PART 4

STANDARD MODIFICATIONS

AND SPECIAL PROVISIONS

to the

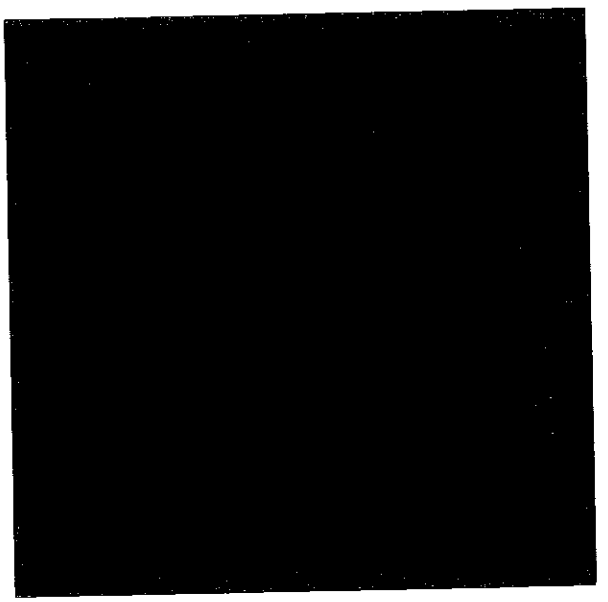
STATE OF ALASKA

SPECIFICATIONS

FOR

HIGHWAY CONSTRUCTION

2004



SECTION 101

DEFINITIONS AND TERMS

Standard Modifications

101-1.03 DEFINITIONS.

PLANS. Delete text of PLANS and replace with: The Department's Contract drawings, profiles, typical cross sections, standard drawings, and supplemental drawings or reproductions showing the location, character, dimensions, and details of the work.
E32(01/27/07)

Replace the definition of SUBGRADE with the following:

SUBGRADE. The soil or embankment upon which the pavement structure is constructed.
E22(1/1/06)

Add the following definition:

QUALIFIED PRODUCTS LIST. A list of companies and products that the Department has found conforms to the SSHC.
(01/27/07)E36

SECTION 102

BIDDING REQUIREMENTS AND CONDITIONS

Standard Modifications

102-1.04 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND WORK SITE. Replace the second paragraph with the following: The records of geotechnical investigations including boring logs, test results, geology data reports, soil reports, material site reports, and geotechnical reports included in a bid package or made accessible to bidders or Contractors, are for information purposes only. These records are not part of the Contract. These records indicate subsurface conditions only at specific locations and times, and only to the depths penetrated. They do not necessarily reflect variations in soil, rock, or groundwater conditions that may exist between or outside such locations. Actual conditions may differ from what is shown in the records. Material Sources referenced in these records may not contain materials of sufficient quantity or quality to meet project requirements. The accessibility of these records does not constitute approval, nor guarantee suitability of soils or sources, or the rights to use sources for this project, except as specifically provided in subsections 106-1.02.4.b Mandatory Sources and 106-1.02.4.c Designated Sources. The records shall not substitute for independent investigation, interpretation, or judgment of the bidder or Contractor. The Department is not responsible for any interpretation or conclusion drawn from its records by the bidder or Contractor.

Bidders and Contractors shall examine subsection 106-1.02 Material Sources for further information about material source development.
E23(1/1/06)

102-1.05 PREPARATION OF BID. Modify the second sentence in the third paragraph, after: "If a bidder is a corporation, the bid must be signed by a corporate officer," add: "or agent". (6/30/04)E18

Special Provisions

Add the following subsection:
102-1.12 MANDATORY POST AWARD CONFERENCE.

DESCRIPTION. Participate in a Post Award Conference. The Post Award Conference is an informational public meeting to be held in the community of project location. Provide information about local employment and economic opportunities, as well as project activities and project contacts.

GENERAL. Attend and participate in the Post Award Conference within 30 days following award of the contract. The Engineer and representatives of other agencies will also participate. The Conference will be held in the community of project location at a time and location to be determined.

SCHEDULING. The Post Award Conference will be scheduled to take place within 30 days of award of the project. The Conference will be scheduled in cooperation with the local community and other participants.

REQUIRED INFORMATION. Present the following information at the Post Award Conference:

- Overview of the project
- Project timeline
- Project impacts on the community
- Project workforce (number and types of employees)
- Contractor's employment opportunities and hiring process

BASIS OF PAYMENT. Work under this item is subsidiary to other contract items and no separate payment will be made.
(6/28/07)R&M

SECTION 105

CONTROL OF WORK

Standard Modifications

105-1.02 PLANS AND WORKING DRAWINGS. In the third paragraph delete: "(24"x36")" and replace with: (22"x34")

105-1.03 CONFORMITY WITH PLANS AND SPECIFICATIONS. In the first sentence of the first paragraph after: "Work performed and materials furnished shall conform to the Plans and Specifications" add: "and approved Working Drawings,"

In the first sentence of the second paragraph after: "Work or material not conforming to the Plans and Specifications" add: "and approved Working Drawings,"
E33(01/27/07)

Special Provisions

105-1.05 COOPERATION BY THE CONTRACTOR. Add the following: The Department has contracted with QAP, Inc. to reconstruct Chief Eddie Hoffman Highway, Bethel Airport to High School, which includes reconstructing the intersection of the Chief Eddie Hoffman Highway and Ridgecrest Drive.
R&M (04/05/07)

105-1.06 UTILITIES. Add the following: Request locates from all the utilities having facilities in the area. Use the Alaska Digline, Inc. Locate Call Center for the following utilities:

ALASKA DIGLINE, INC.	
Locate Call Center Anchorage Area	278-3121
Statewide	800-478-3121
who will notify the following:	
Bethel Utilities Corporation	
GCI Communications	
United Utilities, Inc.	

Call the following utilities and agencies directly:

Contact the Central Region Maintenance & Operations Office at (907) 269-0760 to obtain the appropriate District Superintendent's phone number for this project.

There are various utility appurtenances located within the project limits. Utilities scheduled for relocation are addressed in the following utility specific sections.

Right of Way and/or Construction surveying is required before utility relocation.

Payment will be made as follows:

1. Subsidiary to Item 642(1) Construction Surveying, if the Contractor is required to provide the surveying as part of the Contract, and/or

2. Under Item 642(3) Three Person Survey Party, if the construction or Right of Way staking required by the utility is either in advance of the two (2) week work plan, or not required by the Contract.

The utility shall give the Contractor, through the Engineer, 15 calendar days advance written notice for required staking.
(09/01/04)R3

Prior to any of the relocations listed below the identified areas will be slope staked, storm drain structures and approach pipe locations staked and grading information provided to the Utilities where required. For the duration of the utility relocation work, provide all the required traffic control and flagging for the Utilities. Traffic control and Flagging will be paid for under the 643 items.

Specific coordination requirements for the specific utilities are included below:

Bethel Utilities Corporation, (BUC) has existing aerial facilities located within this project that will require adjustment. Notify BUC by calling 907-543-2949 to establish a point of contact and to determine where to send the advance written notice. Provide the project Engineer with a copy of the written notice. The following existing facilities have been identified as potential conflicts.

