDOT Lane Closure mobile application. ***(Use iOS or Android smartphone;*** download instructions for app will be provided by UDOT.)
   1. **Lane Closure**: Confirm closure details via mobile application 30 minutes before placing the first traffic control device in the travel lane. *(Mobile application will generate a notification of the upcoming closure 45 minutes prior to scheduled start time; contractor accepts the closure to activate it, or cancels/reschedules the closure as needed.)*
   2. **Lane Opening:** Confirm lane reopening via mobile application 30 minutes prior to removing the last traffic control device in the lane. *(Mobile application will generate a notification 45 minutes prior to*

*scheduled expiration of lane closure; contractor accepts the notification to confirm scheduled end time, or extends the closure as needed.)*

3. **In the event mobile application is not working or unavailable: Call the TOC at (801) 887-3700** and provide information to activate, modify, or delete lane closure in the UDOT Traffic Lane Closure system. This call must be made 30 minutes prior to placing the first device in the travel lane, and 30 minutes prior to reopening the lane.

D. Include brief summary of lane closure notification plan in Traffic Control Plan narrative.

   A. Lane closure notification plan

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 01554M**

# TRAFFIC CONTROL

**Delete Article 1.2, paragraph G and replace with the following:**

G. Section 02845: High Tension Cable Barrier

H. Section 02890: Retroreflective Sheeting

**Add Article 2.3, paragraph E**:

E. Maintain cable barrier and anchor systems during construction.
   1. Protect existing hazards when cable barrier and anchor systems are rendered inoperable by work. Address barrier length of need for the hazard.
   2. Maintain the required tension in the cable barrier system when the cable is disconnected by installing anchor systems on each end of the disconnect.
      a. Do not cut cable. Disconnect cable at cable splice or anchor system locations only.
   3. Install NCHRP 350 approved terminal compatible with existing cable system. Refer Section 02845.
      a. Tension cable to manufacturer's requirements.

April 19, 2016

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 01557S**

# MAINTENANCE OF TRAFFIC (MOT)

**Add Section 01557:**

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

A. MOT Maintainer

B. Maintenance of Traffic (MOT) plans, Materials, and labor necessary for implementation.

C. Variable message signs and construction signs

### 1.2 RELATED SECTIONS

A. Section 00555: Prosecution and Progress

B. Section 01554: Traffic Control

C. Section 02891: Traffic Signs

### 1.3 REFERENCES

A. Manual on Uniform Traffic Control Devices, Latest Edition (MUTCD).

### 1.4 DEFINITIONS

A. Maintenance of Traffic (MOT): The work necessary to advise the public of changes to normal traffic flow, and to indicate planned detours and alternate routes to closed roads. Use solely as advisory information to the public.

### 1.5 SUBMITTALS

A. Daily inspection reports on a form acceptable to the Engineer.

B. Proposed MOT plan to the Engineer for approval if a construction phase is proposed that is not covered by a Department supplied MOT plan.
   1. Submit proposed MOT plan to the Engineer 10 working days before the proposed MOT plan is to be implemented.

## 1.6 POST-BID REQUIREMENTS

A. Department provides MOT plans to be implemented as part of the bid package.

B. Attend a mandatory meeting as detailed in Section 01554.

C. Attendees of the mandatory meeting will review the Contractor's submitted traffic control plans and the Department's supplied MOT plans for compatibility. Modify plans where necessary, as set forth in Section 01554.

D. Do not begin work on the project until written approval of the MOT plan is received from the Engineer. No item of work can begin until the approved MOT plan is implemented for that phase of work.

## 1.7 MOT MAINTAINER

A. The Traffic Control Maintainer, as specified in Section 01554 is responsible for maintenance of MOT on the project. The Department makes no separate payment for maintenance of MOT.

B. Inspect MOT devices daily for compliance with the MOT plans.

## 1.8 MAINTENANCE OF MOT DEVICES

A. Maintain traffic control devices per Section 01554.

## 1.9 WAGE RATES FOR TRAFFIC CONTROL PERSONNEL (FEDERAL AID JOBS ONLY)

A. Refer to Section 01554 for wage rate information.

## 1.10 PAYMENT PROCEDURES

A. Partial Payments - Based on the percentage of the project completed, excluding the cost of MOT.
   1. Failure to comply with any of the requirements of this special provision will result in non-compliance.

B. Price Adjustments:
   1. The Department reduces payment if the MOT implemented is not in compliance with the approved MOT plan, as determined by the Engineer.
   2. The amount per day by which the Contractor's compensation will be reduced is calculated using the greater of the following:
      a. The daily charge in the Schedule of Liquidated Damages found in Section 00555 or
      b. The Contract lump sum bid price for MOT divided by the number of Contract days.

C. Payment for change in scope: Negotiate a price adjustment for MOT if the Engineer orders a change in the scope of work that requires modification to the approved MOT Plan.

## PART 2 PRODUCTS

### 2.1 SIGNS

A. Refer to Section 02891.

B. Use type and configuration as directed by the MOT plans.

### 2.2 VARIABLE MESSAGE SIGNS (VMS)

A. Advance warning device
   1. Conform to guidelines set forth in Section 6F.60 of the MUTCD.
   2. Messages can be changed on-site and by dial-up modem

## PART 3 EXECUTION

### 3.1 MODIFICATION OF MOT PLANS

A. Engineer may modify the MOT plans at any time.

B. Implement changes to the MOT plan before the end of the work shift.

C. Each phase of construction must be covered by an approved MOT plan.
   1. Do not begin work until the proposed MOT plan is approved for use, and has been fully implemented.

## 3.2 TRAFFIC CONTROL DEVICES

A. Installation and Maintenance:
   1. Install appropriate devices for each construction phase as identified in the appropriate MOT plan.
   2. Maintain devices to provide proper, continuous functionality.
   3. Wash devices weekly unless conditions warrant more frequent cleaning.
   4. Replace any device missing any part of the message or background.

B. Channelizing Devices: Use as directed by the MOT plan.
   1. Furnish a daily record of the number and location of all traffic control devices in use.
   2. Remove devices from the site of work when they are not needed for the immediate control of traffic.

## 3.3 VARIABLE MESSAGE SIGN (VMS)

A. The Department retains control of messages appearing on the VMS. Do not change the location or the message configuration of the VMS unless directed to by the Engineer in writing.

B. Place in view of oncoming traffic without obstructing traffic flow. Relocate VMS to match field conditions at no additional cost to Department.

C. Provide dial-up modem number to the Engineer.

D. Use necessary traffic control devices with VMS to provide safe operation.

E. Remove devices from the site of work when they are not needed for the immediate control of traffic.

F. Unless directed by the Engineer, display advance notification VMS messages for a minimum of seven days prior to any traffic impacts such as start of work, change in traffic directions, etc. at each end of the project.

G. Make two additional VMS signs available at all times during the project to be used as directed by the Engineer at no additional cost to the Department.

## 3.4 COORDINATION OF SIGNAL OPERATIONS

A. Notify the Engineer seven days prior to implementing a MOT plan (detour plans and alternate route plans) or any traffic control plan that impacts signal operations to allow the Engineer to coordinate any necessary signal timing adjustments with the TOC (Traffic Operations Center).

B. Changes to traffic signal operations will be done by the Department.

END OF SECTION

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 01571**

# TEMPORARY ENVIRONMENTAL CONTROLS

**Delete Section 01571 and replace with the following:**

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

A. Requirements for controlling erosion and preventing sediment laden runoff from leaving the construction site and areas under the Contractor's control.

B. Requirements for installing, inspecting, maintaining, and removing temporary erosion and sediment control measures.

C. Materials and procedures for installing and removing temporary environmental fencing.

### 1.2 RELATED SECTIONS Not Used

### 1.3 REFERENCES

A. AASHTO M 288: Geotextile Specifications for Highway Applications

B. UDOT Erosion and Sediment Control Field Guide

C. Utah General Permit for Discharges from Construction Activities No. UTRC00000.

### 1.4 DEFINITIONS

A. Check Dam – A fiber roll or stone structure placed across a ditch to slow velocity and intercept and trap sediment.

B. Drop Inlet Barrier – A fiber roll or silt fence placed around a drop inlet that intercepts and traps sediment.

C. Fiber Roll – A tube-like structure of encased natural materials used to intercept and trap sediment in a sheet flow situation.

D. Gutter Inlet Barrier – A protective barrier placed around a gutter inlet that intercepts and traps sediment before it enters the inlet.

E. Pipe Inlet Barrier – A barrier protecting a pipe inlet that intercepts and traps sediment before it enters the pipe.

F. Sediment Trap – An excavated basin usually installed at low points on a construction site that intercepts and traps sediment.

G. Silt Fence – A geotextile fabric fence used to intercept and trap sediment in a sheet flow situation.

H. Slope Drain – A polyethylene pipe placed on a slope to collect and transport storm runoff down the face of a slope until permanent drainage facilities are installed or vegetation growth is adequate.

I. Stabilized Construction Entrance – A layer of rock placed at a construction site entrance or exit that removes mud from vehicle tires to prevent tracking onto a paved road.

J Straw Bale Barrier – Straw bales placed end to end, used where a silt fence would fail. Install to intercept and trap sediment.

K. Temporary Berm – A ridge of compacted soil with or without a shallow ditch that diverts storm runoff from a slope to a controlled release point.

L Temporary Environmental Fence – A visual barrier used to delineate and prevent encroachment on sensitive areas.

## 1.5 SUBMITTALS

A. Submit a signed copy of the Notice of Intent (NOI) to the Engineer before beginning any earth disturbing activities on projects that disturb more than one acre.

B. Environmental Control Supervisor (ECS), Certificate of Training
   1. Certification to the Engineer that the ECS selected for the project has completed Department's online ECS training and passed the ECS examination.

## 1.6 PAYMENT PROCEDURES

A. Payment for the items associated with this section includes all costs for labor, equipment, and materials for installation, inspection, maintenance, and removal as required.

B. Work required by the ECS will be paid under that item when a bid item has been included in the contract for an ECS. Work listed in this Section will still need to be performed by the Contractor and paid under the individual erosion and sediment control measures when a bid item for an ECS is not included on the project.

C. Penalties
   1. Penalties are assessed against the Contractor in the amount of $500 for each calendar day or portion thereof the project is not in compliance with all required permits and regulations. The penalties assessed are increased to $1,000 per day if the Contractor remains in non-compliance after three days and increased to $1,500 per day if the Contractor remains not in compliance after seven days.
   2. Any fines issued by regulatory agencies against the Department are added to the penalty assessed to the Contractor.
   3. No extension of contract time is allowed for any delay resulting directly or indirectly from a violation of environmental requirements.

## PART 2 PRODUCTS

### 2.1 MATERIALS

A. Check Dams
   1. Fiber Roll
      a. Use 12 inch diameter fiber roll selected from products included on the Department Approved Products List for Fiber Rolls.
      b. Wood Stakes – 1 inch square by 18 inches long.
      c. Channel Liner – Use products included on the Department Approved Products List for Channel Liners.
   2. Stone
      a. Angular, well-graded, within 2 to 6 inches in diameter.

B. Silt Fence
   1. Silt Fence Fabric – Refer to AASHTO M 288, Table 7 – Temporary Silt Fence Property Requirements
   2. Wood Post – Nominal 2 inch square by 4 ft long.
   3. Fasteners – Staples, wire, zip ties, or nails sufficient to maintain fabric attachment to post.

C. Fiber Roll
   1. Use 12 inch diameter fiber roll selected from products included on the Department Approved Products List for Fiber Rolls.
   2. Wood Stakes – Nominal 1 inch square by 18 inches long.

D. Slope Drain
   1. 12 inch diameter single wall polyethylene pipe
   2. Polyethylene end section
   3. Loose Riprap
   4. Wood Stakes – Nominal 2 inch square by 3 ft long.

E. Temporary Berm
   1. Existing Soil

F. Drop Inlet Barriers
   1. Fiber Roll
      a. Use 18 inch diameter fiber roll selected from products included on the Department Approved Products List for Fiber Rolls.
      b. Wood stakes – Nominal 2 inch square by 2 feet long.
   2. Stone – Angular, well-graded within 2 to 6 inch diameter.
   3. Silt Fence – Refer to AASHTO M 288, Table 6 – Temporary Silt Fence Property Requirements.
      a. Wood stud: 2 inches x 4 inches nominal.

G. Pipe Inlet Barrier
   1. Stone – Well-graded within 2 to 6 inch in diameter.
   2. Fiber Roll
      a. Use 18 inch diameter fiber roll selected from products included on the Department Approved Products List for Fiber Rolls.
      b. Wood stakes – Nominal 2 inch square by 2 ft long.

H. Curb Inlet Barrier
   1. Fiber Roll – 9 inch minimum diameter selected from products included on the Department Approved Products List for Fiber Rolls.
   2. Sand Bags – 14 inch x 26 inch, UV stabilized polypropylene bags, 50 lb capacity with attached ties.
   3. Sand

I. Sediment Trap
   1. Loose Riprap – Refer to Section 02373.

J. Stabilized Construction Entrance
   1. Stone – 2 to 3 inch diameter.

K. Straw Bale Barrier
   1. Straw Bales – Obtained from weed-free fields that have been certified by the Utah Department of Agriculture.

L. Temporary Environmental Fence
   1. Fence Fabric
      a. Polyethylene, high-density, UV stabilized
      b. Width, 4 ft minimum
      c. Color, Orange
   2. Posts
      a. Wood Post – Nominal 2 inch square by 4 ft long.
      b. Fasteners – Staples, wire, zip ties, or nails sufficient to maintain fabric attachment to post.

## PART 3 EXECUTION

### 3.1 PERMIT COMPLIANCE

(Only for projects disturbing one or more acres of ground)

A. Complete the remaining sections of the Storm Water Pollution Prevention Plan (SWPPP) provided by the Department and sign the SWPPP before submitting the Notice of Intent (NOI).

B. Obtain permit coverage and renewals at the Contractor's expense under the Utah General Permit for Discharges from Construction Activities by completing and submitting the online NOI form located on the Utah Division of Water Quality web site. Refer to http://www.udot.utah.gov/go/standardsreferences.

C. Post documentation of permit coverage on the project site in a publicly assessable location.
   1. Include permit tracking number and contractor's contact name, phone number or email address or both.

D. Do not begin any earth-disturbing activity until the NOI form has been completed online and submitted to the Division of Water Quality.

E. Comply with the requirements of Utah General Permit for Discharges from Construction Activities – Permit No. UTRC00000. Refer to http://www.udot.utah.gov/go/standardsreferences

F. Modify the SWPPP whenever changes are made to the construction plans, stormwater control measures, pollution prevention measures, or other activities at project site that are no longer accurately reflected in the SWPPP.
   1. Document and sign the modifications in the SWPPP within 7 calendar days.

G. Install sediment control measures along the project perimeter and those protecting surface waters and wetlands before starting earth-disturbing activity.

H. Provide and maintain a 50-foot no disturbance buffer around surface waters or equivalent sediment control measures (See Permit 2.1.2) unless the project qualifies under a compliance alternative.

I. Obtain written approval from the Engineer to change the SWPPP.

J. Designate an ECS to work directly with the Engineer's designated ECS and be available as needed to coordinate the SWPPP, inspect and maintain erosion control devices, and resolve other sediment and erosion control issues.

K. Maintain a copy of the prepared SWPPP on the project site at all times and attach the following items as they occur through project construction:
   1. Any changes made to the SWPPP
   2. Inspection forms
   3. Corrective Actions

L. Minimize sediment trackout onto offsite streets, other paved surfaces, or sidewalks from vehicles exiting the construction site.

M. Follow the Permit if a conflict occurs between erosion and sediment control plans or specifications and the Utah General Permit for Discharges from Construction Activities.

## 3.2 INSTALLATION

A. The control measures in the SWPPP are illustrative.
   1. Adapt measures in the field to meet their intended purpose and implement appropriate control measures through all phases of the project.
   2. Make required changes to the SWPPP to accommodate construction sequencing with the approval of the Engineer.

B. Install additional control measures as directed by the Engineer.

C. Follow installation procedures outlined in the EN Series Standard Drawings and the UDOT Erosion and Sediment Control Field Guide.

D. Provide or construct control measures such as check dams, silt fence, slope drains, drop inlet barriers, sediment traps, and other sediment and erosion control devices or methods to reduce construction site erosion and prevent sediment laden runoff from leaving the site.

E. Initiate soil stabilization measures whenever earth-disturbing activities have permanently ceased on any portion of the site but in no case longer than 14 days.

F. Initiate soil stabilization measures whenever earth-disturbing activities have temporarily ceased on any portion of the site where grading, excavation, or topsoil placement operations will not resume for a period of 14 or more calendar days but such activities will resume in the future.

G. Document on the inspection form the date when earth-disturbing activities temporarily ceased on an area.

H. Refer to the Utah General Permit for Discharges from Construction Activities Part 2.2 for what defines initiation of stabilization.

I. Install temporary environmental fence in the required locations before construction activities begin.
   1. Install posts at a 12 ft maximum spacing so the fence does not sag more than 2 inches between posts.
   2. Weave the fence over the support posts alternating every two loops and secure it to the posts with fasteners.

## 3.3 INSPECTION

A. Inspect all denuded areas during construction to determine potential erosion problems. Apply control measures as required.

B. Conduct SWPPP inspections at least once a week upon beginning earth-disturbing activities and within 24 hours after any storm event ½ inch or greater. Conduct inspections at least once a month for areas that are temporarily or permanently stabilized and in cases where the ground is frozen, suspend inspections until thawing conditions begin to occur.
   1. Include the Engineer's ECS on all inspections.
   2. Complete a Division of Water Quality inspection form during each inspection and submit it to the Engineer within 24 hours of the inspection. Include the following information:
      a. Names of personnel attending and date of the inspection.
      b. List of problems identified in the previous inspection and note whether or not corrections have been made.
      c. List by location, all earth-disturbing activities since previous inspection.
      d. List by location, erosion and sediment control measures installed since previous inspection.

e. List by location, new and unresolved problems encountered with specific erosion control measures. Describe solutions to be implemented.

f. Sign the inspection form.

C. Accommodate inspections requested by regulatory agencies.

## 3.4 MAINTENANCE

A. Maintain sediment control devices to function properly until all disturbed areas draining to them are stabilized.

B. Remove and properly dispose of sediment when it has accumulated half way up the overall structure height or when it interferes with the performance of the structure.

C. Dispose of sediment removed from erosion control structures in a manner acceptable to the Engineer.

## 3.5 REMOVAL

A. Remove temporary sediment and erosion control devises as indicated below:

1. Remove check dams in cut ditches when the areas draining to the cut ditch have been seeded and mulched or blanketed and the ditch has been permanently lined.
2. Remove drop inlet and curb inlet protection when the areas draining to them have been stabilized.
3. Remove silt fence and fiber rolls when the areas draining to them have been seeded and mulched or blanketed. Do not remove silt fence or fiber rolls protecting a wetland or waterway unless the surrounding area meets final stabilization requirements.

B. Remove temporary environmental fence and posts upon completion of construction.

1. Temporary environmental fence and all components become property of the Contractor when construction is complete.

## 3.6 PERMIT CLOSE-OUT

(Only for projects that obtained a permit)

A. Obtain approval from Engineer through the Region Landscape Architect that all permit requirements for final close-out under the Contractor's control have been met before terminating the permit.

B. Close-out the Utah General Permit for Discharges from Construction Activities by submitting a Notice of Termination (NOT) form to the Division of Water Quality along with a signed copy to the Engineer on project locations that receive less than 20 inches of average annual precipitation.

C. Transfer the permit to the Department as directed by procedures identified in the permit on project locations that receive more than 20 inches of average annual precipitation and the project has not met final stabilization requirements upon project close-out.

END OF SECTION

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 01721**

# SURVEY

**Delete Section 01721 and replace with the following:**

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

A. Construction surveying, staking, measurement, and calculations essential to complete the project and properly control the entire work.

B. Directed surveying as requested by the Engineer.

C. Processes and procedures for implementing Machine Control Guidance (MCG) technology. MCG uses Global Positioning System (GPS) and Robotic Total Station (RTS) in conjunction with three-dimensional computer models to determine the precise location and elevation of the materials being moved.

