

STATE OF IDAHO
TRANSPORTATION DEPARTMENT
BOISE

CONTRACT NO. 8971



PROJECT [A022\(402\)](#)
KEY [22402](#)
WORK AUTH [T212460](#)
LOCATION [PUBLIC AVE CORRIDOR SAFETY IMPROVEMENT](#)
HIGHWAY [OFF SYS](#)
COUNTY [LATAH](#)

CONTRACTOR [KNIFE RIVER CORPORATION - MOUNTAIN WEST](#)
 [5450 W. GOWEN ROAD](#)
 [Boise, ID 83709](#)

RESIDENT ENGINEER [JAYME COONCE](#)
 [208-334-0565](#)
 jcoonce@lhtac.org



NOTICE OF LETTING

Idaho Federal Aid Project No. [A022\(402\)](#), in [Latah County](#), Key No. [22402](#); for the work of [improving safety to create a constant roadway width, fix horizontal and vertical geometry, install curve warning signs, chevrons, and delineators](#).

Sealed proposals will be received only at the office of the IDAHO TRANSPORTATION DEPARTMENT, 11331 WEST CHINDEN BLVD. BLDG #8, BOISE, IDAHO 83714 or PO Box 40, BOISE, IDAHO 83707-0040, ATTN: **ADVERTISEMENT AND AWARD**. Bids may also be submitted electronically through Bid Express (www.bidx.com). All bids must be received by two o'clock p.m., on [February 11, 2025](#).

For any design related questions, please submit through QuestCDN. Instructions on how to use this process are located on the [Notice to Contractors page](#).

Digital copies of the Plans, Proposals, and Specifications must be downloaded for a fee of \$22.00. **Bidders must appear on the plan holders list for their proposal to be accepted by the Department**. Please contact QuestCDN.com at 952-233-1632 or info@questcdninfo.com for assistance in downloading and working with this digital project information.

General Bidding information and Specifications may be obtained from the Idaho Transportation Department website at <http://itd.idaho.gov/business/>

In an effort to achieve ITD's DBE Annual Participation Goal (APG) of 10.11% utilization, ITD requires responder to utilize certified subcontractors and suppliers listed on its DBE Directory located at: <https://itd.dbesystem.com/>. For this project, it has been determined that there is a DBE availability of 17% or more. For more information regarding ITD's DBE Program please go to <https://itd.idaho.gov/civilrights/>

This contract requires full compliance with Title VI of the Civil Rights Act of 1964, which protects persons from being denied the benefits of or excluded from participation in programs or activities; or subjected to discrimination based on race, color, national origin, sex, age, disability, Limited English Proficiency or economic status. The Contractor is encouraged to utilize the goods and services of disadvantaged firms in accomplishing the tasks or providing the services of this agreement, and to provide equal opportunity to all sub-bidders and suppliers.

CONTRACT AGREEMENT

THIS AGREEMENT, made and entered into, in duplicate, this 21 day of April, 2025, by and between the State of Idaho, hereinafter called the State, by the Idaho Transportation Board of said State, party of the first part, and [KNIFE RIVER CORPORATION - MOUNTAIN WEST](#), hereinafter called the Contractor, party of the second part.

WITNESSETH: That the contractor, in consideration of the sum to be paid to him by said State, in the matter and at the time hereinafter provided, and of other covenants and agreements herein contained, hereby agrees for themselves, their heirs, administrators, successors and assigns to furnish the material and perform the work of: [improving safety to create a constant roadway width, fix horizontal and vertical geometry, install curve warning signs, chevrons, and delineators](#); in Latah County, designated as Idaho Federal Aid Project No. [A022\(402\)](#).

To furnish all necessary machinery, tools, apparatus, materials and labor to complete the work in the most substantial and workmanlike manner according to the plans and specifications therefore on file in the office of the Idaho Transportation Department of said State, and such modifications of the same and other directions that may be made by the State Highway Administrator as provided herein: Provided, however, that the proposed work covered by this contract does not include that portion or portions of the work to be done in right of way to which title is being contested in any court having jurisdiction, until a specific award has been made by the court in each instance and in good and sufficient title to such portion of right of way in dispute has been assured.

CONTRACT DOCUMENTS:

It is further agreed that the said plans and specifications and the schedule of rates and prices set forth in the proposal and the general and special provisions appended to this contract agreement are hereby specifically referred to and made a part of this contract, and shall have the same force and effect as though all of same were fully inserted herein.

PAYMENTS:

For the faithful performance of the work herein embraced, as set forth in the contract agreement, general and special provisions, notice to contractors, instructions to bidders, proposals, general and detailed specifications and plans, which are a part hereof, in accordance with the directions of the State Highway Administrator and to his satisfaction, the State agrees to pay said Contractor the amount earned, computed from the actual quantities of the work performed as shown by the estimates of the Administrator and unit prices named in such proposal, and to make such payments in the manner and at the time provided in such proposal, and to make such payments in the manner and at the time provided in the general provisions thereto appended. Payments shall be made by the State Treasurer of said State, upon warrants of the State Auditor of said State, issued upon vouchers of said State Highway Administrator, which have been approved by the Idaho Transportation Board out of monies legally available for that purpose.

IN WITNESS WHEREOF, The said State of Idaho, by the Idaho Transportation Board, executes this contract and the said KNIFE RIVER CORPORATION - MOUNTAIN WEST, does sign and seal the same, the day and year in this contract first above written.

Attest (The State):

I hereby attest that all contract documentation has been checked and included in this final contract, as appropriate.

STATE OF IDAHO
Idaho Transportation Board

By: *David B. Kuisti*

District Engineer/ HQ Division Administrator
Party of the First Part

Karen Hanna

Name & Title

Contracts Manager

CONTRACTOR



Pursuant to Idaho Code Section 9-1406 "I certify (or declare) under penalty of perjury pursuant to the law of the State of Idaho that the foregoing is true and correct." The undersigned is duly authorized to sign this document on behalf of the above referenced company.

James Lauteren
James Lauteren (Apr 18, 2025 09:39 MDT)

Signature

James Lauteren

Print Name

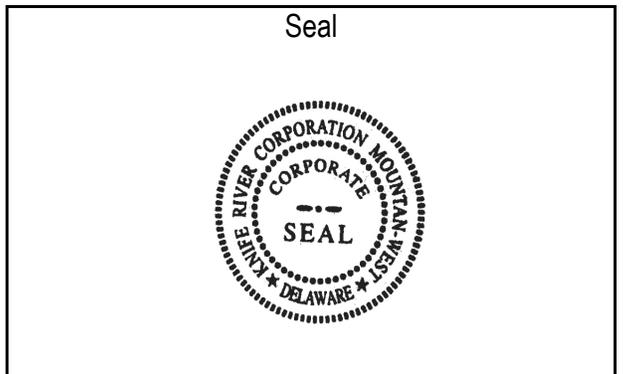
President

Title
Party of the Second Part

Apr 18, 2025

Date

Seal



SURETY

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, That we KNIFE RIVER CORPORATION - MOUNTAIN WEST, as Principal,

and

Liberty Mutual Insurance Company & Travelers Casualty and Surety Company of America

as Surety are held and firmly bound unto the State of Idaho in the penal sum of

ONE MILLION EIGHT HUNDRED FIFTEEN THOUSAND DOLLARS

(\$1,815,000.00) lawful money of the United States, which sum is agreed to be the maximum liability hereunder, well and truly to be paid, and for the payment of which we and each one of us bind ourselves, our heir, executors, administrators and assigns, jointly and severally, firmly by these presents.

The condition of the instrument is such, that whereas the Principal has entered into a certain agreement, hereto attached, with the State of Idaho, dated April 21, 2025, for the work of improving safety to create a constant roadway width, fix horizontal and vertical geometry, install curve warning signs, chevrons, and delineators; PUBLIC AVE CORRIDOR SAFETY IMPROVEMENT; known as IDAHO FEDERAL AID Key No. 22402 Contract No. 8971, in Latah County.

ITD TO DATE UPON AWARD

NOW, THEREFORE, If the said Principal shall pay all claimants supplying labor or materials to him or his subcontractors in the prosecution of the work provided for in said contract, and any and all authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety being hereby waived and shall pay all taxes when due, as required by Title 63, Chapter 15, Idaho Code, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, However, that this bond is executed pursuant to the provisions of the Public Contracts Bond Act, and all liabilities on this bond shall be determined in accordance with said provisions to the same extent as if set forth in full herein.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument to become effective on the date of the contract agreement as set forth above.

CONTRACTOR:

By:

James Lauteren
James Lauteren (Apr 18, 2025 09:39 MDT)
Signature

James Lauteren
Print Name

President
Title

CORPORATE SURETY:

Liberty Mutual Insurance Company & Travelers Casualty and Surety Company of America

Liberty Mutual Insurance Company & Travelers Casualty and Surety Company of America
Surety Company Name

By:

Haley Pflug
Haley Pflug (Apr 18, 2025 14:52 CDT)
Signature

Haley Pflug
Print Name

Attorney-in-Fact
Title

952-806-2398
Phone Number

haley.pflug@wtwco.com
Email Address

SURETY

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, That we KNIFE RIVER CORPORATION - MOUNTAIN WEST, as Principal,
and
Liberty Mutual Insurance Company & Travelers Casualty and Surety Company of America

as Surety are held and firmly bound unto the State of Idaho in the penal sum of

ONE MILLION EIGHT HUNDRED FIFTEEN THOUSAND DOLLARS

(\$1,815,000.00) lawful money of the United States, which sum is agreed to be the maximum liability hereunder, well and truly to be paid, and for the payment of which we and each one of us bind ourselves, our heir, executors, administrators and assigns, jointly and severally, firmly by these presents.

The condition of the instrument is such, that whereas the Principal has entered into a certain agreement, hereto attached, with the State of Idaho, dated April 21, 2025, for the work of improving safety to create a constant roadway width, fix horizontal and vertical geometry, install curve warning signs, chevrons, and delineators; PUBLIC AVE CORRIDOR SAFETY IMPROVEMENT; known as IDAHO FEDERAL AID Key No. 22402 Contract No. 8971, in Latah County.

ITD TO DATE UPON AWARD

NOW, THEREFORE, If the Principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said contract and any extensions thereof that may be granted by the State, with or without notice to the Surety and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, then this obligation to be null and void, otherwise to remain in full force and effect.

PROVIDED, However, that this bond is executed pursuant to the provisions of the Public Contracts Bond Act, and all liabilities on this bond shall be determined in accordance with said provisions to the same extent as if set forth in full herein.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument to become effective on the date of the contract agreement as set forth above.

CONTRACTOR:

By:

James Lauteren
James Lauteren (Apr 18, 2025 09:39 MDT)

Signature

James Lauteren

Print Name

President

Title

CORPORATE SURETY:

Liberty Mutual Insurance Company & Travelers Casualty and Surety Company of America

Surety Company Name

By:

Haley Pflug
Haley Pflug (Apr 18, 2025 14:52 CDT)

Signature

Haley Pflug

Print Name

Attorney-in-Fact

Title

952-806-2398

Phone Number

haley.pflug@wtwco.com

Email Address

ATTACH POWER OF ATTORNEY



CB-2-B
Power Of Attorney



STATE OF IDAHO
TRANSPORTATION DEPARTMENT
BOISE, IDAHO

DATE: February 18, 2025

ADDENDUM NO. 1

Idaho Federal Aid Project No. A022(402)
PUBLIC AVE CORRIDOR SAFETY IMPROVEMENT
Latah County, Key No. 22402

NOTICE TO PLANHOLDERS:

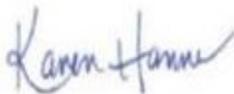
Enclosed are Revised Pages 1 through 6 of 6 of the revised Bid Schedule, Pages 1 through 28 of 28 of the Special Provisions, in its entirety, with changes to pages 17–18 and 22–27, and Sheets 7–9, 13, 20, 28–31 of 31 of the Plans.

The Bid Opening Date has been postponed from 02/11/2025 to 02/25/2025.

The above revised sheets that are underlined must be used instead of the corresponding sheets in the Contractor's Bid Proposal used for bidding purposes. This letter must be signed/initialed and dated and included with your hard copy bid. If submitting bid electronically, bidder must acknowledge this addenda, by inclusion of the amendment, in the electronic bid

FAILURE TO ACKNOWLEDGE INCLUSION OF THIS ADDENDUM SHALL RENDER THE BID PROPOSAL IRREGULAR AND THE BID WILL BE REJECTED.

Sincerely,



Karen Hanna
Contracts Manager

Proposal

In compliance with your bid package to be received for this letting, the undersigned certifies to have examined the location of work and/or materials sites, and is satisfied as to the condition to be encountered, and that the plans, specifications, contract and method of payment for such work is understood. The undersigned hereby proposes to furnish the material and perform the work as described in the Notice of Letting in accordance with the Proposal/Plans purchased through QuestCDN for this project.

On the acceptance of this proposal for said work, the undersigned will execute Contract Forms CA in accordance with the bid as accepted, and furnish the Contract Performance and Payment Bonds on Forms CB with approved and sufficient surety within 15 days after the prescribed forms are presented for signature.

The bidder further agrees that, if awarded, the contract work will be completed as stated in the Special Provisions, after authority to proceed has been given in conformity with and subject to such extensions as may be authorized by the terms of Extension of Contract Time of the Standard Specifications.

Accompanying this proposal is a Certified Check or a Cashier's Check drawn on an Idaho bank in the amount of five percent of the total amount bid, made payable to the Idaho Transportation Department, or a Bidder's Bond in the amount of five percent of the total amount bid.

The undersigned being duly sworn upon oath deposes and says that it complies with the provisions of Section 72-1717 Idaho Code (Drug Free Workplace program).

The contractor/consultant warrants and takes the steps to verify that it does not knowingly hire or engage persons not authorized to work in the United States; and that any misrepresentation in this regard or any employment of person not authorized to work in the United States constitutes a material breach and shall be cause for the imposition of monetary penalties up to five percent (5%) of the contract price, per violation, and/or termination of its contract.

By signature on this proposal, the bidder declares under penalty of perjury under the laws of the United States, that the firm, association, or corporation has not by or through any of its officers, partners, owners, or any other person associated therewith, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this highway project, and is not financially interested in or otherwise affiliated in a business way with any other bidder on this project.

Contract ID: 22402240828

Project(s): A022(402)

Letting Date: 02/25/2025

Call: 3

Bidder: K0107 - Knife River Corporation - Mountain West

Description: PUBLIC AVE CORRIDOR SAFETY IMPROVEMENTS

Date: 01/07/2025

Revised: 02/18/2025 12:00:00 AM

Legal Company Name: Knife River Corporation - Mountain West

Company Business Address: 5450 W Gowen Road, Boise, ID 83709

Mailing (Shipping) Address, if different or N/A: N/A

Company organized under the state of: Delaware

Legal Name of Highest Officer in Company: James Lauteren

Title of Highest Officer in Company: President

Contact Name: Rick Teegarden

Title of Contact: Contract Administration Manager

Contact Phone No.: 208-362-6152 Email: krsi.estimateding@kniferiver.com

Idaho Public Works License No.: 033799-U-1-2-3 Exp. Date: 03-31-2025

Unique Entity Identifier (UEI): LJN6JJ7T9JX6

Submittal, signature, acceptance, authorization and certifications are hereby made by signing this internet bid with a Digital ID. ***

State of Idaho
Idaho Transportation Department
Schedule of Items

LINE NUMBER	ITEM NUMBER	QUANTITY	UNIT	UNIT PRICE	EXTENSION PRICE
SECTION 001					
PUBLIC AVE CORRIDOR SAFETY IMPROVEMENTS					
0005	107-019A	5000.000	CA	\$1.00000	\$5,000.00
	SURVEY MONUMENT PRESERVATION				
0010	201-010A	1.000	LS	\$10,000.00000	\$10,000.00
	CLEARING & GRUBBING				
0015	202-005A	14.000	EACH	\$825.00000	\$11,550.00
	SELECTIVE REMOVAL OF TREES INCLUDING STUMPS				
0020	203-005A	1.000	LS	\$3,100.00000	\$3,100.00
	REMOVAL OF OBSTRUCTIONS				
0025	203-006A	7.000	EACH	\$300.00000	\$2,100.00
	REMOVAL OF SIGN				
0030	203-015A	3819.300	SY	\$3.25000	\$12,412.73
	REMOVAL OF BITUMINOUS SURFACE				
0035	203-025A	2.000	EACH	\$1,100.00000	\$2,200.00
	REMOVAL OF CATCH BASIN				
0040	203-055A	111.700	SY	\$28.00000	\$3,127.60
	REMOVAL OF CONCRETE PAVEMENT				
0045	203-060A	26.400	SY	\$28.00000	\$739.20
	REMOVAL OF CONCRETE SIDEWALK				
0050	203-065A	156.300	FT	\$8.00000	\$1,250.40
	REMOVAL OF CURB				
0055	203-095A	3.000	EACH	\$1,950.00000	\$5,850.00
	REMOVAL OF MANHOLE				
0060	203-122A	11.000	EACH	\$84.00000	\$924.00
	REMOVAL OF MISCELLANEOUS ITEMS				
0065	203-123A	1108.800	FT	\$55.00000	\$60,984.00
	REMOVAL OF MISCELLANEOUS ITEMS				
0070	205-005A	2400.000	CY	\$35.00000	\$84,000.00
	EXCAVATION				
0075	205-060A	280.000	MG	\$1.00000	\$280.00
	WATER FOR DUST ABATEMENT				
0080	205-095A	10000.000	CA	\$1.00000	\$10,000.00
	SOFT SPOT REPAIR				
0085	212-020A	216.000	FT	\$5.50000	\$1,188.00
	SILT FENCE				
0090	212-060A	2.000	EACH	\$7,000.00000	\$14,000.00
	STABILIZED CONSTRUCTION ENTRANCE				
0095	212-095A	15.000	EACH	\$145.00000	\$2,175.00
	INLET PROTECTION				
0100	303-022A	1753.500	TON	\$46.00000	\$80,661.00
	3/4" AGGREGATE TYPE B FOR BASE				
0105	307-011A	2024.600	TON	\$40.00000	\$80,984.00

OPEN-GRADED BASE CLASS II

0110	405-435A	1031.200 TON	\$175.00000	\$180,460.00
	SUPERPAVE HMA PAVEMENT INCLUDING ASPHALT & ADDITIVES CLASS SP-3			
0115	502-065A	7.000 CY	\$1,900.00000	\$13,300.00
	CONCRETE CLASS 40 AF			
0120	605-025A	207.200 FT	\$105.00000	\$21,756.00
	12" STORM SEWER PIPE			
0125	605-035A	182.700 FT	\$135.00000	\$24,664.50
	18" STORM SEWER PIPE			
0130	605-045A	1295.600 FT	\$160.00000	\$207,296.00
	24" STORM SEWER PIPE			
0135	605-635A	4.000 EACH	\$1,800.00000	\$7,200.00
	ADJUST MANHOLE COVERS			
0140	605-640A	7.000 EACH	\$1,250.00000	\$8,750.00
	ADJUST VALVE COVERS			
0145	606-010A	20.000 FT	\$183.00000	\$3,660.00
	6" PIPE UNDERDRAIN			
0150	614-015A	879.900 SY	\$88.00000	\$77,431.20
	SIDEWALK - City of Moscow Standard			
0155	614-020A	541.700 SY	\$135.00000	\$73,129.50
	DRIVEWAY - City of Moscow Standard			
0160	614-025A	100.000 SY	\$235.00000	\$23,500.00
	CURB RAMP - City of Moscow Standard			
0165	615-255A	94.300 FT	\$74.00000	\$6,978.20
	CURB - TYPE A - City of Moscow Standard			
0170	615-490A	2220.500 FT	\$68.00000	\$150,994.00
	CURB & GUTTER - TYPE B - City of Moscow Standard			
0175	616-010A	40.600 SF	\$27.75000	\$1,126.65
	SIGN TYPE B-1			
0180	616-040J	52.000 FT	\$74.00000	\$3,848.00
	STEEL SIGN POST TYPE E-1			
0185	616-040k	28.500 FT	\$55.50000	\$1,581.75
	STEEL SIGN POST TYPE E-2			
0190	616-080A	2.000 EACH	\$39.00000	\$78.00
	REINSTALL SIGN FACE			
0195	616-085A	2.000 EACH	\$145.00000	\$290.00
	REINSTALL SIGN POST			
0200	626-100A	10000.000 CA	\$1.00000	\$10,000.00
	MISCELLANEOUS TEMPORARY TRAFFIC CONTROL ITEMS			
0205	630-010A	420.400 SF	\$11.50000	\$4,834.60
	TRANSVERSE, WORD, SYMBOL, AND ARROW PAVEMENT MARKINGS - PREFORMED THERMOPLASTIC			
0210	630-025A	3125.700 FT	\$0.55000	\$1,719.14
	LONGITUDINAL PAVEMENT MARKING - WATERBORNE			
0215	634-005A	9.000 EACH	\$510.00000	\$4,590.00
	MAILBOX			
0220	640-015A	5450.000 SY	\$2.00000	\$10,900.00
	SUBGRADE SEPARATION GEOTEXTILE - TYPE III			
0225	675-005A	1.000 LS	\$27,750.00000	\$27,750.00

SURVEY					
0230	675-010A	15000.000	CA	\$1.00000	\$15,000.00
	DIRECTED SURVEYING				
0235	S501-15A	270.000	SF	\$106.00000	\$28,620.00
	RETAINING WALL				
0240	S600-20A	1.000	EACH	\$13,000.00000	\$13,000.00
	FIRE HYDRANT ASSEMBLY				
0245	S610-05A	442.000	FT	\$78.00000	\$34,476.00
	REM & RESET FENCE				
0250	S900-10A	4.000	EACH	\$410.00000	\$1,640.00
	CLEANOUT				
0255	S900-50A	15000.000	CA	\$1.00000	\$15,000.00
	CONTINGENCY AMOUNT - MISCELLANEOUS WORK				
0260	S900-50B	15000.000	CA	\$1.00000	\$15,000.00
	CONTINGENCY AMOUNT - DIRECTED LANDSCAPING				
0265	S901-05A	9.000	EACH	\$7,200.00000	\$64,800.00
	SP - STORM SEWER MANHOLE - CITY OF MOSCOW STANDARD				
0270	S901-05B	10.000	EACH	\$3,500.00000	\$35,000.00
	SP - CATCH BASIN - CITY OF MOSCOW STANDARD				
0275	S901-05C	3.000	EACH	\$515.00000	\$1,545.00
	SP - TREE - OWNER SPECIFIED				
0280	S901-05D	3.000	EACH	\$3,500.00000	\$10,500.00
	SP - 4" STORM SEWER CONNECTION				
0285	S901-05E	1.000	EACH	\$12,000.00000	\$12,000.00
	SP City of Moscow Storm Sewer Manhole 60"				
0290	S901-05F	3.000	EACH	\$3,800.00000	\$11,400.00
	SP City of Moscow Catch Basin Type 1L				
0295	S904-05A	1.000	LS	\$45,000.00000	\$45,000.00
	SP - TEMPORARY TRAFFIC CONTROL				
0300	S904-05B	1.000	LS	\$27,000.00000	\$27,000.00
	SP - LAWN REPAIR				
0305	Z629-05A	1.000	LS	\$226,655.53000	\$226,655.53
	MOBILIZATION				
Section 001 Total					\$1,815,000.00
Item Total					\$1,815,000.00

**IDAHO CODE CERTIFICATION FORM
For Federal - Aid Projects**

Failure to comply with the terms of the referenced Idaho Code may result in breach of contract.

Anti-Boycott Clauses

Per the provisions of Idaho Code §§ 67-2346, Anti-Boycott Against Israel Act, and Idaho Code §§ 67-2347A, Prohibition on Contracts with Companies Boycotting Certain Sectors the undersigned certifies that it is not currently engaged in, and will not for the duration of the contract engage in the following:

- Boycott of goods or services from Israel or territories under its control; or
- Boycott of any individual or company because the individual or company engages in or supports the exploration, production, utilization, transportation, sale, or manufacture of fossil fuel-based energy, timber, minerals, hydroelectric power, nuclear energy, or agriculture; or
- Boycott of any individual or company because the individual or company engages in or support the manufacture, distribution, sale, or use of firearms, as defined in Idaho Code §18-3302(2)(d),

Prohibition on Contracts with Companies Owned or Operated by the Government of China

Idaho Code, §§ 67-2359 states "a public entity in this state may not enter into a contract with a company to acquire or dispose of services, supplies, information technology, or construction unless the contract includes a written certification that the company is not currently owned or operated by the government of China and will not for the duration of the contract be owned or operated by the government of China". Company certifies that it is not owned or operated by the government of China.

By signing below, I certify that this company understands and will comply with the aforementioned requirements

Signature of Contractor's authorized representative:

Signature James Lauteren

Company Name Knife River Corporation - Mountain West



DISADVANTAGED BUSINESS ENTERPRISE (DBE) COMMITMENTS

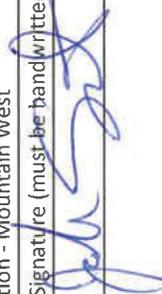
ITD 2396 (Rev. 1/2025)
itd.idaho.gov

This form must be submitted by all primes (Non-DBE and DBE Primes). This form is part of the DBE Submittal Package and must be accompanied by ITD-2399 and/or ITD-2400, along with any documentation relating to good faith efforts. Award of the contract is contingent on good faith efforts to provide opportunity for DBE participation in this project. Failure to complete items will result in an irregular bid. All documentation must either be emailed to

DBESubmittal@itd.idaho.gov or delivered to ITD Headquarters at 11331 W. Chinden Blvd, Bldg #8, Boise, ID 83714 by 5:00 pm MT on bid opening day.

Last submittal received, regardless of mechanism supercedes any previous submittal

Bid Date: 2/25/2025 Bid Amount: \$ 1,815,000.00

Key Number	Project Number	Project Name	
22402	A022(402)	PUBLIC AVE CORRIDOR SAFETY IMPROVEMENT	
Prime Contractor	Prime Contractor EEO Officer	EEO Officer Phone #	Prime Contractor EEO Office Email
Knife River Corporation - Mountain West	Randi Davidson	208-362-6152	randi.davidson@kniferiver.com
Prime Contractor's Signature (must be handwritten or digitally certified)	Date		Prime Contractor Phone Number
	2/25/2025		208-362-6152

Assigned goal for DBE subcontractors and suppliers for this project: 17 %

Section 1 - Summary of DBE Goal Commitment (Items below must match commitment amount in Section 2.)

1. One hundred percent (100%) of total amount to be performed by DBE firms, other than those listed in Item 2 through 5.
2. One hundred percent (100%) of total amount to be paid DBE Equipment lessors
3. One hundred percent (100%) of total amount to be paid to DBE Manufacturers (e.g., asphalt emulsions, cutback asphalts, fabricated signs, or delivery companies)
4. Sixty percent (60%) of total amount to be paid to DBE regular dealers/ suppliers
5. Net fee of DBE brokers or bonding agents
6. Forty percent (40%) of total amount to be paid to DBE distributors

	Amount Quoted by Supplier	Amount Quoted by Distributor	x60% = \$	x40% = \$	Commitment
1) \$					\$ 328,508.70
2) \$					-
3) \$					-
4) \$					
5) \$					
6) \$					

Total lines 1 through 6
\$ 328,508.70

18.10% %

(Enter the overall total and DBE% above. The approved percentage of commitment is contractual.)

<input checked="" type="checkbox"/> Approved	18.10 %	<input type="checkbox"/> Not Approved	
By: Ronnie Winks			Date
Digitally signed by Ronnie Winks Date: 2025.02.28 10:45:39 -07'00'			Idaho Transportation Department

Section 2 - Explanation of DBE Commitments

Note: Use 'Alt'+ 'Enter' to start a new line within a row if completing electronically.

Name of DBE Firm Being Committed to the Prime for this Project (include person who submitted the quote and contact information, to include phone number and address)	Items Quoted for DBE Credit (List by Contract Item Numbers (not Line Item Number) and Brief Work or Material Description)	For Materials Only: Supplied (S) Leased (L) Manufactured (M) Distributor (D) Broker (B)	Total Amount Quoted by DBE for DBE Credit
1) North Fork Enterprises Jennifer Oertli - 208-660-6205 206 N Division St., Pinehurst, ID 83850	Please see attached 2399.		\$ 328,508.70
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			

Use additional sheets if necessary.



**DISADVANTAGED BUSINESS ENTERPRISE (DBE)
SUBCONTRACTOR COMMITMENT STATEMENT**

This template includes all of the necessary information for the DBE Commitment Statement. The ITD 2399-DBE Subcontractor Commitment statement must be included with the DBE submittal package, which must be submitted by 5:00 pm MT on bid opening day. This is a locked document; thus, if you need additional rows simply attach second copy with the additional information. If you are bidding a partial work item, please include description of work being performed after item name in "item name" box.

Date:	February 25, 2025
Project Name and/or Key Number:	PUBLIC AVE CORRIDOR SAFETY IMPROVEMENTS; KN: 22402
Prime Contractor Name:	Knife River Corporation - Mountain West
DBE Firm Name:	NORTH FORK ENTERPRISES
DBE Address:	206 N. DIVISION STREET Pinehurst, ID 83850
DBE Contact Name and Phone Number:	Jennifer Oertli: 208-660-6205
DBE Firm Total: \$ 328,508.70	

DBE WORK ITEMS		
Item Number	Item Name	Item Quote
605-025A	12" Storm Sewer Pipe	\$ 19,476.80
605-035A	18" Storm Sewer Pipe	\$ 22,106.70
605-045A	24" Storm Sewer Pipe	\$ 183,975.20
606-010A	6" Pipe Underdrain	\$ 3,260.00
S901-05A	SP Storm Sewer MH	\$ 57,690.00
Z629-05A	Mobilization	\$ 42,000.00

DBE Commitment Statement

As the authorized representative of the DBE, I confirm that my firm has been contacted by the Prime Contractor/Bidder with regard to the above referenced project and work items. If the Prime Contractor is awarded the contract, we will enter into an agreement with them to perform the above referenced bid items and subsequently will meet performance requirements of a commercially useful function (CUF) as a subcontractor.

DBE Authorized Representative 

DBE Signature which can be in one of the following forms:

- a) Handwritten signature or initials
- b) An electronic signature that is not typed using software (e.g., Adobe® Reader, Adobe Professional, Adobe E-Signature, DocuSign®);

DAVIS-BACON WAGE

GENERAL WAGE DECISION ID250082

PUBLICATION DATE 01/03/2025 ID82

The above referenced wage rates can be obtained

at

<http://www.sam.gov>

DAVIS-BACON WAGE RATES

Idaho Federal Aid Project No. [A022\(402\)](#)
[PUBLIC AVE CORRIDOR SAFETY IMPROVEMENT](#)
[Latah County, Key No. 22402](#)

The following Davis Bacon Wage Rates shall be posted by the Contractor using Poster WH-1321 and shall be placed prominently in a location where it will be noticeable and accessible to all workers at the site of the work on each Federal Aid Project.

Should these papers tear or become illegible, they shall be replaced as long as work continues. Posters and additional copies of this form are available from the Engineer.

Superseded General Decision Number: ID20240082

State: Idaho

Construction Type: Highway

County: Latah County in Idaho.

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2025.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number Publication Date
0 01/03/2025

ZONE 1:

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 38.05	16.89

Zone Differential (Add to Zone 1 rate): Zone 2 - \$3.00

BASE POINTS: Spokane, Pasco, Lewiston, Wenatchee

Zone 1: 0-45 radius miles from the main post office

Zone 2: Over 45 radius miles from the main post office

 SUID2013-010 06/17/2013

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 26.57	8.10
ELECTRICIAN.....	\$ 26.83	11.94
HIGHWAY/PARKING LOT STRIPING: Painter.....	\$ 23.80	6.67
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor.....	\$ 22.86	9.40
LABORER: Common or General.....	\$ 22.92	10.01
LABORER: Concrete Saw (Hand Held/Walk Behind).....	\$ 23.98	11.05
LABORER: Grade Checker.....	\$ 23.41	10.78
LABORER: Mason Tender - Cement/Concrete.....	\$ 23.52	10.39
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 25.97	10.95
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 25.35	11.55
OPERATOR: Broom/Sweeper.....	\$ 26.82	11.55
OPERATOR: Bulldozer.....	\$ 25.73	11.51
OPERATOR: Crane.....	\$ 27.18	10.97
OPERATOR: Crusher.....	\$ 25.06	9.23
OPERATOR: Grader/Blade.....	\$ 26.00	10.30
OPERATOR: Hydroseeder.....	\$ 24.76	11.51
OPERATOR: Loader.....	\$ 25.76	10.31
OPERATOR: Mechanic.....	\$ 26.00	9.93
OPERATOR: Oiler.....	\$ 25.66	9.23

OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 25.66	11.03
OPERATOR: Roller (Subgrade).....	\$ 22.24	8.57
OPERATOR: Roller.....	\$ 25.49	11.55
OPERATOR: Rotomill.....	\$ 29.78	4.52
OPERATOR: Screed.....	\$ 25.71	11.55
TRAFFIC CONTROL: Flagger.....	\$ 21.46	10.12
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....	\$ 22.66	10.90
TRUCK DRIVER: Dump Truck.....	\$ 23.40	10.75
TRUCK DRIVER: Lowboy Truck.....	\$ 22.12	13.20
TRUCK DRIVER: Oil Distributor Truck.....	\$ 22.54	12.35
TRUCK DRIVER: Water Truck.....	\$ 23.12	10.75

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

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) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular

rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate 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. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the 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. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and

prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail 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 an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail 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 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.

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END OF GENERAL DECISION"

SPECIAL PROVISIONS

IDAHO FEDERAL AID PROJECT NO. A022(402)

Public Ave Corridor Safety Improvements

Latah County

For the work of improving safety to create a constant roadway width, fix horizontal and vertical geometry, install curve warning signs, chevrons, and delineators.

The following special provisions and all addenda issued supplement or modify the 2023 Idaho Transportation Department Standard Specifications for Highway Construction, 2020 Quality Assurance (QA) Manual (10/19), 2024 QA Manual Supplementals to the 2020 QA Manual (7/29/24), 2024 Buy America Insert (4/9/2024), 2023 Quality Assurance Special Provision for State Acceptance (12/07/2023), 2024 Special Provision for 405 Superpave Hot Mix Asphalt (11/29/2023), April 2023 Standard Drawings, Title VI Special Provisions; FHWA-1273 Federal Aid Required Contract Provisions, General Wage Decision ID250082.

SOURCE IDENTIFICATION

Designated sources. Designated source(s) are not identified for this contract/project.

Contractor provided sources. Provide an approved source(s) for all materials to be embanked or processed for placement. Department owned or controlled sources will not be allowed for this contract.

Cost. Assume all costs incurred in obtaining approvals for use of source(s).

CONTRACT TIME & LIQUIDATED DAMAGES

Work will not start earlier than May 5, 2025 or later than June 16, 2025 and must be completed within 70 working days.

- 404 permitted work outside of the typical low flow or no flow dates of June 15th to October 30th must be approved by the engineer.

Once started, work must continuously progress until completion. Return traffic through the work zone to normal operations during any planned or unplanned work stoppage lasting longer than 3 working days.

LIQUIDATED DAMAGES

The amount of liquidated damages for failure to complete the work on time will be \$3,000 per day.

Liquidated damages provision does not waive the Department's right to seek other remedies for a breach of contract by the awarded Contractor.

CONTRACTOR NOTES

DBE PROGRAM REQUIREMENTS

10/21

For bidding purposes, the Contractor must comply with the DBE program requirement of **17.0%**. Upon award, the approved percentage % on the ITD-2396 DBE Commitments form becomes contractual and failure to comply is a breach of contract. Any change to this contractual commitment during the administration of the contract must be coordinated through the Office of Civil Rights. Whenever the Engineer determines, after investigating and obtaining evidence the Contractor has not complied with the DBE program requirement, the Engineer will take corrective action. Refer to the Department's Standard Specifications for Highway Construction, Section 110, Civil Rights.

The Contractor, sub recipient, or subcontractor 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 USDOT-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 recipient deems appropriate (e.g., withholding monthly progress payments, assessing sanctions, liquidated damages, disqualifying the Contractor from future bidding as non-responsible).

For additional DBE Program information see the Department's DBE program requirements located at: <https://itd.idaho.gov/civilrights/>

AMERICANS WITH DISABILITIES ACT (ADA)

The curb ramps to be constructed with this project must meet all requirements of ADA as defined by the ADA Accessibility Guidelines (ADAAG), Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG), ITD Standards, as shown on the plans, and as directed. Curb ramp minimum and maximum dimensions and slopes are absolute and no deviation below minimum and maximum dimensions and slopes is allowed.

Curb ramps failing to meet all requirements of ADA shall be removed and replaced with curb ramps meeting all requirements of ADA at no additional cost to the Project.

ASPHALT AND CONCRETE SAW CUTTING

The Department considers saw cutting incidental, regardless of asphalt or concrete thickness, and the work included in the contract unit prices for other contract pay items. All concrete and asphalt shall be sawcut when matching back to existing asphalt or concrete.

BIDDER Q&A

1/25

Prior to bid opening, submit any project-related questions through QuestCDN – Submit questions by 5:00pm MT on the Thursday prior to the bid opening. We are not obligated to respond to questions received after the stated cutoff date and time.

CLEARING OF TREES AND BRUSH

Clear all trees and brush including their stumps from within the project limits. Merchantable timber in the clearing area, not removed from the right of way before the start of construction, is the Contractor's property. Do not dispose of materials by open burning. The Department will allow materials and debris to be disposed of at locations off the project site and out of view from the project site. Obtain the property owner's written permission before placing the materials and debris. Submit copies of the agreements with property owners and comply with the requirements of 107.17.

Protect and preserve trees, shrubbery, grass, and other vegetative ground cover outside the construction area. The Contractor is responsible for damage resulting from the work. Take reasonable care to avoid damage by construction operations to streams adjacent to the project site.

COMMUNICATION PROTOCOL DURING CONSTRUCTION BIDDING

11/23

During the advertisement period, prospective Contractors/Bidders will address all questions through QuestCDN. After Bid Opening and through Contract Award, all communications between the Department and the Contractor/Bidder, and any unsuccessful bidders, will be through the State Design Engineer at 208.334.8502. The Department will be unable to share any information related to bid submittals or pending Department decisions during this time. After Contract Award, all communications between the Department and the Contractor will be through the Design Construction (Resident) Engineer.

CONSULTANT CONFLICT OF INTEREST

The Consultant and sub-consultants, as the designers of this project, agree that no one in their firms will perform any services for the contractor on the construction of this project.

The following Consultants worked on the design of this project:

HMH Engineering

COORDINATION WITH OTHERS

The Contractor will maintain access to all properties adjacent to the maximum extent feasible. If temporary restriction of access is necessary, coordinate the access restriction with the property owner at least 48 hours prior to any restrictions.

No less than 48 hours before implementing traffic restricting measures, provide the following entities with specific traffic control methods and dates for all such controls that will be in use:

1. Emergency response agencies: Police agencies, local fire districts, ambulance services, etc.
2. The City of Moscow

Provide one telephone number to Emergency Services with which they will be able to contact the Contractors on-site project supervisor at any time during construction.

DEPARTMENT STANDARD DRAWINGS

The applicable City and Department standard drawings supplement the contract plans and are incorporated into the contract by reference. The City of Moscow Standard Drawings identified for this project are available on the City's website, <https://www.ci.moscow.id.us/1107/Construction-Standards>. The Department Standard Drawings identified for this project are available on the Department Website, <http://apps.itd.idaho.gov/apps/StandardDrawings/StandardDrawings.htm>. The City and Department will not provide printed or electronic file copies of the Standard Drawings to bidders prior to contract award or to the Contractor after contract award. Each bidder has sole responsibility to obtain the applicable City and Department Standard Drawings, and to provide a bid in accordance with the Standard Drawing revision specified on the first page of this contract.

EMERGENCY SERVICES NOTIFICATION

No less than 48 hours before implementing any traffic restricting measures, provide in writing the following entities with specific traffic control methods and dates all such controls will be in use, along with one phone number with which they will be able to contact the on-site project supervisor at any time during construction:

1. Emergency response agencies: Idaho State Patrol, Latah County Sheriff, Moscow Police Department, Moscow Volunteer Fire Department, Moscow Volunteer Fire Department Ambulances, PACT EMS, etc.

Provide the Engineer with copies of communications with the above entities.

EMPLOYMENT AGENCY

To find the nearest employment office, visit <https://www.labor.idaho.gov/dnn/Local-Office-Directory>.

ENVIRONMENTAL REQUIREMENT – NON-REPORTING 404 NATIONWIDE PERMIT 3 (NWP 3)

This project has 404 permit coverage under a US Army Corps of Engineers non-reporting 404 Nationwide Permit 3 (NWP 3) and the associated Idaho Department of Environmental Quality 401 Certification.

Penalties and Damages

Fines, penalties, and costs to the Department for the Contractor's failure to comply with the Clean Water Act, to mitigate environmental damage, or to resolve regulatory actions will be deducted from moneys due the Contractor.

ENVIRONMENTAL REQUIREMENT-MIGRATORY BIRD PROTECTION ACT COMPLIANCE

Work Window Restriction:

No clearing or removal of vegetation and trees is allowed between September 15th and April 7th unless work is approved by the Engineer. To request approval, submit a survey that verifies the absence of Migratory Birds. The survey shall be:

- a. Completed immediately prior to ground disturbing, bridge removal or tree removal activities.
- b. Covers an area or work activity including a 50' buffer.

Initial survey work is incidental to the contract.

ENVIRONMENTAL REQUIREMENT – POLLINATOR PROTECTION

Implement the following Best Management Practices to support pollinators and pollinator habitat along roadside corridors:

- Protect Existing Habitat: Protect existing stands of native vegetation. Ground disturbing activities will be limited only to those areas deemed necessary for the construction of the project. Disturbing existing areas of native vegetation purely for the convenience of the contractor is prohibited.
- Herbicide Use: Reduce the risk of herbicide exposure to pollinators by:
 - Eliminating or reducing herbicide exposure to pollinators by first utilizing non-chemical (manual) methods to eliminate noxious and undesirable weeds.
 - If herbicide use is necessary, spot treat specific weeds with selective herbicides that do not leave residuals in the soil.
 - Treat weeds before they flower, to avoid spraying when pollinators are present.
 - Avoid spray application if winds are above 10 mph.

ENVIRONMENTAL REQUIREMENT – (STORM WATER) POLLUTION PREVENTION PLAN LOW EROSIONITY WAIVER LHTAC

With engineer approval, a Low Erosivity Waiver (LEW) may be obtained for the project, in lieu of construction general permit coverage, if the total project disturbances are less than 5.0 acres and the Environmental Protection Agency calculated rainfall erosivity R factor is less than 5.0. If approved, a pollution prevention plan (PPP) ITD-2788 form will be required. Include all LEW documentation in the PPP and retain on site.

If anticipated construction time is extended and the Rainfall Erosivity R factor will exceed 5.0 the project will no longer be eligible for a LEW. A SWPPP must be submitted for review and certification. When certified a Notice of Intent must be filed and construction general permit coverage obtained no less than 14 days prior to desired permit coverage.

For R value calculations see: <https://lew.epa.gov/>.

ESTIMATING BASIS

The unit weights in the estimating basis were determined from area history and past project experience. This information is provided for use by the designer in developing reasonable project quantities. The actual quantities will vary and are dependent on the Contractor provided materials source, crushing operation, and mix designs. The Contractor is responsible for determining actual unit weights based on the material produced and providing adequate materials for the project plus any losses due to stockpile operation, out of specification (rejected) materials, or other wastes.

FENCE REMOVAL

Before removing any fence, coordinate with the property owners as stated in 107.18 Fencing.

GENERAL WAGE DECISION

Upon written request 10 calendar days before the bid opening date, the Department will provide a missing job classification, wage rate, and fringe benefit rate as outlined on FHWA-1273 IV.1.b to all plan holders as addenda.

HAZARDOUS MATERIALS SPILL PREVENTION/CONTINGENCY PLAN

Prepare a Hazardous Materials Spill Prevention/Contingency Plan prior to mobilization and submit it to the Engineer for approval. State the following in the plan:

- Contractor response to any unexpected finding of a hazardous material or release of a hazardous material to the environment.
- Contractor responds immediately to any hazardous materials finding or release.
- Names and phone numbers of all government or private agencies to be contacted.
- Construction and use of a designated fuel storage and equipment refueling area, in accordance with the Idaho Transportation Department Standard Drawing 212-15, Petroleum Storage Area. Any fueling must take place a minimum of 150 feet from live water or fuel over absorbent pads to assure protection from chemical spills.
- All Best Management Practices designed to prevent or contain hazardous materials spills.
- No separate payment will be made for containment devices.

HMA PAVEMENT – SMALL QUANTITIES

The Department does not require acceptance test strips on small quantity pavement (e.g., less than 2250 tons), nonstructural pavement, or temporary pavement.

When an acceptance test strip is not required as per 405.03.I, the Department will base acceptance for pavement density on the density of cores taken from the finished pavement for quantity less than 750 Ton. The Engineer reserves the right to test additional properties for compliance with contract requirements. For quantity above 750 Tons and below 2250 Tons, will be tested in accordance with the QA manual 405-6. Obtain 5 randomly located core samples in accordance with the FOP for AASHTO R 67 from the compacted Superpave HMA in the Engineer's presence. The Engineer will determine the random core locations. Immediately submit the cores for testing. The Department will determine the density of the cores the FOP for AASHTO T 166 Method A or AASHTO T 331. In addition, obtain 3 randomly located mix samples during HMA placement, in the Engineer's presence, and immediately submit samples for testing. Obtain the samples in accordance with the AASHTO R 97 (see the QASP Table 106.03-1 Note 1.c.). The Engineer will randomly locate the mix samples and the Department will test the mix samples to determine the G_{mm} value in accordance with the FOP for AASHTO T 209 or ASTM D6857, Asphalt Content in accordance with the FOP for AASHTO T308, and Gradation in accordance with the FOP for AASHTO T 30. The Department will use the average of the 3 G_{mm} values to compute in-place density of the cores taken for density acceptance. The following table will be used for specification limits to determine pass/fail. If paving will be performed in different construction seasons (e.g., bridge approaches), obtain 5 additional cores from the compacted Superpave HMA and 3 additional mix samples for density acceptance when paving resumes. The Contractor is responsible for quality control testing.

Production Paving Specification Limits

Mix Characteristic	Limits
SP 2, SP3 and SP5 Mixture	
No. 4 sieve and larger sieves, %	JMF value \pm 5.0 ^(a)
No. 8 to No. 30 sieves, %	JMF value \pm 4.0 ^(a)

No. 50 to No. 100 sieves, %	JMF value \pm 3.0 ^(a)
No. 200 sieve and smaller sieves, %	JMF value \pm 1.5 ^(a)
Asphalt Binder Content, %	JMF value – 0.3 / +0.450
Roadway Characteristic	Limits
Density, % Compaction	92.0 – 100.0

The upper and lower specification limits are never allowed to be outside the control points specified in 703.05.