Location	Station	Type of Facility	Calendar Day Required
1. Third Ave.	199+62+/-, 30ft Lt.	Removal of BUC Pole# L1P67S	2
2. Third Ave.	198+60+/- Rt. to 220+/-, Rt.	Street Light Conductor Adjustments	8
3. Third Ave.	210+17.27 Rt. & 215+76.47, Lt.	Aerial Secondary Street Light Conductor Adjustments	4

General Communications Inc. (GCI): has existing aerial and buried facilities located within this project that require adjustment. Notify GCI by calling **907-229-9176 or local 543-4388** to establish a point of contact and to determine where to send the advance written notice. The following locations have been identified as potential conflicts.

Location	Station	Type of Facility	Calendar days Required
1. Third Ave.	185+25, Lt to 198+50+/-, Lt.	Buried Cable	12
2. Third Ave.	198+60+/-, Rt. to 220+/-, Rt.	Buried Cables / Aerial Cables	17
3. Third Ave.	210+17.27, Rt. & 215+76.47, Lt.	Aerial Cable Adjustments	5

Location 1: When the special ditch grading information is completed and field locates of the buried GCI facilities have been performed a determination will be made how to proceed. Adjustment if required will be performed by GCI.

Location 2: When the special ditch grading information is completed and field locates of the buried GCI facilities have been performed a determination will be made how to proceed. Adjustment if required will be performed by GCI. New facilities if required will be placed into an aerial configuration.

Location 3: Provide the final grading information in the aerial cable crossing locations to determine the adjustment required.

United Utilities Inc., (UUI) has existing buried facilities located within this project that will require adjustment. Notify UUI by calling **907-543-2300** to establish a point of contact and to determine where to send the advance written notice. The following existing facilities have been identified as potential conflicts.

Location	Station	Type of Facility	Calendar Days Required
1. Third Ave.	185+65+/-, Lt.,	Two Buried HDPE Conduits with Fiber Optic cables In each Conduit	3
2. Third Ave.	198+60+/-, Rt. & Lt.	One Buried HDPE Conduit with Fiber Optic Cable Inside	6
3. Third Ave.	198+60+/-, Rt. to 220+00+/- Rt.	Buried T-cables	17
4. Third Ave.	210+17.27, Rt. & 215+76.47 Lt.	Aerial Cable Adjustments	5

Location 1: When the special ditch grading information is completed and field locates of the existing buried UUI facilities have been performed a determination will be made how to proceed. Adjustment if required will be performed by UUI.

Location 2: Once the staking of the embankment widening and field locates of the existing UUI facilities have been performed a determination will be made as how to proceed. UUI crews will perform adjustments and /or relocation if required. Shoring may be required of the existing UUI facilities. Shoring required for the UUI buried facilities will be considered subsidiary to the 203 items. Provide a shoring plan to UUI for review and approval 7 days before beginning embankment widening and excavation for the special ditching and /or culvert installations.

Location 3: When the special ditch grading information is completed and field locates of the existing buried UUI facilities have been performed a determination will be made how to proceed. Adjustment if required will be performed by UUI.

Location 4: Provide the final grading information in the aerial cable crossing locations to determine the adjustment required.
(7/17/07)R&M

Standard Modifications

105-1.13 MAINTENANCE DURING CONSTRUCTION. Add the following at the end of this subsection: Costs of maintenance work during construction and before the project is accepted as substantially complete shall be subsidiary to the prices bid on the various Contract items, and the Contractor will not be paid an additional amount for such work.

If in the Engineer's opinion, the Contractor at any time fails to provide adequate maintenance, the Engineer will notify the Contractor of such noncompliance. The notification will specify the areas or structures for which there is inadequate maintenance, the corrective maintenance required, and the time allowed to complete corrective maintenance. If the Contractor fails to take the corrective action within the specified time, the Engineer may:

1. Suspend the work until corrective maintenance is completed;
2. Assess a traffic price adjustment against the Contract Amount when an adjustment rate is specified in the Contract; and
3. Employ others for corrective maintenance and deduct the cost from the Contract amount.

(01/27/07)E33

105-1.16 FINAL ACCEPTANCE AND RECORD RETENTION. Modify the first paragraph, Item 4., after: "DOLWD" add: "and State Department of Revenue."
(6/30/04)E19

Special Provisions

105-1.17 CLAIMS FOR ADJUSTMENT AND DISPUTES. Add the following: Appeals to the superior court under AS 36.30.685 must be filed in the third judicial district.
(03/21/01)R93

SECTION 106

CONTROL OF MATERIAL

Standard Modification

106-1.01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS.

In fifth paragraph, in two places remove the text: "Approved Products List" and replace with: "Qualified Products List"
(01/27/07)E36

Special Provisions

Add the following:

Buy America Provision. Comply with the requirements of 23 CFR 635.410, Buy America Requirements, and shall submit a completed Material Origin Certificate, Form 25D-60, before award of the Contract.

Steel and iron products which are incorporated into the work shall be manufactured in the United States except that minor amounts of steel and iron products of foreign manufacture may be used, provided the aggregate cost of such does not exceed one tenth of one percent (0.001) of the total Contract amount, or $2500, whichever is greater. For the purposes of this paragraph, the cost is the value of the products as they are delivered to the project including freight.

"Manufactured in the United States" means that all manufacturing processes starting with the initial mixing and melting through the final shaping, welding, and coating processes must be undertaken in the United States. The definition of "manufacturing process" is smelting or any subsequent process that alters the material's physical form, shape or chemical composition. These processes include rolling, extruding, machining, bending, grinding, drilling, etc. The application of coatings, such as epoxy coating, galvanizing, painting or any other coating that protects or enhances the value of steel or iron materials shall also be considered a manufacturing process subject to the "Buy America Requirements."

Buy America does not apply to raw materials (iron ore), scrap, pig iron, and processed, pelletized and reduced iron ore. It also does not apply to temporary steel items (e.g., temporary sheet piling, temporary bridges, steel scaffolding, and falsework). Further, it does not apply to materials that remain in place at the Contractor's convenience (e.g., sheet pilings, and forms).

The North American Free Trade Agreement (NAFTA) does not apply to the Buy America requirement. There is a specific exemption within NAFTA (article 1001) for grant programs such as the Federal-aid highway program.

When steel and iron products manufactured in the United States are shipped to a foreign country where non-steel or iron products are installed on or in them (e.g., electronic components in a steel cabinet), the steel and iron is considered to meet the requirements of this subsection.

Take whatever steps are necessary to ensure that manufacturing processes for each covered product comply with this provision. Non-conforming products shall be replaced at no expense to the State. Failure to comply may also subject the Contractor to default and/or debarment. False statements may result in criminal penalties prescribed under Title 18 US Code Section 1001 and 1020. (02/07/05)R13

Standard Modifications

106-1.02 MATERIAL SOURCES.

1. a. General. Within Item a. delete text and replace with: Utilize Useable Excavation according to subsection 104-1.04 before using material sources listed in subsection 106-1.02.4. When there is insufficient useable excavation, furnish additional required materials from sources of the Contractor's choice, except that the Contractor shall use a mandatory source when identified in the Contract.