### 1.2 RELATED SECTIONS

A. Section 02765: Pavement Marking Paint

### 1.3 REFERENCES

A. Plan Sheet Development Standards

B. UDOT CADD Standards

C. UDOT Survey & Geomatics Standards Manual

D. Utah Administrative Code

E. Utah Code

### 1.4 DEFINITIONS **Not Used**

## 1.5 SUBMITTALS

A. The Department requires that all submittals be signed and sealed by a Professional Land Surveyor licensed in the State of Utah.

B. Re-submittals may be required depending on completeness and correctness of the work.

C. Submit a statement before award date indicating all Department provided horizontal and vertical survey control has been field checked and the control has been determined to be accurate within the tolerances specified in the UDOT Survey and Geomatics Standards Manual. Refer to http://www.udot.utah.gov/go/standardsreferences.
   1. Attach field survey information used to verify control.
   2. Notify the Engineer verbally and in writing if discrepancies are found.
   3. Include any additional survey points required to implement the MCG/RTS technology.

D. Provide a written description of the equipment before beginning work including calibration certifications, manpower, methods, and data storage format proposed for use to complete all survey activities.

E. Record keeping – Keep all field notes, diaries, and books according to standard surveying practice.
   1. Loose leaf books are not acceptable.
   2. Make available at any time all survey records including field notebooks and forms used for the work to the Engineer upon verbal or written request.
   3. Electronic records and reports are acceptable

F. Surveying and design data requirements:
   1. Return all survey and design data to the Engineer after project completion with compliance to the UDOT Survey and Geomatics Standards, Plan Sheet Development Standards, and UDOT CADD Standards. Refer to http://www.udot.utah.gov/go/standardsreferences.
   2. Complete the following if design plans were included with the advertising package for the project:
      a. Provide a red-lined hard copy plan set showing "As-built" features denoting changes from the original design.
      b. Provide an electronic copy of the red-lined 11 x 17 "As-built" plan, containing the “As-Built” stamp dated and signed by the Engineer, in a colored PDF format as follows:
         1) Resolution of not less than 400 dpi.

2) Individual file sizes not greater than 100 megabytes.
3) Group similar sheet types together into individual PDF files such as Summary Sheets grouped together in a single PDF file or Summary Sheets and Plan and Profile Sheets grouped together in a single PDF file.

3. Complete the following if the Department provides 3D elements, 3D models, or both at advertising:
   a. Provide all files, named and placed in accordance to the UDOT CADD Standards Manual, Plan Sheet Development Standards, and submitted into the UDOT Projectwise System.
   b. Update 3D model with "As-built" features denoting changes from the original design.
   c. Provide final model incorporating all design changes.
   d. Intermediate models at request of the Engineer.
   e. Support paperless inspection.
   f. Provide documentation of quality control measurements when requested by the Engineer.
   g. Submit completed "As-Built" electronic files into the UDOT Projectwise System in accordance with the UDOT Survey and Geomatics Standards, Plan Sheet Development Standards, and UDOT CADD Standards.
4. Submit an "As-Built" model with approval of the Engineer to document design changes if construction of a project was based on a model prepared by the Contractor or a project that was not designed using paperless methodology.

G. Survey Monuments
   1. Refer to this Section, article 3.12, paragraph C3 for submittal of drawings and notes.

H. Provide the following for MCG technology implementation:
   1. Written notification to the Engineer that MCG will be used on the project.
   2. Electronic or hand written stakeout/cut-fill reports or both for cross section stakes, according to this Section, Article 3.5.
      a. Reports are not required when measurement of work is by “Plan Quantity” or Weight.

I. Alternate methods of calculating quantities.
   1. Engineer may approve alternate methods of calculating quantities. Submit proposed alternate method of quantity calculation before beginning item of work.

## 1.6 MEASUREMENT PROCEDURES

A. Directed Survey – Use a survey crew measured by the hour authorized if extra survey work is needed. Department makes no additional payment for travel time to and from the project.

## 1.7 PAYMENT PROCEDURES

A. Include the costs in all items of work that require survey if contract does not include separate pay item for survey. Failure to comply with any portion of this specification may result in withholding up to 25 percent of contract payments until the deficiencies are corrected.

B. Directed survey work is paid for in the accepted quantities if needed and approved at a standard negotiated rate.

C. Include the costs of all machine control equipment in equipment cost. Include all survey equipment and labor in the bid item for survey.

## 1.8 QUALITY ASSURANCE

A. Assume responsibility for survey and control of the work and for correcting errors whether the errors are discovered during the actual survey work or in subsequent phases of the project and bears any cost overruns resulting from errors.

B. Perform all work according to the plans and specifications and standard Engineering and Surveying practices under the responsible charge of a Professional Engineer or Professional Land Surveyor licensed in the State of Utah.

C. The Engineer may spot check the work for accuracy and may reject unacceptable portions of work. Resurvey rejected work and correct work that is not within the specified tolerances at no additional cost to the Department.

D. Any 3D model used in conjunction with MCG must be verified by a Professional Engineer or Professional Land Surveyor licensed in the State of Utah.

E. Correct any construction errors that result from errors in a 3-D model once the design 3D model has been accepted.

## PART 2 PRODUCTS

### 2.1 EQUIPMENT

A. Furnish tools, supplies, and stakes suitable for use in highway survey work.

B. Furnish stakes and hubs of sufficient length to provide a solid set in the ground with sufficient surface area above ground for necessary legible markings.

C. Furnish survey instruments and supporting equipment capable of achieving the specified tolerances.
   1. Calibrate survey equipment yearly and check for accuracy before beginning survey work and as required throughout the duration of the project. Make the calibration certificate available upon request by the Engineer.

### 2.2 EQUIPMENT FOR DEPARTMENT USE

A. Provide and maintain the following equipment when MCG is to be used on the project:
   1. GPS Capable Rover compatible with the other GPS equipment being used on the project.
   2. Other hardware and software associated with the equipment so that Department personnel can operate the equipment for quality assurance purposes.
   3. Provide adequate training so that Department personnel can operate the survey equipment.
   4 Make GPS rover available immediately upon request from the Engineer.
   5. Develop a process with the Department to check-in and check-out equipment from the Contractor.

## PART 3 EXECUTION

### 3.1 PREPARATION

A. Discuss and coordinate the following with the Engineer before survey work begins:
   1. Required submittals
   2. Survey and staking methods
   3. Stake markings
   4. Grade control
   5. Referencing

6. Structure control
7. Any other procedures and control necessary for the work
8. Documentation procedures

B. Establish construction survey points, elevations, and grades as necessary to control layout and complete the work. Verify all control surveying and staking meet specified tolerances before beginning work.

C. Calculate all grades, elevations, offsets, and alignment data necessary for staking or setting items of work. Obtain approval from the Engineer for alternate methods of establishing grade control with wire lines, computer, or laser controlled grading or other suitable methods.

D. Provide appropriate traffic control for all survey activities.

E. The Department furnishes:
1. Horizontal and vertical control points
2. Cross sections developed during design, if any
3. Electronic project data
4. Digital Terrain Model used for design
5. 3-D data consisting of:
   a. LandXML files for the Design Digital Terrain Models, including features for projects implementing MCG
   b. LandXML files for the Design Alignments
   c. A Bentley iModel may be substituted for LandXML data.

F. Contract Provision Disclaimer
1. Provide a written request to the Engineer to obtain electronic data points.
2. Electronic data points are available in UDOT standard CADD formats only.
3. Data points are prepared by the Department for its own purposes and not for the benefit of private individuals or businesses.
4. Waive any claims that may result from the use of or reliance on the data points.
5. Indemnify the Department and hold it harmless for any damages, costs, attorney fees, or other liabilities that might be incurred as a result of the Department's use and reliance on the Contractor's modified data.

## 3.2 DIRECTED SURVEY

A. Conduct directed surveying if requested by the Engineer.
1. Includes work needed for changes and extra work. Provide all labor, materials, and equipment including total stations, global positioning system (GPS), LiDAR scanning or other equipment.

2. Obtain written authorization from the Engineer documenting the affected work and requirements before performing work under these items.

## 3.3 COMPUTATIONS AND PLOTS

A. Use cross-sections to calculate volume measurements.
   1. Superimpose final cross sections with original cross sections and calculate final quantities using the average end area method.
   2. Develop cross-sections from field measurements.
      a. Take cross section measurements both before and after excavation and before backfill.
      b. Take cross sections at a maximum centerline spacing of 15ft when the centerline curve radius is less than or equal to 500 ft.
      c. Take cross sections at a maximum spacing of 30 ft when the centerline curve radius is greater than 500 ft.
      d. Take additional cross sections at breaks in terrain and at changes in typical sections.
      e. Measure and record points at breaks in terrain for each cross section but at least every 15 ft unless otherwise approved by the Engineer.
      f. Measure and record points to at least the anticipated slopes and reference locations.
      g. Reduce all cross section distances to horizontal distances from centerline.
      h. Take cross sections at right angles to tangents and normal to curves.
      i. Include in cross sections all grades, locations, and existing ground line profiles.
   3. May develop cross sections from digital terrain models provided if:
      a. Ground survey locations do not exceed 50 ft in any direction.
      b. Major horizontal and vertical breaks in terrain are also included.
      c. Horizontal and vertical control for the project is used.
      d. DTM is verified accurate to required tolerances as indicated in the UDOT Survey & Geomatics Standards manual by spot checking throughout the length of the project. Refer to http://www.udot.utah.gov/go/standardsreferences to view this manual.

B. The Engineer may approve alternate methods of calculating quantities.

## 3.4 STAKE MAINTENANCE AND MARKINGS

A. Provide and maintain reference/location stakes that identify stationing at least every 200 ft until all work has been completed and accepted by the Engineer for each alignment.
   1. Provide reference/location stakes at whole station intervals such as 1032+00.

B. Maintain ALL staking necessary for the work until the construction has been completed and accepted by the Engineer.
   1. Legibly mark all survey stakes with station and offset referenced to their respective control line.
   2. Mark slope, reference, and guard stakes with station.
   3. Renew illegible or damaged stakes at no additional cost to the Department.

## 3.5 CONTROL POINTS AND SURVEY TOLERANCES

A. Survey using the guidelines set in the UDOT Survey & Geomatics Standards manual.
   1. Refer to http://www.udot.utah.gov/go/standardsreferences to view this manual.

B. Amend the survey control diagram as requested for the project.
   1. Have the amended diagram sealed, signed, and dated by a licensed surveyor in accordance with UC 58-22-601, 602, 603, and Utah Administrative Code R156-22-601.
   2. Refer to http://www.udot.utah.gov/go/standardsreferences for Utah Code and Utah Administrative Code.

C. Relocate initial horizontal and vertical control points in conflict with construction to areas that will not be disturbed by construction operations.
   1. Furnish the coordinates and elevations for the relocated points before the initial points are disturbed.
   2. Furnish to the Region Surveyor or Engineer the coordinates and elevations for the relocated points before the initial points are disturbed.

D. Protect benchmarks from construction activities.
   1. Position all benchmarks to allow a level rod to stand vertically and squarely on the mark.

E. Reference benchmarks to centerline and horizontal measurements. The surveyor should, to the extent necessary to achieve the standards contained herein:

1. Compensate or correct for systematic errors, including those associated with instrument calibration
2. Select the appropriate equipment and methods, and use trained personnel.
3. Use appropriate error propagation and other measurement design theory to select the proper instruments, field procedures, geometric layouts and computational procedures to control random errors.

F. The surveyor will apply appropriate procedures in order to assure that the allowable positional tolerance of such points is not exceeded if radial survey methods, GPS or other acceptable technologies or procedures are used to locate or establish points on the survey.

G. The positional tolerance may be tested by:

1. Comparing the relative location of points in a survey as measured by an independent survey of equal or higher accuracy or,
2. The results of a minimally constrained, correctly weighted least squares adjustment of the points on the survey.

H. The surveyor will employ, in his judgment, proper field procedures, instrumentation and adequate survey personnel in order to achieve a precision of 0.02 feet (or 6 mm) + 20 ppm.

1. See Table 1 for construction staking tolerances.

**Table 1**

| CONSTRUCTION STAKING TOLERANCES | | |
|---|---|---|
| **Description** | **Horizontal** | **Vertical** |
| | **Decimals of a foot** | |
| Box Culverts | ± 0.02 | ± 0.02 |
| Bridge Superstructures | ± 0.02 | ± 0.02 |
| Bridge Substructures | ± 0.02 | ± 0.02 |
| Clearing and Grubbing Stakes | ± 1.00 | ----- |
| Construction Centerline Control | ± 0.05 | ----- |
| Construction Centerline Station | ± 0.10 | ----- |
| Curbs, Walks, and Bike Paths | ± 0.03 | ± 0.02 |
| Grade Stakes – Roadway Subgrade | ± 0.20 | ± 0.05 |
| Grade Stakes – Top of Rock | ± 0.20 | ± 0.03 |
| Grade Stakes – Roadway Finish | ± 0.10 | ± 0.02 |
| Luminaire and Signal Poles (incl. | ± 0.20 | ± 0.20 |
| Manholes, Inlets, and Culverts | ± 0.10 | ± 0.03 |
| PCC Pavement | ± 0.10 | ± 0.02 |
| Slope Stakes and References | ± 0.30 | ± 0.10 |
| Traffic Markings | ± 0.20 | ----- |
| Walls – Retaining, MSE, Sound, etc. | ± 0.05 | ± 0.05 |
| Wetland Mitigation Control Stakes | ± 0.20 | ± 0.20 |

Notes:

1. Stakes for miscellaneous items not listed above will have a horizontal and vertical tolerance of 0.20 ft, unless otherwise directed.
2. Features that are to be constructed flush to another surface should take on the same tolerance as that surface.
3. Staking tolerances for special circumstances will be discussed at the pre-survey meeting.
4. Meet the appropriate construction tolerances for the material as specified in the special provisions or standard specifications, regardless of the construction staking tolerances, specific to the work item.
5. Use bridge control once established, independent of other project controls for the duration of the bridge construction. Refer to Survey & Geomatics Standards manual for bridge control methodology. Refer to http://www.udot.utah.gov/go/standardsreferences.
6. Tolerances stated for each type of construction stake in this table indicates the acceptable deviation of the position of each reference point from its computed position relative to the given alignment and grade. Staked positions are generally checked using electronic stakeout reports and, if within tolerances, the stated position is accepted. Reference points may also have an accuracy relative to each other for precise measurements such as structures.

2. Survey Staking Methods:
    a. Furnish reference stakes for all slope stakes and stakes used for setting items for work.
    b. Furnish the following for projects using Conventional Survey Methods:
        1) Maintain the reference stakes for the duration of the project until the Engineer approves removal.
        2) Establish and set slope stakes and references on both sides of centerline at cross section locations.
            a) Place slope stakes at a maximum centerline spacing of 25 ft when the centerline curve radius is less than or equal to 500 ft.
            b) Place slope stakes at a maximum spacing of 50 ft when the centerline curve radius is greater than 500 ft.
            c) Place reference stakes at a maximum centerline spacing of 100 ft on tangents.
        3) Establish slope stakes in the field as the actual point of intersections of the design slope with the natural ground line.
        4) Set slope stake references outside the clearing limits.
        5) Include all reference point and slope stake information on the reference stakes.
3. Furnish the following for projects using Machine Control Guidance Methods:
    a. Maintain the reference stakes for the duration of the project until the Engineer approves removal.
    b. Establish and set location stakes and references on one side of centerline at cross section locations.
        1) Place cross section stakes at a maximum spacing of 300 ft. (Cross-section stakes reference physical points in the proposed cross-section, such as edge of pavement or top back of curb)
    c. Place slope stakes at a maximum spacing of 300 ft.
    d. Establish slope stakes in the field at the actual point of intersections of the design slope with the natural ground line.
    e. Set slope stake references outside the clearing limits.
    f. Include all reference point information on the reference stakes.
    g. Provide adequate bench marks throughout the project for construction equipment equipped with MCG to check setup and tolerances.
        1) Perform equipment checks at least once per day.
        2) Record equipment checks in a log for verification by the Engineer.

4. Staking limits – Reference/Location stakes can serve the purpose of the following staking requirements as long as all required information for both purposes can be written on the stake.
    a. Stake clearing limits on both sides of centerline at each established station.
        1) Locate the clearing limit on the ground as shown by the cut and fill limits on the plans.
    b. Stake right of way limits, or temporary construction easement (TCE) if one exists, every 500 ft maximum on tangents, every 250 ft maximum on curves where ROW is not delineated by existing fence lines or other obvious boundaries.
        1) Stake Right of Way limits at all right of way break/angle points along the right of way lines.
        2) Reduce the distance if staking distance is affected by line of sight.
    c. Stake environmental control limits on both sides of centerline at each established station.
        1) Locate the environmental control limits on the ground as shown by the slope rounding contours and environmental and silt fence locations as shown on the Plans.
        2) Stake environmental control limits every 25 ft in environmentally sensitive areas.
        3) Provide staking as needed to guarantee the silt fence is located inside of right of way in standard silt fence installations where stations/locations are not called out on the environmental control plan sheets,.

I. Furnish reference stakes for all slope stakes and stakes used for setting items for work.
    1. Accomplish the following for projects using ground based total stations, robotics, and levels. (Conventional Survey):
        a. Maintain the reference stakes for the duration of the project until the Engineer approves removal.
        b. Establish and set slope stakes and references on both sides of centerline at cross section locations.
        c. Place reference stakes at a maximum centerline spacing of 100 ft on tangents.
            1) Place slope stakes at a maximum centerline spacing of 25 ft when the centerline curve radius is less than or equal to 500 ft.
            2) Place slope stakes at a maximum spacing of 50 ft when the centerline curve radius is greater than 500 ft.

c. Establish slope stakes in the field as the actual point of intersections of the design slope with the natural ground line.
d. Set slope stake references outside the clearing limits.
e. Include all reference point and slope stake information on the reference stakes.

2. Accomplish the following for projects using Machine Control Guidance Methods:
   a. Maintain the reference stakes for the duration of the project Survey until the Engineer approves removal.
   b. Establish and set location stakes and references on one side of centerline at cross section locations.
      1) Place cross section stakes at a maximum spacing of 300 ft.
         a) Cross-section stakes reference physical points in the proposed cross-section, such as edge of pavement or top back of curb.
   c. Place slope stakes at a maximum spacing of 300 ft.
   d. Establish slope stakes in the field as the actual point of intersections of the design slope with the natural ground line.
   e. Set slope stake references outside the clearing limits.
   f. Include all reference point information on the reference stakes.
   g. Provide adequate bench marks throughout the project for construction equipment equipped with MCG to check setup and tolerances.
      1) Perform equipment checks at least once per day.
      2) Record equipment checks in a log for verification by the Engineer.

J. Setting grade finishing stakes (Conventional Survey or RTK):
   1. Grade elevations and horizontal alignment:
      a. On centerline.
      b. On each shoulder at roadway cross section locations and between centerline and shoulder with a maximum spacing of 25 ft.
      c. At the top of sub grade and the top of each aggregate course.
   2. Locations:
      a. Set stakes on centerline, on each normal shoulder, and on the shoulder of the turnout where turnouts are constructed.
      b. Set hubs at the center and along the edges of parking areas.
      c. Set stakes in all ditches to be paved.
   3. Maximum spacing between stakes along the alignment is 50 ft.
   4. Use brushes or guard stakes at each grade finishing stake.
   5. Reset grade finishing stakes as many times as necessary to construct the sub grade and each aggregate course.

K. Grade Verification (Machine Control Guidance)

1. The following procedure will only be applicable for verification of roadway layers for grade elevations and horizontal alignment.
   a. The Department will use the Contractor provided survey equipment listed above.
   b. The Department will verify elevations at the following locations:
      1) On centerline.
      2) On each shoulder at roadway cross section locations and between centerline and shoulder with a maximum spacing of 25 ft.
      3) At the top of sub grade and the top of each aggregate course.
2. Locations:
   a. On centerline, on each normal shoulder, and on the shoulder of the turnout where turnouts are constructed.
   b. At the center and along the edges of parking areas.
   c. At the top of subgrade and the top of each aggregate course.
   d. In all ditches to be paved.
3. The Department will verify and document elevations at a 300 ft maximum spacing between locations along the alignment.
   a. The Department reserves the right to increase the spacing between grade verification locations up to, but not to exceed, 1000 ft if a level of confidence can be attained by the Engineer.