IDAHO IMPLEMENTATION OF AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE, 2ND EDITION (2016)

The following safety hardware must meet AASHTO 2016 MASH criteria, ITD's Standard Drawings, and if the hardware is a proprietary product it must be approved on ITD's Qualified Product List (QPL) for new permanent installations and full replacements:

- W-beam
- Cast-in-place concrete barriers
- W-beam tangent terminals and buried-in-backslope terminals
- W-beam flared terminals and terminals installed on a flare
- Crash cushions
- Transitions
- Permanently installed portable barriers
- Bridge rails
- Cable barriers
- Cable barrier terminals

The following safety hardware may be MASH 2009/2016 or NCHRP 350 compliant for new permanent installations and full replacements:

- Double-sided or median terminals
- Sign supports
- All other breakaway hardware

For projects utilizing December 2018 Standard Drawings release or earlier, replace the 612 series sheets with the 612 series from the latest Standard Drawings release.

Temporary work zone devices (including portable barriers, truck- and trailer-mounted attenuators, portable changeable message signs (PCMS), temporary traffic signals, and camera trailers) manufactured after December 31, 2019, must have been successfully tested to the 2016 edition of MASH. Such devices manufactured on or before this date, and successfully tested to NCHRP Report 350 or the 2009 edition of MASH, may continue to be used throughout their normal service lives.

MAIL, PAPER BOXES AND SERVICE

Remove and reset existing mail and newspaper boxes. The work to temporarily relocate the mail and paper boxes during construction is incidental to 203-125B. If any of the boxes are damaged by the Contractor replace at Contractor's expense. After the new mailboxes have been installed, return existing mailboxes to the property owners. Reattaching the newspaper box to the new mailbox post is considered incidental to Item 634-005A Mailbox.

Schedule operation to assure that access to mail and paper boxes within the project are maintained in a manner to assure uninterrupted daily mail and paper service. Contact the United States Post Office, Moscow at (208) 883-8464 or 1-800-Ask-USPS (275-8777) and Moscow-Pullman Daily News at their Headquarters: (208) 882-5561 or their Circulation Office: (208) 746-8742, before starting the mail and paper box removal.

MATERIALS MEMORANDUM NO. 17B

The Materials Memorandum No. 17B is a substitution for approved materials phase reports for the Local Highway Safety Improvement Program.

PAVEMENT MARKINGS

Longitudinal cross walk pavement markings shall be installed to avoid wheel paths.

PLANT CONTROL CHARTS

As noted in ITD Standard Specification Section 405.03, plant control charts will be a required submittal. These submittals must include mix design inputs, and actual aggregate and additive weights as recorded by automated, or staff recorded logs.

POLLUTION PREVENTION PLAN (PPP)

02/24

The estimated project area of ground disturbance is approximately 1.9 acres. A pollution prevention plan (PPP) is required for this project due to the anticipated ground disturbance of less than 1 acre and/or lack the potential to discharge to Waters of the US.

If the Contractor's operations, including but not limited to staging, waste, or material source ground disturbances result in a disturbed area 1 acre or more and there is a potential connection to discharge to Waters of the US, an active IPDES permit (or NPDES permit if on Tribal land) and associated SWPPP will be required as specified in 107.17. All monetary and time impacts required to establish a SWPPP will be borne by the Contractor. A draft SWPPP must be submitted to the Engineer for approval before filing the Notice of Intent.

PROTECTION OF EXISTING UTILITIES AND ADJACENT PROPERTIES

It shall be the responsibility of the Contractor to protect all existing utilities, fences, fence posts, structures, pipes, drainage, and features on adjacent properties unless otherwise noted. Repair to the Owner's satisfaction, at no cost to the Department, any such facilities damaged by construction operations. It is recommended that the Contractor take photos of proposed work zone areas and areas adjacent to the proposed work zone before construction begins to document the existing condition of said features to aid in case of disputes. The Department considers this work incidental and the work included in the contract unit prices for other contract pay items.

ON PAGE 19, SUBSECTION 101.04 - DEFINITIONS

Delete the following under Working Day.

4. Days during December, January, and February.

ON PAGE 20, SUBSECTION 102.03 – EXAMINATION OF PLANS, SPECIFICATIONS, AND PROJECT

Delete the second paragraph and replace with the following:

Electronic design files will be provided, as available, upon request to the Engineer. The electronic design data is provided for the bidder's convenience and information and will not become part of the contract. All CADD files will be in Civil 3D format. Compatibility of CADD design files with non- Civil 3D software is not guaranteed and any use of such software with the provided electronic files is the sole responsibility of the Contractor. Additional work will not be performed by the Engineer to convert file types or generate files that are not available or incomplete.

The Contractor acknowledges the following:

1. All construction work must be completed per the Contract.
2. Such electronic CADD files were developed for the sole purpose of preparing drawings and are not intended nor represented to be suitable for use in construction.
3. Department, LHTAC, Sponsor, and design consultant make no warranty (expressed or implied) or assumes legal liability or responsibility for the accuracy, completeness, or usefulness of any electronic data provided.
4. The information shown on the electronic files may reflect data received from other sources (i.e. utilities, record drawings, etc.) and may not be the most current data. The electronic data may not reflect current conditions.
5. The Project Sponsor is the owner of the files. The design consultant retains ownership rights to the CADD files and grants the Contractor a nonexclusive, non-transferable license to use the documents.
6. Do not use the CADD files for any other project without the written consent of the design consultant.
7. Use of the documents is at the sole risk of the Contractor and without liability or legal exposure to the Department, LHTAC, Sponsor, and the design consultant, their employees, or sub-consultants.

The Contractor must defend, indemnify, and hold harmless the Department, LHTAC, and the design consultant, their employees, or sub-consultants from all claims, damages, losses, and expenses, including attorney's fees arising out of or resulting from the use of the CADD files. Providing electronic design data does not relieve the bidder from risks or of duty to make onsite project examinations and investigations, or other responsibilities.

Replace the first sentence of the 3rd paragraph with the following:

Immediately notify the Department in writing of any errors or omissions on the plans and proposal forms or inconsistencies between these documents and the project site. Do not take advantage of errors or omissions in the contract documents.

ON PAGE 28, SUBSECTION 104.01.B. – CONSTRUCTION PARTNERING

Delete the entire section.

ON PAGE 35, 105.02 – PLANS AND WORKING DRAWINGS

Add to the end of the third paragraph starting with "Submittals must..."

For products designed by the fabricator, all shop drawing sheets must stamped by an Engineer licensed in Idaho in addition to the cover sheet for the design calculations. When the shop drawings are for a product that is designed by the Engineer of Record, the shop drawings do not need to be stamped.

ON PAGE 36, SUBSECTION 105.04 – COORDINATION OF CONTRACT DOCUMENTS

04/24

Delete items 7 through 12 and add the following:

7. Buy America Insert
8. Quality Assurance (QA) Manual Supplementals
9. Standard Supplementals
10. Standard Specifications
11. Standard Drawings
12. QA Manual
13. Electronic Files (if specified as part of the contract)

ON PAGE 37, SUBSECTION 105.07 – UTILITY FACILITIES

Add the following to the end of the subsection:

The following utility companies have facilities within the project limits:

Avista Utilities

Randy Widman
Office: 509-336-6238
Cell: 208-651-1717
randy.widman@avistacorp.com

Avista has underground and overhead power within the work zone that require relocation and adjustment.

City of Moscow
Scott Bontrager
Engineering Manager
Office: (208) 883-7030
Cell: (509) 279-9456
sbontrager@ci.moscow.id.us

Charter Spectrum Communications
Ron Patrick Turner
Office: 509-330-5044
Cell: 509-330-1461
ronald.turner1@charter.com

Charter Spectrum Communications has underground and overhead utilities within the work zone that require relocation and adjustment.

Ziplay (formerly Frontier)
Brent Mulford, Network Engineer
Office: 208-310-0786
Cell: 208-883-0478
brent.mulford@ziplay.com

Ziplay has underground and overhead utilities within the work zone that require relocation and adjustment.

Retain and Protect existing facilities.

Request locates of buried utility facilities by contacting the Utility One-Call Center by calling 1-800-342-1585, e-mailing digline@digline.com or faxing 1-800-342-1586.

ON PAGE 68, SUBSECTION 107.10 - RESPONSIBILITY FOR INJURY DAMAGE 01/2024

In the fourth full paragraph, Delete the entire paragraph starting with “Submit a certificate...” and replace it with the following:

Submit a certificate of insurance to the email address provided on the Award letter and do not start work before obtaining approval of the insurance coverage by the Department

ON PAGE 78 SUBSECTION 107.17 J – STORMWATER POLLUTION PREVENTION LHTAC

Delete the section and replace with the following:

1. PPP form required by LHTAC. Both plans are documents that address BMPs (e.g., erosion and sediment control, good housekeeping practices, inspection procedures, spill prevention, response, clean-up). Meet applicable requirements of 212. The plan sheets (project clearance summary) identifies if a PPP or a CGP is anticipated based on estimates of ground disturbance and/or discharges to waters of the U.S.
 - a. If the addition of construction support activities causes the project ground disturbance to meet the requirements

for a Construction General Permit (greater than one acre and the potential to discharge to a water of the United States), for the Construction General Permit requirements.

- b. The Contractor will prepare the entire PPP using the PPP form as a template provided by the Engineer.
- c. Conduct inspections by a person who is knowledgeable in erosion and sediment control and pollution prevention practices. This includes professional accreditation (e.g., the Department's Water Pollution Control Manager (WPCM) training, Certified Professional in Erosion Control (CPESC), Certified Erosion, Sediment, and Stormwater Inspector (CESSWI)), or other applicable site management or project management experience, which can be documented and provided to the Engineer.
- d. Document the inspections using the ITD-2786 form available online. Conduct inspections every 7 calendar days unless otherwise approved by the Engineer.

Submit the plan and plan revisions for approval. The Engineer may also require submittal of an electronic, editable version of the plan. Allow 15 calendar days for review, unless otherwise specified. Revise to address comments and resubmit. Adjustments in cost or time are not allowed for PPP or SWPPP approval. Once approved, LHTAC and Contractor will sign the plan. Obtain approval before commencing pollutant-generating activities. Provide the PPP upon request. Construction activities, construction support activities, or other pollutant-generating activities not covered under another discharge permit are not allowed beyond the project site without being included in the approved PPP or SWPPP."

ON PAGE 82, SUBSECTION 107.19 – SURVEY MONUMENT PRESERVATION

01/24

Under subsection 107.19.2, add the following after the first full sentence:

Research within the project limits in the MCPD for survey monuments within the work zone to determine the possible existence of survey monuments to preserve and protect or to be reestablished after construction.

Document that this research has been completed.

ON PAGE 84, SUBSECTION 107.19 – SURVEY MONUMENT PRESERVATION

01/24

Under subsection 107.19.9.g., add the following at the end of the subsection:

The provisions of Section 107.08 will apply.

ON PAGE 87, SUBSECTION 108.01 – SUBLETTING OF CONTRACT

LHTAC 05/23

Delete the second sentence and substitute the following:

If the Engineer consents to subletting a portion of the work, the Contractor will use its own organization to perform work amounting to at least 30 percent of the original contract amount.

ON PAGE 91, SUBSECTION 108.05 – LIMITATION OF OPERATIONS

Add the following to the end of the second paragraph:

unless approved by the Engineer.

ON PAGE 112, SUBSECTION 109.05 – PARTIAL PAYMENTS

LHTAC

In the second sentence of the first paragraph delete "at least"

Delete the 3rd sentence in the first paragraph.

ON PAGE 134, SUBSECTION 203.01 – DESCRIPTION

Replace “old pavements,” with “bituminous surface”.

Add the following to part A after the first paragraph:

Removal of bituminous surface as an average depth of 0.25 feet.

ON PAGE 137, SUBSECTION 203.05 – BASIS OF PAYMENT

Add the following:

All required pavement saw cutting at existing pavement match locations will be considered incidental to bituminous surface removal.

ON PAGE 173, SUBSECTION 213.02 – MATERIALS

Delete from table 213.02-1, sieve size 1 in.

ON PAGE 181, SUBSECTION 251.04 – METHOD OF MEASUREMENT

LHTAC

Delete the section and substitute the following:

The Engineer will not measure the MBTA work.

ON PAGE 181, SUBSECTION 251.05 – BASIS OF PAYMENT

LHTAC

Delete the section and substitute the following:

251.05 Basis of Payment.

The Department considers the Migratory Bird Treaty Act as incidental to the contract.

ON PAGE 197, SUBSECTION 401.04 – METHOD OF MEASUREMENT

LHTAC

Replace the section with:

Tack coat is incidental and included in the contract unit price for the Superpave HMA contract pay item.

ON PAGE 197, SUBSECTION 401.05 – BASIS OF PAYMENT

LHTAC

Delete the first paragraph and pay item.

ON PAGE 495, SUBSECTION 614.02 – MATERIALS

Add the following after the last paragraph.

Sidewalks, Driveways and Curb Ramps: All concrete sidewalk shall conform to the City of Moscow Standard Drawings, Contract Plans, and Specifications. Concrete for sidewalks shall conform to the requirements of ES-11 CONCRETE and ES-12 CONCRETE CONSTRUCTION REQUIREMENTS of the City of Moscow Standard Construction Specifications.

Sidewalk, Driveways and Curb Ramps shall be constructed on a compacted base of (3/4) inch minus crushed rock; base aggregate shall be placed on compacted, non-pumping subgrade. The crushed rock shall have the following gradation:

Sieve Size	Percent Passing
1 inch	100
3/4 inch	90 – 100
No. 4	40 – 65
No. 8	30 – 50
No. 200	3 – 9

The sand equivalent shall not be less than 30 if 5 percent or more of the material passes the No. 200 sieve. Sand equivalent will not be required if less than 5 percent passes the No. 200 sieve.

The total thickness of the gravel base shall be at least six (6) inches, compacted, in-place.

The gravel base shall be graded, rolled, tamped, or otherwise compacted to ninety-five (95) percent of the maximum density determined in accordance with AASHTO T-99.

The gravel base shall be thoroughly sprinkled with water before the concrete is placed.

Driveways require reinforcement. Reinforcement shall be 6 x 6 W2.1/2.1 welded wire mesh or No. 4 rebar at 12 inch centers each way centered in the slab.

Curb Ramps require detectable warning “Truncated Dome” panels. Detectable warning “Truncated Dome” panels shall be cast iron and placed flush with the back of curb or as close as possible when prohibited by curb return radii.

ON PAGE 495, SUBSECTION 614.03 – CONSTRUCTION REQUIREMENTS

Add the following after the last paragraph.

- A. Dimensions. Sidewalk, Driveway, and Curb Ramp width, thickness, slopes, and reinforcement shall be as shown on the City of Moscow Standard Drawings. Sidewalk shall have a cross slope of between 1% and 2%, unless otherwise approved by the Engineer. Driveways shall include replacing or matching existing concrete driveways as shown on Plans.
- B. Forms. Side forms shall be rigid and shall bear full length on the compacted gravel base and shall be the full depth of the finished walk. Forms shall be well staked, braced or otherwise rigidly held to true line and grade and shall rest upon stakes driven into the ground at intervals sufficient to provide rigid support. If metal forms are used they shall be of a type satisfactory to the Engineer.
- C. Placing and Finishing Concrete. SLUMP SHALL NOT EXCEED FIVE (5) INCHES. The concrete shall be spread uniformly between the forms and thoroughly consolidated and leveled with an approved strike board. Expansion joints of premolded joint material one-half (1/2) inch thick or three-eighths (3/8) inch thick may be constructed through the sidewalk at intervals of twenty (20) feet. Expansion joints may also be located where new sidewalk meets existing concrete, unless otherwise approved by the Engineer. Where applicable, joints in sidewalks and curb shall coincide.

After the concrete has been thoroughly consolidated and leveled it shall be bull floated to eliminate high and low spots and to embed large aggregate. The concrete shall then be allowed to harden properly before jointing, edging, and brooming is completed.

Contraction joints shall be tooled into the concrete every four feet for four-foot-wide sidewalk and five feet for five-foot-wide sidewalk, shall be 3/8 inch minimum in depth, and shall be perpendicular to the direction of the walk. All joints shall then be edged with a 3/8-inch radius edger and the sidewalk edges shall be tooled with a one-half (1/2) inch radius edger.

After edging and jointing has been completed the concrete shall be smoothed with wood or metal hand floats. The floated surface shall then be coarse broomed uniformly in a transverse direction with a fiber hair brush or an approved type.

The placing and furnishing of all sidewalk shall be performed under the control of the Engineer, or his/her representative, and the tools shall meet with his/her approval.

The contractor shall keep a person at the job site for a minimum of four hours following the concrete surface brooming operation for the purpose of both preventing and repairing any damaged surfacing to the newly placed concrete. Concrete left unattended, if damaged or defaced shall be replaced at contractor expense.

- D. Curing. Curing shall be performed by applying a sealing compound conforming to AASHTO M-148 Type I to the surface of the concrete immediately after it has set sufficiently to permit such application. Curing shall conform to Section ES-12.7, Curing Concrete of the City of Moscow Standard Construction Specifications.
- E. Backfill. After removal of the forms, the area behind the sidewalks shall be backfilled and compacted with at least sixteen (16) inches of topsoil level with the sidewalk and curb. Less than 16 inches of topsoil may be approved where new sidewalk is being constructed along older streets. The topsoil shall be raked or otherwise leveled, taking care to break up large dirt clods and remove large stones. All denuded areas shall be fertilized, resown with grass seed and covered with mulch as specified in Sections ES-27, ES-28 of the City of Moscow Standard Construction Specifications.

ON PAGE 496, SUBSECTION 614.05 – BASIS OF PAYMENT

Delete and substitute the following:

The Department will pay for accepted quantities at the contract unit prices as follows:

Pay Item	Pay Unit
Driveway - City of Moscow Standard	SY
Curb Ramp - City of Moscow Standard	SY
Sidewalk - City of Moscow Standard	SY

The unit price per square yard shall include all materials, labor, equipment and other costs incidental to constructing concrete sidewalk, driveways and curb ramps as herein specified and as shown on the Plans and City of Moscow Standard Drawings. Topsoil and seeding are incidental to driveways, pedestrian ramps, and sidewalk.

ON PAGE 497, SUBSECTION 615.02 – MATERIALS

Add the following after the last paragraph.

Curb and Gutter: All concrete curb shall conform to the City of Moscow Standard Drawings, the Plans, and Specifications. Concrete for curbs shall conform to the requirements of ES-11 CONCRETE and ES-12 CONCRETE CONSTRUCTION REQUIREMENTS of these City of Moscow Standard Construction Specifications.

ON PAGE 497, SUBSECTION 615.03 – CONSTRUCTION REQUIREMENTS

Add the following after the last paragraph.

- A. Forms: Curb forms shall be set to line and grade as designated; securely staked, and so constructed as to result in finished lines true to the dimensions and shapes shown on the plans. Forms shall be of wood or

metal, straight and free from warp, and of sufficient strength to resist springing while placing concrete. Where a section must be constructed on a curve, straight lengths of the section shall be short enough that the middle ordinate to the curve, from the face of that section, does not exceed one-half (1/2) inch or the section shall be continuously curved.

- B. Joints: Expansion joints (or thru joints) shall be provided at intervals of forty-eight (48) feet throughout the length of the curb and at the junction of straight curb and radii and at either end of a driveway or alley section. Pre-formed joint fillers of one-half (1/2) inch or three-eighths (3/8) inch thickness will be placed in expansion joints. Contraction joints (or "Dummy Joints") shall be constructed every sixteen (16) feet. These joints shall be 1/8 inch minimum thickness and constructed to a minimum depth of 1-1/2 inches by scoring with a tool which will leave the corners rounded and destroy aggregate interlock.
- C. Dimensions: All curbs, unless otherwise specified, shall be in accordance with dimensions conforming to one of the types shown on City of Moscow Standard Drawings as specified by the approved project plans.
- D. Consistency: All Class A curb (cast in place) shall be of good plastic consistency and shall have a slump of three (3) inches and shall be tested by the Engineer according to the provisions of AASHTO T-119. Under no circumstances, shall the finished curb vary more than one-half (1/2) inch from the design elevation, and not more than ten (10) percent from the dimensions shown in the City of Moscow Standard Drawings and Specifications.
- E. Finishing: While the concrete is still green, the top and front face, or other exposed portions of the curb, shall be troweled to produce a uniform even surface then given a fine brush finish with brush strokes parallel to the long axis of the curb. Form marks and other irregularities shall be removed. The edges of the curb shall be rounded with an edger. Honeycombed areas in the back of the curb, that in the opinion of the Engineer are not detrimental to the curb, need not be patched.
- F. Curing: Immediately after finishing, the concrete shall be cured in accordance with the requirements of ES-12.7, Curing Concrete of the City of Moscow Standard Construction specifications.
- G. Backfilling: All curb shall be backfilled as described in City of Moscow Standard Construction Specifications and Drawings. If sidewalk or concrete pavers are to be constructed behind the curb, all backfill material shall be 3/4" minus crushed aggregate. If the area behind the curb is to be lawn or planted area, the top 16 inches shall be topsoil. All denuded areas shall be fertilized, resown with grass seed and covered with mulch as specified in Sections ES-27 and ES-28 of the City of Moscow Standard Construction specifications.

ON PAGE 497, SUBSECTION 615.05 – BASIS OF PAYMENT

Delete the section and substitute the following:

The Department will pay for accepted quantities at the contract unit prices as follows:

Pay Item	Pay Unit
Curb, Type A - City of Moscow Standard	FT
Curb and Gutter, Type B - City of Moscow Standard	FT

The unit price per linear foot shall include all materials, labor, equipment, and other costs incidental to construction concrete curb as herein specified and as shown on the Plans and City of Moscow Standard Drawings. Topsoil and seeding are incidental to curbs and curb and gutter.

ON PAGE 514-515, SUBSECTION 620.03.C – CONSTRUCTION REQUIREMENTS

Remove the following from Part C Backfilling and Finishing:

“Ensure planting establishment by watering, cultivating, replacing plants or mulch, and other work necessary to maintain the plants in a healthy condition, throughout the 1-year plant establishment period.”

“The Department will require a plant establishment period of 1 year for replacement plants. Ensure the establishment of the new plantings as specified.”

Add the following to Part B Backfilling and Finishing:

Ensure planting establishment by watering, cultivating, replacing plants or mulch, and other work necessary to maintain the plants in a healthy condition until accepted by the Engineer.

ON PAGE 529, SUBSECTION 626.02 – MATERIALS

Add the following after the last paragraph.

Project Item Assumption. Plan sheets have the assumed items and quantities needed for this project. Items and quantities shown on the plans are for estimating purposes only and do not necessarily represent what will be required to fit the Contractor’s staging plan. Submit temporary traffic control plans, items, and quantities as specified in 105.14.D. The Engineer’s approval of the temporary traffic control plan is not an approval of the items and quantities; it is only an acknowledgement that the plan appears to meet Section 626 and the MUTCD.

If the Contractor underestimates any temporary traffic control items, the Contractor is still responsible to ensure the safety to the public and construction workers at no additional cost to the project.

ON PAGE 531, SUBSECTION 626.03 – CONSTRUCTION REQUIREMENTS

Add the following after the last sentence of Subsection A.

Place PCMS 7 calendar days before the construction start date. Submit a proposed message before placing the PCMS. Remove PCMS when traffic is restored to normal operations.

A minimum of three site visits per week to the project to monitor and maintain the temporary traffic control plan and devices will be required. It is the responsibility of the Contractor to determine if three visits will be sufficient.

Additional compensation will not be made for variations to traffic control made necessary by Contractor operations.

Steel or concrete barriers may be used to protect the work zone.

For portable traffic signals submit a timing plan for approval before installation.

Correct traffic control deficiencies within 1 hour of receiving notification from the Engineer of requested corrective action.

Furnish, install, and maintain all TTC devices as shown on the approved traffic control plan and as specified in 626.03.

If items in the approved TTC plan are underestimated and prove inadequate to suit the needs of the Contractor’s operation while meeting Section 626 and the MUTCD, provide additional devices and services as necessary at no additional cost to the Department.

If all applicable requirements are being met, but unforeseen conditions necessitate additional TTC, the Engineer will direct the Contractor to provide additional devices and services to be paid by force account.

ON PAGE 534, SUBSECTION 626.04 – METHOD OF MEASUREMENT

Delete the section and substitute the following:

626.04 Method of Measurement

The engineer will measure acceptably completed work by the lump sum. Directed temporary traffic control will be by the contingency amount as specified in 109.03.C.5 as authorized by the Engineer.

ON PAGE 577, SUBSECTION 651.02 – MATERIALS

Add before the word Refer in section A. Turf Seed with:

The contractor must look at each lawn to be seeded and match as best as they can the same type of grass in each property owner's yard.

ON PAGE 579, SUBSECTION 651.03 – CONSTRUCTION REQUIREMENTS

Replace section C. Establishment Period. with:

C. Establishment Period

Apply Seed and fertilizer and soil conditioner to all lawn areas as shown on the plans.

Water lawn areas in accordance with good horticultural practices for the prevailing or existing conditions. If seeding is performed between June 1 and September 14, watering is incidental to seeding.

The Department will conduct an evaluation inspection after the seeding is completed to identify any areas that have not met the required application. Reseed the areas identified by the Department as not meeting the contract at no additional cost. Supply the same grass seed type in accordance with the original work requirements.

Supply each property owner with a ½ pond of the same grass seed type used for the property owner to reseed areas that become eroded, washed out, flooded, or which for any reason fail to show healthy specified grass growth after the project is completed.

ON PAGE 580, SUBSECTION 651.05 – BASIS OF PAYMENT

Add to the end of the section:

Any water for establishment is incidental.

ON PAGE 612, SUBSECTION 675.04 – METHOD OF MEASUREMENT

D1 03/19

Replace the first paragraph with the following:

Survey will be measured on a lump sum basis, based on a percent complete as determined in consultation with the Engineer and the Contractor, up to 70 percent of the total lump sum payment. Full payment will not be made on the survey contract pay item until all survey submittals are received and accepted. The Contractor will have up to but no more than 20 business days to submit all pay documents as stated in 109.08.

ON PAGE 678, SUBSECTION 711.05 – SEED

LHTAC

Delete this subsection and substitute the following:

711.05 – Seed. Provide seed collected or harvested within 2 years of the targeted seeding date. Provide all seed in pure live seed (PLS) unless otherwise directed.

Ensure each bag or container of individual seed species has labeling indicating seed classification (genus and species), lot number, purity, germination, percentage of weeds found, percentage of noxious weeds found, and test date.

For certified or non-certified seed:

1. Noxious weed seeds prohibited.
2. Less than 1 percent by weight weed seeds including restricted noxious weed seed.
3. Less than 3 percent by weight of allowable cheat, chess, or downy brome seed.

To obtain the PLS rating, use this formula:

$$\text{PLS rating} = (\text{purity \%}) \times (\text{germination \%}) / 100$$

To obtain the bulk seed needed:

$$\text{Bulk pounds of seed needed per acre} = (\text{PLS lb/acre required}) / \text{PLS rating}$$

A. Approval. The Engineer will verify that all seed test results are valid and comply with certification tags for each species before approval. Once approved, deliver seed to the project site unopened, in original and individually packaged bags or containers according to species type (i.e. one species per bag or container). If seed is received in opened packages, packages without certification tags, or packages or containers containing multiple species, the seed will not be approved for use.

B. Random Sampling. The Engineer may conduct random onsite sampling to verify species, purity percentage, germination percentage, and restricted and prohibited noxious weed seeds. The Engineer will weigh seed according to size, approximately 125-gram samples of mostly native seed (550 gram samples of grain or similar size seed) from unblended and individually packaged seed containers of each species. Samples will be submitted to the ISDA for analysis and verification. The Engineer will reject seed not meeting specifications. Do not plant until the seed is accepted and the application method is approved. Measure and mix individual unopened seed packages onsite in the Engineer's presence at the specified proportions.

S501-15A RETAINING WALL

Description. Design, provide, fabricate and install all materials for the Gravity Small Concrete Block Retaining Walls. Provide and fabricate, including concrete facing elements, leveling pad if required, foundation preparation, wall facing erection, structural excavation and compacting backfill, internal drainage system, and any other incidental items required to complete the Gravity Small Concrete Block Retaining Wall in accordance with the plans, design drawings and these specifications.

Related work may include temporary shoring to construct the walls, scour countermeasures placement and finish grading at the wall toes, and erosion countermeasures construction at the wall ends.

Do not allow any extra surcharge on the constructed retaining walls, such as an accumulation of blasted rock and soil during rock blasting. Repair any damage to walls at no cost to the Department.

Design Requirements.

- A. General.** Design the retaining walls as shown on the plans. The Department has provided preliminary dimensions for estimating purposes only. Perform a design for a chosen proprietary system that will establish the following criteria, as a minimum:
1. Block dimensions for each layer.

2. Size of concrete leveling pad (if required by proprietary system or as shown in the plans).
3. Quality and quantity of backfill.

Design the wall in accordance with the AASHTO LRFD *Bridge Design Specifications, 9th Edition* and with latest revisions. Design the walls for a design life of 75 years for permanent structures, 100 years for walls around bridge abutments (that are supported by spread footings placed on wall backfill), building, critical utilities, and 3 years for temporary structures.

Unless founded on bedrock, embed the wall at least 1 foot at the wall front face (for walls constructed along rivers or streams, this embedment is measured from the bottom of the potential scour depth) or as shown on the plans, whichever is greater. Embedment for walls on slopes must meet global stability requirements.

B. Detailed Design Drawings. Submit design drawings in PDF format with computations to the Engineer. Include details, dimensions, quantities, and cross sections necessary to construct the wall. Prepare plans to ITD standards and include elevation view, plan view, and section view sheets for each wall, containing the following:

1. *Elevation view.* Show the elevations at break points at the top of each wall face and at the top of each leveling pad (or bottom of each wall). Show block component details in the design drawings.
2. *Plan view.* Show dimensions tying break points at the top of each wall face and top of each leveling pad (or bottom of each wall) to the roadway centerline.
3. *Section (side) views.* Show dimensions tying break points at the top of each wall face and at the top of each leveling pad (or bottom of each wall) to the roadway centerline. Show excavation limits for wall construction.
4. Material takeoff for each wall, listing quantities for each main wall components, and incidental items required for construction.
5. Details for concrete blocks, leveling pads, coping if required. Design for wall end treatment, such as burying the wall ends, turning the wall ends into the slope and show them in the design drawings.
6. Design for drainage system as shown on the plans or this specification. As a minimum, design and provide an underdrain system for draining water away from the backfill and the wall.
7. Concrete coping details (cast in place or precast, if required)

Stamp and sign calculations and design drawings by a Professional Engineer licensed in the State of Idaho.

Provide design calculations and design drawings to the Engineers for review and approval before fabrication of wall elements. Allow at least 15 working days for the Engineer to review and approve the design calculations and design drawings.

Before project completion, provide the Engineer with as-built drawings in PDF format.

Materials.

A. General. Arrange to purchase or manufacture the necessary components for the selected pre-approved wall system from the following supplier list or approved equals. Use only one type of wall in the project unless indicated otherwise in the design.

Wall System	Manufacturer or Supplier	Facing Type	Limitations in Use
GEO WALL MAX	Basalite Concrete Products 1300 E. Franklin Meridian, ID 83642 (208) 888-4050	Small Concrete Block	- Maximum height is 4'-4" with flat backfill and 3'-0" with sloping backfill or traffic surcharge. - Cannot be used around bridge abutment
ANCHOR	Central Pre-Mix Concrete	Small Concrete Block	- Maximum height:

DIAMOND PRO, VERTICA, VERTICA PRO	Products Co. 16310 East Marietta Ave. Spokane, Washington 99216 (509) 926-8235		Diamond Pro 4'-0" Vertica 3'-4" Vertica Pro 6'-0" -Cannot be used around bridge abutment
Allan Block	Allan Block Corporation 7424 W. 78 th Street Bloomington, MN 55439	Small Concrete Block	-Not for use within 20' of a bridge abutment. - Max height: 4'-7" Flat Backfill 3'-1" Traffic Behind Wall 4'-1" Sloped Backfill -Only allow the 4000 psi (ITD Class 40A concrete) blocks. -No presumptive soil parameters can be used for wall designs.

Provide a Certificate of Compliance (along with backup test reports) in accordance with 106.04 of the *Standard Specifications* certifying that all materials provided by the Contractor or a manufacturer under these special provisions comply with the specifications for the wall system. Provide certifications before starting wall construction. Obtain written approval from the Engineer for non-specified materials or material from sources not listed in the contract documents.

B. Concrete Block Requirements. Provide Class 40A Concrete that complies with 502 of the *Standard Specifications*, except as modified in these Special Provisions. Obtain Engineer approval before using retarding or accelerating agents, or additive containing chloride.

1. Testing and Inspection. The Engineer will determine precast concrete block acceptability on the basis of compressive strength tests and visual inspection. The Engineer will consider precast units acceptable before 28 days if strength has reached the 28-day specified value. The Contractor or supplier must provide facilities and perform necessary sampling and testing in an expeditious and satisfactory manner. The Department will consider concrete blocks utilizing Type I or II cement acceptable for placement in the wall when initial compressive strengths (as defined in these Special Provisions) exceed 85 percent of 28-day strength requirements. The Department will consider blocks utilizing Type III cement acceptable for placement in the wall before 28 days only when compressive strength exceeds the 28-day strength requirement.
2. Concrete Finish and Color. Unless indicated otherwise, provide blocks with concrete facing texture and color as provided by the wall manufacturer. Submit the proposed concrete facing texture and color to the Engineer for approval before casting the concrete blocks.
3. Tolerances. Manufacture concrete blocks within the following tolerances:
 - Dimension within $\frac{3}{16}$ inch for block height.
 - Dimension within $\frac{1}{2}$ inch for block width, unless field cut for fitting.
 - The block depths must be at least equal to the design depths shown in the shop drawings.
4. Compressive Strength. The Engineer will determine concrete block acceptance with respect to compressive strength based on production lots. The Department defines a production lot as a group of blocks represented by a single compressive strength sample

that consists of 2000 blocks or a single day's production, whichever is less. During concrete block production, the manufacturer will randomly sample the concrete in accordance with 502.02 of the *Standard Specifications*. The Engineer may randomly select a single compressive strength sample, consisting of a minimum of five cylinders or coupons, for every production lot.

Prepare coupons for compressive strength tests in accordance with ASTM C140-12, Annex A3. For every compressive strength sample, cure at least two coupons in the same manner as the blocks and tested at approximately 7 days. The average coupon compressive strength will determine the initial concrete strength. In addition, cure three coupons in accordance with 502.02 and tested at 28 days.

The average 28-day coupon compressive strength will be the production lot compressive strength.

If the initial strength test results indicate a compressive strength in excess of 4,000 psi, then the Engineer will use these test results for that production lot and may waive the requirement for testing at 28 days for that particular production lot.

The Engineer will accept a production lot if the compressive strength test result is greater than or equal to 4,000 psi.

If the compressive strength test result is less than 4,000 psi, the Engineer will base production lot acceptance on meeting all the following criteria:

- Ninety percent of the compressive strength test results exceed 4,150 psi for the overall production.
- The average compressive strength test results exceed 4,250 psi for six consecutive lots.
- No individual compressive strength test results must fall below 3,600 psi.

In the event that a production lot fails to meet the specified compressive strength requirements, the Engineer will reject that production lot.

5. Rejection. In addition to the preceding paragraphs, the Engineer may reject a block or lot with any of the following defects:
 - Defects that indicate imperfect molding.
 - Defects that indicate honeycombed or open texture concrete.
 - Cracked or chipped blocks.
 - Front-block color variation due to excess form oil or other reasons.
6. Handling, Storage and Shipping. Handle units with care to eliminate chipping and fractures.

C. Coping For Walls. Provide Class 40A concrete for coping in accordance with 502 of the *Standard Specifications* when coping is required. Provide metal reinforcement for coping in accordance with 503 of the *Standard Specification*.

D. Leveling Pad. Provide a gravel or non-reinforced concrete leveling pad consisting of Class 22 concrete as shown on the plans.

E. Backfill Material. Provide the material that is free of shale, organic matter, mica, gypsum, clay, or soft, poor durability particles and meets the following property requirements:

1. The material must have a minimum internal friction angle of 34°, determined in accordance to test method AASHTO T-236. Perform this test on material finer than No.

10 sieve compacted to 95% of the maximum dry density as determined by AASHTO T-99. The Engineer may waive the requirement for AASHTO T-236 test if the material has 80% or more material that is larger than ¾ inch and in this case an internal friction angle of 34° can be used in the design.

2. The reinforced backfill material must also meet the following property requirements:

Property	Test Method	Sieve Size	Percent Passing
Gradation	AASHTO T-27&11	4 in.	100
		No. 40	0-60
		No. 200	0-15

- F. Core Fill and Drainage Aggregate Material for Segmental Block Wall Units.** Provide core fill and drainage aggregate material for block wall units that is well-graded crushed stone or granular material meeting the following requirements:

Sieve Size	Percent Passing
1 in	100
¾ in	50 - 75
No. 4	0 - 60
No. 40	0 - 50
No. 200	0 - 5

Construction Requirements.

- A. General.** Ensure a field technical representative from the proprietary wall system to be on site for at least 2 days at the beginning of initial wall erection and available during the remaining wall erection to assist the Contractor and Engineer. The field representative must have been involved in successfully construction of at least three same Gravity Concrete Block walls with sizes and complexity similar to the walls of this project in the last five years.
- B. Wall Excavation.** Excavate the wall in accordance with 210 of the *Standard Specifications* and as shown on the plans.
- C. Foundation Preparation.** Grade the foundation for the structure level for a width equal to or exceeding the bottom blocks or as shown on the plans. Before wall construction, compact the foundation, if not in rock, as directed. Remove and replace foundation soils found to be unsuitable as directed.

Cure the concrete leveling pad at least 12 hours before placement of wall blocks.

- D. Wall Erection.** Place concrete blocks in their final position as shown on the design drawings. Place concrete blocks in successive horizontal lifts in the sequence shown on the design drawings as backfill placement and compaction proceeds. Place backfill material behind the blocks while maintaining the facing in the desired position with temporary wedges or bracing in accordance with the wall supplier's recommendations. Ensure vertical tolerances and horizontal alignment tolerances along the wall line for segmental concrete blocks are within ¾ inch when measured with a 10 foot straight edge. Ensure the maximum offset in any block joint is ¾ inch. Check the position and tolerances of each concrete block row before erecting the next row. Should any block be out of tolerance, remove the fill, and reset blocks to their proper position.

Remove and reconstruct walls or wall portions constructed outside the tolerances in these Special

Provisions, walls with negative batter (batter in excess of vertical away from the wall), or if the batter becomes negative during construction. The Department will not make additional payment for this work.

E. Backfill Placement. Closely follow each concrete block erection course with backfill placement. Place backfill in 12-inch loose lifts or less. Place backfill in maximum 6" loose lifts within 3' behind the back of wall face. In all cases, decrease lift thicknesses as necessary to obtain the required minimum backfill density.

Place backfill so as to avoid facing element damage or misalignment. Remove and replace wall materials that become damaged or disturbed during backfill placement, or correct as directed at no additional cost to the Department. Correct wall facing element misalignment or distortion due to work not associated with these Special Provisions as directed at no additional cost to the Department.

Compact backfill with the compactor running parallel to the wall face.

Compact backfill within 3' of the back of wall face with a minimum of 5 passes of a lightweight plate compactor or vibratory roller. Plate compactors must have a minimum operating weight of 180 lbs and a minimum plate width (smaller dimension) of 16", operate at a minimum frequency of 90 hertz and produce a minimum centrifugal force of 3000 lbs.

Compact backfill to 95 percent of the maximum density as determined by AASHTO T-99, Method C or D (with oversize correction as outlined in this test). Uniformly distribute the backfill material moisture content before and during compaction throughout each layer, unless otherwise directed. Place backfill material with a moisture content range from optimum moisture to optimum moisture minus 4 percentage points, as determined by AASHTO T-99. Remove and rework backfill material that has moisture content in excess of the upper moisture limit until the moisture content is uniformly acceptable throughout the entire lift.

Backfill field density testing will be performed at the same frequency as for bridge abutments and approach slabs in accordance with the "Structure Backfill" construction type under Item 210- Compacting Backfill in the ITD Quality Assurance Manual.
Do not place backfill materials when they are frozen. Do not place backfill materials on snow cover or frozen materials.

At the end of each day's operation, slope the backfill away from the wall face to direct surface runoff away from the wall. In addition, do not allow surface runoff from adjacent areas to enter the wall construction site.

Method of Measurement. The Engineer will measure acceptably completed work by the square foot of wall surface area from the leveling pad top to the top block or coping tops (if coping is used).

Basis of Payment. The Department will pay for accepted quantities at the contract unit price as follows:

Pay Item	Pay Unit
Retaining Wall	SF

Coping, concrete leveling pad, structural excavation and compacting backfill are all incidental. Field representative services costs are incidental.

Temporary shoring to construct the walls, scour countermeasures placement and finish grading at the wall toes, and erosion countermeasures construction at the wall ends are either incidental or paid for under other items.

S600-20A REMOVE AND REPLACE FIRE HYDRANT

Description. This section covers the work necessary for furnishing and installing the fire hydrants and the work necessary for the removal of existing hydrants.

Materials.

- A. Low Pressure Hydrants. Hydrants to be Corey pattern with nominal 5-1/4 inch main valve opening with 6 inch bottom connections. Equip with two 2-1/2 inch hose nozzles and one 4-1/2 inch pumper port with a 5 inch Storz hose nozzle. The Storz nozzle shall be an integral part of the fire hydrant and must be furnished by the manufacturer or authorized distributor designated by the manufacturer. Storz adapters will not be accepted. Operating nut shall be equipped with O-ring seals and shall open when turned to the left or counterclockwise. Hydrants shall be of the break-flange or safety-top type. Hydrants shall conform to AWWA C-502, and these Specifications. The depth of bury will generally be 5 feet; and as required to accommodate site conditions. Nozzle threads shall be American National Standard. The hydrant isolation valve shall be attached to the tee at the main and all of the piping shall be restrained from the tee to the hydrant with flanged fittings, retaining glands (mega lugs, etc.) or tie rods as approved by the City Engineer. Hydrants shall be factory painted or may be painted by the contractor using a high quality industrial enamel high intensity red paint above the ground line; spray can paint will not be allowed.
- B. Manufacturer, "Model": Waterous, "Pacer" or approved equal.
- C. Base Block. Solid precast concrete pier block having nominal dimensions of 8-inch thickness by 15-inch square base.
- D. Drain Rock. Washed 1-1/2 inch crushed rock or graded river gravel free of organic matter, sand, loam, clay, and other small particles that will tend to restrict water flow through the gravel.
- E. Concrete for Thrust Blocking. City Standard per ES-11 CONCRETE.
- F. Thrust Ties. 3/4 inch diameter steel rods and ductile lugs as manufactured by Stellar Corporation, Columbus, Ohio, or approved equal. Rods shall have rust resistant protective coating.
- G. Auxiliary Gate Valve. See City Standard ES-21 GATE VALVES AND VALVE BOXES.
- H. All material must meet Buy America Build America (BABA) requirements.

Construction Requirements. Construction and installation shall conform to the detail on the Plans and to provisions of Sections 11 and 12 of AWWA C-600, except where otherwise specified.

- A. Location and Position. Locate as shown or directed so as to provide complete accessibility and minimize possibility of damage from vehicles or injury to pedestrians. A 3-foot clear space shall be provided and maintained around the circumference of the hydrant or as approved by the Engineer. Where hydrants are subject to impact by a motor vehicle, guard posts other approved means shall be provided as approved by the Engineer. Improperly located hydrants shall be disconnected and relocated, at the Contractor's expense. When placed behind the curb, set hydrant barrel so that the face of the pumper or hose nozzle cap will be 2 feet from the back of the curb. When set in lawn space between curb and sidewalk, or between sidewalk and property line, let no portion of the hydrant or nozzle cap be within 12 inches of the sidewalk.

Set all hydrants plumb and nozzles parallel with, or at right angles to the curb, with the pumper nozzle facing the curb. Set hydrants so that safety flange is a minimum of 3 inches and maximum of 6 inches above finished ground or sidewalk level to clear bolts and nuts, and as directed.
- B. Excavation. Do not carry below sub-base grade. Replace over-excavated areas with gravel, and hand tamp to provide firm foundation.
- C. Base Block. Place on firm level sub-base to assure uniform support.
- D. Installation of Hydrants. Place hydrant carefully on base block to prevent the base block from breaking. After hydrant is in place and connected to the pipeline, place temporary blocks to maintain the hydrant in a plumb

position during subsequent work.

- E. Drain Rock. Place gravel around base block and hydrant bottom after hydrant has been blocked in place. Drain gravel shall be not less than 6 inches above hydrant drain opening. Do not connect drainage system to sewer.
- F. Concrete Thrust Blocking. Place after hydrant is blocked in its final position and hydrant is joined to pipe. Concrete thrust block shall have a minimum of 4 square feet of bearing area against undisturbed earth. Restraint devices such as flanged fitting, mega lugs, or tie rods may be used in lieu of thrust blocks if approved by the City Engineer.
- G. Bury Depth and Thrust Ties. The ground surface around fire hydrants shall be as follows:
 1. Behind the hydrant: The ground surface shall be a minimum of 4.5 feet above the hydrant base (as measured from 'level') for a distance of at least 10 feet behind the back of the hydrant. The City Engineer may approve a lesser bury requirement if thrust ties consisting of two ¾ inch coated steel tie rods connecting the hydrant to the valve and the main are utilized. All earthen fill behind hydrants for a minimum distance of 10 feet shall be compacted full depth to a minimum of 95% of AASHTO T99 proctor value.
 2. Sides of the hydrant: The ground surface shall be a minimum of 4.5 feet above the hydrant base (as measured from 'level') for a distance of at least 6 feet from the centerline of the hydrant barrel. All earthen fill at the sides of the hydrant for a minimum distance of 6 feet shall be compacted full depth to a minimum of 95% of AASHTO T99 proctor value.
 3. Front of the hydrant (towards the main): 4.0 foot minimum cover over the hydrant lateral pipe shall be maintained – as shown on the City of Moscow Standard Construction Drawings.

Payment for existing fire hydrant removal will be made at the unit price stated in the Contractor's bid proposal for each hydrant removed, as covered herein and on the plans.

- H. Existing Fire Hydrant Removal. Remove fire hydrants on existing city mains as shown on the plans and as directed by the Engineer. The hydrants shall remain the property of the City of Moscow and shall be stockpiled, for the City, at a location to be determined. Care shall be taken so as not to damage the hydrants during removal, transporting, or stockpiling.

Method of Measurement. The Engineer will measure acceptably completed work per each installation.

Basis of Payment. The Department will pay for accepted quantities at the contract unit prices as follows:

Pay Item	Pay Unit
Relocate Fire Hydrant	EACH

S610-05A REMOVE AND RESET FENCE

Description. This item includes the removal, storage, temporary fencing during construction, and resetting of the permanent fence and gates.

Materials. Provide materials as specified in the 2023 ITD Standard Specifications for Highway Construction:

Nonstructural Concrete	509
Barbed Wire	708.09
Woven Wire	708.10

Hardware for Barbed or Woven Wire Fence	708.11
Metal Fence Posts	708.12
Chain Link Fence	708.13
Wood Fence Posts	710.08

Construction Requirements. Remove trees, brush, and other obstacles along the fence line. Remove and dispose of material.