4. Type of Sources. Replace the first paragraph with the following: The Contractor shall utilize Useable Excavation according to subsection 104-1.04 before using material sources listed in this subsection. When there is insufficient Useable Excavation, the Contractor shall furnish additional required materials from sources of the Contractor's choice, except that the Contractor shall use a mandatory source when identified in the Contract.

When there is insufficient Useable Excavation, the Contractor shall supply additional required material from the following sources:

4. d. Available Sources. Replace the second paragraph with the following: When the Department furnishes copies of existing boring logs, test results, or other data in its possession concerning Available Sources, the Contractor is responsible for determining the accuracy and completeness of this data, for assumptions the Contractor makes based on this data, and for exploring Available Sources to the Contractor's satisfaction.

4. e. Excluded Material Sources. Replace the paragraph with the following: Some material sources may not be considered acceptable regardless of location or ownership. The bid documents may identify some material sources excluded from use. The Department reserves the right to exclude a material source, or any portion of a material source, at any time after Contract award that is determined by material testing to be unsuitable for use on the project.

(1/1/06)E24

Add new subsection 106-1.08:

106-1.08 SUBMITTAL PROCEDURE. The Contractor shall complete a Submittal Register, and shall submit it to the Engineer on forms provided by the Department. The intent of the Submittal Register is to provide a blueprint for the smooth flow of specified project documents. The Contractor shall fill it out sequentially by bid item and allow at least three spaces between bid items. The Submittal Register shall list working drawings, schedules of work, and other items required to be submitted to the Department by the Contractor including but not limited to: Progress Schedule, anticipated dates of material procurement, Construction Phasing Plan, Traffic Control Plan, Storm Water Pollution Prevention Plan, Quality Control Program, Utility Progress Schedule, Blasting Plan, Mining Plan, annual EEO reports, DBE payment documentation and subcontracts.

The Contractor shall submit materials (product) information to the Engineer for review, as required by the Materials Certification List and the Contract.

The number of copies required for submittals may be included in the specifications for individual bid items. If the number of copies of a submittal is not otherwise specified, three copies shall be required. On each sheet submitted to the Department, including working drawings, catalog cuts, manufacturer's certifications, etc., space shall be provided for Contractor and Department review stamps.

Each copy of each submittal shall include a Submittal Summary sheet. The Contractor may use forms provided by the Department or a similar form of the Contractor's choice as approved by the Department. The Contractor shall sign submittals and submit them to the Engineer. The Department will review submittals within 30 days after they are received. The Department will return submittals to the Contractor as either: approved, conditionally approved with the conditions listed, or rejected with the reasons listed. The Contractor may resubmit a rejected submittal to the Engineer with more information or corrections. The Department will review resubmittals within 30 days after they are received.

The Contractor shall not order material or use working drawings that have not been approved by the Department. The Contractor shall be responsible for timely submittals. Failure by the Department to review submittals within the time given may be the basis for a request for extension of Contract time but not for additional compensation.

Payment for a specific Contract item will not be made until the Department has received the Submittal Register for all items and approved all required submittals for that specific Contract item.

When material invoices, freight bills and mill certificates are submitted, they shall provide sufficient information for the Engineer to identify the date, company and location of invoice (bill, certificate); project name and number where material will be incorporated; manufacturer, product number, quantity and cost.

SECTION 107

LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

Special Provisions

107-1.02 PERMITS, LICENSES AND TAXES. Add the following: Obtain a written statement from the State Historic Preservation Officer stating that material disposal, extraction, stockpiling or staging, on any off project site, is not expected to impact any cultural resources. The State Historic Preservation Officer is with the Department of Natural Resources in Anchorage, and may be contacted at (907) 269-8715. If you discover cultural resources during construction activities, stop work at that site and notify the Engineer.

Provide a wetland specialist able to conduct wetlands determinations and delineations according to the Corps of Engineers 1987 Wetland Delineation Manual. The wetland specialist shall conduct the determination and delineations of any site outside the project limits or not previously permitted, impacted by your operations. These delineations will be subject to Corps of Engineers approval.

Provide the Engineer a copy of all permits or clearances received before using any site outside the project limits. Additionally, provide the Engineer a written statement that all necessary permits or clearances have been obtained. Also provide a written statement to the Engineer listing agencies or offices contacted which responded that no additional action is required.

Obtain permits or make arrangements with owners of existing permitted sites for water draw (non-potable) to be used for dust control, compaction, and water for seeding. Owners of existing permitted water draw sites and their locations are as follows:

Owner	Water Body Location
City of Bethel	Western tributary to Brown's Slough, draw site located near Dario's Hill on Ptarmigan Street.
Bethel Utilities, Corp.	Existing well, draw site located near the Chief Eddie Hoffman Highway

The Department has received the following permits on your behalf and they are attached in Appendix A:

1. Corps of Engineers Nationwide Permit No. 23, Categorical Exclusions, Permit reference POA-2006-367-D. Permit covers placement of dredged and/or fill materials into waters of the U.S. and prohibits roadside clearing operations between June 1 and July 15.

2. Alaska Department of Environmental Conservation (DEC), Storm Water Review, letter of Non-Objection, Storm Water Project No. 07-WW-102-043, dated April 24, 2007. Provide all necessary information to comply with the US Environmental Protection Agency National Pollutant Discharge Elimination System (NPDES) General Permit for

Alaska to discharge storm water from the construction site. Refer to Section 641, Erosion, Sediment, and Pollution Control for requirements for this permit.

(05/29/02)R7M98(04/04/07)R&M

107-1.11 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE. Add the following: If you require water for any construction purpose from a non-municipal water source, obtain a Temporary Water Use Permit from the Water Resource Manager, and provide a copy to the Engineer. The Water Resource Manager is with the Department of Natural Resources in Anchorage and may be contacted at (907) 269-8624.
(05/29/02)R7M98

Standard Modification

107-1.11 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE. Add the following paragraphs:

7. Restoring Areas. Areas used by the Contractor, including haul routes, shall be restored to their original condition after the Contractor's operations are completed. The original condition of an area shall be determined as follows: Before beginning operations, the Engineer and the Contractor shall inspect each area and haul route that will be used by the Contractor and take photographs to document their condition. After construction operations are completed, the condition of each area and haul route will be compared to the earlier photographs. Before demobilization the Contractor shall repair damages attributed to its operations. The Contractor agrees that costs associated with repairs shall be subsidiary to other items of work and will not be paid for directly.

8. Material Disposal Sites. Offsite disposal areas may be at locations of the Contractor's choice, provided the Contractor obtains from the owner of such land written permission for such dumping and a waiver of all claims against the State for any damage to such land which may result there from, together with permits required by law for such dumping. A copy of such permission, waiver of claims, and permits shall be filed with the Engineer before beginning work on private property. The Contractor's selected disposal sites shall also be inspected and approved by the Engineer before use of the sites.

