

SPECIAL PROVISIONS

**SECTION 103
AWARD AND EXECUTION OF CONTRACT**

01/01/06 (ES11)

Add the following subsection:

103-1.11 ESCROW OF BID DOCUMENTATION. Furnish a legible copy of your bid documentation and an affidavit, as instructed in writing by the Contracting Officer. Bid documentation consists of written documentation of all quantity takeoffs, construction schedules on which the bid is based, cost estimates, rates of production and progress, assumptions, calculations, quotes from subcontractors and suppliers, and other information used to prepare your bid for this project.

Obtain and furnish the same level of bid documentation, for each subcontractor, supplier or fabricator with a subcontract or agreement exceeding \$200,000, regardless of tier. Seal each entity's documentation in separate envelopes, labeled with the entity's name and address, submission date, and project name and number. Include a cover letter or quote signed by a responsible party.

Meet the following requirements:

1. Submitting Bid Documentation. Place bid documentation in a sealed container clearly marked "Bid Documentation" and labeled with the bidder's name and address, submission date, and project name and number. Deliver the sealed container to the Department-designated document Depository for safekeeping.
2. Affidavit. Submit directly to the Contracting Officer a signed and certified affidavit attesting that:
 - a. The affiant has examined the bid documentation and that it includes all documents used to prepare the bid;
 - b. The sealed container contains all bid documentation submitted;
 - c. The escrow materials were relied on to prepare the bid; and
 - d. Should a dispute arise, the Contractor's rights to use bid preparation documentation other than those in escrow are waived.
3. Access and Use of Escrow Documents. The bid documentation will remain in escrow, without access by either party, except as otherwise provided herein. In the event the Contractor (1) provides notice of intent to claim, (2) a claim, (3) a contract change order, or (4) initiates contract related litigation, the Department may obtain copies of the bid documentation as provided herein.

Both parties will submit to the Depository and copy to each other a list of personnel that are authorized to access the escrow documents. Use forms provided by the Depository.

Upon request, the Depository will set the time and place for access to escrow documents, will monitor the escrow documents review, and will arrange for a method of copying escrow documents. Access to escrow documents shall require at least five days advance written notice so that the other party has the opportunity to witness the escrow review, examination and use. There is no requirement that both parties witness the escrow document review, but if one party is absent then the review must occur in the presence of a neutral third-party observer to be designated by the Depository.

Notwithstanding paragraph five below, the Department will be allowed: to make copies of any and all escrow documentation (whether hard-copy, electronic, or otherwise); to use and review any copies made whether in the presence of the Contractor, or not; and to share copies with staff and consultants directly involved in the subject dispute.

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Distribution is not authorized except as related to resolution of a dispute. The Department will be allowed to incorporate pertinent copies as supporting documentation in all significant contract change orders, contractual disputes, and the settlement of disputed claims.

The Department is not liable for any contractor costs associated with escrow review and use.

4. Failure to Provide Bid Documentation. Refusal or failure to provide your bid documentation or affidavit renders your bid nonresponsive. Failure or refusal to provide Subcontractor bid documentation, will result in subcontract disapproval.
5. Confidentiality of Bid Documentation. Materials held in escrow are your property. Except as otherwise provided herein, the escrow materials cannot be released without your approval.
6. Cost and Escrow Instruction. The Department pays to store all escrowed materials and instructs the depository regarding escrow.
7. Payment. Include within the overall Contract bid price all costs to comply with this subsection.
8. Return of Escrow Documentation. The original escrow documents will be returned to you once litigation is concluded, outstanding claims are resolved, you have completed the Contract, and the Department receives an executed Contractor's Release (Form 25D-117) with no exceptions listed.

SECTION 104 SCOPE OF WORK

11/30/12 (H5)

Add the following subsection:

104-1.07 FROZEN GROUND. Frozen areas, ice lenses, and saturated soils may be encountered on this project and related material sources. Specific locations and specific content of frozen areas, ice lenses, and saturated soils are not defined. Any such area that may be encountered by the Contractor in the performance of the contract work will not be considered unforeseeable within the terms of the contract such as to entitle the Contractor to any adjustment in contract price or contract time. Reference is made to Subsection 203-3.03 of these Specifications.

SECTION 106 CONTROL OF MATERIAL

04/30/17 (N2)

106-1.02 MATERIALS SOURCES.

1. General. Add the following subparagraph:
 - j. If pre-existing, naturally occurring, hazardous material is encountered in any Material Source under Department ownership, management, or permit; the Department will pay in accordance with Subsection 109-1.05 for the proper handling and disposal of the hazardous material. Avoid excavation activity in the vicinity of the hazardous material. The Department will not be liable for any delays or impacts to the production of any materials items due to encountering the hazardous material. Contractor shall adhere to Subsection 107-1.11(6). Nothing in this subsection relieves the Contractor of any statutory liability.

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4. Type of Sources.

Available Sources. Add the following:

**SECTION 201
CLEARING AND GRUBBING**

03/02/20 (N79)

201-3.01 GENERAL. Add the following: Do not perform mechanized vegetation clearing between May 1 and July 15.

**SECTION 202
REMOVAL OF STRUCTURES AND OBSTRUCTIONS**

202-1.01 DESCRIPTION. Add the following: This work shall also include the abandonment of culverts in place by filling with a flowable fill, in conformance with the plans.

202-2.01 MATERIALS. Add the following:

Portland Cement	Section 107
Aggregate	Subsection 703-2.07, Type A
Flowable Fill	1 Sack Concrete per cubic yard aggregate

Flowable fill concrete shall have a minimum 28 day strength of 50 psi. Place in conformance with the plans.

02/01/20 (N6)

202-3.02 MAILBOXES. Delete the second paragraph and substitute the following: Reinstall existing mailboxes and newspaper tubes on new "Typical Wood Cantilever Installation" posts as shown in Alaska Standard Plans M-20 and M-23, except that mounting height shall be determined by local postal service regulations prior to installation. Coordination with local postal service is subsidiary. Replace any posts, boxes, tubes or other material broken or damaged during construction.

202-3.04 REMOVAL OF PIPE. Add the following:

Removal of culvert pipe trenches shall be blended as directed to conform to the natural ground in order to drain.

Culvert pipe abandoned in place must be filled completely with a bulking material such as sand or grout slurry. It shall meet requirements of Section 202-2.01 Materials for Flowable Fill.

Both ends must be plugged, capped, sealed, or completely crimped. No cavities may remain within the road embankment. Contractor must submit proposed method for decommissioning pipes to the Engineer for approval before decommissioning culverts. For culvert pipes abandoned in place, remove parts of the structure that would be within 2 feet of the finished ground line.

202-5.01 BASIS OF PAYMENT. Add the following:

Items 202.2015. Payment includes abandonment of culvert with flowable fill for the full length of pipe, regardless of size. Removal of portions of the pipe will be subsidiary.

Add the following pay items:

PAY ITEM		
Item Number	Item Description	Unit
202.2015.0000	Abandon Pipe in place	EACH

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**SECTION 203
EXCAVATION AND EMBANKMENT**

01/20/15 (N8)

203-3.01 GENERAL. Add the following to the eighth paragraph: Disposal in wetlands is prohibited, except as described in Subsection 107-1.11.

Add the following after the eighth paragraph: The Contractor shall certify in writing to the Engineer that all permits and clearances relating to all waste disposal sites selected by the Contractor have been obtained prior to any clearing or ground disturbance in the disposal site.

04/30/17 (N10)

203-3.03 EMBANKMENT CONSTRUCTION. Delete the fifth paragraph and substitute the following: Existing roadway embankments shall be spread to redistribute the material from the existing roadway for the full width and within the limits of the new roadway prism to form an approximately level surface, prior to placing new embankment. The spread material shall be compacted in accordance with 203-3.04. The minimum depth of excavation in spread existing roadway areas will be to the bottom of the lowest layer shown on the typical section. This work will be paid for as unclassified excavation.

203-303 EMBANKMENT CONSTRUCTION. Delete the fifth paragraph and substitute the following: Scarify existing roadways, laying under the new roadway, to a depth of 6 inches and recompact to meet Subsection 203-3.04 or 203-3.05.

Delete the tenth paragraph and substitute the following: Place roadway embankment of earth materials in horizontal layers not to exceed 8 inches (uncompacted), for layers within 4 feet of asphalt, and not to exceed 18 inches (uncompacted) for layers greater than 4 feet below top of asphalt, for the full width of the embankment, except as required for traffic, below 4ft from top of asphalt, and compact as specified before the next layer is placed. Use spreading equipment on each lift to obtain uniform thickness prior to compacting. Maintain uniform density, during compaction. Add or remove water, as necessary, to obtain the required density. Route compaction equipment uniformly over the entire surface of each layer.

01/20/15 (N11)

Delete the fourteenth paragraph and substitute the following: When embankments are to be constructed across wet or swampy ground, which will not support the weight of heavy hauling and spreading equipment, the Contractor shall choose such methods of embankment construction and use such hauling and spreading equipment as will least disturb the soft foundation. When soft foundations are encountered, and when approved by the Engineer, the lower part of the fill may be constructed by dumping and spreading successive vehicle loads in a uniformly distributed layer of a thickness not greater than that necessary to support the vehicle while placing subsequent layers, after which the remainder of the embankment shall be constructed in layers and compacted as specified.

It is not the policy of the State to allow an increase in the planned depth of embankment material over soft, wet, or swampy ground for the sole purpose of providing support for heavy hauling and spreading equipment, unless the Contractor proves to the satisfaction of the Engineer that the planned depth is inadequate to support light hauling vehicles. If use of smaller hauling vehicles or different methods of embankment construction than originally contemplated are necessary to comply with the foregoing, such shall not be the basis for a claim for extra compensation. The contract unit price for the various pay items involved shall be full compensation for all labor, materials, and equipment necessary to perform the work outlined herein.

01/20/15 (N12)

203-4.01 METHOD OF MEASUREMENT. Add the following: Borrow will not be weighed or used while free moisture is observed draining from the haul vehicle at the scale location.

02/01/20 (N13)

203-5.01 BASIS OF PAYMENT. Add the following: Ten percent (10%) of the value earned in the progress period shall be withheld on progress payments for all Section 203 items of work. Five percent (5%) will be released by work area, as defined in the SWPPP, when final stabilization is initiated. The last five percent (5%) will be released by work area, as defined in the SWPPP, when final stabilization as defined by the

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Construction General Permit has been obtained and accepted by the Engineer. Withholding will be made under Item 641.0006.____ Withholding.

**SECTION 204
STRUCTURE EXCAVATION FOR CONDUITS AND MINOR STRUCTURES**

02/01/20 (N75)

204-2.01 MATERIALS. Delete the first paragraph and substitute the following:

Embedment Material: Embedment Material consists of bedding and backfill to 12 inches above the pipe. Use Selected Material, Type A (Subsection 703-2.07) passing the 2-inch sieve for embedment material between vertical planes 18 inches outside the horizontal projection of the outer most diameter of the pipe, horizontal planes located 12 inches above and below the outermost diameter of the pipe or to the depth shown on the Plans.