Set posts plumb to the spacing and depth as specified, backfill, and firmly tamp. Set posts for chain-link fence in concrete. After the posts are set, stretch and fasten the wire fencing to wooden posts with staples or to steel posts with wire clamps.

Use Class 22 concrete for post and brace bases. Crown the surface of the concrete to drain.

When drilling into rock is required to set a post, the Contractor may shorten the post if at least 12 inches of post is grouted in the rock.

Provide 4 inch by 4 inch No. 2 Common Douglas Fir or Larch horizontal and inclined wood braces. Dap posts to receive the braces and anchor the ends of the brace with three 16-penny nails or a 3/8 inch by 4 inch steel dowel. Apply a coat of pentachlorophenol solution, chromated copper arsenate (CCA), or ammoniacal copper zinc arsenate (ACZA) to daps on the posts and the ends of the braces before assembly. Provide brace wires consisting of 2 loops of 9-gauge wire twisted to form a taut cable. Lightly notch the posts to position the wire and drive 3 staples at each notch to secure the wire.

When using metal braces, securely splice the tie wires to the fence on both sides of the posts so there are 2 loops behind the post and 1 loop in front, or wrap the fence wires around the post and tie off. Locate the concrete blocks for the angle braces so at least 6 inches of the angle brace are embedded in the concrete.

Temporary Construction Fence. Space temporary construction fence posts at 8 feet. Maintain the temporary construction fence when it is damaged, has fallen off its supports, has faded, or is otherwise deficient as determined by the Engineer. Repair or replace materials as necessary at no additional cost to the Department.

Method of Measurement. The Engineer will measure acceptably completed work by the linear foot inclusive of fencing and gates.

Basis of Payment. The Department will pay for accepted quantities at the contract unit prices as follows:

Pay Item	Pay Unit
Remove and Reset Fence	FT

S900-10A ADJUST CLEANOUT

Description. This item includes the horizontal and vertical adjustment of sewer lateral cleanout.

Materials. All materials which are approved for use and is not in these specifications, will be equal to or better than the existing structure. Non-traffic rated cleanout covers located within the road shall be replaced with traffic rated covers.

Construction Requirements. Adjust cleanouts to final grade outside of any proposed or constructed sidewalk, curb, curb and gutter, driveways, or any other constructed surface.

Method of Measurement. The Engineer will measure acceptably completed work per each installation.

Basis of Payment. The Department will pay for accepted quantities at the contract unit prices as follows:

Pay Item	Pay Unit
Adjust Cleanout	EACH

S900-50A CONTINGENCY AMOUNT - MISCELLANEOUS WORK

Description. This item will compensate the Contractor for minor work or material not specified in the project documents that is necessary to the work as directed by the Engineer.

Materials. Provide material as directed by the Engineer and in accordance with the ITD Standard Specifications.

Construction Requirements. Complete construction as directed by the Engineer and in accordance with the ITD Standard Specifications.

Method of Measurement. The Engineer will measure acceptably completed work by the Contingency Amount (CA).

Basis of Payment. The Department will pay for the accepted quantities at the contract unit price as follows:

Pay Item	Pay Unit
Contingency Amount - Miscellaneous Work	CA

S900-50B CONTINGENCY AMOUNT – DIRECTED LANDSCAPING

Description. Place landscaping materials behind back of curb and buffer areas as shown in the plans and directed by the Engineer.

Materials. Supply materials suitable for the intended purpose and approved by the Engineer.

Construction Requirements. Complete landscaping as directed by the Engineer and in accordance with the ITD Standard Specifications.

Maintain all completed landscaped areas throughout the construction of this project and retain and protect existing undisturbed areas.

Method of Measurement. Directed Landscaping will be measured by Force Account in accordance with Subsection 109.03.C.5.

Basis of Payment. Pavement for accepted work will be made as follows:

Pay Item	Pay Unit
Contingency Amount – Directed Landscaping	CA

S901-05A SP - CITY OF MOSCOW STORM SEWER MANHOLE

Description. Manholes shall be precast reinforced concrete units, furnished and installed in accordance with the project plans, these Standard Specifications, and the Standard Drawings. Completed manholes including ring shall be capable of withstanding, with a reasonable margin of safety, a concentrated load of 20,000 pounds. Backfill shall be

placed in horizontal layers no more than 6 inches thick with each layer compacted to 95 percent of the maximum density or as approved by the Engineer.

Materials. Precast reinforced manholes, catch basins, and catch inlets sections shall conform to AASHTO M-199, ASTM C-478 and ASTM C-433 and as shown on the City of Moscow Standard Construction Drawings

- A. Base Sections. Base shall be placed on a well graded dewatered granular bedding course. The bedding course shall be firmly tamped and made smooth and level to assure uniform contact and dimensions shall conform to the standard drawings. If the base is cast in place, the concrete shall conform, to the latest edition, of the Idaho Transportation Department Standard Specifications for Highway Construction Class 30 concrete. Where water is encountered at the site all cast in place bases shall be placed on a one-piece waterproof membrane so as to prevent any movement of water into the fresh concrete.
- B. Joints. All lift holes and all joints between precast elements shall be first filled with an asphaltic fiber material then finished smooth with mortar. The fiber shall be Ramneck brand or approved equal.
- C. Steps. 1/2 inch steel reinforced bar covered with polypropylene plastic complying with ASTM C 478. Steps shall be 12 inches wide and project 7 inches from manhole wall.
- D. Workmanship and Finish. Cones and sections shall be substantially free from fractures, large and deep cracks and surface roughness. In precast sections where loops have been provided in lieu of lift holes, the loops shall be removed flush with the inside wall surface after the manhole or catch basin has been completed. No sharp cut-off protrusions will be permitted. If concrete spalling occurs as a result of loop removal, the spalled area shall be restored in workmanship manner to a uniform smooth surface with mortar.
- E. Rings and lids shall be cast iron and shall conform to the City of Moscow Standard Drawings. Castings shall conform to the requirements of ASTM A-48 Class 138 and shall be free of porosity, shrink cavities, cold shuts or cracks, or any surface defects which would impair serviceability.

Construction Requirements.

- A. General. Storm sewer manholes shall be constructed according to the Plans, City of Moscow Standard Drawings and Specifications. Storm sewer manholes shall be precast reinforced concrete, unless otherwise approved by the Engineer.
- B. All pipe extending into catch basins shall be trimmed within 1"-2" of the inside wall surfaces and shall be neatly grouted inside and out and watertight.

Method of Measurement. The Engineer will measure acceptably completed work per each installation.

Basis of Payment. The Department will pay for accepted quantities at the contract unit prices as follows:

Pay Item	Pay Unit
SP - City of Moscow Storm Sewer Manhole	EACH

The unit price bid shall include all costs incurred in furnishing materials, labor, excavation, installing manholes in place including the manhole rings and lids, and backfilling.

S901-05B SP - CITY OF MOSCOW CATCH BASIN

Description. Catch basins shall be precast reinforced concrete units, furnished and installed in accordance with the project plans, these Standard Specifications, and the Standard Drawings. Completed catch basins including ring shall be capable of withstanding, with a reasonable margin of safety, a concentrated load of 20,000 pounds. Backfill shall

be placed in horizontal layers no more than 6 inches thick with each layer compacted to 95 percent of the maximum density or as approved by the Engineer.

Materials. Precast reinforced manholes, catch basins, and catch inlets sections shall conform to AASHTO M-199, ASTM C-478 and ASTM C-433 and as shown on the City of Moscow Standard Construction Drawings.

- A. Base Sections. Base shall be placed on a well graded dewatered granular bedding course. The bedding course shall be firmly tamped and made smooth and level to assure uniform contact and dimensions shall conform to the standard drawings. If the base is cast in place, the concrete shall conform, to the latest edition, of the Idaho Transportation Department Standard Specifications for Highway Construction Class 30 concrete. Where water is encountered at the site all cast in place bases shall be placed on a one-piece waterproof membrane so as to prevent any movement of water into the fresh concrete.
- B. Joints. All lift holes and all joints between precast elements shall be first filled with an asphaltic fiber material then finished smooth with mortar. The fiber shall be Ramneck brand or approved equal.
- C. Steps. Not required.
- D. Workmanship and Finish. Cones and sections shall be substantially free from fractures, large and deep cracks and surface roughness. In precast sections where loops have been provided in lieu of lift holes, the loops shall be removed flush with the inside wall surface after the manhole or catch basin has been completed. No sharp cut-off protrusions will be permitted. If concrete spalling occurs as a result of loop removal, the spalled area shall be restored in workmanship manner to a uniform smooth surface with mortar.
- E. Rings and lids shall be cast iron and shall conform to the City of Moscow Standard Drawings. Castings shall conform to the requirements of ASTM A-48 Class 138 and shall be free of porosity, shrink cavities, cold shuts or cracks, or any surface defects which would impair serviceability.
- F. Risers for height adjustment shall be as per WSDOT's standard for the precast unit being furnished.

Construction Requirements.

- A. General. Catch basins and catch inlets shall be constructed according to the Plans, Standard Drawings and specifications. Catch basins shall be precast reinforced concrete per WSDOT TYPE 1, catch inlets shall be WSDOT CONCRETE INLET - unless otherwise approved by the Engineer.
- B. All pipe extending into catch basins shall be trimmed within 1"-2" of the inside wall surfaces and shall be neatly grouted inside and out and watertight.
- C. Lids, grates, and risers shall be centered over the basin or inlet; unless specifically allowed otherwise.

Method of Measurement. The Engineer will measure acceptably completed work per each installation.

Basis of Payment. The Department will pay for accepted quantities at the contract unit prices as follows:

Pay Item	Pay Unit
SP - City of Moscow Catch Basin	EACH

The unit price bid shall include all costs incurred in furnishing materials, labor, excavation, installing manholes in place including the manhole rings and lids, and backfilling.

S901-05C SP - OWNER SPECIFIED TREE

Description. The City of Moscow or the City of Moscow’s designated representative shall install three (3) trees of a species to be determined by property owner no smaller than 1.5-inch caliper at locations to be marked by property owner outside of the existing or purchased rights of way.

Materials. Trees of a species to be determined by property owner no smaller than 1.5-inch caliper.

Basis of Payment. The Department will pay for accepted quantities at the contract unit prices as follows:

Pay Item	Pay Unit
SP - Owner Specified Tree	EACH

The unit price bid shall include all costs incurred in furnishing materials, labor, excavation, installing trees in place.

S901-05D SP - 4” STORM SEWER CONNECTION

Description. The City of Moscow or the City of Moscow’s designated representative shall connect all storm drainage from property owner (718 Public Ave, Moscow Idaho 83843) to the proposed storm sewer main as shown on plans.

Materials. The connection shall be Inserta Tee or approved substitute. Install Inserta Tee lateral connections in accordance with the manufacturer’s installation guidelines. Pipe materials shall conform to the latest edition of the Idaho Transportation Department Standard Specifications and Plans.

Method of Measurement. The Engineer will measure acceptably completed work per each installation.

Basis of Payment. The Department will pay for accepted quantities at the contract unit prices as follows:

Pay Item	Pay Unit
SP - 4” Storm Sewer Connection	EACH

The unit price bid shall include all costs incurred in furnishing materials, labor, excavation, installing 4” storm sewer connections in place including the Inserta Tee or approved equivalent, fittings, and backfilling.

S904-05A SP - TEMPORARY TRAFFIC CONTROL

Description. Provide a temporary traffic control plan and all required items listed under 105.14 part D and follow all requirements under 626.

Materials. Provide TTC devices as specified in 626.02.

Project Item Assumption. Plan sheets have the assumed items and quantities needed for this project. Items and quantities shown on the plans are for estimating purposes only and do not necessarily represent what will be required to fit the Contractor’s staging plan. Submit temporary traffic control plans, items, and quantities as specified in 105.14.D. The Engineer’s approval of the temporary traffic control plan is not an approval of the items and quantities; it is only an acknowledgement that the plan appears to meet 626 and the MUTCD.

If the Contractor underestimates any temporary traffic control items, the Contractor is still responsible to ensure the safety to the public and construction workers at no additional cost to the project.

Construction Requirements. Place PCMS 7 calendar days before the construction start date. Submit a proposed message before placing the PCMS. Remove PCMS when traffic is restored to normal operations.

A minimum of three site visits per week to the project to monitor and maintain the temporary traffic control plan and devices will be required. It is the responsibility of the Contractor to determine if three visits will be sufficient. Additional compensation will not be made for variations to traffic control made necessary by Contractor operations.

Steel or concrete barriers may be used to protect the work zone.

For portable traffic signals submit a timing plan for approval before installation.

Correct traffic control deficiencies within 1 hour of receiving notification from the Engineer of requested corrective action.

Furnish, install, and maintain all TTC devices as shown on the approved traffic control plan and as specified in 626.03.

If items in the approved TTC plan are underestimated and prove inadequate to suit the needs of the Contractor's operation while meeting 626 and the MUTCD, provide additional devices and services as necessary at no additional cost to the Department.

If all applicable requirements are being met, but unforeseen conditions necessitate additional TTC, the Engineer will direct the Contractor to provide additional devices and services to be paid by force account.

Method of Measurement. The Engineer will measure acceptably completed work by the lump sum. Directed temporary traffic control will be by the contingency amount as specified in 109.03.C.5 as authorized by the Engineer.

Basis of Payment. The Department will pay for accepted quantities at the contract unit prices as follows:

Pay Item	Pay Unit
SP - Temporary Traffic Control	LS

The Department will pay 40 percent of the contract price on the first monthly progress payment estimate.

The Engineer will use the Contractor's CPM schedule to determine a prorated payment percentage for TTC for each monthly progress payment, thereafter, retaining 10 percent of the contract unit price of this item until the work is complete. On completion of the work, the Department will pay the remaining TTC bid amount. No additional payment will be made for an increase or decrease of any temporary traffic control item caused by alterations to the contractor phasing of the work.

In the event that a temporary traffic control deficiency occurs, including maintenance of temporary traffic control devices, and is not corrected within 1 hour after notification, the Engineer will assess \$250 in penalties for each hour or partial hour thereafter the temporary traffic control remains deficient.

S904-05B SP - LAWN REPAIR

Description. Place landscaping materials behind back of sidewalk, driveway approach, and buffer areas as shown in the plans and directed by the Engineer.

Materials. Supply topsoil and seed materials suitable for the intended purpose and approved by the Engineer.

Construction Requirements. Place topsoil and seed to disturbed areas. Maintain all completed landscaped areas throughout the construction of this project and retain and protect existing undisturbed areas.

Method of Measurement. The Engineer will measure acceptably completed work by the lump sum.

Basis of Payment. The Department will pay for accepted quantities at the contract unit prices as follows:

Pay Item	Pay Unit
SP - Lawn Repair	LS

A



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Pollution Prevention Plan Idaho Transportation Department (ITD)

ITD 2788 (Rev. 04-18)
itd.idaho.gov



Instructions

The Pollution Prevention Plan (PPP) is a requirement for ITD projects which do not have coverage under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP).

Prior to ground disturbing activities, the Contractor designated support areas shall be identified and the disturbed area shall be recalculated to determine if the project is still exempt from NPDES permitting requirements.

To help you develop the PPP use the following template. This template is designed to guide you through the PPP development process and help ensure that your PPP addresses all the necessary elements. EPA's 2007 guidance document titled *Developing Your Stormwater Pollution Prevention Plan* can also be used to help you develop your PPP. This guide can be found at: <https://www.epa.gov/npdes/developing-stormwater-pollution-prevention-plan-swppp>. On the ITD's stormwater management website: <http://itd.idaho.gov/env/> other useful information including the Best Management Practices Manual, Standard Drawings, and other stormwater forms and templates is available.

Using the PPP Template: This template was developed so that you can easily add text or tables. Some sections may require only a brief description while others may require more extensive explanation. Modify this template so that it meets the specific needs of your project.

Multiple operators may share the same PPP, but make sure that responsibilities are clearly described, and that all signatory requirements are met.

The Best Management Practices (BMPs) from ITD's BMP Manual are listed in tables throughout the template. Refer to the manual for further guidance on each BMP. The link is provided above.

Applicable Federal, Tribal, State, or Local Programs

The PPP shall meet the requirements of Sections 107.17 and 212 of the Standard Specifications for Highway Construction and be consistent with all applicable federal, state, tribal, and/or local requirements or ordinances, including MS4 requirements, for erosion control and stormwater management and compliance.

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Pollution Prevention Plan Narrative Site Information

Key Number 22402	Project Name Public Ave Corridor Safety Improvements			
Location/Address Public Ave; Polk St to Lincoln St		City Moscow	County Latah	Zip Code 83843
Beginning Milepost (if applicable)	Ending Milepost (if applicable)			

Operator(s)**Local Highway Technical Assistance Council** Choose an item.

LHTAC Contact Name Jayme Coonce, PE		Title Resident Engineer		
Office Address 3330 Grace Street		City Boise	County Ada	Zip Code 83642
Telephone Number 208-344-0565	E-mail Address jcoonce@lhtac.org		Fax Number	

Local Sponsor Choose an item.

Organization Name City of Moscow		Contact Name Scott Bontrager		
Organization Address 206 E Third Street		City Moscow	State ID	Zip Code 83843
Telephone Number 208-883-7029	E-mail Address sbontrager@ci.moscow.id.us		Fax Number	

Contractor's PPP and 24 Hour Emergency Contact Information

Company/Organization Name		Site Manager's Printed Name		
Company/Organization Address		City	State	Zip Code
Telephone Number for 24/7/365 Availability	E-mail Address		Fax Number	

Estimated Project Start Date May 2025**Estimated Project End Date October 2025**

Section 1 - Project/Site Information**Location Information**

Project/Site Name Public Ave Corridor Safety Improvements		Project Street/Location/Milepost/Route Public Ave; Polk St to Lincoln St	
City Moscow	County Latah	ZIP Code 83843	

Contact Information/Responsible Parties**Prime Contractor**

Company/Organization Name				
Company/Organization Address		City	State	Zip Code
Telephone Number	E-mail Address		Fax Number	
Area of Control (if there is more than one operator at the site)				

Project Manager(s) or Site Supervisor(s)

Company/Organization Name		Manager/Supervisor's Name(s)		
Company/Organization Address		City	State	Zip Code
Cell Phone Number	E-mail Address		Fax Number	
Area of Control (if there is more than one operator at the site, insert area of control for each)				

PPP Preparer Information (Contractor)

Company/Organization Name		Preparer's Name		
Company/Organization Address		City	State	Zip Code
Cell Phone Number	E-mail Address			

LHTAC Resident Engineer Information

Engineer's Name Jayme Coonce, PE, LHTAC Resident Engineer
--

Address 3330 Grace Street		City Boise	Zip Code 83703
Cell Phone Number 208-344-0565	E-mail Address jcoonce@lhtac.org		Fax Number 208 344 0789

General Scope of Work or Project Description

This project will an urban section that includes pedestrian ramps, curb, gutter, sidewalk, drainage improvements, and pavement markings on Public Ave from Polk St to Lincoln St.

Activity Description by Responsible Party

To add more rows, hit Tab in the last cell of the table.

Name and Contact Information for Subcontractor	Area of Subcontractor Controls/Work Performed

Soils, Slopes, Vegetation, Existing Drainage Patterns, Climate

Soil Type(s) Silty Loam
Slopes - Describe existing slopes and any changes due to construction activities Existing slopes generally flat (urban setting) less than 2%. No change expected during construction.
Drainage Patterns - Describe existing drainage patterns and note any changes due to construction Rural section that drains to roadside ditch(es). New urban section will include gutter with drainage improvements.
Existing Vegetation Minimal vegetation exists
Climate/Rainfall Patterns – Select amount that applies Semi-Arid (10"-20" annual rainfall)

Construction Site Estimates

The following are estimates of the project disturbance. Show acreage to the nearest 0.25 acre

Project site area to be disturbed – 2.00 acres

Off-site waste sites to be disturbed - acres

Off-site borrow/source sites to be disturbed - acres

Staging Area to be disturbed - acres

Total project disturbed area – 2.00 acres

Receiving Waters

Describe receiving surface waters (if applicable) N/A
Describe receiving storm sewer systems (if applicable) and note MS4 areas
List immediate downstream water bodies (water bodies that are connected or would receive a direct discharge from the Project) that have been listed as impaired for sediment or waters subject to TMDLs by the Idaho Department of Environmental Quality (IDEQ) under Section 303(d) of the CWA

Site Features and Sensitive Areas that Require Protection

Provide a description of any unique features (such as wetlands) that require protection (if applicable)
If applicable, describe measures to protect these unique features

PPP Plans and Site Maps

The PPP will show the following locations:

- Temporary and permanent BMPS
- On-site staging areas, off-site material, waste, borrow or equipment storage or staging areas
- Locations of all ITD defined hazardous materials
- Any industrial stormwater discharges other than from project construction
- Waters of the United States including wetlands
- Storm sewer inlets

Insert a copy of all applicable Plan Sheets and/or Site Maps in **Appendix A**

Potential Sources of Pollution

Use the table below to identify all potential pollutants and sources, other than sediment, to stormwater runoff

Trade Name Material	Stormwater Pollutants	Location or N/A
Fuels and/or Lubricants	Petroleum Distillates	Project Site
Hydraulic Oils	Mineral Oil	Project Site
Asphalts	Petroleum Distillates	N/A
Concrete/Curing Compounds	pH	N/A
Anti-freeze	Glycol, Heavy Metals	Project Site
Paints	Organic Chemicals, VOCs	N/A
Fertilizers	Nutrients-Nitrogen, Phosphorous	N/A
Sanitary Toilets	Bacteria, Viruses, Parasites	Project Site

Add additional rows as needed by hitting Tab in the last cell of the table

Each of the pollutants listed in the table above must be addressed with a specific BMP.

Section 2 - Erosion and Sediment Control BMPs

In the tables provided below, check the boxes of the BMPs that will be used on your project. Delete the BMPs that will not be used, or leave unchecked. Add any BMPs that might be required to meet your project needs.

BMPs should be implemented as needed at all designated staging and storage areas, source and borrow sites, and disposal/excess material/waste sites prior to initiating any ground disturbance activities in these areas.

➔ Note: In the following tables, ITD SD SPECS and Drawings, and BMP Numbers from ITD BMP Manual are referenced beside each BMP

Minimize Disturbed Area and Protect Natural Features and Soil

BMPs	Specification(s)	Check if Used	Implementation Schedule
Preservation of Existing / Natural Vegetation	- SD SPECS (201 and 202) - EC-2	<input checked="" type="checkbox"/>	Date Project Duration Location (Stations or MP) Project Wide

Preservation of natural existing vegetation shall be utilized throughout the project, where practical, to minimize erosion potential, minimize total ground disturbance, and minimize stormwater movement off site. Existing vegetated buffers (including preserving mature vegetation and trees) shall be utilized to minimize stormwater erosion potential and down slope movement to any watershed, water feature (including irrigation amenities or domestic water sources), or area susceptible to stormwater or surface water movement. The vegetated buffers shall consist of areas of undisturbed vegetation including grasses, shrubs, woody plants, and trees that are located between the traversed roadway section and the existing swales, ditches, canals, wetlands, and intermittent/perennial streams or rivers that are located within ITD right-of-way. The vegetated buffers shall be left undisturbed throughout the project life and act as permanent erosion and sediment control BMPs to ensure short and long-term slope stability.

Phase Construction Activity

BMP	Specification(s)	Check if Used	Implementation Schedule
Scheduling and Sequencing of Construction Activities	- SD SPECS (108, 205, and 212) - EC-1	<input checked="" type="checkbox"/>	Date Project Duration Location (Stations or MP) Project Wide

The specific scheduling and sequencing of construction activities are required to be outlined by the Contractor and become a permanent part of the PPP. Records must be maintained as part of the PPP and shall include dates and durations when major activities occur (i.e. soil disturbing activities); dates when construction activities temporarily or permanently cease on a portion of the site; and dates when stabilization measures have been initiated and are obtained. Scheduling and sequencing of construction activities including the CMP Schedule shall be documented in this PPP by the Contractor. Describe major phases of construction in the spaces provided here:

Phase I

-
-

Phase II

-
-

Repeat as needed for additional Phases

Control Stormwater Flowing Onto and Through the Project

BMP	Specification(s)	Check if Used	Implementation Schedule
Coffer and Tarp Dams / Water Filled Bladders/ Aprons	- SD SPECS (210 and 501) - EC-3	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Interceptor Ditches / Diversion Channels/Ditches	- SD SPECS (208, 209, and 212) - SD Drawings (P-1-D, P-1-E, and P-2-E) - EC-4	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Slope Drains	- SD SPECS (212 and 706) - SD Drawings (P-1-A) - EC-5	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Dikes / Berms	- SD SPECS (205, 209, and 212) - SD Drawings P-1-F and P-1-E - SC-1	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Channel Protection:	- Check Dams / Flexible Liners / Rigid Liners - SD SPECS (209, 212, 512, 623, 624, 711, 715, and 718) - SD Drawings (P-1-D, P-2-A, P-2-B, P-2-C, and P-2-D) - SC-2, PC-3, PC-4	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Retention/Detention Sediment Basin(s)/Trap(s)	- SD SPECS (205 and 212) - SD Drawings (P-1-A, P-1-C, P-1-D, P-1-E, P- 4-A, and P-4-B) - SC-10	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Clear Water Diversion	- SD SPECS (N/A) - NS-5	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
		<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP

Stabilize Soils and Protect Slopes

BMP	Specification(s)	Check if Used	Implementation Schedule
Hydraulically Applied Erosion Control Products	- SD SPECS (212, 621, and 711) - EC-6	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Hydroseeding	- SD SPECS (621 and 711) - EC-7	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Soil Binders	- SD SPECS (212) - EC-8	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Straw Mulch	- SD SPECS (212, 621, and 711) - EC-9	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)

BMP	Specification(s)	Check if Used	Implementation Schedule
			Quantity of BMP
Wood Mulch	- SD SPECS (212, 621, and 711) - EC-10	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Geotextiles, Plastic Covers, and Erosion Control Blanket	- SD SPECS (212, 621, and 711) - EC-11	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Vegetation-Seeding	- SD SPECS (212 and 621) - EC-12	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Dust Control	- SD SPECS (104, 106, 107, 205, 212, 621, and 711) - EC-13	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Wind Erosion Control	- SD SPECS (205 and 212) - EC-14	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
		<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP

Protect Storm Drain Inlets

BMP	Specification(s)	Check if Used	Implementation Schedule
Inlet/Outlet Protection	- SD SPECS (212, 640, 711, and 718) - SC-6	<input checked="" type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP 2 Each
		<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP

Establish Perimeter Controls and Sediment Barriers

BMP	Specification(s)	Check if Used	Implementation Schedule
Gravel Bag Barrier	- SD SPECS (212) - SC-3	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Sandbag Barrier	- SD SPECS (212) - SC-5	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Silt Fence	- SD SPECS (212 and 718) - SC-7	<input checked="" type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP

BMP	Specification(s)	Check if Used	Implementation Schedule
Sediment Retention Fiber Rolls	- SD SPECS (N/A) - SC-8	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
		<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP

Retain Sediment On-Site

BMP	Specification(s)	Check if Used	Implementation Schedule
Sediment-Desilting Basin	- SD SPECS (212) - SD Drawings (P-1-C, P-1-D, P-4-A) - SC-9	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Retention / Detention Sediment Basin(s) / Trap(s)	- SD SPECS (205 and 212) - SD Drawings (P-1-A, P-1-C, P-1-D, P-1-E, P-4-A, and P-4-B) - SC-10	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
		<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP

Establish Stabilized Construction Exits and Temporary Haul Roads

BMP	Specification(s)	Check if Used	Implementation Schedule
Street Sweeping and Vacuuming	- SD SPECS (N/A) - SC-4	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Temporary Construction Entrances	- SD SPECS (104, 205, and 212) - SD Drawings (P-1-F) - SC-11	<input checked="" type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Temporary Roads	- SD SPECS (104, 107, 205, and 212) - SC-12	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Entrance Outlet Tire Wash	- SD SPECS (621) - SD Drawings (P-3-E) -SC-13	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Temporary Stream Crossing	- SD SPECS (602) - NS-4	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
		<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP

Insert any required additional text or tables here

Section 3 - Good Housekeeping BMPs

All staging areas, material storage/stockpile sites, source sites, disposal/excess material/waste sites, haul roads, temporary roads, construction entrances and exits, and any other disturbed soil areas not defined within the contract documents must be approved by the Resident Engineer and have BMPs implemented prior to approved use. All sites require appropriate erosion, sediment, and pollution prevention control BMPs installed prior to initiation of construction and throughout the length of construction activities. The Contractor is responsible for attaching a record of Environmental Clearance/Approvals and for obtaining any permitting for any Contractor designated sites, including cultural resources, ESA, etc.

The following are material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff. For the purposes of this plan and for any ITD projects, **Hazardous Material** is defined as “any material that poses harmful risks to human health and/or the environment. Includes any hazardous or toxic substance, waste, pollutant, or chemical regulated under the CAA, CWA, TSCA, and/or RCRA; a pollutant or contaminant as any substance likely to cause death, disease, abnormalities, etc. (CERCLA Sec. 101(33)); or those listed in 40 CFR 302. For ITD purposes, petroleum, lead paint, asbestos, and other substances will be considered hazardous materials, as identified in the scope of work”.

- An effort will be made to store only enough product required to complete the job
- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible under a roof or other enclosure that minimizes contact with stormwater
- Products will be kept in their original containers with the original manufacturer’s label
- Substances will not be mixed with one another unless recommended by the manufacturer
- Whenever possible, all of the product will be used up before disposing of the container
- Manufacturer’s recommendations for proper use and disposal will be followed
- The site superintendent will inspect daily to ensure proper use and disposal of materials
- Tanks containing fuel will have secondary containment installed to contain any spilled material

Material Handling and Waste Management in Staging Areas

BMP	Specification(s)	Check if Used	Implementation Schedule
Staging and Materials Site Management	- SD SPECS (107) - SD Drawings (P-1-D, P-3-E, and P-5-A) - WM-1	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Solid Waste Management	- SD SPECS (N/A) - WM-6	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Concrete Curing	- SD SPECS (N/A) - NS-12	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Material and Equipment Use Over Water	- SD SPECS (N/A) - NS-13	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Concrete Finishing	- SD SPECS (N/A) - NS-14	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Structure Demolition-Removal Over or Adjacent to Water	- SD SPECS (N/A) - NS-15	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Material Delivery and Storage	- SD SPECS (N/A) - WM-2	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Material Use	- SD SPECS (N/A) - WM-3	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)

BMP	Specification(s)	Check if Used	Implementation Schedule
Stockpile Management	- SD SPECS (N/A) - WM-4	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
		<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)

Solid and source site materials, excess materials, hazardous materials, vehicle equipment and maintenance, sanitary waste management, and waste in general shall be managed at designated staging and waste areas. Staging and waste areas should be located a minimum of 150-ft away from any water feature (including irrigation amenities or domestic water sources) or areas susceptible to stormwater or surface water movement.

Solid and source site materials, include but are not limited to, dedicated asphalt or concrete plants (where the manufacturing of asphalt or concrete will occur on-site), gravel pits, stockpiles, source sites, general construction materials, and excess materials. The Contractor shall use an approved licensed solid waste management company. The Contractor shall reuse and recycle trash, source materials, construction materials, and construction debris unless it is not usable. If it is not usable or cannot be recycled it will be considered solid waste. All solid waste materials, with the exception of source materials, will be collected and disposed of in a securely lidded dumpster and shall be covered and secured at night and during all precipitation events. Any leaky solid waste dumpster must be exchanged or replaced within 24-hours of confirmation. Collection and proper disposal of all leaking materials shall be the responsibility of the Contractor.

The Contractor shall arrange an adequate solid waste disposal schedule to ensure that there is adequate solid waste disposal capacity on-site at all times and that dumpsters do not overflow and are emptied on a regular basis. All solid waste materials shall be removed from the project site throughout the duration and after the project is completed. Solid waste materials shall not be buried, burned, or discharged from the site.

Designate Washout Areas

BMP	Specification(s)	Check if Used	Implementation Schedule
Liquid Waste Management	- SD SPECS (N/A) - WM-11	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Concrete Waste Management	- SD SPECS (N/A) - SD Drawings (P-5-B) - WM-9	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Entrance/Outlet Tire Wash	- SD SPECS (621) - SD Drawings (P-3-E) - SC-13	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
		<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP

Concrete waste procedures and practices are designed to minimize or eliminate the discharge of concrete waste materials to the storm drain systems or to watercourses. A wash station may also be required to prevent transporting noxious weeds and contaminated soils from a contaminated site to an uncontaminated site or road surface.

Covering or containing hazardous materials or washing contaminated equipment may be required. All vehicle and equipment cleaning and maintenance shall occur in a designated staging site/area and include a water pollution control

equipment wash down area that shall have secondary containment and protection through the use of berms or other erosion and sediment controls or BMPs to reduce or eliminate discharges of pollutants.

The Contractor shall avoid mixing excess amounts of fresh concrete or cement mortar on-site. Storage of dry and wet materials associated with concrete should be located a minimum of 150-ft upslope of any water feature (including irrigation amenities or domestic water sources) or area susceptible to stormwater or surface water movement. The Contractor shall **Never** dispose of concrete, grout, or cement mortar washout into a watershed, water feature, or area susceptible to stormwater or surface water movement. Wash out concrete transit mixers only in designated washout areas. The Contractor shall design a temporary concrete washout station (s) as per ITD Standard Drawing P-5-B. All hardened concrete, grout, or cement mortar waste, including waste generated during equipment cleaning and QA/QC testing, shall be collected and transported to an approved licensed solid waste disposal/processing or recycling site by the Contractor.

Establish Proper Equipment/Vehicle Fueling and Maintenance Practices

BMP	Specification(s)	Check if Used	Implementation Schedule
Vehicle and Equipment Fueling	- SD SPECS (N/A) - SD Drawings (P-5-E) - NS-9	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Vehicle and Equipment Maintenance	- SD SPECS (N/A) - NS-10	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Pile Driving Operations	- SD SPECS (N/A) - NS-11	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
		<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP

Drip pans and drip cloths shall be used to drain and replace fluids. Spill prevention kits shall be located on site at all times and readily available in case of a leak, spill, or discharge and used when needed to contain and minimize unwanted and unnecessary leak, spill, or discharge impacts.

Fueling activities should be located at least 150’ away from surface water features. If site features do not allow this minimum setback, additional controls may be necessary. Additionally, if more stringent standards are required by permitting agencies or local entities, those standards shall be met.

Vehicles and construction equipment shall be monitored for leaks and receive regular preventative maintenance, and fueled on site using a portable service truck with a portable fuel tank or temporary storage tanks. Fueling shall occur within a hazardous materials containment staging area as approved by the Resident Engineer.

Fueling and/or Maintenance Activity	Practices to be Implemented to Control Spills and/or Exposure to Stormwater

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Add additional rows as needed by hitting Tab in the last cell of the table

Sanitary Waste BMPs

BMP	Specification(s)	Check if Used	Implementation Schedule
Sanitary-Septic Waste Management	- SD SPECS (N/A) - WM-10	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP

Sanitary and Septic Waste procedures and practices are used to minimize or eliminate the discharge of construction site sanitary/septic waste materials to the storm drain system or to watercourses. Sanitary/septic waste management practices are implemented on all construction sites that use temporary or portable sanitary/septic waste systems. Temporary portable toilets from an approved licensed sanitary waste company shall be used during the duration of the project and maintained and cleaned as needed. Portable toilets shall be located at designated staging areas and have secondary containment in case of a leak, spill, or discharge. All sanitary waste will be collected from the portable units a minimum once per week. Placement and removal of all portable toilets shall be the responsibility of the Contractor.

Contaminated Soil BMPs

BMP	Specification(s)	Check if Used	Implementation Schedule
Contaminated Soil Management	- SD SPECS (N/A) - WM-8	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)

Prior to construction or soil disturbance, ITD shall inspect the site for physical contamination. During the construction phase, if the Contractor detects evidence of contamination, or encounters leaks, spills, or discharges are detected, contaminated soils and water should be contained and held for testing whenever contamination is suspected. Any specific contaminant known to exist or that is discovered on site and which has contaminated soil or has the potential to contaminant soil and/or drainages or water features (including irrigation amenities or domestic water sources) shall be reported to the Resident Engineer immediately. The Resident Engineer will coordinate clean-up of contaminated soils with the Idaho Communications Center (Statecom) at 1-800-632-8000.

Allowable Non-Stormwater Discharge Management and Equipment/Vehicle Washing

Non-stormwater (dust control water, water used in road grading, irrigation drainage, springs or ground water dewatering, etc) may combine with stormwater and be present in the discharge at this site. All water shall be treated in the same manner as stormwater runoff. The same BMPs used in this PPP for stormwater runoff shall be implemented to reduce non-stormwater impacts and limit non-stormwater discharges. The use of soap, solvents, and degreasers is specifically prohibited for cleaning use. Uncontaminated water discharge from dust control, dust abatement activities, and water used in road grading or excavation activities and compaction shall not reach waters of the United States.

The following incidental non-stormwater from the sources marked below may combine with stormwater and be present in the discharge at this site.

- Hydrant or Water Line Flushing
- Vehicle Wash-Down Water
- Dust Control Water
- Irrigation Drainage (including landscape)
- Spring or Groundwater

- Air Conditioner Condensate
- Uncontaminated Foundation or Footing Drains
- Pavement or Building Wash Water
- Uncontaminated Excavation Dewatering (without detergents)
- Potable Water
- No Known Non-Stormwater Sources Apparent

List allowable non-stormwater discharges marked above and the measures used to eliminate or reduce them and to prevent them from becoming contaminated:

Allowable Non-Stormwater Discharges	Measures to be Implemented to Eliminate or Reduce Contamination

Add additional rows as needed by hitting Tab in the last cell of the table

Non-Stormwater BMPs

BMP	Specification(s)	Check if Used	Implementation Schedule
Water Conservation Practices	- SD SPECS (106 and 205) - NS-1	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Dewatering Operations	- SD SPECS (N/A) - NS-2	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Paving and Grinding Operations	- SD SPECS (203) - NS-3	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Potable Water-Irrigation Management	- SD SPECS (N/A) - NS-7	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Vehicle and Equipment Cleaning	- SD SPECS (N/A) - SD Drawings () - NS-8	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Freeze Reduction	- SD SPECS (N/A) - NS-16	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Snow Management	- SD SPECS (N/A) - EC-15	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Snow Accumulation Management	- SD SPECS (N/A) - EC-16	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
		<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)

Spill Prevention and Control BMPs

All ITD projects shall follow the Idaho Hazardous Materials/WMD Incident Command and Response Support Plan and ITD Incident Management Plan. In addition, a project Spill Plan shall be provided by the Contractor, and should be

included in **Appendix B**. The ITD BMPs listed below also contain guidance on waste management, spill prevention and control, and cleanup.

BMP	Specification(s)	Check if Used	Implementation Schedule
Spill Prevention and Control	- SD SPECS (N/A) - WM-5	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Hazardous Waste Management	- SD SPECS (N/A) - WM-7	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
Illicit Connection-Illegal Discharge Detection and Reporting	- SD SPECS (N/A) - NS-6	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)
		<input type="checkbox"/>	Date to be Implemented Location (Stations or MP)

Per 40 CFR 112, if petroleum products stored at the construction site aggregate 1,320 gallons or more, a Spill Prevention, Control, and Countermeasure Plan (SPCC) plan will be required.

Section 4 - Permanent Erosion or Sediment Control BMPs

Permanent erosion and sediment control BMPs shall be designated and referenced on the project bid plans in association to their placement locations and amounts, lengths, and types used and as specified by the Engineer. The following permanent erosion and sediment control BMPs or combination of control BMPs will be installed and used to collect, retain, and treat stormwater runoff and pollutant discharges and to provide permanent stabilization of disturbed soils per ITD PPP requirements. In the table provided below, check the boxes of the BMPs that will be used on your project and insert implementation/installation times. Delete the BMPs that will not be used, or leave unchecked.

BMP	Specification(s)	Check if Used	Implementation Schedule
Channel Protection - Check Dams	- SD SPECS (212) - SD Drawings (P-2-B) - PC-1	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Sheet Flow to Buffers	- SD SPECS (N/A) - PC-2	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Channel Protection-Flexible Liners	- SD SPECS (212 and 624) - SD Drawings (P-2-A and P-2-C) - PC-3	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Channel Protection-Rigid Channel Liners	- SD SPECS (209 and 623) - SD Drawings (P-2-D) - PC-4	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Dikes and Berms	- SD SPECS (205, 209, and 212) - SD Drawings (P-1-E and P-1-F) - PC-5	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Dry Swale	- SD SPECS (N/A) - PC-6	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP

BMP	Specification(s)	Check if Used	Implementation Schedule
Wet Swale	- SD SPECS (N/A) - PC-7	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Geosynthetics	- SD SPECS (640 and 718) - PC-8	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Surface Sand Filter	- SD SPECS (N/A) - PC-9	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Subsurface Sand Filter	- SD SPECS (N/A) - PC-10	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Perimeter Sand Filter	- SD SPECS (N/A) - PC-11	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Organic Filter	- SD SPECS (N/A) - PC-12	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Pocket Sand Filter	- SD SPECS (N/A) - PC-13	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Bioretention	- SD SPECS (N/A) - PC-14	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Inlet-Outlet Protection	- SD SPECS (212, 608, 609, 640, 711, 718) - SD Drawings (D-1-A, D-1-B, P-1-A, P-1-H, and P-2-F) - PC-15	<input checked="" type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP 2 Each
Interceptor Ditches	- SD SPECS (208 and 209) - PC-16	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Retaining Walls	- SD SPECS (210 and 512) - PC-17	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Stormwater Basins	- SD SPECS (205 and 212) - SD Drawings (P-1-C and P-4-A) - PC-18	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Extended Detention Basin with Micropool	- SD SPECS (N/A) - PC-19	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Wet Basin	- SD SPECS (N/A) - PC-20	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP

BMP	Specification(s)	Check if Used	Implementation Schedule
Wet Extended Detention Basin	- SD SPECS (N/A) - PC-21	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Shallow Wetland	- SD SPECS (N/A) - PC-22	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Extended Detention Shallow Wetland	- SD SPECS (N/A) - PC-23	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Pond Wetland System	- SD SPECS (N/A) - PC-24	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Pocket Wetland	- SD SPECS (N/A) - PC-25	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Sediment Control Box	- SD SPECS (605 and 609) - SD Drawings (E-6-A-F, P-1-H, P-3-A, P-3-B, and P-3-D) - PC-26	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Infiltration Trench	- SD SPECS (N/A) - PC-27	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Infiltration Basin	- SD SPECS (N/A) - PC-28	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Slope Drains - Chutes - Flumes	- SD SPECS (208, 212, 409, 606, 607, and 609) - SD Drawings (D-1-A, D-1-B, and P-2-D) - PC-29	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Rock Armor / Mulch – Turf Reinforced Mat	- SD SPECS (N/A) - PC-30	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Serrations / Roughening	- SD SPECS (205) - ITD Design Manual Sec. 5.6 - PC-31	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Terraces / Benching	- SD SPECS (205) - ITD Design Manual Sec. 5.6 - PC-32	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Topsoil Management	- SD SPECS (213 and 711.09) - PC-33	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Vegetation-Seeding	- SD SPECS (621, 711.05, 711.12, 711.06) - PC-34	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP

BMP	Specification(s)	Check if Used	Implementation Schedule
Vegetation-Planting	- SD SPECS (620 and 711.06) - PC-35	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Water Quality Inlet / Oil Grit Separator	- SD SPECS (N/A) - PC-36	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Street Sweeping	- SD SPECS (N/A) - PC-37	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Deep Sump Catch Basin	- SD SPECS (N/A) - PC-38	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
On-line Storage in Storm Drain Network (Vaults)	- SD SPECS (N/A) - PC-39	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Porous Pavements	- SD SPECS (N/A) - PC-40	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
Proprietary Manufactured Systems	- SD SPECS (N/A) - PC-41	<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP
		<input type="checkbox"/>	Date to be Implemented Location (Stations or MP) Quantity of BMP

Section 5 - Inspection and Maintenance Requirements

Inspections

- Contractor shall inspect and maintain all structural and non-structural control measures for functionality as required by the contract
- Conduct inspections using the inspection and corrective action log form in the Appendix
- Completed, certified, and executed Inspection Forms serve as a Corrective Action Log for ITD projects. These forms should be retained along with this PPP in **Appendix C**

All BMP deficiencies identified during the inspection, or any inadequacies related to the PPP, must be corrected as soon as possible but never later than 7 days after the inspection.

Maintaining an Updated PPP Plan

Changes to the PPP must be documented and may include any one of the following:

- Construction methods
- Operation methods
- Design of the project (including civil plan sheets)

In the field change orders

Maintenance or inspection procedures

Staging sites

Material source sites/stockpile sites

Disposal/excess material/waste sites

Haul roads, temporary roads, and locations where vehicles travel and enter or exit staging areas and construction sites

Implementation and maintenance of BMPs

Stormwater discharge locations

Sequencing/scheduling changes

Impacts to wetlands or sensitive areas

Changes in personnel

All of these can result in the need for additional BMPs, and therefore a PPP update.

The sole objective of all modifications is to keep the PPP concurrent to existing on-the-ground conditions and to eliminate erosion and sediment impacts, as well as other pollutant impacts that could potentially result from the project. All modifications to the PPP shall be documented in **Appendix C** through the completion of inspections reports that shall serve as the corrective action log on this project.

Section 6 - Recordkeeping

Low Erosivity Waiver

If this PPP is being prepared in lieu of a Stormwater Pollution Prevention Plan based on the applicability of obtaining a Low Erosivity Waiver for the project, a copy of ITD, the Contractor, and any applicable local entity filing for a Low Erosivity Waiver (LEW) should be included in **Appendix D**. Guidance on the applicability of the LEW on your project can be found at the following website: <http://water.epa.gov/polwaste/npdes/stormwater/Welcome-to-the-Rainfall-Erosivity-Factor-Calculator.cfm>

Attention should be given to the expirations date on the LEW.

Inspections

Completed, certified, and executed Inspection Forms serve as a Corrective Action Log for ITD projects. These forms should be retained along with this PPP in **Appendix C**.

Section 7 - Certification and Notification

LHTAC Representative's Printed Name	Title	Signature	Approval Date

Contractor Certification Statement

As an operator, I certify that this Pollution Prevention Plan (PPP) narrative and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. As an operator, I certify that I understand requirements of the Clean Water Act as it relates to my activities and will, to the maximum extent practicable, implement BMPs to minimize release of pollutants into the environment.

Contractor's Printed Name	Title	Signature	Date

Place all signed copies of the Subcontractor Certification/Agreement form in **Appendix E**.

Appendices

Appendix A – PPP Plan Sheets and Site Maps

Appendix B – Basic Spill Prevention and Control Plan Language

In addition to all the erosion and sediment control BMPs, non-stormwater BMPs, and good housekeeping BMPs discussed in the this PPP plan, the minimum following information will be provided by the Contractor for Spill Prevention and Cleanup:

- 1) Contact information for Contractor's designated Spill Coordinator for the project. This person must have authority to mobilize equipment, personnel, and materials in the event of a spill or discharge.
- 2) Documentation of training and/or education on spill response and cleanup.
- 3) Description of the location and content of spill kits on the project site.