E35(01/27/07)

Add the following subsection:

107-1.21 FEDERAL AFFIRMATIVE ACTION. The Federal Equal Employment Opportunity, Disadvantaged Business Enterprise, and On-the-Job Training affirmative action program requirements that are applicable to this Contract are contained in the project Special Provisions and Contract Forms, and may include:

Disadvantaged Business Enterprise (DBE) Program	Section 120
Training Program	Section 645
Federal EEO Bid Conditions	Form 25A-301

EEO-1 Certification	Form 25A-304
DBE Subcontractable Items	Form 25A-324
ADOT&PF Training Program Request	Form 25A-310
Training Utilization Report	Form 25A-311
Contact Report	Form 25A-321A
DBE Utilization Report	Form 25A-325C
Summary of Good Faith Effort Documentation	Form 25A-332A
Required Contract Provisions, Federal-Aid Contracts	Form 25D-55

In addition to the sanctions provided in the above references, non-compliance with these requirements is grounds for withholding of progress payments.
(01/22/02)S80

SECTION 108

PROSECUTION AND PROGRESS

Standard Modification

108-1.01 SUBLETTING OF CONTRACT. Replace the first paragraph with the following: Submit a Contractor Self Certification for Subcontractors and Lower Tier Subcontractors, Form 25D-042, before the Contractor or subcontractor sublets, sells, transfers, assigns, or otherwise disposes of the Contractor any portion of the Contract. The Department has authority to review subcontracts to deny permission to sublet work. The Department may penalize the Contractor for false statements or omissions made in connection with Form 25D-042.

Replace the forth paragraph with the following:

1. Ensure that subcontracts (agreements):
   a. Furnish the Department with one completed Contractor Self certification, Form 25D-042, for each subcontract;

   b. The subcontractors have submitted a Bidder Registration, Form 25D-6;

   c. The required prompt payment provisions of AS 36.90.210, as well as other items listed in Form 25D-042, are included in the subcontracts;

   d. The subcontractors pay current prevailing rate wages according to subsection 107-1.04 and file certified payrolls with the Engineer and DOLWD for work performed on the project; and

   e. Upon receipt of a request for more information regarding subcontracts, the requested information is provided to the Department within 5 calendar days. (10/14/07)E57

Special Provisions

108-1.03 PROSECUTION AND PROGRESS. Delete the last sentence of the first paragraph and substitute the following: Submit the following at the Preconstruction Conference:

Delete item 1. A progress schedule. and substitute the following:

1. A Critical Path Method (CPM) Schedule is required, in a format acceptable to the Engineer, showing the order the work will be carried out and the contemplated dates the Contractor and subcontractors will start and finish each of the salient features of the work, including scheduled periods of shutdown. Indicate anticipated periods of multiple-shift work in the CPM Schedule. Revise to the proposed CPM Schedule promptly. Promptly submit a revised CPM Schedule if there are substantial changes to the schedule, or upon request of the Engineer. (12/13/02)R261M98

SECTION 109

MEASUREMENT AND PAYMENT

Special Provisions

109-1.02 MEASUREMENT OF QUANTITIES. Under subtitle Electronic Computerized Weighing System item (1) add the following to the end of the first sentence: ", CD, or a USB device."

109-1.05 COMPENSATION FOR EXTRA WORK.
Under item 3. Equipment., item a. add the following to the second paragraph: The rental rate area adjustment factors for this project shall be as specified on the adjustment maps for the Alaska - South Region.
(4/31/05)R14

Standard Modifications

109-1.08 FINAL PAYMENT. Add the following sentence to the first paragraph:
The Department will not process the final estimate until the Contractor completes Items 1 through 4 in the first paragraph of subsection 105-1.16.
(6/30/04)E11

Add the following Section:

SECTION 120

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM

Special Provisions

120-1.01 DESCRIPTION. The work consists of providing Disadvantaged Business Enterprises (DBEs), as defined in Title 49, CFR (Code of Federal Regulations), Part 26, with the opportunity to participate on an equitable basis with other Contractors in the performance of Contracts financed in whole, or in part, with Federal funds. The Contractor or Subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of USDOT assisted Contracts.

120-1.02 INTERPRETATION. It is the intent of this Section to implement the requirements of 49 CFR, Part 26, and the Department's federally approved DBE Program.

120-1.03 ESSENTIAL CONTRACT PROVISION. Failure to comply with the provisions of this Section will be considered a material breach of Contract, which may result in the termination of this Contract or such other remedy, as DOT&PF deems appropriate. The Department also considers failure to comply with this Section to be so serious as to justify debarment action as provided in AS 36.30.640(4).

120-1.04 DEFINITIONS AND TERMS. The following definitions will apply.

1. Broker. A DBE certified by the Department that arranges for the delivery or provision of creditable materials, supplies, equipment, transportation/hauling, insurance, bonding, etc., within its certified category, that is necessary for the completion of the project. A broker of materials certified in a supply category must be responsible for scheduling the delivery of materials and fully responsible for ensuring that the materials meet Specifications before credit will be given.

2. Commercially Useful Function (CUF). The execution of the work of the Contract by a DBE carrying out its responsibilities by actually performing, managing, and supervising the work involved using its own employees and equipment. The DBE shall be responsible, with respect to materials and supplies used on the Contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, an evaluation of the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the Contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work. Other relevant factors will be considered. The Engineer makes the determination of CUF after evaluating the way in which the work was performed during the execution of the Contract.

3. Disadvantaged Business Enterprise (DBE). An enterprise which is a for-profit small business concern

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

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

   c. Has been certified by the Department according to 49 CFR, Part 26.

4. DBE Key Employee. Permanent employees identified by the DBE owner in its certification file in the Department Civil Rights Office.

5. DBE Utilization Goal. The percent of work to be performed by certified DBEs that is established by the Department and specified in the Contract.

6. Good Faith Efforts. Efforts by the bidder or Contractor to achieve a DBE goal or other requirement of 49 CFR Part 26, by their scope, intensity, and appropriateness to the objective, that can reasonably be expected to fulfill the program requirement.

7. Manufacturer. A DBE certified by the Department in a supply category that changes the shape, form, or composition of original material in some way and then provides that altered material to the project and to the general public or the construction industry at large on a regular basis.

8. Notification. For purposes of soliciting DBE participation on a project and to count toward a Contractor's Good Faith Efforts, notification shall be by letter or fax transmission, with a return receipt requested or successful transmission report. Telephonic contact with a DBE may be allowed, however it shall be based on the ability of Civil Rights staff to independently verify this contact.

9. Regular Dealer. A DBE certified by the Department in a supply category that

   a. Maintains an in-house inventory on a regular basis of the particular product provided to this project; and

   b. Keeps an inventory in an amount appropriate for the type of work using that product; and

   c. Offers that inventory for sale to the general public or construction industry at large (private and public sectors), not just supplied as needed on a project by project basis during the construction season, except where the product requires special or heavy equipment for delivery and the DBE possesses and operates this equipment

on a regular basis throughout the construction season in order to deliver the product to the general public or construction industry at large. If the distribution equipment is rented or leased, it must be on a repetitive, seasonal basis; and may additionally

d. Fabricate (assembles large components) for use on a construction project, consistent with standard industry practice, for delivery to the project.