204-4.01 METHOD OF MEASUREMENT. Delete the first sentence and substitute the following: Embedment Material will be measured according to Section 109 as follows:

1. 204.2002.0000 By neat line volume.
2. 204.2003.0000 Will not be measured directly for payment.
3. 204.2004.0000 By weighing.

Structure Excavation will be measured according to Section 109 using neat line method as follows:

204-5.01 BASIS OF PAYMENT. Delete this subsection in its entirety and substitute the following:

1. Structure Excavation. The contract price includes:
 - a. The placing and compacting of backfill more than 12 inches above the pipe when the material used is obtained from excavation
 - b. Clearing and grubbing required and not paid for under other items
 - c. The formation of any embankments made with surplus material from structure excavation
 - d. The disposal of all surplus or unsuitable excavation.

Additional excavation to provide for shoring, sheet piles, excavation shields or flattening the excavation slopes, is subsidiary.

When items 204.0001.____ through 204.0003____, Structure Excavation, do not appear in the bid schedule, structure excavation required to complete other items of work is subsidiary except that excavation and disposal of unsuitable material required from below a plane 12 inches below the invert elevation of conduits and 12 inches below the bottom of structures will be paid for as extra work.

2. Embedment Material. The contract price includes all work and materials necessary to provide, place, and compact Embedment Material.

Add the following pay items:

PAY ITEM		
Item Number	Item Description	Unit
204.2002.0000	Embedment Material	CY
204.2003.0000	Embedment Material	LS
204.2004.0000	Embedment Material	TON

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**SECTION 304
SUBBASE**

02/01/20 (N15)

304-5.01 BASIS OF PAYMENT. *Add the following:* Ten percent (10%) of the value earned in the progress period shall be withheld on progress payments for all Section 304 items of work. Five percent (5%) will be released by work area, as defined in the SWPPP, when final stabilization is initiated. The last five percent (5%) will be released by work area, as defined in the SWPPP, when final stabilization as defined by the *Construction General Permit* has been obtained and accepted by the Engineer. Withholding will be made under Item 641.0006.____ Withholding.

Delete Section 306 in its entirety and substitute the following:

02/01/20 (N17)

**SECTION 306
ASPHALT TREATED BASE**

306-1.01 DESCRIPTION. Construct a plant-mixed asphalt treated base (ATB) course on an approved foundation to the lines, grades, and depths shown on the Plans.

306-2.01 MATERIALS. Use materials that conform to the following:

Aggregate	Subsection 703-2.03, Grading D-1, except change the minimum Degradation Value to 30, and change the percent passing the No. 200 sieve to 0-7.
Asphalt Binder	Subsection 702-2.01, for the Grade shown on the bid schedule.
Anti-Strip	As required to meet Subsection 306-3.01.
Recycled Asphalt Pavement	Subsection 703-2.16.

CONSTRUCTION REQUIREMENTS

306-3.01 COMPOSITION OF MIXES. The ATB shall contain 4.5% Asphalt Binder, Grade PG 52-28. Do not place ATB until authorized to do so by the Engineer. ATB with an Asphalt Binder content less than 4.0% will be considered unacceptable according to Subsection 105-1.11.

Use Liquid Anti-Strip Additive in the proportions determined by ATM 414. At least 70% of the aggregate must remain coated when tested according to ATM 414. The minimum required amount of Liquid Anti-Strip Additive is as specified in Subsection 401-2.02.

A maximum of 35 percent RAP, by total weight of ATB, is allowed to be added to the composition at the time of mixing. The combined gradation of all aggregates, virgin and recycled, shall meet the requirements of Table 703-2, except that the percent passing the No. 200 sieve is 0-7. If RAP will be used in the ATB, then submit the following to the Engineer at least fourteen days prior to producing ATB:

1. The target gradation.
2. The gradation of all materials to be used in the ATB.
3. The blend ratio of all materials to be used in the ATB.
4. The combined virgin aggregate gradation.
5. The asphalt binder content of the RAP by the extraction method.
6. Representative samples of all materials to be used in the ATB.

306-3.02 WEATHER LIMITATIONS. Do not place ATB on a wet or frozen surface, or when weather conditions will prevent proper handling, compacting, or finishing of the mixture. Do not place ATB unless the air temperature is above 40°F, as measured in the shade and away from any heat sources.

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306-3.03 STOCKPILING. Store virgin aggregates and RAP in separate stockpiles. Prevent segregation and contamination.

306-3.04 EQUIPMENT.

1. Mixing Plant. Conform to Subsection 401-3.05.
2. Hauling Equipment. Conform to Subsection 401-3.06.
3. Spreading Equipment. Conform to Subsection 401-3.07.
4. Rollers. Conform to Subsections 401-3.08 and 306-3.09.

306-3.05 PREPARATION OF ASPHALT. Provide a continuous supply of asphalt binder to the mixer at a uniform temperature, within the allowable mixing temperature range.

306-3.06 PREPARATION OF AGGREGATE. Heat and dry the aggregate to a temperature compatible with the manufacturer's recommended mixing temperature for the asphalt binder used. Adjust dryer flames to avoid damage to aggregate and to avoid soot on the aggregate.

306-3.07 MIXING. Combine aggregate, asphalt binder, anti-strip additive, and RAP (if used) in the mixer in the proportions required by the contract. Mix to obtain 98% coated particles when tested according to AASHTO T 195. For batch plants, put the dry aggregate in motion before addition of the asphalt binder. Mix the ATB mixture within the manufacturer's recommended mixing temperature range for the asphalt binder used.

306-3.08 SPREADING AND FINISHING. Deposit and spread ATB mixture on an approved surface in layers not exceeding 3 inches in compacted depth. Use hand tools to spread, rake, and lute the ATB in areas where irregularities or unavoidable obstacles make mechanical spreading and finishing equipment impracticable. Place a tack coat between successive layers of ATB and on all vertical surfaces the ATB abuts.

306-3.09 COMPACTION. Compact the ATB using vibratory rollers, applying a minimum dynamic force of 50,000 pounds per vibration at a minimum frequency of 1,000 vibrations per minute. Adjust working speed in order to apply 8 to 12 impacts per foot. Do not crush or fracture aggregate. In areas inaccessible to rollers, use mechanical tampers until thoroughly compacted.

306-3.10 SURFACE TEST. After rolling has been completed, the surface will be tested for smoothness and accuracy of grade, crown, superelevation, and width. Limit surface deviations to 3/8 inch, as measured from the testing edge of a 10-foot straightedge between two contacts with the surface parallel with, and at right angles to, the centerline.

306-3.11 THICKNESS REQUIREMENTS. Meet Plan thickness \pm 1/2 inch, compacted.

306-3.12 JOINTS. Offset both transverse and longitudinal joints such that ATB joints in the layer immediately below, and Hot Mix Asphalt Pavement joints in the layer immediately above, are offset by at least 6 inches from the ATB layer being placed.

306-3.13 ACCEPTANCE SAMPLING AND TESTING.

1. Asphalt Binder Content.
 - a. If RAP is used and there is a windrow, asphalt binder will be sampled from the windrow by the Engineer according to ATM 403. If there is not a windrow, asphalt binder will be sampled using the plate method by the Contractor in the presence of the Engineer according to ATM 402 or ATM 403. Asphalt binder content will be determined according to ATM 406.
 - b. If RAP is not used, asphalt binder content will be measured by supplier's invoice quantity minus waste, diversion and remnant, as confirmed by tank stickings taken at the beginning and end of each

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shift. Perform tank stickings in the presence of the Engineer. Provide tank volume charts to the Engineer. Tank stickings will be adjusted for temperature. Provide the supplier's asphalt binder temperature-density relationship to the Engineer. At the Engineer's discretion, asphalt binder content may instead be determined according to ATM 405.

2. Aggregate Gradation.

- a. If RAP is used, aggregate gradation will be accepted based on the same samples taken for asphalt binder content, tested according to ATM 408 from the aggregate remaining after the ignition oven (ATM 406) has burned off the asphalt binder.
- b. If RAP is not used, aggregate gradation will be accepted based on samples taken from the combined cold feed conveyor according to ATM 301 and tested according to ATM 304.

3. Density. The Engineer will use ATM 412 to determine the density standard. Make each control strip at least 12 feet by 300 feet. Compact the remainder of the project to not less than 98% of the density standard, in accordance with ATM 411. The Engineer will designate the location of test strips.

4. Asphalt Binder Grade. Sample asphalt binder at the plant from the supply line in the presence of the Engineer according to ATM 401. The Engineer will take immediate possession of the samples. Meet Subsection 702 requirements for asphalt binder quality.

306-4.01 METHOD OF MEASUREMENT. Section 109 and the following:

- 1. ATB. By weight. No deduction will be made for the weight of asphalt binder or anti-strip additive in the mixture.
- 2. Asphalt Binder. By weight. No payment will be made for asphalt binder in excess of 0.5% above the percentage specified in 306-3.01. If ATM 406 or ATM 405 are used to determine asphalt binder content, the quantity used for payment will be the percent asphalt from ATM 406 or ATM 405 multiplied by the weight of ATB represented by that test. If invoices and tank stickings are used to determine asphalt binder content, the quantity for payment will be calculated from supplier's invoice quantity minus waste, diversion, and remnant, as confirmed by tank stickings adjusted for temperature.

306-5.01 BASIS OF PAYMENT. Anti-strip additive is subsidiary to Asphalt Binder.

Payment will be made under:

PAY ITEM		
Item Number	Item Description	Unit
306.0001.____	ATB	TON
306.0002.____	Asphalt Binder, Grade PG ____	TON

**SECTION 401
HOT MIX ASPHALT PAVEMENT**

02/01/20 (N76)

401-2.01 ASPHALT BINDER. Add the following: Provide the grade of Asphalt Binder shown in the Bid Schedule, except PG 52-28 may be used for Items 401.0011.____ and 401.0012.____, HMA Driveway.

401-2.08 RECYCLED ASPHALT PAVEMENT. Add the following: The maximum amount of RAP in the HMA is limited to 10%.

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401-2.09 JOB MIX DESIGN. Delete the last two rows of Table 401-1 HMA MARSHALL DESIGN REQUIREMENTS.

Delete Section 406 in its entirety and substitute the following:

**SECTION 406
RUMBLE STRIPS**

02/01/20 (N69)

406-1.01 DESCRIPTION. Construct a series of indentations into the roadway pavement as shown on the Plans.

406-2.01 MATERIALS. None.

406-3.01 CONSTRUCTION REQUIREMENTS. Stake all locations where milling will start and stop at intersections, approaches, turn lanes, gang mailbox installations, on and off ramps, public turnouts, bridges, narrow shoulders, and railroad tracks. Do not begin milling until all start and stop locations have been approved by the Engineer.

Construct rumble strips with a milling machine designed specifically for milling rumble strips into asphalt pavement. The milling equipment shall provide a smooth cut (approximately 1/16 inch between peaks and valleys), and include a guidance system clearly visible to the operator to provide for consistent alignment of each rumble.