## 3.6 CONCRETE PAVING

A. Develop a method of horizontal and vertical control for the placement of concrete pavement.

1. Use laser, wire, or string line, for example, to maintain horizontal and vertical control.
2. Maximum spacing, 50 ft Set control on both sides of roadway.

B. 3D Paving, Machine Control Guidance, Wireless Paver

1. Survey control should be staggered on either side of the highway to provide a good strength of figure.
   a. Typically the distance between control points set for MCG should be no farther than 650 ft. The actual distance may vary by the type of equipment used by the Contractor.
   b. The instrument setup must obtain vertical accuracies within ± 0.02 ft of the existing control.

C. Stake concrete joint and station stamp locations if requested by the Engineer.

## 3.7 DRAINAGE STRUCTURES

A. Stake drainage structures to fit field conditions and in coordination with the Engineer. The location of the structures may differ from the plans.
   1. Survey and record the ground profile along the centerline of the structure.
   2. Determine the slope catch points at inlets and outlets.
   3. Set reference points and record information necessary to determine structure length and end treatments.
   4. Stake ditches or grade to make the structure functional.
   5. Plot the profile along centerline of the structure to show the natural ground, the flow line, the roadway section, and the structure.
   6. Mark guard stakes with the following, when applicable:
      a. Diameter, length, and type of culvert such as 18 inch x 35 ft corrugated metal pipe (cmp)
      b. The vertical and horizontal distance from the hub to the invert at the end of the culvert or any intermediate point as needed or directed
      c. Flow line grade of the pipe
      d. Station
   7. Provide a reference at a maximum spacing of 50 ft for storm sewers and waterlines. Reference inverts of pipe at all manholes.

## 3.8 BRIDGES

A. Based upon the Projects Primary Control points, set at least 4 horizontal and vertical control reference points to be used for surveying all bridge substructure and superstructure components including but not limited to pile locations and cutoffs, line and grade for abutments, bents, beam seats, anchor bolts, and screed grades.

B. Set intermediate slope stakes at bridge abutments to establish transitions.
   1. Place finish grade stakes on the centerline of abutment bearing and at the top of slope of all bridge berms.
   2. Place finish grade stakes on each side at top, mid-point, or slope and toe of fill.

## 3.9 BOX CULVERTS

A. Set horizontal and vertical control and reference points.
   1. Establish and reference the centerline, back of parapet or barrier, skew, and flow line elevations at inlet, outlet, and breaks.

## 3.10 CURB AND GUTTER

A. Set curb and gutter staking at 25 ft intervals on tangent and 10 ft intervals on curve radii.

B. Set line and grade for curb and gutter within 0.02 ft of the proposed or established grade line.

## 3.11 GUARDRAIL

A. Stake guardrail vertical and horizontal control at a maximum spacing of 25 ft on tangent sections and 10 ft on curved sections unless otherwise approved.

B. Obtain the Engineer's approval and field verification of staking before installation.

## 3.12 EXISTING SURVEY MONUMENTS

A. Locate and reference all private and public land survey monuments that may be destroyed by project construction activities before disturbing those existing monuments and under the direction of a Professional Land Surveyor licensed in the State of Utah.

B. Complete referencing and reestablishing those existing monuments at no cost to the Department and before project completion.

C. Reference and reestablish the monuments created by the county surveyor.
   1. Notify the county surveyor at least 30 days before the destruction of any monument.
   2. Coordinate the reestablishment of section corner and quarter corner monuments with the county surveyor.
   3. Prepare a corner record to be filed in the office of the County Surveyor's Office per Utah State Code 17-23-17.5 unless prepared by the County Surveyor's Office.
   4. Submit a certified supplement to the Survey Control Sheet with notes to the Engineer showing references to section corners and quarter corners.

D. The Department pays for the additional work under the Directed Survey item if a monument is found during construction but is not shown on the contract plans and must be reset.

## 3.13 RETAINING WALLS

A. Set horizontal and vertical control and reference points based upon the Projects Primary and Secondary control.
   1. Establish and reference the centerline offsets for the walls, radius points, and the beginning and ending wall locations as shown on the plans.

B. Stake retaining wall vertical and horizontal control at a maximum spacing of 25 ft on tangent sections and 10 ft on curved sections unless otherwise approved.

## 3.14 PAVEMENT MARKING

A. Layout all temporary and permanent pavement markings according to Section 02765.
   1. Place references for traffic striping at least 150 ft apart on tangents and at least 50 ft on curves.

## 3.15 CLEANUP

A. Remove and dispose of all flagging, lath, stakes, and other staking material after the project is complete.

## 3.16 UTILITIES

A. Stake control lines as needed in cooperation with the utility companies so their facilities can be relocated to their proper final position.

B. Stake crossings or potential points of conflict between facilities to give proper horizontal and vertical control for the relocation.

C. Schedule this survey work with the utility companies to minimize delays and disruption of survey stakes.

D. Replace all disturbed stakes as necessary to facilitate the relocations.

E. The Contractor is responsible for costs incurred to relocate any utility more than once due to inaccurate or incomplete staking.

F. Collect survey grade coordinate data for all exposed, relocated, and new utilities during construction.
   1. Collect data in one foot intervals unless otherwise directed in the UDOT Survey & Geomatics Standards manual. Refer to http://www.udot.utah.gov/go/standardsreferences.

## 3.17 EXISTING MILEPOST SIGNS

A. Locate all existing milepost sign stations within the project limits.
   1. Contact the Engineer to determine any locations where a milepost sign was placed at a point other than the actual mile point due to prior physical limitations such as driveways, intersections, or bridge parapets, in coordination with Highway Referencing Specialist of the Asset Management Division.

B. Reestablish location of milepost signs before project completion if construction activities required removal of any existing milepost signs.
   1. Reset sign location at original station of existing sign.
      a. Exceptions
         1) Any prior physical limitations listed in this Section, Article 3.17, paragraph A were removed during construction and no longer prevent installation of a sign at the actual mile point.
         2) Roadside conditions or newly constructed physical limitations would prevent reestablishment of any milepost sign within 3 ft of its original station.
      b. Contact the Engineer to determine how to proceed in either of these special cases in this Section, Article 3.17, paragraph B1a, in consultation with the Highway Referencing Specialist.
   2. Establish an appropriate offset for each milepost sign to meet installation and clear zone requirements.

C. Contact the Highway Referencing Specialist through the Engineer to determine the preferred action for reestablishing the milepost signs where the alignment of the roadway was modified during construction to the extent that the new measured mile point locations of any milepost signs were shifted more than 10 ft from their original location.

END OF SECTION

September 14, 2015

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 01892M**

# RECONSTRUCT CATCH BASIN, CLEANOUT, METER, VALVE, MANHOLE, AND MONUMENT BOXES

**Delete Article 1.3 and replace with the following:**

## 1.3 REFERENCES

A. AASHTO M 105: Gray iron Castings

B. AASHTO T 22: Compressive Strength of Cylindrical Concrete Specimens

C. AASHTO T 97: Flexural Strength of Concrete (Using Simple Beam with Third Point Loading)

D. ASTM C 822-99: Standard Test Method for Bond Strength of Epoxy-Resin Systems Used with Concrete By Slant Shear

**Delete Article 1.5 and replace with the following:**

## 1.5 SUBMITTALS

A. Rapid Set® Cement Mix design to be used
   1. Mix designs will be approved based on results of trial batches.
      a. Verify requirements listed in section 2.3.
      b. Perform 4 hour and 24 hour compressive strength tests.
   2. Use the same components in the trial batches that will be used in the project. The Contractor assumes responsibility for the compatibility of all admixtures with the mix design and their potential effects on concrete properties.
   3. Personnel performing and witnessing trial batches and performing compressive and flexural strength testing must be Department TTQP Concrete and Concrete Strength Testing qualified.
   4. The Department or its representative may witness the trial batch.
   5. Mix concrete trial batches as specified in UDOT Materials Manual of Instruction 974: Guidelines for Portland Cement Concrete Mix Design.
   6. Compressive and flexural strength testing for verification of trial batches will be performed by an AASHTO accredited laboratory,

approved through the Department Laboratory Qualification Program.

**Add Article 1.6**

**1.6 ACCEPTANCE**

A. Rapid Set® Cement
   1. Compressive Strength Test
      A. Cast in accordance with AASHTO T23 Tested in accordance with AASHTO T 22. One compressive strength test consists of a set of three cylinders.
      B. One determination per production day.
         1. Test between 4 and 24 hours after casting.

**Add Article 2.3**

**2.3 Rapid Set® Cement**

A. Air Entrainment according to AASHTO M 154, including Section 5
   1. 5.0 – 7.5 percent air content

B. 4 hour compressive strength per AASHTO T22
   1. 4000 psi minimum

C. 24 hour flexural strength per AASHTO T97
   1. 650 psi minimum

D. 1 day bond strength per ASTM C822-99:
   1. 1200 psi minimum

E. Refer to manufacture specifications for additional requirements

**Delete Article 3.1, paragraph A and replace with the following:**

A. Contractor Options
   1. Remove the cover and frame and raise the box using concrete.
   2. Raise the box using precast concrete manhole sections.
   3. Remove the cover and frame and raise the box using a Rapid Set® Cement mix.
      a. Use a UDOT certified volumetric mixer
      b. Mix place and cure per manufacture's recommendations
      c. Protect from traffic for 4 hours after initial set
   4. Raise the frame and cover using adjustable extension rings.

END OF SECTION

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 02732S**

# HOT MIX ASPHALT (HMA) FINE GRADED THIN OVERLAY

**Add Section 02732:**

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

A. A surface course of HMA comprised of aggregate, asphalt binder, hydrated lime, and other additives.

B. Option to incorporate Reclaimed Asphalt Pavement (RAP) materials into HMA pavement.

### 1.2 RELATED SECTIONS

A. Section 01452: Pavement Smoothness

B. Section 01456: Materials Dispute Resolution

C. Section 02742S: Project Specific Surfacing Requirements

D. Section 02745: Asphalt Material

E. Section 02746: Hydrated Lime

F. Section 02748: Prime Coat/Tack Coat

### 1.3 REFERENCES

A. AASHTO M 323: Superpave Volumetric Mix Design

B. AASHTO R 35: Superpave Volumetric Design for Hot-Mix Asphalt (HMA)

C. AASHTO T 19: Bulk Density (“Unit Weight”) and Voids in Aggregate

D. AASHTO T 89: Determining the Liquid Limit of Soils

E. AASHTO T 90: Determining the Plastic Limit and Plasticity Index of Soils

F. AASHTO T 96: Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine

G. AASHTO T 104: Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate

H. AASHTO T 112: Clay Lumps and Friable Particles in Aggregate

I. AASHTO T 166: Bulk Specific Gravity ($G_{mb}$) of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface-Dry Specimens

J. AASHTO T 176: Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test

K. AASHTO T 195: Determining Degree of Particle Coating of Asphalt Mixtures

L. AASHTO T 209: Theoretical Maximum Specific Gravity and Density of Hot Mix Asphalt (HMA)

M. AASHTO T 255: Total Evaporable Moisture Content of Aggregate by Drying

N. AASHTO T 304: Uncompacted Void Content of Fine Aggregate

O. AASHTO T 308: Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method

P. AASHTO T 312: Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyratory Compactor

Q. AASHTO T 335: Determining the Percentage of Fracture in Coarse Aggregate

R. UDOT Materials Manual of Instruction

S. UDOT Minimum Sampling and Testing Requirements

T. UDOT Quality Management Plans

## 1.4 DEFINITIONS

A. Longitudinal Joint - Any new asphalt lift abutting an existing paving lift, exceeding 200 feet in length and excluding intersections. This includes joints created by echelon paving and new asphalt placed against a milled asphalt edge.

B. Lot – The number of tons of HMA placed in a Production Day.

C. Minor Target Change – A change from the verified mix design gradation target on a maximum of two sieves with the following limitations.
   1. The maximum change in the target gradation on the #8 or any coarser sieve is limited to 3 percent passing per sieve.
   2. The maximum change in the target gradation on the #16 or #50 sieves is 2 percent passing per sieve.
   3. The maximum change in the target gradation on the #200 sieve is 0.5 percent passing.
   4. No target change may violate the mix design requirements in this section.

D. Overband – An 8 inch protective asphalt coating sealing the longitudinal joint of final riding surface, as proposed by the contractor and approved by the Engineer.

E. Production Day – A 24 hour period in which HMA is being placed.

F. RAP – Recycled Asphalt Pavement. Crushed or milled asphalt materials that have been removed from pavements. Aggregates contained in these materials are required to meet Table 5 except sand equivalent.

## 1.5 SUBMITTALS

A. Mix design for approval at least 10 working days before paving according to the UDOT Materials Manual of Instruction 960.

B. Changes in job mix design
   1. Submit a written request for any proposed change in the job-mix gradation.
      a. Allow at least 12 hours for approval before incorporating a minor target change into production.
      b. Allow at least six working days for verification and approval of any other change.
   2. Include documentation supporting correlation between suggested target changes and mix design volumetric requirements. Department acceptance test results or Contractor QC test data or both are acceptable.
   3. Submit samples according to the UDOT Materials Manual of Instruction 960 for a volumetric mix design verification for anything

other than approved minor target changes. This includes changes in the aggregate source, asphalt binder source, or asphalt binder grade.

C. Corrective action plan for approval according to this Section, Articles 3.3 paragraph B and 3.4 paragraph A4b.

D. Mat joint layout plan to the Engineer for review at least 10 calendar days before placement.

## 1.6 ACCEPTANCE

A. Acceptance sampling and testing of material is according to UDOT Minimum Sampling and Testing Requirements.

B. Gradation and asphalt binder content
   1. The Engineer evaluates a lot on the test results of four samples with the following exceptions:
      a. Compute incentive/disincentive using the test results from three samples if only three samples can be taken for the production day.
      b. Combine test results with the next day of production if at least three random samples cannot be taken. Take one sample for each 500 tons, or portion thereof, from the following day's production.
      c. Add the lot to the previous day's production for the final day's production if three random samples cannot be taken.
      d. The lot may be increased to include up to three production days when agreed upon in advance by both the Contractor and the Engineer when less than 500 tons are anticipated per production day.
   2. Evaluate the lot using the number of tests "n" in Table 3.
   3. The Engineer informs the Contractor of the time and place of sampling not more than 15 minutes before sampling.

C. Density and Thickness
   1. Obtain cores for the mat and longitudinal joint within two contract days after the pavement is placed. Refer to UDOT Materials Manual of Instruction 984.
      a. The Engineer marks coring location for in-place mat density and longitudinal joint density cores.
      b. Move transversely to a point 1 ft from the edge of the pavement for in-place mat density if the random location for coring falls within 1 ft of the edge of the overall pavement section (outer part of shoulders).

c. Fill core holes with HMA and compact with a 40lb flat jack hammer.

d. The Department witnesses the coring operation, takes possession of the cores immediately, and begins testing the cores within 24 hours for density acceptance.

2. Density Requirements

a. The target for in-place density for the mat is 93.5 percent of Theoretical Maximum Specific Gravity.

b. The target for in-place density for the longitudinal joint is 91.5 percent of the Theoretical Maximum Specific Gravity (Gmm).

1) Use the average of both Gmm's if two different sides or values exist for the cores taken.

c. Use the average of the Theoretical Maximum Specific Gravity tests for each lot.

d. Acceptance for in-place mat and longitudinal joint density may be based on establishing a rolling pattern for items such as bridge decks, utility work, traffic signals, detours, lane leveling, driveways, other handwork, or small projects with plan quantities less than 500 tons.

3. Thickness Requirements are based only on mat cores. The thickness requirement may be waived when matching up to existing pavement, curb and gutter for Pavement in or next to intersections.

a. The Department accepts a lot for thickness when:

1) The average thickness is not more than ½ inch greater or ¼ inch less than the total design thickness specified.

2) No individual sublot shows a deficient thickness of more than ⅜ inch.

b. Excess Thickness – The Engineer may allow excess thickness to remain in place or may order its removal.

1) The Department pays for 50 percent of the mix for material in excess of the +½ inch tolerance when excess thickness is allowed to remain in place.

c. Deficient Thickness – Place additional material where lots or sublots are deficient in thickness.

1) The Department pays for material necessary to reach specified thickness.

2) The Department pays for 50 percent of the mix for additional material over specified thickness necessary to achieve minimum lift thickness.

3) Minimum compacted lift is 3 times the nominal maximum aggregate size.

d. Thickness tolerances established above do not apply to leveling courses. Check final surfaces in stage construction.

e. Check thickness regularly with a depth probe and take corrective action as necessary for thin overlay pavement.

4. Longitudinal Joint
   a. The edge of a new asphalt mat may be removed for the purpose of meeting longitudinal joint density requirements.
      1) The material wasted is still included in the payment.
      2) Up to 3 inches for a confined edge is allowed.
      3) Up to 6 inches for an unconfined edge is allowed.

D. The Department applies one Incentives/Disincentive for the lowest dollar value for Gradation/Asphalt Content and one Incentive/Disincentive for in-Place Mat Density and one Incentive/Disincentive for Longitudinal Joint Density. The Engineer computes Incentive/Disincentive as follows for each lot. Refer to Section 01452 for smoothness requirements.
   1. Compute incentive/disincentive for Gradation/Asphalt Binder, In-place Mat Density and Longitudinal Joint Density according to Table 1.
   2. Base the incentive/disincentive on Percent within Limit (PT) computation using Tables 2, 3, and 4.
   3. Use lowest single value combined for gradation (each of the sieves) and asphalt binder content for calculating the gradation/asphalt binder content incentive/disincentive.
   4. Use Tables 2, 3, and 4 to determine PT for in-place Mat Density and Longitudinal Joint Density.
   5. Meet PT of 88 or greater for in-place mat density or the Department does not pay incentives on gradation/asphalt binder content.
   6. The Department pays/assesses the longitudinal joint density incentive/disincentive per ton of HMA placed adjacent to, and on the hot side of the longitudinal joint for each lift:
      a. The incentive/disincentive will be calculated from the average of the core densities taken from all abutting joints if the HMA mat has a longitudinal joint on more than one side
   7. The following work is not eligible for incentive:
      a. Items such as utility work, traffic signals, detours, lane leveling, and driveways.
      b. Small projects with plan quantities of HMA less than 500 tons.
   8. Unless otherwise specified, binder disincentives calculated in Quality Management Plan 509 will apply to the HMA mix.

E. The Department rejects lots:
   1. According to Table 1.
   2. The Engineer may accept a reject lot. Refer to Section 01456.
      a. A price reduction of 35 percent of the pay item or $20 per ton, whichever is greater, will be assessed.
      b. The lot will not be eligible for any incentive.

F. The Engineer conducts the acceptance testing for asphalt binder content (AASHTO T 308), gradation (AASHTO T 30), density (AASHTO T 166). The Engineer may elect to accept material on visual inspection for work such as utility work, traffic signals, detours, lane leveling, and driveways, other hand work, or small projects with plan quantities less than 500 tons.

1. Lots accepted on visual inspection are not eligible for Incentive/Disincentive.
2. The Engineer reserves the option of conducting any acceptance tests necessary to determine that the material and workmanship meets the project requirements.
3. Acceptance for mat density and longitudinal joint density may be based on establishing and maintaining a roller pattern to obtain maximum density without over-stressing the pavement.