120-2.01 UTILIZATION GOAL. The DBE Utilization Goal for this Contract is shown on Form 25A324 (DBE Subcontractable Items) as a percentage of the total basic bid amount. A DBE may be considered creditable towards meeting the DBE Utilization Goal at time of Contract award, if the DBE is certified by the Department in a category covering the CUF to be performed at the time of listing on Form 25A325C (DBE Utilization Report).

A bidder shall demonstrate the ability to meet the DBE Utilization Goal or perform and document all of the required Good Faith Efforts under subsection 120-3.02 in order to be eligible for award of this Contract.

If the quantity of work of a bid item involving a DBE firm is reduced by the Department, the DBE Utilization Goal on Form 25A325C will be reduced proportionately.

120-3.01 DETERMINATION OF COMPLIANCE

1. Phase I - Bid. Each bidder must register with the Civil Rights Office annually according to §§26.11 & 26.53(b)(2)(iv) of 49 CFR, Part 26. No Contract may be awarded to a bidder that is not registered.

2. Phase II - Award. The apparent low bidder will provide the following within 15 days of receipt of Notice of Intent to Award:

   a. **Written DBE Commitment.** Written commitments from DBEs to be used on the project. The written commitment shall contain the following information:

      (1) A description of the work that each DBE will perform;

      (2) The dollar amount of participation by the DBE firm;

      (3) Written documentation of the bidder/offeror's commitment to use a DBE Subcontractor whose participation it submits to meet a Contract goal; and

      (4) Written confirmation from the DBE that it is participating in the Contract as provided in the prime Contractor's commitment.

   b. DBE Utilization Report. Form 25A325C listing the certified DBEs to be used to meet the DBE Utilization Goal.

c. **Good Faith Effort Documentation.** Summary of Good Faith Effort Documentation (Form 25A332A and attachments) and DBE Contact Reports (Form 25A321A) if the Contractor submits less DBE utilization on Form 25A325C than is required to meet the DBE Utilization Goal. If accepted by the Department, this lower DBE utilization becomes the new DBE Utilization Goal. If the bidder cannot demonstrate the ability to meet the DBE Utilization Goal, and can not document the minimum required Good Faith Efforts (as outlined in subsection 120-3.02 below), the Contracting Officer will determine the bidder to be not responsible.

3. Phase III - Construction.

a. **Designation of DBE/EEO Officer.** At the preconstruction conference, the Contractor shall submit, in writing, the designation of a DBE/EEO officer.

b. **DBE Creditable Work.** The CUF work items and creditable dollar amounts shown for a DBE on the DBE Utilization Report (Form 25A325C) shall be included in any subcontract, purchase order or service agreement with that DBE.

c. **DBE Replacement.** If the Engineer approves a DBE replacement, the Contractor shall replace the DBE with another DBE for the same work in order to fulfill its commitment under the DBE Utilization Goal. In the event that the Contractor cannot obtain replacement DBE participation, the Engineer may adjust the DBE Utilization Goal if, in the opinion of the Engineer and the Civil Rights Office, both of the following criteria have been met:

(1) The Contractor has not committed any discriminatory practice in its exercise of good business judgment to replace a DBE.

(2) If the Contractor is unable to find replacement DBE participation and has adequately performed and documented the Good Faith Effort expended according to subsection 120-3.02.

d. **DBE Utilization Goal.** The DBE Utilization Goal will be adjusted to reflect only that amount of the DBE's work that can not be replaced.

120-3.02 GOOD FAITH EFFORT

1. **Good Faith Effort Criteria.** The Contracting Officer will use the following criteria to judge if the bidder, who has not met the DBE Utilization Goal, has demonstrated sufficient Good Faith Effort to be eligible for award of the Contract.

Failure by the bidder to perform and document all of the following actions constitutes insufficient Good Faith Effort.

a. Consideration of all subcontractable items. The bidder shall, at a minimum, seek DBE participation for each of the subcontractable items upon which the DBE goal was established as identified by the Department (on Form 25A324) before bid opening. It is the bidder's responsibility to make the work listed on the subcontractable items list available to DBE firms, to facilitate DBE participation.

b. If the bidder can not achieve the DBE Utilization Goal using the list of available DBE firms based on the subcontractable items list, then the bidder may consider other items that could be subcontracted to DBEs.

c. Notification to all active DBEs listed for a given region in the Department's most current DBE Directory at least seven calendar days before bid opening. The bidder must give the DBEs no less than five days to respond. The bidder may reject DBE quotes received after the deadline. Such a deadline for bid submission by DBEs will be consistently applied. DBEs certified to perform work items identified on Form 25A324 must be contacted to solicit their interest in participating in the execution of work with the Contractor. Each contact with a DBE firm will be logged on a Contact Report (Form 25A321A).

d. The bidder may reject non-competitive DBE quotes. Allegations of non-competitive DBE quotes must be documented and verifiable. A DBE quote that is more than 10.0 percent higher than the accepted non-DBE quote will be deemed non-competitive provided the DBE and non-DBE Subcontractor quotes are for the exact same work or service. Bidders must have a non-DBE Subcontractor quote for comparison purposes. Such evidence shall be provided in support of the bidder's allegation. Where the bidder rejects a DBE quote as being non-competitive under this condition, the work must be performed by the non-DBE Subcontractor and payments received by the non-DBE Subcontractor during the execution of the Contract shall be consistent with the non-DBE's accepted quote. This does not preclude increases as a result of Change documents issued by the Department.

e. Provision of assistance to DBEs who need help in obtaining information about bonding or insurance required by the bidder.

f. Provision of assistance to DBEs who need help in obtaining information about securing equipment, supplies, materials, or related assistance or services.

g. Providing prospective DBEs with adequate information about the requirements of the Contract regarding the specific item of work or service sought from the DBE.

h. Follow-up of initial notifications by contacting DBEs to determine whether or not they will be bidding. Failure to submit a bid by the project bid opening or deadline by the bidder is de facto evidence of the DBE's lack of interest in bidding.

Documentation of follow-up contacts shall be logged on the Contact Report (Form 25A321A).

i. Items c through h will be utilized to evaluate any request from the Contractor for a reduction in the DBE Utilization Goal due to the default or decertification of a DBE and the Contractor's subsequent inability to obtain additional DBE participation.

2. **Administrative Reconsideration.** Under the provisions of 49 CFR Part 26.53(d), if it is determined that the apparent successful bidder has failed to meet the requirements of this subsection, the bidder must indicate whether they would like an opportunity for administrative reconsideration. The bidder must exercise such an opportunity within 3 calendar days of notification it has failed to meet the requirements of this subsection. As part of this reconsideration, the bidder must provide written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so.

a. The DBE Liaison Officer will make the decision on reconsideration.

b. The bidder will have the opportunity to meet in person with the DBE Liaison Officer to discuss the issue of whether it met the goal or made adequate good faith efforts to do so. If a meeting is desired, the bidder must be ready, willing and able to meet with the DBE Liaison Officer within four days of notification that it has failed to meet the requirements of this subsection.

c. The DBE Liaison Officer will render a written decision on reconsideration and provide notification to the bidder. The written decision will explain the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so.

d. The result of the reconsideration process is not administratively appealable to US DOT.