Appendix C – Executed Inspection Reports/Corrective Action Log

Appendix D – Low Erosivity Waivers (if applicable)

Appendix E – Subcontractor Certifications/Agreements

Subcontractor Certification for Pollution Prevention Plan

Project Number	Project Name	Operator(s)
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As a subcontractor, you are required to comply with the Pollution Prevention Plan (PPP) for any work that you perform on-site. Any person or group who violates any condition of the PPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the PPP. A copy of the PPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the PPP for the above designated project and agree to follow the BMPs and practices described in the PPP.

This certification is hereby signed in reference to the above named project.

Company Name	Address	City	State	Zip Code
Telephone Number	Construction Service to be Provided			
Printed Name	Title	Signature	Date	

2024 BUY AMERICA INSERT

This document is intended as a Build America Buy America (BABA or BA) contract insert that includes changes to the 2023 Standard Specifications for Highway Construction (SSHC), and the 2020 Quality Assurance Manual (Dated 10/19).

REVISIONS TO THE 2023 SSHC

ON PAGE 11, SUBSECTION 101.04 – DEFINITIONS

02/24

Replace the definition of “Construction Material” with the following:

Construction Material. A Construction Material is an article, material, or supply that consists of only one of the items listed, except for minor additions: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cable); glass (including optic glass); lumber (including treated wood, and untreated wood); Fiber optic cable; Optical fiber; Engineered wood or drywall. To the extent one of the items listed above contains as inputs other items listed above, it is nonetheless a Construction Material. For example, fiber optic cable contains as inputs other items listed, such as glass and/or plastics, but fiber optic cable is nonetheless a Construction Material. Items specifically excluded from Construction Materials are products that are primarily iron or steel (defined under Iron and Steel Products); cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives. Coatings do not change the categorization of a Construction Material. Minor additions of articles, materials, supplies, or binding agents to a Construction Material do not change the categorization of Construction Material. For example, wax added to engineered wood should not disqualify the engineered wood from categorization as a Construction Material. However, if before the engineered wood is brought to the work site, it is combined with glass or other items or materials to produce a new product, which is not listed above, the new product would be classified as a Manufactured Product, not a Construction Material.

ON PAGE 14, SUBSECTION 101.04 – DEFINITIONS

02/24

Add the following in alphabetical order:

Manufactured Product. Any product that is classified as an iron or steel product, or a Construction Material is not a Manufactured Product. Cement and cementitious materials, aggregates such as stone, sand, or gravel, or aggregate binding agents or additives, also cannot be classified as a Manufactured Product. Otherwise, the following definition of Manufactured Product applies: Articles, materials, or supplies that have been: a) Processed into a specific form and shape; or b) Combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies.

ON PAGE 59, 106.01.A.1 – IRON AND STEEL PRODUCTS**02/2024**

Add the following after the first paragraph.

Iron or steel products means articles, materials, or supplies that consist wholly or predominantly of iron or steel or a combination of both. “Predominantly of iron or steel” means that the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components.

ON PAGE 60, 106.01.A.1 – IRON AND STEEL PRODUCTS**02/2024**

Delete the second sentence of the fifth paragraph and replace with the following:

Cost determination is based on supplier invoice costs.

ON PAGE 60, 106.01.A.2 – CONSTRUCTION MATERIALS**02/2024**

Delete the first paragraph and replace with:

All Construction Materials must be produced in the United States. Produced in the United States is defined below for each Construction Material.

- (1) Non-ferrous metals. All manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.
- (2) Plastic and polymer-based products. All manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.
- (3) Glass. All manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.
- (4) Fiber optic cable (including drop cable). All manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-based products, or any others.
- (5) Optical fiber. All manufacturing processes, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.
- (6) Lumber. All manufacturing processes, from initial debarking through treatment and planing, occurred in the United States.
- (7) Drywall. All manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.
- (8) Engineered wood. All manufacturing processes from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.

ON PAGE 60, 106.01.A.2 – CONSTRUCTION MATERIALS**04/2024**

Add the following after the second paragraph:

The Engineer may allow small quantities of foreign or non-compliant Construction Materials, so long as the total value of the foreign or non-compliant Construction Materials does not exceed the lesser of \$1,000,000 or 5 percent of the Total Applicable Project Costs for the project or where the Total Amount of Federal Financial Assistance is below \$500,000. “Total Applicable Project Costs” are defined as the cost of iron/ steel, Construction Materials and Manufactured Products used in the project that are subject

to a domestic preference requirement, including materials that are within the scope of an existing waiver. "Total Amount of Federal Financial Assistance" includes federal funding provided for preliminary engineering, right of way, and all construction contracts. For projects under a NEPA decision, include all federal funding provided for all projects under that NEPA decision.

The Contractor must maintain and provide in .csv format for each estimate to the Engineer a running total, listed by bid item and manufacturer, of the cost of Construction Materials not meeting the Buy America criteria and a running total of the Total Applicable Project Costs (as defined in the paragraph above). Invoices must be available for audit at any time and must be retained for a period of five years from the date of substantial completion for the project. If the Contractor does not provide these costs for each estimate, the estimate payment will not be made until the costs are supplied, or the Contractor provides a written statement(*) that they are not going to supply these costs. The written statement will include a statement from the Contractor acknowledging that they will not be able to incorporate any non-compliant Construction Materials into the project. The Engineer needs to make sure the running total of the Total Applicable Project Costs and the running total of foreign or non-compliant Construction Materials are received prior to issuing each pay estimate and that the Contractor does not exceed the Buy America threshold for non-compliant Construction Materials or have received the written statement from the Contractor indicating they will not be providing the running total.

* The written statement must include the following sentence:

"As the authorized representative of the Contractor, by providing this written statement that I will not be providing the running total for each estimate of the Total Applicable Project Costs, the Contractor is acknowledging that non-compliant Construction Materials cannot be incorporated into the project."

REVISIONS TO THE 2020 QUALITY ASSURANCE MANUAL (DATED 10/19)

Section 100.00.01 – Quality Control (QC) Producer

Delete the second sentence of the first paragraph and replace with:

Quality control of materials used in construction is the Contractor's responsibility and is performed during the production of the material and/or at the point of delivery.

Section 200 "Outline"

Revise Section 230.01 as follows:

230.01	General Provisions and Buy America.
230.01.01	General Provisions.
230.01.02	Buy America.
230.01.02.01	Iron and Steel Products
230.01.02.02	Construction Materials

Section 230.01 General Provisions

Delete Section 230.01 and replace with the following:

230.01 General Provisions and Buy America

230.01.01 General Provisions

Standard Department certification forms will be used. The standard forms are:

- ITD-849 Geotextile and Geogrid
- ITD-851 Miscellaneous Items
- ITD-875 Non-Structural Concrete
- ITD-914 Steel and Iron, and Buy America
- ITD-915 Construction Materials for Buy America
- ITD-966 PG Asphalt Binder
- ITD-968 Cement / Fly Ash

The standard forms must be completed in their entirety and be signed by the manufacturer's representative who has quality control responsibility for the manufacture or fabrication of the material.

When required by the contract, QC test results must be attached to the specified standard form. Certification does not preclude inspection, sampling, testing, or verification of certified test results of the material received on the project. Project inspectors will review all certification results for specification compliance before accepting the material. If the certified material is found to be outside acceptable specification limits, the material is subject to rejection.

Each shipment of certified material must be visually inspected for obvious defects and shipping/handling damage. Repair, reject, or replace damaged or defective material to the satisfaction of the Engineer. Where feasible, simple measurements of specified properties should be spot-checked at least once per project and recorded to verify certification. Examples would be length, mass per unit length, or thickness of steel items.

Withdraw acceptance of material by certification when sample test or inspection results show the material consistently fails to meet specifications requirements. Reestablishment of the certification acceptance may be achieved through Department pre-testing, pre-inspection, and review of historical certification records and test results of the material before its incorporation into a project. Additionally, the manufacturer's QA program may require revision and reevaluation by the Department.

230.01.02 Buy America

Buy America applies to any contract eligible for Federal Aid Highway funding within the scope of an applicable NEPA finding, determination, or decision regardless of the funding source of such contracts if at least one contract or phase of the project is funded with Federal-Aid highway funds. All permanently incorporated steel and iron materials along with Construction Materials as established in Standard Specification 106.A must be certified that they were manufactured in the United States of America including application of a coating. Certification must be provided before incorporation of the materials into the project. Materials that are only used or rented during the project construction, but not incorporated into the work (temporarily installed), do not require certification.

230.01.02.01 Iron and Steel Products

The ITD-914 form will serve as Buy America Certification and be signed by a person having quality control responsibility for the company that manufactures or fabricates the material. The ITD-914 will be sent with mill tests reports attached, except as noted in the MTRs.

Small quantities of steel and iron may be accepted without Buy American Certification, so long as its total cost for the project does not exceed 0.1% of the contract amount or \$2,500, whichever is greater. The total cost of steel and iron includes the cost of the material plus the cost of transportation to the project site, as evidenced by delivery receipt, but does not include labor cost involved in final assembly performed on the project site.

If Department project staff or consultant inspectors discover that foreign iron and/or steel products are incorporated into a federal-aid project that exceed the Buy America minimal use amount for iron or steel (the greater of \$2,500 or 0.1% of the contract value), the FHWA Idaho Division must be contacted to resolve this after-the-fact discovery. All information on foreign iron and steel permanently incorporated into a project that exceeds the minimal use amount must be presented to FHWA to determine the appropriate resolution. The Department will not complete a project's Material's Certification without FHWA's resolution when the project is not compliant with Buy America. The Department has no authority to complete such a resolution and cannot resolve Buy America compliance issues by use of non-Federal funds.

230.01.02.02 Construction Materials

A Construction Material is an article, material, or supply that consists of only one of the items listed, except for minor additions: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cable); glass (including optic glass); lumber (including treated wood, and untreated wood); Fiber optic cable; Optical fiber; Engineered wood or drywall.

To the extent one of the items listed above contains as inputs other items listed above, it is nonetheless a Construction Material. For example, fiber optic cable contains as inputs other items listed, such as glass and/or plastics, but fiber optic cable is nonetheless a Construction Material.

Items specifically excluded from Construction Materials are products that are primarily iron or steel (defined under Iron and Steel Products); cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives.

Coatings do not change the categorization of a Construction Material. Minor additions of articles, materials, supplies, or binding agents to a Construction Material do not change the categorization of Construction Material. For example, wax added to engineered wood should not disqualify the engineered wood from categorization as a Construction Material. However, if before the engineered wood is brought to the work site, it is combined with glass or other items or materials to produce a new product, which is not listed above, the new product would be classified as a Manufactured Product, not a Construction Material.

Any product that is classified as an iron or steel product, or a Construction Material is not a Manufactured Product. Cement and cementitious materials, aggregates such as stone, sand, or gravel, or aggregate binding agents or additives, also cannot be classified as a Manufactured Product. Otherwise, the following definition of Manufactured Product applies: Articles, materials, or supplies that have been: a) Processed into a specific form and shape; or b) Combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies.

For awards obligated on or after August 16, 2023, the Engineer may allow small quantities of foreign Manufactured Products and Construction Materials, so long as the total value of the non-compliant products does not exceed the lesser of \$1,000,000 or 5 percent of the total applicable costs for the project or where the total amount of federal financial assistance is below \$500,000. "Total applicable project costs" are defined as the cost of Construction Materials and Manufactured Products used in the project that are subject to a domestic preference requirement, including materials that are within the scope of an existing waiver. "Total Amount of Federal Financial Assistance" includes federal funding provided for preliminary engineering, right of way, and all construction contracts. For projects under a NEPA decision, include all federal funding provided for all projects under that NEPA decision.

The Contractor must maintain and provide in .csv format for each estimate to the Engineer a running total, listed by bid item and manufacturer, of the cost of Construction Materials not meeting the Buy America criteria and a running total of the Total Applicable Project Costs (as defined in the paragraph above). Invoices must be available for audit at any time and must be retained for a period of five years from the date of substantial completion for the project. If the Contractor does not provide these costs for each estimate, the estimate payment will not be made until the costs are supplied, or the Contractor provides a written statement(*) that they are not going to supply these costs. The written statement will include a statement from the Contractor acknowledging that they will not be able to incorporate any non-compliant Construction Materials into the project. The Engineer needs to make sure the running total of the Total Applicable Project Costs and the running total of foreign or non-compliant Construction Materials are received prior to issuing each pay estimate and that the Contractor does not exceed the Buy America threshold for non-compliant Construction Materials or have received the written statement from the Contractor indicating they will not be providing the running total.

* The written statement must include the following sentence:

"As the authorized representative of the Contractor, by providing this written statement that I will not be providing the running total for each estimate of the Total Applicable Project Costs, the Contractor is acknowledging that non-compliant Construction Materials cannot be incorporated into the project."

The ITD-915 form serves as Buy America Certification for Construction Materials and must be signed by a person having quality control responsibility for the company that manufactures the Construction Material.

If Department project staff or consultant inspectors discover that foreign Construction Materials are incorporated into a federal-aid project, the FHWA Idaho Division must be contacted to resolve this after-the-fact discovery. All information on foreign Construction Materials permanently incorporated into a project must be presented to FHWA to determine the appropriate resolution. The Department will not complete a project's Material's Certification without FHWA's resolution when the project is not compliant with Buy America requirements. The Department has no authority to complete such a resolution and cannot resolve Buy America compliance issues by use of non-Federal funds.

Section 230.03 Steel.

Delete the last sentence of the first paragraph and replace with:

Steel will comply with 230.01.02 Buy America.

Section 230.07 Corrugated Metal Pipe and Corrugated Plate Pipe.

Add the following to the end of the second paragraph of the section:

Additionally, a form ITD-915 will be submitted attesting that the aluminum pipe meets applicable Buy America requirements for Construction Material (non-ferrous metals).

Section 230.08 Plastic Pipe.

Add the following to the end of the first paragraph of the section:

Additionally, a form ITD-915 will be submitted attesting that the plastic pipe meets applicable Buy America requirements for Construction Material (plastic and polymer-based products).

Section 230.09 Geosynthetics.

Add the following to the end of the first paragraph of the section:

Additionally, a form ITD-915 will be submitted attesting that the geosynthetic meets applicable Buy America requirements for Construction Material (plastic and polymer-based products).

Section 270.00 Minimum Testing Requirements (Table)

Use the Buy America Summary Table below for BA requirements and BA certifications of materials. Iron or steel products are listed as “Fe”. Construction Materials as listed as “CM”. If the material is listed as a possible Construction Material (CM), it is up to the manufacturer to either certify the product with the ITD-0915, or submit the product through the Buy America Exemption Application for review by HQ Construction and Materials for a possible exemption. Only products that are not by definition a Construction Material can receive an exemption.

Buy America Summary Table (Section 270)

Section	Item Desc.	Code^{1,4,6,7}	Form(s)^{2,3,5,9}	Comments
212	Slope Drain	Fe, CM	ITD-914, ITD-915	
405	Pavement Reinforcement Fabric	CM	ITD-915	
503	GFRP	BA N/A		GFRP is a combination of glass and polymers combined in a manufacturing process. See notes 10 and 11.
503	GFRP	BA N/A		
504	Bolts, Nuts, Hardened Washers, DTI	Fe, CM	ITD-914, ITD-915	
504	Two Tube Curb-Mount Railing	Fe, CM	ITD-914, ITD-915	
504	Pedestrian Bicycle Railing	Fe, CM	ITD-914, ITD-915	
504	Combination Pedestrian Bicycle, and Traffic Railing	Fe, CM	ITD-914, ITD-915	
505	Timber Piles	CM	ITD-915	
507	Neoprene Bearing Pads	CM	ITD-915	
507	TFE/PTFE Bridge Bearing Pads	CM	ITD-915	
508	Corrugated Plate Pipe - Entire Section	Fe, CM	ITD-914, ITD-915	
511	Concrete Waterproofing Systems - Types A, B	CM	ITD-915	
511	Concrete Waterproofing Systems - Types C, D	BA N/A		Note, Type C Silanes and siloxane chemicals are not polymers and are not Construction Materials. Type D is an asphalt filled fabric laminate combined in a manufacturing process and is not a Construction Material.
511	Concrete Waterproofing Systems - Types E	CM	ITD-915	
565	Backer Rod	CM	ITD-915	
565	Location Spike	Fe, CM	ITD-914, ITD-915	
566	Neoprene Seals - Compression Seal Expansion Joint	CM	ITD-915	

Buy America Summary Table (Section 270)

Section	Item Desc.	Code^{1,4,6,7}	Form(s)^{2,3,5,9}	Comments
567	Neoprene Seals - Strip Seal Expansion Joint	CM	ITD-915	
578	Gaskets for Concrete Pipe	CM	ITD-915	
586	Utility Conduit	Fe, CM	ITD-914, ITD-915	
586	Deck Inserts	Fe, CM	ITD-914, ITD-915	
602-608	Corrugated Metal pipe and Pipe arches	Fe, CM	ITD-914 ² , ITD-915	
602-608	Structural Plate Pipe, Pipe Arches and Arches	Fe, CM	ITD-914, ITD-915	
602-608	Pipe Underdrains (Metallic Coated corrugated steel, aluminum pipe, corrugated PE drainage tubing PVC Pipe.	Fe, CM	ITD-914, ITD-915	
602-608	Abs or PVC or PE Pipe	CM	ITD-915	
602-608	Metal Aprons	Fe, CM	ITD-914, ITD-915	
602-608	Gaskets for Concrete Pipe	CM	ITD-915	
602-608	Rubber Gaskets for CMP	CM	ITD-915	
602-608	Corrugated Metal Embankment Protectors	Fe, CM	ITD-914, ITD-915	
609	Timber - Minor Structures	CM	ITD-915	
610	Wood Posts	CM	ITD-915	
610	Gates	Fe, CM	ITD-914, ITD-915	
610	Hardware for Barbed or Woven Wire Fence	Fe, CM	ITD-914, ITD-915	
612	Wood Post and Blocks - Guardrail	CM	ITD-915	
612	Non - Wood Post and Block - Guardrail	CM	ITD-915	
612	Aluminum Rail and Fittings - Guardrail	CM	ITD-915	
612	Metal Terminal Section - Guardrail	Fe, CM	ITD-914, ITD-915	

Buy America Summary Table (Section 270)

Section	Item Desc.	Code^{1,4,6,7}	Form(s)^{2,3,5,9}	Comments
612	Impact Attenuator - Permanent - Guardrail	Fe, CM	ITD-914, ITD-915	
613	Crash Cushions	CM	ITD-915	
616	Signs and Sign Support Extruded Aluminum	CM	ITD-915	
616	Signs and Sign Support Sheet Aluminum	CM	ITD-915	
616	Signs and Sign Support - Steel and Aluminum	Fe, CM	ITD-914, ITD-915	
616	Signs and Sign Support - Hardware for Signs	Fe, CM	ITD-914, ITD-915	
616	Plywood for Type E Signs	CM	ITD-915	
616	Signs and Sign Support - Breakaway Wood Posts	CM	ITD-915	
617	Aluminum Posts Delineators and Mileposts	CM	ITD-915	
617	Aluminum Posts Delineators and Mileposts Plates	CM	ITD-915	
617	Aluminum Posts Delineators and Mileposts Reflector Unit	CM	ITD-915	
617	Aluminum Posts Delineators and Mileposts Reflective Sheeting	BA N/A		Finished product undergoes manufacturing process to combine the sheeting and aluminum into one product so it is not a Construction Material. See notes 10 and 11.
618	Right of Way Marker	Fe, CM	ITD-914, ITD-915	
618	Brass Caps	CM	ITD-915	
618	Reference Marker	Fe, CM	ITD-914, ITD-915	
618	Project Markers	Fe, CM	ITD-914, ITD-915	BA N/A if temporary
618	Reference Marker	Fe, CM	ITD-914, ITD-915	BA N/A if fiberglass is used. See notes 8, 10 and 11.
618	Witness Posts - Wood	CM	ITD-915	

Buy America Summary Table (Section 270)

Section	Item Desc.	Code^{1,4,6,7}	Form(s)^{2,3,5,9}	Comments
618	Witness Posts - Fiberglass	BA N/A		Fiberglass is a combined material and is a Manufactured Product.
619	Illumination Poles and Bases	Fe, CM	ITD-914, ITD-915	
619	Illumination Components	Fe, CM	ITD-914, ITD-915	
623	Pre-formed expansion Joint Filler Concrete Slope Paving	CM	ITD-915	
625	Pre-formed expansion Joint Filler Joints	CM	ITD-915	
625	Neoprene Compression Seal	CM	ITD-915	
630	Glass Beads	CM	ITD-915	
630	Preformed Thermoplastic	CM	ITD-915	
634	Support Mailbox	Fe, CM	ITD-914, ITD-915	
634	Mailbox	Fe, CM	ITD-914, ITD-915	
640	Geosynthetics all materials	CM	ITD-915	
641	Biaxial Geogrid	CM	ITD-915	
652	Underground Sprinkler System - All Items	CM	ITD-915	
656	Signal Poles and Mast Arms Traffic Signal Installation	Fe, CM	ITD-914, ITD-915	
656	Signal Components Traffic Signal Installation	Fe, CM	ITD-914, ITD-915	
656	Signal Cabinet Electrical Components Traffic Signal Installation	BA N/A		Electrical Components are a combination of materials that are combined thru a manufacturing process so they are not a Construction Material. See note 10 and 11.
Notes:				
<ol style="list-style-type: none"> 1. Code Key: Fe = iron & steel, CN = Construction Material, BA N/A = Item determined not to apply to BA. 2. The ITD-914 applies to Iron and steel products only. There is no change to the Buy America certification process for Iron and Steel. 3. This table makes additional requirements to the existing table only; the existing ITD-914 requirements for Iron and Steel are not restated. 				

Buy America Summary Table (Section 270)

Section	Item Desc.	Code ^{1,4,6,7}	Form(s) ^{2,3,5,9}	Comments
	<ol style="list-style-type: none"> 4. Buy America requirements apply to all iron and steel items no matter what form of manufacturing or material combinations are used. 5. The ITD-915 applies to Construction Materials only (eight listed items). 6. Besides Fe and CM, no other products/items are considered by the Department to be applicable to these Buy America requirements. 7. Field assembly does not constitute a manufactured process and does not necessarily preclude applicability to Buy America requirements. 8. Wood products, even when treated, are considered Construction Materials. 9. Any justification denying applicability to the Buy America requirements is to be submitted on/with the ITD-915 form. 10. Items consisting of a combination of two or more Construction Materials combined in a manufacturing process are not Construction Materials. 11. Items consisting of one construction material with something else in a manufactured process are not Construction Materials. 			

Section 470.01 Exceptions.

In the sixth full paragraph, replace the sentence with:

Exceptions to the Buy America specification must be presented to FHWA for determination of a resolution, see Section 230.01.02 Buy America.

ON PAGE 13, 15 AND 16, SUBSECTION 101.04 – DEFINITIONS

HMA Paving Quality Control Plan. A quality control plan specific to hot mix asphalt paving.

Quality Assurance. All planned and systematic operations to ensure that the operation, material, and/or end product meets specifications. Quality assurance includes:

1. Approval and oversight of the Contractor's quality control plan.
2. Review of inspector, sampler, tester, and laboratory qualifications.
3. Inspection for conformity with contract requirements.
4. Contractor quality control.
5. Acceptance.
6. Independent assurance.
7. Challenge resolution.

Quality Control Plan. The documentation, approved by the Department, of the program used by the Contractor which specifies the actions, inspection, sampling, and testing necessary to keep production and placement operations within specifications, including provisions to quickly determine when an operation becomes out of control and those actions that the Contractor will take to restore compliance.

ON PAGE 36, SUBSECTION 105.03 – CONFORMITY WITH PLANS AND SPECIFICATIONS

Add after the first sentence:

For the quality characteristics of the items included in QASP SA Table 106.03-1, and subject to quality level analysis, acceptance will be based on the requirements of the 2023 Quality Assurance Special Provision for State Acceptance (2023 QASP SA).

ON PAGE 61, SUBSECTION 106.03 – SAMPLES, TESTS, AND CITED SPECIFICATIONS

Delete this subsection and replace with the following:

106.03 Samples, Tests, and Cited Specifications.

The Engineer will accept material, based on inspection and test results, before the Contractor incorporates material into the work. The Contractor may, with approval, incorporate material the Engineer cannot routinely sample before delivery, at the Contractor's risk. The Department will pay the Contractor for material incorporated into the work if the material meets the sampling, testing, and certification requirements.

Ensure the sampling and testing required by the contract, including references to WAQTC, ASTM, AASHTO, and Idaho standard test methods are from the current edition at time of bid opening, except as modified by the contract.

For testing performed on the Contractor's behalf for plant mix designs, alkali-silica reactivity expansion, and claim or dispute resolution, a professional engineer, licensed in the state where the testing will be performed, will supervise testing reporting.

Ensure a safe means of sampling and testing. If safe means of sampling and testing is not provided, work will be halted, at no additional cost to the Department. No material will be accepted after unsafe conditions have been identified and the Contractor has been notified of the unsafe conditions, until corrective action has been taken and the resumption of work is approved by the Engineer.

Ensure the individuals sampling and testing material and the testing facilities are qualified for the tests performed.

Provide crushing, screening, and mixing plants with approved sampling equipment capable of operating from the ground or a platform. Ensure the sampling equipment is capable of the following:

1. Moving at a constant rate across the width of the material falling from the discharge belt or chute.
2. Taking a representative sample of the material.
3. Conveying (e.g., slide, chute) the sample to the ground level where the sample can be safely and conveniently collected.

The Contractor is responsible for the quality of construction and materials incorporated into the work. The Contractor will perform all necessary quality control inspection, sampling, and testing and the Department is responsible for acceptance testing and independent assurance (IA) testing. Sampling and testing costs are included in the respective contract pay items. The Contractor is allowed to take the acceptance or IA samples as long as the sample collection is witnessed by the Department. The Contractor may employ an independent laboratory. The laboratory must follow the Contractor's approved quality control plan. Make all project records, including test results and all original source documentation for specified contract quality requirements available for review and allow Department representatives immediate access to the testing facilities during delivery and production hours.

The Contractor may observe the Department's sampling and testing activities. If the Contractor observes a deviation from the specified sampling or testing procedures, then the Contractor must describe the deviation to the Department immediately and document the deviation in writing within 24 hours to preserve their ability to challenge the sample.

A. Material Subject to Statistical-Based Acceptance.

When specified in the contract, the Department will use the quality level analysis as specified in 106.03.B to determine quality-based pay adjustments.

The Contractor and the Department will work cooperatively within their respective quality assurance (QA) responsibilities to produce and document a high quality project, meeting or exceeding the quality requirements of the contract.

1. The Department's Quality Assurance Responsibilities.

The Department is responsible for determining the acceptability of the work, approving and monitoring of the Contractor's quality control plan (QCP). The Department will perform acceptance sampling, testing, and inspection for any element of the work to ensure Contractor compliance with the QCP and contract requirements. The Department may also perform IA and verification sampling and testing at any time.

Acceptance sampling and testing is the Department's responsibility, unless alternate procedures are specified. The Department is responsible for performing acceptance testing and for evaluating the quality characteristics as specified in the QASP SA Table 106.03-1.

The Department will obtain all samples by utilizing stratified random sampling in accordance with Idaho IR 148.

Rounding will not be permitted at any level of calculating acceptance test results. The final reported value will be rounded to the nearest significant figure as specified in the QASP SA Table 106.03-1. ASTM E 29 does not apply.

The Department will provide official acceptance test results within 24 hours of receipt of the final sample for the lot. The Department will not provide official acceptance test results before the completion of the lot. Acceptance results and all original source documents/datasheets used during material acceptance testing will be made available for review upon request.

Unofficial results before final review can be shared with the Contractor, if available. These results must not be used for process quality control.

The Department will complete acceptance sampling, splitting, and testing as specified in the QASP SA Table 106.03-1 using independent, stratified random samples. Approximately $\frac{1}{2}$ of the sample will be used for acceptance testing and the other $\frac{1}{2}$ retained for challenge testing. The challenge samples must be secured with Department provided serialized security tape. All chain of custody information must be documented on Department provided forms and samples must be stored in a location only accessible by Department representatives.

a. Lot Description.

A lot is a specific quantity of material from a single source which is produced or placed by the same controlled process. Acceptance tests will be grouped into lots by the Engineer. Lot size will be determined by the Engineer using the following criteria:

- i. The minimum lot size is 3 tests for each quality characteristic. The minimum testing frequency is specified in the QASP SA Table 106.03-1.
- ii. A lot is based on a work shift's production when the minimum lot size is achieved.
 1. If the work shift is represented by less than 3 tests for any quality

characteristic, the work shift will be combined with the following work shift to form a lot.

2. If the final work shift is represented by less than 3 tests for any quality characteristic, the final work shift will be combined with the previous work shift to form a lot. A Superpave HMA acceptance test strip is considered a lot.

2. The Contractor's Quality Control Responsibilities.

The Contractor is responsible for quality control for all work. The Contractor will not rely on the Department's acceptance testing results for their process quality control.

- a. Quality Control Plan (QCP). The Contractor will develop, submit, and implement a QCP that meets the requirements of Idaho IR 158, as approved by the Department, for each of the materials included in QASP SA Table 106.03-1. A QCP for each of the materials, will be submitted to the Department at or before the preconstruction conference. The Department will provide the Contractor with approval or rejection of each QCP within 5 business days after receiving the QCP. Rejection of the QCP will require an additional 5 business days for re-evaluation. The QCP must be approved before that material is incorporated into the work/project. The QCP, as approved by the Department in accordance with Idaho IR 159, is binding upon the Contractor as a contract requirement.
 - i. QCP Amendments. Amend the QCP as necessary to conform to the current operations and submit the amended QCP for the Engineer's approval in accordance with IR 158. The Engineer will review and provide approval or rejection of the QCP amendment in accordance with Idaho IR 159 before the amendment is implemented.

At a minimum, the QCP will consist of plans, procedures, responsibilities, authority, and an organizational structure that demonstrates that an effective level of quality control will exist resulting in the end product complying with the contract requirements. The Contractor will provide all necessary quality control inspection, sampling, and testing to implement the QCP. The QCP will include an organizational structure and reporting requirements that demonstrate that QC personnel have sufficient independence to allow them to be primarily concerned with quality, as opposed to schedule and budget.

The Department will not sample or test for process control or assist in controlling the Contractor's production operations. The Contractor will provide QC personnel and testing equipment capable of providing a quality product that meets or exceeds the contract requirements. Continued production of non-conforming work for a reduced price as determined by the Department, instead of making adjustments to bring the work into conformance, is not allowed. The QCP will specifically include:

- i. Construction items covered by the QCP as specified in the contract.
- ii. Sampling location and techniques.
- iii. Sampling plan.
- iv. Tests and test methods.
- v. Testing frequencies.
- vi. Testing forms.

- vii. Inspection frequencies.
- viii. Detailed description of production and placement equipment and methods.
- ix. Detailed calibration processes and procedures for hot plants or mixing plants.
- x. Documentation procedures, including:
 - (1) Inspection and test records.
 - (2) Temperature measurements.
 - (3) Accuracy, calibration, or recalibration checks performed on production or testing equipment.

The QCP will identify the Contractor's QC personnel, including the company official ultimately responsible for the quality of the work. The Department's QCP approval process may include inspection of testing equipment and a sampling and testing demonstration by the Contractor's QC personnel to assure an acceptable level of performance.

The Contractor will comply with the approved QCP and will take all other steps necessary to assure a high quality project.

Failure by the Contractor to comply with the approved QCP will result in mandatory work suspension until compliance.

The Contractor will maintain and make available, quality control charts (at a minimum, a run chart as the material is being produced) for each quality characteristic to be used in the statistical analysis. Where applicable, the run chart will be plotted with the material's specification upper and lower limits for statistical analysis.

B. Quality Level Analysis.

Quality level analysis will not be performed if the total quantity of material, except the test strip(s), based on planned quantity, is less than the quantity computed for 3 tests at the frequencies specified in QASP SA Table 106.03-1.

1. Statistical Analysis. Unless otherwise specified, quality levels and pay factors will be computed as specified below:

- a. Determine the unrounded arithmetic mean (\bar{X}).

$$\bar{X} = \frac{\sum x_i}{n}$$

Where:

Σ = Summation.

x_i = Individual test value.

n = Total number test values.

- b. Compute the unrounded sample standard deviation (S).

$$S = \sqrt{\frac{\sum (x_i - \bar{X})^2}{n - 1}}$$

- c. Compute the unrounded upper quality index (Q_u).

$$Q_u = \frac{USL - \bar{X}}{S}$$

Where:

USL = Upper specification limit.

S = Standard deviation.

- d. Compute the unrounded lower quality index (Q_L).

$$Q_L = \frac{\bar{X} - LSL}{S}$$

Where:

LSL = Lower specification limit.

S = Standard deviation.

- e. Determine P_U (percent within the upper specification limit, which corresponds to a given Q_U).

$$P_U = 100 - \left(100 \times \int_0^A \text{beta} \left(X; \frac{n}{2} - 1 \right) dX \right)$$

Where:

P_U = Unrounded percent within upper limits.

$$A = \text{Maximum} \left[0, 0.5 - Q_U \times \frac{n^{0.5}}{2(n-1)} \right]$$

$$X = \text{Maximum} \left[0, 0.5 - Q_U \times \frac{n^{0.5}}{2(n-1)} \right]$$

$\text{beta} \left(X; \frac{n}{2} - 1 \right) =$ Beta distribution density with $\alpha = \beta = \frac{n}{2} - 1$ where α and β are parameters of the beta distribution.

If a USL is not specified, P_U will be 100.

- f. Determine P_L (percent within lower specification limit, which corresponds to a given Q_L).

$$P_L = 100 - \left(100 \times \int_0^A \text{beta} \left(X; \frac{n}{2} - 1 \right) dX \right)$$

Where:

P_L = Unrounded percent within lower limits.

$$A = \text{Maximum} \left[0, 0.5 - Q_L \times \frac{n^{0.5}}{2(n-1)} \right]$$

$$X = \text{Maximum} \left[0, 0.5 - Q_L \times \frac{n^{0.5}}{2(n-1)} \right]$$

$\text{beta} \left(X; \frac{n}{2} - 1 \right) =$ Beta distribution density with $\alpha = \beta = \frac{n}{2} - 1$ where α and β are parameters of the beta distribution.

If a LSL is not specified or the specification is zero, P_L will be 100.

- g. Determine the unrounded percent within limits (PWL) (i.e., the total percent within the specification limits).

$$PWL = (P_U + P_L) - 100$$

- h. Repeat steps 106.03.B.1.c through 106.03.B.1.g to calculate the PWL for each quality characteristic.

- 2. Acceptance Criteria. The Engineer will accept a lot containing material that does not meet specifications if the PWL is at least 40 for each of the quality characteristics. The Engineer must reject a lot containing non-specification material, which does not obtain at least a PWL of 40 for each quality characteristic. Remove rejected material, including those portions of the work in which that material was incorporated, at no additional cost to the Department. The Contractor may reuse the removed material if adjustments are made so the material meets the specifications.

If the PWL of a lot falls below 60 for any quality characteristic, stop production and/or delivery. A corrective action plan must be submitted to the Engineer and approved. Production and/or delivery may resume after the Contractor takes effective and acceptable actions to improve the production quality as outlined in the approved corrective action plan. If resuming production involves a significant change to the production process, as determined by the Engineer, stop the current lot and begin a new lot.

The Contractor may elect to remove defective material and replace it with new material on an entire lot basis, at no additional cost to the Department. The Department and the Contractor must re-sample, retest, and re-evaluate the new lot for acceptance.

The Engineer may isolate and reject obviously defective material without regard to testing procedures. The Contractor may isolate and reject obviously defective material during delivery and production before acceptance testing.

- 3. Materials.

- a. 301, 303, and 635 Materials. The upper and lower specification limits (USL and LSL) for gradations will be set based on the applicable requirements of 703 except as specified below:

- (1) Test results will not be included in the quality level analysis for fracture, sand equivalent, cleanness value, 100 percent passing, or for any sieves where the upper specification limit is 100 percent passing and the lower specification limit is 95 percent passing or greater.

The Engineer will use the lowest PWL computed for any 1 sieve as the basis of acceptance for that lot. The average PWL will be used for payment.

- b. 404 Material. When the lower specification limit is 0 percent and the upper specification limit is less than 3 percent, the upper specification limit will be 3 percent for statistical analysis. A 2 percent tolerance will be given for the percentage retained on the maximum sized sieve provided that 100 percent of the material passes the next larger sieve size. Only #4 and #8 sieves will be used for quality level analysis.
- c. 405 Superpave Material. The upper and lower specification limits for Superpave quality characteristics will be set by the limits established in 405.

- (1) For SP 2 aggregates, the lowest PWL for any 1 sieve will be used for acceptance and pay factor calculations.

ON PAGE 62, SUBSECTION 106.07 – TEST RESULT CHALLENGE RESOLUTION

Delete this subsection and replace with the following:

106.07 Test Result Challenge Resolution.

The Contractor and the Department may enter into a challenge resolution when the quality of a lot is believed to be misrepresented.

The test result challenge process as specified in 106.07 will be exhausted in its entirety before other dispute or claims processes are initiated as specified in 105.16, 105.17, 105.18, and 105.19. The intent of challenge resolution is to resolve testing issues early, efficiently, and as close to the project level as possible. The Contractor will waive their right to challenge test results if they fail to comply with the requirements set forth in this subsection.

A. Initiation of a Challenge.

To request a challenge of acceptance test results, provide written notice, including all quality characteristics and copies of original quality control source documentation, within 3 business days after receipt of the acceptance test results. Failure to comply with these requirements in this subsection will bar either party from any further administrative, equitable, or legal remedy.

1. The Contractor will waive their right to challenge if either of the following conditions occur:
 - i. The Engineer does not receive a written notice as specified within the time requirements (i.e., 3 business days).
 - ii. The Contractor does not obtain the required number of the Contractor's quality control tests reported on forms established in the QCP at the frequency specified in QASP SA Table 106.3-1.
2. The Department will review the written notice and quality control documentation.

B. Challenge Resolution Process.

1. The Department and the Contractor will identify differences in procedures and equipment.
2. The Department and the Contractor will agree to a work plan for initiating resolution by a challenge laboratory as specified in 106.07.C. or 106.07.D.
3. The Contractor can witness challenge testing.

C. Challenge of Material Not Subject to Statistical-Based Acceptance.

The challenge lab is the Department Central Materials Laboratory or a Department District Materials Laboratory not associated with the District in which the acceptance testing is being performed. Splits of the Department's acceptance samples for the entire lot will be used for challenge testing. The challenge samples will be tested for all quality characteristics used in the quality level analysis by the challenge laboratory. The challenge laboratory results are final and the Engineer will use the challenge laboratory's test results for all quality characteristics for acceptance.

1. If the Department's acceptance test results indicate reject level material, and:

- i. The challenge laboratory test results indicate acceptable material, then the Department will bear the cost of challenge laboratory testing.
- ii. The challenge laboratory test results indicate reject level material, then the costs of challenge laboratory testing will be deducted from any monies due or that may come due the Contractor under the contract at the rate of \$500.00 per sample.

For challenging of density properties, the Department’s acceptance cores will be retained for retesting. The Contractor may request to observe challenge testing.

D. Challenge Laboratory Resolution of Material Subject to Statistical-Based Acceptance.

The challenge laboratory is the Department Central Materials Laboratory. The Central Materials Laboratory may elect to choose another challenge laboratory as needed to accommodate testing timelines. Upon challenge notification, the Department will arrange for testing of all challenged acceptance samples of the lot in question. Splits of the Department’s acceptance samples will be used for challenge testing. The challenge samples for the entire lot will be tested for all quality characteristics used in the quality level analysis by the challenge laboratory. The challenge laboratory test results are final and the Engineer will use the challenge laboratory test results of all quality characteristics for acceptance for the entire lot.

The Contractor may use challenge resolution for density when the density pay factor is less than 1.00. The entire lot will be retested for density and used in the quality level analysis. A challenge resolution test will be performed by obtaining cores in new, stratified random sample locations equal to the same number of original acceptance tests. Sample locations will be identified by the Department using Idaho IR 148. Sampling of cores will be performed by the Contractor and must be witnessed by the Engineer. Traffic control and sampling will be performed by the Contractor. Challenge resolution may be performed regardless of the sampling location being exposed to traffic. The challenge test results are final and the Engineer will use the challenge test results for acceptance of the entire lot.

- 1. If the new composite pay factor results in a lower or equal composite pay factor for the lot in question, then the costs of challenge testing, in addition to the cost of any work related to traffic control performed for retesting at unit bid prices for the costs incurred, will be deducted from any monies due or that may come due the Contractor under the Contract at the rate shown in Table 106.07-1 per sample in the challenged lot.
- 2. If the new composite pay factor results in a higher composite pay factor for the lot in question, then the Department will bear the costs associated with the challenge testing, and the cost of any work related to traffic control performed for retesting at unit bid prices for the costs incurred.

Table 106.07-1 – Challenge Laboratory Testing Rates

Material	Rate Per Sample
301 Granular Subbase	\$200
303 Aggregate Base	\$250
404 Cover Coat Material	\$300
635 Anti-Skid Material in Stockpile	\$300
405 SP 2 Mix Quality Characteristics	\$600
405 SP 2 Roadway Quality Characteristics	\$400
405 SP 3 Mix Quality Characteristics	\$600

Material	Rate Per Sample
405 SP 3 Roadway Quality Characteristics	\$400
405 SP 5 Mix Quality Characteristics	\$600
405 SP 5 Roadway Quality Characteristics	\$400

ON PAGE 91, SUBSECTION 108.04 – PRECONSTRUCTION AND PREOPERATIONAL CONFERENCES

Delete #4 and replace with the following: :

4. A quality control plan as specified in 106.03.A.2.

ON PAGE 115, NEW SUBSECTION 109.09 – PAY FACTOR EQUATIONS

Insert with the following new subsection:

109.09 Pay Factor Equations.

The Engineer will determine a pay factor for each quality characteristic in an individual lot not rejected and replaced, except as otherwise specified, for use in the basis of payment calculations.

With the exception of 405 pay items or reject quality level material, if any quality characteristic used in calculating the pay factor for the lot falls below 60 PWL, all quality characteristics will be paid corresponding to the lowest, unrounded PWL.

For 405 pay items, with the exception of reject quality level material, if any two quality characteristic used in calculating the pay factor for the lot fall below 60 PWL, all quality characteristics will be paid corresponding to the average two lowest, unrounded PWL.

A. 405 Mainline Density.

For mainline density, calculate the pay factor for each lot using the following formula:

$$PF_{MLD} = \frac{55 + 0.5 \times (PWL_{92} - \frac{(PWL_{92} - 90) + |PWL_{92} - 90|}{2})}{100} + \frac{((PWL_{92} - 90)) + |(PWL_{92} - 90)|}{1000} + \frac{(PWL_{93} - 90) + |PWL_{93} - 90|}{1000} + \frac{(PWL_{94} - 90) + |PWL_{94} - 90|}{2000}$$

Where:

PWL₉₂ is the percent of material between 92.0 to 100.0% compaction.

PWL₉₃ is the percent of material between 93.0 to 100.0% compaction.

PWL₉₄ is the percent of material between 94.0 to 100.0% compaction.

B. All Other Quality Characteristics.

For all other quality characteristics calculate the unrounded pay factors for each lot using the following equation:

$$PF = \frac{55+0.5 \times (PWL)}{100}$$

ON PAGE 184, SUBSECTION 301.05 – BASIS OF PAYMENT

Add the following:

A. Granular Subbase Pay Factor. All acceptable material will be paid at contract unit price.

When RAP material is included in acceptable subbase, the natural material will be tested as specified in 301 and the blended material will be paid at contract unit price.

ON PAGE 188, SUBSECTION 303.05 – BASIS OF PAYMENT

Delete this subsection and replace with the following:

Calculation of Incentive/Disincentive. The incentive/disincentive dollar amount to be paid or deducted for all ____ aggregate type ____ for base accepted by the Department will be computed using the following formula:

$$PA_{303} = (PF_{303} - 1) \times Q_i \times P$$

Where:

PA_{303} = Pay adjustment for all ____ aggregate type ____ for base in dollars.

PF_{303} = Per 106.B.3 and 109.09.

Q_i = Quantity represented by individual lot (n).

P = Contract unit price.

The incentive/disincentive dollar amount to be paid or deducted for all ____ aggregate type ____ for base in stockpile accepted by the Department will be computed using the following formula:

$$PA_{STKPL\ 303} = (PF_{STKPL\ 303} - 1) \times Q_i \times P$$

Where:

$PA_{STKPL303}$ = Pay adjustment for all ____ aggregate type ____ for base in stockpile in dollars.

$PF_{STKPL303}$ = Per 106.B.3 and 109.09.

Q_i = Quantity represented by individual lot (n).

P = Contract unit price.

Note: The incentive may be a negative amount (i.e., a deduction from the total amount bid for the item).

ON PAGE 208, SUBSECTION 404.05 – BASIS OF PAYMENT

Add the following:

If the aggregate pay factor is less than 0.75, the material may be allowed to be left in place with a price adjustment if the finished product is found to be capable of performing its intended purpose. The price adjustment will be 50 percent of the contract unit bid price multiplied by the total quantity of material with a pay factor less than 0.75.

For surface treatment aggregate, the Engineer will use the lowest pay factor computed for any 1 sieve as the pay factor for that lot.

Calculation of Incentive/Disincentive. The incentive/disincentive dollar amount to be paid or deducted for

all cover coat material class _____ accepted by the Department, excluding material in stockpile and material with a pay factor less than 0.75 allowed to remain in place with a price adjustment, will be computed using the following formula:

$$PA_{404} = (PF_{404} - 1) \times Q_i \times P$$

Where:

PA_{404} = Pay adjustment for all cover coat material class _____ in dollars.

PF_{404} = Per 106.B.3 and 109.09.

Q_i = Quantity represented by individual lot (n).

P = Contract unit price.

The incentive/disincentive dollar amount to be paid or deducted for all cover coat material class _____ in stockpile accepted by the Department will be computed using the following formula:

$$PA_{STKPL404} = (PF_{STKPL404} - 1) \times Q_i \times P$$

Where:

$PA_{STKPL404}$ = Pay adjustment for all cover coat material class _____ in stockpile in dollars.

$PF_{STKPL404}$ = Per 106.B.3 and 109.09.

Q_i = Quantity represented by individual lot (n).

P = Contract unit price.

Note: The incentive may be a negative amount (i.e., a deduction from the total amount bid for the item).

ON PAGE 556, SUBSECTION 635.05 – BASIS OF PAYMENT

Add the following:

For anti-skid material, the Engineer will use the lowest pay factor computed for any 1 sieve as the pay factor for that lot.

Calculation of Incentive/Disincentive. The incentive/disincentive dollar amount to be paid or deducted for all anti-skid material accepted by the Department, excluding anti-skid defined as small quantity, will be computed for each lot using the following formula:

$$PA_{635} = (PF_{635} - 1) \times Q_i \times P$$

Where:

PA_{635} = Pay adjustment in dollars.

PF_{635} = Per 106.B.3 and 109.09.

Q_i = Quantity represented by individual lot (n).

P = Contract unit price.

Note: The incentive may be a negative amount (i.e., a deduction from the total amount bid for the item).