Table 1

| **Incentive/Disincentive for Asphalt Binder Content, and Mat Density** | |
|---|---|
| **PT** | **Incentive/Disincentive (Dollars/Ton)** |
| >99 | 2.00 |
| 96-99 | 1.50 |
| 92-95 | 1.00 |
| 88-91 | 0.00 |
| 84-87 | -0.26 |
| 80-83 | -0.60 |
| 76-79 | -0.93 |
| 72-75 | -1.27 |
| 68-71 | -1.60 |
| 64-67 | -1.93 |
| 60-63 | -2.27 |
| <60 | Reject |
| **Incentive/Disincentive for Gradation** | |
| **PT** | **Incentive/Disincentive (Dollars/Ton)** |
| >99 | 2.00 |
| 96-99 | 1.50 |
| 92-95 | 1.00 |
| 88-91 | 0.00 |
| 84-87 | -0.26 |
| 80-83 | -0.60 |
| 76-79 | -0.93 |
| 72-75 | -1.27 |
| 68-71 | -1.60 |
| 64-67 | -1.93 |
| 60-63 | -2.27 |
| 56-59 | -5.00 |
| 52-55 | -10.00 |
| <52 | Reject |

| Table 1 Continued | |
|---|---|
| **Incentive/Disincentive for Longitudinal Joint Density** | |
| **PT** | **Incentive/Disincentive (Dollars/Ton)** |
| >99 | 2.00 |
| 96-99 | 1.50 |
| 92-95 | 1.00 |
| 88-91 | 0.00 |
| 84-87 | -0.26 |
| 80-83 | -0.60 |
| 76-79 | -0.93 |
| 72-75 | -1.27 |
| 68-71 | -1.60 |
| 64-67 | -1.93 |
| 60-63 | -2.27 |
| 56-59 | -2.60 |
| 52-55 | -5.00 |
| <52 | The $5 penalty and Overband Longitudinal Joint if Final Surface Lift |

Table 2

| **Upper and Lower Limit Determination** | |
|---|---|
| **Parameter** | **UL and LL** |
| ⅜ inch sieve for ½ inch HMA<br>No. 4 sieve for ⅜ inch HMA | Target Value ± 6.0% |
| No. 8 sieve | Target Value ± 5.0% |
| No.50 sieve | Target Value ± 3.0% |
| No. 200 sieve | Target Value ± 2.0% |
| Asphalt Binder Content | Target Value ± 0.35% |
| Mat Density | Lower Limit<br>Target Value - 2.0%<br>Upper Limit<br>Target Value + 4.0% |
| Longitudinal Joint Density | Lower Limit<br>Target Value - 2.0%<br>Upper Limit<br>Target Value + 6.0% |

Table 3

| Quality Index Values for Estimating Percent Within Limits | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **PU/PL** | **n=3** | **n=4** | **n=5** | **n=6** | **n=7** | **n=8** | **n=10** | **n=12** | **n=15** | **n=20** |
| 100 | 1.16 | 1.50 | 1.75 | 1.91 | 2.06 | 2.15 | 2.29 | 2.35 | 2.47 | 2.56 |
| 99 | 1.16 | 1.47 | 1.68 | 1.79 | 1.89 | 1.95 | 2.04 | 2.09 | 2.14 | 2.19 |
| 98 | 1.15 | 1.44 | 1.61 | 1.70 | 1.77 | 1.80 | 1.86 | 1.89 | 1.93 | 1.97 |
| 97 | 1.15 | 1.41 | 1.55 | 1.62 | 1.67 | 1.69 | 1.74 | 1.77 | 1.80 | 1.82 |
| 96 | 1.15 | 1.38 | 1.49 | 1.55 | 1.59 | 1.61 | 1.64 | 1.66 | 1.69 | 1.70 |
| 95 | 1.14 | 1.35 | 1.45 | 1.49 | 1.52 | 1.54 | 1.56 | 1.57 | 1.59 | 1.61 |
| 94 | 1.13 | 1.32 | 1.40 | 1.44 | 1.46 | 1.47 | 1.49 | 1.50 | 1.51 | 1.53 |
| 93 | 1.12 | 1.29 | 1.36 | 1.38 | 1.40 | 1.41 | 1.43 | 1.43 | 1.44 | 1.46 |
| 92 | 1.11 | 1.26 | 1.31 | 1.33 | 1.35 | 1.36 | 1.37 | 1.37 | 1.38 | 1.39 |
| 91 | 1.10 | 1.23 | 1.27 | 1.29 | 1.30 | 1.31 | 1.32 | 1.32 | 1.32 | 1.33 |
| 90 | 1.09 | 1.20 | 1.23 | 1.24 | 1.25 | 1.25 | 1.26 | 1.26 | 1.27 | 1.27 |
| 89 | 1.08 | 1.17 | 1.20 | 1.21 | 1.21 | 1.21 | 1.21 | 1.21 | 1.22 | 1.22 |
| 88 | 1.07 | 1.14 | 1.16 | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 |
| 87 | 1.06 | 1.11 | 1.12. | 1.12 | 1.12 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 |
| 86 | 1.05 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 |
| 85 | 1.03 | 1.05 | 1.05 | 1.05 | 1.05 | 1.04 | 1.04 | 1.04 | 1.04 | 1.04 |
| 84 | 1.02 | 1.02 | 1.02 | 1.01 | 1.01 | 1.01 | 1.00 | 1.00 | 1.00 | 1.00 |
| 83 | 1.00 | 0.99 | 0.98 | 0.97 | 0.97 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| 82 | 0.98 | 0.96 | 0.95 | 0.94 | 0.94 | 0.93 | 0.93 | 0.92 | 0.92 | 0.92 |
| 81 | 0.96 | 0.93 | 0.92 | 0.91 | 0.90 | 0.90 | 0.89 | 0.89 | 0.89 | 0.88 |
| 80 | 0.94 | 0.90 | 0.88 | 0.87 | 0.86 | 0.86 | 0.85 | 0.85 | 0.85 | 0.85 |
| 79 | 0.92 | 0.87 | 0.85 | 0.84 | 0.83 | 0.83 | 0.82 | 0.82 | 0.82 | 0.81 |
| 78 | 0.89 | 0.84 | 0.82 | 0.81 | 0.80 | 0.79 | 0.79 | 0.78 | 0.78 | 0.78 |
| 77 | 0.87 | 0.81 | 0.79 | .0.78 | 0.77 | 0.76 | 0.76 | 0.75 | 0.75 | 0.75 |
| 76 | 0.84 | 0.78 | 0.76 | 0.75 | 0.74 | 0.73 | 0.72 | 0.72 | 0.72 | 0.72 |
| 75 | 0.82 | 0.75 | 0.73 | 0.72 | 0.71 | 0.70 | 0.69 | 0.69 | 0.69 | 0.68 |
| 74 | 0.79 | 0.72 | 0.70 | 0.68 | 0.67 | 0.67 | 0.66 | 0.66 | 0.66 | 0.65 |
| 73 | 0.77 | 0.69 | 0.67 | 0.65 | 0.64 | 0.64 | 0.62 | 0.62 | 0.62 | 0.62 |
| 72 | 0.74 | 0.66 | 0.64 | 0.62 | 0.61 | 0.61 | 0.60 | 0.59 | 0.59 | 0.59 |
| 71 | 0.71 | 0.63 | 0.60 | 0.59 | 0.58 | 0.58 | 0.57 | 0.56 | 0.56 | 0.56 |
| 70 | 0.68 | 0.60 | 0.58 | 0.56 | 0.55 | 0.55 | 0.54 | 0.54 | 0.54 | 0.53 |
| 69 | 0.65 | 0.57 | 0.55 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 | 0.51 | 0.50 |
| 68 | 0.62 | 0.54 | 0.52 | 0.51 | 0.50 | 0.50 | 0.48 | 0.48 | 0.48 | 0.48 |
| 67 | 0.59 | 0.51 | 0.49 | 0.48 | 0.47 | 0.47 | 0.46 | 0.45 | 0.45 | 0.45 |
| 66 | 0.56 | 0.48 | 0.46 | 0.45 | 0.44 | 0.44 | 0.43 | 0.42 | 0.42 | 0.42 |
| 65 | 0.53 | 0.45 | 0.43 | 0.42 | 0.41 | 0.41 | 0.40 | 0.40 | 0.40 | 0.39 |
| 64 | 0.49 | 0.42 | 0.40 | 0.39 | 0.38 | 0.38 | 0.37 | 0.37 | 0.37 | 0.37 |
| 63 | 0.46 | 0.39 | 0.37 | 0.36 | 0.35 | 0.35 | 0.35 | 0.34 | 0.34 | 0.34 |
| 62 | 0.43 | 0.36 | 0.34 | 0.33 | 0.33 | 0.33 | 0.32 | 0.31 | 0.31 | 0.31 |
| 61 | 0.39 | 0.33 | 0.31 | 0.30 | 0.30 | 0.30 | 0.29 | 0.29 | 0.29 | 0.28 |
| 60 | 0.36 | 0.30 | 0.28 | 0.27 | 0.26 | 0.26 | 0.25 | 0.25 | 0.25 | 0.25 |
| 59 | 0.32 | 0.27 | 0.25 | 0.25 | 0.24 | 0.24 | 0.24 | 0.23 | 0.23 | 0.23 |
| 58 | 0.29 | 0.24 | 0.23 | 0.22 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.20 |
| 57 | 0.25 | 0.21 | 0.20 | 0.19 | 0.19 | 0.19 | 0.18 | 0.18 | 0.18 | 0.18 |

| Table 3 Continued | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **PU/PL** | **n=3** | **n=4** | **n=5** | **n=6** | **n=7** | **n=8** | **n=10** | **n=12** | **n=15** | **n=20** |
| 56 | 0.22 | 0.18 | 0.17 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.15 | 0.15 |
| 55 | 0.18 | 0.15 | 0.14 | 0.14 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| 54 | 0.14 | 0.12 | 0.11 | 0.11 | 0.11 | 0.11 | 0.10 | 0.10 | 0.10 | 0.10 |
| 53 | 0.11 | 0.09 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
| 52 | 0.07 | 0.06 | 0.06 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| 51 | 0.04 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| 50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Enter table in the appropriate “number of tests” column and round down to the nearest value.

Table 4

| **Definitions, Abbreviations, and Formulas for Acceptance** | |
|---|---|
| **Term** | **Explanation** |
| Target Value (TV) | The target values for gradation and asphalt binder content are given in the Contractor’s volumetric mix design. See this Section, article 1.6 for density target values. |
| Average (AVE) | The sum of the lot’s test results for a measured characteristic divided by the number of test results–the arithmetic mean. |
| Sample Standard Deviations | The square root of the value formed by summing the squared difference between the individual test results of a measured characteristic and AVE, divided by the number of test results minus one. |
| Upper Limit (UL) | The value above the TV of each measured characteristic that defines the upper limit of acceptable production. (Table 2) |
| Lower Limit (LL) | The value below the TV of each measured characteristic that defines the lower limit of acceptable production (Table 2) |
| Upper Quality Index (QU) | QU = (UL - AVE)/s |
| Lower Quality Index (QL) | QL = (AVE - LL)/s |
| Percentage of Lot Within UL (PU) | Determined by entering Table 3 with QU. |
| Percentage of Lot Within LL (PL) | Determined by entering Table 3 with QL. |
| Total Percentage of Lot Within UL and LL (PT) | PT = (PU + PL) – 100 |
| Incentive/Disincentive | Determined by entering Table 1 with PT or PL. |

All values for AVE, s, QU, and QL will be calculated to at least four decimal places and carried through all further calculations. Rounding to lower accuracy is not allowed.

## 1.7 DISPUTE RESOLUTION

A. Refer to Section 01456 when disputing the validity of the Department's acceptance tests.

B. The option to dispute the validity of the Department's test results is waived if the paired "t" testing described in this Section, article 3.4 is not performed and entered into the UDOT materials database.

# PART 2 PRODUCTS

## 2.1 ASPHALT BINDER

A. Project Specific Surfacing Requirements – Refer to Section 02742S.

B. Asphalt Material – Refer to Section 02745.

## 2.2 AGGREGATE

A. Crusher processed virgin aggregate material consisting of crushed stone, gravel, or slag.

B. Refer to Table 5 to determine the suitability of the aggregate.
   1. Coarse aggregates
      a. Retained on No. 4 sieve
   2. Fine aggregates
      a. Clean, hard grained, and angular
      b. Passing the No. 4 sieve

Table 5

| Test Method | Test No. | 75 Design Gyrations and Greater |
|---|---|---|
| One Fractured Face | AASHTO T 335 | 95% minimum |
| Two Fractured Face | AASHTO T 335 | 90% minimum |
| Fine Aggregate Angularity | AASHTO T 304 | 45 minimum |
| Flakiness Index | UDOT MOI 933 (Based on ⅜ inch sieve and above) | 17% maximum |
| L.A. Wear | AASHTO T 96 | 35% maximum |
| Sand Equivalent | AASHTO T 176 (Pre-wet method) | 60 minimum |
| Plasticity Index | AASHTO T 89 and T 90 | 0 |
| Unit Weight | AASHTO T 19 | minimum 75 lb/cu ft |
| Soundness (sodium sulfate) | AASHTO T 104 | 16% maximum loss with five cycles |
| Clay Lumps and Friable Particles | AASHTO T 112 | 2% maximum |
| Natural Fines | N/A | 0% |

C. Meet gradation requirements in Table 6.

Table 6

| Aggregate Gradations (Percent Passing by Dry Weight of Aggregate) | | | |
|---|---|---|---|
| **Sieve Size** | | **½ inch** | **⅜ inch** |
| **Control Sieves** | **¾ inch** | 100.0 | |
| | **½ inch** | 90.0 – 100.0 | 100.0 |
| | **⅜ inch** | <90 | 90.0 - 100.0 |
| | **No. 4** | | < 90 |
| | **No. 8** | 39.0 - 58.0 | 47.0 - 67.0 |
| | **No. 200** | 2.0 – 10.0 | 2.0 – 10.0 |

## 2.3 HYDRATED LIME

A. Meet the requirements of Section 02746.

## 2.4 RECLAIMED ASPHALT PAVEMENT (RAP) (OPTIONAL)

A. Limit RAP to 15 percent of the total weight of the hot mix and RAP binder to 10 percent of the total binder. Do not adjust the asphalt binder grade. .

B. RAP aggregate is required to meet Table 5 with exception of Sand Equivalent. Refer to AASHTO T 176.

## 2.5 WARM MIX

A. Meet all design requirements of Hot Mix Asphalt.

## 2.6 VOLUMETRIC DESIGN

A. Perform Superpave Volumetric Mix Design according to UDOT Materials Manual of Instruction 960 and the following:
   1. Incorporate hydrated lime into all designs. Refer to Section 02746.
   2. Comply with Table 7 and Table 8.

B. Obtain Department approval for the mix design. Refer to the UDOT Materials Manual of Instruction 960.
   1. Do not begin paving until approved.

C. Mix Design Changes
   1. The Department may allow up to two minor target changes per project without penalty to contractor. The Department charges $1,000 for each additional minor target change.
   2. The Department allows up to two volumetric mix design verifications, (including field verifications), per project. The Department charges $3,000 for each additional laboratory or field verification required. This includes all laboratory or field volumetric mix design verifications required due to contractor initiated target changes.
   3. The Engineer will review each change and provide written notice of approval or rejection of each mix design change.

Table 7

| Compaction Parameters | | |
|---|---|---|
| **$N_{initial}$ /% of $G_{mm}$*** | **$N_{design}$ /% of $G_{mm}$*** | **$N_{max}$ /% of $G_{mm}$*** |
| 7/≤ 90.5 | 75/ 97 | 115/≤ 98.5 |
| 8/≤ 89 | 100/ 97 | 160/≤ 98.5 |
| 9/≤ 89 | 125/ 97 | 205/≤ 98.5 |

* $G_{mm}$: Theoretical maximum specific gravity of mix. Refer to AASHTO T 209.

Table 8

| Volumetric Design Requirements | |
|---|---|
| HMA design mixing and compaction temperatures | Provided by the Engineer |
| Dust Proportion Range | 0.6 – 1.40 |
| Voids in Mineral Aggregate (VMA) at $N_{Design}$ AASHTO R 35.9.2 using $G_{sb}$ Oven Dry. Equation based on percent of total mix. | 14.0% - 15.0% for 1/2 inch<br>15.0% - 16.0% for 3/8 inch |
| Hamburg Wheel Tracker<br>UDOT MOI 990 | Maximum 10 mm impression at 20,000 passes for lab samples.<br>Maximum 20 mm impression at 20,000 passes field samples. |

## 2.7 PRIME COAT/TACK COAT

A. Refer to Section 02748.

# PART 3 EXECUTION

## 3.1 HMA

A. Dry aggregate to an average moisture content of not more than 0.2 percent by weight.
   1. May be verified by AASHTO T 255.
   2. Adjust burners to avoid damage or soot contamination of the aggregate.

B. Treat aggregate with hydrated lime. Refer to Section 02746.
   1. Method A or B
   2. The Department applies a deduction for mix produced by a non-certified supplier to cover the costs of inspection. The deduction is applied according to the UDOT Quality Management Plan 514 Hot-Mix Asphalt.

C. Coat with asphalt binder 100 percent of the particles passing and 98 percent of the particles retained on the No. 4 sieve.
   1. May be verified by AASHTO T 195.
   2. Discontinue operation and make necessary corrections if material is not properly coated.

D. Maintain temperature of the HMA between the limits identified on the Volumetric Mix Design Verification Letter for mixing and compacting.
   1. The Department rejects materials heated over the identified limits.
   2. Remove all material rejected by the Department for overheating.

E. Minimum compacted lift thickness is 3 times the nominal maximum aggregate size.

## 3.2 HMA PLANT

A. Provide
   1. Positive means to determine the moisture content of aggregate.
   2. Positive means to sample all material components.
   3. Sensors to measure the temperature of the HMA at discharge.
   4. The ability to maintain mix discharge temperature according to the mix design.

B. Asphalt Binder Storage Tanks
   1. Provide a positive means for separating and identifying asphalt grades when multiple products are used in mix production.
   2. Provide a positive means of sampling the asphalt binder. The Engineer determines a common sampling point where multiple products are used in mix production.

## 3.3 CEASE PRODUCTION

A. Cease production when any two out of three consecutive lots meet one of the following criteria:
   1. A net disincentive
   2. Air voids at $N_{des}$ averaged for each lot are less than 2.0 or greater than 4.25 percent.
   3. VMA at $N_{des}$ averaged for each lot are not within Target Value ± 1.25 percent

B. Submit a detailed corrective action plan for approval before production continues indicating the changes in production procedures that will be implemented to correct the deficiencies. Address the specific issues contributing to the cease production. Obtain approval, in writing, of the revised plan before production continues.

C. The Engineer may require a new mix design.

D. The Engineer may require Hamburg Wheel-Track testing for up to 5 lots after the cease production order.
   1. Sample randomly from behind the paver for up to 5 lots after the cease production order.
   2. Failure to meet the requirements of Table 8 results in rejection of the lot.

## 3.4 LABORATORY CORRELATION

A. Perform split-sample, paired *t*-testing with the Department based on project quality control testing using Department LQP qualified lab.
   1. Perform split-sample, paired *t* analysis on all mix acceptance tests and tests related to volumetric properties.
   2. Perform paired *t* analysis as defined in the UDOT Materials Manual of Instruction, Appendix C.
   3. Continue paired *t*-testing until at least two consecutive production days meet $\alpha = 0.05$ for a two tailed distribution.
   4. Resolve discrepancies in lab results within the first five production days.
      a. Cease production if the requirements for two consecutive days of the first five days cannot be met.
      b. Submit a detailed corrective action plan to the Engineer for approval before production continues indicating the changes in procedures that will be implemented to correct the deficiencies.
         1) Both Contractor and Department labs must make paired *t* test results available within 24 hours of sampling.

## 3.5 SURFACE PREPARATION

A. Locate, reference, and protect all utility covers, monuments, curb and gutter, and other components affected by the paving operations.

B. Remove all moisture, dirt, sand, leaves, and other objectionable material from the prepared surface before placing the tack coat and mix.

C. Complete spot leveling before placing pavement courses.
   1. Place, spread, and compact leveling mix on portions of the existing surface.
   2. Fill and compact any localized potholes more than 1 inch deep.

3. Allow compacted mix to cool sufficiently to below 150 degrees F to provide a stable structural platform before placing additional lifts of HMA.

D. Apply tack coat to all paved surfaces before applying a leveling course or pavement lift as required in Section 02748. Coat edge with tack coat according to Section 02748 at a residual rate of 0.05 gal/yd$^2$.

E. Allow sufficient cure time for prime coat/tack coat before placing HMA.

## 3.6 SURFACE PLACEMENT

A. Refer to Section 01554 and DD and TC Series Standard Drawings for pavement edge slope required to safely maintain traffic.