120-3.03 COMMERCIALLY USEFUL FUNCTION (CUF).

1. **Creditable Work.** Measurement of attainment of the DBE Utilization Goal will be based upon the actual amount of money received by the DBEs for creditable CUF work on this project as determined by the Engineer according to this Section. CUF is limited to that of a:

a. Regular dealer,

b. Manufacturer;

c. Broker,

d. Subcontractor,

e. Joint-venture, or

f. Prime Contractor.

2. **Termination of Commercially Useful Function.** In order for the CUF work of the DBE to be credited toward the goal, the Contractor will ensure that all of the following requirements are met:

a. The CUF performed by a DBE certified in a supply category will be evaluated by the Engineer to determine whether the DBE performed as either a broker, regular dealer, or manufacturer of the product provided to this project.

b. A DBE trucking firm certified and performing work in a transportation/hauling category is restricted to credit for work performed with its own trucks and personnel certified with the CRO before submitting a bid to a Contractor for DBE trucking. The DBE trucking firm must demonstrate that it owns all trucks (proof of title and/or registration) to be credited for work and that all operators are employed by the DBE trucking firm. A DBE trucking firm that does not certify its trucks and personnel that it employs on a job will be considered a broker of trucking services and limited to credit for a broker. (This does not affect the CUF of that same firm, when performance includes the hauling of materials for that work.)

c. The DBE is certified in the appropriate category at the time of

(1) The Engineer's approval of the DBE subcontract, consistent with the written DBE commitment; and

(2) The issuance of a purchase order or service agreement by the Contractor to a DBE performing as a manufacturer, regular dealer, or broker (with a copy to the Engineer).

d. The Contractor will receive credit for the CUF performed by DBEs as provided in this Section. Contractors are encouraged to contact the Engineer in advance of the execution of the DBE's work or provision of goods or services regarding CUF and potential DBE credit.

e. The DBE may perform work in categories for which it is not certified, but only work performed in the DBE's certified category meeting the CUF criteria may be credited toward the DBE Utilization Goal.

f. The work of the DBE firm must meet the following criteria when determining when CUF is being performed by the DBE:

(1) The work performed will be necessary and useful work required for the execution of the Contract.

(2) The scope-of-work will be distinct and identifiable with specific Contract items of work, bonding, or insurance requirements.

(3) The work will be performed, controlled, managed, and supervised by employees normally employed by and under the control of the certified DBE. The work will be performed with the DBE's own equipment. Either the DBE owner or DBE key employee will be at the work site and responsible for the work.

(4) The manner in which the work is sublet or performed will conform to standard, statewide industry practice within Alaska, as determined by the Department. The work or provision of goods or services will have a market outside of the DBE program (must also be performed by non-DBE firms within the Alaskan construction industry). Otherwise, the work or service will be deemed an unnecessary step in the contracting or purchasing process and no DBE credit will be allowed.

There will be no DBE credit for lower-tier non-DBE subcontract work.

(5) The cost of the goods and services will be reasonable and competitive with the cost of the goods and services outside the DBE program within Alaska. Materials or supplies needed as a regular course of the Contractor's operations such as fuel, maintenance, office facilities, and portable bathrooms are not creditable.

The cost of materials actually incorporated into the project by a DBE Subcontractor is creditable toward the DBE goal only if the DBE is responsible for ordering and scheduling the delivery of creditable materials and fully responsible for ensuring that the materials meet Specifications.

(6) Unless the Engineer gives prior written approval all subcontract work, with the exception of truck hauling, will be sublet by the same unit of measure as is contained in the Bid.

(7) The DBE will control all business administration, accounting, billing, and payment transactions. The prime Contractor will not perform the business, accounting, billing, and similar functions of the DBE. The Engineer may, according to AS 36.30.420(b), inspect the offices of the DBE and audit the records of the DBE to assure compliance.

g. On a monthly basis, the Contractor shall report on Form 25A336 (Monthly Summary of DBE Participation) to the Department Civil Rights Office the payments made (canceled checks or bank statements that identify payer, payee, and amount of transfer) for the qualifying work, goods and services provided by DBEs.

3. **Decertification of a DBE.** Should a DBE performing a CUF become decertified during the term of the subcontract, purchase order, or service agreement for reasons beyond the control of and without the fault or negligence of the Contractor, the work remaining under the subcontract, purchase order, or service agreement may be credited toward the DBE Utilization Goal.

Should the DBE be decertified between the time of Contract award and the time of the Engineer's subcontract approval or issuance of a purchase order or service agreement, the work of the decertified firm will not be credited toward the DBE Utilization Goal. The Contractor must still meet the DBE Utilization Goal by either

a. Withdrawing the subcontract, purchase order or service agreement from the decertified DBE and expending Good Faith Effort (subsection 120-3.02, Items c through h) to replace it with one from a currently certified DBE for that same work or service through Subcontractor substitution (subsection 103-1.01); or

b. Continuing with the subcontract, purchase order or service agreement with the decertified firm and expending Good Faith Effort to find other work not already subcontracted out to DBEs in an amount to meet the DBE Utilization Goal through either

(1) Increasing the participation of other DBEs on the project;

(2) Documenting Good Faith Efforts (subsection 120-3.02, Items c through h); or

(3) By a combination of the above.

4. **DBE Rebuttal of a Finding of no CUF.** Consistent with the provisions of 49 CFR, Part 26.55(c)(4)&(5), before the Engineer makes a final finding that no CUF has been performed by a DBE firm the Engineer will coordinate notification of the presumptive finding through the Civil Rights Office to the Contractor, who will notify the DBE firm.

The Engineer, in cooperation with the Civil Rights Office, may determine that the firm is performing a CUF if the rebuttal information convincingly demonstrates the type of work involved and normal industry practices establishes a CUF was performed by the DBE. Under no circumstances shall the Contractor take any action against the DBE firm until

the Engineer has made a final determination. The Engineer's decisions on CUF matters are not administratively appealable to US DOT.

120-3.04 DEFAULT OF DBE. In the event that a DBE firm under Contract or to whom a purchase order or similar agreement has been issued defaults on their work for whatever reason, the Contractor shall immediately notify the Engineer of the default and the circumstances surrounding the default.

The Contractor shall take immediate steps, without any order or direction from the Engineer, to retain the services of other DBEs to perform the defaulted work. In the event that the Contractor cannot obtain replacement DBE participation, the Engineer may adjust the DBE Utilization Goal if, in the opinion of the Engineer, the following criteria have been met:

1. The Contractor was not at fault or negligent in the default and that the circumstances surrounding the default were beyond the control of the Contractor; and

2. The Contractor is unable to find replacement DBE participation at the same level of DBE commitment and has adequately performed and documented the Good Faith Effort expended according to Items c through h of subsection 120-3.02 for the defaulted work; or

3. It is too late in the project to provide any real subcontracting opportunities remaining for DBEs.

The DBE Utilization Goal will be adjusted to reflect only that amount of the defaulted DBE's work that can not be replaced.