QASP SA Table 106.03-1 – Material Subject to Statistical Based Acceptance

Material	Quality Characteristic	Test Method	Quality Characteristic Reported to	Quality Control Plan by the Contractor	Acceptance by the Department	
				Minimum Testing Frequency ^(a)	Minimum Testing Frequency ^(a)	Point of Sampling
301 Granular Subbase ^(f)	Gradation – 703.11	FOP for AASHTO T 27	0.01%	1 test per 5,000 Tons	1 test per 5,000 Tons	From windrow or roadway
				1 test per 5,000 Tons		
	Sand Equivalent	FOP for AASHTO T 176 (Alt. Method #2), Mechanical	See Note 2.	1 test per 5,000 Tons	1 test per 5,000 Tons (pass/fail, no statistical analysis)	From windrow or roadway
				1 test per 5,000 Tons		
303 Aggregate Base ^(f)	Gradation – 703.04	FOP for AASHTO T 27 with FOP for AASHTO T 11 (use wash method for all gradation measurements)	0.01%	1 test per 1,000 Tons	1 test per 1,000 Tons	From windrow or roadway
				1 test per 1,000 Tons		
	Sand Equivalent	FOP for AASHTO T 176 (Alt. Method #2), Mechanical	See Note 2.	1 test per 1,000 Tons	1 test per 1,000 Tons (pass/fail, no statistical analysis)	From windrow or roadway
	Fracture Count	FOP for AASHTO T 335, Method 1	See Note 2.	1 test per 1,000 Tons	1 test per 1,000 Tons (pass/fail, no statistical analysis)	From windrow or roadway
404 Cover Coat Material ^(f)	Gradation – 703.06	FOP for AASHTO T 27 with FOP for AASHTO T 11 (use wash method for all gradation measurements)	0.01%	1 test per 400 Tons	1 test per 400 Tons	At point of loading to the roadway
				1 test per 400 Tons		
	Cleanness Value	Idaho IT 72	See Note 2.	1 test per 400 Tons	1 test per 400 Tons (pass/fail, no statistical analysis)	At point of loading to the roadway
				1 test per 400 Tons		
	Fracture Count	FOP for AASHTO T 335, Method 1	See Note 2.	1 test per 400 Tons	1 test per 400 Tons (pass/fail, no statistical analysis)	At point of loading to the roadway
				1 test per 400 Tons		

Continued –QASP SA Table 106.03-1 – Material Subject to Statistical Based Acceptance

Material	Quality Characteristic	Test Method	Quality Characteristic Reported to	Quality Control Plan by the Contractor	Acceptance by the Department	
				Minimum Testing Frequency ^(a)	Minimum Testing Frequency ^(a)	Point of Sampling
405 Superpave Class SP2 ^{(f) (g)}	Asphalt Content, P _b ^(e)	FOP for AASHTO T 168 ^(c) and FOP for AASHTO R 47 and FOP for AASHTO T 308 and FOP for AASHTO T 329	0.01%	1 test minimum per 750 Tons	1 test per 750 Tons	FOP for AASHTO R 97 ^(e)
	Gradation ^e	FOP for AASHTO T 168 ^(c) and FOP for AASHTO R 47 and FOP for AASHTO T 30 (use wash method for all gradation measurements)	0.01%	1 test minimum per 750 Tons	1 test per 750 Tons	FOP for AASHTO R 97 ^(e)
	Fracture Count	FOP for AASHTO T 335, Method 1	See Note 2.	By the Contractor as needed to control the operation. 1 test minimum per 1,500 Ton	N/A	N/A
	Sand Equivalent	FOP for AASHTO T 176 (Alt. Method #2), Mechanical	See Note 2.	By the Contractor as needed to control the operation. 1 test minimum per 1,500 Tons	N/A	N/A
	Mainline Density, MLD ^(d)	FOP for AASHTO T 355 ^(b) or FOP for AASHTO T 343	0.01%	1 test minimum per 375 Tons	1 test per 375 Tons ^(b)	FOP for AASHTO R 97 ^(e)
	Recycled Asphalt Pavement	FOP for AASHTO T 308 and FOP for AASHTO T 30	See Note 2.	1 test minimum per 1,500 Tons	N/A	N/A

Continued –QASP SA Table 106.03-1 – Material Subject to Statistical Based Acceptance

Material	Quality Characteristic	Test Method	Quality Characteristic Reported to	Quality Control Plan by the Contractor	Acceptance by the Department	
				Minimum Testing Frequency ^(a)	Minimum Testing Frequency ^(a)	Point of Sampling
405 Superpave HMA Class SP 3, and SP 5 ^{(f) (g)}	Asphalt Content, P _b ^(e)	FOP for AASHTO T 168 ^(c) and FOP for AASHTO R 47 and FOP for AASHTO T 308 and FOP for AASHTO T 329	0.01%	1 test minimum per 750 Tons	1 test minimum per 750 Tons	FOP for AASHTO R 97 ^(d)
	Gradation ^(e)	FOP for AASHTO T 30 (use wash method for all gradation measurements)	0.01%	1 test minimum per 750 Tons	1 test minimum per 750 Ton	FOP for AASHTO R 97 ^(d)
	Maximum Specific Gravity, G _{mm} ^(e)	FOP for AASHTO T 168 ^(c) and FOP for AASHTO R 47 and FOP for AASHTO T 209 (Bowl Method)	0.001	1 test minimum per 750 Tons	1 test minimum per 750 Ton	FOP for AASHTO R 97 ^(d)
	Bulk Specific Gravity of Compacted Mix, G _{mb} ^(e)	FOP for AASHTO T 168 ^(c) and FOP for AASHTO R 47 and FOP for AASHTO T 312 and FOP for AASHTO T 166 (Method A)	0.001	1 test minimum per 750 Tons	1 test minimum per 750 Tons	FOP for AASHTO R 97 ^(d)
	Effective Specific Gravity of Combined Aggregate, G _{sa} ^(e)	WAQTC TM 13	0.001	1 test minimum per 750 Tons	1 test minimum per 750 Tons	FOP for AASHTO R 97 ^(d)
	Air Voids @ N _{design} , P _a ^(e)	WAQTC TM 13	0.01%	1 test minimum per 750 Tons	1 test minimum per 750 Tons	FOP for AASHTO R 97 ^(d)
	VMA @ N _{design} ^(e)	WAQTC TM 13	0.01%	1 test minimum per 750 Tons	1 test minimum per 750 Tons	FOP for AASHTO R 97 ^(d)
	Dust Proportion, DP ^(e)	WAQTC TM 13	0.001	1 test minimum per 750 Tons	1 test minimum per 750 Tons	FOP for AASHTO R 97 ^(d)
	Mainline Density ^{(d) (e)}	FOP for AASHTO T 355 ^(b) or FOP for AASHTO T 343 For cores: FOP for AASHTO R 67; FOP for AASHTO T 166 Method A or FOP for AASHTO T 331	0.01%	1 test minimum per 375 Tons	1 test per 375 Tons ^(b)	Roadway ^(c)
	Recycled Asphalt Pavement	FOP for AASHTO T 308 and FOP for AASHTO T 30	See Note 2.	1 test minimum per 1,500 Tons	N/A	N/A
635 Anti-Skid Material in Stockpile ^(f)	Gradation – 703.10	FOP for AASHTO T 27 with FOP for AASHTO T 11 (use wash method for all gradation measurements)	0.01%	1 test per 1,000 Tons By the Contractor as needed to control the operation	1 test per 1,000 Tons	From crusher or if previously crushed, final stockpile location.

Note: 1. Refer to the QA Manual minimum test requirements for minimum testing not included in QASP SA Table 106.03-1.

(a) If the total quantity of material is less than the minimum testing frequency for 1 test from QASP SA Table 106.03-1, acceptance will be as specified in the QA Manual Section 270.04.

(b) When a test strip is not required, density acceptance is based on cores as specified in 405.L.

(c) Sampling from the plant is not permitted unless the planned quantity is less than 750 tons or during the acceptance test strip.

(d) The Department will use nuclear gauges. The Contractor may use nuclear or non-nuclear (i.e., electronic) gauges.

(e) Calculated value based on unrounded results.

(f) This material requires an approved quality control plan.

(g) If the total quantity of material is between 750 and 2,250 tons, the entire quantity of material will be considered a single lot and will be accepted as specified in 405.03.1.

2. This quality characteristic is not subject to statistical based acceptance. Refer to the QA Manual Table 275.01.1 for calculating and reporting requirements.

2024 Special Provision for 405 Superpave Hot Mix Asphalt (for use with 2023 Spec Book) 11/29/2023

ON PAGES 209-234, SECTION 405 – SUPERPAVE® HOT MIX ASPHALT

Delete this section, in its entirety, and replace with the following:

405.01 Description. Construct 1 or more courses of Superpave hot mix asphalt (HMA) plant mix, including leveling courses if applicable, on a prepared surface. References in this section also apply to warm mix asphalt (WMA).

405.02 Materials. Provide materials as specified in:

Aggregate	703
Asphalt.....	702
Anti-Stripping Additive	702
Hydrated Lime	720.06
Recycled Asphalt Pavement (RAP)	720.07

Test materials in accordance with the following applicable standard methods:

Particle Size Distribution of Aggregate	FOP for AASHTO T 27
With Materials Finer than 75um (No. 200) Sieve in Mineral Aggregate by Washing.....	FOP for AASHTO T 11 Method A or B
Mechanical Analysis of Extracted Aggregate	FOP for AASHTO T 30
Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyrotory Compactor.....	FOP for AASHTO T 312
Superpave Volumetric Design for Hot Mix Asphalt (HMA).....	AASHTO R 35
Determining the Percentage of Fracture in Coarse Aggregate	FOP for AASHTO T 335 Method 1
Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures	AASHTO T 269
Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures.....	FOP for AASHTO T 209 Bowl Method
Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface Dry Specimens	FOP for AASHTO T 166 Method A
Pavement Straightedge Procedures.....	Idaho IR 87
In-Place Density of Asphalt Mixtures by Nuclear Methods	FOP for AASHTO T 355 Backscatter mode
Sampling Asphalt Mixtures after Compaction (Obtaining Cores).....	FOP for AASHTO R 67
Determining Volume of Liquids in Horizontal or Vertical Storage Tanks.....	Idaho IT 120
Acceptance Test Strip for Hot Mix Asphalt (HMA) Pavement	Idaho IR 125

Sampling of Aggregate.....	FOP for AASHTO R 90
Standard Practice for Operating Inertial Profilers and Evaluating Pavement Profiles	AASHTO R 57
Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method	FOP for AASHTO T 308
Sampling Asphalt Mixtures.....	AASHTO R 97
(See QA Manual Section 270 for sampling method)	
Reducing Samples of Hot Mix Asphalt to Testing Size	FOP for AASHTO R 47
Moisture Content of Hot Mix Asphalt (HMA) by Oven Method.....	FOP for AASHTO T 329
Plastic Fines in Graded Aggregate and Soils By Use of the Sand Equivalent Test	FOP for AASHTO T 176
Alternate Method #2, Mechanical, Pre-wet	
Standard Method of Test for Compressive Strength of Hot Mix Asphalt.....	AASHTO T 167
Standard Test Method for Effect of Water on Compressive Strength of Compacted Bituminous Mixtures (Immersion-Compression)	ASTM D1075
(Replace ASTM D1074 and ASTM D2726 with AASHTO T 167 and AASHTO T 166)	
Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage	AASHTO T 283
Uncompacted Void Content of Fine Aggregate, Method A	AASHTO T 304
Mixture Conditioning of Hot-Mix Asphalt (HMA)	AASHTO R 30
Sampling Asphalt Materials.....	FOP for AASHTO R 66
Determining Rutting Susceptibility of Asphalt Pavement Mixture Using the Asphalt Pavement Analyzer (APA).....	AASHTO T 340
Superpave Volumetric Mix Design	AASHTO M 323
Evaluation of the Superpave Gyratory Compactor (SGC) Internal angle of Gyration Using Simulated Loading	AASHTO T 344
Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate	Idaho FOP for ASTM D4791
(ratio of length to thickness equal to or greater than 5:1)	
Bulk Specific Gravity and Density of Compacted Asphalt Mixtures Using Automatic Vacuum Sealing Method.....	AASHTO T 331
Standard Practice for Rapid Drying of Compacted Asphalt Specimens Using Vacuum Drying Apparatus	AASHTO R 79
Standard Test Method for Maximum Specific Gravity and Density of Bituminous Paving Mixtures Using Automatic Vacuum Sealing Method	ASTM D6857
Specific Gravity and Absorption of Aggregate Using Automatic Vacuum Sealing Method.....	Idaho IT 144
Quantitative Extraction of Bitumen from Bituminous Paving Mixtures	AASHTO T 164
Quantitative Extraction and Recovery of Asphalt Binder from Asphalt Mixtures	AASHTO T 319

Lime for Asphalt Mixtures.....AASHTO T 303

Determination of Recycled Asphalt Pavement (RAP)
Aggregate Dry Bulk Specific Gravity (Gsb)Idaho IT 146

Standard Test Method for Automated Extraction of Asphalt Binder
From Asphalt Mixtures (Asphalt Analyzer™) ASTM D8159

Standard Method of Test for Determination of Cracking
Tolerance Index of Asphalt Mixture Using the Indirect
Tensile Cracking Test at Intermediate Temperature ASTM D8225

Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)AASHTO T 324

Stratified Random Sampling..... Idaho IR 148

Superpave Mix Design Idaho IR 150

Superpave Mix Design Evaluation..... Idaho IR 151

HMA Quality Control Plan Development and Implementation Idaho IR 152

Split Sample Comparison..... Idaho IR 153

Nuclear Density Gauge Correlation..... Idaho IR 154

Procedures for Checking Asphalt Drum Mix Plant Calibrations Idaho IR 155

Method for Determining Rolling
Gmm.....Idaho IR 156

NCAT Correction Factor..... Idaho IR 157

Evaluation and Approval of HMA Plants..... Idaho IR 160

Provide Superpave HMA composed of a combination of aggregate, approved additives, mineral filler (if required), RAP (if used), WMA additives or process (if used), and performance graded (PG) asphalt binder material. Provide a job mix formula (JMF) reported on ITD-0774 and a Superpave HMA pavement as specified and meeting the requirements in this section, 703, and 720.

Table 405.02-1 – Superpave Mixture Requirements

Mixture Type	SP 2 (50 gyrations)	SP 3 (75 gyrations)	SP 5 (100 gyrations)
Design ESALs ^(a) (millions)	< 1	1 < 10	≥ 10
Gyratory Compaction			
Gyrations for N _{ini}	6	7	8
Gyrations for N _{des}	50	75	100
Gyrations for N _{max}	75	115	160
Relative Density, % G _{mm} @ N _{ini}	≤ 90.5	≤ 89.0	≤ 89.0
Relative Density, % G _{mm} @ N _{des}	96.0	96.0	96.0
Relative Density, % G _{mm} @ N _{max}	≤ 98.0	≤ 98.0	≤ 98.0

Air Voids, % P _a	4.0	4.0	4.0
Dust Proportion Range ^(b)	0.6 – 1.4	0.6 – 1.4	0.6 – 1.4
Voids Filled with Asphalt (VFA) Range, %			
1½"	64 – 80	64 – 75	64 – 75
1"	65 – 78	65 – 75	65 – 75
¾"	65 – 78	65 – 75	65 – 75
½"	65 – 78	65 – 75	65 – 75
⅜"	65 – 78	73 – 76	73 – 76
#4	67 – 79	67 – 77	67 – 77
Rut Depth, mm ^(c)	≤ 10.0 mm	≤ 10.0 mm	≤ 10.0 mm
Stripping, passes ^(d)	12,500	15,000	15,000
Cracking Test, IDEAL-CT _{Index} ^(e)	80 (index value)	80 (index value)	80 (index value)

(a) The anticipated project traffic level expected on the design lane over a 20 year period. Regardless of the actual design life of the roadway, determine the design ESALs for 20 years.

(b) For No. 4 nominal maximum size mixtures, the dust proportion is 1.0 to 2.0 for SP 2 mixes and 1.5 to 2.0 for SP 3 and SP 5 mixes. For coarse graded ⅜, ½, and ¾ inch nominal maximum size mixtures, the dust proportion is 0.6 – 1.5. (Fine and coarse graded mixtures are defined in 703.05).

(c) Maximum depth after specified number of stripping passes. The Hamburg must have passing test results in the mix design.

(d) Minimum number of passes with no stripping inflection point. The Hamburg must have passing test results in the mix design.

(e) The Ideal-CT value and the associated data generated will be included in the mix design submittal; the data will only be used for information.

Approved SP 3 mixes may be substituted for SP 2 mixes. Use the binder content corresponding to 3.5 percent air voids. Adjust the SP 3 mix binder content by selecting the binder content that achieves 3.5 percent air voids at 75 gyrations from the binder content versus air voids graph of the approved mix design and target this binder content in the C-JMF. The SP 3 mix will be tested during production and accepted as an SP 2 mix (i.e., measuring binder content and gradation) when a substitution is made and the SP 2 VFA value will be used.

Use a QPL anti-stripping additive, if needed. Determine the amount of liquid anti-stripping additive or lime required by performing AASHTO T 324 during the mix design development.

- 1) Warm Mix Asphalt (WMA). WMA is defined as HMA that is produced at a target discharge temperature of 275 °F or less using QPL WMA additives or processes. WMA is allowed for use. QPL WMA additives or processes may be used to facilitate mixing and compaction of HMA produced at target discharge temperatures above 275 °F; however, such mixtures will not be defined as WMA.

Use additives or processes from the QPL. Follow the supplier's or the manufacturer's written instructions for additives and processes when producing WMA mixtures.

Use equipment and WMA technologies capable of producing an asphalt mixture that meet specifications and is workable at the minimum placement and compaction temperature desired, regardless of storage or haul distance considerations.

Produce Superpave WMA by 1 or a combination of several QPL-approved technologies including chemical, foaming, and organic processes.

The Department and the Contractor will prepare Superpave WMA field samples, as recommended by the manufacturer's representative, for WMA mixture testing.

- 2) Recycled Asphalt Pavement (RAP). The Department will allow RAP in the Superpave HMA. Provide RAP as specified in 720.07. Produce the mixture as specified in 405. Select the mass of RAP, the type of RAP, and the extent of RAP processing necessary to meet specifications. The Department will not change specifications or the contract unit price if RAP is used in the mixture.

If RAP material is to be used from the project, obtain a representative sample of material for the mix design.

The mass of RAP used in Superpave HMA is the mass of asphalt binder, in percent that the RAP contributes to the total mass of binder in the mixture.

Use the following equation to determine the percent of RAP

by weight of mix: $X\% = c (a/b)$

Where:

a = optimum asphalt content, percent in mixture to produce 4.0% air voids.

b = percent asphalt content in the RAP (from chemical extraction and/or FOP for AASHTO T 308 burn with asphalt binder correction factor).

c = percent of RAP binder by weight of the total binder

desired in the mix. X = desired RAP percent by total weight of mix.

The following is an example of the calculation:

Total RAP binder desired equals 17% of total binder in the mixture. If RAP will contribute 5.1% asphalt content and the optimum asphalt content is 5.8%, then:

$$X\% = 17\% * (5.8/5.1) = 19.3\% \text{ RAP percent by total weight of mix.}$$

3. Recycled Asphalt Shingles (RAS). RAS is not allowed in any Superpave HMA.
4. Re-refined Engine Oil Bottoms (REOB). REOB is not allowed in any Superpave HMA.
5. Crumb Rubber Modifier (CRM). CRM is not allowed in any Superpave HMA.

405.03 Construction Requirements.

A. Specific Gravity of Aggregates and RAP. The Department will determine the bulk dry specific gravity of aggregate, G_{sb} , apparent specific gravity of aggregate, G_{sa} , and water absorption (by percent weight of dry aggregate) of the coarse and fine aggregate for each stockpile used in the mixture using AASHTO T 85 and Idaho IT 144. The Department will evaluate the RAP G_{sb} , if used, by determining the RAP G_{se} in accordance with Idaho IT-146. The Department will determine the specific gravity of aggregates and RAP at a minimum of once a calendar year for each stockpile.

1. Sampling Requirements. The date, time, and location of sampling will be agreed to by the Engineer and the Contractor. The Contractor will sample the aggregate stockpiles and RAP stockpiles to be used in the mix design in accordance with FOP for AASHTO R 90 and reduce in accordance with FOP for AASHTO 76. Obtain samples from at least 6 distinct locations within each stockpile. When project millings are used, obtain samples of the project millings to be used in the mix design from the sampling location specified in the approved HMA quality control plan. Sample, combine, and reduce the material for each stockpile to the Department's required material submittal size in the Engineer's presence. Immediately give possession of the samples to the Engineer.
2. Submittal Requirements. Provide blend sheets for the mixture proportions and submit the following:
 - a. Aggregate Stockpile. For each aggregate stockpile, submit:
 - i. 100 pound minimum sample in clean 5-gallon plastic buckets with airtight lids.
 - (1) Each bucket must weigh no more than 50 pounds.
 - ii. A summary of all QC test data used to develop average stockpile gradation.
 - iii. A summary of all QC test data of G_{sb} , G_{sa} , and water absorption (by percent weight of dry aggregate) of the coarse and fine aggregate produced during stockpile production.
 - iv. Source number.
 - b. RAP Stockpile. For each RAP stockpile, submit:
 - i. 100 pound minimum sample in clean 5-gallon plastic buckets with airtight lids.
 - (1) Each bucket must weigh no more than 50 pounds.
 - ii. All QC test data used to develop average stockpile gradation.
 - iii. Report the asphalt binder/aggregate correction factor for asphalt binder and gradation for each RAP stockpile as specified in 720.
3. Testing Timeframe. The Department will not begin testing until the complete submittal has been received. The Engineer will provide the Contractor with an aggregate test report (i.e., ITD-802 form) within 7 business days after receiving the complete submittal package. G_{sb} testing will be performed by either the Headquarters Lab or a District Lab. A Contractor's representative may be present during the G_{sb} testing, if requested. Retesting, at the Contractor's request, will require an additional 15 business days for re-evaluation. Additional materials and additional information may be required from the Contractor. The Contractor may request a retest only if the QC data submitted supports retesting.

The Contractor will use the established G_{sb} in the mix design calculation, the mix design report, and for production paving testing.

The Engineer will use the established G_{sb} and G_{sa} during the mix design submittal evaluation, acceptance test strip testing, production acceptance testing, and challenge testing.

If the G_{sb} changes during production more than 0.030, as determined by the Engineer, the Engineer will notify the Contractor. The Engineer will establish a new G_{sb} and re-evaluate the mix design as

specified in 405.03.B. All subsequent mix produced after the Contractor has been notified of the new Gsb will use the newly established Gsb. If at any time testing indicates that Gsa is greater than or equal to Gse and/or Gse is greater than or equal to Gsb (i.e., $G_{sa} \geq G_{se}$ and/or $G_{se} \geq G_{sb}$) is not true, production will be halted and a new Gsb will be established in accordance with this section.

Following bid award, and before HMA mix design submittal, small areas within the project site may be milled to collect RAP for pre-mix design testing. Perform this work according to a 405.03.C. HMA quality control plan, approved by the Engineer, including the plan and methods to sample and process RAP.

At a minimum, for pre-milling the HMA quality control plan will include:

1. An approved traffic control plan that will minimize disturbance to traveling public.
2. Identification of no more than 6 RAP sampling locations within the project site. Each location must be less than 100 feet long with a maximum of 1 lane wide, unless otherwise approved.
3. The milling depth of each location must not be deeper than that shown in the plans for each location.
4. Patching plan.
5. Patch maintenance plan.
6. Detailed narrative of processing of milling and sampling locations to ensure representative samples are obtained.

After processing, sample for Gsb and asphalt content testing in accordance with the FOP for AASHTO R 90 and 405.03.A.

B. Mix Design. Develop a Superpave mix design in accordance with Idaho IR 150 to determine the appropriate combination of aggregate, approved additives, mineral filler (if required), RAP (if used), WMA additives or process (if used), and performance graded (PG) asphalt binder material meeting the requirements in 405, 703, and 720. The grade of asphalt is specified on the plans. Mix designs will be designed with a minimum of three virgin stockpiles. The Contractor may also “bump” this PG binder with the following restrictions: the selected PG binder may be one grade lower than the low PG grade temperature. A binder may be selected one grade higher than the upper PG grade temperature if it meets the intermediate testing ($G^*(\sin \delta)$) of the specified binder grade. Binder adjustments/”bumps” must meet the contract requirements at no additional cost to the Department. (Examples: A specified PG 58-28 may be bumped to PG 58-34. A specified PG 58-28 binder may be bumped to PG 64-28 if it meets the $G^*(\sin \delta)$ requirements of the specified binder. A specified PG 58-28 binder may be bumped to PG 64-34 if it meets the requirements of the specified binder.)

1. Approved Mix Design. A mix design must be approved before use using the following process:
 - a. Mix Design Submittal. Submit the mix design and all supporting documentation in accordance with Idaho IR 150 a minimum of 5 business days before paving is scheduled to begin. Email to mixdesigns@ITD.idaho.gov and submit to the Engineer. Only 1 mix design per email notification will be accepted.
 - b. Mix Design Submittal Evaluation. The Engineer in conjunction with the District Materials Engineer, the Construction and Materials section, and the Central Materials Laboratory will evaluate the mix design in accordance with Idaho IR 151. The

Engineer will provide the Contractor with written approval or rejection of the mix design within 5 business days after receiving the full submittal package.

- i. Mix Design Submittal Approval. Once the mix design submittal is approved by the Department, and the FOP AASHTO T-308 correction factor samples have been submitted as per 405.03.B.3 the Contractor may proceed with acceptance test strip using the JMF from the approved mix design submittal. The mix design will be approved for use for up to 2 calendar years from the date of test strip acceptance.
 - ii. Mix Design Submittal Rejection. Rejection of the mix design will require:
 - (1) The mix designer will amend the mix design to address the items noted in the notification of rejection. The Contractor will resubmit the mix design as specified in 405.B.2. The Department will re-evaluate the mix design for approval or rejection as specified in 405.B.3.
 - (2) Develop and submit a new mix design as specified in 405.B.
2. Approved Mix Design Expiration. An approved mix design, associated JMF, and any associated C-JMF will be considered expired when one of the following situations occur (but not limited to):
 - a. More than 2 calendar year has elapsed from the time of test strip acceptance for the mix design.
 - b. Changes in stockpile gradation.
 - c. Changes in aggregate specific gravity or absorption.
 - d. Changes in RAP specific gravity.
 - e. Changes in aggregate, RAP, or binder sources.
 - f. Aggregate does not meet physical requirements specified in 703.
 - g. Changes in additives, including a change in the dosage rates.
 - h. Repeated non-conformance as defined in 405.03.M.1.
3. The Contractor will use FOP AASHTO T-308 to prepare Minimum of 18 hand mixed JMF correction factor samples and four “blank” samples for a Plant Mix design that will be used for one year. The contractor must allow the Engineer to witness samples being prepared and mixed. Each sample will be a virgin aggregate and virgin oil sample constructed to the same NCAT blank proportion. A prebatch meeting will be held 48 hours before starting to mix the samples. In addition to FOP AASHTO T-308 the Engineer will require the following:
 - a. Virgin aggregate will be graded per each individual sieve through the minus #200 or 95% retained or greater whichever comes first,
 - b. Batch two individual virgin aggregate sample specimens. Perform FOP AASHTO T11 and FOP AASHTO T27 on the samples and determine the difference between target and actual values. Determine what masses need to be adjusted to get back to the target on each sieve size. Batch two more individual sample specimens using the adjusted masses, repeat until washed gradation matches JMF.

- c. RAP will not be added to the sample.
- d. T-308 samples will target JMF blended gradation values and oil values.
- e. Establish a correction Factor for each JMF. This procedure must be performed for every ignition furnace on a project and for each JMF before any acceptance or verification testing is started.

A new correction factor is required if the source or grade of the asphalt cement changes, if a different ignition furnace is used, or for a new JMF. A new correction factor shall be determined for each JMF and each oven prior to its first use every calendar year.

Prepare 23 correction factor samples at the JMF without asphalt cement and with the appropriate proportions of mineral filler, fibers or other additive included in the JMF. (For JMFs with RAP, batch the virgin aggregate to the JMF targets. The Recycled Asphalt Materials will not be used for batching correction Factor samples.)

- Batch each sample separately and according to the JMF target values with the following tolerances

Batching Tolerances “Virgin Aggregate and Add Asphalt Cement”

Sieve Size	Allowable Difference
Larger than (No. 8)	±3.0%
Size (No. 8)	±2.0%
Larger than (No. 200) and smaller than (No. 8)	±1.0%
Size (No. 200) and smaller	±0.5%
Asphalt Cement	±0.10%

- The “blank” sample shall have the same gradation, but no asphalt cement shall be added. This “blank” samples will be used to establish correction factors for the aggregate gradations. The “blank” samples is not burned. The engineer will select the four samples after all samples have been built to the same gradation and before any asphalt has been added. Provide sample sizes meeting the requirements of AASHTO T 308.
- Mix and discard one of the remaining 19 samples. The purpose of this sample is to “butter” the mixing bowl.
- For the remaining 18 (or more) samples, tare the mixing bowl and weigh the mixing bowl again after the mixture is removed from the bowl. The empty bowl must be within ±1 gram of the previous tare weight. The weights of the bowl before and after will be done within 10°F of each other. The Engineer will randomly select four samples for test strip lab, four samples for production testing lab, four samples for contractor, four samples for dispute testing, and two sample for HQ lab for info only testing.
- Individually identify each calibration sample and supply documentation showing the actual weights of aggregate, asphalt cement, mineral filler, fibers or any other additive for each sample and resultant actual calculated asphalt cement content for each sample. Also provide documentation for each sample verifying that the empty bowl weight after mixing is within ±1 gram of the empty bowl weight prior to mixing.

The gradation correction factor for each sieve size is the difference between the result

from the “blank” sample and the average of the two incinerated correction samples to the nearest 0.1%.

If the correction factor for any single sieve size exceeds the allowable difference for that sieve established in the following table, contact the Engineer. The Engineer will apply the gradation correction factors for all sieves.

Gradation Difference Tolerances	
Sieve	Allowable Difference
Sizes larger than (No. 8)	±5.0%
Size (No. 8)	±4.0%
Sizes larger than (No. 200) and smaller than (No. 8)	±2.0%
Size (No. 200) and smaller	±1.0%

Ignition oven specimen verification. The Department will perform FOP AASHTO T11 and FOP AASHTO T27 on the “blank” samples and compare the results to the JMF. If the gradation varies by more than the allowable difference in table Batching Tolerances “Virgin Aggregate and Add Asphalt Cement” the AASHTO T308 correction factor samples will be discarded and new AASHTO T308 correction factor samples will be made.

- The Department may sample aggregate being used to make the AASHTO T308 during the specimen batching process. The sample will be delivered to either the Headquarters Lab or a District Lab for verification Gsa testing. The verification Gsa test results will be compared to the Gsa test results determined prior to Mix Design approval. For coarse materials tested using AASHTO T 85, the difference in values must not vary by more than 0.035 and the fine Gsa aggregate tested using IT 144 must not vary by more than 0.015. If the differences in Gsa values for both coarse and fine aggregates are not within tolerance, FOP AASHTO T 308 correction factor samples will be discarded and new AASHTO T308 samples will be made using aggregates that can be proven to have come from the aggregate source described in the mix design documents. The Gsa differences will be recorded on Source Verification Form, ITD 4666.

Conduct all NCAT AASHTO T 308 ignition furnace correction factor determination and AASHTO T 308 asphalt content ignition furnace testing at $426 \pm 5^{\circ}\text{C}$ ($800 \pm 9^{\circ}\text{F}$). Manually record the furnace temperature (set point) before the initiation of the test if the furnace does not record automatically.

The JMF correction factor samples will be collected by the Engineer a minimum of 5 business days before test strip.

C. HMA Quality Control Plan. Develop and submit for approval a HMA quality control plan that complies with the requirements of Idaho IR 152, Idaho IR 155, Idaho IR 160, and 106.03.A.2. The Contractor HMA quality control plan must be approved by the Engineer in accordance with 106.03.A.2, Idaho IR 152, Idaho IR 159, Idaho IR 160, and Idaho IR 155 before the material is incorporated into the work/project.

D. Weather Limitations for Permanent Paving. Do not place Superpave HMA on a wet or frozen surface or when weather or surface conditions will otherwise prevent the proper handling or finishing of the Superpave HMA material. Place Superpave HMA as specified in the temperature limitations in Table 405.03-2.

Table 405.03-2 – Air and Surface Temperature Limitations

Compacted Thickness of Individual Courses	Top Course	Leveling and Courses Below the Top Course
Less than 0.10 foot	60 °F	50 °F
0.10 to 0.18 foot	50 °F	40 °F
Greater than 0.18 foot	40 °F	40 °F

Provide a paved surface for travel if the work extends into the winter. Do not start construction on the pavement surface, unless the progress schedule realistically shows the pavement can be replaced or completed within the temperature limitations listed above.

E. Mixing Plants. Use an approved mixing plant that complies with Idaho IR 160 and in accordance with the approved HMA Quality Control Plan. Meet the requirements of Idaho IR 155, with the exception that the Contractor may calibrate the asphalt plant according to current National Asphalt Pavement Association (NAPA) manuals and documented best practices or in accordance to the manufacturer's recommendations. The Contractor will provide the calibration documentation (e.g., manufacturer's recommendation) to the Engineer.

F. Hauling Equipment. Provide hauling equipment in accordance with the approved HMA Quality Control Plan.

G. Paver. Provide a paver that complies with the approved HMA Quality Control Plan.

H. Pre-Paving Meeting. Immediately before paving, the Contractor, the asphalt supplier, the Engineer, and the Department personnel involved in the paving operation will hold a pre-operational paving meeting to discuss how to achieve the highest quality surface. The Engineer will prepare minutes of the pre-operational paving meeting and distribute them to the attendees. Any requests to revise the minutes must be made to the Engineer within 7 business days of receipt. These minutes will constitute the final record of the pre-operational paving meeting.

I. Acceptance Test Strip (Lot 1). Note: If a C-JMF has been accepted, this section does not apply because a test strip has already been accepted. Construct an acceptance test strip of 200 to 750 tons in accordance with Idaho IR 125 using the approved JMF (including offsite test strips). The Department does not require acceptance test strips on small quantity pavement less than 750 tons, nonstructural pavement, or temporary pavement.

The Engineer will base acceptance on the requirements in Table 405.03-4. Do not continue production paving until properties of the acceptance test strip are accepted and a C-JMF has been established as specified in 405.03.K.

1. Test Strip Location. The first day of production paving will be considered the acceptance test strip. The Contractor may elect to perform an offsite mix verification of the JMF. Do not use Department-owned or controlled sources for offsite testing.
2. Testing Timeframe. The Department will require 5 full business days from the time of receipt of Superpave HMA mix samples, core samples, and cold feed samples to perform acceptance testing. Time will begin when all the required samples and associated paperwork needed to perform the specified testing are in the Engineer's possession.

3. Acceptance Testing Lab. Acceptance testing for the acceptance test strip will be performed by either the Headquarters Lab or a District Lab. The Contractor will give 48 hour notice to the Engineer prior to test strip.
4. Test Strip Tolerance. The Engineer will apply the tolerances to the acceptance test strip test properties as specified in Table 405.03-4 to establish the upper specification limit (USL) and lower specification limit (LSL) for quality level analysis.

Table 405.03-4 – Acceptance Test Strip Tolerance

Quality Characteristic	Test Strip Mix Tolerance
VMA, %	703.05 minimum value-0.20
Laboratory Air Voids, %	4.0 ± 1.5
Asphalt Binder Content, %	JMF ± 0.40
Dust Proportion (DP)	Table 405.02-1 range ± 0.10
VFA, %	Table 405.02-1 range ± 5
No. 4 and larger sieves, %	JMF value ± 6.0 ^(a)
No. 8 to No. 30 sieves, %	JMF value ± 5.0 ^(a)
No. 50 to No. 100 sieves, %	JMF value ± 4.0 ^(a)
No. 200 and smaller sieves, %	JMF value ± 2.0 ^(a)
G _{mm}	JMF value at P _b ± 0.012 ^(d)
G _{se}	JMF value ± 0.012 ^(d)
Mainline Density, % Compaction	92.0 – 100.0
Rut Depth, mm ^(b)	10.0 mm maximum ^(d)
Stripping, passes ^(c)	12,500/15,000 ^(d)
Cracking Test, IDEAL-CT _{Index}	80 (index value) ^(d)

^(a) The upper and lower specification limits are never allowed to be outside the control points specified in 703.05.

^(b) Maximum depth after 12,500/15,000 passes. For information only.

^(c) Minimum number of passes with no stripping inflection point.

^(d) For information only.

If the acceptance test strip is considered acceptable, the Contractor may proceed to production paving once a C-JMF is established as specified in 405.03.K.

The Engineer will reject an unacceptable test section for SP 3 and SP 5 mixtures and require removal. The Department will not pay for the removal or the applicable contract pay item quantities. An unacceptable test section for an SP 2 mixture will be subject to rejection. If the Engineer determines the failed SP 2 test section may remain in place, the Contractor may leave the test section in place with a 50 percent reduction in price or remove the failed material and replace it with acceptable

material and receive full payment. Remove the failed SP 2 test section if rejected. The Department will not pay for removal or for the applicable contract pay item quantities.

If the Contractor is unable to meet the requirements after 3 test strips, the Engineer will require a new mix design to meet specifications. Place a new acceptance test strip at no additional cost to the Department.

If the Contractor's testing determines the test strip fails and the Contractor chooses to proceed with another test strip before receiving the Engineer's results, the Engineer will not complete testing of the test strip in question and the failed test strip will count as a failed test strip.

Statistical Acceptance and payment for the Test Strip. Use the statistical method outlined in 106.03.B. for evaluating acceptance and payment for the test strip. For material with a percent within limits (PWL) 40 and greater, use a 1.0 pay factor. If any quality characteristic, except Gmm or Gse, has a PWL less than 40, the asphalt mix will be rejected.

J. Production Laboratory Comparison Process. The Contractor, the lab performing test strip testing, and the lab performing acceptance testing will perform a split sample comparison testing during test strip, or before, split sample can either be one of the test strip samples or a separate sample. Previously used designs will perform split sample comparison on, or before the first day of production paving. The split sample comparison will be performed using Idaho IR 153.

1. The Contractor or the Engineer may request split sample comparison testing at any time during the project

K. C-JMF. Once a JMF is confirmed at acceptance test strip, the Contractor will establish an initial C-JMF.

1. Adjusting the C-JMF. C-JMF adjustments are allowed that will result in improved mix quality characteristics. If a lot is currently in progress, the adjustment will go into effect at the beginning of the next lot.
 - a. Adjustments within Table 405.03-5. Adjustments listed in Table 405.03-5 can be made to the JMF. Provide a detailed description of how these adjustments will be made and what quality characteristics will be affected. The Engineer will be notified within 24 hours of adjustments and descriptions.

Table 405.03-5 – C-JMF Adjustment Limit
Table

Parameter	Adjustment
No. 4 (4.75 mm) and greater	± 3% from JMF
No. 8 (2.36 mm)	± 2% from JMF
No. 100 to No. 30 (0.600 mm)	± 2% from JMF
No. 200 (0.075 mm)	± 0.3% from JMF
Asphalt Content	± 0.2% from JMF
G _{mm}	± 0.010 from C-JMF ^(c)
G _{se}	± 0.010 from C-JMF ^(c)
Individual Cold Feed Percentage for Aggregate	± 10.0% from JMF ^{(a) (d)}

Cold Feed Percentage for RAP	- 10.0% from JMF ^{(b) (d)}
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- (a) The cold feed percentage of any aggregate may be adjusted up to 10 percentage points from the amount listed on the JMF, however no aggregate listed on the JMF will be eliminated.
- (b) The cold feed percentage for RAP may be reduced up to 10 percentage points from the amount listed on the JMF and must not exceed the percentage of RAP approved in the JMF or for the specific application under any circumstances.
- (c) Based on the initial C-JMF.
- (d) Individual cold feed percentages for aggregate and RAP greater than 5.0% for a single stock pile of the same product must have a new correction factor established in accordance with IR 157.

- b. Adjustments outside of Table 405.03-5. Adjustments outside the limits listed in Table 405.03-5 can be requested, but these adjustments are considered significant adjustments and will require the Contractor to document any differences in the asphalt plant settings necessary to achieve the designed asphalt plant output as documented by acceptance test results. Thus, additional supporting documentation and justification must be submitted and how these adjustments will affect on the quality characteristics of the asphalt mix. Adjustments and descriptions must be submitted for the Engineer's prior approval and the Engineer will have 1 business day after the date the request was submitted.

Use the C-JMF to establish target values and control limits when producing control charts during production paving.

L. Tack Coat. Apply an asphalt tack coat as specified in 401 to the following surfaces:

1. Existing plant mix surfaces and to the surface of each course constructed, except the final course.
2. Surfaces of curbing, gutters, manholes, portland cement pavement, and other structures. Paint or spray a thin, uniform tack coat of asphalt before placing pavement against the surfaces.
3. Contact surfaces of transverse joints and cold longitudinal joints just before additional mixture is placed against previously laid material.

M. Production Paving. Before production milling, obtain approval for Superpave HMA mix design(s). Milling, coring, or sampling for preliminary sample collection will be allowed for mix design development in accordance with the QCP.

The Contractor may request to continue production paving in accordance with the C-JMF after the acceptance test strip (Lot 1) is approved. Superpave HMA paving acceptance during production is based on the requirements in Table 405.03-6. The production paving lot (Lot 2) following the accepted test strip will be based on Table 405.03-4 except the gradation requirements. The Contractor will produce and place mix in accordance with the approved QCP.

If aggregate or asphalt binder sources change from the approved mix design, develop a new mix design as specified in 405.03.B. at no additional cost to the Department. If the Gsb changes during production more than 0.030, the Engineer may establish a new Gsb and re-evaluate the mix design.

1. Conformance to the C-JMF. The Contractor will produce mix that meets the requirements of Table 405.03-6. The Contractor may elect to remove defective material and replace it with new

material on a lot basis, at no additional cost to the Department to ensure conformance to the C-JMF.

- a. Isolated Non-Conformance. If the Contractor is unable to meet the requirements on a single lot, the Engineer will require the Contractor to stop production and/or delivery until a corrective action plan can be developed and implemented to remedy the non-conformance. Submit the corrective action plan to the Engineer before resuming work.
- b. Repeated Non-Conformance. If the Contractor is unable to meet the requirements on 2 consecutive lots, the C-JMF, mix design, and associated JMF will be considered expired as defined in 405.03.B.2. The Engineer will require a new mix design to meet the specifications in 405.03.B. at no additional cost to the Department.

If aggregate or asphalt binder sources change from the approved mix design, develop a new mix design to meet the specifications in 405.03.B. at no additional cost to the Department.

2. Production Limits. The properties listed in Table 405.03-6 will be used for purpose of quality analysis calculations, acceptance, and payment. The Engineer will apply the tolerances to the properties as specified in Table 405.03-6 to establish the upper specification limit (USL) and lower specification limit (LSL) for quality level analysis.
3. Production Acceptance Criteria. The Engineer will perform quality level analysis and determine acceptance as specified in 106.03.B using the quality characteristics specified in Table 405.03-6. ITD will submit test results to contractors as soon as possible.

Table 405.03-6 – Production Paving Quality Limits

Mix Quality Characteristic	Limits
SP 2 Mixture	
No. 4 sieve and larger sieves, %	C-JMF value \pm 5.0 ^(a)
No. 8 to No. 30 sieves, %	C-JMF value \pm 4.0 ^(a)
No. 50 to No. 100 sieves, %	C-JMF value \pm 3.0 ^(a)
No. 200 sieve and smaller sieves, %	C-JMF value \pm 1.5 ^(a)
Asphalt Binder Content, %	C-JMF value \pm 0.3
SP 3 and SP 5 Mixtures	
Laboratory Air Voids, % N_{design}	SP 3: 2.5 – 5.0% SP 5: 2.8 – 5.0%
VMA, % N_{design}	703.05 minimum value
Dust Proportion	Table 405.02-1Range
G_{se} ^(f)	C-JMF value \pm 0.012 ^(g)
G_{mm} ^(e, f)	C-JMF value @ $P_b \pm$ 0.012 ^(g)
Rut Depth, mm	10.0 maximum ^(b, c)
Stripping, passes	12,500/15,000 ^(b, d)
Cracking Test, IDEAL-CT $Index$	80 (index value) ^(b)
Roadway Quality Characteristic	
Mainline Density, % Compaction	92.0 – 100.0

- (a) The upper and lower specification limits are never allowed to be outside the control points specified in 703.05.
- (b) Hamburg and Ideal-CT are for information only at this time.
- (c) Maximum depth after 15,000 passes.
- (d) Minimum number of passes with no stripping inflection point.
- (e) G_{mm} tests must be performed only after a 2-hour oven cure time in accordance to the mix design requirements to limit test result variability.
- (f) G_{mm} and G_{se} values are indicators of consistency of the asphalt mix and are tracked using PWL. G_{mm} and G_{se} will be monitored for information only and, if the PWL is less than 40, the Engineer and the Contractor will review the data and take appropriate action (e.g., review plant settings, review test results). There will be no deduction for a low PWL based on G_{mm} or G_{se} .
- (g) Based on the initial C-JMF.

N. Spreading and Finishing. Place the mixture on an approved surface. Use pavers to distribute the mixture over the entire width or over a partial width as practical. Do not extend partial width paving beyond one day's production. Minimum lift thickness will be no less than 3.5 times nominal maximum aggregate size (NMAS) of the mix design.

Use pavement marking tape to temporarily mark roadway centerline on pavements being used by traffic as specified in 626.03.

Unless otherwise specified, equip the paver with a shoe on the outside to provide slopes as follows:

The Engineer will allow an 18-inch-wide shoe for depths 0.2 foot or less on initial pavement placement. The shoe must be 24 inches wide for depths greater than 0.2 foot. The shoe must be 24 inches wide on pavement overlays.

Meet-lines must be within 1 foot of lane lines or within 1 foot of center of lanes. Meet-lines are not allowed within a wheel path. Ensure transverse and longitudinal joints are smooth and match the adjacent surfaces.

O. Compaction. Compact the pavement to a density between 92.0 percent and 100.0 percent of maximum theoretical density for SP 2, SP 3, and SP 5 asphalt mixes. Determine G_{mm} using Idaho IR156.

Following acceptance test strip approval or C-JMF approval, pavement density testing for acceptance will be performed by the Department using a nuclear density gauge with the readings corrected by cores in accordance with AASHTO T 355. The G_{mm} for determining the percent compaction will be determined using a rolling, consecutive 2-lot average (i.e., the most recent 2 completed lots) of the Department's acceptance test results. For the first lot of production paving, the test strip's G_{mm} corresponding to the C-JMF is used for determining the percent compaction. The Contractor is responsible for quality control testing.

Density Gauge Correlation. When nuclear density gauges are used for acceptance, the Engineer will correlate the gauges in accordance with Idaho IR 154. A new gauge correlation will be established for each mix design, each paving lift, each paving lift thickness, and each underlying material (e.g., ¾" base, CRABs, 0.25' underlying lift of HMA).

Repair holes left in the pavement by the coring operation with non-shrink grout at no additional cost to the Department. Do not begin coring until repair methods and materials have been approved.