B. Adjust the production of the mixing plant and material delivery until a steady paver speed is maintained.

C. Construct straight joints, offset longitudinal joints 6 to 12 inches in succeeding courses.
   1. Construct all joints joint within 1 ft of the centerline,, the lane line or the center of the lane.
   2. Tack the longitudinal edge before placing the adjacent pass.

D. Offset transverse construction joints at least 6 ft longitudinally.

E. Do not allow construction vehicles, general traffic, or rollers to pass over the uncompacted end or edge of freshly placed mix until the pavement temperature drops to a point where damage will not occur.

F. Taper the end of a course subjected to traffic at approximately 2ft:1in (horizontal to vertical).
   1. Remove the portion of the pass that contains the tapered end before placing fresh mix.
   2. Tack the contact surfaces before fresh mix is placed against the compacted mix.

G. Improve smoothness as a priority rather than matching lip of gutter.

H. Use a motor grader, spreader box, or other approved spreading methods for projects under 180 yd$^2$, irregular areas, or for miscellaneous construction such as detours, sidewalks, and leveling courses.

## 3.7 COMPACTION

A. Use a small compactor or vibratory roller at structures in addition to normal rolling.

B. Operate in a transverse direction next to the back wall and approach slab.

## 3.8 LIMITATIONS

A. Do not place on frozen base or during adverse climatic conditions such as precipitation or when roadway surface is icy or wet.

B. Use a release agent that does not dissolve asphalt and is satisfactory to the Engineer for all equipment and hand tools used to mix, haul, and place the HMA.

C. Place HMA from April 15, through October 15, and when the air temperature in the shade and the roadway surface temperature are above 50 degrees F.
   1. The Department determines if it is feasible to place HMA outside these dates and temperature.
   2. Obtain authorization from the Engineer before paving outside the requirements.

END OF SECTION

February 3, 2010

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 02737S**

# ASPHALT PAVEMENT SOFT SPOT REPAIR

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

A. Remove and replace soft spots in the existing pavement, as directed by the Engineer. Remove the damaged asphalt leaving a square and vertical edge on all sides, replace the base if necessary, and replace hot mix asphalt.

### 1.2 RELATED SECTIONS

A. Section 02075: Geotextiles
B. Section 02721: Untreated Base Course
C. Section 02732S: Hot Mix Asphalt (HMA) Fine Graded Thin Overlay
D. Section 02742S: Project Specific Surfacing Requirements
E. Section 02748: Prime Coat/Tack Coat

## PART 2 PRODUCTS

### 2.1 GEOTEXTILES

A. Refer to Section 02075.

### 2.2 UNTREATED BASE COURSE

A. Refer to Section 02721.

### 2.2 HOT MIX ASPHALT

A. Refer to Section 02732S for mix design and material requirements.

B. Refer to Section 02742S for project specific requirements.

C. Refer to Section 02748 for tack coat requirements.

## PART 3 EXECUTION

### 3.1 REMOVE DETERIORATED ASPHALT SURFACING

A. Remove the deteriorated asphalt to a minimum depth of 6” or as determined by the engineer. Remove by either saw cutting or rotomilling, leaving all edges square and vertical. Locate cut at least 6” beyond the visible limits of the distressed area or to a minimum patch width of 3’ in all directions. If rotomilling is used, the mill must be at least 6’ wide and a minimum patch size of 6’ in all directions.

B. Remove the damaged asphalt surfacing without damaging the surrounding asphalt pavement. Remove all loose material and clean vertical edges prior to applying tack coat and paving.

### 3.2 BASE COURSE REQUIREMENTS FOR TYPE A (SURFACE ONLY) REPAIR

A. Grade and compact the existing base course surface.
   1. Use the largest piece of vibratory or impact compaction equipment possible.
   2. Control compaction using a nuclear density gauge.
   3. Continue compaction until additional work does not improve the measured density.

### 3.3 BASE COURSE REQUIREMENTS FOR TYPE B (FULL DEPTH) REPAIR

A. Excavate and remove 8” of existing base course. Install a geotextile separation fabric that conforms to Section 02075 of the UDOT Standard Specifications. Replace with new untreated base course that conforms to Section 02721 of the UDOT Standard Specifications.

B. Grade and compact the new base course surface.
   1. Use the largest piece of vibratory or impact compaction equipment possible.
   2. Control compaction using a nuclear density gauge.
   3. Continue compaction until additional work does not improve the measured density.

## 3.4 PLACE AND COMPACT HOT MIX ASPHALT

A. Tack all bituminous surfaces conforming to Section 02748 of the UDOT Standard Specifications.

B. Place and compact hot mix asphalt mix, conforming to Section 02741 of the UDOT Standard Specifications and Section 02742S, to within ¼" of the existing surface.
   1. Control compaction using a nuclear density gauge
   2. Compact material to minimum 92% of the maximum specific gravity.

END OF SECTION

September 8, 2014

**SPECIAL PROVISION**

**Project # F-0209(34)10**
**Pin # 11110**

**SECTION 02741M**

# Hot Mix Asphalt (HMA)

**Delete Article 1.6, paragraph D8 and replace with the following:**

8. The Department will reject the lot according to Table 1.

**Delete Article 1.6, paragraph E1 and replace with the following:**

1. According to Table 1.

**Delete Table 1 and replace with the following:**

Table 1

| Incentive/Disincentive for Asphalt Binder Content, and Density | |
|---|---|
| **PT Based on Min. Four Samples** | **Incentive/Disincentive (Dollars/Ton)** |
| >99 | 1.50 |
| 96-99 | 1.00 |
| 92-95 | 0.60 |
| 88-91 | 0.00 |
| 84-87 | -0.26 |
| 80-83 | -0.60 |
| 76-79 | -0.93 |
| 72-75 | -1.27 |
| 68-71 | -1.60 |
| 64-67 | -1.93 |
| 60-63 | -2.27 |
| <60 | Reject |
| **Incentive/Disincentive for Gradation** | |
| **PT Based on Min. Four Samples** | **Incentive/Disincentive (Dollars/Ton)** |
| >99 | 1.50 |
| 96-99 | 1.00 |
| 92-95 | 0.60 |
| 88-91 | 0.00 |
| 84-87 | -0.26 |
| 80-83 | -0.60 |
| 76-79 | -0.93 |
| 72-75 | -1.27 |
| 68-71 | -1.60 |
| 64-67 | -1.93 |
| 60-63 | -2.27 |
| 56-59 | -5.00 |
| 52-55 | -10.00 |
| <52 | Reject |

**Delete Table 3 and replace with the following**

Table 3

| Quality Index Values for Estimating Percent Within Limits | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **PU/PL** | **n=3** | **n=4** | **n=5** | **n=6** | **n=7** | **n=8** | **n=10** | **n=12** | **n=15** | **n=20** |
| 100 | 1.16 | 1.50 | 1.75 | 1.91 | 2.06 | 2.15 | 2.29 | 2.35 | 2.47 | 2.56 |
| 99 | 1.16 | 1.47 | 1.68 | 1.79 | 1.89 | 1.95 | 2.04 | 2.09 | 2.14 | 2.19 |
| 98 | 1.15 | 1.44 | 1.61 | 1.70 | 1.77 | 1.80 | 1.86 | 1.89 | 1.93 | 1.97 |
| 97 | 1.15 | 1.41 | 1.55 | 1.62 | 1.67 | 1.69 | 1.74 | 1.77 | 1.80 | 1.82 |
| 96 | 1.15 | 1.38 | 1.49 | 1.55 | 1.59 | 1.61 | 1.64 | 1.66 | 1.69 | 1.70 |
| 95 | 1.14 | 1.35 | 1.45 | 1.49 | 1.52 | 1.54 | 1.56 | 1.57 | 1.59 | 1.61 |
| 94 | 1.13 | 1.32 | 1.40 | 1.44 | 1.46 | 1.47 | 1.49 | 1.50 | 1.51 | 1.53 |
| 93 | 1.12 | 1.29 | 1.36 | 1.38 | 1.40 | 1.41 | 1.43 | 1.43 | 1.44 | 1.46 |
| 92 | 1.11 | 1.26 | 1.31 | 1.33 | 1.35 | 1.36 | 1.37 | 1.37 | 1.38 | 1.39 |
| 91 | 1.10 | 1.23 | 1.27 | 1.29 | 1.30 | 1.31 | 1.32 | 1.32 | 1.32 | 1.33 |
| 90 | 1.09 | 1.20 | 1.23 | 1.24 | 1.25 | 1.25 | 1.26 | 1.26 | 1.27 | 1.27 |
| 89 | 1.08 | 1.17 | 1.20 | 1.21 | 1.21 | 1.21 | 1.21 | 1.21 | 1.22 | 1.22 |
| 88 | 1.07 | 1.14 | 1.16 | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 |
| 87 | 1.06 | 1.11 | 1.12. | 1.12 | 1.12 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 |
| 86 | 1.05 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 |
| 85 | 1.03 | 1.05 | 1.05 | 1.05 | 1.05 | 1.04 | 1.04 | 1.04 | 1.04 | 1.04 |
| 84 | 1.02 | 1.02 | 1.02 | 1.01 | 1.01 | 1.01 | 1.00 | 1.00 | 1.00 | 1.00 |
| 83 | 1.00 | 0.99 | 0.98 | 0.97 | 0.97 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| 82 | 0.98 | 0.96 | 0.95 | 0.94 | 0.94 | 0.93 | 0.93 | 0.92 | 0.92 | 0.92 |
| 81 | 0.96 | 0.93 | 0.92 | 0.91 | 0.90 | 0.90 | 0.89 | 0.89 | 0.89 | 0.88 |
| 80 | 0.94 | 0.90 | 0.88 | 0.87 | 0.86 | 0.86 | 0.85 | 0.85 | 0.85 | 0.85 |
| 79 | 0.92 | 0.87 | 0.85 | 0.84 | 0.83 | 0.83 | 0.82 | 0.82 | 0.82 | 0.81 |
| 78 | 0.89 | 0.84 | 0.82 | 0.81 | 0.80 | 0.79 | 0.79 | 0.78 | 0.78 | 0.78 |
| 77 | 0.87 | 0.81 | 0.79 | .0.78 | 0.77 | 0.76 | 0.76 | 0.75 | 0.75 | 0.75 |
| 76 | 0.84 | 0.78 | 0.76 | 0.75 | 0.74 | 0.73 | 0.72 | 0.72 | 0.72 | 0.72 |
| 75 | 0.82 | 0.75 | 0.73 | 0.72 | 0.71 | 0.70 | 0.69 | 0.69 | 0.69 | 0.68 |
| 74 | 0.79 | 0.72 | 0.70 | 0.68 | 0.67 | 0.67 | 0.66 | 0.66 | 0.66 | 0.65 |
| 73 | 0.77 | 0.69 | 0.67 | 0.65 | 0.64 | 0.64 | 0.62 | 0.62 | 0.62 | 0.62 |
| 72 | 0.74 | 0.66 | 0.64 | 0.62 | 0.61 | 0.61 | 0.60 | 0.59 | 0.59 | 0.59 |
| 71 | 0.71 | 0.63 | 0.60 | 0.59 | 0.58 | 0.58 | 0.57 | 0.56 | 0.56 | 0.56 |
| 70 | 0.68 | 0.60 | 0.58 | 0.56 | 0.55 | 0.55 | 0.54 | 0.54 | 0.54 | 0.53 |
| 69 | 0.65 | 0.57 | 0.55 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 | 0.51 | 0.50 |
| 68 | 0.62 | 0.54 | 0.52 | 0.51 | 0.50 | 0.50 | 0.48 | 0.48 | 0.48 | 0.48 |
| 67 | 0.59 | 0.51 | 0.49 | 0.48 | 0.47 | 0.47 | 0.46 | 0.45 | 0.45 | 0.45 |
| 66 | 0.56 | 0.48 | 0.46 | 0.45 | 0.44 | 0.44 | 0.43 | 0.42 | 0.42 | 0.42 |
| 65 | 0.53 | 0.45 | 0.43 | 0.42 | 0.41 | 0.41 | 0.40 | 0.40 | 0.40 | 0.39 |
| 64 | 0.49 | 0.42 | 0.40 | 0.39 | 0.38 | 0.38 | 0.37 | 0.37 | 0.37 | 0.37 |
| 63 | 0.46 | 0.39 | 0.37 | 0.36 | 0.35 | 0.35 | 0.35 | 0.34 | 0.34 | 0.34 |
| 62 | 0.43 | 0.36 | 0.34 | 0.33 | 0.33 | 0.33 | 0.32 | 0.31 | 0.31 | 0.31 |
| 61 | 0.39 | 0.33 | 0.31 | 0.30 | 0.30 | 0.30 | 0.29 | 0.29 | 0.29 | 0.28 |
| 60 | 0.36 | 0.30 | 0.28 | 0.27 | 0.26 | 0.26 | 0.25 | 0.25 | 0.25 | 0.25 |
| 59 | 0.32 | 0.27 | 0.25 | 0.25 | 0.24 | 0.24 | 0.24 | 0.23 | 0.23 | 0.23 |

| Table 3 Continued | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **PU/PL** | **n=3** | **n=4** | **n=5** | **n=6** | **n=7** | **n=8** | **n=10** | **n=12** | **n=15** | **n=20** |
| 58 | 0.29 | 0.24 | 0.23 | 0.22 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.20 |
| 57 | 0.25 | 0.21 | 0.20 | 0.19 | 0.19 | 0.19 | 0.18 | 0.18 | 0.18 | 0.18 |
| 56 | 0.22 | 0.18 | 0.17 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.15 | 0.15 |
| 55 | 0.18 | 0.15 | 0.14 | 0.14 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| 54 | 0.14 | 0.12 | 0.11 | 0.11 | 0.11 | 0.11 | 0.10 | 0.10 | 0.10 | 0.10 |
| 53 | 0.11 | 0.09 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
| 52 | 0.07 | 0.06 | 0.06 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| 51 | 0.04 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| 50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Enter table in the appropriate “number of tests” column and round down to the nearest value.

**Delete Article 2.4, and replace with the following:**

## 2.4 RECLAIMED ASPHALT PAVEMENT (RAP) (Optional)

A. Do not adjust the asphalt binder grade if the lower end is already a PG XX-34.

B. Do not adjust the asphalt binder grade when RAP content is not more than 15 percent by total weight of the hot mix and RAP asphalt binder content is not more than 15 percent of the total asphalt binder content by weight.

C. Adjust asphalt binder grade according to AASHTO M 323 when RAP asphalt binder content is between 15 to 25 percent of the asphalt binder weight.
   1. Select one grade softer than the grade specified. Do not adjust the asphalt binder grade if the lower end is already a PG XX-34.
   2. Provide test reports indicating that the PG grade and quantity of the recovered asphalt binder is consistent throughout the stockpile.
   3. Limit RAP to 25 percent of the total weight of the hot mix and RAP binder to 25 percent of the total binder.

D. RAP aggregate is required to meet Table 5 with exception of Sand Equivalent. Refer to AASHTO T 176.

**Add Article 2.6, paragraph A3 and A4:**

3. Delete the first bullet of paragraph 960.04 in UDOT Materials Manual of Instruction 960.
4. Delete “SSD” from GsbSSD – fine and coarse aggregate specific gravities – AASHTO T 84 and T 85 of paragraph 960.05.02 in UDOT Materials Manual of Instruction 960.

**Delete Table 8 and replace with the following:**

Table 8

| **Volumetric Design Requirements** | |
|---|---|
| HMA design mixing and compaction temperatures | Provided by the Engineer |
| Dust Proportion Range | 0.6 – 1.40 |
| Voids in Mineral Aggregate (VMA) at $N_{Design}$ AASHTO R 35.9.2 using $G_{sb}$ Dry. Equation based on percent of total mix. | 12.0% - 13.0% for 1 inch<br>13.0% - 14.0% for ¾ inch<br>14.0% - 15.0% for ½ inch<br>15.0% - 16.0% for ⅜ inch |
| Hamburg Wheel Tracker<br>UDOT Materials MOI 990 | 75 Design Gyrations and Greater<br>Maximum 10 mm impression at 20,000 passes.<br><br>Less than 75 Design Gyrations<br>Maximum 10 mm impression at 10,000 passes. |

July 19, 2016

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 02742S**

# PROJECT SPECIFIC SURFACING REQUIREMENTS

**Add Section 02742:**

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

A. Required PG Asphalt Binder or emulsion

B Required minimum asphalt binder content for SMA mixes

C. Number of gyrations ($N_{values}$) to use for Superpave Mix Design

D. PCCP Pavement Texture Type

E. Acceptance criteria for pavement smoothness

### 1.2 RELATED SECTIONS Not Used

### 1.3 REFERENCES Not Used

### 1.4 DEFINITIONS Not Used

### 1.5 SUBMITTALS Not Used

## 1.6 ACCEPTANCE

A. Pavement Smoothness Incentives/Disincentives.

Table 1

| Incentives and Disincentives for Category 1 Pavements | | |
|---|---|---|
| **MRI Range** (inches/mile by pavement section) | **Dollars/Pavement Section** | |
| | Asphalt Pavements | Portland Cement Concrete |
| ≤ 40.0 | $750 | $1500 |
| 40.1 - 50.0 | $500 | $1000 |
| 50.1 – 60.0 | $250 | $500 |
| 60.1 – 70.0 | 0 | 0 |
| 70.1 – 80.0 | -$250 | -$500 |
| 80.1 – 90.0 | -$500 | -$1000 |
| >90.0 | Corrective Action | |

Table 2

| Incentives and Disincentives for Structure Sections | |
|---|---|
| **MRI Range** (inches/mile by structure section) | **Dollars/Structure Section** |
| ≤ 40.0 | $1500 |
| 40.1 - 50.0 | $1000 |
| 50.1 – 60.0 | $500 |
| 60.1 – 70.0 | 0 |
| 70.1 – 80.0 | -$-500 |
| 80.1 – 90.0 | -$1000 |
| >90.0 | Corrective Action |

B. Localized Roughness Limits

Table 3

| **Localized Roughness Limits** | |
|---|---|
| **Roadway** | **IRI w/base length of 25 ft. (in./mile)** |
| Interstate including ramps | ≤ 175 |
| Bridge decks, approach slabs & transitions, manholes and valves | ≤ 250 |
| Non-interstate | ≤ 190 |
| Urban roadways with speed limits less than 45 mph | ≤ 190 |
| Shoulders and Bike Lanes | ≤ 250 (single profile) |

C. Percent Improvement Incentives/Disincentives

Table 4

| Category 2 Pavements | |
|---|---|
| % Improvement per Pavement Section | Incentive/Disincentive Dollars/Pavement Section |
| ≥85.0 | $500 |
| 75.0 to 84.9 | $400 |
| 65.0 to 74.9 | $300 |
| 55.0 to 64.9 | $200 |
| 45.0 to 54.9 | $100 |
| 40.0 to 44.9 | 0 |
| 30.0 to 39.9 | -$100 |
| 20.0 to 29.9 | -$200 |
| <20.0 | Corrective Action |

## PART 2 PRODUCTS

### 2.1 MIXES

A. Hot Mix Asphalt (HMA) Fine Graded Thin Overlay: (Refer to bid item for size)
   1. PG 64-34 Asphalt
   2. $N_{initial}$ 7 $N_{design}$ 75 $N_{final}$ 115

## PART 3 EXECUTION Not Used

END OF SECTION

November 14, 2012

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 02746M**

# HYDRATED LIME

**Add the following to Article 1.6:**

B. Comply with UDOT Quality Management Plan 514 Hot Mix Asphalt

**Delete Article 3.1, paragraph B and replace with the following:**

B. Method A: Dynamic Feed Lime Slurry
   1 Lime Slurry – One part lime and at least three parts water by weight. The amount of added water to meet the 3:1 lime slurry may be adjusted to account for the moisture in the stockpile. Use lime slurry with a minimum of one part water by weight of lime.
   2. Add at least 1 percent lime by weight of the virgin aggregate.
   3. Deliver lime slurry to the twin shaft pugmill for mixing with aggregate. The virgin aggregate/lime mixture will contain at least 3 percent water by weight of the virgin aggregate after the pugmill
   4. Adjust quantity (percent) of lime as necessary, based on results of Hamburg Wheel Tracker test.
   5. Verify that Lime Slurry equipment is operating at all times. The Engineer may require Method B, marination of the aggregate/hydrated lime mixture in the stockpile if the HMA is supplied without hydrated lime slurry treatment.