120-4.01 METHOD OF MEASUREMENT. The Contractor will be entitled to count toward the DBE Utilization Goal those monies actually paid to certified DBEs for CUF work performed by the DBE as determined by the Engineer. The Contractor will receive credit for the utilization of the DBEs, as follows:

1. Credit for the CUF of a DBE prime Contractor is 100 percent of the monies actually paid to the DBE under the Contract for creditable work and materials according to 49 CFR 26.55.

2. Credit for the CUF of a Subcontractor is 100 percent of the monies actually paid to the DBE under the subcontract for creditable work and materials. This shall include DBE trucking firms certified as a Subcontractor and not a broker. Trucks leased from another DBE firm shall also qualify for credit and conforms to the provisions of 49 CFR 26.55(d).

3. Credit for the CUF of a manufacturer is 100 percent of the monies paid to the DBE for the creditable materials manufactured.

4. Credit for the CUF of a regular dealer of a creditable material, product, or supply is 60 percent of its value. The value will be the actual cost paid to the DBE but will not exceed the bid price for the item.

5. Credit for the CUF of a broker performed by a DBE certified in a supply category for providing a creditable material, product or supply is limited to a reasonable brokerage fee. The brokerage fee will not exceed five percent of the cost of the procurement Contract for the creditable item.

6. Credit for the CUF of a broker performed by a DBE certified in the transportation/hauling category for arranging for the delivery of a creditable material, product or supply is limited to a reasonable brokerage fee. The brokerage fee will not exceed five percent of the cost of the hauling subcontract.

7. Credit for the CUF of a broker performed by a DBE certified in a bonding or insurance category for arranging for the provision of insurance or bonding is limited to a reasonable brokerage fee. The brokerage fee will not exceed five percent of the premium cost.

8. Credit for the CUF of a joint venture (JV) (either as the prime Contractor or as a Subcontractor) may not exceed the percent of the DBE's participation in the joint venture agreement, as certified for this project by the Department. The DBE joint venture partner will be responsible for performing all of the work as delineated in the certified JV agreement.

120-5.01 BASIS OF PAYMENT. Work under this item is subsidiary to other Contract items and no payment will be made for meeting or exceeding the DBE Utilization Goal.

If the Contractor fails to utilize the DBEs listed on Form 25A325C as scheduled or fails to submit required documentation to verify proof of payment or documentation requested by the Department to help in the determination of CUF, the Department will consider this to be unsatisfactory work. If the Contractor fails to utilize Good Faith Efforts to replace a DBE, regardless of fault (except for subsection 120-3.04 Item 3), the Department will also consider this unsatisfactory work. Unsatisfactory work may result in disqualification of the Contractor from future bidding under subsection 102-1.13 and withholding of progress payments consistent with subsection 109-1.06.
(11/17/00)S33

SECTION 202

REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Special Provisions

202-3.05 REMOVAL OF PAVEMENT, SIDEWALKS, AND CURBS. Delete the first paragraph and substitute the following: All pavements from the existing highway, streets, and approaches being removed or reconstructed, and in areas of obliteration within the project limits shall be crushed or processed and may be reused as Item 308(1), Crushed Asphalt Base Course.

202-4.01 METHOD OF MEASUREMENT. Add the following:

Removal of temporary pavement will not be measured.

(11/20/06)R&M

SECTION 203

EXCAVATION AND EMBANKMENT

Special Provisions

203-1.01 DESCRIPTION. Add the following: This work will also include ditch linear grading consisting of the final shaping of ditches and slopes for drainage, as directed by the Engineer, by grading with a small dozer, motor grader, or other suitable means approved by the Engineer. This work will also include the following:

1. Providing utility supporting and shoring during excavation. Coordinate with and obtain locates of the existing buried GCI and UUI facilities within the linear grading locations. Once the ditch linear grading locations have been staked and field locates of the existing buried facilities have been performed, a determination will be made on how to proceed if a conflict is noted. Should adjustment and /or relocation be required, allow GCI and/or UUI 6 calendar days for each location and provided all the required, right of way staking, traffic control and flagging to enable the adjustment of the buried facilities. Notify GCI by calling 907-229-9176 or local 543-4388 to establish a point of contact. Notify UUI by calling 907-543-2300 to establish a point of contact.

2. Inspecting, cleaning, and grading to provide positive drainage through existing culvert pipes to conform to the improvements shown on the Plans and cleaning the Brown's Slough Bridge deck and scupper drains of debris.

3. Testing, removing and disposing suspected contaminated soils, and providing a Hazardous Waste Professional on site during excavation of the special ditch.
(2/26/03)R20USC02(04/05/07)R&M

4. Aerating existing contaminated soils until acceptable levels are attained as directed by the Engineer. These soils are stockpile inside a dike at the Bethel Airport.
(10/11/07)R&M

203-3.04 COMPACTION WITH MOISTURE AND DENSITY CONTROL. Add the following: Compact embankment within 20 feet of a bridge abutment full width to not less than 100 percent of the maximum density. Material used within this zone shall be graded to pass the 3 inch sieve.
(11/05/02)R113USC02

Add the following subsection:

203-3.06 EXCAVATION OF CONTAMINATED MATERIALS: This work shall consist of testing suspected contaminated soils and segregating the contaminated soils encountered while excavating the right side special ditch between Station 200+55 and 204+40. It shall also include collecting samples of contaminated soils.

1. Determining Limits of Contaminated Soil. The exact limits of potential contaminated soils within the Project area are unknown. The limits of contaminated soils will be determined by testing during the excavation for the special ditch. Soils will be field screened with a portable photoionization detector (PID) or flame ionization detector (FID), or other approved ADEC instrument, to determine contamination.

2. Contaminated Soils Testing. Soils from areas identified during construction as having potential diesel range organic (DRO) contamination will be field screened. If a PID or FID response indicates the presence of contamination, the soils will be designated as contaminated. Once an area has been identified as having contaminated soils, a minimum of one soil sample shall be tested from each 10 cubic yards of excavated soil. When possible, samples shall be collected directly from the excavation, or from unexposed soil within the excavation equipment's bucket to be field tested.

3. Contaminated Soils Segregation. Excavated soils with less than 250 mg/kg of DRO contamination (18 AAC 75, Method 2) will be stockpiled alongside the trench for reuse as backfill. Excavated soil with greater than 250 mg/kg of DRO contamination shall be segregated from the other excavated soil. Excess contaminated soils shall be disposed of according to ADEC regulations at the Contractor's expense.

4. Contaminated Soils Sampling. Samples shall be collected from excavated soil with greater than 250 mg/kg of DRO contamination. One sample shall be collected for every 100 feet of ditch excavated through areas of contaminated soil. For other areas of contaminated soil, one sample shall be collected for every 100 square yards. Sampling protocol shall be according to ADEC's Underground Storage Tank Procedures Manual (December 1, 1999). Provide the location (project station, offset, elevation) and date for each sample.

