SPECIAL PROVISIONS
&
SUPPLEMENTAL SPECIFICATIONS

CSI-Inch/Pound

Project No:	**F-I15-7(309)318**
PIN Desc:	**650 North & I-15 Interchange/Intersection**
Concept:	**Intersection Improvements**
Location:	**SR-103; MP .00 - .17 & SR-103; MP .00 - .17**
County:	**DAVIS**
Bid Opening:	**November 22, 2016**

Date

MANDATORY PRE-BID CONFERENCE

Date: November 15, 2016

Time: 01:00 pm

Location: UDOT REGION 1 LARGE CONFERENCE ROOM

Conference attendance is a requirement for bid submission.

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-I15-7(309)318
PIN #11092

May 12, 2016

2012 - Standards

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11.	00727M	Control of Work – Supplemental Specification (10/22/15)
12.	00820M	Legal Relations and Responsibility to the Public – Supplemental Specification (08/27/15)
13.	01282M	Payment - Special Provision (10/03/16)
14.	01282M	Payment – Supplemental Specification (08/27/15)
15.	01315M	Public Information Services – Special Provision (03/25/13)
16.	01355M	Environmental Compliance – Supplemental Specification (10/31/13)
17.	01455M	Material Quality Requirements – Materials Special Provision (04/13/16)
18.	01455M	Material Quality Requirements – Supplemental Specification (02/25/16)
19.	01456M	Materials Dispute Resolution – Supplemental Specification (02/28/13)
20.	01554M	Traffic Control – Traffic and Safety Special Provision (10/03/16)
21.	01554M	Traffic Control – Supplemental Specification (11/06/14)
22.	01571	Temporary Environmental Controls – Supplemental Specification (06/25/15)
23.	01559S	Highway Patrol Assistance - Special Provision (10/03/16)
24.	01721M	Survey – Supplemental Specification (02/25/16)
25.	02056M	Embankment, Borrow, and Backfill – Materials Special Provision (08/29/16)
26.	02056M	Embankment, Borrow, and Backfill – Supplemental Specification (04/30/15)
27.	02216S	Pothole Utility – Special Provision (11/03/14)
28.	02221M	Remove Structure and Obstruction – Special Provision (03/22/16)

29.	02316M	Roadway Excavation – Supplemental Specification (06/26/14)
30.	02317M	Structural Excavation – Supplemental Specification (02/27/14)
31.	02373M	RIPRAP – Supplemental Specification (06/27/13)
32.	02511S	Waterline Installation – Special Provision (03/22/16)
33.	02610	Drainage Pipe – Supplemental Specification (02/27/14)
34.	02633M	Concrete Drainage Structures – Supplemental Specification (10/22/15)
35.	02645M	Precast Concrete Box and Three-Sided Culvert Structures – Supplemental Specification (10/22/15)
36.	02737S	Asphalt Pavement Soft Spot Repair – Special Provision (02/03/10)
37.	02741M	Hot Mix Asphalt (HMA) – Materials Special Provision (09/08/14)
38.	02742S	Project Specific Surfacing Requirements – Department Special Provision (06/30/15)
39.	02746M	Hydrated Lime – Materials Special Provision (11/14/12)
40.	02748M	Prime Coat/Tack Coat – Supplemental Specification (10/22/15)
41.	02765M	Pavement Marking Paint – Materials Special Provision (10/05/15)
42.	02765M	Pavement Marking Paint – Supplemental Specification (02/26/15)
43.	02768M	Pavement Marking Materials – Supplemental Specification (08/29/13)
44.	02769S	Grinding for Grooved-In Pavement Markings – Materials Special Provision (07/30/15)
45.	02771	ADA Pedestrian Access Ramps – Supplemental Specification (02/25/16)
46.	02776	Concrete Flatwork – Supplemental Specification (02/25/16)
47.	02814S	Reestablish Existing Landscape and Irrigation System – Special Provision (03/22/16)
48.	02817S	Bollards – Special Provision (03/22/16)
49.	02871S	Soil Nail Retaining Walls – Special Provision (09/23/16)
50.	02843M	Crash Cushions and Barrier End Treatments – Supplemental Specification (06/27/13)
51.	02844M	Concrete Barrier – Supplemental Specification (10/22/15)
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62.	13553M	ATMS Conduit – Supplemental Specification (10/22/15)

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67.	16121S	Rocky Mountain Power Facilities – Special Provision (07/19/16)

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 XV 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 the Plan Set. Update Plan Set Sheet 1A with a listing of the applicable 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

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

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

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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, November 22, 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 650 North & I-15 Interchange/Intersection, Intersection Improvements of SR-103; MP .00 - .17 & SR-103; MP .00 - .17 in DAVIS County, the same being identified as Federal Aid Project No: F-I15-7(309)318.

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-103; MP .00 - .17 & SR-103; MP .00 - .17

The principal items of work are as follows (for all items of work see attachment):
Retaining Wall R-784 (Est. Qty 4980 Sq Ft Exposed Face)
HMA - 1/2 inch
Bonded Wearing Course - Type B

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

Mandatory Pre-bid Conference: November 15, 2016, 01:00 pm, UDOT REGION 1 LARGE CONFERENCE ROOM

Conference attendance is a requirement for bid submission.

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.

Prequalification of bidders is required. Prior to submitting a bid, the bidder must have on file with the Utah Department of Transportation a completed and approved contractor's application for prequalification. Department processing time is 10 working days from receipt of properly executed documentation. Qualified Health Insurance is required on this project. Insurance must be submitted with executed contracts. See Standard Specification 00515 - 1.11(A).

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.

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 29th day of October, 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: 11/22/2016
Project Number: F-I15-7(309)318
PIN Description: 650 North & I-15 Interchange/Intersection
Concept: Intersection Improvements
Location: SR-103; MP .00 - .17 & SR-103; MP .00 - .17

Region: REGION 1
County: DAVIS

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

10 - ROADWAY

#	Item	Description	Quantity	Unit
1	00830001U	On the Job Training	400	hour
2	012850010	Mobilization	1	lump sum
3	01554000*	Traffic Control	1	lump sum
4	01559000*	Highway Patrol Assistance	100	hour
5	015710030	Silt Fence	894	foot
6	015710075	Drop-Inlet Barrier - 18 Inch Fiber Roll	40	foot
7	015710100	Gutter Inlet Barrier	11	each
8	015720020	Dust Control and Watering	198	1000 gallons
9	018920010	Reconstruct Catch Basin	5	each
10	01892003P	Reconstruct Utility Box	1	each
11	018920040	Reconstruct Valve Box	6	each
12	018920050	Reconstruct Manhole	3	each
13	020560015	Granular Borrow (Plan Quantity)	1649	cubic yard
14	020560060	Free Draining Granular Backfill (Plan Quantity)	76	cubic yard
15	02075002P	Geotextiles - Erosion Control (Plan Quantity)	50	square yard
16	02075003P	Geotextiles - Drainage (Plan Quantity)	341	square yard
17	020820020	Relocate Water Meter	1	each
18	02216001*	Pothole Utility	25	each
19	02221002P	Remove Bollard	3	each
20	022210030	Remove Catch Basin	4	each
21	02221003P	Salvage Trail Kiosk	1	each
22	02221004*	Abandon Monitoring Well	10	each
23	02221004P	Salvage Light Pole	1	each
24	022210075	Remove Guardrail	643	foot
25	022210095	Remove Pipe Culvert	217	foot
26	022210110	Remove Concrete Sidewalk	418	square yard
27	022210115	Remove Concrete Driveway	174	square yard
28	022210120	Remove Concrete Curb	699	foot
29	022210125	Remove Concrete Curb and Gutter	1321	foot
30	022210127	Remove Concrete Slope Protection	538	square yard
31	022210165	Remove Asphalt Pavement	3166	square yard
32	022210170	Remove Precast Concrete Barrier	270	foot
33	02221018P	Remove Light Pole Foundation	1	each
34	023160020	Roadway Excavation (Plan Quantity)	7209	cubic yard
35	023180010	Small Ditch Excavation (Plan Quantity)	147	cubic yard
36	02373001P	Loose Riprap (Plan Quantity)	12	cubic yard
37	02511003*	Relocate Fire Hydrant	1	each
38	02610161P	18 Inch - Reinforced Concrete Pipe, Irrigation/Storm Drain, Class C	1057	foot
39	026130030	Culvert End Section 18 inch	4	each
40	02622006P	8 Inch Diameter Perforated HDPE Pipe	299	foot
41	026330030	4 Foot Standard Manhole - CB 11	1	each

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Utah Department of Transportation
Bidder's Schedule

Bid Opening Date: 11/22/2016
Project Number: F-I15-7(309)318
PIN Description: 650 North & I-15 Interchange/Intersection
Concept: Intersection Improvements
Location: SR-103; MP .00 - .17 & SR-103; MP .00 - .17

Region: REGION 1
County: DAVIS

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

10 - ROADWAY

#	Item	Description	Quantity	Unit
42	026330120	Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	18	each
43	026330130	Concrete Drainage Structure 5 ft to 7 ft Deep - CB 9	1	each
44	027210020	Untreated Base Course (Plan Quantity)	799	cubic yard
45	02737001*	Pavement Soft Spot Repair - Type A (Contingency Item)	300	square yard
46	027410050	HMA - 1/2 inch	2942	ton
47	02765003P	Remove Pavement Marking Tape	5395	foot
48	027680005	4 inch Pavement Marking Tape - White	8335	foot
49	027680010	8 inch Pavement Marking Tape - White	5918	foot
50	027680015	4 inch Pavement Marking Tape - Yellow	6795	foot
51	02768001P	Pavement Marking Groove	6324	foot
52	02768002P	Pavement Message (Preformed Thermoplastic Stop Line, Crosswalks - 24 inch)	514	foot
53	027680105	Pavement Message (Preformed Thermoplastic)	54	each
54	027680115	Pavement Message (Preformed Thermoplastic Stop Line, Crosswalks - 12 inch)	1401	foot
55	027710058	Corner Pedestrian Access Ramp	7	each
56	027710059	Perpendicular/Parallel Pedestrian Access Ramp	3	each
57	027710086	Detectable Warning Surface	2	each
58	027760005	Concrete Gutter	30	foot
59	027760006	Concrete Curb Type B3	204	foot
60	027760010	Concrete Sidewalk	10812	square foot
61	027760017	Concrete Curb Type B5	417	foot
62	02776001P	Concrete Curb Type B5 (Back-To-Back)	891	foot
63	027760025	Concrete Curb and Gutter Type B1	1633	foot
64	02776002P	Modified Concrete Curb Type B5	398	foot
65	027760030	Concrete Flatwork, 4 inch thick	5183	square foot
66	027760035	Concrete Curb and Gutter Type M1	33	foot
67	027760045	Concrete Driveway Flared, 7 inch Thick	758	square foot
68	02776004P	Concrete Curb and Gutter Transition – Type A	1	each
69	027760050	Concrete Flatwork, 7 inch thick	1104	square foot
70	027760055	Concrete Driveway Open, 7 inch Thick	427	square foot
71	02776005P	Concrete Curb and Gutter Transition – Type B	1	each
72	02776006P	Concrete Curb and Gutter Transition – Type C	1	each
73	02776007P	Concrete Curb and Gutter Transition – Type D	2	each
74	02776008P	Modified Plowable End Section	6	each
75	02776009P	Concrete Curb Transition – Type E	1	each
76	027760100	Plowable End Section	6	each
77	02776010P	Concrete Curb and Gutter Transition	2	each
78	027870020	Bonded Wearing Course - Type B	28206	square yard
79	02817000*	Fixed Bollard	4	each
80	02817001*	Removable Bollard	1	each
81	02844001P	Precast Concrete Constant Slope Half Barrier - 42 Inch	180	foot
82	02844002P	Cast-In-Place Concrete Constant Slope Half Barrier - 42 Inch Trailing Sloped End Section	1	each

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Bid Items Version#: 1
DBE Goal:

#	Item	Description	Quantity	Unit
10 - ROADWAY				
83	028440030	Cast-in-Place Concrete Constant Slope Barrier - 42 Inch	258	foot
84	02844003P	Cast-In-Place Concrete Constant Slope Barrier - 54 Inch, Trailing Sloped End Section to B5 Curb	2	each
85	02844004P	Cast-In-Place Concrete Constant Slope Barrier - 42 Inch Trailing Sloped End Section to B5 Curb	1	each
86	028440330	Cast-In-Place Concrete Constant Slope Half Barrier 42 Inch	9	foot
87	028440390	Cast-In-Place Concrete Constant Slope Barrier - 54 Inch, Trailing Sloped End Section	1	each
88	028440440	Cast-In-Place Concrete Constant Slope Barrier - 54 Inch, TL-5	559	foot
89	02844048P	Low Profile Concrete Barrier	550	foot
90	02844049P	Low Profile Concrete Barrier Transition	8	each
91	029610020	Rotomilling - 1 Inch	16349	square yard
92	029610030	Rotomilling - 2 Inch	1367	square yard
93	029610040	Rotomilling - 3 Inch	3930	square yard
94	029610070	Rotomilling - 6 Inch	750	square yard
95	135530025	One 3-Inch Conduit	35	foot
96	16121010*	Rocky Mountain Power Concrete Padvault Sleeve	1	each
20 - STRUCTURES				
Description: G-533				
97	028930020	48 Inch Overhead Sign Foundation	2	each
98	02893011P	24 Inch Overhead Dual Cantilever Sign Structure	2	each
20 - STRUCTURES				
Description: R-784				
99	02635004P	10 inch x 24 inch Grate and Frame	1	each
100	02871001*	Retaining Wall R-784 (Est. Qty 4980 Sq Ft Exposed Face)	1	lump sum
30 - LANDSCAPING				
101	02814001*	Reestablish Existing Landscape	660	square foot
102	02911001P	Wood Fiber Mulch	33	1000 square fee
103	029120010	Contractor Furnished Topsoil	3676	square yard
104	02922003P	Broadcast Seed	33	1000 square fee
40 - SIGNING				
105	028420010	Delineator Type I	33	each
106	028420030	Delineator - Culvert Marker	3	each

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Bid Items Version#: 1 **DBE Goal:**

#	Item	Description	Quantity	Unit
40 - SIGNING				
107	02891001P	Sign Type A-2, 18 inch X 18 inch	3	each
108	028910028	Sign Type A-1, 12 Inch X 36 Inch	11	each
109	02891002P	Sign Type A-1, 18 inch X 30 inch	1	each
110	02891003P	Sign Type A-1, 24 inch X 8 inch	1	each
111	028910040	Sign Type A-1, 24 inch X 12 inch	2	each
112	028910045	Sign Type A-1, 24 inch X 18 inch	1	each
113	02891004P	Sign Type A-1, 30 inch X 36 inch	5	each
114	02891005P	Sign Type A-1, 30 inch X 54 inch	1	each
115	028910060	Sign Type A-1, 30 inch X 30 inch	2	each
116	028910065	Sign Type A-1, 36 inch X 36 inch	5	each
117	02891006P	Sign Type A-1, 48 inch X 60 inch	1	each
118	028910070	Sign Type A-1, 48 inch X 48 inch	1	each
119	028910075	Sign Type A-2	333	square foot
120	02891008P	Sign Type A-1, 54 inch X 18 inch	8	each
121	02891009P	Sign Type A-1, 60 inch X 54 inch	1	each
122	028910103	Sign Type A-2, 24 inch x 24 inch	3	each
123	02891010P	Sign Type A-2, 48 inch X 30 inch	3	each
124	02891011P	Sign Type A-1, 66 inch X 30 inch	3	each
125	028910125	Sign Type A-2, 48 inch X 48 inch	4	each
126	02891013P	Sign Type A-2, 36 inch X 48 inch	1	each
127	02891014P	Sign Type A-2, 54 inch X 60 inch	1	each
128	02891015P	Sign Type A-2, 54 inch X 72 inch	3	each
129	02891016P	Sign Type A-2, 78 inch X 48 inch	1	each
130	02891018P	Sign Type A-2, 108 inch X 102 inch	1	each
131	02891019P	Sign Type A-2, 48 inch X 36 inch	4	each
132	02891020P	Sign Type A-2, 72 Inch x 42 Inch	1	each
133	028910270	Remove Sign Less Than 20 Square Feet	38	each
134	028910275	Remove Sign Greater Than or Equal to 20 Square Feet	5	each
135	028910285	Relocate Sign Less Than 20 Square Feet	5	each
136	028910290	Relocate Sign Greater Than or Equal to 20 Square Feet	1	each
137	028910320	Slipbase Sign Base (B3)	51	each
138	028910365	Sign Post P3	25	each
139	028910370	Sign Post P4	11	each
140	028910375	Sign Post P5	13	each
141	028910380	T - Bracket Extension	14	each
142	028910415	Post S6 X 17.25	2	each
50 - SIGNALS				
143	02892001D	Traffic Signal System (SR-126/SR-103)	1	lump sum

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DBE Goal:

#	Item	Description		Quantity	Unit
50 - SIGNALS					
144	02892002D	Traffic Signal System (SR-103/I-15 SB Ramp)		1	lump sum
145	02892003D	Traffic Signal System (SR-103/I-15 NB Ramp)		1	lump sum
60 - LIGHTING					
146	16525001D	Highway Lighting System (I-15 Underdeck)		1	lump sum
70 - ATMS					
147	13553001P	ATMS Systems (SR-126/SR-103)		1	lump sum
148	13553002P	ATMS Systems (SR-103/I-15 SB Ramp)		1	lump sum
149	13553003P	ATMS (SR-103/I-15 NB Ramp)		1	lump sum
180 - TIME AND/OR LANE RENTAL					
150	00221000*	Time Segment 1	Date Range: 20 - 40	0	day
151	00221001*	Time Segment 2	Date Range: 60 - 110	0	day
152	00222000*	Lane Rental		1	lump sum

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VI. Measurement and Payment

Measurement and Payment

Project # F-I15-7(309)318

Item #	Bid Item Number	Bid Item Name	UOM
1	00830001U	On the Job Training	hour
		Training Commitments listed in the Table of Contents for Federal projects, XI ¿ 5 http://www.udot.utah.gov/main/f?p=100:pg:::1:T,V:1940	
2	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.

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 the cost to provide, install, and maintain variable message boards.	
4	01559000*	Highway Patrol Assistance	hour
		Paid by invoice from Utah Highway Patrol.	
5	015710030	Silt Fence	foot
6	015710075	Drop-Inlet Barrier - 18 Inch Fiber Roll	foot
		Measured along centerline of fiber roll	
7	015710100	Gutter Inlet Barrier	each
8	015720020	Dust Control and Watering	1000 gallons
9	018920010	Reconstruct Catch Basin	each
10	01892003P	Reconstruct Utility Box	each
		Includes all labor, equipment and materials required to rebuild existing meter box.	
11	018920040	Reconstruct Valve Box	each
12	018920050	Reconstruct Manhole	each
13	020560015	Granular Borrow (Plan Quantity)	cubic yard
		In final position	
14	020560060	Free Draining Granular Backfill (Plan Quantity)	cubic yard
15	02075002P	Geotextiles - Erosion Control (Plan Quantity)	square yard
		Measurement does not include overlaps	
16	02075003P	Geotextiles - Drainage (Plan Quantity)	square yard
		Measurement does not include overlaps	
17	020820020	Relocate Water Meter	each
18	02216001*	Pothole Utility	each
		As approved by the Engineer. Potholes not approved will not be paid for. Includes identifying utility conflicts regardless of depth, resotration of disturbed area, recording and submitting pothole data, and all labor and materials required to identify utility.	
19	02221002P	Remove Bollard	each
		Includes the removal and disposal of all materials and incidental obstructions.	
20	022210030	Remove Catch Basin	each
21	02221003P	Salvage Trail Kiosk	each
		Includes removal and disposal of existing concrete foundations (if any). Kiosk must be salvaged and returned to Clearfield City as defined in project documents.	
22	02221004*	Abandon Monitoring Well	each
		Includes work required to break down and removal of structure to at least 1 foot below the subgrade or finished ground lines.	

Item #	Bid Item Number	Bid Item Name	UOM
23	02221004P	Salvage Light Pole	each
		Includes removal, loading, unloading and transporation to salvage light pole to Gary Stewart at (801) 217-3568. Obliterate foundation 24 inches below existing grade.	
24	022210075	Remove Guardrail	foot
		Includes posts, end treatments, transition elements, and anchorages	
25	022210095	Remove Pipe Culvert	foot
26	022210110	Remove Concrete Sidewalk	square yard
		Use the area of horizontal projection to calculate the area of steps	
27	022210115	Remove Concrete Driveway	square yard
28	022210120	Remove Concrete Curb	foot
29	022210125	Remove Concrete Curb and Gutter	foot
30	022210127	Remove Concrete Slope Protection	square yard
31	022210165	Remove Asphalt Pavement	square yard
		Regardless of the depth A. Does not include discontinued roads within the limits of the new roadbed or roads that are disturbed in performing other items of work. B. Exclude from measurement and payment under "Roadway Excavation."	
32	022210170	Remove Precast Concrete Barrier	foot
33	02221018P	Remove Light Pole Foundation	each
		Obliterate foundation 24 inches below existing grade. Prior to removal of foundation, contact Jason Wolff (801-710-1916) and Dave Harper (801-825-2122) to allow time for removal of the light pole.	
34	023160020	Roadway Excavation (Plan Quantity)	cubic yard
35	023180010	Small Ditch Excavation (Plan Quantity)	cubic yard
36	02373001P	Loose Riprap (Plan Quantity)	cubic yard
		Calculated using the in-place surface area and specified thickness.	
37	02511003*	Relocate Fire Hydrant	each
		In place. Includes the installation of hydrant, testing, disinfection, fittings, valves, thrust blocks, tie-downs, restraining glands and all other items to make the water line complete and operational.	
38	02610161P	18 Inch - Reinforced Concrete Pipe, Irrigation/Storm Drain, Class C	foot
		A. Measured along centerline of pipe B. Trench excavation, pipe bedding, backfill, embankment, granular borrow, UTBC, HMA, pavement cutting and flowable fill as shown in the standard and project drawings are incidental to construction and no separate payment will be made. C. Connections to drainage structures or featuers are incidental to construction and no separate payment will be made. D. No separate payment will be made for required inspection and testing.	
39	026130030	Culvert End Section 18 inch	each
40	02622006P	8 Inch Diameter Perforated HDPE Pipe	foot
		A. Measured along centerline of pipe B. Trench excavation and pipe fittings as shown in the plans are incidental to construction and no separate payment will be made. C. Connections to drainage structures or features are incidental to construction and no separate payment will be made.	
41	026330030	4 Foot Standard Manhole - CB 11	each
		A. Consists of all necessary materials required to make a complete drainage structure including but not limited to the following: Concrete, reinforcing steel, grate and frame, manhole steps, and any other items required in standard drawings. B. The connection to any pipe culvert or other drainage feature will be incidental to construction and no separate payment will be made for this work. C. The Department will pay a percentage of the unit bid price in addition to the price for each structure, proportional to volume changes (example: a 4 ft deep box increased by 1.5 ft, the percentage of increase in payment is 1.5 ÷ 4 x 100) for any required field changes larger than 1 foot of specified plan dimensions. D. The Department will make no separate payment for testing upon failure of visual inspection.	
42	026330120	Concrete Drainage Structure 3 ft to 5 ft Deep - CB 9	each

Item #	Bid Item Number	Bid Item Name	UOM
		A. Consists of all necessary materials required to make a complete drainage structure including but not limited to the following: Concrete, reinforcing steel, grate and frame, manhole steps, and any other items required in standard drawings. B. The connection to any pipe culvert or other drainage feature will be incidental to construction and no separate payment will be made for this work. C. The Department will pay a percentage of the unit bid price in addition to the price for each structure, proportional to volume changes (example: a 4 ft deep box increased by 1.5 ft, the percentage of increase in payment is 1.5 ÷ 4 x 100) for any required field changes larger than 1 foot of specified plan dimensions. D. The Department will make no separate payment for testing upon failure of visual inspection.	
43	026330130	Concrete Drainage Structure 5 ft to 7 ft Deep - CB 9	each
		A. Consists of all necessary materials required to make a complete drainage structure including but not limited to the following: Concrete, reinforcing steel, grate and frame, manhole steps, and any other items required in standard drawings. B. The connection to any pipe culvert or other drainage feature will be incidental to construction and no separate payment will be made for this work. C. The Department will pay a percentage of the unit bid price in addition to the price for each structure, proportional to volume changes (example: a 4 ft deep box increased by 1.5 ft, the percentage of increase in payment is 1.5 ÷ 4 x 100) for any required field changes larger than 1 foot of specified plan dimensions. D. The Department will make no separate payment for testing upon failure of visual inspection.	
44	027210020	Untreated Base Course (Plan Quantity)	cubic yard
45	02737001*	Pavement Soft Spot Repair - Type A (Contingency Item)	square yard
		Includes all labor, materials and equipment incidental to the Soft Spot Repair. Including asphalt removal, hauling, disposal of excavated material, placement, compaction, and HMA. Estimated quantities are based on preliminary field review for bidding purposes only. Actual quantities needed for repair will be determined by the Engineer. HMA Soft Spot Repair may be reduced, deleted, or increased beyond the bid quantities listed in the contract. Actual quantities placed will be paid at the contract unit price.	
46	027410050	HMA - 1/2 inch	ton
		Includes aggregates, asphalt binder, hydrated lime, tack coat, and other additives, etc.	
47	02765003P	Remove Pavement Marking Tape	foot
		Per foot each line removed regardless of width. Unauthorized removals will not be paid for.	
48	027680005	4 inch Pavement Marking Tape - White	foot
		A. Do not measure the gap in the broken line. B. Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price.	
49	027680010	8 inch Pavement Marking Tape - White	foot
		A. Do not measure the gap in the broken line. B. Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price.	
50	027680015	4 inch Pavement Marking Tape - Yellow	foot
		A. Do not measure the gap in the broken line. B. Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price.	
51	02768001P	Pavement Marking Groove	foot
		A. Do not measure the gap in the broken line. B. Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price.	
52	02768002P	Pavement Message (Preformed Thermoplastic Stop Line, Crosswalks - 24 inch)	foot
		A. Do not measure the gap in the broken line. B. Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price.	
53	027680105	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)	