**Delete Article 3.1, paragraph C4 and replace with the following:**

4. Provide sufficient free moisture to thoroughly wet the aggregate and activate the lime before introducing hydrated lime.
   a. The aggregate/lime mixture will contain at least 3 percent water by weight of the virgin aggregate.

**Delete Article 3.2, paragraph A and replace with the following:**

A. Control, monitor, and document the lime addition process according to the requirements of the UDOT Quality Management Plan 514 Hot-Mix Asphalt.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 02748M**

# PRIME COAT/TACK COAT

**Delete Article 1.4, paragraph B3 and replace with the following:**

3. A diluted product may be used to better control distribution when the residual application rate is small (0.03 gal/yd$^2$).
   a. The product will be referred to as a 1:1 or 2:1 dilute meaning 2 parts emulsion to 1 part water for the latter case when this is done.

**Delete Table 2 and replace with the following:**

Table 2

| **Application Rate (gal/yd$^2$)** | | | | |
|---|---|---|---|---|
| **Existing Pavement Condition** | **Residual** | **Undiluted** | **1: 1 Dilute** | **2:1 Dilute** |
| New HMA | 0.03 | 0.05 | 0.10 | 0.08 |
| Oxidized HMA | 0.05 | 0.09 | 0.18 | 0.13 |
| Milled HMA | 0.07 | 0.12 | 0.24 | 0.18 |
| Milled PCCP | 0.07 | 0.12 | 0.24 | 0.18 |
| PCCP | 0.05 | 0.09 | 0.18 | 0.13 |

Residual – Asphalt binder content needed on the pavement.
Undiluted and 1:1 and 2:1 Dilute. Adjust the application rate if emulsion is not 60 percent residual asphalt.

October 5, 2015

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 02765M**

# PAVEMENT MARKING PAINT

**Delete Article 1.3, paragraphs M through S and replace with the following:**

M. ASTM E 1710: Test Method for Measurement of Retroreflective Pavement Marking Materials Using a Portable Retroreflectometer

N. Environmental Protection Agency Testing Methods

O. Federal Specification

P. Federal Standards

Q. Manual on Uniform Traffic Control Devices (MUTCD)

R. UDOT Materials Manual of Instruction

S. UDOT Minimum Sampling and Testing Requirements

T. UDOT Quality Management Plans

**Delete Article 1.6 paragraphs D and E and replace with the following:**

D. The Engineer will:
   1. Visually inspect longitudinal lines and transverse markings to verify compliance with the required dimensions.
   2. Inspect at the end of each production day or more frequently as required.
   3. Verify quantities applied by one of the following methods for paint and one of the methods for beads.
      a. Methods for paint:
         1) Measure paint tanks before and after application
         2) Witness the meter readings before and after application. A print out of meter readings instead of witnessing may be accepted at the Engineer's discretion.

b. Method for beads:
   1) Measure bead tanks before and after application.
   2) Accept beads according to retroreflectivity Performance criteria. Refer to this Section, Article 3.2, paragraph E2 below.

4. Sample in the field according to the UDOT Quality Management Plan 513, Pavement Marking Paint, and the UDOT Minimum Sampling and Testing Requirements.

E. Repaint any line or legend failing to meet bead application rates or retroreflectivity requirements and dimensional requirements.
   1. Do not remove earlier application.

**Delete Article 3.2, paragraphs E and replace with the following:**

E. Glass Sphere (Beads) –
   1. Apply at least 8 lb/gal of paint, the full length and width of line and pavement markings.
      a. Calibrate bead guns and measure bead distribution according to UDOT Materials Manual of Instruction 932, Procedure for Sampling and Accepting Pavement Marking Paint and Beads.
      b. Do not apply glass beads to contrast lines (black paint).
   2. Performance option for bead measurement and acceptance.
      a. Measure retroreflectivity within 7 days of pavement marking application.
      b. Use a portable retroreflectometer that meets requirements of ASTM E 1710
      c. Identify three 400-foot sections per 10 miles of pavement marking. For pavement markings less than 2 miles sample only one 400-foot section.
      d. Take a minimum of 16 approximately evenly spaced readings for edge lines, lane lines and centerlines throughout each section in each direction of travel.
      e. The Engineer may select the sections to be tested.
      f. Average all readings of each line to determine the retroreflectivity measurement for each line.
      g. UDOT may verify with quality assurance testing within 21 days of pavement marking application

h. Determine the acceptability and pay factors for retroreflectivity using Table 5

.

Table 5

| Pay Adjustments for Retroreflectivity Requirements | | |
|---|---|---|
| Material Type | Retroreflectivity (R) | Pay Factor |
| Waterborne Traffic Paint (White) | >249 | 1.0 |
| | 225 - 249 | .75 |
| | 200 - 224 | .50 |
| | < 200 | 0* |
| Waterborne Traffic Paint (Yellow) | >174 | 1.0 |
| | 150-174 | .75 |
| | 125-149 | .50 |
| | < 125 | 0* |

* Repaint pavement markings at no cost to the Department. Do not remove earlier application.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 02765M**

# PAVEMENT MARKING PAINT

**Delete Article 1.3, paragraphs M through R and replace with the following:**

M. Environmental Protection Agency Testing Methods

N. Federal Specification

O. Federal Standards

P. Manual on Uniform Traffic Control Devices (MUTCD)

Q. UDOT Materials Manual of Instruction

R. UDOT Minimum Sampling and Testing Requirements

S. UDOT Quality Management Plans

**Delete Article 2.1, paragraph A, Table 4 and replace with the following:**

Table 4

| **Paint Requirements** | | | | |
|---|---|---|---|---|
| Property | White | Yellow | Black | Test |
| Pigment – Percent by weight, minimum | 62.0 | 62.0 | 62.0 | ASTM D 3723 |
| Total Solids – Percent by weight, minimum | 77.0 | 77.0 | 77.0 | ASTM D 1644 |
| Nonvolatile vehicle – Percent by weight vehicle, minimum* | 43.0 | 43.0 | 43.0 | ASTM D 3723<br>ASTM D 1644 |
| Viscosity, KU @ 77 degrees F | 80 – 95 | 80 – 95 | 80 – 95 | ASTM D 562 |
| Density, lb/gal, minimum | 14.0 | 14.0 | 14.0 | ASTM D 1475 |
| Volatile Organic Content (VOC) – g/L, maximum | 100 | 100 | 100 | ASTM D 3960 |
| Titanium Dioxide Content, lb/gal | 1.0 min | 0.2 max | N/A | ASTM D 5381 |
| Color Definition | 37875 | 33538 | N/A | Federal Standard 595B |
| Directional Reflectance Minimum | 90.0 | 50.0 | N/A | ASTM E 1347 |
| Dry Opacity – Minimum (5 mils wet) | 0.95 | 0.95 | N/A | ASTM D 2805 |

* Binder – 100 percent acrylic cross-linking polymer, by weight, as determined by infrared analysis and other chemical analysis available to the Department. Refer to ASTM D 2205.

**Delete Article 2.2 and replace with the following:**

## 2.2 GLASS SPHERES (BEADS) USED IN PAVEMENT MARKING PAINT

A. Heavy metal concentration: Manufacturer must provide a certificate of compliance stating that all beads contain no more than the amounts listed for the following materials as determined by testing performed according to EPA test methods 3052 and 6010C. Other suitable x-ray fluorescence spectrometry analysis methods may be used to screen samples of glass spheres for arsenic, antimony and lead content.

Table 5

| **Heavy Metal Materials** | |
|---|---|
| **Material** | **Level (ppm, total)** |
| Arsenic | 200 |
| Antimony | 200 |
| Lead | 200 |

B. Longitudinal Lines – Refer to AASHTO M 247, Specific Properties, with the following exceptions:

1. Gradation:

Table 6

| **Gradation** | |
|---|---|
| **Sieve Size** | **Accumulated Percent Passing** |
| No. 18 | 65 – 80 |
| No. 30 | 30 – 50 |
| No. 50 | 0 – 5 |

2. Coating – Dual coating for optimum adhesion and embedment.
3. Roundness – 80 percent true spheres below the number 30 sieve. Refer to ASTM D 1155
4. Color/Clarity – Colorless/clear and free of carbon residue.
5. Refractive Index – Minimum 1.51 by oil immersion method.
6. Air Inclusions – Less than 5 percent by visual inspection.
7. Hardness – Beads above the number 30 sieve exhibit an average hardness of C70.5 when measured using the Rockwell C scale method and using a minimum sample of 100 beads.
8. Crushing Strength – Beads above the number 30 sieve exhibit an average crushing strength of 60,000 psi when measured by the $L/D^2$ method and with a minimum sample of 100 beads.
9. Chemical Resistance – Beads resistant to hydrochloric acid, water, calcium chloride, and sodium sulfide. TT-B Federal Specification 1325C sections 4.3.6 to 4.3.9.

C. Transverse Markings – Refer to AASHTO M 247, Specific Properties, with the following exceptions:

1. Gradation:

Table 7

| Gradation | |
|---|---|
| **Sieve Size** | **Accumulated Percent Passing** |
| No. 20 | 90 – 95 |
| No. 30 | 45 – 70 |
| No. 50 | 5 – 25 |
| No. 80 | 0 – 5 |

2. Coating – Dual coating for optimum adhesion and embedment.
3. Roundness – The glass beads will have at least 75 percent true spheres.
4. Refractive index – Minimum 1.51 by oil immersion method.
5. Air Inclusions – Less than 10 percent by visual inspection.
6. Have at least 80 percent true spheres.

D. Beads used in Temporary Pavement Markings. Meet the above or AASHTO M 247 Type II uniform gradation.

**Delete Article 3.2, paragraph B2c and replace with the following:**

c. 8 inch Solid Line – From 95 to 120 ft/gal. Use the following calculation to determine wet mil thickness if approximation is outside the range for the desired line type.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 02768M**

# Pavement Marking Materials

(Warranty Specification)

**Delete Article 1.5, paragraph B and replace with the following:**

B. Installation Warranty

1. Manufacturer provides a warranty bond or letter of credit to the Department's Engineer for Maintenance to cover the total installed price of the material on this project and any other projects where the manufacturer's material is installed.
2. Submit material type, manufacturer, installation date, quantities, and project number to the Engineer for each project.
3. Warranty bond or letter of credit covers the specified service life of the materials and begins after all pavement markings are installed and accepted.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 02771**

# ADA PEDESTRIAN ACCESS RAMPS

**Delete Section 02771 and replace with the following:**

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

A. Americans with Disabilities Act (ADA) pedestrian access ramps.

### 1.2 RELATED SECTIONS

A. Section 02056: Embankment, Borrow, and Backfill

B. Section 02316: Roadway Excavation

C. Section 02721: Untreated Base Course (UTBC)

D. Section 02776: Concrete Flatwork

E. Section 03055: Portland Cement Concrete

F. Section 03390: Concrete Curing

### 1.3 REFERENCES

A. AASHTO M 306: Drainage, Sewer, Utility, and Related Castings

B. ASTM A 48: Grey Iron Castings

### 1.4 DEFINITIONS

A. ADA Pedestrian Access Ramp – Includes pedestrian access elements as contained on GW Series Standard Drawings.

B. Certified Installer – The contractor or subcontractor who has successfully completed UDOT's ADA Pedestrian Ramp Training Course. Refer to http://www.udot.utah.gov/go/standardsreferences.

## 1.5 SUBMITTALS

A. Certificate of completion of Department ADA Pedestrian Access Ramp Evaluation Training Course.

B. Manufacturer's product data, specifications, and recommended application instructions for detectable warning surface.

C. Provide copy of current certificate for the Certified Installer.

## 1.6 ACCEPTANCE

A. ADA pedestrian access ramps may be accepted at a reduced price when the concrete strength is below that specified.
   1. Price adjustment pay factor following Section 03055.

# PART 2 PRODUCTS

## 2.1 CONCRETE

A. Class AA(AE). Refer to Section 03055.

## 2.2 UNTREATED BASE COURSE

A. Refer to Section 02721.

## 2.3 DETECTABLE WARNING SURFACE

A. Use In-line truncated dome pattern that meets the requirements of GW Series Standard Drawings.

B. Provide a color that contrasts visually with the adjoining surfaces, either light-on-dark or dark-on-light.

C. Minimize number of panels used.

D. Acceptable products for installation:
   1. Polymer Composite Panel – Epoxy polymer composition, homogenous integral color, UV stable, skid resistant, non-glare finished panel. Use modular panel size 2 ft by 4 ft or 2 ft by 2 ft. Use for new construction and retrofit construction.

2. Precast Concrete Panel - High strength concrete with structural monofilament fibers, homogeneous integral color, UV stable, skid resistant panel. Use modular panel size 2 ft by 2 ft. Use for new construction only.
3. Gray Iron Casting
    a. Manufactured from iron conforming to ASTM A 48 Class 35B, as specified in AASHTO M 306, uniform quality, free from sand holes, gas holes, cracks, and other surface defects.
    b. Provide reasonably smooth, cleaned by shot blasting, free of burned-on sand skid resistant, skid resistant, weathered iron finished panel with embedment anchors.
    c. Use modular panel size 2 ft x 2 ft square or curved panels as specified.
    d. Use for new construction only.

## PART 3 EXECUTION

### 3.1 GENERAL

A. Have a certified ADA Pedestrian Access installer on the ADA Pedestrian Access Ramps job site at all times when they are being installed including forming.

B. Construct as shown in GW Series Standard Drawings and project plans.

### 3.2 PREPARATION

A. Construct subgrade to plan elevations. Refer to Section 02056 and Section 02316.

B. Place and compact untreated base course.

C. Forms
1. Use wood, metal, reinforced fiberglass, or plastic forms free of warps or bends and of sufficient strength to prevent deflection during the placement of concrete.
    a. Transition smoothly from curves to straight section. Keep forms in curves free of flat sections and sharp bends.
    b. Anchor securely in place.
    c. Clean the inside surface of all dirt, concrete, and foreign material before concrete placement.

## 3.3 CONCRETE CONSTRUCTION

A. Place and finish concrete and place contraction joints according to Section 02776.

B. Cure concrete according to Section 03390.

## 3.4 DETECTABLE WARNING SURFACE

A. Polymer Composite Panel Installation
   1. Install cast-in-place detectable warning panel directly into the finished plastic concrete surface according to manufacturer recommendations. Provide a smooth transition between the panel and the surrounding concrete surface.
   2. Install surface applied detectable warning panel directly on existing concrete surface according to manufacturer recommendations and installation procedures. Use mechanical fasteners to secure the panel to the existing surface. Caulk a smooth transition bead along beveled panel edge and surrounding concrete surface.

B. Polymer Concrete Panel, Precast Concrete Panel, and Cast Iron Plate Installation
   1. Place as shown in plans. Install according to manufacturer's recommendations for cast-in-place method. Provide a smooth transition between the panel and the surrounding concrete surface.

END OF SECTION

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 02776**

# CONCRETE FLATWORK

**Delete Section 02776 and replace with the following:**

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

A. Concrete flatwork items such as sidewalk, plowable end section, median filler, curb, gutter, concrete lined ditch, and driveway.

### 1.2 RELATED SECTIONS

A. Section 02056: Embankment, Borrow, and Backfill

B. Section 02316: Roadway Excavation

C. Section 02721: Untreated Base Course

D. Section 03055: Portland Cement Concrete

E. Section 03152: Concrete Joint Control

F. Section 03211: Reinforcing Steel and Welded Wire

G. Section 03390: Concrete Curing

### 1.3 REFERENCES

A. ASTM C 979: Pigments for Integrally Colored Concrete

### 1.4 DEFINITIONS **Not Used**

### 1.5 SUBMITTALS

A. 1 $ft^2$ sample of colored concrete representative of the color provided by the Engineer for approval.

B. Manufacturer's product data, specifications, and mixing instructions for concrete colorant.

## 1.6 ACCEPTANCE

A. Concrete Flatwork may be accepted at a reduced price when the concrete strength is below that specified.
   1. Price adjustment pay factor following Section 03055.

# PART 2 PRODUCTS

## 2.1 CONCRETE

A. Class AA(AE). Refer to Section 03055.

B. Colorant – High purity, chemically inert, unfading, and alkali-fast synthetic pigment coloring material according to ASTM C 979.

## 2.2 PREMOLDED JOINT FILLER

A. Refer to Section 03152.

## 2.3 UNTREATED BASE COURSE

A. Refer to Section 02721.

## 2.4 REINFORCING STEEL

A. Coated reinforcing steel. Refer to Section 03211.

# PART 3 EXECUTION

## 3.1 GENERAL

A. Construct as shown in GW Series Standard Drawings and the plans.

## 3.2 PREPARATION

A. Construct subgrade to plan elevations. Refer to Section 02056 and Section 02316.

B. Place and compact untreated base course.

C. Forms
   1. Use wood, metal, reinforced fiberglass, or plastic forms free of warps or bends and of sufficient strength to prevent deflection during the placement of concrete.
      a. Transition smoothly from curves to straight sections. Keep forms in curves free of flat sections and sharp bends.
      b. Anchor securely in place.
      c. Clean the inside surface of all dirt, concrete, and foreign material before concrete placement.
   2. May use slip form machines.

D. Concrete flatwork coloring when required.
   1. Match concrete color to the approved samples.
   2. Thoroughly mix color pigment in the concrete before placing.

## 3.3 PLACE AND FINISH CONCRETE

A. Dampen the subgrade just before concrete placement.

B. Hand methods of strike-off and consolidation are permitted.

C. Finish the surface smooth with a concrete finishing float.
   1. Do not add water to the surface of the concrete.
   2. Remove form marks and irregularities.

D. Round edges to a ½ inch radius.

E. Brush exposed surfaces to a transverse broom finish except as follows:
   1. Provide a parallel broom finish for gutters.

## 3.4 EXPANSION AND CONTRACTION JOINTS

A. Place joints perpendicular to the subgrade and as shown.

B. Contraction Joints
   1. Use ⅛ inch to $^{3}/_{16}$ inch thick steel plates.
   2. Space the joints 10 ft apart.
   3. Remove the templates as soon as the concrete initially sets.
   4. Cut joint 1½ inch deep when using slip form method to place the concrete.

C. Expansion Joints
   1. Use ½ inch thick premolded expansion joint filler.

2. Place an expansion joint every 30 ft with the following exception not to place:
   a. Slip form method to place concrete.
   b. Gutters.
3. Place joint filler between the sidewalk or median filler and the curb or adjacent pavement, sidewalk, driveway pavement, or structure.

## 3.5 CONCRETE CURING

A. Refer to Section 03390.

END OF SECTION

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 02890M**

# RETROREFLECTIVE SHEETING

**Delete Article 2.2, paragraph A1 and replace with the following:**

1. Meet or exceed the minimum requirements of ASTM Type XI.

**Delete Article 2.3, paragraph A1a and replace with the following:**

a. Meet or exceed the minimum requirements of ASTM Type XI.

**Delete Article 2.3, paragraph C1 and replace with the following:**

1. Vertical panels, barricade Types I, II, and III, and directional indicator barricades.
   a. Meet or exceed the minimum requirements of ASTM Type XI.
   b. Use of standard orange acceptable.

**Delete the text immediately following Table 3 and replace with the following:**

4. Use fluorescent retroreflective sheeting for orange and yellow.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 02891M**

# TRAFFIC SIGNS

**Delete Article 1.3 and replace with the following:**

## 1.3 REFERENCES

A. ASTM A 123 / A 123M: Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

B. ASTM A 513: Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing

C. ASTM A 653: Steel, Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanized) by Hot-Dip Process

D. ASTM A 787: Electric-Resistance-Welded Metallic-Coated Carbon Steel Mechanical Tubing

E. ASTM B 209: Aluminum and Aluminum-Alloy Sheet and Plate

F. American Plywood Association (APA) Product Standard

**Delete Article 1.4, paragraph A1 and replace with the following:**

A. Traffic Sign Components
   1. Panel – Assembly of substrate and attached sheeting. Several panels may be necessary to complete one sign. Panel types are:
      a. Type
         1) A: Retroreflective sheeting on sheet aluminum.
         2) PW: Retroreflective sheeting on plywood-backed sheet aluminum.
      b. Legend
         1) Non-reflective legend and border.
         2) Retroreflective legend and border.