Make the edges of the milled indentation straight, smooth and free of spalling. Do not construct rumble strips on HMA longitudinal joints or on Portland Cement Concrete. Do not construct rumble strips before the lane edge line has been acceptably placed. Meet the following tolerances:

1. Length and Width of indentation: $\pm 1/2$ inch
2. Depth of indentation: $\pm 1/16$ inch
3. Spacing between indentations: $\pm 1/2$ inch
4. Alignment of rumble strip to lane edge line: ± 1 inch

Clean milling debris off the pavement immediately after milling by sweeping the debris onto the embankment foreslope. Do not allow an accumulation of millings to impede roadway drainage or enter any waterways or wetlands.

Rumble strips will be unacceptable if they do not meet the specified tolerances, or the pavement surface is damaged through spalling as a result of rumble strip installation. Unacceptable rumble strips shall be ground out full-width to a depth of 2-inches, repaved with HMA according to Section 401, and reinstalled to the satisfaction of the Engineer.

406-4.01 METHOD OF MEASUREMENT. This Item will not be measured for payment.

406-5.01 BASIS OF PAYMENT. The contract bid price shall be full compensation for staking locations of rumble strips, milling of rumble strips, and cleaning of milling debris.

Payment will be made under:

PAY ITEM		
Item Number	Item Description	Unit
406.0001.____	Rumble Strips	LS

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**SECTION 603
CULVERTS AND STORMDRAINS**

01/20/15 (N21)

603-3.03 JOINING PIPE. Delete numbered subparagraphs 2.a.2) & 3) and substitute the following:

(2) Bands shall have a minimum width of 22 inches.

Delete numbered subparagraphs 2.b.2), 3) and 4) and substitute the following:

(2) Bands shall have a minimum width of 22 inches and shall have two circumferential rows of projections for each pipe end being joined.

(3) Furnish and install these bands with a gasket that resists infiltration and leakage.

**SECTION 606
GUARDRAIL**

02/01/20 (N22)

606-3.06 REMOVAL AND RECONSTRUCTION OF GUARDRAIL. Add the following: If the estimated percentage of useable rail elements required for guardrail reconstruction listed on the Plans is not realized, the number of elements required to make up the deficiency will be paid for under Pay Item 606.2019.0000, Additional Guardrail.

606-4.01 METHOD OF MEASUREMENT.

1. Guardrail. Add the following: Extra guardrail elements required for nested guardrail are subsidiary to other 606 pay items.

Rub rail is subsidiary to other 606 pay items.

Work shall not begin on Pay Item 606.2019.0000 until authorized in a directive. Measure Additional Guardrail in the same manner as W-beam or Thrie beam guardrail.

606-5.01 BASIS OF PAYMENT. Add the following: Pay under Pay Item 606.2019.0000 shall be the actual invoice cost of additional rail elements, posts, hardware, and reflectors installed, and accepted, plus cost of transportation of the rail elements to the project, plus 15% profit.

11/01/16 (N67)

All traffic control devices necessary for removal, installation, reconstruction, or maintenance of 606 Pay Items shall be subsidiary to the respective 606 Pay Items.

Add the following pay item:

PAY ITEM		
Item Number	Item Description	Unit
606.2019.0000	Additional Guardrail	CS

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**SECTION 611
RIPRAP**

01/20/15 (N23)

611-2.01 MATERIALS. Add the following after the first sentence: WAQTC FOP for AASHTO T 85 will determine apparent specific gravity.

01/20/15 (N24)

611-3.01 CONSTRUCTION REQUIREMENTS. Add the following after the first sentence of the second paragraph: The Contractor shall not deposit excavated materials in adjacent stream channels or other bodies of water or in areas subject to flooding during high flows.

Delete Section 613 in its entirety and substitute the following:

02/01/20 (N25)

**SECTION 613
MONUMENTS AND MARKERS**

613-1.01 DESCRIPTION. This work consists of furnishing and installing culvert marker posts in conformance with the Plans and Specifications or as directed.

613-2.01 MATERIALS. Steel mounting supports shall conform to the requirements of ASTM A 36. Steel mounting supports and fasteners for culvert marker posts shall be galvanized in accordance with AASHTO M 232.

Culvert marker posts shall be Carsonite CIB-380 flexible markers, or approved equal.

613-3.01 CONSTRUCTION REQUIREMENTS. Culvert marker posts shall be installed as detailed on the Plans.

613-4.01 METHOD OF MEASUREMENT. The quantities paid for shall be the actual number of culvert marker posts furnished, installed, and accepted.

If Item 613.0002.____ does not appear on the bid schedule all costs associated with providing and installing culvert marker posts shall be considered subsidiary to culvert installation and will not be measured or paid for separately.

613-5.01 BASIS OF PAYMENT. Culvert marker posts shall be paid for at the contract price, per unit of measurement, for the pay item shown in the bid schedule.

Payment will be made under:

PAY ITEM		
Item Number	Item Description	Unit
613.0002.____	Culvert Marker Post	EACH

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**SECTION 615
STANDARD SIGNS**

02/01/20 (N26)

615-2.01 MATERIALS.

4. Delineators. Add the following: Delineators shall be of flexible design. The following flexible delineators are approved for use:

Carsonite:	Road Marker
Carsonite:	Curve Flex
Safe-Hit Corp:	Flexible Guide Post

The Contractor may submit an alternate for consideration by the Engineer.

615-3.01 CONSTRUCTION REQUIREMENTS. Add the following to numbered paragraph 4: The delineators shall be located uniformly 4 feet to 8 feet from the outside shoulder edge unless noted otherwise on the Plans. The reflector shall be 3" x 12" yellow or white reflective sheeting (one or two sides) meeting the requirements of Subsection 730-2.03, the Plans, and Standard Plan T-05. The reflector shall be mounted so that the top of the reflector is 4 feet above the surface of the shoulder.

01/20/15 (N27)

Delete numbered subparagraph 8 in its entirety and substitute the following:

8. All materials and finished signs are subject to inspection and acceptance in place.
- a. Surfaces exposed to weathering must be free of defects in the coating.
 - b. Finished signs must be clean and have no chatter marks, burrs, sharp edges, loose rivets, delaminated reflective sheeting, oxidation, corrosion, other blemishes, aluminum marks, or unapproved coatings. Do not make repairs to the face sheet.
 - c. Replace any finished sign not meeting a. and b. with a replacement sign at no cost to the Department.

11/01/16 (N68)

615-5.01 BASIS OF PAYMENT. Delete the first sentence and substitute the following: Sign posts, bases, mounting hardware and all traffic control devices necessary for removal, installation, reconstruction, or maintenance of 615 Pay Items are subsidiary.

Delete Section 618 in its entirety and substitute the following:

02/01/20 (N30)

**SECTION 618
SEEDING**

618-1.01 DESCRIPTION. It is the intent of this work that a uniform living vegetative cover be established according to the Plans and Specifications. This work consists of soil preparation, seeding, fertilizing, mulching, and establishing, and maintaining vegetated areas.

618-2.01 MATERIALS. Use materials that conform to the following:

Seed	Section 724
Fertilizer	Section 725
Mulch	Subsection 727-2.01
Water	Subsection 712-2.01

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CONSTRUCTION REQUIREMENTS

618-3.01 SOIL PREPARATION. Clear all areas to be seeded of stones 4" and larger in diameter and of all weeds, plant growth, sticks, stumps and other debris or irregularities which may interfere with the seeding, establishment, and maintenance of the vegetated areas.

Prior to the application of seed, prepare slopes using one or more of the following methods, or as approved by the Engineer:

1. Manual Raking – Requires manual labor with landscaping rakes to produce a uniform pattern of grooves perpendicular to the fall of the slope.
2. Mechanical Raking - Requires the use of a scarifying slope board to produce grooves with an approximate width and depth of 1", and no more than 6" apart. The resultant indentations shall leave a uniform pattern of grooves perpendicular to the fall of the slope.
3. Mechanical Track Walking - Requires operating tracked equipment in such a manner as to leave a uniform pattern of grooves perpendicular to the fall of the slope.

618-3.02 SEEDING SEASON. Perform seeding after the ground is free of snow and no sooner than **May 15** and no later than **August 31**. Perform seeding when wind conditions, climatic conditions, and soil conditions will not hinder seeding and establishment.

618-3.03 APPLICATION METHOD. Use the Hydraulic Method. You must obtain the Engineer's permission to use the Mechanical Method.

Hydraulic Method:

1. Seeding by the hydraulic method consists of furnishing and placing a slurry of dye, seed, fertilizer, trace mulch, water, and a second application of mulch.
2. Do not place seed in the slurry prior to 30 minutes before application.
3. Add the proportionate amount of seed to the water slurry in the hydraulic seeder after the proportionate amounts of trace mulch and fertilizer have been added.
4. Apply the slurry mixture in a manner that results in an even distribution of all materials. Apply seed, fertilizer, and trace mulch together in one application.
5. Hydraulic seeding equipment must maintain continuous slurry agitation so that a homogeneous, uniform mixture is applied through a spray nozzle, for the complete tank load. The pump must be capable of producing sufficient pressure to maintain a continuous, nonfluctuating spray capable of reaching the extremities of the seeding area with the pump & nozzle unit located on the roadbed. Provide sufficient hose to reach areas not practical to seed from the pump & nozzle unit situated on the road bed.
6. A second application of mulch shall be applied within 24-hours after seeding. Mulch shall be furnished and evenly applied at the rates required for temporary stabilization per the manufacturer's recommendations and according to Subsection 727-2.01. Mulch sprayed on signs or sign structures shall be removed the same day.

Mechanical Method:

1. Use mechanical spreaders, seed drills or other approved mechanical seeding equipment when seed and fertilizer are to be applied in dry form.
2. Water seeding area both prior to and after the application of fertilizer.
3. Spread fertilizer separately from seed.
4. An application of mulch shall be applied within 24-hours after seeding. Mulch shall be furnished and evenly applied at the rates required for temporary stabilization per the manufacturer's recommendations and according to Subsection 727-2.01. Mulch sprayed on signs or sign structures shall be removed the same day.

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618-3.04 APPLICATION RATE. Apply seed, fertilizer, and trace mulch at the rates specified in the table below:

MATERIALS	TYPE	APPLICATION RATE PER 1,000 SQUARE FEET
Seed*	50% 'Nortran Tufted Hairgrass	0.75 lb
	20% 'Arctared' Red Fesue	0.30 lb
	20% Wainwright Slender Wheatgrass	0.30 lb
	10% Annual Ryegrass	0.15 lb
	Total	1.50 lb
Fertilizer	20-20-10	10 lb
Trace mulch**	See Subsection 727-2.01	20 lb

* Do not remove the required tags from the seed containers.

** Trace mulch application rate may be adjusted according to the manufacturer's recommendations when approved by the Engineer. Trace mulch is not required for mechanical seeding.