Item #	Bid Item Number	Bid Item Name	UOM
		4. Stop Bar = one message H. Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price.	
54	027680115	Pavement Message (Preformed Thermoplastic Stop Line, Crosswalks - 12 inch)	foot
		By the foot of 12 inch wide line according to Standard Drawings.	
55	027710058	Corner Pedestrian Access Ramp	each
		Includes all labor, equipment, untreated base course, and materials necessary for a complete pedestrian access ramp according to GW Series Standard Drawings. The curb cut will remain part of the curb and gutter installation.	
56	027710059	Perpendicular/Parallel Pedestrian Access Ramp	each
		Includes all labor, equipment, untreated base course, and materials necessary for a complete pedestrian access ramp according to GW Series Standard Drawings. The curb cut will remain part of the curb and gutter installation.	
57	027710086	Detectable Warning Surface	each
		Includes all labor, equipment, and materials necessary for a complete upgraded pedestrian access ramp with the new detectable warning panel.	
58	027760005	Concrete Gutter	foot
		Measured along the roadway face. Includes excavation and untreated base course.	
59	027760006	Concrete Curb Type B3	foot
		Measured along the roadway face. Includes dowel bars.	
60	027760010	Concrete Sidewalk	square foot
		Includes excavation and untreated base course.	
61	027760017	Concrete Curb Type B5	foot
		Measured along the roadway face. Includes dowel bars.	
62	02776001P	Concrete Curb Type B5 (Back-To-Back)	foot
		Includes excavation and untreated base course.	
63	027760025	Concrete Curb and Gutter Type B1	foot
		Measured along the roadway face. Includes excavation and untreated base course.	
64	02776002P	Modified Concrete Curb Type B5	foot
		Includes excavation and untreated base course.	
65	027760030	Concrete Flatwork, 4 inch thick	square foot
		Includes excavation and untreated base course.	
66	027760035	Concrete Curb and Gutter Type M1	foot
		Measured along the roadway face. Includes excavation and untreated base course.	
67	027760045	Concrete Driveway Flared, 7 inch Thick	square foot
		Include Radius and Flares. Includes excavation and untreated base course. Includes all labor, equipment, and materials necessary for a complete driveway. The curb cut will remain part of the curb and gutter installation.	
68	02776004P	Concrete Curb and Gutter Transition – Type A	each
		Includes excavation and untreated base course.	
69	027760050	Concrete Flatwork, 7 inch thick	square foot
		Includes excavation and untreated base course.	
70	027760055	Concrete Driveway Open, 7 inch Thick	square foot

Item #	Bid Item Number	Bid Item Name	UOM
		Include Radius and Flares. Includes excavation and untreated base course. Includes all labor, equipment, and materials necessary for a complete driveway. The curb cut will remain part of the curb and gutter installation.	
71	02776005P	Concrete Curb and Gutter Transition – Type B	each
		Includes excavation and untreated base course.	
72	02776006P	Concrete Curb and Gutter Transition – Type C	each
		Includes excavation and untreated base course.	
73	02776007P	Concrete Curb and Gutter Transition – Type D	each
		Includes excavation and untreated base course.	
74	02776008P	Modified Plowable End Section	each
		Includes excavation and untreated base course.	
75	02776009P	Concrete Curb Transition – Type E	each
		Includes excavation and untreated base course.	
76	027760100	Plowable End Section	each
		Includes excavation and untreated base course.	
77	02776010P	Concrete Curb and Gutter Transition	each
		Includes excavation and untreated base course.	
78	027870020	Bonded Wearing Course - Type B	square yard
79	02817000*	Fixed Bollard	each
		Includes all material labor and equipment necessary to construct the fixed bollard as described in the project documents.	
80	02817001*	Removable Bollard	each
		Includes all material labor and equipment necessary to construct the removable bollard as described in the project documents.	
81	02844001P	Precast Concrete Constant Slope Half Barrier - 42 Inch	foot
		Includes connection pins, stabilization pins, and barrier reflectors. Includes asphalt impregnated polyurethane foam when required. See BA Series, Standard Drawings.	
82	02844002P	Cast-In-Place Concrete Constant Slope Half Barrier - 42 Inch Trailing Sloped End Section	each
		Includes connection pins, rigid plastic foam, asphalt impregnated polyurethane foam, and barrier reflectors. See BA Series Standard Drawings and project document details.	
83	028440030	Cast-in-Place Concrete Constant Slope Barrier - 42 Inch	foot
		Includes barrier reflectors. See BA Series, Standard Drawing BA 3A1.	
84	02844003P	Cast-In-Place Concrete Constant Slope Barrier - 54 Inch, Trailing Sloped End Section to B5 Curb	each
		Includes barrier reflectors. See BA Series, Standard Drawing BA 3A1 and project document details.	
85	02844004P	Cast-In-Place Concrete Constant Slope Barrier - 42 Inch Trailing Sloped End Section to B5 Curb	each
		Includes barrier reflectors. See BA Series, Standard Drawing BA 3A2 and project document details.	
86	028440330	Cast-In-Place Concrete Constant Slope Half Barrier 42 Inch	foot
		Includes barrier reflectors. See BA Series Standard Drawings.	
87	028440390	Cast-In-Place Concrete Constant Slope Barrier - 54 Inch, Trailing Sloped End Section	each
		Includes barrier reflectors. See BA Series Standard Drawings.	
88	028440440	Cast-In-Place Concrete Constant Slope Barrier - 54 Inch, TL-5	foot
		Includes barrier reflectors. See BA Series Standard Drawings.	
89	02844048P	Low Profile Concrete Barrier	foot
		Includes barrier reflectors. See project document details for more information.	

Item #	Bid Item Number	Bid Item Name	UOM
90	02844049P	Low Profile Concrete Barrier Transition	each
		Includes barrier reflectors. See project document details for more information.	
91	029610020	Rotomilling - 1 Inch	square yard
		Calculated from length multiplied by the average finished width of rotomilled surface	
92	029610030	Rotomilling - 2 Inch	square yard
		Calculated from length multiplied by the average finished width of rotomilled surface	
93	029610040	Rotomilling - 3 Inch	square yard
		Calculated from length multiplied by the average finished width of rotomilled surface	
94	029610070	Rotomilling - 6 Inch	square yard
		Calculated from length multiplied by the average finished width of rotomilled surface	
95	135530025	One 3-Inch Conduit	foot
		A. Includes all materials, labor, workmanship, equipment, documentation, and incidental items required for a complete system of conduit as described in the contract. Conduit may be installed by trenching, boring, or plowing unless otherwise specified. B. Includes duct seal, pull tape, conduit sweeps, fittings, conduit proofing, backfill, and warning tape. C. Includes flowable fill.	
96	16121010*	Rocky Mountain Power Concrete Padvault Sleeve	each
		A. Includes all design, materials, labor, and equipment necessary to complete the item to the satisfaction of Rocky Mountain Power. B. Includes the manufacturing, furnishing and installation of all items. C. Includes any special backfill required by the fabricator¿s designer that is in addition to that required by the contract. D. Includes placement of structural non-shrink grout. E. Includes sealing joints and furnishing and installing waterproofing membrane. F. Includes repair of defects and breakage of precast elements. G. Includes over-excavation and replacement when required.	
97	028930020	48 Inch Overhead Sign Foundation	each
		Includes all materials, equipment, labor, and incidental items necessary to provide overhead sign foundations. Includes conduit, steel reinforcement, anchor bolt templates, and grounding materials associated with the overhead sign foundation.	
98	02893011P	24 Inch Overhead Dual Cantilever Sign Structure	each
		Includes all materials, equipment, labor, and incidental items necessary to provide and install the structure as specified in the contract. Includes all work associated with the development, review and verification of shop drawings and overhead sign structural design items.	
99	02635004P	10 inch x 24 inch Grate and Frame	each
		Refer to UDOT Standard Drawing Series GF 3	
100	02871001*	Retaining Wall R-784 (Est. Qty 4980 Sq Ft Exposed Face)	lump sum
		A. Includes coordination of crews and subcontractors to phase and stage work as required by the contract. Excavation, temporary supports or shoring and restoration to existing natural ground behind the wall face will be incidental to work. B. Includes initial testing, proof testing and oversight C. Includes all labor, design, shop drawings, equipment, tools, and materials to construct new wall, not limited to: a. Drilling and placing soil nails to the design length and inclination design, detail and, including drilling and centering devices, epoxy coated threaded bar, nail grout, bearing plate with studs, hex nut, beveled washer, centralizer casings and all other items necessary to place the soil nails. b. Shotcrete, geocomposite drainage material, reinforcement, backer rod, PVC drain pipe, joint filler, compressible filler, polystyrene blockout, and all other incidental items necessary to construct the temporary shotcrete facing. c. Shotcrete or cast-in-place permanent facing for entire wall with architectural finish, epoxy coated reinforcing steel for support of facing molds, and all other incidental items necessary to construct the permanent facing with architectural finish. d. Tooled or saw-cut joints, curing compound, and silicone sealant. e. Rigid plastic foam to be placed against the existing abutment, and compressible joint filler where piles become exposed. f. Concrete gutter to be placed above the wall.	
101	02814001*	Reestablish Existing Landscape	square foot
		Includes all materials, equipement, labor and incidental items necessary to restore property landscaping to pre-construction state. Possible items necessary includes but not limited to: landscaping rock, turf sod, plantings, irrigation systems, etc.	

Item #	Bid Item Number	Bid Item Name	UOM
102	02911001P	Wood Fiber Mulch	1000 square feet
		Includes all materials, equipment, labor and incidental items necessary to install mulch.	
103	029120010	Contractor Furnished Topsoil	square yard
104	02922003P	Broadcast Seed	1000 square feet
105	028420010	Delineator Type I	each
		Includes removal and disposal of existing delineators.	
106	028420030	Delineator - Culvert Marker	each
		Includes removal and disposal of existing delineators.	
107	02891001P	Sign Type A-2, 18 inch X 18 inch	each
108	028910028	Sign Type A-1, 12 Inch X 36 Inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
109	02891002P	Sign Type A-1, 18 inch X 30 inch	each
		Includes frame or "Z" bar as required in SN Series Standard Drawings.	
110	02891003P	Sign Type A-1, 24 inch X 8 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
111	028910040	Sign Type A-1, 24 inch X 12 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
112	028910045	Sign Type A-1, 24 inch X 18 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
113	02891004P	Sign Type A-1, 30 inch X 36 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
114	02891005P	Sign Type A-1, 30 inch X 54 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
115	028910060	Sign Type A-1, 30 inch X 30 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
116	028910065	Sign Type A-1, 36 inch X 36 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
117	02891006P	Sign Type A-1, 48 inch X 60 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
118	028910070	Sign Type A-1, 48 inch X 48 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
119	028910075	Sign Type A-2	square foot
		Non Standard size signs. Includes frame or mounting bar as required in SN Series Standard Drawings.	
120	02891008P	Sign Type A-1, 54 inch X 18 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
121	02891009P	Sign Type A-1, 60 inch X 54 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
122	028910103	Sign Type A-2, 24 inch x 24 inch	each

Item #	Bid Item Number	Bid Item Name	UOM
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
123	02891010P	Sign Type A-2, 48 inch X 30 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
124	02891011P	Sign Type A-1, 66 inch X 30 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
125	028910125	Sign Type A-2, 48 inch X 48 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
126	02891013P	Sign Type A-2, 36 inch X 48 inch	each
		Includes frame or mounting bar as required in SN Series Standard Drawings.	
127	02891014P	Sign Type A-2, 54 inch X 60 inch	each
		Includes frame or "Z" bar as required in SN Series Standard Drawings.	
128	02891015P	Sign Type A-2, 54 inch X 72 inch	each
		Includes frame or "Z" bar as required in SN Series Standard Drawings.	
129	02891016P	Sign Type A-2, 78 inch X 48 inch	each
		Includes frame or "Z" bar as required in SN Series Standard Drawings.	
130	02891018P	Sign Type A-2, 108 inch X 102 inch	each
		Includes frame or "Z" bar as required in SN Series Standard Drawings.	
131	02891019P	Sign Type A-2, 48 inch X 36 inch	each
		Includes frame or "Z" bar as required in SN Series Standard Drawings.	
132	02891020P	Sign Type A-2, 72 Inch x 42 Inch	each
		Includes frame or "Z" bar as required in SN Series Standard Drawings.	
133	028910270	Remove Sign Less Than 20 Square Feet	each
134	028910275	Remove Sign Greater Than or Equal to 20 Square Feet	each
135	028910285	Relocate Sign Less Than 20 Square Feet	each
		Includes removal and disposal of existing concrete sign base.	
136	028910290	Relocate Sign Greater Than or Equal to 20 Square Feet	each
		Includes removal and disposal of existing concrete sign base.	
137	028910320	Slipbase Sign Base (B3)	each
		Includes installation of top casting, stub base, concrete foundation, and core drilling as required by SN Series Standard Drawings.	
138	028910365	Sign Post P3	each
		Includes post and all hardware to mount sign to post as required by SN Series Standard Drawings.	
139	028910370	Sign Post P4	each
		Includes post and all hardware to mount sign to post as required by SN Series Standard Drawings.	
140	028910375	Sign Post P5	each
		Includes post and all hardware to mount sign to post as required by SN Series Standard Drawings.	
141	028910380	T - Bracket Extension	each
		As required by SN Series Standard Drawings.	
142	028910415	Post S6 X 17.25	each
		Includes post, post to base connection plate, fuse and splice plates, and all hardware to mount sign to post as required by SN Series Standard Drawings.	
143	02892001D	Traffic Signal System (SR-126/SR-103)	lump sum

Item #	Bid Item Number	Bid Item Name	UOM
		Includes all labor, equipment, installation of state furnished materials, power source connection, mast arm mounted signs, and materials necessary to provide a complete and fully operational signal system.	
144	02892002D	Traffic Signal System (SR-103/I-15 SB Ramp)	lump sum
		Includes all labor, equipment, installation of state furnished materials, power source connection, mast arm mounted signs, and materials necessary to provide a complete and fully operational signal system.	
145	02892003D	Traffic Signal System (SR-103/I-15 NB Ramp)	lump sum
		Includes all labor, equipment, installation of state furnished materials, power source connection, mast arm mounted signs, and materials necessary to provide a complete and fully operational signal system.	
146	16525001D	Highway Lighting System (I-15 Underdeck)	lump sum
		Includes all labor, equipment, and materials necessary to provide a complete and fully operational highway lighting system.	
147	13553001P	ATMS Systems (SR-126/SR-103)	lump sum
		A. Includes all materials, labor, workmanship, equipment, documentation, inspection, and incidental items required for a complete system of conduit as described in the contract. Conduit may be installed by trenching, boring, or plowing unless otherwise specified. B. Includes duct seal, pull tape, conduit sweeps, fittings, conduit proofing, backfill, and warning tape. C. Includes flowable fill. D. Consultant inspection of mandrel test is paid for via consultant services contract.	
148	13553002P	ATMS Systems (SR-103/I-15 SB Ramp)	lump sum
		A. Includes all materials, labor, workmanship, equipment, documentation, and incidental items required for a complete system of conduit as described in the contract. Conduit may be installed by trenching, boring, or plowing unless otherwise specified. B. Includes duct seal, pull tape, conduit sweeps, fittings, conduit proofing, backfill, and warning tape. C. Includes flowable fill.	
149	13553003P	ATMS (SR-103/I-15 NB Ramp)	lump sum
		A. Includes all materials, labor, workmanship, equipment, documentation, and incidental items required for a complete system of conduit as described in the contract. Conduit may be installed by trenching, boring, or plowing unless otherwise specified. B. Includes duct seal, pull tape, conduit sweeps, fittings, conduit proofing, backfill, and warning tape. C. Includes flowable fill.	

VII. Standard Drawings Index

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UTAH DEPARTMENT OF TRANSPORTATION

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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

VIII. 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.

IX. 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. SANCTIONS

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.

X. 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).

XI. 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 400.

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%	$25,000,000	X	33%	=	$8,250,000

equals total labor dollars.					
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:

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

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*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

Signature _____ **Title** _____ Date _____

XII. 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.

Federal Projects With Full Size Plan Sheets

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

XIII. 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.

XIV. Wage Rates Applicable

Insert wage rates.

GENERAL DECISION FILE FOR PROJECTS REPORT

Date: 10/25/2016

Project #: F-I15-7(309)318

General Decision #: UT20160062 **Modification:** 0 **Publication Date:** 01/08/2016

Counties: DAVIS, 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: ENGI0003-071	**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
110346	(4) Asphalt Laydown Machine, Asphalt Paver, Front End Loader (2 to 5 cu. yds.), Oil Distributor	$24.37	15.65
110347	(5) Asphalt Roller, Front End Loader (Under 2 cu. yds.), Horizontal Directional Drill	$23.37	15.65
110297	(7) Roller (Dirt and Grade Compaction)	$21.50	15.65
110206	Crane (35 to 100 tons)	$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: IRON0027-003	**Survey Date:** 7/1/2015 00:00:0(		
120262	IRONWORKER: STRUCTURAL (Excluding Fence Erection and Guard Rail Installation)	$26.18	19.10
Designation: IRON0847-001	**Survey Date:** 8/1/2013 00:00:0(		
120261	IRONWORKER, REINFORCING	$26.61	11.60

GENERAL DECISION FILE FOR PROJECTS REPORT

Date: 10/25/2016

Project #: F-I15-7(309)318

General Decision #: UT20160062 **Modification:** 0 **Publication Date:** 01/08/2016

Counties: DAVIS, 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: LABO0295-023	**Survey Date:** 7/1/2014 00:00:0(		
130377	LABORER: (3) Airtool Operator, Mason Tender-Cement / Concrete	$20.85	8.65
130378	LABORER: (4) Asphalt Raker, Asphalt Shovler	$21.11	8.65
130376	LABORER: (1) Common or General	$20.59	8.65
130019	LABORER: Flagger	$20.59	8.65
Designation: PLAS0568-002	**Survey Date:** 7/1/2014 00:00:0(		
160015	CEMENT MASON/CONCRETE FINSHER	$22.76	8.16
Designation: SUUT2008-075	**Survey Date:** 9/10/2008 00:00:(		
140263	CARPENTER, Including Form Work	$15.54	2.80
140288	ELECTRICIAN, Includes Installation of Traffic Signals	$25.62	5.26
140074	INSTALLER - GUARDRAIL	$16.53	2.79
140018	LABORER: Fence Erector	$10.47	2.53
140023	LABORER: Grade Checker	$12.30	3.55
140020	LABORER: Landscape	$10.04	2.53
140022	LABORER: Pipelayer	$11.03	3.54
140283	LABORER: Power Tool Operator: Dirt Compactor (Hand Held), Hand Held Drill, Jackhammer and Power Saw Only)	$13.39	3.29

GENERAL DECISION FILE FOR PROJECTS REPORT

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Counties: DAVIS, UT

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Contractor Code		Hourly Rate	Fringes
Designation: SUUT2008-075	**Survey Date:** 9/10/2008 00:00:0		
140039	OPERATOR: Backhoe/Excavator/Trackhoe	$15.91	5.87
140278	OPERATOR: Bobcat/Skid Steer/Skid Loader	$12.36	3.31
140327	OPERATOR: Broom/Sweeper	$18.33	5.52
140030	OPERATOR: Bulldozer	$18.05	7.08
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
140036	OPERATOR: Scraper	$17.22	6.44
140037	OPERATOR: Screed	$14.22	5.66
140038	OPERATOR: Tractor	$17.95	7.33
140076	OPERATOR: Trencher	$12.80	4.12
140041	PAINTER (Parking Lot and Highway Striping Only)	$14.05	1.62
Designation: TEAM0222-023	**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

GENERAL DECISION FILE FOR PROJECTS REPORT

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Contractor Code		Hourly Rate	Fringes
Designation: TEAM0222-023	**Survey Date:** 7/1/2015 00:00:0(		
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
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
150050	TRUCK DRIVER (Lowboy/Tractor Haul)	$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

GENERAL DECISION FILE FOR PROJECTS REPORT

Date: **10/25/2016**

Project #: F-I15-7(309)318

General Decision #: UT20160062 **Modification:** 0 **Publication Date:** 01/08/2016

Counties: DAVIS, 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: TEAM0222-023	**Survey Date:** 7/1/2015 00:00:0(		
150106	TRUCK DRIVER (Water, Fuel & Oil Tank) 15,000 gal. to less than 20,000 gal	$19.66	10.73
150387	TRUCK DRIVER (Water, Fuel & Oil Tank) 2,500 gal. to less than 4,000 gal	$20.91	10.73
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)).

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.

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

XV. 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-I15-7(309)318
PIN # 11092

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 day	User Cost or Liquidated Damages	Calendar Days	Calendar Days
1 **(see note 1)**	First Day of Construction or no later than January 16th, 2017	Completion Segment 1	$5,000	User Cost	20	40
2 **(see note 1)**	First Day of Construction Segment 2 or no later than April 3rd, 2017	Substantial Completion	$10,000	User Cost	60	110

NOTE 1: Time Segment 1 is the duration required to complete Wall R-748 as shown in the structural plans. Time Segment 2 is the duration required for substantial completion.

NOTE 2: Use of traffic control devices are not permitted between Time Segment 1 and Time Segment 2 unless approved by the Engineer.

NOTE 3: Notify Engineer in writing 10 days prior to beginning work.

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 incentive payment the contractor will be eligible for in Segment 1 will be $25,000. The maximum incentive payment the contractor will be eligible for in Segment 2 will be $100,000. The maximum incentive payment for all combined milestones is $125,000.

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

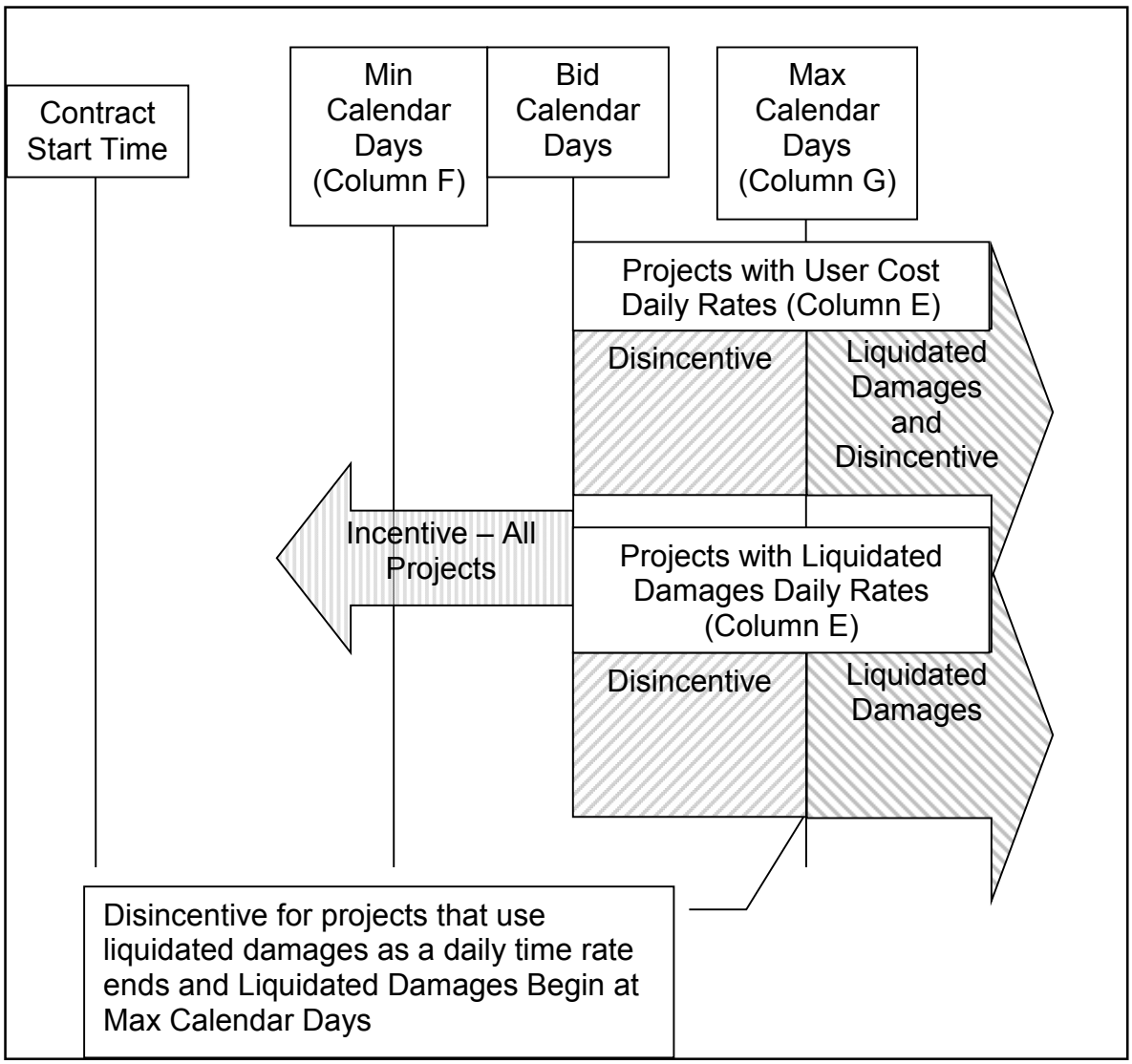

Figure 1 – Timeline of Incentive, Disincentive, and Liquidated Damages

PART 2 PRODUCTS Not Used

PART 3 EXECUTION Not Used

END OF SECTION

February 7, 2011

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

SECTION 00222S

LANE RENTAL

Add Section 00222S

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Procedures for bidding lane rental to minimize the duration of lane closures.
   1. Includes incentive/disincentive for closing lanes for a shorter duration than bid.

B. Description of lane rental pricing, and related incentive or disincentive.
   1. Refer to Section 00515M for information regarding lane rental and determination of low bidder.
   2. Incentive/Disincentive is the only lane rental related payment. Refer to this Section, article 1.8.

1.2 RELATED SECTIONS

A. Section 00515M: Award and Execution of Contracts

1.3 REFERENCES **Not Used**

1.4 DEFINITIONS

A. Lane Closure: Lane closure means denying any lane or any portion of a lane to traffic. A lane reduced to less than 11 feet is considered a lane closure.

B. Lane Rental Time: Any continuous time period or fraction where the lane is closed. Includes traffic control setup and takedown.

C. Rental Rates: The amount, as shown in the Special Provisions that represents the time cost of interference and inconvenience to the road user for each lane closure.

1.5 SUBMITTALS

A. Refer to this Section, article 1.7, paragraph C1 for measurement related submittals.

1.6 PRICING THE BID ITEM "LANE RENTAL"

A. Determine the price for the bid item titled lane rental as follows:
   1. Determine the duration of lane rental time required to perform the work for each roadway, direction, closure, day of week, and time of day as indicated in the table below. Consider all requirements of the contract when determining the duration of lane rental time.
   2. Multiply the lane rental cost-rate in column G by the corresponding duration of closure time determined by the Contractor in column H, and record the product in column I.
   3. Repeat step 3 for all codes (column A) listed in the table.
   4. The sum of all lane rental costs in column I is the amount to bid for lane rental.

B. Due to bidding software limitations:
   1. The Department will consider the bid non-responsive if the bidder does not submit a bid for the lane rental item.
   2. A bid of $1.00 on the lane rental item indicates Contractor intent to bid no closures as described in this section.

C. Negative amounts are not permitted for the lane rental bid item.

D. Maintain the minimum number of lanes open as specified in the contract.

E. The lane rental item is included in the contract to allow bidders to account for the lane rental charges that will be made in accordance with this Section. The amount bid for this item should be based on the bidder's estimate of rental time and the amount charged for each rental time increment specified in this Section.

F. Lane rental for SR-103 (650 North) Roadway Closure defined below.
   1. SR-103 (650 North) Roadway Closure:
      a. SR-103 (650 North) between the intersection with SR-126 (Main Street), thru and including southbound I-15 ramps, up-to the northbound I-15 ramps.
         i. Maintain access to/from northbound I-15 ramps and 650 North to Hill Airforce Base east of the interchange
         ii. A maximum of four (4) days of roadway closures over two (2) weekends are permitted

iii. Saturday lane rental is $35,000 per day and is defined from 9:00 PM Friday to 9:00 PM Saturday
iv. Sunday lane rental is $15,000 per day and is defined from 9:00 PM Saturday to 3:00 AM Monday
v. No other closures are permitted

b. SR-103 (650 North) Roadway Closures must have approval by the Engineer two (2) weeks prior to implementation
c. Coordinate with Utah Highway Patrol and 3rd Party PIM for all closures at least three weeks prior to each event.