P. Joints. Do not roll over the unprotected end of freshly laid mixture. Form transverse joints by

cutting back on the previous run to expose a vertical edge the full depth of the course.

Slope the cold transverse construction joints open to public traffic at 20H:1V. Remove the sloped surface (ramp) without damage to the base just before paving is resumed. Test the new joint for smoothness as specified in 405.03.S.

Construct end transitions between overlays and the adjoining pavement by milling a wedge out of the adjoining pavement, starting at the surface and continuing into the adjoining pavement on a 200H:1V slope or flatter until a vertical edge equal to 0.15 foot or the depth of overlay is reached. Transitions to ramps and crossroads are transverse joints. The milled wedge is a transverse joint when the adjoining pavement is concrete. Mill the wedge from the pavement to be overlaid, with the vertical edge against the concrete, when the adjoining pavement is concrete. Taper transitions between overlays and approaches to form a smooth transition while maintaining drainage.

Provide a positive bond, density, and a finish surface to the new mixture at longitudinal joints that is equal to the mixture against which it is placed. The Engineer may take density tests at longitudinal joints to ensure the integrity of material in the joint area.

Locate the longitudinal joint in the top course at the centerline of the traveled way if the roadway is two lanes wide or at the lane lines if the roadway is more than 2 lanes wide. On the lower courses, stagger the longitudinal joint and offset it 6 inches to 1 foot from the centerline of the traveled way if the roadway is 2 lanes wide or from the lane lines if the roadway is more than 2 lanes wide. Match the pavement surface across a longitudinal joint with the transverse slope shown on typical sections.

Test joints, except crowns, for smoothness in accordance with Idaho IR 87. Use an approved 10-foot straightedge. Complete the test and necessary corrections before the material temperature drops below 175 °F.

Place longitudinal joints straight and true. Use approved methods to bring back to straight and true unacceptable deviations. Make adjustments as needed to achieve the specified results.

Obtain approval for Superpave HMA mix design(s) before the start of milling operations.

Q. Miscellaneous Pavement. Place miscellaneous Superpave HMA pavement in irregular areas (e.g., raised or depressed medians, gores, tapers, radii (excluding approach radii), tapered paving for guardrail terminal widening). Include areas that taper from 0 to 8 feet maximum width and gore areas from roadway shoulders to termini in this work. Do not include pavement widening for installation of guardrail in this work.

R. Small Quantities. Small quantities will be accepted in accordance with the QA Manual. When an acceptance test strip is not required as per 405.03.I, the Department will base acceptance for pavement density on the density of cores taken from the finished pavement. Obtain 5 randomly located core samples in accordance with the FOP for AASHTO R 67 from the compacted Superpave HMA in the Engineer's presence. The Engineer will determine the random core locations. Immediately submit the cores for testing. The Department will determine the density of the cores the FOP for AASHTO T 166 Method A or AASHTO T 331. In addition, obtain 3 randomly located mix samples during HMA placement, in the Engineer's presence, and immediately submit samples for testing. Obtain the samples in accordance with the AASHTO R 97 (see the QASP Table 106.03-1 Note 1.c.). The Engineer will randomly locate the mix samples and the Department will test the mix samples to determine the G_{mm} value in accordance with the FOP for AASHTO T 209 or ASTM D6857. The Department will use the average of the 3 G_{mm} values to compute in-place density of the cores taken for

density acceptance. If paving will be performed in different construction seasons (e.g., bridge approaches), obtain 5 additional cores from the compacted Superpave HMA and 3 additional mix samples for density acceptance when paving resumes. The Contractor is responsible for quality control testing.

S. Leveling Course. Construct the leveling course of Superpave HMA, with a compacted thickness greater than 0.2 foot, in multiple courses.

Place the leveling course on the existing surface in quantities as approved. Use pavers and/or motor graders and a sufficient number of pneumatic tire rollers to adequately place and compact the leveling course to the required cross-section and grade. Use a steel-wheel roller for final rolling if the leveling course is to be used as a wearing course or if a seal coat is to be applied.

When blade laid leveling course is specified, place Superpave HMA in wheel ruts and other surface irregularities. Blade Superpave HMA into the low areas using a motor grader. Normally, 2 passes are required to fill depressions. Follow each pass of the motor grader with a pneumatic tired roller to provide compaction. Position the blade of the motor grader so light contact with the existing pavement surface is maintained. The Contractor may dispose of excess coarse aggregate resulting from placing the blade laid leveling course along the edge of the roadway.

When machine laid leveling course is specified, place Superpave HMA on the roadway with a paver to restore crown, super elevation, or rideability. Operate the screed close to the existing pavement surface. The Engineer will accept minor surface tears from this operation. Use pneumatic and vibratory rolling for compaction.

T. Surface Smoothness. Place pavement complying with Schedule II unless otherwise specified.

For Schedule III only, perform pre-paving, quality control, and acceptance surface smoothness testing, analyze the results of this testing, and submit the results. Submit pre-paving results. Before paving, submit a plan showing how Schedule III smoothness will be achieved.

Perform acceptance testing on the final lift and submit the results before corrective action. Complete acceptance testing within 1 week of paving completion.

Perform quality control testing in international roughness index (IRI). Request to use quality control testing for acceptance before the start of paving.

Submit quality control results by the next business day following placement.

If the quality control testing results show surface smoothness is not within the acceptable specification limits, suspend paving operations until it can be shown the steps taken to modify operations will result in acceptable smoothness.

Acceptance surface smoothness testing must be verified by the Engineer. The profile run must be witnessed by the Engineer and a preliminary copy of the report submitted immediately after the end of the run. The Engineer will not accept the testing, unless witnessed. Submit the profile data in a format suitable for evaluation using ProVAL or other industry standard software. In addition, each week or as requested by the Engineer, submit to the Engineer an electronic, editable Microsoft Excel spread sheet containing the data produced from the acceptance smoothness testing. Do not perform corrective action until approved.

The Engineer may elect to perform additional testing for verification. If the results vary from the Contractor's IRI results by more than 10 percent, the Engineer will use the Department's IRI results for acceptance.

Measure the finished pavement as follows:

1. Test the surface with a 10-foot straightedge at locations determined by the Engineer. Identify the locations that vary more than $\frac{1}{4}$ inch from the lower edge when the straightedge is laid on finished pavement in a direction parallel with centerline or perpendicular to centerline. Remove the high points that cause the surface to exceed the $\frac{1}{4}$ inch tolerance by grinding with equipment specified in Corrective Action below.
2. Profile the surface 3 feet from and parallel to each edge of each traffic lane. The Engineer will use the average of the results for each 0.1 mile section to calculate incentive payments and determine sections requiring corrective action.

Use Class 1 or Class 2 profilers as defined in ASTM E950. Operate profilers in accordance with the manufacturer's instructions and AASHTO R 57. Set the profiler as follows:

1. High pass or pre-filter: off or at least 200 feet.
2. Bump detection: on
3. Dip detection: on
4. Resolution: 0.01 inch
5. Low pass filter: off
6. Other filters: off

Operate the profiler according to the manufacturer's recommended speed. Calibrate the profiler at the beginning of the work and as needed thereafter.

The Department requires the pavement to comply with the following surface smoothness schedule requirements:

- a. Where longitudinal grade is 6.5 percent or less, pavement on tangent alignment and pavement on horizontal curves having centerline radius of curve 1,000 feet or more must meet the surface smoothness requirements for the smoothness schedule specified. The Engineer will add consecutive 0.1 mile sections of roadway tested together to obtain the mile section. There will be no overlapping of the 0.1 mile or 1 mile sections to change cumulative test results.
 - (1) Smoothness Schedule using IRI:
 - (a) Schedule I Projects: Target IRI values range from 60.0 to 70.0 inches per mile per 0.1 mile. Corrective action required above 95.0 inches per mile per 0.1 mile.
 - (b) Schedule II Projects: Target IRI values range from 71.0 to 80.0 inches per mile per 0.1 mile. Corrective action required above 95.0 inches per mile per 0.1 mile.
 - (c) Schedule III Projects: Target IRI value range defined as one of the following:
 - i. For sections with a pre-paving IRI less than 160.0 inches per mile per 0.1 mile the final index must not exceed 80.0 inches per mile per 0.1 mile.

- ii. For sections with a pre-paving IRI of 160.0 inches per mile per 0.1 mile or greater, use the smoother of either:
 - 1. A 50 percent improvement of the pre-paving index.
 - 2. A maximum final index of 100.0 inches per mile per 0.1 mile. Corrective action is required above the target IRI.
- b. The Engineer will exclude acceptance test strips, pavement on horizontal curves having a centerline radius of curve of less than 1,000 feet and pavement within the super elevation transition of such curves, or pavement with a longitudinal grade greater than 6.5 percent from incentive/disincentive payments. Meet the corrective action requirements for the smoothness schedule specified.
- c. Profile the pavement to provide continuous, uninterrupted profile data. The Department will not apply profile smoothness tolerances and incentive/disincentive payments to the following:
 - (1) Pavement within 50 feet of a transverse joint that separates the pavement from a structure deck, an approach slab, or an existing pavement not constructed under the contract.
 - (2) Pavement for approaches and structure decks.
 - (3) Roadways with a speed limit less than 40 mph.
 - (4) Interstate ramps.

Smoothness acceptance for these areas will be as specified with straightedge requirements.

Surface Smoothness Corrective Action:

Use power-driven grinding equipment that is specifically designed to smooth portland cement concrete pavement with diamond blades. Use a machine with an effective wheelbase at least 12 feet and a cutting width of at least 3 feet. Restrict the machine forward speed to 5 feet per minute while milling. Provide grinding equipment of a shape and dimension that does not encroach on traffic movement.

Grind parallel to centerline. Extend adjacent grinder passes, within ground area, to produce a neat rectangular area having a uniform surface appearance. Make smoothly feathered transitions at transverse boundaries between ground and unground areas. Apply a fog coat to the ground pavement surface as specified in 408 after grinding has been completed.

Grind individual high points in excess of 0.3 inch within 25 feet or less, as determined by the California Profilograph simulation, until such high points do not exceed 0.3 inch.

After individual high point grinding has been completed, perform additional grinding in sections requiring corrective action to reduce the IRI to a maximum of 80.0 inches per mile per 0.1 mile section along lines parallel with the pavement edge.

Individual low points are areas in excess of 0.3 inch within 25 feet or less, as determined by the California Profilograph simulation. Low points will be subject to rejection and replacement at no cost to the Department. Under these circumstances, the Engineer's decision whether to accept

the completed pavement or to require corrections is final.

Check the pavement for smoothness after grinding as specified in this subsection and make additional corrections necessary to achieve smoothness. Submit a report and graph showing compliance of the final surface to the smoothness requirements. The Department will not pay for the cost of grinding, milling or related work (e.g., fog coat), disposal of milled material, traffic control, flagging, profiling, surface repair of ground or milled areas, or temporary striping.

Surface Smoothness Deductions, Incentives, and Disincentives:

1. Straight-Edge Evaluation.

If correction of the roadway as specified will not produce satisfactory smoothness results or it reduces pavement thicknesses and serviceability, the Engineer may accept the completed pavement and will deduct from monies due or may become due to the Contractor the sum of \$500.00 for each individual high point exceeding ¼ inch tolerance or \$3,000.00 for each 0.1 mile section. \$500.00 per individual low point exceeding ¼ inch tolerance will be deducted from monies due or may become due to the Contractor. Low points exceeding ½ inch will be subject to rejection and replacement at no cost to the Department. Under these circumstances, the Engineer’s decision whether to accept the completed pavement or to require corrections is final.

2. Profilograph Evaluation.

For each evaluation section, the Contractor is entitled to a payment adjustment excluding acceptance test strips and Schedule III surface smoothness work. An evaluation section is defined as a 0.1 mile per traffic lane or fraction as applicable. The Department will not pay an incentive for pavement on the roadway shoulders, center turn lanes, turn bays, crossovers, tapers, or other miscellaneous pavement. The Department will pay incentive as specified in Table 405.03-7.

The Department will base incentive payments on initial profiles before corrective work on the top course of paving.

**Table 405.05-1 – IRI
Initial Index inches per mile per 0.1 mile section**

Payment \$ per 0.1 mi	Schedule I	Schedule II
\$500.00	40.4 or less	45.4 or less
\$300.00	40.5 to 50.4	45.5 to 60.4
\$100.00	50.5 to 60.4	60.5 to 70.4
\$0.00	60.5 to 70.4	70.5 to 80.4
-\$100.00	70.5 to 75.4	80.5 to 85.4
-\$300.00	75.5 to 85.4	85.5 to 95.4
-\$500.00	85.5 to 95.4	—
-\$500.00 and corrective action	95.5 or greater	95.5 or greater
-\$500.00 and corrective action	Individual high points ^(a)	Individual high points ^(a)
-\$500.00 and corrective action	Individual low points ^(a)	Individual low points ^(a)

- (a) In addition to the incentive/disincentive payment applied to the 0.1 mile section, the Engineer will deduct from monies due or may become due to the Contractor the sum of \$500.00 for each individual high point or low point up to a maximum of \$3,000.00 for each 0.1 mile section.

The Department will make only 1 incentive payment per evaluation section. An evaluation section runs consecutively from the point paving begins to the point paving is interrupted (e.g., at bridges, the end of lane paving areas specifically excluded by the specifications). The Department will prorate partial sections based on their percentage of a full section.

The Department will base incentive payments on initial profiles before corrective work on the top course of paving.

405.04 Method of Measurement. The Engineer will measure acceptably completed work as follows:

1. Pavements, leveling courses, and asphalts by the ton. The Engineer will not permit batch weights as a method of measurement. The Superpave HMA quantity will be the weight used in the accepted pavement and will include the weight of the aggregate, asphalt, and additives in the mixture.
2. Anti-stripping additive by the percentage of additive per ton of asphalt.
3. Miscellaneous pavement by the square yard. Final measurement will be based on plan quantities, unless changed by the Engineer. Miscellaneous pavement measurement is in addition to the measurement of asphalt and Superpave HMA material.
4. Approaches per each regardless of width or length. Separate mailbox turnouts will be measured as an approach. Mailbox turnouts adjacent to an approach will be considered as part of the approach and no separate measurement will be made. Approach measurements are in addition to the measurement of asphalt and Superpave HMA material.
5. Wedge milling for the transition section by the square yard.
6. Tack coat will be paid for as specified in 401.

405.05 Basis of Payment.

1. Superpave SP3 and SP5.

Composite mix pay factor will be computed for each lot using the following equation:

$$CPF_{405Mix} = (0.4 \times PF_{AIRVOIDS}) + (0.4 \times PF_{VMA}) + (0.2 \times PF_{DP})$$

Where:

CPF_{405Mix} = Composite pay factor for mix quality characteristics.

$PF_{AIRVOIDS}$ = Pay factor for air voids.

PF_{VMA} = Pay factor for VMA.

PF_{DP} = Pay factor for dust proportion.

Calculation of Composite Incentive/Disincentive. The composite incentive/disincentive dollar amount to be paid or deducted for Superpave plant mix pavement accepted by the

Department, excluding plant mix pavement for test strips, small quantity, approaches, and miscellaneous paving not placed with mainline paving, will be computed for each lot using the formula:

$$PA_{405} = (CPF_{405Mix} + PF_{MLD} - 2) \times Q_i \times P$$

Where:

PA_{405} = Pay adjustment for material and main line density in dollars for the lot.

CPF_{405Mix} = Composite pay factor for material characteristics for the lot.

PF_{MLD} = Pay factor for main line density for the lot.

Q_i = Quantity represented by individual lot.

P = Contract unit price.

Note: The incentive may be a negative amount (i.e., a deduction from the total amount bid for the item).

A pay factor of 1.00 will be used for all acceptable Superpave plant mix pavement incorporated into the onsite acceptance test strip for volumetrics.

Density pay factor for the Superpave plant mix leveling course will be 1.00.

2. Pay factors for approaches and miscellaneous paving not placed with mainline paving will be 1.00. Superpave SP2.

Composite pay factors will be computed for each lot using the following equations:

$$CPF_{405} = (0.3 \times PF_{AC}) + (0.3 \times PF_{AGG}) + (0.4 \times PF_{MLD})$$

Where:

CPF_{405} = Composite pay factor for mix quality characteristics. PF_{AC} = Pay factor for asphalt content.

PF_{AGG} = Pay factor for plant mix aggregate. PF_{MLD} = Pay factor for main line density.

Calculation of Composite Incentive/Disincentive. The composite incentive/disincentive dollar amount to be paid or deducted for Superpave plant mix pavement accepted by the Department, excluding plant mix pavement for test strips, small quantity, approaches, and miscellaneous paving not placed with mainline paving, will be computed for each lot using the formula:

$$PA_{405} = (CPF_{405} - 1) \times Q_i \times P$$

Where:

PA_{405} = Pay adjustment for material and main line density in dollars for the lot. CPF_{405} = Composite pay factor for material

characteristics for the lot.

Q_i = Quantity represented by
individual lot. P = Contract
unit price.

Note: The incentive may be a negative amount (i.e., a deduction from the total amount bid for the item).

Density pay factor for the Superpave plant mix leveling course will be 1.00.

Pay factors for approaches and miscellaneous paving not placed with mainline paving will be 1.00.

A pay factor of 1.00 will be used for calculating a pay factor for all acceptable Superpave plant mix pavement incorporated into an onsite acceptance test strip for volumetrics.

The Department will pay for accepted quantities as follows:

Pay Item	Pay Unit
Superpave HMA Pavement Class SP.....	Ton
Superpave HMA Pavement, including asphalt and additives	
Class SP	Ton
Leveling Course Class SP	Ton
Leveling Course, including asphalt and additives, Class SP.....	Ton
___Asphalt Binder for Superpave HMA Pavement.....	Ton
___Percent Anti-stripping Additive for Superpave HMA Pavement.....	TOA
Miscellaneous Pavement.....	SY
Approaches	Each
Wedge Milling	SY

The cost to produce the required aggregate in each stockpile to accommodate blends is incidental and included in the contract unit price for the Superpave HMA contract pay item.

When Superpave HMA includes RAP, in any proportion, the Department will not include the asphalt binder contributed by the RAP in the quantity for asphalt and additives when asphalt and additives are paid for separately.

3. Pre-milling, Coring, or Sampling for RAP.

All work and maintenance associated with the pre-mix design RAP sampling is incidental.

ON PAGES 631-634, SECTION 703.05 – AGGREGATE FOR SUPERPAVE HMA PAVEMENT

Delete this section, in its entirety, and replace with the following:

703.05 Aggregate for Superpave HMA Pavement. Provide aggregate for mixes, except SP 2, in at least 3 separate stockpiles. Use aggregate consisting of crushed stone or crushed gravel. Combine with other required aggregate fractions and fillers in the proper proportion so the resulting mixture meets the gradation required.

Screen the aggregate used for Superpave HMA so 10 percent or less of the naturally occurring minus ½ inch material remains in the material used to produce the stockpile(s). Crush the plus ½ inch material to produce the required gradation. This requirement does not apply to SP 2 mixes or mixtures designated as nonstructural or temporary mixtures.

Size, grade, and combine the fractions for the mixture in proportions so the resulting blend conforms to the grading requirements as defined in Table 703.05-2a and Table 703.05-2b.

Use aggregate that meets the requirements in Table 703.05-1.

Table 703.05-1 – Superpave Mixture Requirements

Mix Type	SP 2	SP 3	SP 5
Design ESALs ^(a) (millions)	< 1	1 < 10	≥ 10
Idaho Degradation, maximum loss, %	5.0	5.0	5.0
Ethylene Glycol, minimum retained, %	90	90	90
R-Value	80 or more minimum	80 or more minimum	80 or more minimum
LA Wear, Maximum % loss	35	30	30
Sodium Sulfate Soundness ^(b) Maximum loss after 5 cycles, %	12	12	12
Fractured Face, Coarse Aggregate ^(c) % Minimum	65/-	75/60	98/98
Uncompacted Void Content of Fine Aggregate, % Minimum	40	40	45
Sand Equivalent, Minimum	35	40	45
Flat and Elongated ^(d) , % Maximum	10	10	10

^(a) The anticipated project traffic level expected on the design lane over a 20 year period. Regardless of the actual design life of the roadway, determine the design ESALs for 20 years.

^(b) Perform sodium sulfate soundness testing when directed.

- (c) 75/60 denotes that 75 percent of the coarse aggregate has 1 fractured face and 60 percent has 2 or more fractured faces.
 (d) This criterion does not apply to No. 4 nominal maximum size mixtures.

Table 703.05-2a – Nominal Maximum Aggregate Size-Control Points (Percent Passing) and VMA Requirements PCS Control Points for Mixture Nominal Maximum Aggregate Size (b)

Sieve Size	1 ^{1/2} in		1 in		3/4 in	
	Restricted Zone	Control Points	Restricted Zone	Control Points	Restricted Zone	Control Points
2 in	—	—	—	—	—	—
1^{1/2} in	—	90 to 100	—	100	—	—
1 in	—	90 max	—	90 to 100 ^(a)	—	100
3/4 in	—	—	—	90 max	—	90 to 100 ^(a)
1/2 in	—	40 to 70 ^(a)	—	—	—	90 max
3/8 in	—	—	—	42 to 70 ^(a)	—	52 to 80 ^(a)
No. 4	34.7	—	39.5	—	—	—
No. 8	23.3	15 to 41 ^(a)	26.8	19 to 45 ^(a)	34.6	23 to 49 ^(a)
No. 16	15.5	—	18.1	—	23.1	—
No. 30	11.7	—	13.6	—	16.7	—
No. 50	10	—	11.4	—	13.7	—
No. 100	—	—	—	—	—	—
No. 200	—	0.0 to 6.0 ^(a)	—	1.0 to 7.0 ^(a)	—	2.0 to 8.0 ^(a)
VMA	11.5		12.5		13.5	
Primary Control Sieve	3/8 in		No. 4		No. 4	
PCS Control Point (% passing)	47		40		47	

Table 703.05-2b – Nominal Maximum Aggregate Size-Control Points (Percent Passing) and VMA Requirements PCS Control Points for Mixture Nominal Maximum Aggregate Size ^(b)

Sieve Size	1/2 in		3/8 in		#4	
	Restricted Zone	Control Points	Restricted Zone	Control Points	Restricted Zone	Control Points
2 in	—	—	—	—	—	—
1 1/2 in	—	—	—	—	—	—
1 in	—	—	—	—	—	—
3/4 in	—	100	—	—	—	—
1/2 in	—	90 to 100 ^(a)	—	100	—	100
3/8 in	—	90 max	—	90 to 100 ^(a)	—	95 to 100 ^(a)
No. 4	—	—	—	90 max	—	90 to 100
No. 8	39.1	28 to 58 ^(a)	47.2	32 to 67 ^(a)	—	—
No. 16	25.6	—	31.6	—	—	30 to 55 ^(a)
No. 30	19.1	—	23.5	—	—	—
No. 50	15.5	—	18.7	—	—	—
No. 100	—	—	—	—	—	—
No. 200	—	2.0 to 10.0 ^(a)	—	2.0 to 10.0 ^(a)	—	6.0 to 13.0 ^(a)
VMA	14.5		15.5		16.5	
Primary Control Sieve	No. 8		No. 8		No. 16	
PCS Control Point (% passing)	39		47		42	

(a) Denotes the sieves that will be used for mix design control points and quality analysis sieves for a Class SP 2 mix.

(b) The combined aggregate gradation will be classified as coarse-graded when it passes below the primary control sieve (PCS) control point as defined in Table 703.05-2a and Table 703.05-2b. Other gradations will be classified as fine graded. This classification is based on the Contractor's job mix formula and not individual gradation tests. Coarse graded mixtures will not pass through the restricted zone.

ON PAGES 711-713, SECTION 720.07 – RECYCLED ASPHALT PAVEMENT (RAP)

Delete this section, in its entirety, and replace with the following:

720.07 Recycled Asphalt Pavement (RAP). Prepare and maintain a RAP processing and stockpiling quality control plan and make these records available to the Department.

1. RAP Categories. Provide RAP that complies with one of the following categories:
 - A. Category 1. The Department defines this material as being from a Department project or is traceable to another public agency sponsored project. The Engineer will accept Category 1 RAP for use provided the Contractor submits a letter stating the RAP is from a specific pavement, including the route and mile post. Do not add material from other sources during stockpiling and submit certification of this from the producer on a stockpile-by-stockpile basis.

Category 1 RAP may consist of asphalt material removed from interstates, United States Highways, or State Highways.
 - B. Category 2. The Department defines this material as not being from Department projects or is not traceable to a Department project. Produce uniform RAP stockpiles when Category 2 material originates from different sources. The Engineer will accept Category 2 RAP for use as Category 1 RAP if the Contractor performs tests as specified in 720.07.3 and submits test results and materials that show the RAP meets the specifications and is verifiable by the Department.

Do not use Category 2 RAP that does not meet these requirements as Category 1 RAP.

Category 2 RAP is:

- 1) Production Returns. Asphalt material generated from plant waste (e.g., start-up/shut down material).
- 2) Random RAP. Crushed and screened asphalt material removed from private paving projects, plant overruns, rejected loads, or combination.

2 RAP Processing. The Contractor may use processed RAP as follows:

- a) Processed RAP. RAP that is processed by crushing and screening to produce a uniform gradation from coarse to a fine and a uniform binder content in the RAP before use in a recycled mix. Provide processed RAP with 100 percent passing the $\frac{5}{8}$ inch sieve on entry into the mixing plant.

The Contractor may recycle processed RAP in Superpave HMA at the percentages shown below:

- 1) Category 1 RAP is limited to 17 percent by binder replacement.
- 2) Category 2 RAP is allowed up to 10 percent by binder replacement when used in the top lift and is limited to 17 percent maximum by binder replacement when used in a lower lift.

Processed RAP stockpiles may contain RAP from sources as indicated by the category and may be replenished with RAP from sources of that same category.

3 RAP Testing and Test Frequency. Perform the following tests at the specified testing frequencies for each category and provide the data to the Department as soon as test results are available:

- a. Category 1. Establish an extraction correlation. Determine the asphalt binder content and aggregate gradation in accordance with the FOP for AASHTO T 308 and AASHTO T 30 at the minimum frequency of 1 test per 500 tons for the first 2,000 tons and 1 test per 1,000 tons thereafter. Then perform at least 6 tests for stockpiles less than 4,000 tons.

Perform chemical binder extractions in accordance with AASHTO T 319 to reclaim the binder from the RAP when blending charts are used. Determine the PG binder grading of the recycled binder as specified in 702 at the frequency of 1 test per 5,000 tons with at least 1 test per stockpile.

- b. Category 2. Asphalt binder content, aggregate gradation, and binder grade testing requirements are the same as Category 1. In addition, test the aggregate recovered from the RAP by the extraction process AASHTO T 308 or AASHTO T 164 or AASHTO T 319 to determine the aggregate quality. Test RAP aggregate quality as follows:
 - 1) AASHTO T 96 and Idaho IT 15 tested on extracted aggregate as specified at a frequency of 1 test per stockpile.
 - 2) AASHTO T 335, AASHTO T 304, and ASTM D4791 at the minimum frequency of 1 test per 500 tons for the first 2,000 tons and 1 test per 1,000 tons thereafter. Perform at least 6 tests for stockpiles less than 4,000 tons.

Meet the applicable aggregate quality requirements in Table 703.05-1 and 703 for the combination of virgin and RAP aggregate.

Use the RAP as Category 2 RAP, unprocessed, if it was not tested.

Asphalt Binder/Aggregate Correction Factor. Perform at least 6 AASHTO T 164 or AASHTO T 319

chemical extraction tests and AASHTO T 30 gradation tests and 6 AASHTO T 308 burn tests and AASHTO T 30 gradation tests to establish a correction factor for asphalt binder and aggregate gradation. Prepare 6 identical pairs of samples and test 1 sample of each pair in accordance with AASHTO T 164 or AASHTO T 319 and test the other sample in accordance with AASHTO T 308.

Bulk Specific Gravity of the RAP Aggregate. Test RAP material for G_{sb} according to Idaho IT 146 at the rate of 1 test per 500 tons for the first 2,000 tons and 1 test per 1,000 tons thereafter. Perform a minimum of 10 tests per stockpile. Provide the test results on a spreadsheet with the specific gravity of aggregates and RAP submittal as specified in 405.03.A.

For testing after stockpiling, submit a sample plan and test the RAP pile, either in-situ or by re-stockpiling, for approval. Meet the minimum frequency required and detail the procedure used to obtain representative samples throughout the stockpile for testing.

- 4 RAP Stockpiles and Record Keeping. Place RAP stockpiles on a base with adequate drainage and construct in layers to minimize RAP segregation and ensure a workable face. Construct separate stockpiles for each source of RAP based on the category of RAP, the quality of aggregate, type and quantity of asphalt binder, and size of processed material. Identify RAP stockpiles on a map of the stockpile areas and place signs in or near each stockpile.

Maintain a record system at the plant site for RAP stockpiles that includes, at a minimum, the following:

- a. Stockpile identification and a sketch of stockpile areas at the plant site.
- b. RAP category (project, state route, plant waste, rejected loads).
- c. Origin or dates milled and approximate number of tons in the stockpile.
- d. Chemical extraction and AASHTO T 308 burn test results.

Make the RAP stockpile records available at the plant site. The Engineer will reject, by visual inspection, stockpiles that are not kept clean and free of foreign materials. The Engineer will reject RAP containing contaminants (e.g., earth, brick, sand, concrete, pavement fabric, joint sealants). The Contractor may reprocess the rejected RAP stockpile to meet requirements or remove the stockpile from use.

To the end of sub-section 270.04 of the QA Manual (2019 and later versions) insert the following:

270.04.01 Acceptance of Small Quantities – Asphalt Mix

General. Contractor will sample loose mix and cores in the presence of the State. The State will complete acceptance testing.

1. Plan Quantity Less than 750 tons

For bridge approaches see 270.05.01 *Non-standard Acceptance of Materials - Asphalt Mix*. For other applications use this subsection. Contractor may use a commercial (non-Superpave) mix design. Aggregate shall come from an ITD-approved source. The mix design will be submitted for information only.

Establish paving location compared to travel path:

- i. Within travel path - cores and Gmm are required. Numbers of samples will be established in ITD 862 Sample Schedule. Compaction must be 92.0% or greater. Failing work will be removed and replaced.

- ii. Outside travel path accept by RE Letter of Inspection. The inspector will use ITD form 891 for density observation and will include equipment used and compaction temperatures. Gauge readings are not required.

2. Plan Quantities between 750 - 2,250 tons and a *continuous operation*, use MTR Table 270 (405-6)

3. Plan Quantities between 750-2,250 tons per year and specific applications use 270.05.01 Non-standard Acceptance of Materials - Miscellaneous Asphalt Mix

To the end of sub-section 270.05 of the QA Manual (2019 and later versions) insert the following:

270.05.01 Non-standard Acceptance of Materials – Asphalt Mix.

These acceptance criteria are established for plan quantities between 750 – 2,250 tons per year or locations such as bridge approaches, cross-overs, patching within travel lanes, gore areas and shoulders. These criteria may apply to projects with intermittent paving schedules spanning multiple months or seasons.

Acceptance Criteria:

- A Department-approved Superpave mix design is required before paving begins. A test strip will not be required.
- Tack Coat must be applied. Target guidelines for a 1:1 dilution are listed below, with the understanding this work may not be conducive to quantifying application rates:
 - 0.18 gallon per square yard on milled surfaces
 - 0.12 gallon per square yard on existing plant mix surfaces and
 - 0.08 gallon per square yard on newly paved surfaces.
- Acceptance requires 1 random core and 1 loose mix sample (Gmm only) per:
 - Bridge lane-approach (minimum of 1 per bridge quadrant per lift). Contractor has the option for state to use composite cores for acceptance (minimum of 1 per bridge quadrant). A composite core is a single core with multiple lifts included in the core. Gmm is determined using the weighted average (based on thickness) of the Gmm for each lift represented by the core. Composite cores will not be split into component lifts for evaluation.
 - Patch with any dimension exceeding 12.0 ft.
 - Day of paving (not applicable for bridge approaches)
 - One (1) random sample per 750 tons placed when the daily total exceeds 750 tons.

Compaction must be 92.0% or greater. Failing work will be removed and replaced.

Idaho Standard Practice for**Acceptance Test Strip for Asphalt Mixtures****IDAHO Designation: IR-125-23**

1. SCOPE

- 1.1. This Standard Practice is used to evaluate hot mix asphalt (HMA) and warm mix asphalt (WMA) produced through a hot plant for conformance to the mix design and JMF and for acceptance. This IR includes responsibilities of the Engineer, the Central Materials Laboratory, and the Contractor.
- 1.2. *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the user's responsibility of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations before use.*

2. REFERENCE DOCUMENTS2.1 *AASHTO Standards*

- FOP for T 27, Particle Size Distribution of Aggregate
- FOP for T 11 Method A or B, Materials Finer than 75um (No. 200) Sieve in Mineral Aggregate by Washing
- FOP for T 30, Mechanical Analysis of Extracted Aggregate
- FOP for T 312, Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor
- R 35, Superpave Volumetric Design for Hot Mix Asphalt (HMA)
- FOP for T 335, Method 1, Determining the Percentage of Fracture in Coarse Aggregate
- T 269, Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
- FOP for AASHTO T 209, Bowl Method, Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
- FOP for AASHTO R 67, Sampling Asphalt Mixtures after Compaction (Obtaining Cores)
- R 57, Standard Practice for Operating Inertial Profilers and Evaluating Pavement Profiles
- FOP for T 308, Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method
- R 97, Sampling Asphalt Mixtures
- FOP for R 47, Reducing Samples of Hot Mix Asphalt to Testing Size
- FOP for T 329, Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
- FOP for T 176, Alternate Method #2 Mechanical Pre-Wet, Plastic Fines in Graded Aggregate and Soils By Use of the Sand Equivalent Test
- T 304, Method A, Uncompacted Void Content of Fine Aggregate

- FOP for R 66, Sampling Asphalt Materials
- M 323, Superpave Volumetric Mix Design
- T 344, Evaluation of the Superpave Gyrotory Compactor (SGC) Internal angle of Gyration Using Simulated Loading
- T 331, Bulk Specific Gravity and Density of Compacted Asphalt Mixtures Using Automatic Vacuum Sealing Method
- R 79, Standard Practice for Rapid Drying of Compacted Asphalt Specimens Using Vacuum Drying Apparatus
- T 164, Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
- T 319, Quantitative Extraction and Recovery of Asphalt Binder from Asphalt Mixtures
- FOP for T 166, Method A, Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface Dry Specimens
- FOP for T 355, In-Place Density of Asphalt Mixtures by Nuclear Methods
- T 324, Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)

2.2

ASTM Standards

- D 1075, Standard Test Method for Effect of Water on Compressive Strength of Compacted Bituminous Mixtures (Immersion-Compression)
- D 4791, Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
- D 6857, Standard Test Method for Maximum Specific Gravity and Density of Bituminous Paving Mixtures Using Automatic Vacuum Sealing Method
- 8159, Standard Test Method for Automated Extraction of Asphalt Binder From Asphalt Mixtures (Asphalt Analyzer™)
- 8225, Standard Method of Test for Determination of Cracking Tolerance Index of Asphalt Mixture Using the Indirect Tensile Cracking Test at Intermediate Temperature

2.3

Idaho Standards

- Idaho IR 87, Pavement Straightedge Procedures
- IT 120, Determining Volume of Liquids in Horizontal or Vertical Storage Tanks
- IR 125, Acceptance Test Strip for Hot Mix Asphalt (HMA) Pavement
- IT 144, Specific Gravity and Absorption of Aggregate Using Automatic Vacuum Sealing Method
- IT 146, Determination of Recycled Asphalt Pavement (RAP) Aggregate Dry Bulk Specific Gravity (G_{sb})
- IR 148, Stratified Random Sampling
- IR 150, Superpave Mix Design
- IR 151, Superpave Mix Design Evaluation
- IR 152, HMA Quality Control Plan Development and Implementation
- IR 153, Split Sample Comparison
- IR 154, Nuclear Density Gauge Correlation
- IR 155, Procedures for Checking Asphalt Drum Mix Plant Calibrations

- IR 156, Method for Determining Rolling G_{mm}
- IR 157, Determining Ignition Furnace Correction Factor
- IR 158, Quality Control Plan (QCP) Development and Implementation
- IR 159, Quality Control Plan (QCP) Review Process
- IR 160, Development, Evaluation, and Approval of HMA Plant Quality Control Plans

2.4 Standard Specifications, Subsection 106.03

2.5 Standard Specifications, Section 405

2.6 Quality Assurance Manual, Section 220

3. GENERAL TEST STRIP REQUIREMENTS

- 3.1. The Contractor will notify the Engineer of the date, time, and location of the acceptance test strip before or during the pre-pave meeting. The Engineer will immediately notify the Central Materials Laboratory.
- 3.2. The Engineer must witness all sampling of material to be used for acceptance. Any acceptance sample obtained that is not witnessed by the Engineer will be rejected.
- 3.3. The Contractor is responsible for material sampling. The Contractor will have a qualified technician available for the duration of the test strip. The Contractor will immediately give the samples to the Engineer.

4. IDENTIFYING THE TYPE OF ACCEPTANCE TEST STRIP

- 4.1. There are 2 types of test strips, an onsite test strip and an off-site test strip (i.e., off-site mix verification). The onsite test strip is performed at the start of production paving operations and encompasses the first lot of production paving. The off-site test strip is performed before beginning production paving.
- Note:* For the density correlation, reference IR-154. Density correlation is not a test strip.
- 4.2. Determine if the Contractor will perform an onsite test strip or off-site test strip to verify the JMF.
- 4.3. For an onsite test strip, the test strip will be the first day of production with the following exception:
- 4.3.1. If the total estimated quantity of material for the bid item is between 750 and 2,250 tons, the entire quantity of material will be considered the test strip, use the modified sampling schedule found in Annex 1 – On-Site Test Strip Procedure for Smaller Production Runs.
- 4.4. For an off-site test strip (i.e., offsite mix verification), the test strip sampling will be performed while the Contractor is targeting the JMF.

5. DETERMINING THE TEST STRIP SAMPLING SCHEDULE

- 5.1. Before the test strip, determine, in conjunction with the Contractor, the anticipated quantity of material that will be produced for the test strip.

Note: It is recommended to do this via email or other written communication to ensure adequate documentation for the project records.

- 5.2. Calculate the testing frequency by dividing the anticipated quantity of material that will be produced for the test strip by the required number of samples needed.
- 5.3. Using the value calculated in 5.2, perform Idaho IR 148 to determine the sampling schedule to obtain the required number of stratified, random samples.
- 5.4. Repeat step 5.2 and step 5.3 for each material to be sampled. See Example of Determining the Test Strip Sampling Schedule.

6. MATERIAL SAMPLING REQUIREMENTS

- 6.1. Before obtaining the first sample, confirm at the hot plant that the approved JMF is being targeted in the hot plant control system and that the most current hot plant calibrations have been verified in accordance with Idaho IR 155.
- 6.2. The Contractor will sample the required materials as shown in Table 6.1 at the intervals given in the test strip sampling schedule.
- 6.2.1. Each sample must be clearly labeled and secured in the Engineer's possession immediately after the sample is taken. If a sample consists of multiple containers, label each container in such a way that the samples and the increments are readily distinguishable (i.e., if there are 2 boxes of material for Sample 1: label one box "Box 1 of 2", and the other box "Box 2 of 2").
- 6.2.2. Each sample must be accompanied by the appropriate sample tracking form with all sampling information included and signed by the WAQTC sampling technician.
- 6.3. Continue to monitor that the proper mix is being produced throughout the test strip.
- 6.4. Immediately after completion of the test strip, obtain the hot plant printouts showing production totals for each mix constituent and the most current calibration records (e.g., take a snap shot or provide a written note on the plant printout of where the test strip begins/ends and the next lot begins).
- 6.5. The testing timeframe begins once the Engineer has received all test strip samples, sample tracking forms, and hot plant printouts and calibration records. The Engineer will submit samples, and original sample tracking forms to the acceptance lab for testing.

Table 6.1-Sampling Requirements

Material	Sampling Procedure	Number of Samples	Minimum Sample Size	Sample Container
Mix	AASHTO R 97	6	200 lbs	Cardboard box ^(a)
Aggregate	AASHTO R 90	2	50 lbs	5-gallon bucket ^(b)
RAP	AASHTO R 97	2	50 lbs	5-gallon bucket ^(b)
Binder	FOP for AASHTO R 66	1	Three 1-quart containers	Screw top can ^(a)
Field Compacted Mix	FOP for AASHTO R 67	10 ^(d)	One 6-inch diameter core	Suitable protective container ^(c)

^(a) See Quality Assurance Manual Table 220.01.1.

^(b) Clean 5-gallon bucket with a snap-on lid.

^(c) See FOP for AASHTO R 67 for guidance on packaging and transporting samples.

^(d) No cores required for offsite test strips.

^(e) The 200 lbs sample needs to be thoroughly blended in the presence of the engineer and reduced per AASHTO R 47. 100 lbs of each sample will be sent to the lab performing acceptance testing of the test strip. 50 lbs of each sample is sent to the production acceptance lab and 50 lbs of each sample is sent to the Contractor QC lab. The production acceptance and QC portion of the sample does not need to be shipped to the test strip acceptance lab prior to distribution to the labs performing split sample testing.

7. SAMPLING AND TESTING FIELD COMPACTED MIX

- 7.1. For on-site test strips, field compacted mix acceptance will be based on the results of cores sampled in accordance with AASHTO R 67. Sample locations cannot be closer than 1.0 foot from a cold joint.
 - 7.1.1. When nuclear density gauge results are to be used for acceptance for lots after the completion of the acceptance test strip, correlate the nuclear density gauge(s) in accordance with Idaho IR 154.
- 7.2. For off-site test strips, there is no field compacted mix acceptance performed during test strip.
 - 7.2.1. When nuclear density gauge results are to be used for acceptance for lots after the completion of the acceptance test strip, correlate the nuclear density gauge(s) in accordance with IR 154.

8. TEST STRIP DOCUMENTATION

- 8.1. Maintain in ProjectWise the following records, *at a minimum*, for the test strip sampling:
 - 8.1.1. Sampling schedule.
 - 8.1.2. The carbon copy of the appropriate sample tracking form for each sample obtained.
 - 8.1.3. A daily work report (DWR) or daily diary documenting the day's events.
 - 8.1.4. A copy of the hot plant calibration records and a hot plant printout showing recorded data every 15 minutes.
- 8.2. Ensure the documentation listed under 8.1 is available in ProjectWise within 2 business days after the completion of the test strip.

9. ACCEPTANCE LAB RECEIVING PROCEDURE

- 9.1. Upon receiving the samples and associated sample tracking forms, ensure that all required documentation is included.
- 9.2. Document condition of samples, and date and time received.
- 9.3. Notify the Engineer of receipt and provide a time of estimated completion and review of all testing.
- 9.4. *With the mix samples:*
 - 9.4.1. Select 1 sample for Idaho IT 157.
 - 9.4.2. Select 3 samples for volumetric testing shown in Table 10.1.
 - 9.4.3. Select 2 samples for performance testing shown in Table 10.2.

- 9.4.4. Test the mix samples in accordance with Section 10.
- 9.5. *With the aggregate samples:*
- 9.5.1. Test the aggregate samples in accordance with Section 11.
- 9.6. *With the RAP samples:*
- 9.6.1. Test the RAP samples in accordance with Section 12.
- 9.7. *With the binder sample:*
- 9.7.1. Test the binder sample in accordance with Section 13.
- 9.8. *With the field compacted mix samples:*
- 9.8.1. Test the field compacted mix samples in accordance with Section 14.

10. ACCEPTANCE LAB MIX TESTING REQUIREMENTS

- 10.1. With the 1 sample selected in Section 9.4.1, perform Idaho IT 157.
- 10.2. With each of the 3 samples selected in Section 9.4.2 retain 1 box of each sample for dispute resolution testing. With the remaining box from each sample, reduce in accordance with FOP for AASHTO R 47 and perform the volumetric testing shown in Table 10.1.
- 10.2.1. Report results on the most current ITD-773 form and include copies of all original source documents.

Table 10.1 – Test Strip Mix Volumetric Testing Requirements.

Test Method	Increments Per Sample
FOP for AASHTO T 308	1
FOP for AASHTO T 30	1
FOP for AASHTO T 312	2
FOP for AASHTO T 166 Method A	2
FOP for AASHTO T 209	2
FOP for AASHTO T 329	1

- 10.3. With the 2 samples selected in Section 9.4.3 retain 1 sample for dispute resolution testing.
- 10.3.1. With the remaining sample, blend and reduce in accordance with FOP for AASHTO R 47 to within (plus or minus) 15.0 grams of the desired sample size. Fine tune by hand to the desired sample size and perform the performance testing shown in Table 10.2.
- 10.3.2. Report results on the most current ITD-773 form and include copies of all original source documents.

Table 10.2 – Test Strip Mix Performance Testing Requirements.

Test Method	Increments ^(a) Per Sample
AASHTO T 324	4
ASTM D 8225	3

^(a) An increment is considered a single SGC puck.

11. ACCEPTANCE LAB AGGREGATE TESTING REQUIREMENTS

- 11.1. With one of the 2 samples selected in Section 9.5.1, reduce in accordance with FOP for AASHTO R 76 and perform the testing shown in Table 11.1.
- 11.1.1. Retain remaining 1 sample for testing, test remaining 1 sample if the first sample fails.
- 11.1.2. Report results on the most current Department forms, include copies of all original source documents.

Table 11.1 – Test Strip Aggregate Testing Requirements.

Test Method	Increments Per Sample
FOP for AASHTO T 335	1
FOP for AASHTO T 255	1
AASHTO T 304 Method A	1
FOP for ASTM D 4791	2
FOP for AASHTO T 176 (Alternate Method 2, Mechanical)	2
AASHTO T 85 ^(a)	3
Idaho IT 144 ^(a)	3

^(a) Department may elect to perform to confirm G_{sb} .

12. ACCEPTANCE LAB RAP TESTING REQUIREMENTS

- 12.1. With 1 of the samples selected in Section 9.6.1, reduce in accordance with FOP for AASHTO R 76 and perform the testing shown in Table 12.1.
- 12.1.1. Report results on the most current Department forms include copies of all original source documents.

Table 12.1 – Test Strip RAP Testing Requirements.

Test Method	Increments Per Sample
FOP for AASHTO T 255 (Controlled Heat Source)	1
Idaho IT 146 ^(a)	1
ASTM D8159 ^(a)	1
AASHTO T 30 ^(a)	1
AASHTO T 308 ^(a)	1

^(a) The Department may confirm the RAP G_{sb} .

13. ACCEPTANCE LAB BINDER TESTING REQUIREMENTS

- 13.1. With the one sample selected in Section 9.7.1, select 2 quarts for Department acceptance testing and 1 quart for challenge resolution. Perform the testing shown in Table 13.1.
- 13.1.1. Report results on the most current Department forms, include copies of all original source documents.

Table 13.1 – Test Strip Binder Testing Requirements.

Test Method	Increments Per Sample
Idaho IT 99	1
AASHTO M 320 ^(a)	1
ASTM D 8159 ^(a)	1

^(a) See QA Manual Sections 230.10. Meet the requirements of Standard Specifications Sections 702.01 and 702.06.