618-3.05 MAINTENANCE. Protect seeded areas against erosion and sedimentation. Protect seeded areas against traffic by approved warning signs or barricades. Water seeded areas, in a non-erosive manner, as required to establish a uniform living perennial vegetative cover. Be responsible for identifying, retracking, reseeding, refertilizing and remulching gullied or otherwise damaged areas. The second application of mulch shall be maintained so it properly performs its temporary stabilization function until final stabilization is achieved. Rescarify, reseed, refertilize and remulch unproductive areas as directed by the Engineer.

618-3.06 PERIOD OF ESTABLISHMENT. The establishment period extends until a uniform (e.g. evenly distributed, without large bare areas) perennial living vegetative cover with a density of 70 percent of the native background vegetative cover is established.

618-3.07 ACCEPTANCE. The Engineer will accept seeding when a uniform (e.g. evenly distributed, without large bare areas) perennial living vegetative cover with a density of 70 percent of the native background vegetative cover is established.

618-4.01 METHOD OF MEASUREMENT. Section 109 and as follows:

Watering seeded areas per Subsection 618-3.05 will not be measured directly for payment and is subsidiary, except when Pay Item 618.0003.____ is listed on the Bid Schedule.

Identifying, retracking, reseeding, refertilizing and remulching gullied or otherwise damaged areas will not be measured directly for payment and is subsidiary.

Seeding by the Acre. By the area of ground surface acceptably seeded and maintained. Soil preparation, seed, fertilizer, all mulch, dye, and water required for seed and fertilizer application will not be measured directly for payment and is subsidiary.

Seeding by the Pound. By the dry weight of seed acceptably seeded and maintained. Soil preparation, fertilizer, all mulch, dye, and water required for seed and fertilizer application will not be measured directly for payment and is subsidiary.

Water for Seeding. By the M Gal. (1,000 gallons) acceptably placed. Use a conversion factor of 8.34 pounds per gallon, if measured by weight.

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618-5.01 BASIS OF PAYMENT. The accepted quantity will be paid for at the contract price, per unit of measurement, for the pay items listed below that appear on the bid schedule.

Payment will be made under:

PAY ITEM		
Item Number	Item Description	Unit
618.0001.____	Seeding	ACRE
618.0002.____	Seeding	LB
618.0003.____	Water for Seeding	MGAL

**SECTION 642
CONSTRUCTION SURVEYING AND MONUMENTS**

01/20/15 (N34)

642-3.01 GENERAL. Delete the fifth paragraph and substitute the following: Follow the Department's Construction Surveying Requirements, or if GPS survey is approved by the Engineer, use the Alaska Survey Manual GPS Surveys 2010 (rev. 8/15/10).

Add the following to the last sentence in the second to the last paragraph: or the Alaska Survey Manual GPS Surveys 2010 (rev. 8/15/10).

642-3.02 CROSS-SECTION SURVEYS. Add the following to the first paragraph: or the Alaska Survey Manual GPS Surveys 2010 (rev. 8/15/10).

Delete numbered paragraph 4 of the second paragraph in its entirety and substitute the following: Department's Construction Surveying Requirements or the Alaska Survey Manual GPS Surveys 2010 (rev. 8/15/10).

**SECTION 643
TRAFFIC MAINTENANCE**

03/07/19 (N40)

643-5.01 BASIS OF PAYMENT.

11. Traffic Control. Add the following schedule:

TRAFFIC CONTROL RATE SCHEDULE

TRAFFIC CONTROL DEVICE	PAY UNIT	UNIT RATE
Construction Signs	Each/Day	\$ 6.50
Special Construction Signs	Square Foot	\$ 28.00
Type II Barricade	Each/Day	\$ 3.30
Type III Barricade	Each/Day	\$ 11.00
Traffic Cone or Tubular Marker	Each/Day	\$ 1.10
Drums	Each/Day	\$ 3.30
Temporary Guardrail	Linear Foot	\$ 25.00
Portable Concrete or Steel F Shape Barrier (12.5 foot standard length or \$8/foot)	Each	\$ 100.00

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TRAFFIC CONTROL DEVICE	PAY UNIT	UNIT RATE
Temporary Crash Cushion/ non-redirective Water filled barrier (all required per end)	Each	\$ 2,500.00
Temporary Crash Cushion / non-redirective Water filled Barrels (all required per end)	Each	\$ 3,285.00
Temporary Crash Cushion / non-redirective Sand filled Barrels (all required per end)	Each	\$ 4,325.00
Temporary Crash Cushion / Redirective	Each	\$ 9,230.00
Plastic Safety Fence	Foot	\$ 1.00
Temporary Sidewalk Surfacing	Square Foot	\$ 2.00
Flexible Markers (Flat Whip, Reflective)	Each	\$ 60.00
Flagging	Hour	\$58.00
Electronic Boards, Panels and Signals		
Sequential Arrow Panel	Each/Day	\$ 36.00
Portable Changeable Message Board Sign	Each/Day	\$ 130.00
Portable Traffic Signals (Two)	Each/Day	\$361.00
Cars and Trucks w/driver		
Pilot Car (4x2 ½ ton truck, or any car)	Hour	\$72.00
Watering Truck – up to 4900 gallon capacity	M-Gallon	\$ 28.00
Watering Truck – more than 4900 gallon	M-Gallon	\$ 21.00
Street Sweeping (Regenerative Sweeper, Vacuum Sweeper, Mechanical or Power Broom with vacuum)	Hour	\$ 214.00
40,000 GVW Truck with Crash Attenuator	Hour	\$ 162.00
Interim Pavement Markings		
Painted Markings	Linear Foot	\$ 0.30
Preformed Pavement Marking Tape (removable or non-removable)	Linear Foot	\$ 1.75
Temporary Raised Pavement Markers	Each	\$ 1.00
Word or Symbol Markings	Each	\$ 40.00
Temporary Cover Markings	Linear Foot	\$ 4.00
Removal of Pavement Markings	Linear Foot	\$1.25

Delete Section 644 in its entirety and substitute the following:
12/10/20 (N41)

SECTION 644
SERVICES TO BE FURNISHED BY THE CONTRACTOR

644-1.01 DESCRIPTION. Furnish and maintain facilities and services specified in the Contract for the Department's project administrative personnel to use during the project. Services include heat, electrical power (NEC compliant), water and any others required to operate the facilities. All furnished facilities remain the property of the contractor when the work is completed.

The Engineer may delete any 644 Items, by Directive within five working days after the Preconstruction Conference. If any 644 Items are deleted within the specified period, Subsection 109-1.09, Eliminated Items, shall not apply to the deleted 644 Items.

644-2.01 FIELD OFFICE. Furnish and maintain a suitable office for the Engineer to use during construction. Make the Field Office available for occupancy 2 weeks before commencing work on the project through one week after Project Completion. The Field Office shall be within one half of one mile from the project.

1. Submit office proposal to the Engineer prior to procurement or transporting office to the project. The Engineer will approve the office general condition, location, access, features, and physical layout prior to beginning any office setup work. If this office is part of your building, completely partition it from the rest of the structure and provide a separate outside door equipped with a lock.
2. Provide at least the following minimum requirements, or as approved by the Engineer:
 - a. Floor space of at least 500 ft²
 - b. Window area of at least 60 ft²
 - c. Lockable outside door(s)
 - d. 6 each plastic folding tables, 8 ft. long
 - e. Shelf space of at least 24 linear feet
 - f. Adequate heating and cooling devices, and fuel or power to run the devices, to maintain an office temperature between 65° and 75°F.
 - g. Adequate ventilation
 - h. Continuous supply of drinking water from an approved source or commercial supplier
 - i. Sanitary facilities including adequate hand soap, hand sanitizer, toilet paper, and paper towels
 - j. Janitorial services at least weekly
 - k. Provide electrical service as indicated in 644-2.09, #1 Field Office
 - l. Internet Service and Phone:

Furnish and install a high speed internet service and three telephones, with all necessary ancillary equipment.

The internet system shall have a send and receive capability supporting 1.0 Mbps download speed or higher and 0.5 Mbps upload speed at all times. The internet system shall have a minimum monthly data usage of 10 GB. Include a wireless router and an appropriately sized battery backup for the internet system. The system shall be for the exclusive use of the Engineer.

The telephone system shall consist of commercially available telephones with the necessary equipment for each line. Provide one telephone that includes a built in digital answering machine.

Internet and telephone service shall be supplied and operational no more than two weeks after the field office has been set up on site. Service plans shall be provided and remain in effect for the duration of the use of the field office.

- m. One multifunction Color Printer/Scanner/Copier meeting the following requirements:

New or like-new condition
Printing/copying at least 32 ppm
Scan speed of 40 ppm at 400 DPI in color, at a minimum
Print/Scan/Copy 8.5" x 11" and 11" x 17" in color, at a minimum
Supports network scanning (FTP and SMB Support)
Supports network printing (PCL and Postscript)
Network card included
Automatic Document Feeder

Furnish ink and toner and perform repairs and maintenance as necessary.

The Printer/Scanner/Copier remains property of the Contractor upon completion of the contract.

- n. Make the field office accessible according to the requirements of *Americans with Disabilities Act Accessibility Guidelines* (ADAAG). Provide at least one designated handicap parking space.

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- o. One AED (Automated External Defibrillator), with carrying case and properly marked wall cabinet. Provide training on how to use the AED.
 - p. One combination Smoke and Carbon Monoxide Detector minimum. Provide combination Smoke and Carbon Monoxide Detectors in any location requested by the Engineer.
 - q. One 25 Person Trauma First Aid Kit. List of required contents available at <http://dot.alaska.gov/nreg/files/25-Person-Trauma-Kit-Contents.pdf>
 - r. 0 mobile hotspots with month-to-month data plans. Include car charger and 5 gigabytes of data usage per month.
3. Provide electrical power to the Department's portable concrete compressive strength lab if there are any bridge items in the bid schedule as identified in 644-2.09, #9.
 4. Provide electrical power to the Department's portable nuclear storage trailer as identified in 644-2.09, #8.
 5. Provide the following to the Department's portable asphalt lab if there are any asphaltic materials in the bid schedule and item 644.0002.____ Field Laboratory does not appear in the bid schedule.
 - a. electrical service as identified in 644-2.09, #4 Asphalt Laboratory.
 - b. internet service as specified for the Field Laboratory.

All long distance calls made by State personnel will be paid by the State. Installation and maintenance fees, local calls, connection fees and internet service provider fees, and all other fees shall be paid by the Contractor. Paper used by the copier/scanner/printer will be paid by the State.

644-2.02 FIELD LABORATORY. Furnish and maintain a field laboratory for the Engineer to use exclusively throughout the contract. Provide a completely functional installation 2 weeks before commencing construction work through one week after Project Completion.