1.7 ASSESSMENT AND ACCRUAL OF LANE RENTAL CHARGES

A. General
1. Lane rental charges will be assessed against the Contractor for all times when lanes are closed during times allowed for lane closures in the contract.
2. Lane rental charges will be assessed for closure of lanes that pre-existed the contract and also those that are constructed under this contract.
3. Planned or intentional closure of lanes outside of the hours allowed for lane rental is not permitted.

B. Conditions applicable during the performance of work to which lane rental applies
1. Notify Engineer in writing 7 days in advance of lane rental closures.

C. Measurement
1. Document lane rental on a form approved by the Engineer. Submit this documentation to the Engineer for approval. These documents will be the source documents for measurement of lane rental accrued and assessed.
2. Submit documentation to the Engineer for approval every Monday showing lane rental usage for the previous week. As a minimum, include the following:
   a. Show every day of the week separately, and document every day, whether lane rental is used or not.
   b. For each lane rental location, document the following:
      1) Hour and minute the lane rental began.
      2) Hour and minute the lane rental ended.
      3) Total duration of the lane closure in the time increment shown in Table 1 rounded up to the nearest whole time increment.
      4) Affected lane.
      5) Roadway centerline designation.
      6) Closure starting station.

7) Closure ending station.
8) Lane rental rate.
9) Extended lane rental charge.

c. Measure lane rental by the time increment as defined in Table 1.
d. The cumulative lane rental accrued to date.
e. The balance of lane rental remaining, calculated as the difference between the lane rental bid and the lane rental accrued to date.

3. Determine the number of lane closures by counting the number of lane locations subject to closure as defined above.

D. Assessment of Lane Rental Charges

1. Lane rental charges are determined by multiplying the rental time by the appropriate rental charge for each closure specified in the contract and summing the products.

E. Accrual of Lane Rental Charges

1. A tally of cumulative lane rental charges is kept throughout the project, and subtracted each month from the original lump sum bid for this item.

1.8 INCENTIVE/DISINCENTIVES RELATED TO "LANE RENTAL"

A. Payments/deductions to the contractor are based on the difference between the lane rental bid amount and the actual lane rental charges assessed. Payment for the incentive, or a deduction for the disincentive, is made in the project accounting system.

B. Incentive

1. The Department will pay the contractor the difference if the actual lane rental charges accrued prior to substantial completion are less than the Lane Rental bid amount. The maximum payment will not exceed $0.
2. Payment is made to the Contractor by lump sum after substantial completion.

C. Disincentive

1. The Department will deduct the difference from moneys due the contractor if the accrued lane rental charges exceed the amount of lane rental bid by the contractor.
2. These deductions will begin on the first progress payment when the accrued lane rental charges exceed the lane rental bid by the Contractor.
3. Failure of the contractor to remove closure within time frame and open 650 North to traffic as described in Section 00555M will be accompanied with a disincentive cost. These disincentive costs will be measured as follows:
    a. $10,000 for failure to remove closure within first 15 minutes
    b. $13,000 for any encroachment within the second 15 minutes
    c. $16,000 for any encroachment within the third 15 minutes
    d. $20,000 for any encroachment within the fourth 15 minutes
    e. Commencing with the second hour, the Contractor will be charged $20,000 for every 15-minute interval of encroachment.

D. Liquidated damages are charged in addition to lane rental if lane rental occurs after the specified contract time.

PART 2 PRODUCTS Not Used

PART 3 EXECUTION Not Used

END OF SECTION

January 01, 2012

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

SECTION 00250S

PREBID CONFERENCE

Add Section 00250:

PART 1 GENERAL

1.1 SECTION INCLUDES Not Used

1.2 RELATED SECTIONS Not Used

1.3 REFERENCES Not Used

1.4 DEFINITIONS Not Used

1.5 SUBMITTALS Not Used

1.6 SCHEDULING

A. A mandatory Pre-Bid Conference will be held at the following time and location:
Date: November 15, 2016 Time: 1:00 PM
Location: UDOT Region 1 Large Conference Room
Project ID: F-I15(309)318

B. Representatives of Construction and Design will be present to discuss details related to this project.

C. Bids submitted by Contractors who did not attend the pre-bid conference will be non-responsive.

PART 2 PRODUCTS Not Used

PART 3 EXECUTION Not Used

END OF SECTION

March 22, 2016

SPECIAL PROVISION

PROJECT #F-I15-7(309)318
PIN #11092

SECTION 00305S

LOCAL AGENCIES STANDARDS, CONTACTS, AND INSPECTION

Add Section 00305:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. The project includes relocation and/or construction of public improvements for Clearfield City.

B. The public improvements include water lines and appurtenance parts.

C. When backfilling public utility improvements, use local city standards for pipe zone bedding, backfill and compaction. Outside the pipe zone, meet UDOT Standards. Refer to UDOT DG series Standard Drawings, and UDOT Standard Specification 02056.

D. Install the public improvements according to the following standards:
   1. Clearfield City: Use the APWA 2012 Manual of Standard Plans and Specifications.

1.2 RELATED SECTIONS Not Used

1.3 REFERENCES Not Used

1.4 DEFINITIONS Not Used

1.5 SUBMITTALS

A. Contractor submits all signed Certificates of Compliance, to the Engineer, for materials involved in associated work. (The form can be found in the UDOT Materials Minimum Sampling and Testing forms).

B. Product Data: Manufacturer's technical product data and installation instructions.

C. Operating and Maintenance: Include maintenance data, parts lists, Product Data, and Shop Drawings.

D. Comply with Buy America requirements.

E. If the Local Agency performs any inspections, the local agency inspector submits progress reports to the Engineer at the end of each day.

1.6 QUALITY ASSURANCE

A. Reject any pipe which does not conform to Contract Documents or is cracked, chipped, crushed, dented, kinked, or otherwise unacceptable.

1.7 CONTACTS

A. The Engineer notifies the affected city or agency 10 working days prior to utility work or relocations. The anticipated utility impacts are associated with the following cities or agencies:
   1. Clearfield City – Public Works Division: 801-525-4418

1.8 INSPECTION

A. As part of the Contract, there are water lines, and appurtenant parts that are to be relocated and/or replaced. The City and/or Agency may provide an inspector for this work. The local agency will:
   1. Notify the Engineer when they arrive and when they leave the project site.
   2. Notify the Engineer of any work found to be unacceptable within normal work hours (8 am to 5 pm). The Engineer makes written notification to the Contractor of any corrective measures to be made.
   3. Keeps a daily progress report of any inspections.

PART 2 PRODUCTS Not Used

PART 3 EXECUTION

3.1 DISCREPANCIES AND CONFLICTS

A. Where discrepancies or conflicts exist between local agency standards and UDOT standards, specifications, and minimum sampling and testing requirements, UDOT standards will govern.

END OF SECTION

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 26, 2015

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

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.

December 16, 2015

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

SECTION 00555M

PROSECUTION AND PROGRESS

Delete Articles 1.7, 1.11 and 1.14, and replace with the following:

1.7 NOTICE TO PROCEED

A. Proceed with work after receipt of written notice from the department.

1.11 LIMITATION OF OPERATIONS

A. Minimize interference with traffic during performance of the work. Do not close lanes if not doing work.

B. Holiday, Event 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 and events:
   a. Thanksgiving Day 11/24/2016: 7:00 pm Tuesday November 22 to 5:00 am Monday November 28, 2016.
   b. Christmas Day 12/25/2016: Noon Friday December 23 to 5:00 am Monday, December 26, 2016.
   c. New Year's Day 1/1/2017: Noon Friday December 30 to 5:00 am Tuesday January 3, 2017.
   d. Memorial Day 5/29/2017: Noon Friday May 26 to 5:00 am Tuesday May 30, 2017.
   e. Independence Day 7/4/2017: Noon Friday June 30 to 5:00 am Wednesday July 5, 2017.
   f. Pioneer Day 7/24/2017: 3:00 pm Friday July 21 to 5:00 am Tuesday July 25, 2017.
   g. Labor Day 9/4/2017: Noon Friday September 1 to 5;00 am Tuesday September 5, 2017.

2. Provide notice to the Engineer before 12:00 pm 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.

D. Obtain all permits required to perform the work, including night work permits.

E. Traffic Limitations:
   1. SR-126 (Main Street):
      a. Peak hours are defined as:
         i. Weekdays: 4:00 AM to 7:59 PM
         ii. Saturdays: 10:00 AM to 7:59 PM
         iii. Sundays: 12:00 PM to 7:59 PM
      b. Peak hours: Open all lanes
      c. Off Peak Hours: Maintain one lane in both directions and left turn lanes.
   2. SR-103 (650 North):
      a. Peak hours are defined as:
         i. Weekdays: 4:00 AM to 7:59 PM
      b. Peak hours: Open all lanes
      c. Off Peak Hours: Maintain one lane in both directions and left turn lanes.
   3. I-15 Southbound Ramps:
      a. Peak hours are defined as:
         i. Weekdays: 4:00 AM to 7:59 PM
      b. Peak Hours: Open all lanes.
      c. Off Peak Hours: Maintain one lane open at on-ramp and one lane open at off-ramp.
   4. I-15 Northbound Ramps:
      a. Peak hours are defined as:
         i. Weekdays: 4:00 AM to 7:59 PM
      b. Peak Hours: Open all lanes.
      c. Off Peak Hours: Maintain one lane open at on-ramp. Maintain one of two left turn lanes and right turn lane open at off-ramp.
   5. 650 North & Main Street Intersection:
      a. Peak hours are defined as:
         i. Weekdays: 4:00 AM to 7:59 PM
         ii. Saturdays: 10:00 AM to 7:59 PM
         iii. Sundays: 12:00 PM to 7:59 PM
      b. Peak Hours: Maintain all lanes except southbound right turn lane.
      c. Off Peak Hours:

i. Northbound – Maintain one left turn and one thru lane.
ii. Southbound – Right turn lane may be closed. Maintain one through lane and left turn lane.
iii. Eastbound – Maintain one lane at all times.
iv. Westbound – Maintain one thru-left turn lane and one right turn lane.
v. Eastbound approach can be fully closed for up to 14 consecutive days.

6. Maintain storage lengths equal to or greater than existing.
7. Coordinate with Carrie Jacobson (UDOT Region 1 Signals Engineer) 801-620-1673 on construction signal timing two weeks prior to any closures.
8. Maintain a left turn lane for all approaches to each intersection at all times.
9. Failure of the contractor to cease work and open the traffic lanes to traffic as specified in this article will be accompanied with a disincentive cost. These disincentive costs will be measured in 15 minute intervals:
   a. $5,000 for any encroachment within the first 15 minutes
   b. $3,000 for any encroachment within the second 15 minutes
   c. $3,000 for any encroachment within the third 15 minutes
   d. $3,000 for any encroachment within the fourth 15 minutes
   e. Commencing with the second hour, the Contractor will be charged $5,000 for every 15-minute interval of encroachment.
10. Maintain a minimum lane width of 11' for all lanes.
11. Do not split thru traffic lanes going the same direction.

F. Coordinate closure of canal trail with 3rd party PI and Engineer two weeks prior.

G. Maintain safe passage of pedestrians and bicyclists through the work zone, to all bus stops, and to access pedestrian push buttons according to the Americans with Disabilities Act and the MUTCD

H. Residential/Business Access:
1. Maintain access to residences and businesses in the project area throughout construction:
   a. Construct driveways in segments to allow for partial access at all times, unless otherwise authorized by the property owner and approved by the engineer. Submit plans to engineer detailing how access is maintained 5 days prior to driveway work.
   b. Notify all property owners and occupants 5 days in advance of partial closure of access to their driveway.
      i. In the Notice, explain the construction operation, expected partial closure time(s) and anticipated opening date(s)

ii. Have the Notice delivered by hand to an affected property owner a minimum of 5 days before the partial closure
iii. Provide copies of all correspondence to the Engineer and 3rd Party Public Information Manager.

2. Coordinate with Conoco Gas Station for access closures one week prior to closing accesses. Maintain one access on 650 North and one access on Main Street at all times.

I. Signal replacement/switchover:
1. Refer to the Signal Turn On Checklist for items that need to be completed and functional prior to signal switchover.
2. During switchover:
   a. Signals can only be turned off from 10:00 PM to 4:00 AM any day or Sundays from 8:00 AM to 5:00 PM.
   b. Utilize law enforcement personnel to direct traffic.
3. Notify Resident Engineer 2 weeks prior to signal replacement.

J. Stripe traffic lanes or provide temporary traffic markings before removing traffic control. (Temporary striping is paid under traffic control). Use water-blasting method for removal of all temporary paint. Provide temporary striping and pavement markings for temporary traffic control configurations in place longer than 3 days, consistent with MUTCD.

K. 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.

L. Coordinate traffic control plans and construction activities with any adjacent active construction projects. Known projects include:
1. F-R199(200); I-15; Interchange Modifications at SR-193; PIN 13321
2. F-I15-7-(334)333; Ramps at SR-97, SR-103, SR-108, SR-193; PIN 13740

M. For weekend full closures, 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.

N. No work or access on private property without written approval from the property owner unless there is an acquired construction easement.

O. Contact Blue Stakes prior to the installation of sign and signal foundations. Mark each foundation location prior to contacting Blue Stakes. Provide Blue Stakes with a location of each foundation location by route and milepost. Adjust final location of signs as needed to avoid utilities.

P. Maintain signal heads directly over lanes. Provide temporary signals if travel lanes are not in alignment with signal heads. Maintain signal detection and communication throughout the duration of the project. New detection must be installed, inspected, and operation before removal of old detection. Contact UDOT Region 1 Signals Supervisor Dave Townsend 72 hours in advance of signal modifications for temporary traffic control. At the beginning of time segment 2 (per Special Provision 00221S), contact Matt Smith (801-887-3716) to schedule integration of signal work.

Q. See Special Provision 01554M Traffic Control for VMS requirements.

R. Environmental Protections:
1. Storm water permit and SWPPP are required for this project.
2. Ensure environmental protections during construction as specified in the drawings.
3. Provide and install appropriate Best Management Practices (BMPs) as approved by the Engineer, to ensure project related debris and materials do not enter the adjacent storm drain systems and/or watercourses including the canal. Routinely inspect, adjust and maintain any installed BMPs throughout construction. At close of project, remove all BMPs.

S. See Special Provision 01315S Public Information Services for 3rd Party PI coordination requirements.

T. Traffic not allowed on milled surfaces for more than 48 hours.

U. Coordinate and accommodate any utility relocation work not completed prior to the beginning of roadway construction, and include in the baseline construction schedule the anticipated utility relocation schedule. The following utility relocation work and coordination are anticipated as part of this project:

1. <u>Rocky Mountain Power</u>
   a. Coordinate with Harvey McComb at 801-543-3032 for reconstruction or relocation of all Rocky Mountain Power facilities.
   b. Contact Rocky Mountain Power a minimum of 30 days prior to construction to coordinate construction timing, power shut down, and inspection personnel.
   c. A representative of Rocky Mountain Power must be present at all times during reconstruction or relocation of Rocky Mountain Power facilities.
   d. Rocky Mountain Power will relocate their own facilities.

V. Right of Way Limitations

1. On portions of proposed project limits, work may commence on existing UDOT 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 Engineer before entering upon those properties.

4. No physical entry is allowed on the properties listed in Table 1 until UDOT has secured a right of entry on the property.

5. None of the properties listed in Table 1 shall be on the critical path until the committed clearance date as shown in Table 1 (following page).

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 1

Parcel No.	Owner Name	Property Address	Committed Clearance Date
111	Donald Wayne Mayer	150 East 650 North	Nov. 16, 2016
113	TGNU, LC	665 North Main St.	Feb. 3, 2017
109	SH & Son Inc.	641 North Main St.	Mar. 31, 2017

1.14 CONTRACT TIME

A. Contract time begins as specified in this section article 1.7 Notice to Proceed.

B. The contract documents define the time allowed to complete the contract. Contract time is measured in either working days or calendar days as defined in Section 00570. The completion date is when the contract specifies the work is required to be substantially complete.

1. The Department excludes the days elapsing between the effective dates of any orders of the Engineer to suspend and resume work that are not the fault of the Contractor when the contract defines the time allowed to complete the contract in working days or calendar days.

C. The Engineer furnishes a Monthly Status of Contract Time showing the number of days expended to date and the number of days remaining for substantial completion.

1. This statement is considered correct unless a documented written protest explaining discrepancies with the Monthly Status of Contract Time report is submitted to the Engineer within seven calendar days of receipt.
2. Failure to file a protest is acceptance of the time assessments provided by the Engineer in the Monthly Status of Contract Time.

D. Refer to Section 00570 for definitions of substantial completion, physical completion, and contract completion.

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 22, 2015

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

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.

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.

Add Article 1.20 Project Scope of Work:

1.20 PROJECT SCOPE OF WORK

A. The purpose of the project is to provide additional capacity to the I-15 Interchange at SR-103 and at the intersection of SR-103/SR-126. This will be accomplished by providing a "displaced" left turn for the WB to SB movement at the interchange and also adding a second EB to NB lane. The intersection at SR-103/SR-126 will be converted to modified high "T" intersections. See plan sheets for further details on the location of work. This includes but is not limited to the following work:

a. Construct a soil nail retaining wall adjacent to the south abutments of the existing I-15 structures over SR-103.
b. Widen SR-103 between the southern bridge columns and the proposed soil nail retaining wall.
c. Widen SR-103 between SR-126 and the SB ramps intersection to accommodate an additional left hand turn lane.
d. Rotomill and place bonded wearing course for the limits of work along SR-103.
e. Widen SR-126 south of SR-103 to line up proposed lanes as an additional SB left hand turn lane will be added at this intersection.
f. Widen corners at SR-126 and SR-103 intersection to accommodate large turning vehicles.
g. Widen SB I-15 on ramp at SR-103 to accommodate two lanes to a point mid-way up the ramp.
h. Install new traffic signals, lighting systems and associated ATMS connections at each of the three intersections; SR-103/SR-126, SR-103/SB I-15 Ramps and SR-103/NB I-15 Ramps Salvage and return existing traffic signals and lighting.

i. Replace/modify drainage and irrigation components as a result of roadway work as shown on the drainage plan sheets.
j. Modify hydrant at the intersection of SR-103 and SR-126.
k. Restripe SR-126 by removing existing tape without scarring the existing pavement and replacing as shown on the striping sheets.
l. Restripe the remainder of the project including striping, pavement messages and markings as shown on the striping sheets.
m. Restore landscape areas along SR-103 and SR-126 as defined in the plans.
n. Realign existing asphalt trail as shown in the details.
o. Adding pedestrian connection between SR-126 and the development east of the I-15 interchange by means of a multi-use path (8’-12’ concrete sidewalk).
p. Driveway removal and consolidation, as well as additional site work within the properties of Burger King, Universal Rent All and Wingers, as shown on the plans.
q. Remove, replace and provide new signs as shown on the signing plan sheets.
r. Reconstruct existing Rocky Mountain Power vault and bring to grade as shown in the utility plans.
s. Provide maintenance of traffic and traffic control.
t. Any other work specified in the project plans and specifications.

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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.

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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

October 3, 2016

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

SECTION 01282M

PAYMENT

Delete Article 1.14, Paragraph A4.

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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

March 25, 2013

SPECIAL PROVISION

PROJECT #F-I15-7(309)318
PIN #11092

SECTION 01315M

PUBLIC INFORMATION SERVICES

Delete Article 1.6 and replace with the following:

1.6 PERFORMANCE REQUIREMENT

A. Designate the PIC at the project pre-construction conference.

Delete Article 1.7 and replace with the following:

1.7 PUBLIC INFORMATION COORDINATOR (PIC) RESPONSIBILITIES

A. Coordinate with the Department's third-party Public Involvement Manager (PIM) with the overall project schedule and materials to help the public deal with construction impacts.

B. Participate in the Project Partnering and Kickoff Workshop and document communications with the Engineer, Region One Region Communications Manager (RCM) and third-party PIM.

C. Organize and participate in weekly meetings with the Engineer and third-party PIM to review correspondence, the communication logbook, and to provide construction schedule updates and information for distribution.

D. Submit an overall Business and Residential Impact Mitigation Plan to the third-party PIM for review within 15 Calendar Days of NTP. The plan is to address at least the following areas of concern:
   1. Permanent and temporary closures to public or private accesses
   2. Optional parking identification
   3. Schedule notification procedures
   4. Snow and garbage removal
   5. Mail delivery
   6. Construction signage
   7. "Business as Usual" signage
   8. Access and route maps

E. Work with the Engineer and third-party PIM to resolve public information issues within 24 hours. Safety issues must be resolved immediately.

Delete Article 3.1 and replace with the following:

3.1 ESTABLISH LOCAL PUBLIC INFORMATION SERVICES

A. Coordinate with the third-party PIM to be the primary general public point of contact. The PIM has established a project-dedicated phone line and email address to accomplish this purpose.

B. Provide flyers or other personal visits to residents and businesses within one week of the start of specific construction activities that will affect access or utility services.

C. Develop and furnish construction maps detailing construction activities and alternate routes to local businesses for distribution to customers and delivery drivers.

D. Participate in meetings held with affected individuals and/or organizations.

E. Submit weekly construction schedules and project activities effecting traffic and accesses to the Engineer and third-party PIM.

F. Provide the third-party PIM telephone number for placement on Construction Zone Information Signs as per Standard Drawing TC 4 Series and refer to Section 01554.

G. Forward all media inquiries, written and verbal, regarding the project or project activities to the RCM, or if unavailable, the UDOT Communications Office.

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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.

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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.

April 13, 2016

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

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.

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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.

October 3, 2016

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

SECTION 01554M

TRAFFIC CONTROL

Delete paragraph C of Article 1.12 and replace with the following:

C. Include in the bid item Traffic Control all materials, equipment, labor, flagging, pilot car, variable message boards, temporary pavement markings and removal, and workmanship required for the design, implementation, and maintenance of the Traffic Control Plan.

Add the following paragraph to article 2.3, "TRAFFIC CONTROL SIGNING AND DEVICES":

F. Provide, install, and maintain four (4) variable message boards seven (7) days prior to beginning any construction on the project and throughout the major items of work that will impact traffic on each end of the routes. Inform the public of the date construction will start and the lane restrictions that will be in place during the project. Prior to placing VMS boards, coordinate messages with Engineer. Coordinate duration and locations of the boards with the Engineer. Any relocation necessary for construction activities will be done at no cost to the Department.

Add Article 3.8:

3.8 NOTIFICATION OF LANE CLOSURES AND SUBSEQUENT OPENINGS

A. Provide advance notification of every lane closure to the Resident Engineer (RE) or designee and the Region Communication Manager (RCM) or designee.
   1. Notify the RE and RCM or designee 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 RE and RCM or designee 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.

B. Provide real-time notification of every lane closure, and subsequent lane opening, to the UDOT Traffic Operations Center (TOC) at 801-887-3700.

1. **Lane Closure**: Notify the TOC within 10 minutes before placing the first traffic control device in the travel lane.
2. **Lane Opening:** Notify the TOC within 10 minutes after removing the last traffic control device in the lane.
3. Include in the notification the route, the beginning and ending milepost/mile marker, number of lanes closed or opened, direction of the closure, and the date and time.

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.

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

October 3, 2016

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

SECTION 01559S

HIGHWAY PATROL ASSISTANCE

Add Section 01559S:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Contractual use of off-duty highway patrol troopers to assist with traffic control enforcement and work zone protection.

1.2 RELATED SECTIONS

A. Section 01554: Traffic Control

1.3 REFERENCES Not Used

1.4 DEFINITIONS Not Used

1.5 SUBMITTALS

A. Submit implementation plan to the Engineer for approval a minimum of seven days in advance of proposed use of highway patrol troopers. The plan will detail locations, times, and description of roadwork being performed for proposed use of highway patrol troopers for work zone protection of traffic lane closures and/or enforcement of Traffic Control.

B. Utah Highway Patrol (UHP) is to submit invoices for highway patrol troopers directly to the Engineer for payment.

1.6 PAYMENT PROCEDURES

A. The Department has budgeted 100 hours for highway patrol officer assistance for this project. The Department will pay the UHP directly for

all approved use of off-duty highway patrol officers used to assist with protection of the work zone.

B. Use of off-duty highway patrol officers to control traffic for moving equipment, for flagging or otherwise directing traffic, or to provide traffic slow downs as required in Section 01554 will not be paid under this item and must be included in other items of work.

C. Include any incidental costs for this item in the Lump Sum price for Traffic Control. (Section 01554).

D. Contractor will receive a disincentive for failure to provide 24 hours notice to UHP for cancelation of officers in the amount of charge to the Department for each occurrence.

PART 2 PRODUCTS Not Used

PART 3 EXECUTION

3.1 TRAFFIC CONTROL OPERATIONS

A. Obtain approval of implementation plan from the Engineer prior to the use of off-duty highway patrol officers to assist with traffic control operations.

B. The number of hours proposed in the implementation plan, and the actual number of hours invoiced shall not exceed the total dollar amount set aside by the Department unless approved by the Engineer.

C. Coordinate and provide adequate notice to the Department to allow scheduling of troopers.

3.2 WHEN USED

A. For complete closures as defined in Section 00222S.

B. As directed by the Engineer.

END OF SECTION

Supplemental Specification
2012 Standard Specification Book

SECTION 01721M

SURVEY

Delete Article 1.3 and replace with the following:

1.3 REFERENCES

A. UDOT Survey and Geomatics Standards Manual

Delete Article 1.5, paragraph C and replace with the following:

C. Submit a statement before beginning work indicating all Department provided horizontal and vertical control has been field checked and the control has been determined to be accurate within the tolerances specified in the Survey and Geomatics Standards Manual. Refer to http://www.udot.utah.gov/go/standardsreferences. Attach field survey information used to verify control. Notify the Engineer verbally and in writing if discrepancies are found.

August 29, 2016

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

SECTION 02056M

EMBANKMENT, BORROW, AND BACKFILL

Add Article 2.9, paragraph B4:

4. Use flowable fill where indicated on project plans. Refer to Section 03575.

Supplemental Specification
2012 Standard Specification Book

SECTION 02056M

EMBANKMENT, BORROW, AND BACKFILL

Delete Article 1.3, paragraph G and replace with the following:

G. UDOT Materials Manual of Instruction

H. UDOT Minimum Sampling and Testing Requirements

Delete Article 1.4, paragraph A and replace with the following:

A. Well-graded material – Material having an even distribution of different particle sizes. This even distribution of particles of different sizes results in a dense mass upon compaction.

Delete Article 1.5, paragraph A, and replace with the following:

A. Provide the following before delivering material to the project:
   1. Supplier and source of materials.
   2. Gradation analysis. Refer to AASHTO T 27 and T 11.
   3. Soil classification when applicable. Refer to AASHTO M 145.
   4. Maximum Dry Density and Optimum Moisture Determination
      a. Use AASHTO T 180 Method D for A-1 soils and AASHTO T 99 Method D for all other soils.