14. ACCEPTANCE LAB FIELD COMPACTED MIX TESTING REQUIREMENTS

14.1. With the each of the 10 samples selected in Section 9.8.1, separate two or more pavement courses, lifts, or layers per FOP for AASHTO R 67. Perform the testing shown in Table 14.1.

14.1.1. Report results on the most current Department forms, include copies of all original source documents.

Table 14.1 – Field Compacted Mix Testing Requirements.

Test Method	Increments Per Sample
FOP for AASHTO T 166 Method A or AASHTO T 331 ^(a)	1

^(a) Use the average G_{mm} from testing performed in Section 10 to compute the in-place density of the cores.

15. ACCEPTANCE LAB TEST STRIP RESULTS REPORTING PROCEDURE

15.1. Report the results of each test performed on the most current Department forms, include copies of all original source documents and sample tracking forms in the report.

15.1.1. Each original source document will be signed by the testing technician.

15.2. The lab manager or the lab manager's qualified designated agent will fully review the report and all supporting documents for completeness.

15.3. Submit a complete electronic copy of the report to the Engineer for distribution with ample time to allow the Engineer time to review and determination of test strip acceptance.

16. EVALUATING ACCEPTANCE TEST STRIP RESULTS

16.1. The Engineer, upon receipt of the results from 15.3, will determine acceptance of the test strip as follows:

16.1.1. Use the Department approved method (e.g., Department provided spreadsheet or web portal) to perform the quality level analysis and determine acceptance as specified in 106.03.B and 405.03.I.

16.2. *Review of hot plant calibration records:*

- 16.2.1. Verify that the calibration records meet Idaho IR 155. If they do not match the most recent plant calibration record that was witnessed, perform a calibration verification in accordance with Idaho IR 155.
- 16.3. *Review of hot plant printout:*
- 16.3.1. Use the ITD-774 form to verify that the hot plant printout indicates the individual cold feed percentage for aggregate, cold feed percentage for RAP, asphalt content for the RAP, and virgin binder meet the requirements of 405.03.I.

17. ACCEPTANCE OF THE TEST STRIP

- 17.1. The test strip is considered acceptable when it meets Section 16.

18. EXAMPLE OF DETERMINING THE TEST STRIP SAMPLING SCHEDULE

Example: During the pre-paving meeting, the Contractor informs the Engineer that they will be performing an onsite test strip on April 19th. They anticipate paving 2,130 tons.

The Engineer will use this information to develop a test strip sampling schedule as follows:

For plant mix:

- The plant mix sampling frequency is calculated by dividing 2,130 by 6.
- Sampling frequency for plant mix is 1 sample per 355 tons.
- Use a 355 ton sample frequency and 6 samples, perform Idaho IR 148 to determine the sampling schedule to obtain 6 stratified random, samples of plant mix.
- Obtain plant mix samples in accordance with AASHTO R 97 per the sampling schedule.

For cold feed aggregate:

- Before sampling asphalt mix, obtain 1 cold feed aggregate sample by Conveyor Belt Method A or Method B of FOP for AASHTO R 90. Conveyor Belt Method B is the preferred method if automatic sampling devices are available.
- After sampling asphalt mix, obtain 1 cold feed aggregate sample by Conveyor Belt Method A or Method B of FOP for AASHTO R 90. Conveyor Belt Method B is the preferred method if automatic sampling devices are available.

For RAP (if used):

- Before sampling asphalt mix, obtain 1 RAP sample by FOP for AASHTO R 90. Conveyor Belt Method B is the preferred method if automatic sampling devices are available.
- After sampling asphalt mix, obtain 1 RAP sample by FOP for AASHTO R 90. Conveyor Belt Method B is the preferred method if automatic sampling devices are available.

For binder:

- Use a 2,130 ton sample frequency and 1 sample, perform Idaho IR 148 to determine the sampling schedule to 1 stratified, random samples of binder.
- Obtain 1 binder sample (consisting of 3, 1-quart cans) in accordance with FOP for AASHTO R 66 per the sampling schedule.

For field compacted mix:

- The field compacted mix sampling frequency is calculated by dividing 2,130 by 10.
- Sampling frequency for plant mix is 1 sample per 213 tons.
- Use a 213 ton sample frequency and 10 samples, perform Idaho IR 148 to determine the sampling schedule to obtain 10 stratified random, samples of field compacted mix.
- Obtain field compacted mix samples in accordance with AASHTO R 67 per the sampling

Idaho Standard Practice for**Superpave Volumetric Mix Design****IDAHO Designation: IR-150-21**

1. SCOPE

- 1.1. This practice describes the requirements for developing a Superpave mix design.
- 1.2. *This standard practice may involve hazardous materials, operations, and equipment. This standard practice does not purport to address all of the safety concerns, if any, associated with its use. It is the user's responsibility of this procedure to establish appropriate safety and health practices and determine the applicability of regulatory limitations before use.*

2. BACKGROUND

- 2.1. Developing a mix design is a function of quality control (QC). A mix design is developed to find a combination of aggregates, recycled materials, asphalt, and additives to produce a roadway that meets the Department's specifications.
- 2.2. The end result of a successful mix design is a recommended mixture of aggregate and asphalt binder. This recommended mixture, which also includes aggregate gradation and asphalt binder type, is the job mix formula (JMF).
- 2.3. A JMF is a recipe for the plant to make. The mix design is the development of that recipe. A mistake in the design process can disrupt a project's schedule dramatically and have a big impact to the overall quality of the finished roadway. The development of the JMF is a QC process. It is the Contractor's responsibility to ensure that their mix design and resulting JMF will result in a mix that meets the contract requirements as determined by the Department's testing.
Note: A JMF is only as good as the information that was used to develop it. A good mix design can help limit issues in production.
- 2.4. The mix design evaluation is for the Department to use to validate that the recipe was properly developed and the resulting JMF appears that the mix produced will meet the contract requirements.

3. REFERENCE DOCUMENTS

- 3.1. AASHTO Standards
- M 323, Superpave Volumetric Mix Design
 - R 30, Mixture Conditioning of Hot-Mix Asphalt (HMA)
 - R 35, Superpave Volumetric Design for Asphalt Mixtures
 - R 76, Reducing Samples of Aggregate to Testing Size
 - R 90, Sampling Aggregate Products
 - T 11, Materials Finer Than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing
 - T 27, Sieve Analysis of Fine and Coarse Aggregates

- T 84, Specific Gravity and Absorption of Fine Aggregate
- T 85, Specific Gravity and Absorption of Coarse Aggregate
- T 166, Bulk Specific Gravity (G_{mb}) of Compacted Asphalt Mixtures Using Saturated Surface-Dry Specimens
- T 209, Theoretical Maximum Specific Gravity (G_{mm}) and Density of Hot Mix Asphalt (HMA)
- T 312, Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyrotory Compactor
- T 324, Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)
- T 331, Bulk Specific Gravity (G_{mb}) and Density of Compacted Asphalt Mixtures Using Automatic Vacuum Sealing Method

3.2. Idaho Standards:

- IT 144, Specific Gravity and Absorption of Fine Aggregate Using Automatic Vacuum Sealing Method
- IT-146, Determination of Recycled Asphalt Pavement (RAP) Aggregate Dry Specific Gravity G_{sb}
- Standard Specifications for Highway Construction

3.3. WAQTC/Idaho FOPs

- R 76, Reducing Samples of Aggregate to Testing Size
- R 90, Sampling Aggregate Products
- T 11, Materials Finer Than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing
- T 27, Sieve Analysis of Fine and Coarse Aggregates
- T 166, Bulk Specific Gravity (G_{mb}) of Compacted Asphalt Mixtures Using Saturated Surface-Dry Specimens
- T 209, Theoretical Maximum Specific Gravity (G_{mm}) and Density of Hot Mix Asphalt (HMA)
- T 312, Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyrotory Compactor
- WAQTC TM 13, Volumetric Properties of Hot Mix Asphalt
- WAQTC TM 14, Laboratory Prepared Asphalt Mixture Specimens

3.4. ASTM Standards

- D8159, Automated Extraction of Asphalt Binder From Asphalt Mixtures (Asphalt Analyzer)
- D8255, Determination of cracking Tolerance Index of Asphalt Mixture Using the Indirect Tensile cracking Test at Intermediate Temperature

3.5. *Other Standards*

- Asphalt Institute MS-2, Asphalt Mix Design Methods, 7th Edition

4. SPECIFIC GRAVITY OF AGGREGATE AND RAP

- 4.1. Use the bulk dry specific gravity of aggregate (G_{sb}) established by the Department for each stockpile when developing the mix design and performing calculations.

5. MIX DESIGN REQUIREMENTS

- 5.1. Develop a Superpave mix design in accordance with AASHTO R 35 that will result in a plant-produced mixture that meets the contract requirements.
- 5.2. The mix design must be developed by an individual that is qualified by the Department as a Superpave mix design technician (SPMDT).
 - 5.2.1. The specific tests required during the mix design process must be performed by an individual qualified by the Department for the specific test method.
- 5.3. The mix design must be reviewed, approved, signed, and sealed by an Idaho-licensed professional engineer responsible for the mix design.
- 5.4. Use a Department-qualified Superpave mix design laboratory for developing the design.

6. MIX DESIGN REPORT REQUIREMENTS

- 6.1. Provide a single job mix formula (JMF) reported on an ITD-774 form.
- 6.2. Attach all supporting documentation and data used in developing the JMF.
 - 6.2.1. Include signature(s) and WAQTC/PE license number(s) for testers and reviewers on each sheet.
Note: The design will be reviewed by the Department in accordance with Idaho IR 151. Ensure that the report has all information required to complete the review. Incomplete or missing information will result in rejection of the mix design.

7. MIX DESIGN SUBMITTAL

- 7.1. Submit the mix design and all supporting documentation via email to mixdesigns@itd.idaho.gov and the Engineer.
- 7.2. Each mix design submitted for approval must be accompanied by a Microsoft® Excel® electronic version of the ITD-774 form specific to the mix design.
- 7.3. Only 1 mix design per email notification will be accepted. Submit the mix design for evaluation a minimum of 5 business days before paving is scheduled to begin.
- 7.4. Upon submittal, the Department will give the mix design a unique identifier number. This will be the mix design number. Keep this number for your records.

8. AMENDING THE MIX DESIGN

- 8.1. If the mix design is required to be amended per 405.03.B.1.b.i.1, amend the mix design the following process:
 - 8.1.1. Each page of the mix design that is revised or added is required to include the project key lead number, bid item number, date of revision, and means of identifying the revision. The amendment is required to be signed and dated by the Contractor's representative who is responsible for developing the mix design and subsequently signed and dated when approved by the Engineer.
- 8.2. Amending the mix design or JMF is not allowed once the mix design has been approved by the Department.

9. APPROVED MIX DESIGNS

- 9.1. The Department will maintain a list of approved mix designs listed by Department generated mix design number. Mix designs are not approved for use unless they are listed.

Idaho Standard Practice for**Superpave Mix Design Evaluation****IDAHO Designation: IR-151-21**

1. SCOPE

- 1.1. This practice describes the procedures for evaluating a Superpave mix design, mix design requirements, and the time required to perform the evaluation.
- 1.2. *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the user's responsibility of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations before use.*

2. BACKGROUND

- 2.1. When reviewing a mix design, it is important to keep in mind the following:
- 2.2. A mix design is solely a function of quality control (QC). A mix design is developed to find a combination of aggregates, recycled materials, asphalt, and additives to use to produce a roadway that meets the Department's specifications.
- 2.3. The end result of a successful mix design is a recommended mixture of aggregate and asphalt binder. This recommended mixture, which also includes aggregate gradation and asphalt binder type is the job mix formula (JMF).
- 2.4. A JMF is a recipe for the plant to make. The mix design is the development of that recipe. A mistake in the design process can disrupt a project's schedule dramatically and have a big impact to the overall quality of the finished roadway. However, developing the JMF is a QC process. It is the Contractor's responsibility to ensure that their mix design and resulting JMF will result in mix that meets the contract requirements.
Note: A JMF is only as good as the information that was used to develop it. A good mix design can help limit issues in production.
- 2.5. The mix design evaluation is for the Department to use to validate that the recipe was properly developed and the resulting JMF appears that the mix produced will meet the contract requirements.

3. REFERENCE DOCUMENTS

- 3.1. *Idaho Procedures:*
- IT-150, Superpave Volumetric Mix Design
 - Standard Specifications for Highway Construction

4. SUBMITTAL OF MIX DESIGN

- 4.1. The Contractor must submit the asphalt mix design in accordance with Idaho IR 150.

5. RECEIPT OF MIX DESIGN SUBMITTAL

- 5.1. Upon receipt of the mix design submittal, the mix design will be given a unique identifier number.

6. REVIEW OF MIX DESIGN SUBMITTAL

- 6.1. The Department will review all Superpave mix designs proposed for use before use. The Department recognizes the risk associated with each paving application varies. Therefore, the extent of each mix design review will be in accordance with these potential risks.
- 6.2. The mix design will be reviewed by the Engineer, the Central Materials Laboratory, and the State Construction and Materials Engineer.
- 6.3. The reviewers may contact the mix designer or the professional engineer responsible for the mix design during the review process for further information or clarifications.
- 6.4. All mix designs will be reviewed for the following:
- 6.4.1. Accuracy.
- 6.4.2. Completeness.
- 6.4.3. Reasonableness. Examples of items that will be check for reasonableness include, but are not limited to, ensuring that calculations were done correctly and that the volumetric data follows the expected trends (i.e., binder absorption not being dependent on asphalt content).
- 6.4.4. Compliance with specifications.
- 6.4.5. Compliance with Idaho IR 150.
- 6.5. When amendments are made to the mix design submittal, the current review will be ended and the amended mix design will be considered a new submittal.
- 6.5.1. Amendments must meet the requirements of Idaho IR 150.

7. REVIEW OF PREVIOUSLY USED MIX DESIGNS

- 7.1. A mix design reviewed and accepted for a previous or current project may be submitted in writing for use on a new project. Acceptance of the mix design will be based on meeting the following requirements in addition to the requirements of Section 3:
- 7.1.1. The proposed mix design is of the type required for the new project.
- 7.1.2. The mix produced on previous projects utilizing the proposed mix design was of good quality (e.g., the combined average PWL on all the previous project(s) was ≥ 90 PWL for all mix quality characteristics).
- 7.1.3. The mix design is not classified as expired in accordance with 405.03.B.2 of the Standard Specifications.

8. MIX DESIGN REVIEW TIMEFRAME

- 8.1. The Department will review the mix design within 5 business days after receiving the full submittal package.

9. APPROVAL OF MIX DESIGN

- 9.1. The Department will maintain a list of approved mix designs. Upon approval, the mix design will be placed on this list.

10. REJECTION OF MIX DESIGN

- 10.1. The Department will notify the Contractor upon rejection of a mix design via email.
- 10.1.1. The Department will provide details as to why the mix design was rejected.
- 10.2. Notification of the rejection will be sent to the email address given on the ITD-774 form.

Idaho Standard Practice for**ASPHALT MIXTURES QUALITY CONTROL PLAN (QCP)
DEVELOPMENT AND IMPLEMENTATION****IDAHO Designation: IR-152-21**

1. PURPOSE

- 1.1. The purpose is to establish minimum requirements for the Contractor's quality control system and quality control plan (QCP) for asphalt mixtures. It is intended that these requirements be used as a procedural guide in detailing the inspection, sampling, and testing deemed necessary to maintain compliance with the Department's specifications. The Department and the Contractor must hold a pre-pave meeting and document the decisions and agreements made. An example of a pre-pave meeting agenda is provided in the Appendix. Conducting a thorough pre-pave meeting increases partnership as well as it can only increase the likelihood of success of each party.

2. SCOPE

- 2.1. This procedure is applicable to the production and construction of asphalt mixtures.

3. REFERENCE DOCUMENTS

- 3.1. Idaho Standards
- IR 158, Quality Control Plan Development.
 - IR 160, Evaluation and Approval of HMA Plants and Equipment.
 - IR 155, Procedures for Checking Asphalt Drum Mix Plants

4. GENERAL REQUIREMENTS

- 4.1. As stated in the Standard Specifications for Highway Construction, a QCP must be developed by the Contractor/producer and submitted in writing to the Engineer at the preconstruction conference. Acceptance of the QCP by the Engineer will be contingent upon its concurrence with the Standard Specifications and this standard method. For this reason, the QCP will clearly describe the methods by which the quality control program will be conducted. For example, the items to be controlled, tests to be performed, testing frequencies, sampling locations, and techniques will be included with each item listed separately. Also include a table stating what actions will occur when test results indicate specification limits are approached or exceeded. See Table 1 at end of this guide for an example. Also, a detailed plan of action regarding disposition of non-specification material will be included. Such a plan will provide for immediate notification of all parties involved in the Quality Assurance process in the event nonconforming situations are detected. Example 1. HMA Quality Control Plan may be used as an example.
- 4.2. Inspection and testing records must be maintained, kept current, and made available for review by Department personnel throughout the life of the contract. All other documentation (e.g., date of inspections, tests performed, temperature measurements, and accuracy, calibration or re-calibration checks performed on production of testing equipment) will be recorded.
- 4.3. The Contractor will maintain standard equipment and qualified personnel in accordance with the contract and specification requirements for the item(s) being produced.

5. QUALITY CONTROL PLAN

- 5.1. Operation quality control plans will be submitted for each contract/project to the Engineer for review and approval. Include a Plant Quality Control Plan that meets the requirements of Idaho IR 160. Distribution of the approved quality control plans will be made by the Engineer.
- 5.2. Example 1. HMA Quality Control Plan is provided only as an acceptable template that contains the required information is attached.

6. ADDENDA TO THE QUALITY CONTROL PLAN

- 6.1. Addenda are defined as an addition or deletion to the QCP. Each page of the QCP that is revised is required to include the project key lead number, date of revision, and means of identifying the revision. The addenda are required to be signed and dated by the Contractor's representative who is responsible for insuring that all items of work will comply with Department Specifications and subsequently signed and dated when approved by the Engineer.

Table 1: Example of QC Actions to Implement When Approaching or Exceeding Specification Limits

Test Description	Test Method	QC Action Limits		Situation		Action
		Single Test	4-Point Moving Avg. or Daily Avg.	Single Test	4-Point Moving Avg. or Daily Avg.	
Binder Content, P _b	FOP for AASHTO T 168 and FOP for AASHTO R 47 and FOP for AASHTO T 308 and FOP for AASHTO T 329	± 0.6	± 0.3	Approaching Limit	Approaching Limit	Discuss with hot mix plant, operator, and may suspend construction process
Aggregate Gradation	FOP for AASHTO T 30 (wash method used for all gradation measurements)	NA	C-JMF	4 percent on +#4 2 percent on -#4	Approaching Limit	Increase frequency of tests and prepare for process modification
Air Voids @ N _{design} , P _a	WAQTC TM 13	± 1.0%	NA	2 tests over ± 1%	NA	Initiate C-JMF Modifications
VMA @ N _{design}	WAQTC TM 13	≤ 1% min	≥ min	3 tests over ± 1%	Approaching Limit	Discuss with the Engineer & Process Modification
Dust Proportion, DP	WAQTC TM 13	NA	≥ min ≤ max	Approaching Limit	Approaching Limit	Modify C-JMF
G _{mm}	FOP for AASHTO T 168 and FOP for AASHTO R 47 and FOP for AASHTO T 209 (Bowl Method)	C-JMF	C-JMF	Approaching Limit	Approaching Limit	Modify C-JMF or Redesign
G _{se}	WAQTC TM 13	C-JMF	C-JMF	Approaching Limit	Approaching Limit	Modify C-JMF or Redesign
Rut Depth, mm	AASHTO T 324	≥ min	NA	Approaching Limit	NA	Discuss with the Engineer & initiate investigation, modification, or redesign
Stripping, passes	AASHTO T 324	≥ min	NA	Approaching Limit	NA	Discuss with the Engineer & initiate investigation, modification, or redesign
Cracking, FI	AASHTO TP 124	≥ min	NA	Approaching Limit	NA	Discuss with the Engineer & initiate investigation, modification, or redesign
Mainline Density	Idaho IR 156, and FOP for AASHTO T 355 or FOP for AASHTO T 343	NA	≥ min	Approaching < 92%	≤ 100% Pay	Notify the Engineer

Note: When 2 consecutive test results fail or if any of the 4-point moving average values fail, production will be suspended and the situation discussed with the Engineer. The process will be corrected before production resumes.

EXAMPLE 1
HMA Quality Control Plan – General Overview (Details provided in PrePave Meeting/Project Specific)

NOTE: This is provided only as an acceptable template; other options/formats are acceptable

Date:

To: (RESIDENT ENGINEER)

From: (CONTRACTOR(s) NAME)

Subject: HMA Quality Control Plan

1. Project Information

- 1.1. We are submitting our HMA Quality Control Plan, developed in accordance with Idaho IR 152, Idaho IR, 158, and Idaho IR 160 for:

Project Number: _____

Lead Key Number: _____

Date Submitted: _____

- 1.2. (NAME) is responsible for ensuring that all items of work will comply with the contract and Department specifications.

2. Hot Plant

- 2.1. General Information:

Make: _____

Type: _____

Address of Plant: _____

- 2.2. The hot plant operation is under the direction of (NAME) who can be contacted at (ADDRESS, EMAIL, AND TELEPHONE).
- 2.3. Current calibration and verification status of plant and history of plant inspection program attached in Exhibit A.
- 2.4. The Hot Plant Quality Control Plan, developed in accordance with Idaho IR 160 and approved on (DATE) by (NAME OF PERSON(s)) is attached in Exhibit B.

3. Mix Designs

- 3.1. Mix designs will be the responsibility of (NAME OF PERSON(s)), WAQTC number (NUMBER(s)).
- 3.2. The HMA design(s) to be used are attached in Exhibit C.

- 3.3. Before production, (NAME), (WAQTC NUMBER), will submit our HMA mix design for each type of mix in accordance with the contract and specifications by (DATE). Only allowable and approved materials will be incorporated in the mix.

4. Delivery and Placement

- 4.1. The field operation is under the direction of (NAME) who can be contacted at (ADDRESS, EMAIL, AND TELEPHONE).
- 4.2. (LIST OF EQUIPMENT TYPE, MAKE).
- 4.3. (DETAILED DESCRIPTION OF THE PRODUCTION AND PLACEMENT PROCESS).

5. Quality Control Sampling and Testing,

- 5.1. The laboratory performing quality control testing is (LAB QUALIFICATION NUMBER), located at (LOCATION).
- 5.2. The quality control program is under the direction of (NAME OF PERSON), who can be contacted at (ADDRESS, EMAIL, AND TELEPHONE).
- 5.3. During the placement operations of the HMA pavement we will perform at a minimum quality control tests per attached schedule. Sampling and testing is the responsibility of (NAME(s), WAQTC number (NUMBER(s))).
- 5.4. Sampling and testing is the responsibility of (NAME OF PERSON(s)), WAQTC number (NUMBER(s)).
- 5.5. During the production operations of the HMA (NAMES) will perform, at a minimum, quality control tests in accordance with the attached schedule. Also attached are the proposed method to select locations and/or times for sampling. See Exhibit D.
- 5.6. All testing will be completed by (NAME(s)), (WAQTC NUMBER(s)), within (HOURS) hours of sampling and all original documentation of results will be completed on the attached original documentation forms. See Exhibit E.
- 5.7. Testing reports and original source documents will be reviewed and checked by (NAME(s)), (WAQTC NUMBER(s)), within (HOURS) hours of testing being completed. All reporting will be completed on the attached forms. See Exhibit F.

EXAMPLE 1 (CONTINUED)
HMA Quality Control Plan

6. Records.

- 6.1. Testing reports and all backup documentation will be located at (LOCATION) for review by the Department between the hours of (TIME) and (TIME) during the life of the contract/project.
- 6.2. Testing reports and all backup documentation will be located at (LOCATION) for review by the Department between the hours of (TIME) and (TIME) for (YEARS) after the completion of the project.

7. Notifications.

- 7.1. Any material found to be noncomplying will be addressed by (NAME) who will notify the Engineer immediately.
- 7.2. (NAME) will notify appropriate Department personnel at least 48 hours before any work is to begin.

8. Nonconforming Material.

- 8.1. (STATE THE PROCESS FOR DISPOSITION OF NONCONFORMING MATERIAL)
- 8.2. See the Exhibit G for what actions will occur when test results indicate specification limits are approached or exceeded.

Attachments:

Exhibit A – Current calibration and verification status of plant and history of plant inspection program

Exhibit B – Hot Plant Quality Control Plan

Exhibit C – HMA Mix Design

Exhibit D – Minimum QC Testing Schedule, Sampling and Testing Methods, and Location(s)

Exhibit E – Original Test Documentation Form Template(s)

Exhibit F – Test Reporting Form Template(s)

Exhibit G – Table of QC actions when approaching or exceeding specification limits

Idaho Standard Practice for Split Sample Comparison



IDAHO Designation: IR-153-21

1. SCOPE

- 1.1. This Standard Practice is used to compare 2 or more sets of test results in order to measure the testing variability of different parties (e.g., Department vs. Contractor).
-

2. BACKGROUND

- 2.1. There are 4 primary components or sources of inherent variability in individual test results for material samples. These components of inherent variability are:

- Sampling Variability
- Testing Variability
- Material Variability
- Construction Variability

- 2.1.1. **Sampling variability** is caused by variation that is inherent in the sampling methods or procedures used to obtain a material sample. Even when the person obtaining a sample carefully follows standard sampling methods or procedures, some amount of sampling variability will occur.

- 2.1.2. **Testing variability** is the result of variation inherent in performing a test method and variation inherent in the test equipment. Even when the person performing a test carefully follows standard testing methods and even when the test equipment is properly calibrated, some amount of testing variability will occur.

- 2.1.3. **Material variability** is essentially due to the inherent variation that naturally exists in a given material. It is quite unrealistic to expect perfect homogeneity in any raw or processed source of construction materials (e.g., soils, aggregate, HMA, PCC, steel, paint). The inherent variation for most construction materials, on a relative basis, is usually small.

- 2.1.4. **Construction variability** is the result of variation that is inherent in production methods and construction operations. The largest amount of construction variability is generally attributed to the production and placement process.

- 2.1.5. Additional construction variability (i.e., beyond the expected or accepted range) can be introduced through inconsistent production methods and construction operations. This is why good, consistent quality control, both at the source/plant and in the field, is essential in minimizing the amount of construction variability as a component of overall inherent variability.

- 2.1.6. Additional sampling variability and testing variability (i.e., beyond the expected or accepted range) can be introduced through deviations from standard sampling method and test procedures by the person(s) performing the sampling and testing, or as a result of test equipment that is not properly calibrated or properly functioning. Sampling and testing variability, combined, have been stated as comprising up to 50 percent of the total overall variation in test results. Specification

limits were developed to take standard sampling and testing variability into account. However, it is important not to compound or add to the expected range of inherent variability due to sloppy practices. Consistent and careful adherence to proper sampling and testing procedures can minimize these two components of overall inherent variability.

3. REFERENCE DOCUMENTS

2.1 *AASHTO Standards*

- FOP for R 90, Sampling of Aggregates
- R 76, Reducing Samples of Aggregates to Testing Size
- T 255, Total Evaporable Moisture Content of Aggregate by Drying
- FOP for T 27, Particle Size Distribution of Aggregate
- FOP for T 11, With Materials Finer than 75um (No. 200) Sieve in Mineral Aggregate by Washing
- T 335, Determining the Percentage of Fracture in Coarse Aggregate
- T 176, Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test
- R 97, Sampling Asphalt Mixtures
- R 47, Reducing Samples of Hot Mix Asphalt (HMA) to Testing Size
- T 329, Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
- T 308, Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method
- T30, Mechanical Analysis of Extracted Aggregate
- T 209, Theoretical Maximum Specific Gravity and Density of Hot Mix Asphalt Paving Mixtures
- T 167, Standard Method of Test for Compressive Strength of Hot Mix Asphalt
- T 166, Bulk Specific Gravity of Compacted Hot Mix Asphalt using Saturated Surface-Dry Specimens
- R 30, Mixture Conditioning of Hot-Mix Asphalt (HMA)
- FOP for R 66, Sampling Asphalt Materials
- T 164, Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
- T 319, Quantitative Extraction and Recovery of Asphalt Binder from Asphalt Mixtures
- T 303, Lime for Asphalt Mixtures
- T 312, Asphalt Mixture Specimens by Means of the Superpave Gyratory Compactor
- T 324, Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)
- T 33, Bulk Specific Gravity and Density of Compacted Asphalt Mixtures Using Automatic Vacuum Sealing Method
- R 79, Standard Practice for Rapid Drying of Compacted Asphalt Specimens Using Vacuum Drying Apparatus
- T 269, Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
- T 283, Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage
- TM 13, Volumetric Properties of Hot Mix Asphalt

- R 67, Sampling Asphalt Mixtures after Compaction (Obtaining Cores)
- T 309, Temperature of Freshly Mixed Portland Cement Concrete
- T 119, Slump of Hydraulic Cement Concrete
- T 121, Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
- T 152, Air Content of Freshly Mixed Concrete by the Pressure Method
- T 23, Method of Making and Curing Concrete Test Specimens in the Field
- T 265, Laboratory Determination of Moisture Content of Soils
- T 99, Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and 305-mm (12-in.) Drop
- T 180, Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and 457-mm (18-in.) Drop
- T 85, Specific Gravity and Absorption of Course Aggregate
- T 355, Determining the Percentage of Fracture in Coarse Aggregate
- T 310, In-Place Density and Moisture Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
- T 272, One-Point Method for Determining Maximum Dry Density and Optimum Moisture
- T 304, Uncompacted Void Content of Fine Aggregate
- R 64, Standard Practice for Field Sampling and Fabrication of 50-mm (2-in) Cube Specimens using Grout (Non-Shrink) or Mortar
- T 359, Pavement Thickness by Magnetic Pulse Induction

ASTM Standards

- FOP for D 4791, Flat and Elongated Particles in Coarse Aggregate
- D 1075, Standard Test Method for Effect of Water on Compressive Strength of Compacted Bituminous Mixtures (Immersion-Compression)
- D 6857, Standard Test Method for Maximum Specific Gravity and Density of Bituminous Paving Mixtures Using Automatic Vacuum Sealing Method
- D 8159, Standard Test Method for Automated Extraction of Asphalt Binder From Asphalt Mixtures (Asphalt Analyzer™)
- D 8225, Standard Method of Test for Determination of Cracking Tolerance Index of Asphalt Mixture Using the Indirect Tensile Cracking Test at Intermediate Temperature

Idaho Standards

- IT 13, Measuring Mortar-Making Properties of Fine Aggregate Idaho
- IT 15, Degradation
- IT 72, Evaluating Cleanness of Cover Coat Material
- IT 74, Vibratory Spring-Load Compaction for Coarse Granular Material
- IT 116, Disintegration of Quarry Aggregates (Ethylene Glycol)
- IT 144, Specific Gravity and Absorption of Fine Aggregate Using Automatic Vacuum Sealing (CoreLok) Method
- IT 61, Sampling and Viscosity Testing Emulsified Asphalt Binders in the Field

- IT 146, Determination of Reclaimed Asphalt Pavement (RAP) Aggregate Bulk (Dry) Specific Gravity (G_{sb})
- IR 128, Sampling Concrete for Chloride Analysis
- IT 131, Total Chloride Content of Hardened Concrete by Gran Plot Method
- IT 133, Determination of the Rate of Evaporation of Surface Moisture from Concrete
- IR 143, Field Sampling of Hydraulic Cement and Fly Ash
- IT 147, Measuring Texture Depth of Portland Cement Concrete Using a Tire Tread Depth Gauge
- IR 7, Inspecting/Sampling Paint and Curing Compound
- IT 121, Determining Total Solids-Latex Percent
- IT 8, Resistance R-Value and Expansion Pressure of Compacted Soils and Aggregates
- IR 162, Taking Undisturbed Soil Samples for Laboratory Consolidation, Shear and Permeability Tests
- Idaho Transportation Department Quality Assurance Manual

WAQTC Standards

- TM 13, Volumetric Properties of Hot Mix Asphalt
- TM 2, Sampling Freshly Mixed Concrete
- IR 87, Pavement Straightedge Procedures
- IT 120, Determining Volume of Liquids in Horizontal or Vertical Storage Tanks

4. SUMMARY OF THE PRACTICE

- 4.1. This practice describes the testing and analysis needed to perform a comparison of split samples tested by different parties against an allowable degree of test result difference attributed to testing variability.

5. TERMINOLOGY

- 5.1. *Individual Split Sample Acceptable Range*— The allowable tolerance between individual split sample test results when properly sampled and split.
- 5.2. *Paired t-Test*— Uses the difference between each pair of tests of the split samples and determines whether the difference is much different from zero.
- 5.3. *Split Increment*— A representative portion of a split sample that is larger than the minimum size needed for a single party to perform the desired testing.
- 5.4. *Split Sample*— A sample that will be used for split sample comparison testing.

6. MATERIAL SAMPLING AND SPLITTING AND TESTING

- 6.1. Obtain a sample in accordance with the Department's approved sampling procedure.

- 6.1.1. Ensure that the sample is large enough for each party to receive a split increment larger than the minimum sample size.
- 6.2. Split each sample in accordance with the Department's approved splitting procedure.
- 6.2.1. Ensure that each split increment meets the minimum sample size for the testing to be performed.
- 6.3. Each party will test in accordance with Department's approved testing procedures.
- 6.4. Repeat steps 6.1 to 6.3 until the desired number of split samples are obtained to perform the analysis.
- Note:** It is recommended to compare a minimum of 3 split samples for material that will be subject to statistical based acceptance (e.g., HMA, aggregates)

7. COMPARISON OF RESULTS

- 7.1. Compare the split increments for each split sample using the D2S limits (Section 9).
- 7.2. Compare the sets of split increments for all split samples using the paired t-test (Section 8).
Note: The D2S comparison is simple and can be done for each split sample that is obtained. However, this procedure compares only 2 test results (from one split sample), and is not very powerful due to the limited amount of data being evaluated. The paired t-test, compares multiple sets of split samples, and is a better method for comparison since this test uses the differences between multiple pairs of tests and determines whether the average difference is statistically different from zero.
- 7.3. Use the ITD-1237 form to perform and report the comparison.
- 7.4. When differences in results have been identified, the parties will collaborate and investigate to determine the source of the inconsistency and make necessary corrections.
- 7.5. The possible source of the inconsistencies and any corrections made will be documented on the ITD-1237 form.

8. PAIRED T-TEST COMPARISON (RECOMMENDED)

- 8.1. Determine the individual difference between split sample test results (X_{dif}) for each split sample.

$$X_{dif} = X_A - X_B$$

Where:

X_{dif} = Individual difference between split sample test results.

X_A = Party A's individual test value.

X_B = Party B's individual test value.

Note: This difference is not the absolute difference, it is the algebraic difference. The subtraction (i.e., Party A's test value minus Party B's test value) is performed in the same direction for every set of split samples.

- 8.2. Determine the mean of the differences between the split sample test results, calculated as follows:

$$\bar{X}_{dif} = \frac{(X_{dif1} + X_{dif2} + \dots + X_{difn})}{n}$$

Where:

\bar{X}_{dif} = Mean of the differences between the split sample test results.

n = Number of split samples.

- 8.3. Compute the standard deviation of the differences between the split sample test results, calculated as follows:

$$S_{\text{dif}} = \sqrt{\frac{\sum(x_{\text{dif}} - \bar{X}_{\text{dif}})^2}{n - 1.0}}$$

Where:

S_{dif} = Standard deviation of the differences between the split sample test results.

- 8.4. Compute the paired t-statistic (t_{pair}) using the following equation:

$$t_{\text{pair}} = \frac{|\bar{X}_{\text{dif}}|}{\left(\frac{S_{\text{dif}}}{\sqrt{n}}\right)}$$

- 8.5. Compute the degrees of freedom (df). The degrees of freedom are the number of sample pairs (n) minus one, used to compute the t-statistic.

$$\text{df} = n - 1$$

- 8.6. Determine the two-tailed probability distribution (P-value) for the 2 data sets using the degrees of freedom (df) for a two-tailed t-test.

- 8.7. Compare the P-value to α (0.05).

- 8.7.1. If the P-value is greater than α , the paired t-test passes. There is reason to believe that the paired test results are similar and it can be concluded they are from the same population. (i.e., no differences in testing has been identified)

- 8.7.2. If the P-value is less than α , the paired t-test fails. The difference between the paired test results of the split samples is greater than is likely to occur from chance and therefore the results are not similar. (i.e., difference in testing has been identified)

9. D2S COMPARISON

- 9.1. Determine the individual difference between split sample test results (X_{dif}).

$$X_{\text{dif}} = X_A - X_B$$

Where:

X_{dif} = Individual difference between split sample test results.

X_A = Party A's individual test value.

X_B = Party B's individual test value.

- 9.1.1. For aggregates, compare X_{dif} to the QA Manual Table 390.01.1.

- 9.1.2. For concrete, compare X_{dif} to the QA Manual Table 390.01.2.

- 9.1.3. For HMA, compare X_{dif} to Table 1 in this method.

- 9.1.4. For all other materials, compare X_{dif} to the precision statement in the test method performed (if available).
- 9.2. If X_{dif} is greater than the individual split sample acceptable range, they are considered outside of allowable tolerances. (i.e., a difference in testing has been identified)

Table 1 – Allowable HMA Single Individual Split Sample Variations

Test Method	Quality Characteristic	Acceptable Range of Split Sample Results
AASHTO T 308	Asphalt Content (%)	0.15
AASHTO T 30	95 to 100% passing a sieve	1.6
	40 to 94% passing a sieve	3.5
	25 to 39% passing a sieve	2.4
	10 to 24% passing a sieve	2.3
	5 to 9% passing a sieve	1.6
	2 to 4% passing a sieve	1.2
	0 to 1% passing a sieve	0.9
AASHTO T 209	G_{mm}	0.012
AASHTO T 166	G_{mb}	0.017
WAQTC TM 13	G_{sc}	0.012
	P_a	0.30
	VMA	0.30
	DP	0.15

10. EXAMPLES

- 10.1. A Department lab and a Contractor lab performed a split sample comparison on 5 samples. The table below presents the split sample test results for theoretical maximum specific gravity (G_{mm}) to determine whether a difference exists between the Department's and the Contractor's results.

Example 10.1 – AASHTO T 209 Results			
Split Sample Number	Contractor's Results	Department's Results	Difference (X_{dif})
1	2.396	2.405	-0.009
2	2.368	2.374	-0.006
3	2.377	2.381	-0.004
4	2.395	2.390	0.005
5	2.381	2.379	0.002
$\bar{X}_{dif} =$			-0.0024
$S_{dif} =$			0.00577
P-value =			0.405

- 10.1.1. Conclusion: Since the calculated P-value is greater than 0.05 (Section 8) and the X_{dif} of each test is less than the individual split sample acceptable range (Section 9), the split sample comparison indicates that there is not a significant difference in testing between these labs.

Idaho Standard Practice for Nuclear Density Gauge Correlation



IDAHO Designation: IR-154-21

1. SCOPE

- 1.1. This Standard Practice is used to determine the nuclear density gauge correlation for each nuclear gauge used for acceptance testing.
- 1.2. *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the user's responsibility of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations before use.*

2. REFERENCE DOCUMENTS

- 2.1 *AASHTO Standards*
 - FOP for T 355, Method A, In-Place Density of Asphalt Mixtures by Nuclear Methods
 - FOP for R 67, Sampling Asphalt Mixtures After Compaction (Obtaining Cores)
 - FOP for T 166, Method A, Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface Dry Specimens
 - T 331, Bulk Specific Gravity and Density of Compacted Asphalt Mixtures using Automatic Vacuum Sealing Method
- 2.2 *Idaho Standards*
 - Idaho IR 148, Stratified Random Sampling

3. SUMMARY OF THE PRACTICE

- 3.1. The bulk specific gravity (G_{mb}) of the core is a physical measurement of the in-place asphalt mixture and can be compared with the nuclear density gauge readings. Comparing the core value to the corresponding gauge values, a correlation can be established.
- 3.2. The correlation can then be used to adjust the gauge readings to the in-place density of the cores. The core correlation is gauge-specific and must be determined without traffic allowed on the pavement between nuclear density gauge readings and obtaining the core. When using multiple nuclear density gauges, each gauge will be correlated to the core locations before removal of the core.
- 3.3. Correlation of the nuclear density gauge with pavement cores must be made on the first lot of paving (within 24 hours) or anytime a change of the testing conditions occurs (see Section 8).

Note: The Department must correlate all gauges that will be used for acceptance testing for each gauge correlation section.

4. APPARATUS

- 4.1. *Density Gauge*— With accessory equipment as specified in FOP for AASHTO T 355.
- 4.2. *Coring Equipment*— With accessories as specified in FOP for AASHTO R 67 for collecting 6-inch diameter pavement cores.
- 4.3. *Measuring Device*— Approved measuring device capable of measuring gauge correlation section and sub-section lengths.

5. TERMINOLOGY

- 5.1. *Gauge Correlation Section*— Pavement placed during production paving that is used to correlate the nuclear density gauge(s) used for acceptance. The gauge correlation section must be constructed to the same placement width and thickness and on the same underlying material as the course it represents.
- 5.2. *Gauge Correlation Sub-Section*— A portion of the gauge correlation section in equal-length to other sub-sections that is represented by a single test location.
- 5.3. *Job Mix Formula (JMF)*— End result of a successful mix design that is the Contractor's selected mixture to be produced and includes the aggregate gradation and asphalt binder percentage.
- 5.4. *Test Location*— The stratified random location within a gauge correlation sub-section where testing will be performed.
- 5.5. *Test Site Density*— The uncorrected density reading taken on the compacted pavement after finish rolling is complete at a test site for correlation to cores. It is obtained by using the test procedure specified in FOP for AASHTO T 355 without applying a gauge correlation factor. Filler material must be applied as required in the procedure before taking test site density readings.
- 5.6. *Stratified Random Sampling* —Method used to ensure the specimens for the sample are obtained from throughout the test section, and are not concentrated in one portion of the test section. All sample locations will be determined by the Engineer using a random sampling system in accordance to Idaho IR 148.

6. PROCEDURE

- 6.1. *Determine the gauge correlation section and testing locations as follows:*
 - 6.1.1. Gauge correlation for each correlation section will be within the first 1,000 tons and consist of a minimum of 1,000 feet of production and anytime there is a change of conditions (Section 8).
 - 6.1.2. Divide the total length of the gauge correlation section into 10 equal-length sub-sections.
 - 6.1.3. Identify a test location for each gauge correlation sub-section in accordance with IR 148.
- 6.2. *Determine the in-place density using the nuclear density gauge for each test location as follows:*
 - 6.2.1. Determine in-place density using the nuclear density gauge(s) for each test location in accordance with FOP for AASHTO T 355.
Note: It is recommended that the Contractor's QC personnel also determine in-place density at each test location to develop a correlation factor for QC purposes.

- 6.2.2. The ITD-820 form will be used by the Department personnel as the original source document to record the test site densities for each gauge at each test location.
- 6.3. *Determine the bulk specific gravity (G_{mb}) for each sub-section as follows:*
- 6.3.1. After the pavement has cooled sufficiently to avoid deformation during coring, the Contractor will obtain 1 core at each test site from each segment in accordance with FOP for AASHTO R 67 in the Engineer's presence. The Engineer will immediately receive the cores. The relative position of the core to the nuclear gauge readings for each test location is illustrated in Figure 1.
Note: The Contractor may core for quality control purposes.
- 6.3.2. Determine the G_{mb} of each core in accordance with FOP for AASHTO T 166 Method A or AASHTO T 331.
Note: *Determine the G_{mb} of all cores for the gauge correlation section using the same procedure.*
- 6.3.2.1. Determine the bulk density of the each core by multiplying G_{mb} by 62.245 lb/ft^3 and report the value to the nearest 0.1 lb/ft^3 .
- 6.3.3. The ITD-820 form from Section 6.2.2 will be used by the Department personnel as the chain of custody documentation and the original source document used to record the G_{mb} of each core.

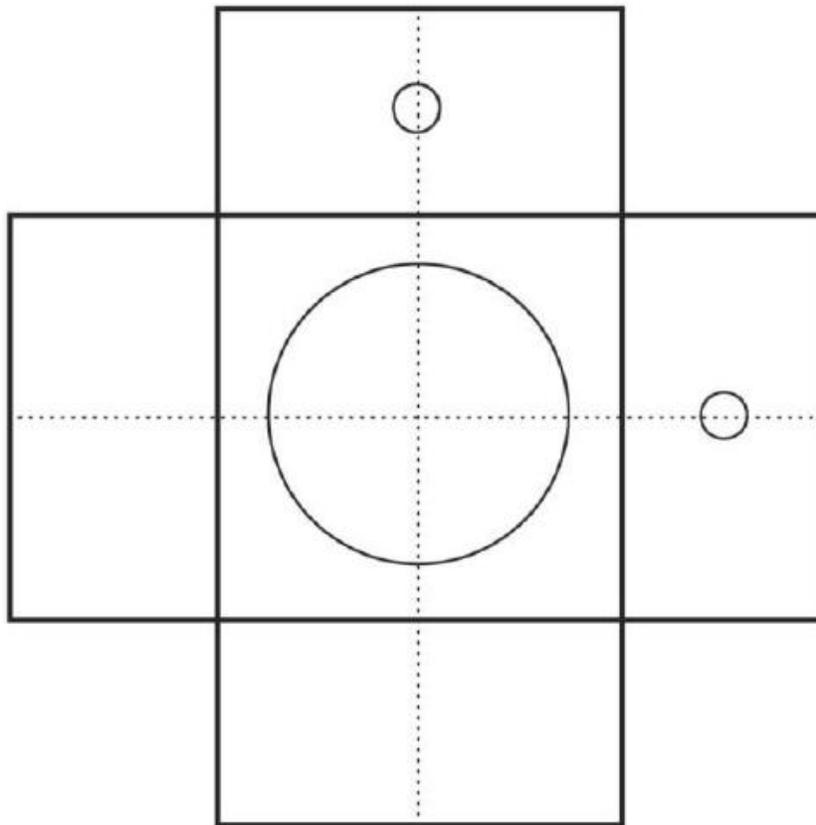


Figure 1. *Footprint of the gauge test site. Core location in the center of the test site.*

7. CALCULATION OF CORRELATION

7.1. *Calculate a correlation factor for the nuclear gauge reading as follows:*

7.1.1. Calculate the difference between the core density and nuclear gauge density at each test site to the nearest 0.1 lb/ft³. Calculate the average difference and standard deviation of the differences for the entire data set to the nearest 0.1 lb/ft³.

7.1.2. If the standard deviation of the differences is equal to or less than ± 2.5 lb/ft³, the correlation factor applied to the nuclear density gauge reading will be the average difference calculated in Section 7.1.1.

7.1.3. If the standard deviation of the differences is greater than ± 2.5 lb/ft³, the test location with the greatest variation from the average difference must be eliminated from the data set, and the data set properties and the correlation factor recalculated following Sections 7.1.1 and 7.1.2.

If the standard deviation of the modified data set still exceeds the maximum specified in Section 7.1.2, additional test sites will be eliminated from the data set, and the data set properties and the correlation factor will be recalculated following Sections 7.1.1 and 7.1.2. If the data set consists of less than 5 test locations, additional test sites must be established.