1. Grade and compact a site for the lab acceptable to the Engineer. Locate and level the structure on this site. If subsequent ground movement causes an unlevel or unstable condition, re-level or re-locate the facility as directed.
2. Provide a weatherproof structure suitable to field test construction materials, with the following minimum functional requirements:
 - a. Floor space of 300 ft²
 - b. Two 10-ft² windows that open and lock
 - c. Lockable door(s)
 - d. Work bench(es), 2-1/2 x 16 feet total, 3 feet high
 - e. Shelf space, 1 x 16 feet
 - f. One 18-inch deep sink with attached industrial faucet with hand sprayer attachment and approved drain
 - g. A gravity-fed 250-gallon tank or pressurized constant water supply of acceptable quality
 - h. electrical service as indicated in 644-2.09, #2 Field Laboratory
 - i. Heating equipment suitable to maintain a uniform room temperature of 65° to 75°F
 - j. Storage cabinet, 3 ft x 3 ft x 3 ft, lockable, securely fixed to an inside wall with a hinged door opening outward
 - k. Office desk and 2 chairs
 - l. One combination Smoke and Carbon Monoxide Detector minimum. Provide Combination Smoke and Carbon Monoxide Detectors at any location requested by the Engineer.
 - m. One 25 person Trauma First Aid Kit.
 - n. Internet Service and Phone:
Furnish and install a high speed internet service and a telephone, with all necessary ancillary equipment.

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The internet system shall have a send and receive capability supporting 1.0 Mbps download speed or higher and 0.5 Mbps upload speed at all times. The internet system shall have a minimum monthly data usage of 10 GB. Include a wireless router and an appropriately sized battery backup for the internet system. The system shall be separate from the internet system of the Contractor for exclusive use of the Department.

The telephone system shall consist of commercially available telephones with the necessary equipment for each line. Provide one telephone that includes a built in digital answering machine.

Internet and telephone service shall be supplied and operational no more than two weeks after the field laboratory has been set up on site. Service plans shall be provided and remain in effect for the duration of the use of the field laboratory.

3. If the lab is a mobile unit mounted on axles and wheels, block the structure under the frame so that the wheels do not touch the ground and the blocking rests firmly on the prepared site.
4. Provide a separate weatherproof shed within 20 feet of the main lab structure (Shaking Shed). Grade and compact a site for the Shaking Shed acceptable to the Engineer. Locate and level the structure on this site. If subsequent ground movement causes an unlevel or unstable condition, re-level or re-locate the facility as directed.
 - a. The Shaking Shed shall have the following minimum functional requirements:
 - (1) Floor 8 ft x 12 ft, ceiling height 8 ft
 - (2) Door 4 ft wide and window 5 ft² that opens, both lockable
 - (3) electrical service as identified in 644-2.09, #3 Field Laboratory Out Building
 - (4) Work table 3 ft x 1-1/2 ft x 3 ft high, capable of supporting 250 pounds and affixed to an inside wall as directed
 - (5) Concrete-slab floor, 8 ft x 8 ft x 4 inches thick, cast-in-place or pre-cast. Install anchor bolts in the floor to accommodate the mounting pattern of the Gilson sieving machine at a location as directed.

Found the slab directly on the prepared site such that it is continuously supported.

5. Provide a weatherproof pole shed adjacent to the Shaking Shack. Grade and compact a site for the Splitting shed acceptable to the Engineer. Locate and level the structure on this site. If subsequent ground movement causes an unlevel or unstable condition, re-level or re-locate the facility as directed.
 - a. The Splitting shed shall meet the following minimum requirements
 - (1) 12' x 24' Pole shed structure with 8' minimum ceiling height.
 - (2) Pole spacing 4' to 6'
 - (3) Water proof roof
 - (4) 2x4 construction, or manufactured structure approved by the Engineer.
 - (5) 6 each 4' T8 LED lighting fixtures with bulbs spaced evenly across the roof structure
 - (6) Manufactured, industrial strength, welded-metal shelving with total 52 square feet of shelving
 - (7) 2 walls
 - (8) Smooth rigid floor as approved by the Engineer

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6. For all types of installations, if the entryway is located higher than a single 7-inch rise, provide the following:
 - a. Stairway, 3 feet wide x 11-inch tread x 7-inch rise
 - b. Landing, 4 ft x 4 ft centered on the entryway
 - c. Handrail(s) firmly affixed to the stairway
7. Provide the following lab equipment and services:
 - a. Propane necessary for the lab operation, including two 100-lb tanks, regulators, hoses, fittings, and incidentals for a functional system
 - b. Specialized sampling equipment such as belt templates or belt sampling devices as required
 - c. Fuel and power necessary to continuously operate the facilities
8. Provide the following to the Department's portable asphalt lab if there are any asphaltic materials in the bid schedule.
 - a. electrical service as identified in 644-2.09, #4 Asphalt Laboratory.
 - b. internet service as specified for the Field Laboratory.

644-2.03 CURING SHED. Furnish and maintain a suitable weather tight shed for curing concrete test cylinders, with a suitable tank(s) for curing concrete test cylinders.

Provide a tank(s) large enough to contain at least 6 each 4" x 8" test cylinders from each pour that you propose to make during any 28-day period. Use a tank(s) at least 18 inches high, insulated, and constructed of heavy duty plastic or non-corrosive metal. Construct a lid to provide access to the tank(s).

Provide suitable heating to maintain the temperature in the tank between 70° and 77°F at all times when curing the test cylinders. In addition, provide suitable thermometers in the shed and tank(s) to check the temperature.

Provide a supply of calcium hydroxide (high-calcium hydrated lime) sufficient to maintain a fully saturated water bath in the tank(s). Provide a source of potable water.

Provide one combination smoke alarm and carbon monoxide detector.

Provide electrical service as identified in 644-2.09, #5 Curing Shed

644-2.05 VEHICLES. Furnish and maintain vehicles in good condition that are less than three years old and with less than 36,000 miles on the odometer for the exclusive use of the Department throughout the project. Provide full-size four-wheel drive pickups or sport utility vehicles. The Special Provisions will state the required number and type of vehicles. Provide vehicles from two weeks before commencing work to one week after Project Completion. Maintain the vehicles in satisfactory running condition throughout the duration of the contract. Provide insurance, fuel, fluids, lubricants, tire repair/replacement, and windshield repair/replacements as needed. If a vehicle is down for more than 24 hours, provide a replacement Vehicle of the same type at no additional cost.

You are responsible for normal wear and tear, and any other incidental damage including broken windshields, occurring during the Department's operation and use. The State of Alaska is responsible for damage to any vehicle caused by its own negligent operation.

The Engineer will approve the vehicles prior to transporting them to the project site. In addition to use on the project, all of the vehicles will be allowed to make round trips to the Department's regional headquarters. Remove all vehicles from the project at the end of the Contract.

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<u>Number of Vehicles</u>	<u>Type</u>
1	Full sized 8 Passenger SUV
2	1/2 Ton Extended Cab Pickup

Equip each vehicle as follows:

1. Four wheel drive
2. Automatic transmission
3. Power steering
4. Air conditioning
5. Fire extinguisher & basic first aid kit
6. Jack and lug wrench
7. Load range E tires in good condition
8. Two full size load range E spare tires in good condition mounted on rims
9. 360-degree Permanent Beacon
10. 2 sets of keys
11. CB Radio with 48" Antenna for all projects more than 50 miles from Fairbanks.
12. 3 each AKDOT&PF magnetic stickers. Plans available at <http://dot.alaska.gov/documents/DOT-SOA-Construction-Magnets-Specs.pdf>

Materials Truck

Number of Vehicles

1

Meet the above requirements for a vehicle and the following:

1. Flatbed with 2' tall railing
2. Minimum 1000 lb Lift attached to the bed of the truck

644-2.06 NUCLEAR TESTING EQUIPMENT STORAGE SHED. Design, furnish and maintain a weatherproof, heated, and ventilated nuclear densometer/testing equipment storage shed for the Engineer to use exclusively throughout the contract. Install the building at least 15-feet from an occupied area at a location approved by the Engineer. Install the shed at least one week before the commencement of construction activities and maintain it until one week after Project Completion. Provide sufficient floor area for the nuclear testing equipment and a portable electric heater to maintain a minimum room temperature of 50°F. Design the building with enough floor area to provide sufficient clearance between the equipment, heater, and combustibles. Provide a commercial grade metal-clad exterior entrance door of 3'-0" min width by 6'-8" height with dead-bolt lockset. Hang the door so that hinge pins are not accessible from the exterior. Provide the Engineer with 2 keys to control access. Provide a 5/16" x 10 foot long welded steel security chain securely attached inside the structure with tamperproof hardware for the Engineer to secure the testing equipment. Provide electrical service as identified in 644-2.09, #7 Nuclear Testing Equipment Storage Shed. Secure the structure to the ground with tamperproof anchors to resist wind loads and prevent unauthorized movement of the building. The Nuclear Testing Equipment Storage Shed remains the property of the Contractor. Remove the shed from the site following project completion. The Nuclear Testing Equipment Storage Shed must be windowless.

644-2.07 STORAGE CONTAINER. Furnish, transport and maintain a weathertight, lockable, steel enclosed 20 foot long x 8 foot wide x 8 foot high wooden floored container for the storage of the Department's materials, supplies and testing equipment (but not nuclear equipment). Provide twenty equally spaced fastening points on the interior walls that are capable of securing the Department's contents. Door opening dimensions of the storage container shall be greater than 60 square feet. Supply necessary equipment to lift and move container with minimal disturbance to the Department's contents. The container shall not be moved by skidding or hook lift. The Contractor shall be listed as the shipper on all documents listing and acknowledging receipt of the Department's goods for shipment.

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Deliver an empty and clean container to the Regional Materials Laboratory, or location acceptable to the Engineer, three weeks prior to transporting to the project site. Allow 7 days for the Department to load the container. Transport the loaded container to the project site. Set up container at a location approved by the Engineer at least one week before the commencement of construction activities and maintain it until one week after Project Completion.

1. Provide electrical service and other facilities as follows:
 - a. Provide a stairway with railing, built to meet the International Building Code, if there is more than 12-inch difference in floor entry and existing ground elevation.
 - b. Provide electrical service as identified in 644-2.09, #6 Storage Container.

Return the container to the Regional Materials Laboratory, or location acceptable to the Engineer, upon project completion. Allow 7 days for the Department to unload the container. The storage container remains your property after you complete the work.

644-2.08 FIELD COMMUNICATIONS. Provide internet and phone communication systems as directed by the Engineer.

644-2.09 ELECTRICAL POWER. Furnish and maintain a constant source of power to the facilities specified in the contract for the Department's use during the project. Provide a completely functional installation 2 weeks before commencing construction work through 2 weeks after Project Completion.