Delete Article 1.6, paragraph C, and replace with the following:

C. Density Requirements – Acceptance is on a lot-by-lot basis.
   1. Meet minimum density test average of 96 percent of maximum laboratory density with no single determination lower than 92 percent.
      a. Use AASHTO T 180 Method D for A-1 soils and AASHTO T 99 Method D for all other soils.
      b. Maintain appropriate moisture for compaction during processing.
   2. Meet 100 percent of established field density for free-draining granular backfill or for material with more than 30 percent retained on the ¾ inch sieve.
      a. Develop a field density compaction curve according to UDOT Materials Manual of Instruction Section 989 and approved by the Engineer.

Delete Article 2.9, and replace with the following:

2.9 PIPE FOUNDATION, BEDDING, AND BACKFILL

A. Pipe Foundation (When Required)
   1. Classification A-1. Refer to AASHTO M 145.
   2. Use suitable backfill material or granular backfill borrow when directed by Engineer.
   3. Use Free-Draining Granular Backfill or other uniformly graded materials only with the approval of the engineer and only if enclosed with an appropriate drainage geotextile. Refer to Section 02075.
   4. Over excavate and replace unsuitable materials according to Section 02317 when directed by the Engineer.

B. Pipe Bedding and Backfill
   1. Classification A-1. Refer to AASHTO M145.
   2. Non-plastic, well-graded material.
   3. Maximum aggregate size is 1½ inches for plastic pipe, 2 inches for all other pipes.

C. Other materials or trench configurations for pipe bedding and backfill may be used only upon approval of the Contractor's engineering proposal. Proposals using this option may include the use of native material or uniformly graded materials enclosed in an appropriate drainage geotextile. The Department decides whether or not to consider or approve the Contractor's engineering proposal. Any proposal must include all of the following:
   1. Stamped drawings and specifications signed and sealed by a Professional Engineer licensed in the state of Utah.
   2. Evaluation of site specific conditions and surrounding soils, including potential for migration of fines.
   3. A structural evaluation of the pipe support system for the proposed pipe that includes the pipe structural capacity and the depth of fill.
   4. Complete bedding or backfill source information including gradation, soil classification, and laboratory testing reports.

Delete Article 3.3, paragraphs C and D and replace with the following:

C. Structural Backfill Placement includes bridges, foundation, box culverts, drains, and other structures.
   1. Place suitable backfill material in structural backfill sections. Refer to Section 02317.
      a. Use granular backfill borrow when specified.
   2. Use appropriate compaction equipment adjacent to abutments, backwalls, approach slabs, wing walls, retaining walls, and other structures.

D. Pipe Foundation, Bedding, and Backfill
   1. Refer to Section 02317 and DG Series Standard Drawings for excavation and over-excavation requirements.
   2. Imported material for pipe bedding and pipe backfill and embankment in the pipe trench are incidental when constructed according to the plans and specifications. No separate measurement or payment for these items will be made except for pipe foundation work or other over-excavation of unsuitable material beyond the limits indicated in the contract.
   3. Place uniform layers of pipe backfill on both sides of the pipe.
   4. Use compaction equipment smaller than the trench width between the pipe and the trench wall. Expand the width of the trench to accommodate necessary compaction equipment.
   5. Fully compact the haunch areas. Hand-tamp areas where compaction equipment cannot compact the soil.

November 3, 2014

SPECIAL PROVISION

PROJECT F-I15-7(309)318
PIN 11092

SECTION 02216S

POTHOLE UTILITY

Add Section 02216:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Locations of utilities shown on the plans are approximate only and are for general guidance.

B. Use potholing to verify location, elevation and type of existing buried utilities.

1.2 RELATED SECTIONS Not Used

1.3 REFERENCES Not Used

1.4 DEFINITIONS Not Used

1.5 SUBMITTALS Not Used

PART 2 PRODUCTS Not Used

PART 3 EXECUTION

3.1 PREPARATION

A. Pothole after Blue Stakes has marked existing lines.
   1. Pothole only test hole locations approved by the Engineer where possible conflicts may be found.

B. Cooperate with the utility companies to protect their facilities.

C. Inform the Engineer 24 hours prior to any pothole. Pothole utility in the

presence of the Engineer's representative.

3.2 RECORDS

A. Record coordinates of elevation and horizontal position, owner, material, size, number of ducts, casings and any other information relevant to identifying and establishing utility.

B. Provide written documentation to the Engineer within 24 hours of potholing. A licensed surveyor of the State of Utah must stamp documentation. All coordinates and bench marks are to be based on project coordinate system.

3.3 RESPONSIBILITY OF DAMAGED UTILITY

A. The Contractor is solely responsible for any damage to utility facilities resulting from pothole operations. No compensation will be given for any delays to the project schedule resulting from damages, repair time, materials or any other circumstance associated with damages to existing utilities caused by pothole operations..

3.4 CLEAN-UP

A. Backfill potholed utility with the excavated materials and according to UDOT standards.

B. Backfill any potholed utility to same depth and materials of surrounding pavement.

END OF SECTION

March 22, 2016

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

SECTION 02221M

REMOVE STRUCTURE AND OBSTRUCTION

Add the following to PART 3 EXECUTION:

3.24 ABANDON MONITORING WELL

A. Obliterate and remove structure to at least 1 foot below the subgrade or finished ground lines.

END OF SECTION

Supplemental Specification
2012 Standard Specification Book

SECTION 02316M

ROADWAY EXCAVATION

Delete Article 3.5, paragraph C and replace with the following:

C. Remove material in all cut sections to the depth shown. Scarify to an 8 inch depth and compact subgrade to at least 90 percent of maximum laboratory density before placing pavement section.

Supplemental Specification
2012 Standard Specification Book

SECTION 02317M

STRUCTURAL EXCAVATION

Delete Article 1.4 and replace with the following:

1.4 DEFINITIONS

A. Unsuitable material – Material not meeting specifications, organic materials, frozen lumps, soils such as peat or bog, and over-saturated silts, clays, or sands whose water content prevents appropriate compaction.

Supplemental Specification
2012 Standard Specification Book

SECTION 02373M

RIPRAP

Delete Article 2.1, Paragraph D and replace with the following:

D. Loose Riprap – Stones well graded in size throughout the riprap layer to produce a dense mass.
   1. The riprap layer thickness to be at least 1.5 times the median stone diameter (D_{50}). The diameter of any given stone is based on the middle dimension of the stone (not the longest or the shortest).
   2. Refer to Table 1 for gradation limits.
   3. Control of gradation will be by sample measurement or by visual inspection, as determined by the Engineer.

Table 1

Rock Riprap Gradation Limits	
Stone Diameter Range (ft)	Percent of Gradation Smaller Than
$1.5D_{50}$ to $1.7D_{50}$	100
$1.2D_{50}$ to $1.4D_{50}$	85
$1.0D_{50}$ to $1.15D_{50}$	50
$0.4D_{50}$ to $0.6D_{50}$	15
$0.1D_{50}$	10

March 22, 2016

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

SECTION 02511S

WATERLINE INSTALLATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Includes but not limited to:
Materials and procedures for the installation of Local Governments and Districts waterlines, manholes, fire hydrants, accessories, and any required looping of water lines.

B. Refer to Section 00305S

1.2 RELATED SECTIONS

A. Section 00305S; Local Agencies Standards, Contracts, and Inspection

B. Section 01455; Material Quality Requirements

1.3 REFERENCES

A. AWWA C800: AWWA Standard for Underground Service Line Valves and Fittings.

B. ASTM B 88: Standard Specification for Seamless Copper Water Tube.

C. AWWA C151: American National Standard for Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lines Molds, for water or Other Liquids.

D. AWWA C600: AWWA Standard for Installation of Ductile-Iron Water Mains and Their Appurtenances.

E. ASTM D 2241: Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure Rated Pipe (SDR Series).

F. ASTM D 2855: Standard Practice for Making Solvent Cemented Joints and Poly (Vinyl Chloride) (PVC) Pipe and Fittings.

G. ASTM D 3139: Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.

H. AWWA C900: AWWA Standard for Polyvinyl Chloride (PVC) Pressure Pipe, 4 In. Through 12 In., for water.

I. AWWA C905: AWWA Standard for Polyvinyl Chloride (PVC) Water Transmission Pipe, Nominal Diameters 14-inch through 36-inch.

1.4 DEFINITIONS Not Used

1.5 SUBMITTALS

A. Comply with Buy America in Section 01455

1.6 PAYMENT PROCEDURES

A. Refer to Measurement and Payment

1.7 GENERAL PIPES AND FITTINGS

A. Provide piping materials and factory fabricated piping products of sized, types, pressure ratings, and capacities indicated.

B. Where not indicated, provide proper selection as determined by District to comply with installation requirements.

C. Provide sizes and types of equipment connections for fittings of materials which match pipe materials used in pressure piping systems. Where more than one type of material or product is indicated, selection is supplier's option.

D. Potable water valves on transmissions pipe shall be as follows: 1) 4", 6", 8", and 10" -Resilient Seated Gate Valves 2) 12" and larger -Butterfly Valves

PART 2 PRODUCTS

2.1 DUCTILE IRON PIPE

A. Flange Joints

1. Flanges may be cast integrally with the pipe, in which case they shall conform to ANSI B 16.1 as to diameter, thickness, drilling, and other characteristics or they may be screwed on the threaded ends of the pipe.

2. Screwed-on flanges shall conform to ANSI B 16.1 as to material, diameter, thickness, drilling, and other characteristics, but shall have long hubs threaded specially for ductile iron pipe. Pipe shall be class 53, minimum. Screwed-on flanges shall be attached to the pipe by the pipe manufacturer, and after attachment the faces of the flanges and the ends of the pipe shall be refaced so that the end of the pipe will be even with the face of the flange and both will be perpendicular to the axis of the pipe.
3. Bolt holes on the two flanges on a piece of pipe shall be in perfect alignment.
4. Bolts shall conform to ANSI B 16.1 except that flanges underground, in concrete pipe valve boxes, or in water shall have Type 316 stainless steel with anti-seize.
5. Where cap screws or stud bolts are required, flanges shall be provided with tapped holes for such cap screws or stud bolts.
6. Gaskets shall be ring gaskets suitable for the intended application, manufactured by Garlock, Cranite, or equal.
7. All flange bolts shall be cut and finished to project not more than 1/4 inch beyond outside face of nut after joint is assembled.

B. Mechanical Joints

1. Mechanical joints shall be in accordance with ANSI A 21.11 (AWWA C 111).

C. Push-on Joints

1. Push-on rubber gasket joints shall be in accordance with ANSI A 21.11 (AWWA C 111).

D. Restrained Push-On Joints

1. Restrained push-on joints shall be designed for working pressures of 350 psi for sizes 4-inch through 24-inch and 250 psi for sizes 30-inch through 54-inch. The restraining system shall be comprised of ductile iron locking segments inserted through slots in the bell face and providing positive axial lock between the bell interior surface and a retainer weldment on the spigot end of the pipe. An alternate system shall have positive restraint against joint separation by a retainer weldment through a boltless system.
2. Restraint system shall be US-Pipe TR-Flex joint system or approved equal.

E. Fittings

1. Except as otherwise provided, fittings for cast iron or ductile iron pipe shall be as specified in ANSI A 21.10 (AWWA 110) 2" through 36" Class 250, or A21.53 (AWWA C153), 3" through 16" Class 350, or A21.11 (AWWA C111) 18" through 24" Class 350, of the same pressure rating and same joint configuration as the pipe with which they are used.

F. Push-On Gaskets

1. Push-on rubber gasket joint fittings shall have bodies as specified above with bells dimensioned and arranged to match the push-on joints on the pipe. Mechanical joint fittings may be used with push-on joints on the pipe. Mechanical joint fittings may be used with push-on rubber gasketed joint pipe.

G. Flexible Fittings

1. Unless otherwise indicated, flexible couplings shall be solid sleeve mechanical joint, with gaskets sized for the intended pipe.

H. Lining and Coating

1. Except as otherwise specified, all cast iron and ductile iron pipe and fittings shall be smooth cement-lined in accordance with ANSI A 21.4 (AWWA C 104).
2. Special attention shall be given to the lining of fittings. Lining shall be applied to bare metal. All lining shall extend to the faces of flanges, to the end of spigots, or to the shoulder of hubs, as the case may be.
3. In addition, all cast iron and ductile iron pipe and fittings shall be coated inside and outside with bituminous material except that pipe which is to be painted shall not be coated on the outside.

I. Corrosion Protection

1. Ductile iron pipe underground shall be protected against external corrosion by loose 8 mil polyethylene sleeves in accordance with AWWA C 105. Cut polyethylene tubing about two feet longer that the pipe length. Gather the polyethylene tube on the spigot end of the pipe being assembled. Using shallow holes to accommodate the wrapped bell pull the gathered tubing over the bell and fix it in place with tape, band or string. Take up slack in the tubing along the top of the pipe barrel and secure in place with tape. Overlap the tubing from the next pipe length and secure in similar fashion. All holes or tears shall be repaired with an additional wrap.

2.2 POLYVINYL CHLORINE (PVC) PIPE

A. Conform to all requirements of AWWA C900 or C905, "Polyvinyl Chloride (PVC) Pressure Pipe, 4 inch Through 12-inch (or) 14-inch Through 36 inch, for Water". Pipe shall be extruded from clean Type I Grade 1 class 12454-B PVC compound conforming to ASTM Resin Specification D-1784.

B. Pressure Class shall be 150 or 200 psi with a minimum Dimension Ratio (DR) of 18 or 14 respectively.

C. Pipe shall be homogeneous throughout, and free from visible cracks, holes, foreign inclusions, or other defects, and be as uniform as commercially practical in color, opacity, density and other physical properties. Surface shall be free from nicks, scratches, gouges and other imperfections that might weaken the pipe wall or cause leakage at joints.

D. Pipe shall bear the seal of approval of the National Sanitation Foundation for potable water service.

E. Dimensions and tolerances of the pipe barrel and bell ends shall conform to the applicable requirements of AWWA C900 or C905 for the pressure-class specified for cast iron outside diameter pipe.

F. Pipe shall be available in standard laying lengths (as distinguished from overall length) of 20 feet.

G. All fittings shall be cast iron fittings as specified under ductile iron pipe.

H. Joint requirements:
   1. Pipe and fittings shall be furnished with integrally thickened bell and spigot ends from joining with a solid, uniform cross-sectional elastomeric gasket as the sealing element.
   2. Couplings will not be permitted.
   3. The gasket shall be contained within the bell end, not be required to support the weight of the pipe when two sections are joined, but serve only as a seal, conform to ASTM D 3139, provide an adequate compressive force against sealing surfaces of the bell spigot to effect a positive seal under all combinations of joint tolerances and be the only elements depended upon to make the joint flexible and watertight.
   4. Solvent welded joints will not be permitted unless written approval as obtained from the Engineer/Inspector prior to welding the joint.

I. The pipe manufacturer shall perform the inspection and testing as specified in AWWA C900 or C905 on a representative sample of the manufacturer's product; and shall furnish to the District a certificate affirming that their product meets the requirements of AWWA C900 or

C905, and the additional requirements of these specifications, including the drop impact test.

1. Pipe and fittings shall be furnished with integrally thickened bell and spigot ends from joining with a solid, uniform cross-sectional elastomeric gasket as the sealing element.
2. Perform leakage tests as outlined in the Execution portion of this section.
3. Certification of all test will be furnished to the District and results marked to readily identify the pipe furnished. When requested, the pipe manufacturer shall certify that the pipe is recommended for direct tapping of service connections up to one-inch size.

J. Marking on the pipe shall include the nominal cast iron pipe size, AWWA C900 or C905 Class and dimension ratio (DR), the NSF seal of approval and the manufacturer's name or trademark at intervals not to exceed 5 feet.

K. Pipe shall be suitable for direct tapping of service connections up to one inch, when following the recommendations and using the equipment and materials of the manufacturer.

L. Unless noted otherwise, all ferrous fittings and valves shall be wrapped with 8 mil thick polyethylene file tube or sheet, held in place by 2-inch wide plastic-backed adhesive tape equal to Polyken No. 900 or Scothrap No. 50, and adhere securely to both the pipe and polyethylene with enough film to overlap the adjoining pipe a minimum of one foot. Polyethylene wrap shall be protected from the sun and weathering prior to use, using care during backfilling of the protected areas to prevent puncturing the film.

2.3 VALVES

A. Valves shall be resilient seated with iron body.

B. Valves shall have minimum working pressure rating of 200 psi.

C. Valves shall be non-rising stem.

D. Valves shall meet the requirements of AWWA Specifications 509, except as modified herein.

E. Valves shall operate drip tight with full pressure on one side of the valve and no pressure on the other side.

F. Packing and gearing shall be replaceable while the valve is in service.

G. The flanges and drilling shall conform to dimensions of ANSI B 16.1 for Class 125 or Class 150 for cold water.

H. Mechanical joints shall be in accordance with ANSI A 21.11 (AWWA C 111).

I. Cast iron in the valve body and bonnet shall be close-grain gray cast iron, having minimum tensile strength of 31,000 pounds per square inch. Castings shall be uniform in thickness and free from blow holes. No brazing, welding or plugging of castings will be allowed. Valves shall be so designed that the gates and stem are clear of the full specified diameter when open.

J. All valves shall turn clockwise to close.

K. The operating nut shall be a 2-inch square AWWA nut.

L. Double O-ring stem seal.

M. Epoxy coated inside and outside conforming to AWWA C 550.

2.4 VALVE BOXES

A. All valves to be buried shall have cast iron valve boxes; firmly supported and painted, entered and plumb over the wrench nut of the valve.

B. Boxes shall be of the extension type with 34 to 60 inch extension.

C. Approved manufacturers:
   1. Tyler Pipe Industries Series 7026 or Series 664-A.
   2. Approved equal.

2.5 HYDRANTS

A. Hydrants shall conform to requirements of AWWA C502, Dry-Barrel Fire Hydrants, as supplemented and modified herein:

B. Approved manufacturers
   1. Mueller Modern Centurion
   2. East Jordan Iron Works

C. Size shall be 5-1/4 inch valve opening.

D. Hydrants shall be designed for 150 psi minimum working pressure, constructed in three sections with bolted joints and the entire internal operating mechanism shall be repairable from above ground without any digging, when the hydrant is in place.

E. Outlet Nozzles. Hydrants shall have two 2-1/2 inch hose nozzles and a 4-1/2 inch pumper nozzle. Nozzle thread shall be National Standard. Nozzles shall be brass and replaceable.

F. Inlet. Inlet connections shall be flanged or mechanical joint conforming to ANSI A 21.10, American Standard for Gray-Iron and Ductile Iron Castings.

G. Safety Flange. The hydrant shall have a breakable flange at ground level when installed. Flange and internal mechanism shall be designed so that, in case of accidental breaking, the hydrant sections will separate without damage to the barrel and the main valve will remain closed to prevent flooding. Safety flanges depending only on notched bolts for frangibility will not be acceptable.

H. Operating nut shall turn counterclockwise to open the main valve.

I. The drain valve inlet seals and sealings shall be all brass or bronze.

J. Painting. Buried portions of the hydrant shall be painted with two coats of CASO coal tar enamel. Exposed portions shall be painted with two coats of Bakelite-base paint with tung oil thinner, Tropical industrial enamels or approved equal. Primer coat, ACB Primer No. 525-14. Finish coat, per owner paint standards.

2.6 TAPPING SLEEVES AND SADDLES:

A. 2" and under - stainless steel or bronze tapping saddle with required straps for connections to mains. Saddle shall be specifically designed for the appropriate outside diameter of the existing main (PVC, DIP, asbestos, cement, etc.)

B. 2" to 8" -Ductile Iron or Stainless Steel.

C. 10" and over -Stainless Steel (Type 316)

2.7 TRENCH MARKING:

A. Magnetic Tape: aluminum foil, plastic coated, stamped with terminology indicating “warning buried water line.”

B. Locating Wire: 14 gauge, 600 volt PVC jacketed wire manufactured for underground service, cad welded to all valves and fire hydrants. Wire shall be continuous without breaks. Splices shall be welded.

PART 3 EXECUTION

3.1 PREPARATION

A. Obtain all permits associated with the connection and installation.
   1. Coordinate with the water system authorities the installation of items not performed by Water Authority forces. Refer to Section 00305S.

B. Before trenching:
   1. Stake waterline location

   2. Contact Blue Stake to locate and mark utility lines.

C. Coordinate all water main shutdowns with the water system authority and notify the Engineer ten (10) calendar days prior to the shutdown.
   1. The Contractor notifies the Fire Department prior to any work associated with the waterlines.

3.2 INSTALLATION

A. Install Waterlines System:
   1. Locate waterlines as shown on the plan sheets.
      a. Ductile Iron Pipe -C-600 "Installation of Gray and Ductile-Iron Water Mains and Appurtenances".
      b. Per manufacturer's recommendations, this specification, and appropriate AWWA standards.

   2. All pipe shall have a minimum 60 inch cover from top of the finish grade. Avoid conflicts with storm drains and other utilities. Minimum clearance shall be 18 inches between waterlines and other utility lines or structures. Clearances between culinary and sewer lines shall be a minimum of 10-feet edge to edge in accordance with Utah Division of Drinking Water Regulations.

   3. Provide survey equipment of an approve type to maintain alignment and grade between critical points.

   4. Prevent dirt, grease, and all other foreign matter form entering each length of piping before making connections in the field. After each section of piping is installed, clean thoroughly and remove rocks, dirt and other foreign matter by washing, sweeping, scraping, or other method that will not harm the lining of the pipe. Furnish and install

plugs or bulkhead of approved type to all open ends of pipes when workmen are not on the job or in the immediate area for safety and to prevent rocks or other foreign matter from entering the pipe.

5. Make connections to existing pipelines where shown on the drawing(s) or where directed by the Engineer/Inspector as follows:
   a. Scheduled shut downs in advance to cause the least interference with the existing system. A shut down schedule of existing mains shall be made and agreed upon by both the Contractor and District well in advance of any work being completed.
   b. Use pipe and fittings as indicated on drawing(s) or as directed by Engineer/Inspector and otherwise conform to requirements of applicable paragraphs of this Section for the size, type and Class of the line being cut and the line connected.
   c. Excavate to the existing main at the point it is to be served and determine all fittings require to make the connection complete and have all materials needed at the job site prior to any shut downs or cutting into the existing system.

6. TESTING: All pipe, valves in pipelines, joints, seams, couplings, fittings, flanges, welds, etc. shall be tested for leakage in the presence of Inspector/Engineer. Leakage is defined as any water passing through the surface of pipes, including joints fittings, outlets, etc. All water for testing shall be provided by the District for a maximum of two tests. The following test shall be performed.
   a. Area to be tested shall be closed off and filled with water to a point similar to the expected volume the line will carry.
   b. If pressure testing occurs against an existing valve, the District will inspect the condition of the valve and determine if it needs to be replaced with a new valve at the Contractor/Developer's expense, prior to testing against the valve.
   c. No sections greater than 2000 feet in total pipe length shall be tested without special written permission by the District Engineer.
   d. Pressure equal to 150% of the working pressure of the pipe (180 psi minimum) shall be maintained for two consecutive hours. During this period no loss of water pressure shall occur. If pressure loss does occur, leakage shall not exceed the amounts allowable by AWWA C600 DIP and C605 for PVC pipe (see reference sheets at the end of this division). If the allowable leakage is exceeded, the leak will be found and corrected and the test shall be repeated until the above requirements are met.

7. DISINFECTING PIPES: All pipes, valves, hydrants, etc. that convey or store culinary water shall be sterilized as follows:
   a. Flush pipes at a rate in excess of 4.0 feet per second if the pipe is under 12 inches diameter and 3.0 feet per second if the pipe is 12 inches diameter and larger.
   b. Prepare a slurry mixture of Sodium Hypochlorite (laundry bleach) to create a 10,000 ppm concentration of chlorine (approximately one gallon of bleach to 4.25 gallons of water).
   c. Mix slurry with water as it enters the pipe to achieve a concentration of residual chlorine of 25 ppm after 24 hours. An initial concentration of one gallon of slurry to 200 gallons of water will normally accomplish the result. If liquid chlorine or gas is used, the concentration shall be one pound of chorine to 2,400 gallons of water. If the chlorine residual is not 25 ppm after 24 hours, the source of contamination shall be removed and the process shall be repeated until the residual requirement is met.
   d. Bacteria testing shall be provided by the Contractor. Number of tests shall be as determined by the District. At a minimum, the Contractor shall provide the following tests:
      a. One sample for every 1,000 feet of main installed
      b. One sample near each connection to an existing main
      c. One sample at the furthermost point from the existing main connection
      d. One sample at each dead end

8. FLUSHING PIPES:
   a. Flush the chlorine solution from the line by introducing culinary water from an approved source.
   b. Pipes shall be flushed from an open pipe end at a point on the main to be specified by the Inspector/Engineer. Any extra fittings, pipe or blocking required shall be supplied by the Contractor at no cost to the District.
   c. Responsibility for disposal of chlorinated water shall be at the sole responsibility of the contractor.

B. INSTALL HYDRANTS AS FOLLOWS:

1. Thoroughly clean hydrant of dirt or foreign matter before setting.

2. Install hydrant plumb to final finished grade, having nozzles parallel with or at right angles to curb, and with pumper nozzle facing the curb.
   a. Nozzles shall be at least 12 inches above finished grade.
   b. Install concrete thrust blocks at the hydrant bowl, auxiliary gate valve, and in accordance with the District's Typical Detail.

3. Wrap all ferrous pipe, valves, fittings and portions of the hydrant exposed to soil with 8-mil thick polyethylene film, sheet or tube.

4. Coat all bolts with a liberal coating of “poly” type protection grease.

5. With all outlet valves open, flush, test, and disinfect the hydrant, valve and connecting piping in accordance with this section.

C. Loop Waterline

1. At locations of utility lines, drainage lines, or other obstacles encountered during construction.

D. Water Service Line Loops

1. At locations of utility lines, drainage lines, or other obstacles encountered during construction.
2. Install new line from the corporation stop to the meter box if existing line is galvanized.

E. Asbestos Removal

1. The contractor is advised of encountering asbestos in the removal of water pipes on this project. When removing asbestos pipes, adhere to the following:

a. Remove asbestos contamination in accordance with State of Utah Air Conservation Rules Section R307-1-8 by a licensed asbestos contractor.

b. Dispose of all such materials in an environmentally safe area per Subsection 104.13.

c. Obtain and provide necessary permits for any asbestos disposal.

3.3 RELOCATE HYDRANT

A. All fire hydrants must have a minimum 6-inch line supplying the hydrant.

1. Fire hydrants with 6-inch or larger supply lines. Extend supply line. Reset fire hydrant.

2. Fire hydrants with supply lines smaller than 6 inch. Cut in new 6-inch tee on main line and connect to new tee. Supply and install new 6-inch supply line.

B. No elbows or bends allowed in the supply line.

1. Cut in new 6-inch tee to main line and connect to new tee. Extend supply line to new location.

END OF SECTION

Supplemental Specification
2012 Standard Specification Book

SECTION 02610

DRAINAGE PIPE

Delete Section 02610 and replace with the following:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Materials and procedures for installing drainage pipe.