**Delete Article 2.1, paragraph B and replace with the following:**

B. Substrate Aluminum – 0.080 or 0.125 inch thick as follows. Refer to ASTM B 209 alloy 6061-T6, or 5052-H38.
   1. Use 0.125 for signs installed on frame and Gore signs.
   2. Use 0.080 for all other signs.

**Delete Article 2.1, paragraph C and replace with the following:**

C. Plywood Backing – According to APA product standard PS 1-83, Group One: ½ inch thick.
   1. 90/90, high density BB exterior (Douglas Fir) B Grade.
   2. Plugged-core (Douglas Fir) with ½ inch maximum gaps.

**Delete Article 2.1, paragraph E and replace with the following:**

E. Posts, "T" and "U" brackets, extensions, and hardware according to SN Series Standard Drawings.
   1. Post P1
      a. 2⅜ inch outside diameter 0.080 (14 Gauge)
      b. Refer to ASTM A 513 or ASTM A 787
      c. Galvanize according to ASTM A 653 or ASTM A 123
      d. Color – Powder coated as required
   2. Post P2
      a. 2⅜ inch outside diameter 0.095 (13 Gauge)
      b. Refer to ASTM A 513 or ASTM A 787
      c. Galvanize according to ASTM A 653 or ASTM A 123
      d. Color – Powder coated as required
   3. Post P3
      a. 2⅞ inch outside diameter 0.134 (BWG 10)
      b. Refer to ASTM A 513 or ASTM A 787
      c. Galvanize according to ASTM A 653 or ASTM A 123
      d. Color – Powder coated as required
   4. Post P4
      a. 2⅞ inch outside diameter 0.160 (NP 40)
      b. Refer to ASTM A 513 or ASTM A 787
      c. Galvanize according to ASTM A 653 or ASTM A 123
   5. Post P5
      a. 2⅞ inch outside diameter 0.276 (SCH 80)
      b. Refer to ASTM A 513 or ASTM A 787
      c. Galvanize according to ASTM A 653 or ASTM A 123
   6. "T" and "U" Extension and 90 degree Post Extension
      a. Manufacture according to SN Series Standard Drawings.
      b. Galvanize according to ASTM A 653 or ASTM A 123

7. Standard Pipe Posts
    a. Match post size with base requirements.
8. S Section and W Section steel posts
    a. Structural Steel: Refer to Section 05120.
    b. Match post size with base requirements

February 28, 2013

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 02924S**

# INVASIVE WEED CONTROL

**Add Section 02924:**

## PART 1 GENERAL

### 1.1 SECTION INCLUDES

A. Controlling the introduction and spread of noxious weeds on construction projects.

### 1.2 RELATED SECTIONS Not Used

### 1.3 REFERENCES

A. Utah Noxious Weed Control Act

### 1.4 DEFINITIONS

A. Noxious weeds subject to control are listed on the Utah State Noxious Weed List and the county's weed list that applies based on the project location.

B. Refer to the Section, article 3.3 for a list of the Utah State Noxious Weeds (Table 1) and the county lists (Table 2) for additional noxious weeds.

### 1.5 SUBMITTALS Not Used

### 1.6 PAYMENT PROCEDURES

A. Include payment for cleaning earth-moving construction equipment under mobilization.

B. Pay for the control of invasive weeds using pre-emergent, selective, and non-selective herbicides by the unit area.

## 1.7 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. Follow all regulatory, application, and safety precautions listed by the herbicide manufacturer. Refer to Utah Noxious Weed Control Act: Utah Code - Title 04 - Chapter 17.
   2. Apply herbicides using only state licensed pesticide applicators.

## 1.8 SEQUENCING

A. Clean all earth-moving equipment before bringing them on the project.

B. Treat existing noxious weeds 10 days before starting earthwork operations.

# PART 2 PRODUCTS

## 2.1 HERBICIDE

A. Refer to this Section, article 3.3 for a list of noxious weeds subject to control and the recommended herbicide for each species.

B. Use commercially available herbicides specified to control the weed species identified.

# PART 3 EXECUTION

## 3.1 PREPARATION

A. Use high-pressure water blasting or steam cleaning methods to clean all earth-moving construction equipment (scrapers, bulldozers, excavators, backhoes, trenchers) of dirt, mud, and seed residue before initially entering the project.

## 3.2 EXAMINATION

A. Verify and locate all noxious weeds on the project. Contact the county weed control supervisor or the Department's region landscape architect if assistance is needed for identification.

## 3.3 CONTROLLING INVASIVE WEEDS

A. Spray invasive weeds located within the project limits before starting earth disturbing activities and if they appear during construction. Use pre-emergent, selective, and non-selective herbicides as appropriate (See Noxious Weed Tables 1 and 2 below). Apply herbicide as directed on the manufacturer's label.

B. Noxious Weed Tables:

**Table 1**

| Utah State Noxious Weeds | | |
|---|---|---|
| **Common Name** | **Scientific Name** | **Herbicide** |
| Bermudagrass* | *Cynodon dactylon* | Glyphosate |
| Black henbane | *Hyoscyamus niger* | Tordon (picloram) & Escort |
| Canada thistle | *Cirsium arvense* | 2,4-D, Dicamba, Picloram |
| Dalmation toadflax | *Linaria genistifolia* | Tordon (picloram) |
| Diffuse knapweed | *Centaurea diffusa* | 2,4-D+Dicamba or Picloram or Clopyralid |
| Dyer's woad | *Isatis tinctoria* | 2,4-D+Dicamba or Chlorsulfuron |
| Field bindweed | *Convolvulus arvensis* | Dicamba+2,4-d or Picloram |
| Hoary cress, (whitetop) | *Cardaria draba* | 2,4-D+Dicamba or Chlorsulfuron |
| Houndstounge | *Cynoglossum officinale* | Tordon (picloram) |
| Johnsongrass | *Sorghum halepense* | Glyphosate |
| Leafy Spurge | *Euphorbia esula* | Dicamba or Picloram |
| Medusahead | *Taeniatherum caput-medusae* | Glyphosate |
| Musk thistle | *Carduus nutans* | 2,4-D amine, Metsulfuron or Picloram |
| Ox-eye daisy | *Chrysanthemum leucanthemum* | Tordon (picloram) & clopyralid |
| Perennial pepperweed | *Lepidium latifolium* | Metsulfuron or Chlorsulfuron |
| Perennial sorghum | *Sorghum halepense* | Glyphosate |
| Poison hemlock | *Conium maculatum* | Tordon (picloram) |
| Purple loosestrife | *Lythrum salicaria* | Glyphosate (Rodeo aquatic label) |

| | | |
|---|---|---|
| Quackgrass | *Elytrigia repens* | Glyphosate |
| Russian knapweed | *Centaurea repens* | Picloram, Clopyralid or Chlorsulfuron |
| Saltcedar | *Tamarix ramosissima* | Habitat or Arsenal |
| Scotch thistle | *Onopordum acanthium* | 2,4-D amine, Metsulfuron or Picloram |
| Spotted knapweed | *Centaurea maculosa* | 2,4-D+Dicamba, Picloram or Clopyralid |
| Squarrose knapweed | *Centaurea virgata* | Picloram |
| St. Johnswort | *Hypercium perforatum* | Tordon (picloram) & Escort |
| Sulfur cinquefoil | *Potentilla recta* | Tordon (picloram) |
| Yellow star-thistle | *Centaurea solstitialis* | Picloram or Clopyralid |
| Yellow toadflax | *Linaria vulgaris* | Tordon (picloram) |
| *Do not consider Bermudagrass a noxious weed in Washington County | | |

**Table 2**

| County Noxious Weeds | | |
|---|---|---|
| **Common Name** | **Scientific Name** | **Herbicide** |
| **Beaver County** | | |
| Bull thistle | *Cirsium vulgare* | 2,4-D amine or Dicamba |
| **Box Elder** | | |
| Catchweed | *Asperugo procumbens* | 2,4-D amine or Dicamba |
| **Cache County** | | |
| Goatsrue | *Galega officinalis* | 2,4-D+Dicamba |
| Puncturevine | *Tribulus terrestris* | 2,4-D+Dicamba |
| **Carbon County** | | |
| Russian olive | *Elaeagnus angustifolia* | 2,4-D, Dicamba, or Glyphosate |
| **Davis County** | | |
| Buffalobur | *Solanum rostratum* | 2,4-D or Dicamba |
| Yellow nutsedge | *Cyperus esculentus* | Glyphosate |
| **Duchesne County** | | |
| Russian olive | *Elaeagnus angustifolia* | 2,4-D, Dicamba, or Glyphosate |
| Water hemlock | *Cicuta maculata* | 2,4-D amine or Dicamba |

| | | |
|---|---|---|
| **Grand County** | | |
| Russian olive | *Elaeagnus angustifolia* | 2,4-D, Dicamba, or Glyphosate |
| **Iron County** | | |
| Western whorled milkweed | *Asclepias subverticillata* | 2,4-D or Dicamba |
| Bull thistle | *Cirsium vulgare* | 2,4-D amine or Dicamba |
| Puncturevine | *Tribulus terrestris* | 2,4-D+Dicamba |
| **Juab County** | | |
| Blue lettuce | *Lactuca pulchella* | 2,4-D amine, Arsenal or Metsulfuron |
| **Morgan County** | | |
| Common burdock | *Arctium minus* | 2,4-D+Dicamba |
| **Salt Lake County** | | |
| Garlic mustard | *Alliaria petiolata* | Glyphosate |
| Myrtle spurge | *Euphorbia myrsinities* | Glyphosate or Dicamba |
| **San Juan County** | | |
| Camelthorn | *Alhagi pseudalhagi* | Arsenal |
| Russian olive | *Elaeagnus angustifolia* | 2,4-D, Dicamba, or Glyphosate |
| Buffalobur | *Solanum rostratum* | 2,4-D or Dicamba |
| Western whorled milkweed | *Asclepias subverticillata* | 2,4-D or Dicamba |
| **Sevier County** | | |
| Russian olive | *Elaeagnus angustifolia* | 2,4-D, Dicamba, or Glyphosate |
| **Summit County** | | |
| Common Burdock | *Arctium minus* | 2,4-D+Dicamba |
| Vipers bugloss | *Anchusa officinalis* | 2,4-D amine or Dicamba |
| **Tooele County** | | |
| Jointed goatgrass | *Aegilops cylindrica* | Glyphosate |
| **Uintah County** | | |
| Russian olive | *Elaeagnus angustifolia* | 2,4-D, Dicamba, or Glyphosate |
| **Utah County** | | |
| Common reed | Phragmites australis | |
| **Washington County** | | |
| Western whorled milkweed | *Asclepias subverticillata* | 2,4-D, or Dicamba |
| Silverleaf nightshade | *Solanum elaeagnifolium* | 2,4-D or Dicamba |

| | | |
|---|---|---|
| **Wayne County** | | |
| Russian olive | *Elaeagnus angustifolia* | 2,4-D, Dicamba, or Glyphosate |
| Bull thistle | *Cirsium vulgare* | 2,4-D amine or Dicamba |
| **Weber County** | | |
| Puncturevine | *Tribulus terrestris* | 2,4-D+Dicamba |
| **Use rates**: Use rates for herbicides vary, follow the use rate on the LABEL for each herbicide | | |

END OF SECTION

August 17, 2011

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 02961M**

# ROTOMILLING

**Add Article 2.2 paragraph A.4:**

4. Use a minimum 12 foot mill head on Interstates and a minimum 7 foot mill head on all other roads or as directed by the engineer.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 03055M**

# PORTLAND CEMENT CONCRETE

**Delete Article 1.2 and replace with the following:**

## 1.2 RELATED SECTIONS

A. Section 03390: Concrete Curing

**Delete Article 1.4 and replace with the following:**

## 1.4 DEFINITIONS

A. Cold Weather Protection Period: The required time during which the concrete is maintained at or above a specific temperature to prevent freezing of the concrete and to ensure the necessary strength development for structural safety.

**Delete Article 1.5, paragraphs F, F, G, and H, and replace with the following:**

F. Written plan for admixtures. Refer to this Section, Article 2.5, paragraph C.

G. Verification that fly ash or other pozzolan used is from a pre-qualified supplier. Refer to this Section, Article 2.6, paragraph D.

H. Verification that the batch plant meets the requirements of the UDOT Quality Management Plan for Ready-Mix Concrete.

I. Cold Weather Concreting Plan and Hot Weather Concreting Plan for approval.
   1. Include the following:
      a. Detailed procedures for the placement, protection, curing, and temperature monitoring of concrete during cold and hot weather.
      b. Procedures to be implemented upon abrupt changes in weather conditions or equipment failures.

c. Refer to this Section, Article 3.4, paragraph D for cold weather concreting requirements and Article 3.4, paragraph E for hot weather concreting requirements.

2. Allow the Engineer 10 calendar days to review and approve the plans.
   a. The Engineer may grant an increase in contract time when this review and approval time is exceeded.
   b. This review period applies each time the plans are submitted.
3. Do not begin cold weather concreting before the Cold Weather Concreting Plan is approved.
4. Do not begin hot weather concreting before the Hot Weather Concreting Plan is approved.
5. Not required for precast concrete members provided by prequalified suppliers. Refer to this Section, Article 3.4D1.

**Delete Article 2.1, Table 2, note ** and replace with the following:**

** For *f* ’c over 4,000 psi, design and proportion mixes according to ACI Manual of Concrete Practice 301: Specifications for Concrete and project specific criteria. Use Table 2 Class AA(AE) Air Content Percentages according to coarse aggregate size for these mixes.

**Delete Article 3.4, paragraphs D and E, and replace with the following:**

D. Cold Weather – Comply with the following when placing, finishing, curing, and protecting concrete exposed to cold weather during the protection period. Cold weather applies when the temperature is forecast to fall below 35 degrees F during the protection period.
   1. Provide necessary cold weather protection for placing, finishing, curing and protecting in-place concrete such as covers, insulation, and heat.
      a. Follow the approved Cold Weather Concreting Plan when placing cast-in-place concrete.
      b. Follow the prequalified supplier’s approved Quality Control Plan when fabricating precast concrete members.
   2. Concrete materials
      a. Do not use chemical anti-freeze additives in the concrete. This does not apply to normal accelerators. Refer to AASHTO M 194.
      b. Remove and replace concrete damaged by frost action at no additional cost to the Department.
      c. Do not use material containing frost or lumps.

3. Determine the concrete compressive strength by one of the following methods:
    a. Field cured cylinders cured and protected the same as the concrete being protected.
    b. Maturity method. Refer to AASHTO T 325.
4. Maintain the temperature of the concrete at or above 50 degrees F during and after placement until the end of the protection period.
    a. Measure the specified concrete temperature at the concrete surface. Use surface thermometers insulated from the surrounding air.
5. Placing concrete
    a. Do not place concrete during adverse weather including rain, snow, and high winds without adequate protection approved by the Engineer.
    b. Do not proceed with the placement of concrete if the temperature of all contact surfaces, including reinforcement, is less than 36 degrees F or greater than 95 degrees F.
    c. Cease placement operations when the ambient temperature is 40 degrees F and decreasing unless adequate precautions are taken according to the approved Cold Weather Concreting Plan.
6. Protection of in-place concrete
    a. Maintain the concrete above 50 degrees F during placement and until the end of the protection period.
        1) The protection period is the time required for the concrete to reach a compressive strength of at least 3,500 psi.
        2) Extend the duration of the protection period at least 24 hr beyond the termination of the cure before exposing the concrete to freezing temperatures when curing by the water method. Refer to Section 03390.
    b. Comply with the following when heating is required.
        1) Adequately vent combustion-type heaters that produce carbon monoxide.
        2) Position heaters and ducts so the hot dry air does not cause areas of the concrete surface to overheat or dry.
        3) Keep concrete surfaces moist to avoid excessive loss of moisture from the concrete when applying external heat.
7. Termination of protection
    a. Limit the drop in temperature of concrete surfaces to 40 degrees F during any 24 hour period when removing cold weather protection until the surface temperature of the concrete reaches that of the ambient air temperature.

E. Hot Weather – Comply with the approved Hot Weather Concreting Plan and with the following when placing, finishing, curing, and protecting concrete exposed to hot weather during the protection period. Hot weather applies when the temperature is forecast to rise above 95 degrees F during the protection period:

1. Cool all surfaces that will come in contact with the concrete to below 95 degrees F.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 13431M**

# PRECAST CONCRETE FIBER OPTIC AND UTILITY VAULT

**Add Article 2.1, paragraph D:**

D. Hand-mix grout
   1. Minimum strength – 50 psi
   2. Maximum strength – 150 psi
   3. Slump – 5 inches to 10 inches

**Delete Article 2.3, paragraph A and replace with the following:**

A. Furnish and install Utility Marker Posts for each vault location. Refer to AT Series Standard Drawings.

**Delete Article 3.2, paragraph B2 and B3 and replace with the following:**

2. Seal conduit and microduct ends inside all vaults with at least 2 inch thick duct seal after cables are installed.
3. Seal vacant conduit and microducts with a manufactured conduit plug and attach detectable pull tape where applicable. Refer to Section 13553.

**Delete Article 3.2, paragraph F2 and replace with the following:**

2. Extend PVC conduit 2 inches, HDPE conduit 6 inches, microduct oversheath 6 inches and individual microducts 2 ft. beyond the inside wall of the vault.

**Delete Article 3.2, paragraph J and replace with the following:**

J. Encase all conduit in flowable fill or approved hand-mix grout where the conduit enters the fiber optic vault.

June 27, 2013

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 13551M**

# GENERAL ATMS REQUIREMENTS

**Delete Article 1.3, paragraphs D through K and replace with the following:**

D. ASTM B 800: 8000 Series Aluminum Alloy Wire for Electrical Purposes

E. ASTM F 1554: Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength

F. American Wire Gauge (AWG)

G. International Building Code (IBC)

H. International Municipal Signal Association (IMSA)

I. Manual on Uniform Traffic Control Devices (MUTCD)

J. National Electrical Code (NEC)

K. National Electrical Safety Code (NESC)

L. Underwriters Laboratory (UL)

**Delete Article 2.1 and replace with the following:**

## 2.1 WIRING

A. Power Conductors
   1. Size – AWG size and material as specified.
   2. Material – Wire to be copper or aluminum, as specified.
      a. Copper Wire. Refer to NEC.
      b. Aluminum Wire
         1) Series 8000 aluminum. Refer to ASTM B 800.
         2) Concentric, condensed or compacted wire is acceptable.
      c. Insulation – Cross linked polyethylene, RHH/ USE-2/ RHW-2, resistant to oil, gasoline and sunlight.

d. Cable to be stranded single conductor.

B. Signal Cable
1. Multi-colored cables and specified.
2. Refer to IMSA 20.1.
3. Use copper wire only.

C. Detector Cables – Refer to Section 13591.

D. Ground Wire
1. Stranded insulated soft drawn copper, or stranded insulated aluminum wire, as specified.
2. Insulation – Green crosslinked polyethylene, RHH/ USE-2/ RHW-2, resistant to oil, gasoline and sunlight.
5. Refer to NEC section 250.

E. Power Conductor Connectors
1. Connectors to be suitable for the type and gauge of wire being connected
2. Suitable for submersion and direct bury.
   a. UL listed for the type and size of conductors being joined.
   b. Set screw type connection with standard hex socket.
   c. Field adaptable cable sleeves to accurately fit size of cables being connected.
   d. Factory assembled and tested for water tightness.
   e. Connectors to have four conductor connection points.

F. Aluminum Ground Wire Connections – Non-reversible compression connector suitable for copper and aluminum wire.

G. Self Fusing Rubber Electrical Tape – 30 mil minimum, ethylene propylene rubber self fusing tape.

H. Vinyl Electrical Tape – 8.5 mil vinyl insulating electrical tape.

I. Electrical Coating – Liquid electrical coating suitable for direct burial and water immersion.

J. Thick Wall Heat Shrink Tubing – Thick wall polyolefin tubing with factory applied adhesive; 3:1 shrink ratio; UL 486D listed; and suitable for direct burial.