1. FIELD OFFICE. Provide electrical services as follows:
 - a. Heating/Cooling adequate to maintain temperatures between 65° to 75°F
 - b. Electrical current: 120/240 VAC, 60 cycle on 24 hour basis
 - c. Wiring system to support a 40 amp user load demand with two 20-amp circuits
 - d. Eight conveniently spaced outlets on the interior wall, consistent with local codes
 - e. Eight 8ft LED minimum 5000 lumen lamps or sixteen 4ft LED minimum 2000 lumen lamps, between 2800K and 5000K color temperature
2. FIELD LABORATORY. Provide electrical services as follows:
 - a. Heating/Cooling adequate to maintain temperatures between 65° to 75°F
 - b. Electrical current: 120/240 VAC, 60 cycle on 24 hour basis
 - c. Wiring system to support a 40 amp user load demand with two 20-amp circuits, GFI Protected
 - d. Six conveniently spaced outlets on the interior wall, consistent with local codes
 - e. Eight 8ft LED minimum 5000 lumen lamps or sixteen 4ft LED minimum 2000 lumen lamps, between 2800K and 5000K color temperature
 - f. Exhaust fan: minimum 300 CFM
3. SHAKING SHED. Provide electrical services as follows:
 - a. Heating/Cooling adequate to maintain temperatures between 65° to 75°F
 - b. Electrical current: 120/240 VAC, 60 cycle on 24 hour basis
 - c. Wiring system to support a 20-amp user load demand, GFI Protected
 - d. Three conveniently spaced outlets on the interior wall, consistent with local codes
 - e. Two 8ft LED minimum 5000 lumen lamps or four 4ft LED minimum 2000 lumen lamps, between 2800K and 5000K color temperature
 - f. Exhaust fan: minimum 300 CFM
4. ASPHALT LABORATORY. Provide electrical services as follows:
 - a. Electrical current: 120/240 VAC, 60 cycle on 24 hour basis

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- b. 100-amp service
5. CURING SHED. Provide electrical services as follows:
- a. Heating/Cooling adequate to maintain temperatures between 70° to 77°F
 - b. Two 100-watt incandescent or four 4ft LED minimum 2000 lumen lamps, between 2800K and 5000K color temperature
6. STORAGE CONTAINER. Provide electrical services as follows:
- a. Electrical current: 120/240 VAC, 60 cycle on 24 hour basis
 - b. Wiring system to support a 20-amp user load demand, GFI Protected
 - c. Two conveniently spaced outlets on the interior wall, consistent with local codes
 - d. Four 100-watt incandescent or eight 4ft LED minimum 2000 lumen lamps, between 2800K and 5000K color temperature
7. NUCLEAR TESTING EQUIPMENT STORAGE SHED. Provide electrical services as follows:
- a. Heating/Cooling adequate to maintain minimum temperatures of 50°F
 - b. Electrical current: 120/240 VAC, 60 cycle on 24 hour basis
 - c. Two 100-watt incandescent or four 4ft LED minimum 2000 lumen lamps, between 2800K and 5000K color temperature
 - d. Wiring system to support a 20-amp user load demand
8. NUCLEAR TESTING EQUIPMENT STORAGE SHED (STATE PROVIDED). Provide electrical services as follows:
- a. Electrical current, 120/240 VAC, 60-cycle on 24-hour basis
 - b. Wiring system to support a 20-amp user load demand
9. PORTABLE CONCRETE COMPRESSIVE LABORATORY. Provide electrical services as follows:
- a. Electrical current: 120/240 VAC, 60 cycle on 24 hour basis
 - b. Wiring system to support a 20-amp user load demand

If 644.0015____, Nuclear Testing Equipment Storage Shed is deleted the electrical power requirement are still required per 644-2.09, #8.

If the contract contains bridge items that require concrete or grout provide electrical power to the Department's Portable Concrete Compressive Laboratory per 644-2.09, #9.

644-3.01 METHOD OF MEASUREMENT. Section 109 and as follows:

Storage Container. By the number of storage containers specified, to include all components, installed and accepted as completed units and ready for materials and equipment storage.

644-4.01 BASIS OF PAYMENT.

Vehicles. Includes all resources, including fuel, oil, maintenance, and insurance to furnish the specified number of fully operational vehicles for the duration specified in the contract.

Lump Sum Items. Payment for lump sum items will be made as follows:

- 1. A percentage of the lump sum amount, to be determined by the Engineer, will be paid as full compensation for furnishing the facility at the site.

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2. The balance of the lump sum amount will be prorated over the anticipated active construction period with a portion included as part of each interim payment, for maintenance, repairs, providing all utilities, and for removing it from the site. If anticipated construction period changes, the final increment will be held until final payment.

Storage Container. At the contract unit price to include all labor, materials, tools, equipment and supplies required to deliver the storage shed to the regional office for loading, to deliver it to the project office, to install it before commencement of construction, to maintain it for the duration of the project, to remove the shed and electrical service after project completion, to deliver it to the regional office for unloading, and to remove the storage shed. Electrical service and utility costs are subsidiary to this item.

Field Communications. Installation and maintenance of equipment and monthly invoice costs will be paid for by Contingent sum under Item 644.2002.0000, Field Communications. Provide invoices from vendor for installation, maintenance, and monthly subscription costs. When this bid item appears in the Bid Schedule, internet and phone service are not subsidiary to 644.0001.____ Field Office.

Payment will be made under:

PAY ITEM		
Item Number	Item Description	Unit
644.0001.____	Field Office	LS
644.0002.____	Field Laboratory	LS
644.0003.____	Curing Shed	LS
644.0006.____	Vehicle	LS
644.0015.____	Nuclear Testing Equipment Storage Shed	EACH
644.0016.____	Storage Container	EACH
644.2002.0000	Field Communications	CS
644.2010.0000	Nuclear Testing Equipment Storage Shed	LS

Add the following section:

**SECTION 645
TRAINING PROGRAM**

11/30/20 (HSP20-2)

645-1.01 DESCRIPTION. This Statewide Special Provision for on-the-job training (OJT) implements 23 CFR 230, Subpart A, Appendix B.

As part of the Equal Employment Opportunity Affirmative Action Program, the Contractor shall provide on-the-job training aimed at developing full journey status in the type of trade or job classification involved. The number of individuals to be trained and the number of hours of training to be provided under this contract will be as shown on the bid schedule.

645-2.01 OBJECTIVE. Training and upgrading of minorities and women toward journey status is the primary objective of this program. The Contractor shall enroll minorities and/or women, where possible, and document good faith efforts prior to the hire of non-minority males in order to demonstrate compliance with this Training Special Provision. Specific good faith efforts required under this Section for the recruitment and employment of minorities and women are found in the Federal EEO Bid Conditions, Form 25A-301.

645-3.01 GENERAL. The Contractor shall determine the distribution of the required number of apprentices/trainees and the required number of hours of training among the various work classifications

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based upon the type of work to be performed, the size of the workforce in each trade or job classification, and the shortage of minority and female journey workers within a reasonable area of recruitment.

Training will be provided in the skilled construction crafts unless the Contractor can establish prior to contract award that training in the skilled classifications is not possible on a project; if so, the Department may then approve training either in lower level management positions such as office engineers, estimators, and timekeepers, where the training is oriented toward construction applications, or in the unskilled classifications, provided that significant and meaningful training can be provided. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Credit for offsite training hours indicated above may only be made to the Contractor where the apprentices/trainees are concurrently employed on the project and the Contractor does one or more of the following: contributes to the cost of the training, provides the instruction to the apprentice/trainee, or pays the apprentice's/trainee's wages during the offsite training period.

Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

Prior to award of the contract, the Contractor shall submit Form 25A-311, Training Utilization Report, indicating the training program to be used, the number of apprentices/trainees to be trained in each selected classification, the number of hours of training to be provided, and the anticipated starting time for training in each of the classifications.

Training must begin within 2 weeks of the anticipated start date(s); unless otherwise authorized by a Directive. Such authorization will be made only after submission of documentation by the Contractor, and approval by the Engineer, of efforts made in good faith which substantiate the necessity for a change.

Contractors may use a training program approved by the U.S. Department of Labor, Office of Apprenticeship (USDOL/OA); or one developed by the Contractor using Form 25A-310 and approved prior to contract award by the OJT Coordinator in the DOT&PF Civil Rights Office.

The minimum length and type of training for each classification will be established in the training program selected by the Contractor. Training program approval by the Department for use under this section is on a project by project basis.

It is expected that each apprentice/trainee will begin training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist or until training has been completed. It is not required that apprentices/trainees be continuously employed for the duration of the contract.

If, in the judgment of the Contractor, an apprentice/trainee becomes proficient enough to qualify as a journey worker before the end of the prescribed training period and the Contractor employs that individual as a journey worker in that classification for as long as work in that area remains, the individual's training program will be considered completed and the balance of training hours required for that apprentice/trainee shall be waived.

The Contractor shall furnish each ADOT&PF training program trainee a copy of the program (Form 25A-310) to be followed during training on the project, and with a written certification showing the type and length of training completed on the project. Existing USDOL/OA apprentices should already have a copy of their program. No employee shall be employed for credit as an apprentice/trainee in a classification in which that employee has previously worked at journey status or has previously completed a training course leading to journey status.

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The Contractor shall periodically review the training and promotion potential of minority and women employees and shall encourage eligible employees to apply for such training and promotion.

The Contractor shall provide for the maintenance of records and the furnishing of periodic reports documenting the progress of each apprentice/trainee. The Contractor must submit Form 25A-313 by the 15th of each month and provide each ADOT&PF trainee written evaluation reports for each unit of training provided as established on Form 25A-310.

645-3.02 WAGES. Trainees in ADOT&PF approved training programs will be paid prevailing Davis-Bacon fringe benefits plus at least 60 (but less than 100) percent of the appropriate minimum journey rate specified in the contract for the first half of the training period, at least 75 (but less than 100) percent for the third quarter of the training period, and at least 90 (but less than 100) percent for the last quarter of the training period. Trainee wages shall be identified on Form 25A-310. Apprentices in USDOL/OA training programs shall be paid in accordance with their approved program. Beginning wages of each trainee/apprentice enrolled in a Section 645 Training Program on the project shall be identified on Form 25A-312.

645-3.03 SUBCONTRACTS. In the event the Contractor subcontracts a portion of the work, he shall determine how many, if any, of the apprentices/trainees are to be trained by the subcontractor. Any such subcontracts shall include this Section 645, Form 25A-311 and Form 25A-310, where appropriate. However, the responsibility for meeting these training requirements remains with the Contractor; compliance or non-compliance with these provisions rests with the Contractor and sanctions and/or damages, if any, shall be applied to the Contractor in accordance with Subsection 645-5.01, Basis of Payment.

645-4.01 METHOD OF MEASUREMENT. The Contractor will be credited for each approved apprentice/trainee employed on the project and reimbursed on the basis of hours worked, as listed in the certified payrolls. There shall be no credit for training provided under this section prior to the Contractor's submittal and approval by the Engineer of Form 25A-312 for each apprentice/trainee trained under this Section. Upon completion of each individual training program, no further measurement for payment shall be made.

645-5.01 BASIS OF PAYMENT. Payment will be made at the contract unit price for each hour of training credited. Where a trainee or apprentice, at the discretion of the Contractor, graduates early and is employed as a journey worker in accordance with the provisions of Subsection 645-3.01, the Contractor will receive payment only for those hours of training actually provided.

This payment will be made regardless of any other training program funds the Contractor may receive, unless such other funding sources specifically prohibit the Contractor from receiving other reimbursement.