B. Class, type, and size designations for drainage pipe.

C. Inspection and acceptance.

1.2 RELATED SECTIONS

A. Section 01282: Payment

B. Section 02056: Embankment, Borrow, and Backfill

C. Section 02317: Structural Excavation

1.3 REFERENCES

A. AASHTO M 36: Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains

B. AASHTO M 167: Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches

C. AASHTO M 170: Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

D. AASHTO M 196: Corrugated Aluminum Pipe for Sewers and Drains

E. AASHTO M 197: Aluminum Alloy Sheet for Corrugated Aluminum Pipe

F. AASHTO M 198: Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants

G. AASHTO M 207: Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe

H. AASHTO M 219: Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches

I. AASHTO M 243: Field Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe Arches, and Arches

J. AASHTO M 245: Corrugated Steel Pipe, Polymer Precoated, for Sewers and Drains

K. AASHTO M 246: Steel Sheet, Metallic-Coated and Polymer-Precoated for Corrugated Steel Pipe

L. AASHTO M 274: Steel Sheet, Aluminum-Coated (Type 2), for Corrugated Steel Pipe

M. AASHTO M 294: Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter

N. AASHTO M 304: Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter

O. AASHTO M 330: Polypropylene Pipe

P. AASHTO MP 20: Steel Reinforced Polyethylene Pipe

Q. AASHTO PP 63: Pipe Joint Selection for Highway Culvert and Storm Drains

R. AASHTO LRFD Bridge Construction Specifications

S. ASTM A 849: Post-Applied Coatings, Pavings, and Linings for Corrugated Steel Sewer and Drainage Pipe

T. ASTM C 443: Joints for Concrete Pipe and Manholes, Using Rubber Gaskets

U. ASTM D 1056: Flexible Cellular Materials—Sponge or Expanded Rubber

V. ASTM D 1784: Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds

W. ASTM D 3212: Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

X. ASTM D 3350: Polyethylene Plastics Pipe and Fittings Materials

Y. ASTM F 477: Elastomeric Seals (Gaskets) for Joining Plastic Pipe

Z. ASTM F 949: Poly(Vinyl Chloride) (PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings

AA. ASTM F 2562: Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage

BB. ASTM F 2881: Polypropylene Pipe

CC. National Transportation Product Evaluation Program (NTPEP)

DD. Occupation Safety and Health Administration (OSHA)

EE. UDOT Minimum Sampling and Testing Requirements

FF. UDOT Quality Management Plan 505

1.4 DEFINITIONS

A. The following definitions apply to this Section and the DG Series Standard Drawings.
   1. Backfill – Material used to fill the trench or excavation, exclusive of bedding material.
   2. Bedding Material – Material on which a pipe is supported.
   3. Cover – The vertical dimension above the crown to the finished fill elevation or pavement surface.
   4. Crown – The top or highest point of a pipe.
   5. Culvert – A pipe, open on both ends, that conveys surface runoff through an embankment.
   6. Distortion – A deviation from a pipe's original shape due to earth pressure or surface loads.
   7. Down Drain – A pipe that is connected to a drainage structure that drains vertically down to a surface below.
   8. Drainage pipe – A pipe that conveys water regardless of shape and material type such as culverts, irrigation pipes, and storm drains.
   9. End Section – A structure made of steel or concrete, attached to the ends of a pipe to retain the embankment and provide anchorage.
   10. Foundation – The natural ground or prepared base.

11. Haunch – The area of backfill material placed under the pipe, between the spring line and the bottom of the pipe.
12. Headwall – A concrete wall placed at the end of a pipe to serve one or more of the following purposes:
    a. Protect embankment fill from scour or undermining
    b. Increase hydraulic efficiency
    c. Alter the direction of flow
    d. Anchor the pipe
    e. Provide needed structural support
13. Invert – The floor, bottom, or lowest part of the internal cross section of a pipe.
14. Irrigation Pipe – A pipe designed to convey seasonal irrigation water.
15. NASSCO – National Association of Sewer Service Companies.
16. NHS – National Highway System.
17. Nominal Diameter – The inside diameter of the pipe as specified in the plans.
18. NTPEP – National Transportation Product Evaluation Program
19. Pipe Corrosion Classifications:
    a. Class A – Pipe used in mostly non-reactive soils that requires no special materials, treatments, or coatings.
    b. Class B – Pipe used in moderately reactive and corrosive soils.
    c. Class C – Pipe used in soils that are highly reactive and corrosive.
    d. Class D – Untreated structural plate pipe used in mostly non-reactive and non-corrosive soils.
    e. Class E – Structural plate pipe used in highly reactive and corrosive soils.
20. Pipe Interior Roughness:
    a. Corrugated – Interior surface that is formed into a series of alternating crests and valleys with a Manning's "n" coefficient greater than 0.013.
    b. Smooth Lined – Interior surface that is essentially smooth, with a Manning's "n" coefficient less than or equal to 0.013.
21. Pipe Sample Unit – The length of pipe from inlet to outlet or from drainage structure to drainage structure.
22. Rise – The maximum vertical dimension of a pipe arch.
23. Slope drain – A pipe that is placed along the face of a cut or fill slope.
24. Span – The maximum horizontal dimension of a pipe arch.
25. Spring Line – The location of the maximum horizontal dimension of a pipe.
26. Storm Drain – A pipe that conveys surface drainage from one drainage structure to another or an outfall.

27. Working Drawings – Drawings produced by the Contractor that supplement the contract drawings to provide information not included in the contract documents but that are required to fabricate, erect, transport or temporarily support the structure or structural elements in the completion of the work.
    a. Approval of Working Drawings - Acceptance by the Department for use on the project.

1.5 SUBMITTALS

A. Manufacturer's Certificate of Compliance for the following:
    1. Material, structural, and coating according to requirements of Table 5.
    2. Pipe joints according to AASHTO PP 63. Refer to this Section, article 2.2.
    3. Concrete pipe manufacturer is prequalified according to UDOT Quality Management Plan 505, Precast/Prestressed Concrete Structures.
    4. Thermoplastic pipe manufacturer is compliant with the AASHTO NTPEP for the diameter of pipe specified in the plans.

B. Manufacturer's installation instructions for each type of pipe used and any incidental materials required for installation.

C. NASSCO pipe inspection certification.

D. Inspection reports. Refer to this Section, article 1.6.

E. Installation plan and working drawings for structural plate pipe. Refer to this Section, article 2.1 paragraph E.
    1. Working drawings must be sealed by a Professional Engineer (PE) or Professional Structural Engineer (SE) licensed in the State of Utah.

F. Repair plan when required according to this Section, article 1.6 paragraph D.

1.6 ACCEPTANCE

A. General

1. Inspect pipes after installation and placement of backfill according to Table 1 and Table 2.

Table 1

Roadway Functional Classification	Percent of Pipes to Inspect*
Interstate Freeways, NHS Highways and Arterials	100
Collectors and Local Roads	50

* Indicated in the project plans

Table 2

Pipe Testing Requirements				
Pipe Size	Visual		Deflection*	
	Manual	Remote	Manual	Mandrel**
≤ 48–inch dia.		X		X
> 48–inch dia.	X		X	

* Deflection testing is required for circular metal and thermoplastic pipe only

** A manual inspection or other method may be performed in place of a mandrel inspection with the approval of the Engineer

2. The Engineer will determine which pipe sample units to inspect when the percentage of pipes to inspect is less than 100 percent.
   a. Inspect additional pipe sample units with apparent defects or as directed by the engineer.
      1) Repair or replacement will be at the contractor's expense if pipe does not meet the acceptance criteria in this article.
      2) The Department will pay for the cost of additional inspection if pipe meets the acceptance criteria in this article.
3. Perform inspections so that pipe sample units and required repairs are accepted by the Engineer before placing pavement or finished grade. Exceptions to this requirement are at the discretion of the Engineer.

4. The Department will not make final payment for a pipe installation until the pipe has been inspected and accepted according to this article.
    a. Refer to Section 01282 regarding progress payments and payment for material on hand.
    b. Protect all pipe from damage throughout the duration of the project.
5. No inspection is required for any slope drain or down drain. No inspection is required for a pipe extension or pipe sample unit that is less than 20 ft long.
6. Clean and flush the pipe with water immediately before the inspection.
    a. Remove all material or debris from pipes.
    b. Do not discharge debris into other pipes, structures, or drainage ditches.
7. Submit an inspection report to the Engineer for each pipe sample unit as specified in this article for remote and manual inspections within five calendar days of completing inspection.
    a. The Engineer will determine acceptance within seven calendar days of receipt of complete inspection reports.
8. Notify the Engineer at least 24 hours before performing a mandrel inspection or a manual inspection of a pipe.

B. Remote Inspection
1. Perform remote inspection for pipes with a nominal diameter less than 48 inches using closed-circuit television (CCTV) video inspection and a mandrel test as outlined below.
2. Remote video inspection operator is to have a current NASSCO certification.
3. CCTV Equipment: Record video using a crawler mounted camera capable of panning and tilting to a 90 degree angle with the axis of the pipe and rotating 360 degrees.
4. CCTV Inspection: Produce a picture quality that satisfies the Engineer. Repeat unsatisfactory inspections at no additional cost to the Department. Use the video image to determine horizontal and vertical alignment deviations, joints gaps, and pipe damage.
    a. Center the camera head in the pipe both vertically and horizontally and use lighting sufficient to allow a clear picture of the entire periphery of the pipe.
    b. Do not move the crawler through the pipe at a speed greater than 30 ft/minute. Stop the crawler and video the entire circumference at each joint. Stop the crawler and zoom when necessary to video defects.

c. Video image must be continuously illuminated, clear, focused, and free from roll, static, or other image distortion qualities that may prevent the reviewer from evaluating the pipe's condition.
    1) Calibrate the video's lighting and focus to view the internal markings within the pipe.
d. Superimpose the pipe identification and location within the pipe on the video recording.
e. Document all defects with captions in the video.
    1) Note the defect at each location and provide a still image of the defective area in the inspection report.
    2) Document all cracks and joint separations.

5. Mandrel Inspection: Used for circular metal and thermoplastic pipes only.
    a. Perform the mandrel inspection for pipes in the presence of the Engineer or representative according to Table 2.
    b. Provide a mandrel that meets the following requirements to determine pipe deflection:
        1) The diameter of the mandrel, whether it is fixed or variable size, must be verified with a proving ring or other method according to manufacturer's guidelines.
        2) Contains at least nine equally spaced runners (40 degree angles).
        3) Length not less than the diameter.
    c. Provide a proving ring to verify mandrel size when requested by the Engineer.
    d. Mandrel Inspection Procedure
        1) Pull a mandrel that is 5 percent less than the pipe nominal inside diameter.
        2) The inspection is complete if the mandrel passes through at 5 percent.
        3) Accomplish the following before completing the inspection if the mandrel cannot pass through:
            a) Record the maximum distance achieved from the inlet side.
            b) Remove the mandrel and continue the inspection from the outlet end of the pipe toward the inlet end. Record the maximum distance achieved from the outlet side.
            c) Repeat with the mandrel set to 7.5 percent less than the pipe nominal inside diameter.

6. Prepare an Inspection Report and include:
    a. A video recording of each pipe inspection in a digital format.
    b. The project number, date, and time of the inspection for each pipe inspection, the pipe identification used in the plan set, and type and size of pipe.

c. Written and still image documentation of locations where alignment deviations, joint gaps, pipe damage, and any other deficiencies were observed.

d. The size of the mandrel and whether or not it was successfully pulled through the pipe.

1) Mandrel size and maximum distance pulled from each side of the pipe if the mandrel was not able to pass.

C. Manual Inspection

1. Perform manual inspection for pipes in the presence of the Engineer or representative according to Table 2.

a. Follow OSHA requirements for inspecting confined entry spaces.

2. Perform the following inspection:

a. Deflection (for circular metal and thermoplastic pipes only). Perform a mandrel inspection or take the following measurements every 10 ft along the length of the pipe to the nearest ¼ inch:

1) Vertically from the crown to invert

2) Horizontally at the spring line

3) Two measurements, each diagonally at 45 degrees to the pipe springline

b. Cracks – Measure observed cracks using a feeler gauge capable of measuring 0.01 inch. Other measuring devices may be used when approved by the Engineer.

c. Gaps – Measure and record the widest gap at each joint to the nearest ¼ inch.

3. Inspection Report

a. Include the project number, date and time of the inspection, the pipe identification used in the plan set, and type and size of pipe.

1) Document inspection results for deflection and observations of alignment deviations, joint gaps, and pipe damage. Include the type and location along the pipe for each measurement along with still images for each observation.

D. Acceptance

1. Each pipe sample unit is accepted after verifying that the allowable tolerances for the following requirements have been met:

a. Horizontal and vertical alignment deviations

b. Deflection

c. Joints gaps

d. Damage

2. Repair or replace damaged or improperly installed pipes at no cost to the Department.

3. Evaluate each pipe that does not meet the acceptance criteria described in this article and recommend appropriate action. Submit documentation that has been signed and sealed by a Professional Engineer (P.E.), competent in the structural design of pipe material being evaluated, either:
   a. No repair is required for the pipe to function and maintain its structural integrity over its design life.
   b. A repair is required to allow the pipe to function and maintain its structural integrity over its design life.
      1) Submit repair plans to the Engineer, obtain written approval from the Engineer before performing work.
      2) Inspect the repaired portion of the pipe and any feature potentially affected by the repair.
4. Alignment
   a. Evaluate each pipe that exceeds the alignment tolerances shown in Table 3 and recommend appropriate action.
   b. Evaluate each pipe that has areas where ponding occurs and recommend appropriate action.

Table 3

Installation Alignment Tolerances		
Design Grade	**Horizontal**	**Vertical***
		inch/100 ft
> 1%	Horizontal joint deflections not to exceed industry standards	1½
0.5% - 1%		1
< 0.5%		½

* Increase tolerance by 50 percent for culverts.

5. Distortion – Based on the percentage change from the nominal diameter.
   a. Evaluate each pipe with a distortion between 5 percent and 7.5 percent and recommend appropriate action.
   b. Remove and replace each pipe with a distortion greater than 7.5 percent.

6. Joint Gaps
   a. Evaluate each pipe joint with a gap exceeding the tolerance specified in Table 4 and recommend appropriate action according to manufacturer's recommendations.

Table 4

Joint Gap Tolerances	
Nominal Diameter (inches)	**Joint Gap (inches)**
12 to 36	0.75
42 to 48	1.00
54 to 90	1.25
96 to 144	1.75

   b. Repair joints showing visible signs of soil or water infiltration according to the approved plans submitted.
7. Damage – Fractures, cracks, or other defects passing through the walls or joints sufficient to impair strength, durability, function or product serviceability. Evaluate damage and recommend appropriate action according to this Section, Article 1.6 paragraph D.3.
   a. Metal pipe – Repair damaged, delaminated, or scaled coating on metal pipe according to the approved plans submitted.
   b. Plastic pipe – Evaluate pipes that show the following signs:
      1) Damaged pipe cross section such as dents, cuts, cracks, breaks, fractures, or deformations.
   c. Reinforced concrete pipe
      1) Evaluate pipes that show the following:
         a) Cracks between 0.01 inch and 0.10 inch
         b) Damaged pipe cross section such as breaks or fractures
         c) Broken bells or spigots
      2) Remove and replace pipe that show the following:
         a) Exposed reinforcing steel
         b) Imperfect proportioning mixing and casting such as honeycomb or open texture
      3) Repair or replace reinforced concrete pipe if cracks are greater than 0.10 inch.

PART 2 PRODUCTS

2.1 PIPE

A. General – pipes are identified according to interior roughness, joint type, diameter or span and rise, and corrosion class.

1. Provide the type of pipe specified in the plans with the following exceptions:
   a. Provide any pipe type that meets the interior roughness requirements of Table 5 and the specified pipe joint rating and corrosion classification when no material type is specified in the plans.
   b. Substitutions to a higher pipe corrosion classification are allowed.
2. Do not change the material type, strength, or thickness of the pipe along an installation unless approved in writing by the Engineer.
3. Use the cover over the pipe to determine the strength or thickness. Refer to the DG Series Standard Drawings.
4. Internally label each section of pipe with the manufacturer's name or trademark, nominal diameter, and manufacture date. Include the pipe class, gauge, and coating according to the pipe material type.
   a. Place the pipe so that the location of the label is above the spring line of the pipe.

Table 5

AASHTO/ASTM Specifications for Pipe					
Interior Roughness and Material Type	**Corrosion Class**				
	A	**B**	**C**	**D**	**E**
Corrugated					
Corrugated steel pipe and pipe arch	M 36	M 36 Polymeric Coating (outside only) M 245 & M 246 ASTM A 849 or Aluminized Type II Steel M 274	M 36 Polymeric Coating (both sides) M 245 & M 246 ASTM A 849	N/A	N/A
Corrugated aluminum pipe and pipe arch	M 196 M 197	M 196 M 197	M 196 M 197	N/A	N/A
Corrugated polyethylene (HDPE) pipe	M 294 ASTM D 3350	M 294 ASTM D 3350	M 294 ASTM D 3350	N/A	N/A
Smooth Lined					
Smooth lined corrugated polyethylene (HDPE) pipe	M 294 ASTM D 3350	M 294 ASTM D 3350	M 294 ASTM D 3350	N/A	N/A
Smooth lined polyvinyl chloride (PVC) pipe	M 304 & ASTM F 949 Cell Class # 12454C ASTM D 1784	M 304 & ASTM F 949 Cell Class # 12454C ASTM D 1784	M 304 & ASTM F 949 Cell Class # 12454C ASTM D 1784	N/A	N/A
Smooth lined polypropylene pipe	M 330 ASTM F 2881	M 330 ASTM F 2881	M 330 ASTM F 2881	N/A	N/A
Steel reinforced thermoplastic ribbed pipe	MP 20 ASTM F 2562	MP 20 ASTM F 2562	MP 20 ASTM F 2562	N/A	N/A
Spiral rib steel pipe and pipe arch	M 36	M 36 Polymeric Coating (outside only) M 245 & M 246, ASTM A 849 or Aluminized Type II Steel M 274	M 36 Polymeric Coating (both sides) M 245 & M 246 ASTM A 849	N/A	N/A
Spiral rib aluminum pipe and pipe arch	M 196 M 197	M 196 M 197	M 196 M 197	N/A	N/A
Reinforced concrete pipe	M 170 Type II Cement	M 170 Type II Cement	M 170 Type V Cement	N/A	N/A
Elliptical reinforced concrete pipe	M 207 Type II Cement	M 207 Type II Cement	M 207 Type V Cement	N/A	N/A

AASHTO/ASTM Specifications for Structural Plate Pipe					
Interior Roughness and Material Type	**Corrosion Class**				
	A	**B**	**C**	**D**	**E**
Corrugated					
Structural steel plate pipe and pipe arch	N/A	N/A	N/A	M 167	M 167 M 243
Aluminum alloy structural plate pipe and pipe arch	N/A	N/A	N/A	M 219	M 219

B. Reinforced Concrete Pipe
   1. Concrete pipe manufacturer is pre-qualified according to UDOT QMP 505.
   2. Do not cast lift holes except for circular pipe that has a nominal diameter greater than 54 inches or any elliptical pipe.
      a. Fill lift holes with a plug supplied by the manufacturer or with non-shrink grout according to the pipe manufacturer's recommendations.

C. Metal Pipe
   1. Do not allow pipes of different types of metal to contact each other.
   2. Use matching materials to make direct extensions of existing pipes.
   3. Do not use aluminum pipe when a paved invert is required unless protective measures are taken.
   4. Class B Aluminized Type II Steel is acceptable only when the minimum metal thickness is 16 gauge and where pH is greater than 5.5 and less than 8.5 and soil resistivity is greater than 1,500 ohm-centimeters.

D. Thermoplastic Pipe
   1. HDPE pipe – Do not use greater than 60 inch diameter.
      a. HDPE pipe manufacturer is compliant with NTPEP.
   2. PVC pipe – Do not use greater than 36 inch diameter.
   3. Do not use in permanent above ground installations unless approved in writing by the Engineer.

E. Structural Plate Pipe
   1. Spray or brush-coat all areas of aluminum pipe contacting concrete with an asphalt mastic or tar based material at least 0.05 inch thick. Refer to AASHTO M 243.
   2. Assembly
      a. Provide the Engineer an installation plan and working drawings showing the position of each plate and the assembly order.

b. Do not begin work until working drawings have been approved.
   1) The Department will review working drawings for general conformance with the design concept and compliance with the contract documents.
   2) Approval does not relieve the Contractor from responsibility for errors, correctness of details, conformance to the contract, and the successful completion of the work.
c. Follow the manufacturer's instructions.

F. Steel Reinforced Thermoplastic Ribbed Pipe
   1. Do not use greater than 60 inch diameter.
   2. Do not use in permanent above ground installations unless approved in writing by the Engineer.

G. Polypropylene Pipe
   1. Do not use greater than 60 inch diameter.
   2. Do not use in permanent above ground installations, unless approved in writing by the Engineer.

2.2 JOINTS OR COUPLING BANDS

A. General
   1. Supply pipe joints that have been evaluated according to AASHTO PP 63.
      a. Culverts – Meet the silt-tight joint requirements of at least 2 psi for all culverts except where project plans or specifications require a higher pressure rating.
      b. Storm Drains and Irrigation Pipes – Meet the leak resistant joint requirements of at least 10.8 psi for all storm drains and irrigation pipes except where project plans or specifications require a higher pressure rating.
   2. Comply with manufacturer's recommendations for connecting pipes and for connecting pipe to end sections, concrete headwalls, catch basins, and similar structures.
   3. Elliptical, arched, and structural plate pipes are not pressure rated.

B. Reinforced Concrete Pipe
   1. Use a rubber gasket joint that meets the requirements of ASTM C 443 for circular reinforced concrete pipe.
   2. Use a mastic joint sealant that meets the requirements of AASHTO M 198 for elliptical reinforced concrete pipe.

C. Metal Pipe

1. Use an external corrugated connecting band with a neoprene sleeve/flat gasket. Refer to ASTM D 1056.
   a. Continuous one piece construction closed-cell neoprene, skin on all sides.
   b. Minimum thickness of ⅜ inch and no less than the width of the connection band used.
2. Re-roll ends of helically corrugated pipe to form at least two full annular corrugations each before being joined.
3. Refer to AASHTO LRFD Bridge Construction Specifications and AASHTO M 36 or M 245 with the following modifications for external corrugated connecting bands:
   a. Use bands of the same or better corrosion class as the pipe. Maintain a minimum thickness of 16 gauge but not less than a 2 gauge step lighter than the pipe gauge.
   b. Use bands with projections (dimple bands) only in extension of existing pipes or a field cut where annular corrugations do not exist.

D. Thermoplastic Pipe

1. Use bell and spigot joints with an elastomeric rubber seal that meets the requirements of ASTM F 477.

E Steel Reinforced Thermoplastic Ribbed Pipe

1. Use pipe joints that meet the requirements of ASTM D 3212.

2.3 PIPE BEDDING AND BACKFILL

A. Refer to Section 02056.

PART 3 EXECUTION

3.1 PREPARATION

A. Excavation

1. Refer to Section 02317.
2. Keep trenches free from water.

B. Foundation

1. Grade and prepare the bottom of the trench to provide a firm and uniform bearing throughout the entire length of the pipe. Do not use blocking to bring the pipe to grade.
2. Shape the foundation to have recesses to fit any projecting hubs or bells.

3.2 INSTALLATION

A. Refer to DG Series Standard Drawings, Standard Specifications, AASHTO LRFD Bridge Construction Specifications, and manufacturer's installation requirements for installing all types of pipe. Adhere to the more stringent requirement if there is a conflict between any of the above installation requirements.

B. Pipe Bedding
   1. Refer to Section 02056 and DG Series Standard Drawings for bedding requirements.
   2. Place the bottom of the pipe in contact with the bedding throughout its full length.
   3. Shape the bedding to have recesses to fit any projecting hubs or bells.

C. Pipe Placement
   1. Check pipe for alignment and grade when joining the sections.
   2. Remove and relay or replace pipe that is out of alignment, settled, or damaged.
   3. Verify joints are assembled properly.

D. Pipe Backfill
   1. Refer to Section 02056 for backfill requirements.
   2. Test frequency according to UDOT Minimum Sampling and Testing Requirements and Section 02056.

E. Provide adequate cover and protect pipe during project construction.

END OF SECTION

Supplemental Specification
2012 Standard Specification Book

SECTION 02633M

CONCRETE DRAINAGE STRUCTURES

Delete Article 2.7 and replace with the following:

2.7 Not used

Add the following to Article 3.2, paragraph A1:

a. Cure wet cast members according to Section 03390.

Add the following to Article 3.2, paragraph B1:

a. Cure wet cast members according to Section 03390.

Add the following to Article 3.2, paragraph C2:

b. Cure wet cast members according to Section 03390.

Delete Article 3.2, paragraph C4 and replace with the following:

4. Do not ship precast units until after 28-day compressive strength has been attained.
   a. Protect the unit from any damage. Replace unacceptable units at no additional cost to the Department.

Add the following to Article 3.2:

D. Cast-in-place concrete drainage structures.
   1. Refer to CB and DB Series Standard Drawings.
   2. Construct according to Section 03310.
   3. Cure according to Section 03390.

Supplemental Specification
2012 Standard Specification Book

SECTION 02645M

PRECAST CONCRETE BOX AND THREE-SIDED CULVERT STRUCTURES

Delete Article 1.3, paragraph N and replace with the following:

N. UDOT Structures Quality Control/Quality Assurance (QC/QA) Procedures

Delete Article 1.3, paragraph P and replace with the following:

P. UDOT Bridge Management Manual

Delete Article 1.5, paragraph A.3.c and replace with the following:

c. Certify that engineering calculations have been checked according to the UDOT Structures QC/QA Procedures.

Delete Article 2.9, paragraph H and replace with the following:

H. Load rate all precast concrete box culverts and precast concrete three-sided structures with spans greater than 20 ft according to the AASHTO Manual for Bridge Evaluation and the UDOT Bridge Management Manual.
   1. Measure span length along roadway centerline.

February 3, 2010

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

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 02741: Hot Mix Asphalt
D. Section 02742S: Project Specific Surfacing Requirements
E. Section 02748: Prime Coat/Tack Coat

1.3 REFERENCES Not Used

1.4 DEFINITIONS Not Used

1.5 SUBMITTALS Not Used

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 02741 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 inches 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. The minimum patch width is 3 feet in all directions. If rotomilling is used, the mill must be at least 6 feet wide and a minimum patch size of 6 feet 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 inches 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-inch 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-I15-7(309)318
Pin # 11092

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 13.0% - 14.0% for ¾ inch 14.0% - 15.0% for ½ inch 15.0% - 16.0% for ⅜ inch
Hamburg Wheel Tracker UDOT Materials MOI 990	75 Design Gyrations and Greater Maximum 10 mm impression at 20,000 passes. Less than 75 Design Gyrations Maximum 10 mm impression at 10,000 passes.