**Delete Article 3.12, paragraphs A and B and replace with the following:**

A. Power Conductors
   1. Verify conduit is free of dirt and debris according to Section 13553 before installing conductors.
   2. Install grounding conductor in all conduits containing metallic conductors or metallic cable armor or strength members. Refer to NEC, Section 250.
   3. Use NEC approved lubricants when pulling conductors in conduit.
   4. Protect wire during installation according to Section 13553.
   5. Cap wire and cable tape and seal the ends of unused conductors and label them as spares.
   6. Use conductors that are color coded as specified in IMSA and comply with NEC, Article 310.
   7. Leave 6 ft of slack conductor in each junction box that the conductor passes through.
      a. Loop slack conductors twice around the ground rod and secure with plastic wire ties.
   8. Make aluminum wire connections by mechanically cleaning oxidation from wire, immediately applying oxide inhibitor, installing connector with manufacturer's recommended torque, loosening, and retightening to the manufacturer's recommended torque.
   9. Do not use twist-type or wire nut connectors except in dry step-down transformer enclosures.

B. Ground Wire
   1. Copper ground wire in non-metallic conduit must run continuously between and be bonded to ground rods in each junction box.
   2. Aluminum ground wire in non-metallic conduit must run continuously between junction boxes, and be bonded to the ground rod in each junction box, using a 24 inch insulated copper pigtail wire.
      a. Copper pigtail wire gauge to match aluminum ground wire gauge.
      b. Mechanically clean conductors and immediately apply corrosion inhibiting compound to aluminum ground wire.
      c. Compress connector according to manufacturer's instructions.

3. Insulation and Waterproofing. – Use either self-fusing rubber tape or thick walled heat tubing to insulate and waterproof all ground wire splices.
   a. Self fusing rubber tape.
      1) Wrap ground wire and connector with two half lapped layers of self-fusing rubber electrical tape.
         a) Wrap beginning at the center of the splice and extend the wrap 1inch beyond the end of stripped insulation, using moderate tension.
      2) Wrap self-fusing rubber tape with vinyl electrical tape.
         a) Wrap beginning at the center of the splice and extend the wrap 1 inch beyond the ends of self-fusing rubber tape, using moderate tension.
      3) Coat vinyl electrical tape with electrical coating.
         a) Extend coating 1 inch beyond the vinyl tape layer.
   b. Thick walled heat shrink tubing.
      1) Clean thoroughly cable and slide tubing onto cable.
      2) Center heat shrink tubing over connection and shrink tubing, beginning at the center.
         a) Extend tubing 2 inches past end of removed ground wire insulation.
      3) Heat until tubing is completely shrunk, and adhesive/sealant is squeezed from tubing ends.
         a) Take care to not damage ground wire insulation.
      4) Coat vinyl electrical tape with electrical coating.
         a) Extend coating 1 inch beyond the vinyl tape layer.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 13551M**

# GENERAL ATMS REQUIREMENTS

**Add the following to Article 3.13:**

H. Maintain in operable condition all existing ATMS devices and fiber optic cable until they are replaced by operable contractor-installed items or until Final Acceptance.
   1. Complete repairs within 48 hours of notice given by the Engineer.
   2. Failure to provide adequate repairs will result in the Department making the necessary repairs at the Contractor's Expense.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 13553M**

# ATMS CONDUIT

**Delete Article 1.3, paragraph G and replace with the following:**

G. State of Utah Administrative Rules

**Delete Article 1.5 paragraph B and replace with the following:**

B. Refer to this Section articles 3.2 paragraph F4, 3.2 paragraph I1, and 3.7 paragraph A.

**Delete Article 2.1 paragraph A3 and replace with the following:**

3. HDPE conduit with ribbed or smooth interior.

**Add Article 2.1, paragraph A6:**

6. Microduct
   a. HDPE microduct with an outside/inside diameter of 0.630/0.512 inch.
   b. Microduct having a ribbed interior.
   c. Watertight couplers rated for a minimum of 200 psi.
   d. Microduct bundle within a single 0.070 inch thick polyethylene oversheath.
   e. Microduct bundles must contain a factory installed #14 AWG solid, insulated locate wire and a minimum of two rip cords for removal of oversheath.

**Add Article 2.1, paragraph B4 and 5:**

4. Microduct types:
   a. Individual 0.630/0.512 inch (16/13 mm) microducts installed loosely within new or existing conduit.
   b. MD2, MD3, MD4 and MD7: microduct bundle containing two, three, four or seven 0.630/0.512 inch microducts respectively.

c. Only factory-assembled bundles are allowed in bundled applications.

5. Color-code microducts and oversheaths as follows:
   a. Individual microducts installed loosely within conduit or bundled within oversheath:
      1) blue
      2) orange
      3) green
      4) brown
      5) slate
      6) white
      7) red
      8) black
   b. Oversheaths:
      Bundle #1 orange
      Bundle #2 blue
      Bundle #3 green
      Bundle #4 brown.

**Add Article 2.1, paragraph H4 and 5:**

4. Sand
   a. Friable natural river or bank aggregate, free of loam, detrimental, or soluble or organic matter.
   b. $^{3}/_{8}$ inch minus, well graded.
   c. Refer to this Section, Article 3.3, paragraph C3 for placement and compaction requirements.
5. Hand-mix grout
   a. Minimum strength – 50 psi
   b. Maximum strength – 150 psi
   c. Slump – 5 inches to 10 inches

**Delete Article 3.1 paragraph B and replace with the following:**

B. The placement of conduit in areas of parallel utilities must meet Department Utilities and Local Utilities standards and be approved by the Engineer. Refer to State of Utah Administrative Rule R930-7.

**Delete Article 3.1 paragraph H and replace with the following:**

**H. Minimum Cover of Conduit**

1. Minimum cover in pavement is 4ft and minimum cover in sidewalks is 3 ft.

2. Minimum cover in highway right-of-way, greater than 20 ft from the edge of the pavement is 3 ft.
3. Minimum cover in highway right-of-way, within 20 ft of the edge of the pavement is 5 ft.
4. Refer to State of Utah Administrative Rule 930-7.

**Delete Article 3.2 paragraph F and replace with the following:**

F. Proof all conduit before installation of cabling and detectable pull tape.
   1. Use a mandrel approved by the Engineer.
   2. Schedule proofing with the Engineer at least 5 working days in advance of performing the work.
   3. Proof all conduit with a Department representative witness present.
   4. Submit a completed Conduit Mandrel Test form to the Engineer for all ATMS conduit prior to Final Acceptance. Refer to http://www.udot.utah.gov/go/standardsreferences.
   5. Proof microducts using approved proofing balls.
   6. Mandrels and proofing balls must maintain a minimum 80 percent fill ratio of inside diameter of the conduit or microduct being tested.
   7. Proofing must occur after all junction boxes have been installed to final grade, including placement of flowable fill or hand-mix grout at junction box walls, and after all excavation in the immediate proximity of the conduit system has been completed.
      a. Re-proof any conduit segment where excavation has occurred near the conduits following initial proof testing and prior to final project acceptance.

**Add Article 3.2, paragraph G6:**

6. Detectable pull tape not required in microducts.

**Delete Article 3.2, paragraph K and replace with the following:**

K. Encase open trench conduit in sand backfill covered by flowable fill within existing roadway, proposed roadway and sidewalk pavement areas only.
   1. Seal junction box wall around conduits using flowable fill or approved hand-mix grout.
   2. Use sand backfill in all other areas.
   3. Refer to AT Series Standard Drawings.

**Delete Article 3.2 paragraph O and P and replace with the following:**

O. Install a bushing or adapter at ends of all nonmetallic conduit that contain a conductor according to the NEC.

P. Furnish and install Utility Marker Posts along the longitudinal conduit running line. Refer to AT Series Standard Drawings.

Q. Verify that the microduct bundle locate wire is detectable throughout its entire length by performing a continuity test or equivalent verification.

**Delete Article 3.3, paragraph C3 and replace with the following:**

3. Sand Backfill
   a. Use sand backfill in trench sections outside of existing roadway, proposed roadway, and sidewalk pavement areas, including exposed conduit locations when plowing or boring.
   b. Provide 12 inches of sand backfill above conduit in trench.
      1) Backfill trench above sand to finished grade using native material.
   c. Compaction of sand backfill is not required.

**Delete Article 3.3, paragraph F and G and replace with the following:**

F. Flowable Fill or Hand-mix Grout
   1. Install flowable fill or approved hand-mix grout to the wall of junction box to seal conduit entry into junction box.
   2. Clean excess flowable fill or hand-mix grout from the inside of the junction box.

G. Install all conduits so the flowable fill or sand backfill completely encases all exterior surfaces of the conduit.
   1. Separate multi-duct conduits using a commercially available conduit spacer or approved equivalent.
   2. Place spacers no more than 4 ft apart and not more than 2 ft from each coupler.

**Delete Article 3.3, paragraph J**

**Add Article 3.5, paragraph E:**

E. Intercept individual microducts from existing microduct bundle mid-span and reroute to new junction box location:

1. Type II-PC junction box
    a. Bury at existing microduct bundle depth.
    b. Notch the 24-inch box walls and install junction box over existing microduct bundle.
    c. Provide 12 inches of free draining granular backfill borrow underneath junction box.
    d. Encase all conduit in flowable fill or approved hand-mix grout where the conduit enters the junction box.
    e. Place marker ball or disk in junction box.
    f. Ground rod, concrete collar, and grout floor are not required.
    g. Verify that flowable fill is not in contact with the junction box lid by placing 6 inches of untreated base course or sand backfill on lid to allow future access when flowable fill backfill is required to bottom of new pavement.
2. Conduit and microduct bundle inside of buried Type II-PC junction box.
    a. Install conduit from buried junction box to new junction box location for rerouting of individual microducts. Provide a #14 AWG solid, insulated locate wire inside of new conduit between junction boxes.
    b. Extend conduit and microduct oversheath 6 inches beyond inside wall of the junction box.
    c. Expose microducts by removing no more than 20 inches of oversheath.
    d. Identify and cut only the individual microducts to be rerouted.
    e. Use approved couplers and extend microducts to new junction box using corresponding microduct color.
    f. Splice all locate wires together using an approved waterproof connector.
        1) Verify that the locate wire conductors are not exposed.
3. New junction box location
    a. Install new junction box within 20 ft of buried junction box or within 20 ft . of edge of roadway when existing microduct bundle is underneath roadway, to provide access to locate wire for mapping and locating purposes.

**Add Article 3.6, paragraph E:**

E. Buried microduct bundle coupling and repair:
   1. Expose microducts by removing no more than 12 inches of oversheath beyond area to be coupled or repaired.
      a. Trim microducts to length as necessary to eliminate all bends and deflection.
   2. Use approved couplers.
   3. Splice the locate wires together using an approved waterproof connector.
      a. Verify that the locate wire conductors are not exposed.
   4. Protect exposed microducts, couplers and locate wire using split duct.
      a. Seal split duct joints and split duct ends around microduct bundle oversheath using approved waterproof sealing tape prior to backfill.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 13554M**

# POLYMER CONCRETE JUNCTION BOX

**Add Article 2.1, paragraph D:**

D. Hand-mix grout
   1. Minimum strength – 50 psi
   2. Maximum strength – 150 psi
   3. Slump – 5 inches to 10 inches

**Delete Article 2.2, paragraph B and replace with the following:**

B. Furnish boxes, rings, and lids that meet all the requirements of ANSI/SCTE 77, including Tier 22 loading.

**Delete Article 2.2, paragraph D4 and replace with the following:**

4. "UDOT Fiber Optics" when the junction box contains fiber optic cable or future use multi duct conduit.

**Delete Article 2.3, paragraph A and replace with the following:**

A. Furnish and install Utility Marker Posts for each junction box location. Refer to AT Series Standard Drawings.

**Delete Article 3.2, paragraph B2 and B3 and replace with the following:**

2. Seal conduit and microduct ends inside all junction boxes with at least 2 inch thick duct seal after cables are installed.
3. Seal vacant conduit and microducts with a manufactured conduit plug and attach detectable pull tape where applicable. Refer to Section 13553.

**Delete Article 3.2, paragraph F2 and replace with the following:**

2. Extend PVC conduit 2 inches, HDPE conduit 6 inches, microduct oversheath 6 inches and individual microducts 2 ft beyond the inside wall of the junction box.

**Delete Article 3.2, paragraph J and replace with the following:**

J. Encase all conduit in flowable fill or approved hand-mix grout where the conduit enters the junction box.

June 27, 2013

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 13555M**

# ATMS CABINET

**Add Article 2.9:**

**2.9 WIRING**

A. Refer to Section 13551.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 13555M**

# ATMS CABINET

**Delete Article 3.4, paragraph C, and replace with the following:**

C. Arrange all equipment installed in the cabinet in a neat and orderly fashion on shelf or on DIN rail mount unless otherwise approved by the Engineer.

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 13559M**

# NON-INTRUSIVE DETECTOR (NID) SYSTEM

**Add Article 1.3, paragraph D:**

D. SmartSensor™ User's Guide (SSUG)

**Delete Article 3.2, paragraphs D - H and replace with the following:**

D. Refer to the following for installation guidance:
   1. SSIG
   2. SSUG
   3. AT Series Standard Drawings
   4. SL Series Standard Drawings

E. NID Surge Protectors
   1. Install NID surge protector in NEMA Type 4X enclosure between NID device and ATMS cabinet. Mount NEMA Type 4X enclosure on pole, luminaire extension, vertical attachment, arm, or mast arm, 60 inches +/- 6 inches above grade at pole base.
   2. Install additional NID surge protector in the ATMS cabinet with the 24 VDC power supply.

F. Clear equipment exterior of all loose rust and mill scale, dirt, oil, grease, and other foreign substances.

G. Use offset bracketing or other method to ensure that NIDs are mounted out of the lowering path on camera poles with camera lowering devices in use.

June 27, 2013

**SPECIAL PROVISION**

**PROJECT # F-0209(34)10**
**PIN # 11110**

**SECTION 13561M**

# ATMS POWER SERVICE

**Delete Article 2.1, paragraph M.**

**Supplemental Specification**
**2012 Standard Specification Book**

**SECTION 13594M**

# FIBER OPTIC COMMUNICATION

**Delete Article 1.5, paragraph D and replace with the following:**

D. Required Post Construction Final Submittal
   1. OTDR Test Results
      a. Include both electronic PDF and OTDR generated versions of each test result.
      b. Current OTDR calibration certificate.
      c. Electronic submittal on two CDs or USB Flash Drives.
   2. Power Meter/Light Source Test Results
      a. Obtain the current test form from the UDOT Fiber Group Representative.
      b. Include electronic PDF version of completed test form with electronic submittal.
   3. Submit all required fiber tests according to Section 13551 and this section.

**Delete Article 1.6 and replace with the following:**

## 1.6 SPLICE PLANS

A. Request Project Splice Plans from the Engineer and UDOT Fiber Manager.
   1. Include splice details, testing forms and device assignments to fiber channels in Splice Plans.
      a. The 30-day Splice Plan delivery period begins once a written request is submitted to the Engineer and Fiber Manager by the Contractor and according to the requirements below:
   2. Following preliminary placement of all junction boxes designed to contain fiber optic cabling and fiber optic drop cabling at all device cabinet locations.
   3. 30 days before the desired start date of splicing and termination.

B. A field mapping review is required and will be performed by the Fiber Group Representative to initiate Splice Plan production.
   1. Provide onsite coordination during the field mapping review.
   2. The 30-day Splice Plan delivery period may be delayed in the event that all junction boxes are not present during the field mapping review.

C. The Engineer and Fiber Manager reserve the right to reduce the 30-day Splice Plan delivery period at their discretion.

D. Submit a written request to the Engineer for a reduction of the 30-day Splice Plan delivery period if necessary due to the project schedule.

**Add Article 2.2, paragraph D1:**

1. Individual buffer tubes may contain 6 or 12 fiber strands only.

**Delete Article 2.2, paragraph D, Table 1 and replace with the following:**

Table 1

| **Fiber Optic Glass<br>Optical Fiber Specifications** | |
|---|---|
| **PARAMETERS** | **SINGLE MODE** |
| **Type** | **Step Index** |
| Core Diameter | 8.2 µm (Nominal) |
| Cladding Diameter | 125µm ± .7 µm |
| Core to Cladding Offset | ≤ 0.8 µm |
| Coating Diameter (OSP) | 245 µm ± 5 µm |
| Coating Diameter (IP) | 900 µm ± 15 µm |
| Cladding Non-circularity | ≤ .7% |
| Proof Tensile Test | 100 kpsi (0.7 GN/m²) |
| **Attenuation<br>(Maximum Allowed)** | |
| @ 850nm(MM) | N/A |
| @ 1300nm(MM) | N/A |
| @ 1310nm(SM) | 0.40 dB/km |
| @ 1550nm(SM) | 0.30 dB/km |
| **Bandwidth** | |
| @ 850nm(MM) | N/A |
| @ 1300nm(MM) | N/A |
| **Chromatic Dispersion** | |
| Zero Dispersion | 1301.5/1321.5 nm |
| **Wavelength Zero** | |
| Dispersion Slope | ≤ 0.092 ps/(nm²·km) |
| Maximum Dispersion | 3.3 ps/(nm·km) for 1285-1330nm<br>< 18 ps/(nm·km) for 1550nm |
| Cut-Off Wavelength | 1260 nm |
| **Numerical Aperture** | |
| (EIA-455-47) | N/A |

**Delete Article 2.3, paragraph C4 and replace with the following:**

4. Include electronic PDF version of test report with the electronic submittal.

**Add Article 2.7, paragraph A9 and 10:**

9. Six cable ports and applicable hardware
10. Dome style enclosure

**Add Article 2.8, paragraph D:**

D. Store all excess splice enclosure parts and hardware within the manufacturer supplied plastic bag and place inside of the enclosure for future use.

1. Verify all parts and hardware are securely fastened inside of the enclosure to prevent damage of fiber optic buffer tubes and strands.

a. Loose parts and hardware inside of the enclosure are strictly prohibited.

**Delete Article 3.2, paragraph I1b and replace with the following:**

b. Fiber Splice Point Junction Box or Vault (Cable End) 50 ft
(Ring Cut Location) 100 ft

**Add Article 3.2, paragraph L:**

L. Install microfiber cable into microduct by jetting or blowing method only and install into standard conduit sizes by pulling method only.

**Delete Article 3.5, paragraph B4 and replace with the following:**

4. Use heat shrink tubing containing internal strength member to provide additional protection and strain relief of each fusion splice inside of splice tray.

**Delete Article 3.7, paragraph B2 and replace with the following:**

1. Submit all test results according to Section 13551 and this Section.

**Delete Article 3.7, paragraph B4j and k and replace with the following:**

j. Submit electronic PDF version of fiber optic testing report on two CDs or USB Flash Drives, and organize by cable and strand number.

k. A cover sheet is required for each electronic PDF fiber optic testing report indicating which cables were tested, OTDR user's name, reviewer's name, test type performed, and the test date.

**Delete Article 3.7, paragraph B4n and replace with the following:**

n. Submit to the UDOT Fiber Optic Group on two CDs or USB Flash Drives with printed indexes.
   1) Contact the UDOT Traffic Operations Center, 2060 South 2760 West, Salt Lake City, UT 84104 at (801) 887-3780 or (801) 887-3765 for delivery instructions and contact name.

**Delete Article 3.7, paragraph B5b and replace with the following:**

b. Cable attenuation 0.3 dB/km at 1550 nm excluding splices described in the contract or authorized by the Engineer.

**Delete Article 3.7, paragraph B6a and replace with the following:**

a. Connect the light source to the connectorized fiber at the location identified on the Fiber Optic Light Source Power Meter Test Form provided by the Engineer or Fiber Optic Group Representative.
   1) Connect a power meter to the other end of the fiber at the location identified on the test form.
   2) Record the results and include an electronic PDF version of completed test form with the electronic submittal.