Payment for training in excess of the number of hours specified on the approved Form 25A-311 may be made only when approved by the Engineer through Change Order.

Non-compliance with these specifications shall result in the withholding of progress payments until good faith efforts documentation has been submitted and acceptable remedial action has been taken.

Payment will be at the end of the project following the completion of all training programs approved for the project. No payment or partial payment will be made to the Contractor if he fails to do any of the following and where such failure indicates a lack of good faith in meeting these requirements:

1. provide the required hours of training (as shown in the Bid Schedule and approved Form 25A-311),
2. train the required number of trainees/apprentices in each training program (as shown in the Bid Schedule and approved Form 25A-311), or

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3. hire the apprentice/trainee as a journey worker in that classification upon completion of the training program for as long as work in that area remains.

Failure to provide the required training damages the effectiveness and integrity of this affirmative action program and thwarts the Department's federal mandate to bring women and minorities into the construction industry. Although precise damages to the program are impractical to calculate, they are at a minimum, equivalent to the loss to the individuals who were the intended beneficiaries of the program. Therefore, where the Contractor has failed, by the end of the project, to provide the required number of hours of training and has failed to submit acceptable good faith efforts documentation which establishes why he was unable to do so, the Contractor will be assessed an amount equal to the following damages to be deducted from the final progress payment:

Number of hours of training not provided, times the journey worker hourly scale plus benefits. The journey worker scale is that for the classification identified in the approved programs.

Payment will be made under:

PAY ITEM		
Item Number	Item Description	Unit
645.0001.____	Training Program, ____ Trainees/Apprentices	LH

Delete Section 646 in its entirety and substitute the following:

02/01/20 (N42)

**SECTION 646
CPM SCHEDULING**

646-1.01 DESCRIPTION. Provide and maintain a Critical Path Method (CPM) progress schedule for the project. Use the schedule in coordinating and monitoring of all work under the Contract including activity of subcontractors, manufacturers, suppliers, and utility companies, and submittal review by the Department. Update the CPM as described in this specification.

Provide to the Engineer a legal copy of the software program to be utilized for the CPM Schedule item on the project. The software program shall have the full capacity to analyze and modify the CPM Schedule.

646-2.01 SUBMITTALS.

1. Submit a detailed initial CPM schedule at least 5 working days prior to the preconstruction conference, for the Engineer's approval. The construction schedule, for the entire project, may not exceed the specified contract time.

Following the Engineer's review, if revisions to the proposed CPM schedule are required, do so promptly. The CPM schedule must be finalized within 15 days of the Notice to Proceed.

No contract work may be pursued at the project site without an approved CPM schedule.

2. Weekly Work Plans. Submit a Weekly Work Plan in conjunction with Weekly Progress Meeting agenda. Detail your proposed operations for the upcoming week. This work plan shall reflect a true and accurate assessment by the Contractor concerning the actual progress on the project. Include:
 - a. Tasks / work activities
 - b. Work hours
 - c. Subcontractors

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- d. Location of the work to be performed

The approval by the Department of the initial CPM Schedule, subsequent CPM updated schedules, and the weekly Work Plans shall not relieve the Contractor as the responsible party for development and execution of the means, method, and timing of performance reflected in the schedule, nor completing the project within the specified contract time.

646-3.01 REQUIREMENTS AND USE OF SCHEDULE.

1. Schedule Requirements. Prepare the CPM schedule as a Precedence Diagram Network developed in the activity-on-node format which includes:
 - a. Activity description
 - b. Activity duration
 - c. Critical Sequence of activities and Critical Path.

Show on the activity-on-node diagram the sequence and interdependence of all activities required for complete performance of all items of work under this Contract, including shop drawing submittals and reviews and fabrication and delivery activities. The maximum review period allowed by the contract shall be shown where review functions by the Department are noted on the schedule

The contract completion time will be adjusted only for causes specified in this Contract.

2. Weekly Progress Meetings. Hold Weekly job site progress meetings with the Engineer for the purpose of reviewing and updating the CPM schedule. Review progress and verify finish dates of completed activities, remaining duration of uncompleted activities, and any proposed time estimate revisions. At a minimum, the Contractor's Project Manager, Project Superintendent, Traffic Control Supervisor shall attend the weekly job site meetings.

Provide an updated CPM schedule when the critical path on the CPM schedule has changed by 7 or more days.

646-4.01 METHOD OF MEASUREMENT. Section 109.

646-5.01 BASIS OF PAYMENT. If the requirements of Item 646 CPM Scheduling are not in full compliance, five percent (5%) of the total progress payment value earned during the progress period will be withheld until the requirements of Item 646 CPM Scheduling are in full compliance.

Payment will be made under:

PAY ITEM		
Item Number	Item Description	Unit
646.0001.____	CPM Scheduling	LS

Add the following section:

**SECTION 651
WORK BY OTHERS**

01/20/15 (N43)

651-1.01 DESCRIPTION. Coordinate construction schedule and phasing according to Section 105.

651-3.01 DESCRIPTION OF WORK AND SCHEDULE. Adjust schedule and phasing as necessary to allow utility owners, their contractors, and other third party entities to complete their work on or before the completion date given in the utility relocation agreement.

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Utility adjustments by others are shown on the Plans and are scheduled to be performed under relocation agreements, as follows:

Utility Type	Utility Company	Agreement Completion Date
Electric	GVEA	
Communications	GCI	
Communications	ACS	

Utility relocation agreement plans are available for inspection by making arrangements with the contact for pre-bid information, as listed on the Invitation for Bids.

**SECTION 670
TRAFFIC MARKINGS**

01/20/15 (N46)

670-3.01 CONSTRUCTION REQUIREMENTS. *Add the following after the first sentence:* All completed pavement marking symbols and words will be solid as shown on the Plans. When a stencil with bridges is used, fill all breaks not shown on the Plans after removing the stencil.

**SECTION 702
ASPHALT MATERIALS**

11/16/20 (N82)

702-2.01 ASPHALT BINDER. *Delete the first paragraph and substitute the following:* Meet AASHTO M 320 for PG 52-28 binder.

Meet AASHTO M 332 for PG 52E-40 binder, except that J_{NR} Diff (AASHTO T 350) and Direct Tension (AASHTO T 314) do not apply. PG 52E-40 binder shall have a minimum Percent Recovery_{3.2} of 75% according to AASHTO T 350.

**SECTION 703
AGGREGATES**

12/08/15 (N63)

703-2.09 SUBBASE. *Add the following:*

Subbase, Grading F. Aggregate containing no muck, frozen material, roots, sod or other deleterious matter and with a plasticity index not greater than 6 as tested by ATM 204 and ATM 205. Table 703-8 and the first paragraph of Subsection 703-2.09 do not apply to Grading F. Meet the following gradation as tested by ATM 304:

<u>Sieve</u>	<u>Percent Passing by Weight</u>
2 in	100%
No. 4	15-65%
No. 200	0-6%

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**SECTION 707
METAL PIPE**

04/30/17 (N48)

707-2.01 CORRUGATED STEEL PIPE, PIPE ARCHES, AND UNDERDRAINS. *Add the following:* All seams on pipes manufactured with helical corrugations shall have a continuous weld extending from end to end of each length of pipe in conformance with AASHTO M 36. Seams shall be welded in such a manner that they develop 90% of the average ultimate strength of the base metal. A test shall be performed by an independent lab in accordance with AASHTO T 241 Section 4 during the year in which the pipe is fabricated. The Supplier shall maintain quality control test results and provide them upon request. A copy of the test results containing the information specified in Section 4.6 of AASHTO T 241 shall be furnished to the Engineer.

A Supplier of welded helically corrugated pipe which qualifies for inclusion in the current publication of the Department's QUALIFIED PRODUCTS LIST is not required to perform the test.

01/20/15 (N49)

707-2.03 CORRUGATED ALUMINUM ALLOY CULVERT PIPE AND UNDERDRAINS. *Delete the first sentence and substitute the following:* This pipe shall conform to the requirements of AASHTO M 196 except that helical corrugations shall not be allowed.

**SECTION 708
PAINTS**

08/02/18 (N61)

708-2.03 PAINT FOR TRAFFIC MARKINGS. *Delete this subsection in its entirety and substitute the following:*

1. Pigment Composition: Pigments shall be first quality paint grade pigments. The inert or filler pigments must be of a type and quality generally recognized as first quality paint grade products, and shall not contribute to settling of the paint in storage.
2. Vehicle or Resinous Binder Composition: The vehicle may be any combination of natural or synthetic resinous materials that are not prohibited per this specification. All resins used must be permanently capable of re-dissolving in the solvent combination used in the paint. Paint and binder combinations shall minimize build-up of the paint on the sides of tanks, paint lines, and clogging of spray equipment from un-dissolvable skins.
3. Use material that satisfies the requirements in Table 708-1

**TABLE 708-1
PAINT FOR TRAFFIC MARKINGS**

CHARACTERISTIC	MINIMUM	MAXIMUM	TEST METHOD
Viscosity @ 77°F, (25°C), KU	75	90	ASTM D562
Weight per Gallon at 77°F, (25°C)	11.0	---	ASTM D1475
Fineness of Grind, Hegman	2	---	ASTM D1210
Drying Time for no-pick-up, Minutes	---	5	ASTM D711
Contrast Ratio @ 5 mils wet, White and Colors (Black)	0.95 (1.0)	---	ASTM D2805
Colors: Yellow 33538; White: 37925; Blue 35180; Red 31138; Black 37038 or approved equals	Pass		FED-STD-595C

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Directional reflectance of white paint applied at 15 mils wet film, percent (Measured with 45°:0° or 0°:45° geometry)	85	---	ASTM E1347
Directional reflectance of yellow paint applied at 15 mils wet film, percent (Measured with 45°:0° or 0°:45° geometry)	45	---	ASTM E1347
Volatile Organic Compounds (VOC), grams/liter (lbs./gallon)	-	150 (1.25)	EPA 40 CFR Part 59, ASTM D3960
Total Solids, % by Weight	70	-	ASTM D2369
Total Solids, % by Volume	43	-	ASTM D2697

4. Prohibited Materials: The Manufacturer must certify that the product does not contain mercury, lead, hexavalent chromium, halogenated solvents (such as Methylene Chloride), or any carcinogen, as defined in 29 CFR 1910.1200.
5. Condition in Container: Store according to the manufacturer's recommendations. For a minimum of one year from the date of manufacture, the paint shall meet each of the following conditions:
 - a. Not show excessive settling in a freshly opened full can
 - b. Show no curdling, livering, caking, lumps, skins, or color separation
 - c. Be easily re-dispersed when mixed with a paddle
 - d. Be easily re-dispersed after 5 minutes of mechanical shaking using a standard commercial paint shaker
 - e. Water Resistance: Guaranteed water resistant when applied properly.
6. Weathering: Guaranteed against cracking and weathering under extreme conditions when applied properly.
7. Storage Stability:
 - a. There must be no viscosity increase of 5 Krebs Units over the originally reported viscosity after aging in the container or decomposition of the product. Field examination of previously unopened containers must not disclose evidence of un-dissolvable gelatinous vehicle separation, heavy skin formation, or corrosion of the container of batches in storage one year or less. Containers stored under adverse conditions such as uncovered areas unprotected from the elements must show no evidence of the above conditions over a period of 6 months from date of shipment from manufacturer.
8. Application Temperature: The manufacturer's recommended minimum application temperature (air, surface and material) must be 40° Fahrenheit or lower.