June 30, 2015

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

SECTION 02742S

PROJECT SPECIFIC SURFACING REQUIREMENTS

Add Section 02742:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Required PG Asphalt or emulsion

B. Number of gyrations to use for Superpave Mix Design

1.2 RELATED SECTIONS **Not Used**

1.3 REFERENCES **Not Used**

1.4 DEFINITIONS **Not Used**

1.5 SUBMITTALS **Not Used**

PART 2 PRODUCTS

2.1 MIXES

A. Hot Mix Asphalt (HMA): (Refer to bid item for size)
1. PG __64-34____ Asphalt
2. $N_{initial}$ ___7_____ N_{design} _____75_____ N_{final} ____115_____

B. Bonded Wearing Course
1. Gradation Type: _B_____
2. Asphalt Binder: PG __64-34_____
3. Minimum Thickness: __1”____
4. PMEM Application Rate: _0.19 gal/ sq yd__

PART 3 EXECUTION **Not used**

END OF SECTION

November 14, 2012

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

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.

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 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.

October 5, 2015

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

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 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.

July 30, 2015

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

SECTION 02769S

GRINDING FOR GROOVED-IN PAVEMENT MARKINGS

Add Section 02769:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Procedures for the grinding of pavement markings for the installation of Grooved-In Pavement Marking Paint.

B. The grinding provides that the markings are below the surface to prevent damage by snowplows or other traffic that might damage or cause the paint to be lifted.

1.2 RELATED SECTIONS

A. Section 02765S: Pavement Marking Paint

B. Section 02768: Pavement Marking Materials

1.3 REFERENCES **Not Used**

1.4 DEFINITIONS

A. Non-Contrast Striping – striping that is applied over bare pavement without the use of black accents.

B. Contrast Striping – broken lines, lane drop lines, and dotted lines that are applied over or in conjunction with an 8 inch black line.

C. Contrasting options
   1. Continuous: created by applying pavement markings over an 8 inch solid black line.
   2. Background Option 1: Created by applying colored markings simultaneously with a 2 inch to 3 inch black line on each side of the marking for paint. A 1.5 inch minimum black is acceptable for tape.

3. Background: Option 2: Created by applying colored markings over an 8 inch broken black line. The black line extends 6 inches past the overlying marking on each end.

1.5 SUBMITTALS Not Used

PART 2 PRODUCTS

2.1 EQUIPMENT

A. Provide and operate a grooving machine, grinder, or saw that is:
   1, Capable of grinding or cutting to the required depth and cross section.
   2. Self-propelled with sufficient power, traction, and stability to maintain an accurate depth of cut.

B. Do not allow walk behind machines for longitudinal lines.

C. Dry grind only. Do not use water in the grinding process unless approved in writing by the Engineer.

D. Use appropriate cleaning equipment capable of sweeping and picking up millings during and after grinding operations.

2.2 PAVEMENT MARKING PAINT

A. Refer to Section 02765S.

PART 3 EXECUTION

3.1 PREPARATION

A. Establish line control as specified in Section 02765S or Section 02768 whichever is applicable prior to grinding.

3.2 GRINDING

A. Grind pavement along lane lines or in pavement message areas to specified depth, width, length.

B. Depth.
   1. 140 mils minimum for contrast striping or messages.
   2. 120 mils minimum non-contrast striping and messages.

3. Use manufacturers recommended depth for non-painted messages.

C. Width
1. 8-9 inches for 8 inch lines or contrast striping.
2. 5.5-6 inches for 4 inch non-contrast striping.
3. As necessary to apply messages.

D. Length
1. Match line length and spacing as specified in standard drawings for broken lines, lane drop lines, and dotted lines (non-contrast or contrast).
2. Grind as continuous groove for solid lines.

3.3 CLEANING

A. Remove and clean all millings from the surface as work progresses.
1. Milled material is the property of the Contractor.

B. Thoroughly clean grooved areas with an adequate compressed air acceptable by the Engineer before applying pavement-marking paint.

C. Remove all remaining pavement markings that are to be contrasted prior to application of black paint. Do not apply black contrast paint over any existing markings.

3.4 APPLYING PAVEMENT MARKING PAINT

A. Apply black paint first or in conjunction for contrast striping. Do not use glass beads in black contrast paint.

B. Apply white and yellow lines in groove. Refer to Section 02765S.

C. Black and white lines may be applied in a single application if the appropriate application rates can be achieved, in which case Background Option 1 would be used.

END OF SECTION

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

March 22, 2016

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

SECTION 02814S

REESTABLISH EXISTING LANDSCAPE AND IRRIGATION SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Restore existing landscaping that is impacted by work on this project.
B. Restore existing irrigation systems that are impacted by work on this project.

1.2 RELATED SECTIONS

A. Section 02812 – Pressurized Irrigation System
B. Section 02911 – Wood Fiber Mulch
C. Section 02912 – Topsoil
D. Section 02922 – Seed Turf Seed, and Turf Sod
E. Section 02932 – Trees, Shrubs, and Groundcovers

1.3 REFERENCES

A. See related sections.

1.4 DEFINITIONS

A. See related sections.

1.5 SUBMITTALS

A. See related sections.
B. Product Data: Manufacturer's technical data and installation instructions for all new materials.
C. Existing Conditions Drawings: Plan layout and details illustrating existing landscape materials, irrigation mainline and lateral line locations, size, and assembly. Indicate number and type all materials that are to be removed

and re-established.

D. Irrigation As-Built Drawings: Red-lined plan layout and details illustrating mainline and lateral lines location, size, and assembly. Include type and coverage of heads, type of valves, controllers, fittings and all accessories that have been re-established. Indicate on the drawings which components are new and which are salvaged. Provide a copy for property owner records.

E. Operating and installation instructions included with new materials for property owner records.

PART 2 PRODUCTS

2.1 EXISTING PRODUCTS

A. Salvage existing landscape materials for relocation. If the materials are damaged in the process of being salvaged or if the contractor is not able to relocate the material while maintaining the pre-construction condition, the material will be replaced with new material of equal color, form and value.

1. Existing landscape materials include but are not limited to the following:
   a. Plant material other than trees & shrubs identified on the plans.
   b. Rock/wood mulch
   c. Topsoil
   d. Landscape Edging (concrete, steel and plastic)
   e. Decorative lighting
   f. Decorative stones
   g. Planter boxes or pots
   h. Landscape walls
2. Condition of all materials will be approved by the UDOT Region Landscape Architect prior to relocation.
3. Plant material will be replaced “in kind” or as approved by the Region Landscape Architect.

B. Salvage existing irrigation system components for relocation. If the components are damaged in the process of being salvaged or if they are not capable of providing a functional system, replace them with new components of same make and model or approved equal.

1. Do not salvage existing pipe. All pipe to be replaced will be new.

2.2 MATERIALS

A. If construction within the right-of-way impacts existing landscape materials and\or an irrigation system, notify the owner that their landscaping and\or irrigation system will be impacted and coordinate how the work will be accomplished and when the work is to begin so that the owners can be

prepared for restricted access to the landscape area and\or the irrigation system to be turned off.

B. Document existing condition of landscape materials with photos or video prior to disturbance.

3.3 INSTALLATION

A. Minimize disturbance to the owner's existing landscaping and irrigation system. Coordinate scheduling of restoration to minimize restricted access to the landscape area and downtime of their irrigation system.

B. Landscape Materials:
   1. Coordinate approval of materials to be relocated with Region Landscape Architect.
   2. Remove, relocate, repair, and install all landscape materials as required to fully restore landscape area.

C. Irrigation System:
   1. Excavate, relocate, repair, and install irrigation pipes, heads, valves and wires to provide a fully functional irrigation system with irrigation head spacing that provides head to head coverage and minimizes overspray onto sidewalks and roads.
   2. Backfill and settle trenches and provide finish grading.

3.4 FIELD QUALITY CONTROL

A. Obtain approval of the final installation of all landscape materials and irrigation system components from the region landscape architect.

B. Obtain a signed letter of acceptance from the property owner upon completion of the work on the landscape area and\or irrigation system.

END OF SECTION

March 22, 2016

SPECIAL PROVISION

PROJECT #F-I15-7(309)318
PIN #11092

SECTION 02817S

BOLLARDS

Add Section 02817:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Removable Bollards and Bollards requirements and installation

1.2 RELATED SECTIONS

A. Section 03055: Portland Cement Concrete

PART 2 PRODUCTS

2.1 BOLLARDS

A. See DT sheet for size and material.

B. Use high gloss yellow paint.

2.2 REMOVABLE BOLLARDS

A. See DT sheet for size and material.

B. Clearance when removed is 3 1/4” or less from ground level.

C. Use a standard lock to secure to base.

D. Use base paint red or gray oxide rust inhibiting primer.

E. Use high gloss yellow paint.

PART 3 EXECUTION

3.1 REMOVABLE BOLLARDS

A. Site Considerations:

1. Complete grading requirements prior to installation of Removable Bollard.

B. Obtain approval from the Engineer before placing the material.

C. Install according to the manufacturer's recommendations.

END OF SECTION

Supplemental Specification
2012 Standard Specification Book

SECTION 02843M

CRASH CUSHIONS AND BARRIER END TREATMENTS

Delete Article 3.1, paragraph A2b and replace with the following:

b. Crash Cushion Type C and End Treatment Types F, G, and H.
   1) Create block out hole by forming, saw cutting, or other similar method required when installing ground mounted system into asphalt or concrete.
   2) Refer to BA 4D Series Standard Drawings.

Supplemental Specification
2012 Standard Specification Book

SECTION 02844M

CONCRETE BARRIER

Delete Article 1.2, paragraph E - J and replace with the following:

E. Section 03056: Self-Consolidating Concrete (SCC)

F. Section 03152: Concrete Joint Control

G. Section 03211: Reinforcing Steel and Welded Wire

H. Section 03310: Structural Concrete

I. Section 03390: Concrete Curing

J. Section 03392: Penetrating Concrete Sealer

K. Section 09981: Concrete Coating

L. Section 13553: ATMS Conduit

Add the following to Article 1.3:

G. ASTM C 1315: Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete

Add the following to Article 2.1:

B. SCC – Refer to Section 03056

Delete Article 2.6, paragraph C and replace with the following:

C. Prevent cracking or damage during handling and storage of precast units. Replace units with cracks greater than .007 inch or damaged precast units at no additional cost to the Department.

Delete Article 2.8 and replace with the following:

2.8 SURFACE SEALING MATERIAL

A. Penetrating concrete sealer – Refer to Section 03392.

B. Concrete coating – Refer to Section 09981.
   1. Use only when colored concrete coating is specified.
   2. Coating system includes water repellent and two coats of tinted concrete sealer.

Add the following to Article 3.2:

D. Curing – Refer to Section 03390.

Delete Article 3.3, paragraph E and replace with the following:

E. Mark barrier at beginning, end, and 1,000 ft intervals with 1½ inch numbers indicating the date of casting. Impress ¼ inch deep into the front face of barrier, 6 inches below the top.

Delete Article 3.3, paragraph G and replace with the following:

G. Seal concrete surfaces with a penetrating concrete sealer or a concrete coating.
   1. Penetrating concrete sealer
      a. Use when a colored concrete coating is not specified.
      b. Not required when curing compound meets ASTM C 1315. Refer to Section 03390.
      c. Refer to Section 03392.
   2. Concrete Coating
      a. Use when a colored concrete coating is specified.
      b. Refer to Section 09981.

September 23, 2016

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

SECTION 02871S

SOIL NAIL RETAINING WALLS

Add Section 02871.

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Requirements for the design and construction of permanent soil nail retaining walls.

B. Labor, materials, and equipment necessary to complete the work.

C. Monitoring and control of deformations of the soil nail wall, surrounding ground, utilities, and other facilities existing at the time of construction.

D. Requirements for verification and proof tests including, load schedules, expected soil grout bond strengths, frequency of tests, and testing equipment.

1.2 RELATED SECTIONS

A. Section 02342S: Shotcrete

B. Section 03055: Portland Cement Concrete

C. Section 03211: Reinforcing Steel

E. Section 05120: Structural Steel

1.3 REFERENCES

A. AASHTO M 31: Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

B. AASHTO M 85: Portland Cement

C. AASHTO M 111: Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

D. AASHTO M 252: Standard Specification for Corrugated Polyethylene Drainage Pipe

E. AASHTO T 106: Compressive Strength of Hydraulic Cement Mortar

F. AASHTO M 270: Carbon and High Strength Low Alloy Structural Steel, Shapes, Plates and Bars and Quenched-and Tempered Alloy Structural Steel Plates for Bridges

G. ACI 506.2: Specification for Shotcrete

H. ASTM A 615 Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.

I. ASTM A 722: Standard Specification for Uncoated High-Strength Steel Bars for Prestressing Concrete

J. ASTM A 775: Standard Specification for Epoxy-Coated Steel Reinforcing Bars

K. ASTM C109: Test Method for Compressive Strength of Hydraulic Cement Mortars

L. ASTM C33: Standard Specification for Concrete Aggregates

M. ASTM C 642: Density, Absorption, and Voids in Hardened Concrete

N. ASTM D1621: Standard Test Method for Compressive Properties of Rigid Cellular Plastics

O. ASTM D1784: Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds

P. ASTM D1785: Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120

Q. ASTM D3034: Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings

R. ASTM 4285 Standard Test Method for Indicating Oil or Water in Compressed Air

S. ASTM D 4380: Standard Test Method for Density of Bentonitic Slurries

T. ASTM D4716: Standard Test Method for Determining the (In-plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head

U. FHWA Geotechnical Engineering Circular No. 7: Soil Nail Walls Reference Manual, Report No. FHWA-NHI-14-007, February 2015 (FHWA GEC7)

1.4 DEFINITIONS

A. Soil Nail Bar: Generic term referring to a reinforcing bar grouted into a drilled hole installed in the ground.

B. Soil Nail Retaining Wall: An earth-retaining structure built from the top down in existing ground using steel reinforcement grouted into the ground to reinforce the earth adjacent to the excavation with a reinforced shotcrete facing.

C. Soil Nailing Work: Includes, but is not limited to, excavation according to the phasing shown in the Contractor's accepted plans; drilling soil nail holes to the specified length and orientation; providing, placing, and grouting encapsulated or epoxy-coated soil nail bars into the drill holes; testing installed bars; installing wall drainage elements; placing shotcrete reinforcement, applying shotcrete facing over the reinforcement; attaching bearing plates and nuts; conducting soil nail testing; and installing instrumentation.

D. Facing and Wall Drainage Work: Includes, but is not limited to, furnishing all materials and labor necessary for placing and securing geocomposite drainage material, connection pipes, footing drains, weep holes, and horizontal drains, drainage gutter, permanent facing, leveling pads, and connectors, and free-draining granular backfill.

E. Working Drawings: Plans produced by the Contractor that supplement the contract plans 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.
   1. Working drawings do not supersede the contract plans.

F. Approval of Working Drawings: Acceptance by the Department for use on the project. The Department will review working drawings for general conformance with the design concept and compliance with the contract documents. Review and approval do not relieve the Contractor from responsibility for errors, correctness of details, conformance to the contract, and the successful completion of the work.

G. Bird's Beak: The spaces above the bottom elevations of the inclined drill hole openings at the face of the wall after grout placement.

1.5 SUBMITTALS

A. Soil Nail Contractor Qualifications for approval at least 30 days before the planned start of wall excavation. Include the following:
   1. The company name.
   2. List of at least three projects in the last five years demonstrating successful construction of permanent soil nail retaining walls totaling at least 10,000 ft^2 of wall face area and at least 500 permanent soil nails. Include the following for each project:
      a. Project name and location.
      b. Owner's name and current phone number.
      c. A brief description of the scope of work and approximate date of the project completion.
      d. List of any planned subcontractors for design or construction.
   3. List of the following personnel and their experience with permanently anchored or nailed structures:
      a. Supervising Engineer
      b. Drill operators
      c. On-site supervisors assigned to the project.
   4. Use only those individuals meeting experience requirements for this project. Do not substitute for these individuals without written approval.
      a. Owner may suspend work if Contractor substitutes unapproved project personnel for approved personnel.
      b. Contractor is fully liable for all additional costs and schedule impacts resulting from work suspension due to substitution of unapproved personnel.

B. Designer Qualifications for approval at least 30 days before planned start of wall excavation. Include the following:
   1. The company name.
   2. List of at least three projects in the last five years demonstrating successful construction of permanent soil nail retaining walls. Include the following for each project:
      a. Project name and location.
      b. Owner's name and current phone number.
      c. A brief description of the scope of work and approximate date of the project completion.
   3. The name of the Designer's Engineer and professional engineer licensing information

4. Use only those individuals meeting experience requirements for this project. Do not substitute for these individuals without written approval.
    a. Owner may suspend work if Contractor substitutes unapproved project personnel for approved personnel.
    b. Contractor is fully liable for all additional costs and schedule impacts resulting from work suspension due to substitution of unapproved personnel.

C. Written documentation of the shotcrete finisher's and nozzlemen's qualifications including proof of ACI Shotcrete Nozzleman certification for approval at least seven days before beginning wall excavation.

D. Site Survey
1. Provide necessary survey and alignment control for the excavation of each lift, location of drill holes, and verification of limits of soil nail wall construction.
2. Establish a pre-excavation baseline by making not less than one set of readings two weeks prior to soil nail wall excavation.
    a. Survey equipment to be capable of resolving vertical settlements of as little as 0.08 inches and lateral deflections to 0.04 inches.
    b. All readings to reference a fixed point or benchmark that will remain unaffected by excavation or other construction activities.
    c. Continue readings for at least two months following the completion of soil nail wall.
    d. Provide Engineer with a report of the readings within 24 hours of obtaining the readings.

E. Working Drawings
1. Detailed Soil Nail Wall Drawings for approval at least 30 calendar days before the planned start of wall excavation.
    a. Verify the limits of the wall and ground survey data before preparing drawings.
    b. Include the following in the drawings:
        1) Details, dimensions, quantities, ground profiles, utilities, existing structures, and cross-sections necessary to construct the wall.
        2) Specifications for all materials, procedures, and quality control applicable to the construction of the soil nail walls.
        3) Specifications for sacrificial verification nail testing (minimum of two nails per wall) and for proof testing of production nails (minimum of 5 percent of nails, distributed evenly across the horizontal and vertical

extents of the wall face). Include necessary detail drawings for the proposed jacking support, framing, and bracing to be used.

c. Provide a plan view of each wall that identifies the following:
   1) A reference baseline and elevation datum.
   2) The offset from the construction centerline or baseline to the face of the wall at its base at all changes in horizontal alignment.
   3) Beginning and end of wall stations.
   4) Right-of-way and permanent or temporary construction easement limits.
   5) The location of all known active and abandoned existing utilities/structures or other potential interferences.
   6) The centerline of any drainage structure, sewer, or pipe behind, passing through, or passing under or over the wall. Details on how soil nail walls will avoid bridge abutment piles, if applicable.
   7) Limit of longest nails.
   8) Subsurface boring logs (either provided in by the Owner or additional investigations performed by the wall designer) and exploration locations shown on a plan view of the proposed wall alignment with appropriate reference base lines to fix the locations of the explorations relative to the wall.

d. Provide an elevation view of each wall that identifies the following:
   1) The elevation at the top of the wall, at all horizontal and vertical break points, and at least every 10 ft along the wall.
   2) Beginning and end of wall stations.
   3) The distance along the face of the wall to all steps in the wall base.
   4) Wall elevation view showing nail locations and elevations; vertical and horizontal nail spacing; and the location of wall drainage elements and permanent facing expansion/contraction joints (as required) along the wall length.
   5) Existing and finish grade profiles both behind and in front of the wall.

e. Include the following additional information and details:
   1) All necessary cross section(s) to construct the wall
   2) Elevations at the base of the wall and the top of leveling pads for casting CIP facing (if applicable).
   3) Design parameters and applicable codes.

4) General notes for constructing the wall including construction sequencing or other special construction requirements.
5) Horizontal and vertical curve data affecting the wall and wall control points. Match lines or other details to relate wall stationing to centerline stationing.
6) A listing of the summary of quantities on the elevation drawing of each wall showing estimated square feet of wall face areas and other quantities.
7) Soil nail wall typical sections including staged excavation lift elevations, wall and excavation face batter, nail spacing and inclination, nail bar sizes, and corrosion protection details.
8) A typical detail of production and test nails defining the nail length, minimum drill hole diameter, inclination, and test nail bonded and unbonded test lengths.
9) Details, dimensions, and schedules for all nails, reinforcing steel, wire mesh, bearing plates, headed studs, etc. and/or attachment devices for shotcrete.
10) Details, dimensions, and schedules of all reinforcing steel including reinforcing bar bending details.
11) Details and dimensions for wall appurtenances such as barriers, coping, drainage gutters, fences, etc.
12) Details for terminating walls and adjacent slope construction.
13) Method of soil nail corrosion protection
14) Facing finishes, color and architectural treatment requirements for permanent wall facing elements, if applicable. Architectural treatment and coloring is not required for this project.

f. Provide the seal of a Professional Engineer (PE) or Professional Structural Engineer (SE) licensed in the State of Utah.

g. Include supporting engineering calculations. Include the following:
1) A written summary that describes the overall soil nail wall design.
2) Applicable code requirements and design references.
3) Design criteria including estimated soil shear strengths (friction angle and cohesion), unit weights, and ground-grout pullout resistances, steel resistances, shotcrete resistances, and nail drill hole diameter assumptions. Include data from any additional subsurface borings, laboratory work, or other subsurface data collected.

4) Values and associated load factors used in design for pullout resistance, surcharges, soil/rock unit weights, nail head strengths, and strengths of steel, shotcrete, and concrete materials. Global stability and soil resistance/load factors used in LRFD verifications.
5) Design calculation sheets with the project number, wall location, designation, date of preparation, initials of designer and checker, and page number at the top of each page. Provide an index page with the design calculations.
6) An explanation of any symbols and computer programs used in the design.
7) Critical wall cross-section geometry including soil/rock strata and location, magnitude, and direction of slope or external surcharge loads, and piezometric levels (if applicable) with critical slip surface shown along with minimum calculated global stability soil factor of safety, and required nail lengths and strengths (nail bar sizes and grades) for each nail row.
8) Structural design calculations for wall facing and nail head/facing connections including consideration of the lateral load on the wall facing caused by the load from each pile on the wall face, facing flexural and punching shear strength, headed stud tensile strength, upper cantilever, minimum reinforcement ratio, cover and splice requirements.
9) Other design calculations including, but not limited to, soil nail wall stability at critical stages of construction under prevailing surcharge loads; external soil nail wall stability; and fill compaction criteria.

h. Do not begin work before receiving approval of the soil nail working drawings.

2. As-Built Drawings within 30 days after completion of the work.
   a. Provide the locations of the nails in the top row for each wall. Include Northings, Eastings, elevation, azimuth, and inclination (to the nearest 0.1 inch and 0.5 degrees), Include survey datum.
   b. Provide revised design calculations signed and sealed by a PE or SE licensed in the State of Utah for all design changes made during the construction of the wall.
3. Prepare drawings according to the following:
   a. Submit drawings electronically in PDF format. Use 11 x 17 inch sheets with a 1½ inch blank margin on the left edge. Place the following information in the title block in the lower right corner of each sheet:
      1) State Project Designation

2) State Project Name
3) State Structure Number
4) Contractor, Fabricator, or Erector Name
5) Contractor, Fabricator, or Erector Drawing Number
6) Contractor, Fabricator, or Erector Sheet Number

b. Revise and resubmit drawings when directed by the Department.

c. Provide the seal of a PE or SE licensed in the State of Utah when required in the contract. Place the seal in the lower right corner of each sheet when required.

4. Prepare engineering calculations according to the following:

a. Submit calculations electronically in PDF format. Use 8½ x 11 inch sheets with a 1-inch blank margin on the left edge or 11 x 17 inch sheets with a 1½ inch blank margin on the left edge. Title block location is at the top of 8½ x 11 inch sheets or the lower right corner of 11 x 17 inch sheets. Place the following information in the title block:

1) State Project Designation
2) State Project Name
3) State Structure Number
4) Contractor, Fabricator, or Erector Name
5) Contractor, Fabricator, or Erector Drawing Number
6) Contractor, Fabricator, or Erector Sheet Number

b. Provide the seal of a PE or SE licensed in the State of Utah on all engineering calculations. Place the seal on the calculation cover sheet.

c. Certify that engineering calculations have been checked according to the Department QC/QA Procedures.

5. Allow the Engineer 14 calendar days to review and approve working drawings and supporting calculations.

a. The Engineer may grant an increase in the number of working days for the project when that time is exceeded.

b. This review period applies each time the drawings and calculations are submitted.

6. Do not deviate from the approved drawings unless authorized in writing by the Engineer. Assume the responsibility for costs incurred due to faulty detailing or fabrication.

a. Revise the drawings when plan dimensions are revised due to field conditions or for other reasons.

F. Construction Plan for approval at least 30 days before beginning wall excavation. Include the following:

1. Project start date and proposed detailed wall construction sequence and phasing plan.

2. Proposed methods to contain grout, shotcrete, and void-filling materials within the project area and the UDOT ROW.

3. Proposed drilling methods, equipment, and drill hole diameters.
4. Proposed methods of soil nail installation.
5. Shotcrete wet or dry-mix methods and procedures for placing shotcrete.
6. Monitoring and instrumentation plan indicating how the wall facing will be surveyed daily to monitor displacements. Include locations of measurement points and frequency and methods of measurement.
7. Procedures for placing nail grout, grout quality control plan, and equipment.

G. Equipment Calibration at least 30 days before beginning wall excavation. Submit the following quality control items:
   1. Calibration data for all testing equipment including load cells, test jacks, pressure gages, and grout pumps. Calibrations must have been performed by an independent testing lab within 60 days of the submittal date.
      a. Calibrate jack and pressure gage as a single unit.
      b. Include date tested, device identification number, and calibration results, certified with an accuracy of at least 2% of the applied certification loads by a qualified independent testing laboratory within 90 days of submittal.
      c. Testing may not be performed until Engineer approves calibration reports.

H. Material Submittals
   1. Manufacturer's certificate of compliance, product data, specifications, and recommended installation instructions for furnished materials, including, but not limited to:
      a. soil nail bar ultimate strength
      b. soil nail bar yield strength
      c. welded wire reinforcement steel
      d. reinforcement steel
      e. couplers
      f. studded anchor plates
      g. epoxy coating
      h. encapsulation
      i. geocomposite drainage strip
      j. centralizers
      k. geotextiles
      l. prefabricated drain grates

   2. Nail grout mix design, including:
      a. Compressive strength test results, per AASHTO T106/ASTM C109, supplied by a qualified independent testing lab and

verifying specified minimum 3-day and 28-day grout compressive strengths.

b. Test nail grout at a frequency of no less than one test cube for every 50 cubic yards of grout placed. Report grout cube shrinkage to the Engineer. Provide grout cube test results within 24 hours of testing.

c. For neat cement grout, include specific gravity test results of the fresh grout used for compressive testing.

3. Shotcrete mix design with compressive strength test results.

I. Submit Soil Nail Wall Verification and Proof Test Results to the Engineer. Verification and Proof test reports from failed and passing nails should be submitted to the Engineer within 48 hours of the test. Failed Verification and Proof Nails should be reported immediately to the Engineer with the soil nail location, bonded and unbonded length, maximum load held, and the failure load.

J. Document the pre-construction condition of the site, existing structures and facilities before beginning any wall construction activity.