8. CHANGE OF CONDITIONS

8.1. A correlation factor is valid only for:

8.1.1. A specific project.

8.1.2. A specific JMF.

8.1.3. For the specific nuclear density gauges correlated.

8.1.4. Specific gauge thickness setting.

8.1.5. Specific gauge mode setting.

8.1.6. Specific underlying material.

8.1.7. Specific pavement thickness.

8.1.8. A specific pavement lift.

8.1.9. A specific calendar year.

8.2. Re-correlation of the gauge must occur when any of the above conditions change.

9. REPORT

9.1. The Department will report the results of testing on the ITD-820 form.

9.2. Project information.

9.3. Make, model, and serial number of the nuclear density gauge.

- 9.4. Stratified, random numbers.
- 9.5. Location of test and thickness of layer tested.
- 9.6. Underlying material.
- 9.7. Mixture type.
- 9.8. JMF identification.
- 9.9. Date.
- 9.10. Density standard.
- 9.11. Gauge readings.
- 9.12. Name and signature of individual performing AASHTO T 355.
- 9.13. Name and signature of individual performing AASHTO R 67.
- 9.14. Name and signature of individual performing AASHTO T 166 or T 331.
- 9.15. Nuclear gauge correlation to 0.1 lb/ft³.

Idaho Standard Practice for**Procedures for Checking Asphalt Mix
Plant Calibrations****IDAHO Designation: IR-155-21**

1. SCOPE

- 1.1. These procedures are used in conjunction with the Department's Standard Specifications for Highway Construction for checking asphalt drum mix plants to assess plant conformance. This procedure is used for original plant approval, annual plant approval, after plant relocation (if necessary), or trouble shooting. If, at any time the Engineer has reason to believe plant calibration should be checked and provides documentation supporting the reason(s), only the meter(s) or scale(s) in question will be considered verified if the indicated metered or scaled amount, at a production rate within the range stated in the Plant Quality Control Plan, is confirmed when within $\pm 1.0\%$ of the actual scaled or measured amount. Some variations from this procedure may be necessary depending upon the configuration of the plant, including volumetric plants.
- 1.1.1. Volumetric plants are defined as those plants that meter some or all constituent materials using volumetric metering, such as a volumetric asphalt meter rather than a mass flow meter, or aggregate feeder gate and conveyor speed settings rather than individual belt scales.
- 1.2. All calibration procedures stated below are required to be completed in the Department's presence for plant verification, unless the Department waives, in writing, witness of calibration. Documentation will be provided to the Department that the tests have been completed and meet specification tolerances. If the Engineer requests how to read and interpret the plant information provided, the Contractor will inform the Engineer.
- 1.3. *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the user's responsibility of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations before use. All individuals must comply with the Contractor's safety program requirements at the plant.*

2. MEASURING DEVICES

- 2.1. Any weighing device used for payment must meet Section 109.01.A.6.b.
- 2.2. All measuring devices must meet the current edition of the National Institute of Standards and Technology Handbook 44, except as modified by Table 2.1. The Contractor must provide all personnel and equipment for calibrating measuring devices.
- 2.3. Balance and zero conditions of scales must be checked daily, and at any other time requested by the Department. The Engineer may, at any time, direct that any measuring device be tested by the producer or an outside agency if there is any doubt about the accuracy of the measuring device. Certificates of inspection must be posted in a prominent place in the plant, and a copy must be promptly submitted to the Engineer.
- 2.4. Production plant tolerances must meet the following table:

Table 2.1

Material	Measurement Tolerance ^(a)	Unit of Measure
Aggregate	0.2%	Weight
RAP	0.2%	Weight
Asphalt	0.2%	Weight or Volume
Additives	0.5%	Weight or Volume

^(a) Measurement tolerance equals the smallest scale or meter graduation divided the quantity or volume measured (e.g., 20-pound graduations / 10,000 pounds measured = 0.2%)

3. BELT SCALES ON COLD FEEDERS

- 3.1. Use a certified scale(s) to check each individual belt scale, including RAP, at its high production rate and low production rate, as stated in the Plant Quality Control Plan. The Contractor will determine the amount of material needed to ensure plant calibration is accurate within $\pm 1.0\%$. A minimum of 2 tests will be run at each range to check for repeatability and eliminate any outliers.
- 3.2. *Plant Test Procedure:*
- 3.2.1. Each bin and its belt scale are tested individually.
- 3.2.2. Some plants may have to use a zero percent moisture input to ensure accuracy.
- 3.2.3. Check the belt scale accuracy at both high range and low range by running material over the belt scale and checking the indicated computer weight (accumulator) against the actual net weight of the material in the truck.
- 3.2.4. The allowable error must not exceed $\pm 1.0\%$ from the certified truck scale weight.
- 3.2.5. The final belt scale (totalizer) will be checked at its high production rate and low production rate, as stated in the Plant Quality Control Plan. The Contractor will determine the amount of material needed to ensure plant calibration is accurate within $\pm 1.0\%$

4. BELT SCALE ON VOLUMETRIC PLANTS

- 4.1. *Plant Test Procedure:*
- 4.1.1. The final belt scale will be tested using two high-production rate runs and two low-production rate runs as stated in the Plant Quality Control Plan. The allowable error must not exceed $\pm 1.0\%$.

5. FEEDER BINS ON VOLUMETRIC PLANTS

- 5.1. Use a certified scale(s) to check each individual volumetric feeder, including RAP, gate setting and underbelt speed, at its high production rate and low production rate, as stated in the Plant Quality Control Plan. The Contractor will determine the amount of material needed to ensure plant calibration is accurate within $\pm 1.0\%$. A minimum of 2 tests will be run at each range to check for repeatability and eliminate any outliers.

- 5.2. Test Procedure:
- 5.2.1. Each bin and its gate setting(s) and underbelt speed(s) are tested individually.
- 5.2.2. Record the gate setting and underbelt speed at both high range and low range by running material over the belt scale and recording the indicated computer weight or the actual net weight of the material in the truck divided by the run time and record the tons per hour for those settings.

6. ASPHALT METER ACCURACY

- 6.1. The asphalt meter is checked at its estimated high production rate and low production rate, as stated in the Plant Quality Control Plan. Run 2 checks at each rate.
- 6.2. *Test Procedure:*
- 6.2.1. Enter the correct specific gravity or lb/gal and temperature for the liquid asphalt being used for the test into the computer system. The Contractor will determine the amount of material needed to ensure plant calibration is accurate within $\pm 0.5\%$. Follow the manufacturer's recommendation for calibration of the asphalt meter or the asphalt metering system. The calibration tank must be certified or verified with test weights before calibrating the asphalt meter.
- 6.2.2. Check the asphalt meter accuracy at the high range and low range by running material through the meter and checking the indicated computer weight (accumulator) against the actual net weight of the material in the truck or calibration tank. For volumetric meters, convert the actual net weight to volume using the specific gravity and correcting for temperature.
- A minimum of 2 test runs at the high production rate and low production rate will provide repeatability and eliminate any outliers.

7. BAGHOUSE FINES RETURN SYSTEM

- 7.1. If baghouse fines are returned, the returns will be in accordance with the quality control plan.

8. MINERAL FILLER SYSTEM

- 8.1. If mineral filler (e.g., lime, other mineral additive) is added separately and does not come into contact with the other aggregates until it is in the drum mixer, it is handled in the same manner as the asphalt meter check.
- Note: This is not the baghouse fines return system. The fines in the baghouse fines return system has contact with the other aggregates before reaching the drum mixer.*
- 8.2. *Materials and Equipment:*
- 8.2.1. Calibration vessel, container, or truck with sufficient capacity for calibrating mineral filler.
- 8.3. *Test Procedure:*
- 8.3.1. The mineral filler is pumped through its meter into a tared calibration vessel where it is weighed on an approved scale and compared against the quantity as recorded by the plant automation. The Contractor will determine the amount of material needed to ensure mineral filler calibration is accurate within $\pm 5.0\%$.

9. ANTI-STRIP ADDITIVE CALIBRATION

- 9.1. Anti-stripping additive calibration check must be performed in a manner satisfactory to the Engineer; at both the high and low production rates and all percentages of additive addition in accordance with the Plant Quality Control Plan. The Contractor will determine the amount of material needed to ensure anti-strip additive calibration is accurate within $\pm 0.5\%$.

10. NO-FLOW SYSTEM

- 10.1. Aggregate, RAP, mineral filler system, and asphalt interlocks must issue an audible alarm if a no-flow situation occurs.
- 10.2. *Test Procedure:*
- 10.2.1. The no-flow test will be run on each cold feed bin including RAP.
- 10.2.2. Material will be placed in the bin, and the bin will be allowed to run empty. An audible alarm must immediately occur.
- 10.2.3. The asphalt and mineral filler systems will be placed in a “No-Flow” condition or otherwise halted and an audible warning must immediately occur.

11. REPORTS

- 11.1.1. After the plant calibration and/or verification is complete, the Contractor will supply the Engineer with a printout of all calibration numbers which verify the calibration of the system and show that it meets all Department specifications. The Engineer will sign and date a copy for the Contractor to retain.
- 11.1.2. The Contractor will supply upon request either a display or printout of all calibration numbers that verify the calibration of the system has not changed since the annual calibration and still meets Department specifications.

Idaho Standard Practice for

Determining Rolling G_{mm}



IDAHO Designation: IR-156-21

1. SCOPE

- 1.1. This Standard Practice is used to determine the maximum theoretical specific gravity (G_{mm}) used for calculating percent compaction of in-place density during production paving.
- 1.2. *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the user's responsibility of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations before use.*

2. REFERENCE DOCUMENTS

- 2.1 *AASHTO Standards*
- FOP for T 209, Bowl Method, Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
 - FOP for T 355, In-Place Density of Asphalt Mixtures by Nuclear Method
 - FOP for R 97, Sampling Asphalt Mixtures
 - FOP for R 47, Reducing Samples of Hot Mix Asphalt to Testing Size
- 2.2 *Idaho Standards*
- Idaho IR 148, Stratified Random Sampling
 - Idaho IR 125, Acceptance Test Strip for Hot Mix Asphalt (HMA)

3. SUMMARY OF THE PRACTICE

- 3.1. The maximum theoretical specific gravity (G_{mm}) for determining the percent compaction will be determined using a rolling, consecutive 2-lot average (i.e., the most recent 2 completed lots) of the Department's acceptance test results. For the first 2 lots of production paving, the average G_{mm} from the test strip is used for determining percent compaction.

4. PROCEDURE

- 4.1. *Determine the rolling G_{mm} for each lot as follows:*
- 4.1.1. For the first 2 lots of production paving, use the average of all Department acceptance G_{mm} results from the test strip.
- Note:** The Department must provide the G_{mm} preliminary results before production the next day to the Contractor.
- 4.1.2. For all other lots of production paving, use the average of all Department acceptance G_{mm} results from the previous 2 lots.

Note: For previously used mix designs, use the average of Lot 1 results of the current project for the first 2 lots of production paving.

- 4.2. The rolling G_{mm} established in this procedure is used for performing the calculations in the FOP for AASHTO T 355 for the current lot.

5. PROCEDURE FOR TEST RESULT CHALLENGE

- 5.1. When test result challenge resolution is performed in accordance with Subsection 106.07 of the Standard Specifications, the original Department acceptance test results are replaced with the challenge resolution test results and the rolling G_{mm} for the subsequent lots will be re-determined.
- 5.2. The rolling G_{mm} established in 5.1 will be used for performing the calculations in place of the G_{mm} determined in Section 4.

6. EXAMPLE

- 6.1. The table below presents the G_{mm} results from the samples for the first 4 completed lots of production paving. Lot 1 was the test strip. The rolling G_{mm} for the first 5 lots are calculated as follows:
- 6.1.1. Lot 1 rolling $G_{mm} = 2.402$ (average of lot 1 combined G_{mm})
- 6.1.2. Lot 2 rolling $G_{mm} = 2.402$ (average of lot 1 combined G_{mm})
- 6.1.3. Lot 3 rolling $G_{mm} = 2.399$ (average of lot 1 and lot 2 combined G_{mm})
- 6.1.4. Lot 4 rolling $G_{mm} = 2.398$ (average of lot 2 and lot 3 combined G_{mm})
- 6.1.5. Lot 5 rolling $G_{mm} = 2.392$ (average of lot 3 and lot 4 combined G_{mm})

Lot Number	Sample Number	Combined G_{mm}
1	1	2.396
1	2	2.410
1	3	2.401
2	4	2.395
2	5	2.419
2	6	2.389
2	7	2.391
2	8	2.392
3	9	2.381
3	10	2.422
3	11	2.398
4	12	2.379
4	13	2.388
4	14	2.391
4	15	2.385

Idaho Standard Practice for**QUALITY CONTROL PLAN (QCP) DEVELOPMENT AND IMPLEMENTATION****IDAHO Designation: IR-158-21**

1. SCOPE

- 1.1. The purpose of this guide is to establish minimum requirements for the Contractor's quality control system and quality control plan (QCP). It is intended that these requirements be used as a procedural guide in detailing the inspection, sampling, and testing deemed necessary to maintain compliance with the Department's specifications.

2. GENERAL REQUIREMENTS

- 2.1. As stated in the Standard Specifications for Highway Construction, a QCP must be developed by the Contractor/producer and submitted in writing to the Engineer at the preconstruction conference. Acceptance of the QCP by the Engineer will be contingent upon its concurrence with the Standard Specifications and this standard method. For this reason, the QCP will clearly describe the methods by which the quality control program will be conducted. For example, the items to be controlled, tests to be performed, testing frequencies, sampling locations, and techniques will be included with each item listed separately. Also include a table stating what actions will occur when test results indicate specification limits are approached or exceeded. See Table 1 at end of this guide for an example. Also, a detailed plan of action regarding disposition of non-specification material will be included. Such a plan will provide for immediate notification of all parties involved in the Quality Assurance process in the event nonconforming situations are detected. Example 1. Quality Control Plan may be used as an example.
- 2.2. Inspection and testing records must be maintained, kept current, and made available for periodic review by Department personnel throughout the life of the contract. All other documentation (e.g., date of inspections, tests performed, temperature measurements, and accuracy, calibration or re-calibration checks performed on production of testing equipment) will be recorded.
- 2.3. The Contractor will maintain standard equipment and qualified personnel in accordance with the contract and specification requirements for the item(s) being produced.

3. QUALITY CONTROL PLAN

- 3.1. Operation quality control plans will be submitted for each contract/project to the Engineer for approval. Distribution of the approved quality control plans will be made by the Engineer.
- 3.2. Follow Example 1. Quality Control Plan as a general guideline but at a minimum include the following:
- 3.2.1. Contract bid item covered by the quality control plan.
- 3.2.2. Sampling location and techniques.

- 3.2.3. Sampling plan.
- 3.2.4. Tests and test methods.
- 3.2.5. Testing frequencies.
- 3.2.6. Testing forms to be used.
- 3.2.7. Inspection frequencies and areas of inspection.
- 3.2.8. Detailed description of production and placement equipment and methods.
- 3.2.9. Detailed calibration processes and procedures (if applicable)
- 3.2.10. Documentation procedures, including:
 - 3.2.10.1. Inspection and test record requirements and document management.
 - 3.2.10.2. Temperature measurements.
 - 3.2.10.3. Accuracy, calibration, or recalibration checks performed on production or testing equipment.
- 3.2.11. QC personnel, including the company official ultimately responsible for the quality of work.

4. ADDENDA TO THE QUALITY CONTROL PLAN

- 4.1. Addenda are defined as an addition or deletion to the QCP. Each page of the QCP that is revised is required to include the project key lead number, bid item number, date of revision, and means of identifying the revision. The addenda are required to be signed and dated by the Contractor's representative who is responsible for insuring that all items of work will comply with Department Specifications and subsequently signed and dated when approved by the Engineer.

EXAMPLE 1

3/4" Aggregate Type B Base Quality Control Plan

Date:

To: (RESIDENT ENGINEER)

From: (CONTRACTOR(S) NAME)

Subject: 3/4" Aggregate Type B for Base Quality Control Plan

1. Project Information

1.1. We are submitting our Quality Control Plan, developed in accordance with Idaho IR 158 for:

Project Number: _____

Lead Key Number: _____

Bid Item Number: _____

Date Submitted: _____

1.2. (NAME) will be responsible for insuring that all items of work will comply with the contract and Department specifications.

2. Material Source

2.1. General Information:

Source Number: _____

Address of Source: _____

2.2. The aggregate source operation is under the direction of (NAME) who can be contacted at (ADDRESS, EMAIL, AND TELEPHONE).

2.3. (DETAILED DESCRIPTION OF THE PRODUCTION PROCESS)

3. Delivery and Placement

3.1. The field operation is under the direction of (NAME) who can be contacted at (ADDRESS, EMAIL, AND TELEPHONE).

3.2. (LIST OF EQUIPMENT TYPE, YEAR, MAKE, MODEL)

3.3. (DETAILED DESCRIPTION OF THE PLACEMENT PROCESS)

4. Quality Control Sampling and Testing,

4.1. The laboratory performing quality control testing is (LAB QUALIFICATION NUMBER), located at (LOCATION).

- 4.2. The quality control program is under the direction of (NAME OF PERSON), who can be contacted at (ADDRESS, EMAIL, AND TELEPHONE).
- 4.3. During the production operations of the aggregate we will perform at a minimum quality control tests per attached schedule. Sampling and testing will be the responsibility of (NAME(s), WAQTC number (NUMBER(s))).
- 4.4. During the placement operations of the aggregate (NAMES) will perform, at a minimum, quality control tests in accordance with the attached schedule. Also attached are the proposed method to select locations and/or times for sampling.
- 4.5. All testing will be completed by (NAME(s)), (WAQTC NUMBER(s)), within (HOURS) hours of sampling and all original documentation of results will be completed on the attached original documentation forms.
- 4.6. Testing reports and original source documents will be reviewed and checked by (NAME(s)), (WAQTC NUMBER(s)), within (HOURS) hours of testing being completed. All reporting will be completed on the attached forms.

5. Records.

- 5.1. Testing reports and all backup documentation will be located at (LOCATION) for review by the Department between the hours of (TIME) and (TIME) during the life of the contract/project.
- 5.2. Testing reports and all backup documentation will be located at (LOCATION) for review by the Department between the hours of (TIME) and (TIME) for (YEARS) after the completion of the project.

6. Notifications.

- 6.1. Any material found to be noncomplying will be addressed by (NAME) who will notify the Engineer immediately.
- 6.2. (NAME) will notify all appropriate Department personnel at least 48 hours before any work is to begin.

7. Nonconforming Material.

- 7.1. (STATE THE PROCESS FOR DISPOSITION OF NONCONFORMING MATERIAL)

Table 1: Example of QC Actions to Implement When Approaching or Exceeding Specification Limits

Test Description	Test Method	QC Action Limits		Situation		Action
		Single Test	4-Point Moving Avg. or Daily Avg.	Single Test	4-Point Moving Avg. or Daily Avg.	
Aggregate Gradation	FOP for AASHTO T 27 and AAHTO T 11	NA	Approaching Limit	5 percent on +#4 3 percent on -#4	Approaching Limit	Increase frequency of tests and prepare for process modification
Sand Equivalent	FOP for AAHTO T 76	NA	Approaching Limit	NA	Approaching Limit	Increase frequency of tests and prepare for process modification

Note: When 2 consecutive test results fail or if any of the 4-point moving average values fail, production will be suspended and corrective action will be taken. The process will be corrected before production resumes.

Idaho Standard Practice for**QUALITY CONTROL PLAN (QCP) REVIEW PROCESS****IDAHO Designation: IR-159-19**

1. SCOPE

- 1.1. The purpose of this process is to establish a standard for reviewing the Contractor's quality control plan (QCP).

2. REFERENCE DOCUMENTS

- 2.1. Idaho Standards:
- IR 152, Asphalt Mixtures Quality Control Plan (QCP) Development and Implementation
 - IR 155, Procedures for Checking Asphalt Drum Mix Plant Calibrations
 - IR 158, Quality Control Plan Development and Implementation
- 2.2. Standard Specifications for Highway Construction
- 2.3. Quality Assurance Manual
- 2.4. Laboratory Operations Manual

3. GENERAL REQUIREMENTS

- 3.1. As stated in the Department's Standard Specifications for Highway Construction, a QCP must be developed in accordance with Idaho IR 158 and in concurrence with the Standard Specifications applicable to the bid item by the Contractor/producer and submitted in writing to the Engineer at the preconstruction conference. Acceptance of the QCP by the Engineer will be contingent upon its concurrence with the Standard Specifications and this standard method.

4. MINIMUM REQUIREMENTS OF A QUALITY CONTROL PLAN

- 4.1. Requirements shown in Idaho IR 158.
- 4.2. Subsection 106.03.A.2 of the Standard Specifications
- 4.3. Requirements of the contract bid item covered by the quality control plan (e.g., subsection 405.03.C of the Standard Specifications).
- 4.4. Sampling location and techniques.
- 4.5. Sampling plan.
- 4.6. Tests and test methods.
- 4.7. Testing frequencies.

- 4.8. Testing forms to be used, including examples.
- 4.9. Inspection frequencies and areas of inspection.
- 4.10. Detailed description of production and placement equipment and methods.
- 4.11. Detailed calibration processes and procedures (if applicable).
- 4.12. Documentation procedures, including:
 - 4.12.1. Inspection and test record requirements and document management.
 - 4.12.2. Temperature measurements.
 - 4.12.3. Accuracy, calibration, or recalibration checks performed on production or testing equipment.
- 4.13. QC personnel, including the company point of contact responsible for the quality of work.
- 4.14. Processes for addressing non-conforming material.

5. REVIEW OF THE QUALITY CONTROL PLAN

- 5.1. Review the quality control plan to ensure it meets the minimum requirements in Section 4 and that adequate quality control measures are in place for the specific project.

6. REVIEW OF ADDENDA TO THE QUALITY CONTROL PLAN

- 6.1. Addenda are defined as an addition or deletion to the QCP. Each page of the QCP that is revised is required to include the project key lead number, bid item number, date of revision, and means of identifying the revision. The addenda are required to be signed and dated by the Contractor's representative who is responsible for insuring that all items of work will comply with the Department's specifications.
- 6.2. Review addenda to the quality control plan to ensure the revised QCP meets the minimum requirements and that adequate quality control measures are in place for the specific project.

7. APPROVAL OF THE QUALITY CONTROL PLAN

- 7.1. The QCP and each addenda will be approved only once the minimum requirements have been met.
- 7.2. The QCP, and addenda if applicable, as approved by the Department, is binding upon the Contractor as a contract requirement.

DEVELOPMENT, EVALUATION, AND APPROVAL OF HMA PLANT QUALITY CONTROL PLANS



IDAHO Designation: IR-160-21

1. SCOPE

- 1.1. This procedure covers requirements for plants producing hot mix asphalt (HMA) or warm mix asphalt (WMA) paving mixtures. The requirements in this procedure are the minimum requirements for a plant to meet 405.03.E of the Department's Standard Specifications for Highway Construction ("Standard Specifications").
- 1.2. *This procedure may involve hazardous materials, operations, and equipment and may not address all of the safety problems associated with the use of the test method. It is the user's responsibility to establish the appropriate safety and health practices and determine the applicability of regulatory limitations before use. All individuals must comply with the Contractor's safety program requirements at the plant.*

2. REFERENCE DOCUMENTS

- 2.1. AASHTO Standards:
- M 156, Standard Specifications for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures
 - R 66, Sampling Asphalt Materials
 - T 19M/T 19, Bulk Density ("Unit Weight") and Voids in Aggregate
 - T 27, Sieve Analysis of Fine and Coarse Aggregates
 - T 30, Mechanical Analysis of Extracted Aggregate
 - T 84, Specific Gravity and Absorption of Fine Aggregate
 - T 166, Bulk Specific Gravity (G_{mb}) of Compacted Asphalt Mixtures Using Saturated Surface-Dry Specimens
 - R 97, Sampling Asphalt Mixtures
 - T 209, Theoretical Maximum Specific Gravity (G_{mm}) and Density of Hot Mix Asphalt (HMA)
 - T 283, Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage
 - T 308, Determining the Asphalt Binder Content of Asphalt Mixtures by the Ignition Method
 - T 312, Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyrotory Compactor

3. TERMINOLOGY

- 3.1. Check—A specific type of inspection or measurement performed on equipment or materials to indicate compliance with the stated criteria (e.g., lime check, calibration check of the cold feed system).
- 3.2. Continuous Mix Plant—A manufacturing facility for producing asphalt paving mixtures that continuously proportions the aggregate, asphalt binder, RAP, and other chosen additives into the mix by a continuous volumetric or mass proportioning system without definite batch intervals.
- 3.3. Drum Mix Plant—A manufacturing facility for producing asphalt paving mixtures that continuously proportions the aggregate, heats and dries it in a rotating drum, adds any chosen additives, and simultaneously mixes the material with a controlled amount of asphalt binder.
- 3.4. Batch Plant - A manufacturing facility for producing asphalt paving mixtures that proportions and mixes the aggregate, asphalt binder, RAP, and other chosen additives into the mix by in discrete batches.
- 3.5. Hot Mix Plant (or Plant)—Any manufacturing facility used to produce asphalt paving mixtures.
- 3.6. Interlock—A system whereby plant production will be interrupted when any one of the interlocked raw material constituents fails to meet the targeted requirements established within the specifications or plant requirements.
- 3.7. Baghouse fines (dust) - That portion of the aggregate removed during drying and heating by the hot gas stream that accumulates in the particulate emission control baghouse. For purposes of this definition, aggregate removed from the hot gas stream by intermediate collectors such as knockout boxes is not considered baghouse fines.
- 3.8. Mineral Filler—A finely divided mineral product with a maximum of 3 percent retained on the 0.800 mm (No. 30) sieve and at least 70 percent of which will pass a 0.075 mm (No. 200) sieve. The most common mineral fillers include pulverized limestone, other stone dust, hydrated lime, portland cement, fly ash, and certain natural deposits of finely divided mineral matter. Baghouse fines are not considered mineral filler.

4. PLANT REQUIREMENTS

- 4.1. Prerequisite for Plant Approval:
- 4.1.1. Inspection of Equipment—The plant owner or manager will schedule an inspection of the plant facilities to determine compliance with this standard. The equipment will be maintained in a satisfactory operating condition and be capable of its intended function at all times during production.
- 4.1.2. Quality Control Program—Each plant will have a quality control program and have a designated person to administer the program. This program will include the testing and control of the individual component materials and the final product produced at the plant. Plant operations will be conducted in a manner to ensure a uniform product is produced which will meet specified requirements.
- 4.1.3. Truck Scales—Scales must meet the requirements of 109.01.A.6.b of the Standard Specifications.
- 4.1.4. Uniformity—The plant must be capable of producing homogenous asphalt mixtures even though the individual components include such diverse materials as various sizes of aggregate from

stockpiles, reclaimed asphalt pavement (RAP), asphalt binder, and other admixtures, as required by the mix design.

5. WEIGHT MEASURING SYSTEMS

- 5.1. Furnish (at the Contractor's expense) certified scales to weigh bulk asphalt plant mixtures, regardless of the type of weight measuring system used for payment.
- 5.2. Ensure that the documentation for certified scales complies with state and/or federal requirements. Platform scales must be certified at a minimum annually. Certified scales must be certified/re-certified if they are moved, re-calibrated, or relocated.
- 5.3. Each platform scale system must be capable of taring truck weights with each load.
- 5.4. When not using platform scales, provide calibrated weighing devices that record the mixture's net weight delivered to the truck. Weighing devices will be calibrated at a minimum before the start of the paving season and each time a plant is moved to a new location. A net weigh system will include, but is not limited to, the following:
 - 5.4.1. Hopper weigh system that delivers asphalt mixture directly to the truck.
- 5.5. The weighing system used to determine the net weight will have a printing system used in conjunction with automatic mixing systems. All printing systems must be approved by the engineer.
- 5.6. Verify adequate installation of the net weight scale mechanism or device by the manufacturer to ensure acceptable performance and operation.
- 5.7. Provide information on the project tickets per Section 109.01 of the Standard Specifications.
- 5.8. Certify the accuracy of the weighing system by an approved registered scale service person at least once annually or whenever the plant is moved or relocated.

6. EQUIPMENT FOR PREPARATION OF ASPHALT BINDER

- 6.1. Tanks for storage of asphalt binder must provide adequate capacity and means to ensure proper continuous circulation between the individual storage tank and proportioning units during the entire operating period.
- 6.2. The delivery and metering system for the asphalt binder must have adequate capacity to provide proper continuous flow between the storage tank, proportioning unit, and mixing equipment during the entire operating period.
- 6.3. Storage tank capacity and operation must allow for continuous operation of the plant and uniform temperature of the asphalt binder when it is introduced into the aggregate. Metering devices must be calibrated in accordance with Idaho IR 155. Any additives based on liquid volume or mass flow must be interlocked with an audible alarm system.
- 6.4. A sampling valve must be provided in the asphalt binder injection lines connecting the storage tanks to the asphalt binder control unit. The valve will be located in such a manner as to allow for adequate safety for the person obtaining the sample and to allow the Department to safely witness sampling.

- 6.5. Any tank used for storing polymer-modified asphalt binders must be equipped with an agitation system or circulation system to ensure the liquid asphalt is maintained in a homogenous state without separation.
- 6.6. The mechanisms used to introduce WMA additives to asphalt mixtures at the hot mix plant must be capable of uniformly feeding and metering the additive. WMA additives typically consist of additives added at the binder production facility, dry material added through cold feeds, or water injection. Depending on the type of WMA process, the plant must be equipped with automatic controls to monitor the feed system and interrupt plant production if there is an interruption in the feed process. Equipment used to produce WMA must be approved by the Engineer before mixture production.

7. COLD AGGREGATE FEEDERS

- 7.1. A mechanism that must be capable of uniformly feeding the aggregates into the dryer to ensure uniform production and temperature. The mechanism must be capable of accurately combining aggregates from different storage bins.
- 7.2. Cold bins for storing aggregates before proportioning will be monitored to ensure that bins do not become empty or restricted. The bins will be interlocked so that a production interruption will occur or an audible warning will sound if an interruption in supply of material from any cold feed bin occurs.
- 7.3. Adequate and convenient facilities must be provided for obtaining samples of the full flow of aggregate from the total of the bins.
- 7.4. Control will be based on frequent samples from each component aggregate as well as samples taken from the combined cold aggregate feeders.
- 7.5. All plants are to be equipped with a means of diverting aggregate on the conveyor belt away from the dryer and into an empty haul truck for cold bin calibration purposes.

8. RECLAIMED ASPHALT PAVEMENT (RAP)

- 8.1. The recycled mixture will be a homogenous mixture of RAP, virgin aggregate, hydrated lime (if required), asphalt binder, and any additives. If recycling capability is required, the plant will be equipped with mechanical means for feeding the desired weight of RAP into the mix.
- 8.2. RAP bins for storing material before proportioning will be monitored to ensure that the bins do not become empty or restricted. The bins will be interlocked so that a production interruption will occur or an audible warning will sound if any interruption in supply of material from any cold feed bin occurs.
- 8.3. Adequate and convenient facilities will be provided for obtaining samples of the full flow of RAP material from the total of the bins.
- 8.4. Use a hot mix plant for the recycling process with necessary modifications to process the recycled material. The ratio of the RAP to virgin aggregate will be controlled by weight.
- 8.5. For drum and continuous mix plants, use electronic belt weighing devices to monitor the flow of RAP and the flow of virgin aggregate.
- 8.6. Equip plants with an interlocking system of feeders and conveyors that synchronize the RAP flow with the virgin aggregate flow. Ensure that the electronic controls monitor the flow rates indicated by the belt weighing devices and automatically maintain the desired ratio at varying production

rates. Design the RAP feeder bins, conveyor system, and auxiliary bins (if used) to prevent the material from segregating and sticking. RAP will be screened before crossing the weigh bridge with a 2-inch to 3-inch screen.

9. EMISSIONS CONTROLS FOR DUST COLLECTOR FINES

- 9.1. A dust collection system must be provided. The system will be made to waste the material collected, or to return all or any part of the collected material uniformly to the mixture.
- 9.2. Other emissions, with the exception of water vapor, , will be controlled to be in compliance with applicable environmental limits.
- 9.3. *Control the dust collection as follows:*
 - 9.3.1. When collecting airborne aggregate particles and returning them to the mixture, ensure the return system delivers the desired portion of the collected dust uniformly into the aggregate mixture and wastes the excess.

10. SURGE AND STORAGE SYSTEMS

- 10.1. *Provide surge and storage bins as follows:*
 - 10.1.1. Ensure that bins for asphalt mixture storage are insulated and have a working seal, top, and bottom to prevent outside air infiltration and to maintain an inert atmosphere during storage to ensure the asphalt mixture maintains temperature at the working temperature. Bins not intended for storage may be used as surge bins to hold asphalt mixtures for part of the working day; however, empty these surge bins completely at the end of each working day.
 - 10.1.2. Ensure that surge and storage bins can retain a predetermined minimum level of mixture in the bin when trucks are loaded. The determination of the minimum mixture level will be based on minimizing mixture segregation and any other pertinent operational constraints.
 - 10.1.3. Ensure that surge and storage systems do not contribute to mix segregation, loss of homogeneity, lumpiness, temperature loss, draindown, or stiffness.
- 10.2. A plant may be permitted to store asphalt mixtures in a silo after prior evaluation and approval by the Engineer. Use will conform with all limitations on retention time, type of mixture, heater operation, silo atmosphere, mix level, mix draindown time, or other characteristics set forth in the applicable specifications.
- 10.3. Approval of silos may be removed or restrictions may be applied if it is determined the silo contributes to segregation, does not maintain temperature, or fails in any other way to provide a homogeneous mix.

11. MINERAL FILLER

- 11.1. *When mineral filler is required as a mixture ingredient:*
- 11.2. Use a separate feed system to proportion the required quantity into the mixture with uniform distribution.
- 11.3. *Control the feeder system with a proportioning device that meets the following:*
 - 11.3.1. Is accurate to within ± 5 percent of the filler required by weight.

- 11.3.2. Has a convenient and accurate means of calibration.
- 11.3.3. Interlocks or audible/visual alarms with the aggregate feed or weigh system to maintain the correct proportions for all rates of production.
- 11.4. Provide flow indicators or sensing devices for the mineral filler system and interlock them with the plant controls to interrupt mixture production if the mineral filler introduction fails to meet the required target value after no longer than 60 seconds.
- 11.5. *Add mineral filler to the mixture as follows, according to the plant type:*
 - 11.5.1. Continuous Plants Using Dryer Drum Mixtures—Add the mineral filler so that the dry mixing is accomplished no less than 18 inches before the addition of the asphalt binder and ensure that the filler does not become entrained into the air stream of the dryer.

12. HYDRATED LIME TREATMENT SYSTEM

- 12.1. *When hydrated lime is required as a mixture ingredient:*
- 12.2. Use a separate bin and feed system to store and proportion the required quantity into the mixture.
- 12.3. Ensure that the aggregate is uniformly coated with hydrated lime at least 18 inches before the addition of the asphalt binder to the mixture. Ensure the hydrated lime does not become entrained in the exhaust system of the dryer or plant.
- 12.4. *Control the feeder system with a proportioning device that meets the following:*
 - 12.4.1. Is accurate to within ± 10 percent of the hydrated lime required by weight.
 - 12.4.2. Has a convenient and accurate means of calibration.
 - 12.4.3. Interlocks or audible/visual alarms with the aggregate feed or weigh system to maintain the correct proportions for all rates of production to ensure mixture produced is properly treated with lime.
- 12.5. Provide flow indicators or sensing devices for the hydrated lime system and interlock or audible/visual alarms them with the plant controls to interrupt mixture production if hydrated lime introduction fails to meet the required target value after 60 seconds.

13. FIBER SUPPLY SYSTEM

- 13.1. *When stabilizing fiber is required as a mixture ingredient:*
- 13.2. Use a separate bin and/or feed system to store and uniformly proportion by weight the required quantity of fiber into the mixture.
- 13.3. Control the feeder system with a proportioning device that meets the following:
 - 13.3.1. Is accurate to within ± 10 percent of the fiber required by weight. Automatically adjust the feed rate to maintain the material within this tolerance at all times.
 - 13.3.2. Has a convenient and accurate means of calibration.

- 13.3.3. Provides in-process monitoring, consisting of a digital display of output of feed rate, in pounds (kilograms) per min, to verify feed rate.
- 13.3.4. Interlocks or audible visual alarms with the aggregate feed or weigh system to maintain the correct proportions for all rates of production.
- 13.4. Provides flow indicators or sensing devices for the fiber system and interlocks them with the plant controls to interrupt mixture production if the fiber introduction fails to meet the required target value.
- 13.5. *Introduce the fiber as follows, according to the plant type:*
 - 13.5.1. When a continuous or dryer-drum-type plant is used, add the fiber uniformly to the aggregate and disperse it before the injection of the asphalt binder. Ensure the fibers will not become entrained in the exhaust system of the dryer.

14. CALIBRATION OF PLANT EQUIPMENT

- 14.1. Calibration of the plant must meet Idaho IR 155.
- 14.2. *Calibration will occur, at a minimum:*
 - 14.2.1. If the material changes, or if a plant component supply system effecting the ingredient proportions has been repaired, replaced, or adjusted, recalibrate the proportions.
- 14.3. *Calibrate the mixing plant as follows:*
 - 14.3.1. Before producing mixture for the project, calibrate by scale weight the electronic sensors or settings for proportioning the mixture ingredients.
 - 14.3.2. Calibrate the ingredient proportioning for the anticipated range of production rates as shown in the Plant QCP. Do not operate outside the calibration range without first calibrating the proportioning systems for the new range of production rates.

15. THERMOMETRIC EQUIPMENT

- 15.1. Provide appropriate recording thermometers, of suitable temperature ranges, to accurately assess the temperature of the asphalt mixture at or near the discharge point. Harden the thermometer mechanism as necessary to ensure durability of the device and continuous operation. Thermometers must be calibrated by the manufacturer for the full range of mixture production temperatures. The thermometers must be verified periodically during production to ensure their accuracy.
- 15.2. Measure the temperature at the discharge chute of the dryer and record the temperature data automatically.

16. DEVELOPING AND MAINTAINING A PLANT QUALITY CONTROL PLAN

- 16.1. Develop and maintain a Plant Quality Control Plan (Plant QCP). The plant must have an approved Plant QCP prior to the plant being used on Department projects. This plan must address each section of this procedure and describe how these requirements will or will not be met.

16.1.1. If any of the minimum requirements cannot be met; describe in detail why, and how, the plant will mitigate any adverse effects from deviation of this procedure's minimum requirements.

16.2. See Section 19 (Plant QCP template) for a template of the plant quality control plan.

17. PLANT QCP REVIEW

17.1. The Department will review the Plant QCP at a minimum of once per calendar year.

17.2. Review the Plant QCP to ensure all requirements in the previous sections are met or that adequate processes and procedures are in place to mitigate any adverse effects (See Section 16.1.1)

18. PLANT QCP APPROVAL

18.1. If the Plant QCP review finds that the plant's quality control plan is sufficient to ensure a quality product will be produced, the Plant QCP will be approved.

18.2. If the Plant QCP is approved, return a signed copy of the Plant QCP to the plant. The approval is valid for one calendar year.

Company Name:

Year:

Plant Quality Control Plan

Quality Control Plan Administrator

Name

Contact Information

Reviewed By:

Reviewed Date:

Approved By:

Approval Date:

Quality Control Plans for Plants

Template

1. Plant Description
 - a. Plant Type (Drum/Batch)
 - b. Plant Address
 - c. Detailed narrative meeting the requirements of Subsection 17.1 and 17.1.1
2. Plant Laboratory Personnel
 - a. Qualified Personnel/Contact Information/WAQTC#/ Exp. Date (Scanned Copy)
3. Laboratory Qualification
 - a. Idaho Lab Qualification Number
 - i. Date last completed
 - ii. Certification Posted in Laboratory
 - b. AMRL accreditation (if applicable)
 - i. Date last completed
4. Plant Inspection
 - a. Performed Yearly
 - i. Certification is posted at plant
 - b. Plant complies with Idaho IR 160
5. Truck Scales
 - a. Calibration Frequency
 - b. Testing agency – copies on file
6. Plant Weighing/Measuring Devices
 - a. Calibration frequency
 - b. Testing agency – copies on file
7. Aggregate Stockpiles
 - a. Construction Method
 - i. Separation/Labeling
 - ii. Segregation Control
 - iii. Moisture Control (if applicable)
 - b. Testing (method/frequency)
8. RAP stockpile
 - a. Construction methods of stockpiles
 - i. Separation/Labeling
 - ii. Segregation Control
 - iii. Moisture Control (if applicable)

- b. Testing (method/frequency)
- 9. Plant Mix Temperatures
 - a. Plant Monitor/Control
 - b. Temperature checks
- 10. Binder
 - a. Storage
 - b. Hauling
 - c. Sampling (include location)
 - d. Source Change – Notification/Start-up testing
 - e. List how corrective action will be taken
- 11. Asphalt Mix Design
 - a. Responsibility
- 12. Asphalt Mix Sampling
 - a. Location for QC
 - b. Plant check processes and procedures
 - c. Sampling frequency
 - i. Low tonnage (< 200 tons)
 - ii. > 200 tons
- 13. Mix Gradation
 - a. Test method
- 14. Asphalt Content
 - a. Test method
- 15. Volumetric Properties
 - a. Test methods
- 16. Mix Diagnostic and Corrective Action Plan
 - a. Items to address: #13-15, and on-site density
- 17. Project Records – Idaho Standard Specs. 106.03.A.2.
 - a. Maintain and make available to the Engineer upon request complete records (including hand written worksheets) of sampling, testing, actions taken to correct problems, and quality control inspection results. Provide copies of the Reports when requested.
 - b. Control Charts
- 18. Truck Loading
 - a. Loading method
 - b. Segregation control
- 19. Warm Mix Capabilities (if applicable)
 - a. Plant used for WMA?

- b. Type: Foamed, Additive, etc.
- c. Operation (e.g. rate(s), temperatures, etc.)

20. Anti-Strip

- a. Type/Brand
- b. Method of dosing

It is hereby certified that the information contained in this Plant Quality Control Plan meets the requirements of Idaho IR 160.

Company Name:

Signature:

First & Last Name:

Quality Control Plan Administrator

Title VI Special Provisions

In compliance with the United States Department of Transportation (USDOT) Standard Title VI/Non-Discrimination Assurances (DOT Order No. 1050.2A):

"The Idaho Transportation Department, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award."

During the performance of work covered by this Contract, the Contractor for themselves, their assignees and successors in interest agree as follows to adhere to Appendix A and E of the USDOT Standard Title VI/Non-Discrimination Assurances:

APPENDIX A

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

1. Compliance with Regulations: The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. Non-discrimination: The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. Solicitations for Subcontracts, 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 will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

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

5. Sanctions for Noncompliance: In the event of a contractor's noncompliance with the Nondiscrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration (FHWA) may determine to be appropriate, including, but not limited to:

- a. withholding payments to the contractor under the contract until the contractor complies; and/or
- b. cancelling, terminating, or suspending a contract, in whole or in part.

6. Incorporation of Provisions: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the

Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration (FHWA) may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

APPENDIX 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 VI 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. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 4 71, Section 4 7123), 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 such 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-Income 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).

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Non-segregated 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. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

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, United States Code, as required in 23 CFR 633.102(b) (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). 23 CFR 633.102(e).

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. 23 CFR 633.102(e).

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) in accordance with 23 CFR 633.102. 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 solicitation-for-bids or request-for-proposals 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). 23 CFR 633.102(b).

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. 23 CFR 633.102(d).

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. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A 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 Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), 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 Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), 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 Part 230, Subpart A, 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 (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 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 Part 35 and 29 CFR Part 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. 23 CFR 230.409 (g)(4) & (5).

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, sexual orientation, gender identity, 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 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 or other knowledgeable company official.

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, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure 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. 23 CFR 230.409. 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, sexual orientation, gender identity, 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, sexual orientation, gender identity, 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 thereunder. 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, sexual orientation, gender identity, 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, 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. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient 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 recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

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 more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, 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, sexual orientation, gender identity, 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), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

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 (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), 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 basic hourly 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. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. 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 must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. 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 classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must 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. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must 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 be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate 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 used 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) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) 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 will be sent by the contracting officer by email to DBAconformance@dol.gov. 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.

(4) 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 will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The 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.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must 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.

d. *Fringe benefits not expressed as an hourly rate.* 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 may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* 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, in accordance with the criteria set forth in § 5.28, 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.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and 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.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements (1) Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must 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.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements (1) Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working 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 [29 CFR part 3](#); and

(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(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH-347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access (1) Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, 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, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices (1) Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform 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 (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must 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, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must 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 this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. 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. 23 CFR 230.111(e)(2). 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 journeyworkers 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 as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 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 as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, 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 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 [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), 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 watchpersons 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. 29 CFR 5.5.

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 and interest from the date of the underpayment. 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 watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* 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.

* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, 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 that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

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" in paragraph 1 of Section VI 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: (based on longstanding interpretation)

- (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. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), 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. Pursuant to 23 CFR 635.116(c), 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. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

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 Part 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. 23 CFR 635.108.

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 Part 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). 29 CFR 1926.10.

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 Part 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 11, 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 (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

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. 2 CFR 180.220 and 1200.220.

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. 2 CFR 180.320.
- 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. 2 CFR 180.325.
- 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. 2 CFR 180.345 and 180.350.

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, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient 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 recipient or subrecipient 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. 2 CFR 180.330.

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. 2 CFR 180.220 and 180.300.

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. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. 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 System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

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 CFR 180.325.

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 CFR 180.335;.

(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, 2 CFR 180.800;

(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, 2 CFR 180.700 and 180.800; 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. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

3. 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). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant 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. 2 CFR 180.365.

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, Subpart I, 180.900 – 180.1020, 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 recipient or subrecipient 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 recipient or subrecipient 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. 2 CFR 1200.220 and 1200.332.

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. 2 CFR 180.220 and 1200.220.

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 System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

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. 2 CFR 180.325.

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should 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 Part 20, App. A.

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.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, 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. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.



POWER OF ATTORNEY

Certificate No: **8213516-190003**

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Blake S. Bohlig; Brian D. Carpenter; Charles Draper; Craig Olmstead; Erik T. Gunkel; Haley Pflug; Heather R. Goedel; Jessica Hecker; Kelly Nicole Enghausser; Laurie Pflug; Michelle Halter; Michelle Ward; Nicole Langer; Sara Whitfield

all of the city of Bloomington state of MN each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 27th day of March, 2025.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: Nathan J. Zangerle
Nathan J. Zangerle, Assistant Secretary

State of PENNSYLVANIA ss
County of MONTGOMERY

On this 27th day of March, 2025 before me personally appeared Nathan J. Zangerle, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.



Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2029
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes Nathan J. Zangerle, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 18th day of April, 2025.



By: Renee C. Llewellyn
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.



**Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company**

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Haley Pflug** of **BLOOMINGTON**, **Minnesota**, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April, 2021**.



State of Connecticut

City of Hartford ss.

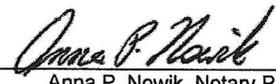
By: 
Robert L. Raney, Senior Vice President

On this the **21st** day of **April, 2021**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2026**




Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

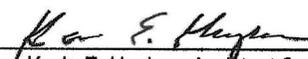
FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 18th day of April, 2025.




Kevin E. Hughes, Assistant Secretary

**To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.**