Delete Section 724 in its entirety and substitute the following:
12/10/20 (N51)

**SECTION 724
SEED**

724-2.01 DESCRIPTION. This specification provides the requirements for grass seed, used to provide a living vegetative cover.

724-2.02 MATERIALS. Furnish seed true of genus and species. Meet applicable requirements of the State of Alaska *Seed Regulations*, Alaska Administrative Code, Title 11, Chapter 34 (11 AAC 34), and the Federal

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Seed Act, 7 CFR Part 201. Seed shall meet or exceed the percentages of purity and germination as specified in Table 724-1.

The Contractor may propose an alternate seed mix to the Engineer. Alternate seed mix proposals must include confirmation that the Alaska Plant Materials Center finds the proposed seed mix suitable for use on the project, and that the vendor can provide the proposed seed mix in quantities adequate for the project. The Engineer will determine the acceptability of the proposed alternate for use on the project.

Grass seed shall be furnished in standard containers on which shall be shown the following information:

- (1) common accepted name of the specie (kind) and cultivar (variety) of the seed;
- (2) country or state where the seed was grown;
- (3) total percentage by weight of pure seed;
- (4) total percentage by weight of all weed seed;
- (5) total percentage by weight of inert matter;
- (6) total percentage by weight of other crop seed;
- (7) name and approximate number per pound of each kind of restricted noxious weed seed;
- (8) percentage of germination of the seed, together with the month and year the seed was tested;
- (9) percentage of hard seed, if any is present;
- (10) name and address of the person labeling the seed or selling, offering, or exposing the seed for sale within the state; and
- (11) lot number or other lot identification.

If furnished as a premixed seed, the containers shall state that the seed is a mixture; the name of the species and cultivars of seed; and total percentage by weight of each species of seed present in order of predominance; and the information listed above: (4), (5), (7), (8), (10) and (11).

Furnish seed certified to be free of prohibited noxious weeds or quarantined pests, and certified to contain no more than the maximum allowable tolerances for restricted noxious weeds, according to 11 AAC 34. Prohibited and restricted noxious weeds are listed in 11 AAC 34.020, and can be viewed at the following URL: <http://plants.alaska.gov/invasives/noxious-weeds.htm>

Seed found to contain prohibited noxious weeds or quarantined pests will be rejected, according to 11 AAC 34.020(a) and 11 AAC 34.105 through 34.180, respectively.

Seed found to contain restricted noxious weed seed in excess of the maximum allowable tolerance per pound will be rejected, according to 11 AAC 34.020(b).

The Contractor shall furnish to the Engineer duplicate copies of a statement signed by the vendor certifying that each lot of seed has been tested by a recognized seed testing laboratory. Seed that has not been tested within nine (9) months shall be rejected. The Contractor shall not remove tags from the seed containers. Seed containers that do not have tags shall be rejected. Discrepancies in the lot numbers listed on the statement to the lot numbers indicated on the tags of the seed containers shall be grounds for rejection. Seed which has become wet, moldy, or otherwise damaged in transit or storage will not be accepted. The Contractor shall immediately remove rejected seed from the project premises.

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TABLE 724-1
SEEDING REQUIREMENTS

SPECIES (KIND)	CULTIVAR (VARIETY)	PERCENT PURITY	PERCENT GERMINATION	PURE LIVE SEED (PERCENT PURITY X PERCENT GERMINATION)
American Sloughgrass	Egan	90	80	72
Annual Ryegrass	---	85	80	68
Alpine Bluegrass	Gruening	90	90	81
Beach Wildrye	Benson, Reeve	95	40	38
Bering Hairgrass	Norcoast	95	75	71
Bluejoint	Sourdough	95	75	71
Brome	Manchar, Polar	90	80	72
Glaucous Bluegrass	Tundra	95	80	76
Kentucky Bluegrass	Merion, Nugget, Park	95	80	76
Perennial Ryegrass	---	85	80	68
Polargrass	Alyeska, Kenai	95	75	71
Red Fescue	Arctared, Boreal, Pennlawn	98	80	78
Timothy	Climax, Engmo	95	90	85
Tufted Hairgrass	Nortran	95	75	71
Wheatgrass	Wainwright	95	85	81

**SECTION 725
FERTILIZER**

01/20/15 (N52)

725-2.02 MATERIALS. *Add the following:* Fertilizer which has become wet, moldy or otherwise damaged in transit or storage will not be accepted. The Contractor shall immediately remove rejected fertilizer from the project premises.

**SECTION 727
SOIL STABILIZATION MATERIAL**

8/02/2018 (N54)

727-2.01 MULCH. *Delete this subsection in its entirety and substitute the following:* All mulch, excluding trace mulch, shall provide 100% ground coverage. Apply mulch at the manufacturer's recommended application rate and increase as needed to achieve 100% ground coverage. All mulch, including trace mulch, shall meet one of the following:

1. Wood Cellulose Fiber or Natural Wood Fiber. Fiber shall be produced from natural or recycled (pulp) fiber, such as wood chips or similar wood materials, or from newsprint, corrugated cardboard, or a combination of these processed materials. Fiber shall not contain any rock, metal, or plastic. Fiber shall be treated with a green dye nontoxic to plant and animal life to facilitate inspection of the placement of the material. Fiber shall be manufactured in such a manner that after addition and agitation in slurry tanks with water, the fibers in the material will become uniformly suspended to form a homogenous

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slurry. When hydraulically sprayed on the ground, the material shall allow the absorption and percolation of moisture. The organic matter content shall be at least 90 percent on an oven-dry basis. The moisture content shall be no more than 15 percent as determined by oven dried weight. Each package of the cellulose fiber shall be marked by the manufacturer to show the dried weight. Product must be nontoxic to plant and animal life.

Wood Cellulose Fiber or Natural Wood Fiber may be used to stabilize slopes flatter than 4H:1V. On slopes 4H:1V or steeper Wood Cellulose Fiber or Natural Wood Fiber may be used if an approved tackifier is used, in addition to Wood Cellulose Fiber or Natural Wood Fiber, according to the Manufacturer's recommendations. Wood Cellulose Fiber or Natural Wood Fiber may not be used after August 1.

2. Wood Strand. Wood Strand shall be a blend of loose, long, thin wood pieces derived from native conifer or deciduous trees with high length to width ratio. A minimum of 95-percent of the wood strands shall have lengths between 2 and 10 inches, with a width and thickness between 1/16 and 3/8 inches. Wood Strand shall not contain resin, tannin, or other compounds in quantities that are detrimental to plant life. Sawdust or wood shavings shall not be used as Wood Strand. Wood Strand may be used on slopes flatter than 4H:1V. Wood Strand may not be used after August 1.
3. Straw. All straw material shall be in an air dried condition, free of noxious weeds, seeds, and other materials detrimental to plant life. Hay is not acceptable. Straw shall be suitable for spreading with mulch blower equipment. Straw may be used on slopes flatter than 4H:1V. Straw may not be used after August 1.
4. Bonded Fiber Matrix (BFM). The BFM shall be a hydraulically-applied blanket/mulch/covering composed of long strand, thermally processed wood fibers and crosslinked, hydro-colloid tackifier. The BFM may require a 24-48 hour curing period to achieve maximum performance. Once cured, the BFM shall form an intimate bond with the soil surface to create a continuous, absorbent, flexible erosion resistant blanket that allows for rapid germination and accelerated plant growth. BFM may be used to stabilize slopes between 2H:1V and 4H:1V. BFM may be used after August 1.
5. Fiber Reinforced Matrix (FRM). The FRM shall be a hydraulically-applied, flexible erosion control blanket/mulch/covering composed of long strand, thermally processed wood fibers, crimped, interlocking fibers and performance enhancing additives. The FRM shall require no curing period and upon application shall form an intimate bond with the soil surface to create a continuous, porous, absorbent and erosion resistant blanket that allows for rapid germination and accelerated plant growth. FRM may be used to stabilize slopes 2H:1V and steeper. FRM may be used after August 1.

A list of pre-approved products can be found in Table 1.

Table 1. Pre-Approved Mulch Products List

Product Name	Product Type	Manufacturer
Astro-Mulch	Wood Cellulose Fiber	Thermo-Kool Inc. Wasilla, AK
Fibermulch	Wood Cellulose Fiber	Thermo-Guard Insulation Spokane, WA
NaturesOwn High Density Paper Hydroseeding Mulch	Wood Cellulose Fiber	Hamilton Manufacturing, Inc. Twin Falls, ID
Hydro-Spray	Wood Cellulose Fiber	National Fiber Belchertown, MA
EcoFibre	Natural Wood Fiber	Profile Products LLC Buffalo Grove, IL

Product Name	Product Type	Manufacturer
EcoFibre plus Tack	Natural Wood Fiber	Profile Products LLC Buffalo Grove, IL
Terra Novo Wood Fiber Plus Tackifier	Natural Wood Fiber	Terra-Novo Inc. Bakersfield, CA
Conwed Fiber 1000	Natural Wood Fiber	Profile Products LLC Buffalo Grove, IL
Rainier Fiber plus Tack	Natural Wood Fiber	Fiber Marketing International Spokane, WA
Terra Wood with Tack	Natural Wood Fiber	Profile Products LLC Buffalo Grove, IL
Excel Fibermulch II	Natural Wood Fiber	American Excelsior Co. Rice Lake, WI
Mat-Fiber Plus	Natural Wood Fiber	Mat, Inc. Floodwood, MN
Mat-Fiber	Natural Wood Fiber	Mat, Inc. Floodwood, MN
EcoAegis	Bonded Fiber Matrix (BFM)	Profile Products LLC, Buffalo Grove, IL
ProMatrix Engineered Fiber Matrix	Bonded Fiber Matrix (BFM)	Profile Products LLC, Buffalo Grove, IL
Verdyol Virgin BFM	Bonded Fiber Matrix (BFM)	Erosion Control Blankets Manitoba, Canada
Rainier Fiber Bonded Fiber Matrix	Bonded Fiber Matrix (BFM)	Fiber Marketing International Spokane, WA
Profile Hydro-Blanket BFM	Bonded Fiber Matrix (BFM)	Profile Products LLC Buffalo Grove, IL
Soil Guard	Bonded Fiber Matrix (BFM)	Mat, Inc. Floodwood, MN
Flexterra FGM	Fiber Reinforced Matrix (FRM)	Profile Products LLC Buffalo Grove, IL
Flex Guard	Fiber Reinforced Matrix (FRM)	Mat, Inc. Floodwood, MN
Hydra CX	Fiber Reinforced Matrix (FRM)	Tensar North American Green Poseyville, IN

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