1. During construction, observe the conditions above the soil nail wall on a daily basis for signs of ground movement in the vicinity of the wall.
2. Immediately notify the Engineer if signs of movement such as new cracks in structures, increased size of old cracks or separation of joints in structures, foundations, or paved and unpaved surfaces are observed.

K. Shotcrete production summary

1. Prepare for each shift and submit to Engineer within 24 hours.
2. Include the following:
   a. Quantity and location of shotcrete applied including sketches.
   b. Observations of success or problems of equipment operation, application, final product conditions, and any other relevant issues during production and application.
   c. Description of placement equipment.
   d. Batch number(s) if applicable

L. Shotcrete quality control records

1. Submit field quality control test reports to Engineer within 2 working days of performing the tests.
2. Include the following:
   a. Sample identification, including mix design and test panel number and orientation.
   b. Date and time of sample preparation including sample dimensions.

c. Date, time, and type of test.
d. Complete test results including load and deformation data during testing, sketch of sample before and after testing, visual grade of cores, and any unusual occurrences observed.
e. Names and signatures of people performing the test
f. Location of steel reinforcement, if used, covered by shotcrete.
g. Name of nozzle operator.

PART 2 PRODUCTS

2.1 SOIL NAILS

A. Provide fully threaded solid- or hollow-bars continuous or with approved couplings, threaded to allow proper attachment of bearing plate, washer, and nut.

B. Solid Bars
1. AASHTO M 31 Grade 75, or better, solid threaded bar diameter as required by the design calculation to account for the pile loading on the soil nail wall, with a minimum bar size of #7.

C. Hollow Bars
1. Fully threaded hollow-steel tubing that serves as drilling steel, grout transfer medium, and reinforcing element of the soil nail.
2. AASHTO M 31 Grade 75 or better, hollow bar as required by the design calculation to account for the pile loading on the soil nail wall, with a minimum 0.60 in^2 cross sectional area.
3. Uniform elongation without necking $A_{gt} \geq 5\%$
4. Minimum Charpy impact resistance of 40 Joules at -20 degrees C
5. If required, provide bar couplers with seals or similar mechanism to ensure minimum grout loss and means of transferring percussive drilling forces.
6. Select drill bits based on subsurface data and minimum grout column requirements, with a minimum of 2 ports for grout exit.

D. Provide bar couplings that develop the full nominal tensile capacity of the soil nail bar as certified by the manufacturer.

E. Provide the following corrosion protection methods:
1. Fusion-bonded epoxy-coated bars with 0.012 to 0.017 inch coating thickness. Conform to ASTM A775. Omit bend test requirements. The design may omit coating at the wall anchorage end over the length provided for threading the nut against the bearing plate.

2. Provide at least 1.0 inch of grout cover between the epoxy-coated soil nail bar and the surrounding soil.
3. All bars should be properly stored and protected such that epoxy coating is undamaged.

F. For solid–bars, provide centralizers manufactured from Schedule 20 or 40 PVC pipe securely attached to the soil nail bar with coated wire.
1. Do not use wood for centralizers.
2. Size to position the soil nail bar within 1.0 inch of the center of the drill hole
3. Space no greater than 10 ft apart and 1.5 ft from the end of each nail.
4. Allow tremie pipe insertion to the bottom of the hole, and to allow grout to freely flow up the hole.

G. For hollow-bars used for permanent wall applications, provide centralizers at 10 feet on center by attaching a steel centralizer in front of the coupling during the drilling operation.

H. Provide nail grout consisting of neat cement or sand/cement mixture having a minimum 3-day compressive strength of 1,500 psi and a minimum 28-day compressive strength of 3,000 psi per AASHTO T 106, and specific gravity between 1.80 and 1.90.
1. For solid bars, use sand for grout and meeting requirements of ASTM C33.
2. For hollow bars, do not use sand in the nail grout mix.
3. Use Type II Portland Cement meeting AASHTO M 85.
4. Admixtures may be used to control bleed, improve flowability, reduce water content, and/or retard set as specified in the accepted submittals.
   a. Use only admixtures that are compatible with the grout and mixed according to the manufacturer's recommendations.
   b. Do not use accelerators.
5. Do not add water to grout conforming to the mix design to improve workability.
6. Test grout specific gravity with a mud balance according to the procedure in ASTM D4380. The Engineer may request that the contractor test the grout with a mud balance at any time if he suspects a specific gravity lower than 1.80.

2.2 SHOTCRETE

A. Use shotcrete conforming to Section 02342. Produce shotcrete by either a wet-mix or dry-mix process. Apply shotcrete in one or more layers, pneumatically projected through a hose at high velocity against a prepared surface.

2.3 CONCRETE

A. Class AA(AE). Refer to Section 03055.

2.4 REINFORCING STEEL AND WELDED WIRE

A. Refer to Section 03211

2.5 GEOCOMPOSITE DRAIN STRIP

A. Use a drainage strip consisting of a drainage core (e.g., geonet) and an attached or encapsulating filtration geotextile. The drainage core should conform to the following:
   1. At least 85% by mass polypropylenes, polyester, polyamine, polyvinyl chloride, polyolefin, or polystyrene.
   2. Compressive strength of at least 40 psi in accordance with ASTM D1621 Procedure A.
   3. Flow rate of at least 0.1 gallons per second per foot of strip width under a gradient of 1.0 tested in accordance with ASTM D4716.

B. Use Miradrain 6000, Amerdrain 500, or accepted equivalent geocomposite drainage strip.

C. Provide drainage geotextile and geocomposite drain strips in rolls wrapped with a protective covering and labeled to identify the production run.
   1. Store/stockpile geotextiles and geocomposites in a manner which protects the fabric from mud, dirt, dust, debris, and shotcrete rebound.
   2. Do not remove the protective wrapping until immediately before material is installed. Avoid extended exposure to ultraviolet light.

2.6 UNDERDRAIN ELEMENTS

A. Use underdrain and perforated pipe meeting requirements of ASTM D1785 Schedule 40 PVC solid and perforated wall; cell classification 12454-B or 12454-C, wall thickness SDR 35, with solvent or elastomeric joints

B. Use fittings for underdrain and perforated pipe meeting requirements of ASTM D3034, cell classification 12454-B or 12454-C, wall thickness SDR-35, with solvent or elastomeric joints.

2.7 STUDDED ANCHOR PLATES

A. AASHTO M270, Grade 36. Refer to Section 05120.

B. Galvanize after fabrication according to AASHTO M 111.

2.8 EQUIPMENT

A. Equipment for mixing and placing grout shall have the following characteristics.
   1. Mix grout with a high-shear colloidal mixer with separate holding tank and water and cement dosing system to ensure continuous grouting independent from mixing.
   2. Minimum grout pump flow rate 15 gpm for bars < 2 inch diameter and 45 gpm for bars ≥ 2 inch diameter.
   3. Minimum grout pump pressure capability of 250 psi in sands/gravels and 1,500 psi in clays/silts.

B. For dry-mix shotcrete, provide a water storage tank at the job site and a positive displacement pump with regulating valve that is accurately controlled to provide water at the pressures and volumes recommended by the delivery machine manufacturer.

C. Use equipment capable of handling and applying shotcrete containing the specified maximum size aggregate and admixtures.

D. Provide and air hose and blow pipe to clear dust and rebound during shotcrete application.

E. Use an air supply system capable of supplying the delivery machine and hose with air at the pressures and volumes recommended by the machine manufacturer. Do not use air supply systems that are incapable maintaining constant air pressure or deliver oil-contaminated air measured as described in ASTM D4285.

F. Use a shotcrete delivery machine capable of supplying material to the delivery hose at a uniform rate. The ejection from the nozzle must adhere to the treated surface with minimum rebound and maximum density when the nozzle is held in the range of 3-6 ft from the target surface.

PART 3 EXECUTION

3.1 SOIL NAIL WALL GENERAL REQUIREMENTS

A. Design and construct permanent soil nail retaining walls at the locations shown on the drawings.

B. Refer to the geotechnical report provided for information only, for borehole data, laboratory results from selected soil samples, and other site information obtained from the vicinity of the wall locations.

C. Perform additional exploration as deemed appropriate to complete final design.

3.2 SOIL NAIL WALL DESIGN REQUIREMENTS

A. Design the soil nail walls using the LRFD procedures contained in FHWA GEC 7.

B. Consider appropriate traffic and construction equipment surcharge loads.

C. Finish the wall with a permanent shotcrete wall facing. Extend shotcrete at the toe of the walls to at least 2 ft below the finished grade at front face of wall at all points.

D. Place shotcrete at a minimum finished total wall thickness of 12 inch.

E. Provide expansion joints and contraction joints at appropriate intervals for the wall design, as specified in FHWA GEC 7.

F. Locate the top row of nails within 2 ft of the top of the wall. Perform construction so that the distance between the lower course of nails and the average base of the wall is less than two thirds of the average vertical nail spacing.

G. Justify soil nail corrosion protection requirements in the design so that a minimum life span of 75 yr for each of the walls is provided.

H. Perform the soil nail design to consider the locations of existing utilities or obstructions in the area of construction including the locations of the abutment piles.

I. Wall locations and wall batter angles are shown on the plans.

J. Provide backwall drainage through weep holes. Transmit backwall drainage down the wall through geotextile drainage mats. Drainage from multiple mats may be collected and conveyed to a single weep hole if the conduit is appropriately sized.

K. Make provisions to prevent concentrated flow over the top surface of the walls.

L. Design wall to withstand a seismic event with 3% probability of exceedance in 75 yr (seismic accelerations corresponding to this event are presented in the Drawings).

M. Design wall face to account for additional line loading at the face of the existing piles that support the bridge abutments, as shown on the plans.

3.3 SOIL NAIL WALL CONSTRUCTION REQUIREMENTS

A. Excavation
   1. Do not exceed the short-term ground stand-up height shown on the plans or a distance equal to the vertical nail spacing, whichever is less, for the exposed unsupported excavation face height. Where necessary for stability of the excavation face, the Contractor shall place a sealing layer (flash coat) of unreinforced shotcrete or steel fiber reinforced shotcrete or drill and grout nails through a temporary stabilizing berm of native soils to protect and stabilize the face of the excavation.
   2. Excavate the final wall excavation line and apply shotcrete during the same work shift, unless otherwise approved.
   3. Where a pile becomes exposed due to raveling during wall excavation activities, place strip of compressible filler to fill void space as shown on the project plans.

B. Soil Nail Installation
   1. Provide a soil nail length necessary to develop the load capacity and satisfy acceptance criteria for the required design load.
   2. Place soil nail drill holes at the locations, elevations, orientations, and lengths shown on the plans.
   3. Use drilling methods and equipment that are suited to the ground conditions and in accordance with the submittals.
   4. Use cased drilling methods or other suitable means to support the sides of the drill holes if needed.
   5. Replace soil nail bars exhibiting abrasions, cuts, welds, weld spatter, corrosion, or pitting.
   6. Replace or repair soil nail bars exhibiting damage to epoxy coating at no additional cost.
   7. Inspect epoxy coating on soil nail bars before insertion into the drill hole.

C. Install Soil Nails at stationing, and horizontal spacing shown on the plans.
   1. Install top row of nails no more than 2 feet vertically from the design elevation of the finished soil nail retaining wall elevation, or no more than 2 feet vertically below the bottom of the existing abutment when beneath a bridge. Install subsequent rows at a maximum 4 feet

vertical spacing under the bridge structure and under median, and a maximum 5 feet vertical spacing elsewhere.

2. Install bottom row of nails a minimum of 2 feet and a maximum of 3 feet from the bottom of the excavation.
3. Eliminate bottom row of nails where second row from bottom is within 2 feet of the bottom of the excavation.
4. Where possible, horizontally stagger every other row of each column of nails midway between nail columns. Maintain maximum horizontal spacing noted on plans.
5. Place soil nail bars within 6 inches of layout in any direction
6. Installed nail length should not be less than the length shown on the plans.
7. Nail vertical inclination should be within 2 degrees of the inclination shown on plans.
8. Nails may be splayed up to 10 degrees to miss obstructions such as piles, drainage features, utilities, etc. Inform Engineer immediately if nails cannot be installed at plan location. Note location of splayed nails and reason for splay on working drawings.

D. Grouting

1. Grout the drill hole after installation of the soil nail bar and within 2 hours of completing drilling.
2. Inject grout at the lowest point of each drill hole through a hollow bar soil nail, grout tube, casing, hollow-stem auger, or drill rods.
3. Place the outlet end of the grout delivery tube below the surface of the grout as the conduit is withdrawn to prevent the creation of voids.
4. Fill the drill hole in one continuous operation. Do not allow cold joints in the grout column except at the top of the test-bond length of proof-tested production nails.
5. For hollow-bar soil nails, use a high-shear colloidal mixer with a separate holding tank capable of continuous grouting that is independent from mixing. Minimum pump flow rate of 15 gpm.
6. Consider the hollow bar soil nails to be completed when the final grout returns to the excavation face, signaling that drilling spoils have been removed.
7. Fill bird's beaks with additional grout after placing a temporary cover in front of the drill hole. Alternatively, fill bird's beaks with shotcrete.

E. Soil Nail Testing

1. General
   a. Conduct verification tests on sacrificial nails at locations shown on the Nailing Pattern sheets in the plans.
   b. Perform proof testing on 5% of production soil nails with at least one in each row.

c. Perform testing at any nail after the nail grout and shotcrete facing have cured for at least 72 hours, or have attained their specified 3-day compressive strength.
d. Do not apply loads greater than 80% of the minimum guaranteed ultimate tensile strength of the soil nail bar for Grade 150 bars, or 90% of the yield strength of the soil nail bar for minimum Grade 75 bars.
e. Calculate nominal pullout resistance per unit length of soil nail utilizing a bond strength q_u of 16psi. Alternately calculate the design load DL based on the allowable design soil-grout adhesion bond strength of 8psi.
f. Verification and Proof test nails should have a minimum 3 feet unbonded length. Hollow bar unbonded length should be cleaned out after bar installation. Placing a PVC pipe bond breaker without cleanout will not be sufficient to provide unbonded length.
g. Measure and verify void for unbonded length prior to testing.
h. Verification test nails should have a minimum 10 feet bonded length and Proof test nails should have a minimum of 10 feet bonded length unless performed on production nails less than 12 feet in length.

2. Equipment
   a. Provide testing equipment including dial gages, dial gage support, jack and pressure gage, load cell, and a reaction frame as shown on plans.
   b. Use a pressure gage with a maximum graduation of 50 psi or use calibrated load cell for load steps.
   c. Support dial gages on a frame that is independent from the jacking and the wall.
   d. Measure nail head movement with at least 2 dial gages capable of measuring to 0.001 inch
3. Verification Testing
   a. Perform the 2 verification tests per wall at locations shown on the plans.
   b. Conduct on sacrificial nails prior to installation of production soil nails in order to confirm the appropriateness of the Contractor's drilling and installation methods and the required nail pullout resistance.
   c. Conduct on nails of the same design and constructed with the same methods to be used on production nails.
   d. Perform verification tests on soil nails with a known bonded length and a measured unbonded length.
   e. Select a bonded length, L_{BVT}, as follows:
      1) Select L_{VBTmax}

For Grade 75 or better, and other mild steel in accordance with ASTM A615, calculate the maximum length, L_{BVTmax} as

$$L_{BVT\,\max} = \frac{A_t \times f_y \times C_{RTY}}{r_{PO}} \qquad \text{EQ1}$$

For Grade 150 and other high strength steel in accordance with ASTM A722, calculate the maximum length as

$$L_{BVT\,\max} = \frac{A_t \times f_u \times C_{RTU}}{r_{PO}} \qquad \text{EQ2}$$

Where:

C_{RTY}	=	reduction coefficient for mild-grade steel = 0.9
C_{RTU}	=	reduction coefficient for high-grade steel = 0.8
At	=	cross-sectional area of the test soil nail bar
f_y	=	nominal yield resistance of test soil nail bar (mild steel)
f_u	=	minimum ultimate tensile strength of test soil nail bar (high-strength steel)
r_{PO}	=	nominal pullout resistance per unit length of soil nail = · x q_u x D_{DH}
q_u	=	bond strength
D_{DH}	=	drill hole diameter

2) If L_{VBTmax} > 10 ft, 10 ft ≤ L_{VBT} ≤ L_{VBTmax}

3) If L_{VBTmax} < 10 ft, L_{VBT} = 10 ft, increase the test soil nail bar size as needed, and recalculate L_{VBTmax} until L_{VBTmax} > 10 ft.

4) Calculate the maximum load during the verification test, defined as the Verification Test Load (VTL), as follows:

$$VTL = L_{BVT} \times r_{PO} \qquad \text{EQ3}$$

f. Conduct verification tests by incrementally loading verification test nails to pullout or a maximum test load VTL

in accordance with the loading schedule presented in Table 1.

g. Record soil nail movements at each load increment and at each time step. Zero dial gages after the alignment load (AL) has been applied.

h. Optionally, load verification test nails beyond VTL. After applying VTL, reduce loading to the AL and record the permanent set. Hold each load increment for at least 10 minutes.

i. Monitor the verification test nail for creep at a load of 0.75 VTL. Measure and record nail movements during the creep portion of the test in increments of 1 minute, 2, 3, 5, 6, 10, 20, 30, 50, and 60 minutes. Maintain the load during the creep test to within 2% of the intended load by using a load cell. Repump jack as needed to maintain load during hold times.

j. Optionally, perform stepped unloading. Consider between 1 to 7 intermediate steps in stepped unloading. If performed, hold each load step until gage readings are stable.

Table 1

Verification Test Loading Schedule		
Load	**Load**	**Hold Time (minutes)[2]**
AL	AL[1]	1
0.25DL	0.13 VTL	10 (record soil nail head movement at 1, 2, 5, 6, 10)
0.5DL	0.25 VTL	10 (record soil nail head movement at 1, 2, 5, 6, 10)
0.75DL	0.38 VTL	10 (record soil nail head movement at 1, 2, 5, 6, 10)
1.0DL	0.50 VTL	10 (record soil nail head movement at 1, 2, 5, 6, 10)
1.25DL	0.63 VTL	10 (record soil nail head movement at 1, 2, 5, 6, 10)
1.5DL	0.75 VTL (Creep Test)	10 (record soil nail head movement at 1, 2, 5, 6, 10, 30, 50, 60)
1.75DL	0.88 VTL	10
2.0DL	1.00 VTL	10
AL	AL	1[3]

[1]AL = 0.025 VTL or 0.05DL
[2]Measure soil nail head movement after each load increment has been achieved and at each indicated time step
[3]Record permanent soil nail movement

4. Proof Testing

a. Demonstrate successful proof testing on at least 5% of production soil nails in each nail row or a minimum of one per row.
b. Do not count verification tests towards the minimum of 5% of production nails.
c. Perform proof tests on soil nails with a known bonded length and a measured temporary unbonded length.
d. Select a bonded length (L_{BPT}) for the proof tests such that L_{BPT} is 10 ft or L_{BPTmax}, whichever is smaller.
e. For Grade 75 or better, and other mild steel in accordance with ASTM A615, calculate the maximum length L_{BPTmax} as

$$L_{BPT\,\max} = \frac{A_t \times f_y \times C_{RTY}}{r_{PO} \times 0.75} \qquad \text{EQ4}$$

f. For Grade 150 and other high strength steel in accordance with ASTM A722, calculate the maximum length L_{BPTmax} as

$$L_{BPT\,\max} = \frac{A_t \times f_u \times C_{RTU}}{r_{PO} \times 0.75} \qquad \text{EQ5}$$

g. Allow for bond lengths less than 10 ft for production proof nails shorter than 12 ft.
h. Do not proof test fully grouted nails
i. Calculate the maximum load for proof tests, defined as the Proof Test Load (PTL), as follows:

$$PTL = L_{BPT} \times r_{PO} \times 0.75 \qquad \text{EQ6}$$

j. Conduct proof tests by incrementally loading the proof test nail according to the test loading schedule in Table 2.
k. Hold each load increment until stabilized and record soil nail movements at each load increment and time interval shown in Table 2.
l. Maintain all load increments to within 5% of the intended load. Repump jack as needed to maintain load during hold times.
m. Rezero dial gages after the alignment load is applied.
n. Perform creep tests at 1.00 PTL, beginning as soon as PTL is applied. Measure and record soil nail movement at 1 minute, 2, 3, 5, 6, and 10 minutes. If the nail movement measured between 1 minute and 10 minutes exceeds 0.04 inch, maintain the maximum test load for 50 additional minutes, and record soil nail movements at 20, 30, 50, and 60 minutes.

Table 2

Proof Test Loading Schedule		
Load	**Load**	**Hold Time (minutes)[3]**
AL[1]	AL[1]	1
0.25DL	0.17 PTL	Until movement stabilizes
0.5DL	0.33 PTL	Until movement stabilizes
0.75DL	0.50 PTL	Until movement stabilizes
1.0DL	0.67 PTL	Until movement stabilizes
1.25DL	0.83 PTL	Until movement stabilizes
1.5DL	1.0 PTL (Creep Test)[2]	10 (record soil nail head movement at 1, 2, 5, 6, 10)
AL	AL	1

[1]AL = alignment load ≤ 0.025 VTL or 0.05DL
[2]If soil nail movement measured between 1 and 10 minutes exceeds 0.04 inch, maintain PTL for 50 more minutes and record movements at 20, 30, 50, and 60 minutes. Record permanent soil movement.
[3]If the soils reinforced with nails are relatively susceptible to deformation or creep, hold each load increment for 10 minutes and record soil nail movement at 1, 2, 5, 6, and 10 minutes.

F. Soil Nail Test Acceptance Criteria

1. Verification test results: meet all of the following criteria:
   a. The total creep movement is less than 0.08 inch between the 6- and 60- minute readings, and the creep rate is linear or decreasing throughout the creep test load hold period.
   b. The total movement (· VTL) measured at VTL exceeds 80% of the theoretical elastic elongation of the unbonded length (L_{UB}) of the test nail, as depicted below in Equation 7.

$$\Delta VTL > 0.8 \frac{VTL \times L_{UB}}{E \times A_t} \qquad \text{EQ7}$$

   Where: E = Young's Modulus of steel (29,000 ksi)
   c. Pullout does not occur before achieving 0.1 x VTL
2. Proof test results
   a. Creep movement between the 1- and 10-minute readings is less than 0.04 inch
   b. If creep movement exceeds 0.04 inch between the 1- and 10-minute readings, the creep movement between the 6- and 60-minute readings must be less than 0.08 inch, and the creep rate must be linear or decreasing throughout the creep test load hold period.

c. The total soil nail movement (· PTL) measured at PTL exceeds 80% theoretical elastic elongation of the unbonded length, as depicted below in Equation 8:

$$\Delta PTL > 0.8 \frac{PTL \times L_{UB}}{E \times A_t} \qquad \text{EQ8}$$

d. Pullout does not occur before the test load is 1.0 x PTL

e. The temporary unbonded test length in proof tests is successfully maintained for subsequent satisfactory grouting. If the unbonded test length of production proof test nails cannot be satisfactorily grouted after testing, consider the proof nail to be sacrificial and replace with an additional production nail installed at no additional cost.

G. Soil Nail Test Rejection

1. Verification Test Soil Nails
   a. Propose alternative methods for Owner's review and install replacement verification test nails.
2. Proof Test Soil Nails
   a. Owner may require replacement of some or all installed production nails between a failed proof test nail and the adjacent passing proof test nail.
   b. Alternatively, Owner may require installation and testing of additional proof test nails to verify that adjacent previously installed production nails have sufficient nominal pullout resistance.

H. Wall Drainage

1. Install and secure all elements of the soil nail wall drainage as shown on the drawings.
2. Wall drainage includes geocomposite drainage mat, PVC connection pipes, soil nail wall footing drains, and weep holes, as shown on the drawings.
3. Construct wall drainage to provide continuous and unrestricted flow to discharge water collected behind the wall face.
4. Excluding wall footing drains, construct all wall drainage elements prior to shotcreting.
5. Geocomposite drainage mats
   a. Center between columns of soil nails, as shown on the drawings.
   b. Minimum width = 12 inches
   c. Secure to the excavation face in a vertically continuous manner, with the geotextile side against the ground
   d. Prevent contamination of the geotextile with shotcrete.
6. Footing drains

a. Install at the bottom of the wall, as shown on the drawings
b. Envelop the footing drain aggregate and pipe with drainage geotextile such that they conform to the dimensions of the trench.
c. Overlap the drainage geotextile on top of the drainage aggregate as shown on the drawings.
d. Repair or replace damage drainage geotextile.

I. Shotcrete

1. Prepare shotcrete application surface according to the following:
   a. Prepare surface to line and grade.
   b. Clean loose material, mud, rebound, and other foreign matter.
   c. Remove curing compound on previously placed shotcrete surfaces by sandblasting.
   d. Install approved depth gages to indicate the thickness of shotcrete layers.
   e. Install depth gages on 6-ft centers longitudinally and transversely with at least 2 gages per increment of surface area to receive shotcrete.
   f. Moisten surfaces.
2. Place when ambient temperature is 40 degrees F or greater. Do not apply shotcrete during high winds or heavy rain. Protect and maintain shotcrete at a temperature above 40 degrees F until shotcrete has achieved a minimum strength of 750 psi.
3. Do not apply to frozen surfaces.
4. Use acceptable nozzle operators who have fabricated acceptable test panels for this project.
5. Apply dry-mix shotcrete within 45 minutes of batching. Apply wet-mix shotcrete within 90 minutes of batching.
6. Direct shotcrete at right angles to the receiving surface except when shooting ground reinforcing bars.
7. Apply in a steady and uninterrupted flow, in a circular fashion to build up the required layer thickness. If flow becomes intermittent, direct the flow away from the work area until it becomes steady.
8. Make the surface of each shotcrete layer uniform and free of sags, drips, or runs.
9. Limit the layer thickness of each shotcrete application to 2 inch. Thicker applications may be approved if the contractor can demonstrate that no sloughing or sagging is occurring. If additional thickness is required, broom or scarify the applied surface and allow the layer to harden. Dampen the surface before applying an additional layer.
10. Remove laitance, loose material, and rebound. Promptly remove rebound from the work area.

11. Taper construction joints to a thin edge over a distance of at least 1 ft. Wet the joint surface before placing additional shotcrete on the joint. Do not use square construction joints.
12. Install shotcrete final face finish using undisturbed gun finish as applied from the nozzle or a rod, broom, wood float, rubber float, steel trowel, or rough screeded finish as shown on the plans.
13. Where shotcrete is used to backfill bird's beaks position shotcrete nozzle into the mouth of the drillhole to completely fill the void.
14. Attachment of bearing plate and nut
    a. Attach a bearing plate, washers, and nut to each nail head as shown on the plans.
    b. Seat the bearing plate uniformly on the shotcrete while the facing is still plastic and before its initial set. Hand-wrench tighten the nut.
    c. Set the bearing plate in a bed of grout if needed to provide uniform contact between the plate and the shotcrete. Re-tighten the nut by hand with a wrench after the grout has set for 24 hours.
15. Refer to Table 3 for tolerances

Table 3

Construction Tolerances	
Item	**Tolerance**
Horizontal location of welded wire reinforcement, reinforcing bars, and headed studs	3/8 inch
Location of headed studs on bearing plate	¼ inch
Spacing between reinforcing bars	1 inch
Reinforcing lap	1 inch
Thickness of shotcrete if troweled or screeded	9/16 inch
Thickness of concrete if left as shot	1 1/8 inch
Planeness of finish surface, gap under 10-ft straight edge, if troweled or screeded	9/16 inch
Planeness of finish surface, gap under 10-ft straight edge, if left as shot	1 1/8 inch
Nail head bearing plate deviation from parallel to wall face	10 degrees

J. Do not place welded wire reinforcement directly against the soil. Place welded wire reinforcement in a manner to provide a minimum of 1 inch of shotcrete cover between the soil and the welded wire reinforcement.

K. Provide shotcrete test cores both from preconstruction test panels, construction test panels, and if needed from the constructed wall face.

Conduct shotcreting and coring of test panels and the wall facing using qualified personnel in the presence of the Engineer according to ACI 506.2. Refer to Section 02342.

L. Deliver, store and handle materials in a manner that will prevent contamination, segregation, corrosion or damage.t

M. Conduct shotcreting and coring of test panels and the wall face using qualified personnel in the presence of the Engineer according to ACI 506.2. Refer to Section 02342.

N. Deliver, store and handle materials in a manner that will prevent contamination, segregation, corrosion or damage.

END OF SECTION

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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.

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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

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SECTION 02893M

OVERHEAD SIGN/VMS STRUCTURE

Delete Article 1.3 and replace with the following:

1.3 REFERENCES

A. AASHTO M 111: Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

B. AASHTO M 232: Zinc Coating (Hot-Dip) on Iron and Steel Hardware

C. AASHTO M 270: Structural Steel for BridgesD.ASTM A 36: Carbon Structural Steel

E. ASTM A 53: Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless

F. ASTM A 194: Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both

G. ASTM A 307: Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength

H. ASTM A 314: Stainless Steel Billets and Bars for Forging

I. ASTM A 500: Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes

J. ASTM A 563: Carbons and Alloy Steel Nuts

K. ASTM B 221: Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes

L. ASTM B 308: Aluminum-Alloy 6061-T6 Standard Structural Profiles

M. ASTM B 429: Aluminum-Alloy Extruded Structural Pipe and Tube

N. ASTM C 1107: Packaged Dry, Hydraulic-Cement Grout (Nonshrink)

O. ASTM F 436: Hardened Steel Washers

P. ASTM F 593: Stainless Steel Bolts, Hex Cap Screws, and Studs

Q. ASTM F 594: Stainless Steel Nuts

R. ASTM F 844: Washers, Steel, Plain (Flat), Unhardened for General Use

S. ASTM F 1554: Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength

T. AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 5th edition

U. American Institute of Steel Construction (AISC)

V. American Petroleum Institute (API)

W. AWS D1.1 Structural Welding Code – Steel

X. AWS D1.2 Structural Welding Code – Aluminum

Delete Article 2.1, paragraph A.3.c and replace with the following:

c. Furnish nuts and washers. Refer to ASTM A 563, A 194 and F 436.

Delete Article 2.1, paragraph C.1 and replace with the following:

1. Use low carbon steel according to ASTM A 53 Grade B, ASTM A 500 Grade B, or API-5L-X42, except use chemical composition requirement of silicon either 0.00 to 0.04 percent or 0.15 to 0.25 percent. Refer to ASTM A 53 Grade B or A 500 Grade B (35,000 psi min yield strength) for other elements.

Delete Article 2.1, paragraph D.2 and replace with the following:

2. Refer to ASTM F 593 Type 304 for stainless steel bolts and ASTM F 594 for stainless steel nuts.

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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.

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SECTION 03211M

REINFORCING STEEL AND WELDED WIRE

Delete Article 1.3 and replace with the following:

1.3 REFERENCES

A. AASHTO M 31: Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

B. AASHTO M 55: Steel Welded Wire Reinforcement, Plain, for Concrete

C. AASHTO M 111: Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

D. AASHTO M 235: Epoxy Resin Adhesives

E. AASHTO T 106: Compressive Strength of Hydraulic Cement Mortar (Using 50-mm or 2-in Cube Specimens)

F. ASTM A 108: Steel Bar, Carbon and Alloy, Cold-Finished

G. ASTM A 493: Stainless Steel Wire and Wire Rods for Cold Heading and Cold Forging

H. ASTM A 706: Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement

I. ASTM A 767: Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement

J. ASTM A 775: Epoxy-Coated Steel Reinforcing Bars

K. ASTM A 955: Deformed and Plain Stainless-Steel Bars for Concrete Reinforcement

L. ASTM A 970: Headed Steel Bars for Concrete Reinforcement

M. ASTM E 1512: Testing Bond Performance of Bonded Anchors

N. American Welding Society (AWS) Standards

O. Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice

P. UDOT Quality Management Plans (QMP)

Add the following to Article 2.1:

C. Refer to ASTM A 955, Type XM-28, Grade 60 for deformed or plain stainless steel bars.

Delete Article 2.2, paragraph A and replace with the following:

A. Refer to ASTM A 775 or AASHTO M 111.

Delete Article 2.7, paragraph B and replace with the following:

B. Provide epoxy coated, painted, or plain basket assemblies with a U-shaped leg for the assembly frame and a minimum 0.3 inch diameter wire with sufficient structure to maintain the proper location and alignment of dowels during concrete pavement placement as approved by the Engineer.

Add the following to Article 2.7:

D. Provide bar supports and wire ties for use with stainless steel bars that meet the following:
   1. Meet the requirements of Table 2.
   2. Provide bar supports that are plastic coated, epoxy coated, plastic, or stainless steel conforming to the requirements of ASTM A 493, Type 316.
   3. Provide wire ties that are plastic coated, plastic, or stainless steel conforming to the requirements of ASTM A 493, Type 316, annealed.
   4. Provide tie-down wires that are plastic coated or stainless steel conforming to the requirements of ASTM A 493, Type 316, annealed.

Add the following to Article 2.8:

D. Use stainless steel splice coupler with stainless steel reinforcement.

Delete Article 3.1, paragraph B.1.a and replace with the following:

a. Meet requirements of ASTM A 775 Appendix A.2 for repair material.

Add the following to Article 3.1:

E. Ship, handle, and store stainless reinforcing steel so it does not come in contact with carbon steel.
   1. Cover stainless reinforcing steel with tarps during outdoor storage.
   2. Separate bundles of stainless reinforcing steel from other types of reinforcing steel with wooden spacers.
   3. Store stainless reinforcing steel on wooden supports off the ground or floor.

Add the following to Article 3.2:

O. Place stainless steel reinforcement so that it does not come in contact with carbon steel.
   1. Do not tie stainless steel to uncoated or coated carbon steel reinforcement, galvanized attachments, or galvanized conduits.
      a. Direct contact is not acceptable.
      b. Use nylon or polyethylene spacers to maintain a minimum 1 inch clearance between the two metals and bind them with nylon cable ties when stainless reinforcing steel or dowels must be near coated or uncoated carbon steel reinforcing or galvanized metals,.
      c. Either bar may be sleeved with a continuous ⅛ inch minimum thickness polyethylene or nylon tube extending at least 1 inch in each direction past the point of closest contact between the two dissimilar bars where insufficient space exists to maintain this minimum.
   2. Use only epoxy coated or non-metallic snap ties, straps, or other forming hardware in members that use stainless steel reinforcement to prevent corrosion from dissimilar metals.

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SECTION 03310M

STRUCTURAL CONCRETE

Delete Article 1.3, paragraph H and replace with the following:

H. UDOT Structures Quality Control/Quality Assurance (QC/QA) Procedures

Delete Article 1.5, paragraph A3c and replace with the following:

c. Certify that engineering calculations have been checked according to the UDOT Structures QC/QA Procedures.

Delete Article 1.5, paragraph B3 and replace with the following:

3. Hot and cold weather concreting plans according to Section 03055.

Add the following to Article 2.1, paragraph D:

4. Use only where specified in the plans.

Delete Article 3.2, paragraph A and replace with the following:

A. Deck – Do not place parapet forms or parapet for at least seven days after deck placement and until the deck has attained the specified 28 day minimum compressive strength, or leave all falsework in place and design it to carry all additional loads that are part of the parapet placement process.
   1. Do not allow the installation of the parapet and parapet forms to interrupt the curing of the deck and approach slabs when installed before curing is complete.

Add the following to Article 3.2:

F. Do not backfill abutments, wingwalls, and retaining walls until all concrete has been in place at least 7 days and has attained 100 percent of the specified 28 day minimum compressive strength based on field cured cylinders. Do not interfere with curing.

G. Do not place the approach slab until the sleeper slab concrete has been in place at least seven days or has attained 75 percent of the specified 28 day compressive strength.

Delete Article 3.3, paragraph E and replace with the following:

E. Do not backfill until the concrete has been in place at least 7 days and has attained 100 percent of the specified 28 day minimum compressive strength based on field cured cylinders.

Delete Article 3.4 and replace with the following:

3.4 HEADWALLS

A. Allow apron and pipe collar to attain 75 percent of the specified 28 day minimum compressive strength based on field cured cylinders before the remainder of the headwall is constructed.

B. Construct wingwalls monolithically.

C. Do not backfill headwalls and wingwalls until all concrete has been in place at least 7 days and has attained 100 percent of the specified 28 day minimum compressive strength based on field cured cylinders.

Delete Article 3.9, paragraphs B and C and replace with the following:

B. Keep all traffic off concrete bridges and culverts for 14 days after final concrete placement, until all concrete is fully cured, and until all concrete achieves 100 percent of the specified 28 day minimum compressive strength based on field cured cylinders.

C. Keep all traffic off bridge deck and approach slab closure pours for at least 7 days after final concrete placement, until all concrete is fully cured, and until all concrete achieves 100 percent of the specified 28 day minimum compressive strength based on field cured cylinders.

1. High-early strength concrete used in bridge deck and approach slab closure pours may be opened to traffic at least 3 days after final concrete placement and after concrete achieves 100 percent of the specified 28 day minimum compressive strength based on field cured cylinders.

Delete Article 3.9, paragraph G2b and replace with the following:

b. Use fog sprayers upwind of the placement operations to effectively increase the relative humidity. Refer to Section 03390.

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SECTION 03390

CONCRETE CURING

Delete Section 03390 in its entirety and replace with the following:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Concrete curing materials and methods.

B. This section does not apply to cast-in-place Portland Cement Concrete Pavement and Lean Concrete Base Course. Refer to Section 02752.

C. This section does not apply to dry cast precast concrete members, except for precast concrete box and three-sided culvert structures.

1.2 RELATED SECTIONS

A. Section 02752: Portland Cement Concrete Pavement

B. Section 03055: Portland Cement Concrete

C. Section 03310: Structural Concrete

1.3 REFERENCES

A. ASTM C 309: Liquid Membrane-Forming Compounds for Curing Concrete

B. ASTM C 1315: Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete

C. UDOT Quality Management Plans

1.4 DEFINITIONS **Not Used**

1.5 SUBMITTALS

A. Manufacturer's product data, specifications, and recommended installation instructions.

PART 2 PRODUCTS

2.1 CURING COMPOUND

A. Refer to this Section, Part 3, Tables 1 and 2.

B. Limit Volatile Organic Compounds (VOC) content to 350 grams / liter maximum.

PART 3 EXECUTION

3.1 CURING MEASURES

A. Prevent drying of exposed concrete surfaces after placing concrete and until applying the selected curing method.
   1. Keep exposed concrete surfaces moist by fogging if the surfaces begin to dry before the selected curing method can be applied.

B. Cure all newly placed concrete to prevent loss of water by one or more of the following methods according to this Section.
   1. Forms-in-Place Method (FIPM)
      a. Cure formed surfaces of concrete by retaining the forms in place without loosening for the specified curing period.
      b. Complete the cure using one of the methods specified for the element when forms are removed before completing the specified curing period.
         1) Prevent drying of the exposed concrete surfaces while transitioning between curing methods.
   2. Water Method (WM)
      a. Keep concrete surfaces continuously wet by ponding, spraying, or covering with materials that are continuously and thoroughly wet.
         1) Acceptable materials for covering concrete surfaces include cotton mats, multiple layers of burlap, or other materials that retain water.
         2) Secure the cover materials to prevent wind or other forces from removing them.
         3) Keep the cover materials saturated throughout the curing period.
      b. Do not erode or damage the finish.
      c. Prevent excess water from impacting traffic on in-service roadways.

3. Liquid Membrane-Curing Compound Method (LMCCM)
    a. Thoroughly seal exposed concrete surfaces with a liquid membrane-curing compound immediately after finishing operations are completed for exposed concrete surfaces or immediately after forms are removed and necessary patching is complete when forms are removed before the end of the curing period.
    b. Apply liquid membrane-curing compound uniformly at the rates specified in Tables 1 and 2.
    c. Immediately repair damage to the curing compound film during the specified curing period by re-spraying.
4. Waterproof Cover Method (WCM)
    a. Exposed concrete surfaces must be wet before installing cover.
    b. Cover exposed concrete surfaces with a material that prevents moisture loss from the concrete.
        1) Do not use materials that have lost their waterproof qualities.
        2) Secure cover to prevent displacement by wind.
    c. Use this method only when the covering can be secured adequately to prevent moisture loss.
    d. Maintain the air temperature beneath the cover at not less than 50 degrees F.
        1) The use of insulated blankets is permitted.
5. Steam or Radiant-Heat Method (SRHM)
    a. Use only for precast concrete members manufactured in prequalified plants.
    b. Use a complete steam or radiant heat curing system that includes 24 hour temperature control and monitoring devices.
        1) Use temperature recording devices as necessary to verify that temperatures are uniform throughout the enclosure and within the limits specified.
    c. Steam Heat Curing System
        1) Use a suitable enclosure to contain live steam and minimize moisture and heat losses.
        2) Use low-pressure and saturated steam.
        3) Maintain 90 to 100 percent relative humidity in the curing enclosure.
        4) Do not apply heat directly on the concrete or cause localized high temperatures.
    d. Radiant Heat Curing System
        1) Apply heat by means of pipes circulating steam, hot oil, or hot water, or by electric heating elements.
        2) Use a suitable enclosure to contain the heat.

3) Minimize moisture loss by covering exposed concrete surfaces with plastic sheeting.

e. Waiting Period

1) Do not apply the initial application of heat before the initial set of the concrete except to maintain the minimum temperature within the curing enclosure.

2) Maintain the temperature within the curing enclosure at not less than 50 degrees F. Live steam or radiant heat may be used to maintain the curing enclosure at the proper minimum temperature. Keep the concrete wet during this period.

f. Curing Period

1) Increase the temperature within the concrete during the initial application of heat at an average rate not to exceed 40 degrees F per hour until the curing temperature is reached.

2) Do not exceed a concrete temperature of 160 degrees F when applying heat.

3) Maintain the concrete temperature at between 50 degrees F and 160 degrees F.

4) Maintain the curing temperature until the concrete achieves the specified strength for terminating the curing.

5) Decrease the concrete temperature at a rate not to exceed 40 degrees F per hour until reaching a temperature of not more than 20 degrees F above the air temperature to which the concrete will be exposed when discontinuing heat.

g. Transfer the stressing force to the concrete immediately after discontinuing steam curing or radiant heat curing for prestressed members.

C. Prevent exposed concrete surfaces from drying when transitioning between curing methods.

D. Fogging

1. Use fogging when necessary to prevent drying of exposed concrete surfaces.

2. Use fogging equipment with compressed air misters that atomize the water and produce a very fine mist and not a spray.

a. Use equipment that allows for adjusting the rate of fogging depending on the conditions that are present.

b. Maintain misters at least 5 ft above the concrete surface and aimed in a direction not lower than horizontal.

c. Do not use fogging to apply excess water to the concrete surface to aid finishing.

d. Do not affect the water/cement ratio of the concrete.
e. Discontinue fogging when a fine coating of water or sheen is visible on the concrete surface.

3. Do not damage the concrete surface.

E. Follow the hot and cold weather limitations according to Section 03055.

3.2 CURING COMPOUND APPLICATION

A. Comply with the following when applying liquid membrane-curing compound to structural elements in bridges, box culverts, headwalls, retaining walls, concrete drainage structures, and concrete slope protection.

1. Do not use curing compounds on surfaces that require a rubbed finish or on surfaces of construction joints against which new concrete will be cast, unless the Engineer gives written approval.
   a. Completely remove the curing compound before casting new concrete against the surface when curing compound is allowed.
2. Do not use curing compounds on architectural surfaces that require a concrete coating or penetrating concrete sealer and where removal will diminish the texture.

B. Preparation

1. Verify concrete surfaces are ready for curing.
   a. Complete all patching and surface finishing before applying curing compound.
2. Prepare concrete surfaces and apply curing compound according to product manufacturer's recommendations. Refer to Tables 1 and 2 for application rates.
3. Keep surfaces moist until the curing compound is applied.

3.3 CURE CAST-IN-PLACE CONCRETE

A. Cure all formed surfaces using the FIPM.

B. Cure exposed surfaces of newly placed cast-in-place concrete according to the curing methods and curing periods in Table 1.

1. Determine the concrete compressive strength using field cured cylinders cured the same as the concrete member when compressive strength is used to determine the curing period. The curing period is the specified number of consecutive days when compressive strength is not used to determine the curing period.

Table 1

Cast-in-Place Concrete Curing Requirements				
Element	Curing Methods for Exposed Surfaces [1]	Curing Period [2]	Curing Compound	
			Type	Application Rate
Bridge Decks and Approach Slabs	• LMCCM and WM	14 days	ASTM C309, Type I D, Class A	Manufacturer's recommended rate
Closure Pours in Bridge Decks and Approach Slabs	• LMCCM and WM	7 days and f′c [3]	ASTM C309, Type I D, Class A	Manufacturer's recommended rate
Other Bridge Elements (superstructure, substructure, and foundation elements)	• LMCCM or • WM or • WCM	0.70 f′c or 7 days [3]	ASTM C309, Type I D, Class A	100 ft^2/gal
Box Culverts (including wingwalls, and aprons), Headwalls, Retaining Walls, Concrete Drainage Structures, Sign Structure Foundations	• LMCCM or • WM or • WCM	0.70 f′c or 7 days	ASTM C309, Type I D, Class A	100 ft^2/gal
Concrete barrier	• LMCCM or • WM or • WCM	0.70 f′c or 7 days	ASTM C309, Type I D, Class A or ASTM C1315, Type 1, Class A [4]	100 ft^2/gal
Curbs, gutters, flatwork, sidewalks, driveways, concrete slope protection, and other concrete items not specified	• LMCCM	7 days	ASTM C309, Type I D, Class A	100 ft^2/gal

Table 1 Notes:
[1] Use FIPM for all formed surfaces. Specified curing methods apply to exposed concrete surfaces and any formed surfaces where the forms are removed before the curing period ends.
[2] f'c = specified 28 day minimum compressive strength.
[3] The curing period for bridge elements that use high early strength concrete may be reduced to the greater of 3 days and the time required to achieve the specified 28 day minimum compressive strength. (Refer to Section 03310 for when the use of high early strength concrete is permitted.)
[4] Use a curing compound meeting ASTM C309 when removal is required.

C. Bridge Decks and Approach Slabs
   1. Cure the exposed surfaces of newly placed concrete bridge decks and approach slabs for the specified curing period by a combination of the liquid membrane-curing compound method and the water method.
   2. Apply membrane-curing compound so that no portion of the deck or approach slab is exposed to the atmosphere for more than 20 minutes after the tining or finishing operation.
      a. Use a work bridge that follows immediately after the finishing machine to allow application of the curing compound while the concrete is still plastic.
   3. Cover the entire exposed surface of bridge decks, approach slabs, curbs, and sidewalks as soon as the concrete is sufficiently set to support the materials. Refer to this Section, Article 3.1 for water method requirements.

D. Concrete Barrier
   1. Broom clean the formed surfaces of the barrier after removing forms.
   2. Apply curing compound to exposed concrete surfaces immediately after finishing operations are completed.

3.4 CURE PRECAST CONCRETE

A. Cure all formed surfaces using the FIPM.

B. Cure exposed surfaces of newly placed precast concrete according to the curing methods and curing periods in Table 2.
   1. Determine the concrete compressive strength using field cured cylinders cured the same as the concrete member when compressive strength is used to determine the curing period. The curing period is the specified number of consecutive days when compressive strength is not used to determine the curing period.

Table 2

Precast Concrete Curing Requirements				
Element	Curing Methods for Exposed Surfaces [1]	Curing Period [2]	Curing Compound	
			Type	Application Rate
Precast Concrete Deck Panels (full depth), Precast Approach Slabs, (includes parapets when cast concurrent with precast deck and approach slab panels)	• LMCCM and WM	14 days	ASTM C309, Type I D, Class A	Manufacturer's recommended rate
Precast Substructure Elements, Partial Depth Precast Deck Panels (non-prestressed)	• WM or • SRHM	0.7 f′c or 7 days	Not used	Not used
Prestressed Concrete Members (includes all pretensioned concrete members where pretensioning is required in the plans)	• SRHM or • WM or • WCM	Specified release strength (f'ci)	Not used	Not used
Precast Noise Walls, Precast Retaining/Noise Walls, MSE Retaining Wall Panels	• SRHM or • WM or • WCM	0.70 f′c or 7 days	Not used	Not used
Precast Box Culvert Structures and Precast Three-Sided Culvert Structures (wet cast and dry cast)	• SRHM or • WM or • WCM • LMCCM	0.70 f′c or 7 days	ASTM C309, Type I D, Class A	100 ft^2/gal
Wet Cast Concrete Drainage Structures (such as manholes, grade rings, catch basin grade sections, pipe end sections, precast inlets and boxes)	• SRHM or • WM or • WCM • LMCCM	0.50 f′c or 7 days	ASTM C309, Type I D, Class A	100 ft^2/gal
Modular Block (wet cast)	• WM or • WCM or • LMCCM	0.70 f'c or 7 days	ASTM C309, Type I D, Class A	100 ft^2/gal

Table 2 (Continued)

Precast Concrete Curing Requirements				
Element	Curing Methods for Exposed Surfaces [1]	Curing Period [2]	Curing Compound	
			Type	Application Rate
Concrete Barrier	• LMCCM	7 days and until certified according to QMP [3]	ASTM C1315, Type 1, Class A	100 ft^2/gal
PCC Pavement Panels	• LMCCM and WM	14 days	ASTM C309, Type I D, Class A	Manufacturer's recommended rate

Table 2 Notes:
[1] Use FIPM for all formed surfaces. Specified curing methods apply to exposed concrete surfaces and any formed surfaces where the forms are removed before the curing period ends.
[2] f'c = specified 28 day minimum compressive strength.
[3] QMP = UDOT Quality Management Plan: Precast-Prestressed Concrete Structures.

C. Precast Concrete Deck Panels (full depth), and Precast Approach Slabs
   1. Refer to this Section, Article 3.3, paragraph C.

D. Precast Concrete Barrier
   1. Broom clean the formed surfaces of the barrier after removing forms.
   2. Apply curing compound to exposed concrete surfaces immediately after finishing operations are completed.

END OF SECTION

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SECTION 05120M

STRUCTURAL STEEL

Delete Article 1.3 and replace with the following:

1.3 REFERENCES

A. AASHTO M 111: Zinc (Hot-dip Galvanized) Coatings on Iron and Steel Products

B. AASHTO M 270: Structural Steel for Bridges

C. AASHTO LRFD Bridge Construction Specifications

D. AASHTO LRFD Bridge Design Specifications

E. AASHTO/AWS D1.5 Bridge Welding Code

F. ASTM A 194: Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both

G. ASTM A 325: Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength

H. ASTM A 563: Carbon and Alloy Steel Nuts

I. ASTM F 436: Hardened Steel Washers

J. ASTM F 606: Determining the Mechanical Properties of Externally and Internally Threaded Fasteners, Washers, Direct Tension Indicators, and Rivets

K. ASTM F 959: Compressible-Washer-Type Direct Tension Indicators for Use With Structural Fasteners

L. American Institute of Steel Construction (AISC)

M. Society for Protective Coatings (SSPC)

N. UDOT Quality Management Plan

O. UDOT Steel and Concrete Construction Manual

Delete Article 1.5, paragraph B.1 and replace with the following:

1. Manufacturer's certificate of compliance for nut, bolt, and washer proof load tests as specified. Refer to ASTM F 606 and ASTM A 325.
   a. Provide Certificate showing corresponding lot numbers appearing on the shipping package, certification, test location, time and date, and results of the testing.
   b. Include rotational capacity and proof load test results.

Delete Article 2.2, paragraph C.1 and replace with the following:

1. Refer to ASTM A 194 or ASTM A 563.

Delete Article 2.2, paragraph D and replace with the following:

D. Washers – Refer to ASTM F 436.

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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.

June 27, 2013

SPECIAL PROVISION

PROJECT # F-I15-7(309)318
PIN # 11092

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.

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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.

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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.

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SECTION 13554M

POLYMER CONCRETE JUNCTION BOX

Add the following to PART 3 EXECUTION:

3.7 RELOCATION

A. Replace existing boxes to be relocated with new boxes.

B. Replace conduit damaged during construction or excavation with new conduit.

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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.

June 27, 2013

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SECTION 13555M

ATMS CABINET

Add Article 2.9:

2.9 WIRING

A. Refer to Section 13551.

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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 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 (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 < 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.

July 19, 2016

SPECIAL PROVISION

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PIN #11092

SECTION 16121S

ROCKY MOUNTAIN POWER FACILITIES

Add Section 16121

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Materials and procedures for installing Rocky Mountain Power Concrete Pad Vault Sleeve as indicated on the plans for raising an existing 7' x 12' splice pad vault to new elevation.

1.2 RELATED SECTIONS

A. Section 01455: Material Quality Requirements

B. Section 02056: Embankment, Borrow, and Backfill

1.3 REFERENCES

A. State of Utah Administrative Rule R930-6 – Accommodation of Utilities and the Control and Protection of State Highway Rights of Way.

B. Pacificorp Standard DS 403 U.S. Padvault, Switchgear, Dead-Front

C. Pacificorp Standard DS 651 x U.S., Sleeve, Padvault, Concrete, 7'x12'x3.5'

D. Pacificorp Materials Specification ZG 311 Concrete Requirements

1.4 DEFINITIONS **Not Used**

1.5 SUBMITTALS **Not Used**

PART 2 PRODUCTS

2.1 PAD VAULT SLEEVE

A. Provide Pad vault sleeve per Rocky Mountain Power Standards (SI#8002565)

2.4 BACKFILL

A. Select Backfill: refer to Section 02056.

PART 3 EXECUTION

3.1 INSTALLATION

A. Refer to Sheet UTDT-03 for Concrete Pad Vault Sleeve requirements.

B. Contact Rocky Mountain Power at least seven days before performing the work.
Harvey McComb (801) 543-3032 and Doug Vandenberg (801) 540-0142

C. Perform all coordinating efforts required by Rocky Mountain Power.

D. Remove existing pad vault lid. Install new Concrete Pad Vault Sleeve and replace pad vault lid.

E. Do not enter existing pad vault. Coordinate with Rocky Mountain Power if access to the interior of the existing concrete pad vault is needed.

F. Backfill and grade surrounding pad vault area to provide positive drainage away from pad vault.

END OF SECTION