5. Worker Health and Safety. Before excavation of soils identified as contaminated, the Contractor shall assure that personnel working in the area of contaminated soils have received the State of Alaska, Department of Labor, Health and Safety Training. The Contractor shall provide the Engineer a list of personnel and subcontractors that will be working within the area identified as being potentially contaminated. The Contractor shall notify personnel and subcontractors before beginning work at the site the area has been identified as being potentially contaminated with petroleum fuel.

6. Hazardous Waste Professional. The Contractor shall obtain the services of a hazardous waste professional specialized in hazardous materials testing to conduct field testing of soils and to collect samples as described above. The Contractor shall submit the name of the hazardous waste professional to the Engineer at the preconstruction conference. The hazardous waste professional shall be available at all times while soil excavation is in progress to conduct the required field tests. The hazardous waste professional shall sample and test according to standard ADEC approved testing procedures and as described above. The hazardous waste professional shall be responsible for ensuring that

soils exhibiting a PID or FID response indicating the presence of contamination are identified to the Engineer.

7. Reporting Requirements. Before the Project Completion Date, the hazardous waste professional shall prepare and submit to the Engineer an after action report detailing field test results and field observations of the contaminated soils segregation. Provide the location (project station, offset, elevation) and date for each field test.

203-3.07 AERATION OF STOCKPILED CONTAMINATED SOILS: This work shall consist of providing materials, equipment, and labor necessary to turn over and stir soil as needed to aerate contaminated material to acceptable levels. This material is stockpiled within a dike at an average depth of 5 feet. It is estimated that approximately 540 cubic yards of soil will require aeration. The dike is 65 feet square and located 90 feet off Tower Road in Bethel, AK on DOT& PF property at the southwest side of the airport across the road from the new South Air Taxi/Cargo Apron.
(10/11/07)R&M

203-4.01 METHOD OF MEASUREMENT. Add the following: Ditch linear grading, whether flat bottom or "V" ditch, will be measured by the station according to Section 109, as accepted by the Engineer.

Item 203(28) Contaminated Soils Special Handling will be measured on a time and material basis according to subsection 109-1.05, Compensation for Extra Work.

Item 203(32) Contaminated Soils Aeration will be measured on a time and material basis according to subsection 109-1.05, Compensation for Extra Work.
(10/11/07)R&M

203-5.01 BASIS OF PAYMENT. Add the following: Payment for ditch linear grading will be full compensation for furnishing equipment, labor, tools and incidentals to provide the preparation, excavation and shaping necessary to complete the work.

Inspecting, cleaning, and grading to provide positive drainage through existing culvert pipes to conform to the improvements shown on the Plans will not be paid for separately but will be subsidiary to 203(27) Ditch Linear Grading. Cleaning of the Brown's Slough Bridge deck and scupper drains of debris will not be paid for separately, but will be subsidiary to 203(27) Ditch Linear Grading.
(2/26/03)R20USC02

Grading and placement of material used within 20 feet of bridge abutments will not be paid for directly but will be subsidiary to Item 301(1) Aggregate Base Course, Grading D-1.
(11/05/02)R113USC02

Payment for Item 203(28) Contaminated Soils Special Handling shall include compensation for and segregation of contaminated soils, for worker health and safety training, and for providing a hazardous waste professional.

Payment for Item 203(29) Contaminated Material Testing includes testing and sampling of Contaminated Soil. The Contractor will be paid on a time and materials basis for authorized Work according to subsection 109-1.05, Compensation for Extra Work.
(04/05/07)R&M

Payment for Item 203(32) Contaminated Soils Aeration shall include compensation for aeration of soil to acceptable levels as directed by the Engineer.
(10/11/07)R&M

Pay Item	**Pay Unit**
203(6B) Borrow, Type B	Ton
203(27) Ditch Linear Grading	Station
203(28) Contaminated Soils Special Handling	Contingent Sum
203(29) Contaminated Material Testing	Contingent Sum
203(32) Contaminated Soils Aeration	Contingent Sum

(2/26/03)R20USC02 (10/11/07)R&M

SECTION 301

AGGREGATE BASE AND SURFACE COURSE

Special Provisions

301-2.01 MATERIALS. Add the following after the first sentence: Recycled asphalt material (RAM) may be substituted for aggregate base course, inch for inch, if the following conditions are met:

1. RAM shall be crushed or processed to 100 percent by weight passing the 1.5 inch sieve and 95-100 percent by weight passing the 1 inch sieve.

2. The gradation of the extracted aggregate shall meet the following:

Sieve	Percent Passing by Weight
1 inch	100
3/4 inch	70-100
3/8 inch	42-90
No. 4	28-78
No. 16	11-54
No. 50	5-34
No. 100	3-22
No. 200	2-12

3. The asphalt content shall be 2.5 - 5.0 percent by weight of the RAM.

301-3.03 SHAPING AND COMPACTION. Add the following: If recycled asphalt material is substituted for aggregate base course, the following conditions shall be met:

1. Density acceptance will be based determined by control strip method ATM 412. Use a test strip with a vibratory compactor with a minimum dynamic force of 40,000 pounds. The optimum density will be determined by the Engineer using a nuclear densometer gauge to monitor the test strip. Adequate water shall be added to aid compaction.

2. After the appropriate coverage with the vibratory compactor, a minimum of 6 passes with a pneumatic tire roller shall be completed. Tires shall be inflated to 80 psi (± 5 psi), and the roller shall have a minimum operating weight per tire of 3,000 pounds.

(01/24/07)R176USC02

Compact with small equipment when within 3 feet of sheet pile wall and bridge structure.
(06/25/07)R&M

301-5.01 BASIS OF PAYMENT. Add the following: If recycled asphalt material is substituted for aggregate base course, it will be paid for as Item 301(1) Aggregate Base Course at the unit price shown on the bid schedule for that item.
(01/24/07)R176USC02

SECTION 308

CRUSHED ASPHALT BASE COURSE

Special Provisions

308-1.01 DESCRIPTION. Delete the first paragraph and replace with the following: Recondition the surface and shoulders of an existing roadbed by constructing a base course, using pulverized asphalt pavement to the lines shown on the Plans.

Delete subsection 308-3.01 in its entirety and replace with the following:

308-3.01 PULVERIZING AND MIXING. Crush or process the existing asphalt pavement so that 100% by weight passes the 2-inch sieve and 95-100% by weight passes the 1½-inch sieve. Spread the pulverized or processed material to the lines shown on the Plans and grades approved by the Engineer, and compact uniformly.

Add crushed aggregate base course to the base course mixture as needed.

Use self-propelled pulverizing and mixing equipment capable of processing to full depth in a single pass.

308-3.04 COMPACTION AND COMPACTION EQUIPMENT. Delete the third sentence of the first paragraph and replace with the following: Compact the remainder of the project to not less than 95% of the density standard, according to ATM 412.

308-4.01 METHOD OF MEASUREMENT. Delete subsection 308-4.01 in its entirety and replace with the following: Section 109.

308-5.01 BASIS OF PAYMENT. Delete the pay items and replace with the following:

Payment will be made under:

Pay Item	Pay Unit
308(1) Crushed Asphalt Base Course	Lump Sum

(06/26/07))R&M

Insert the following Section:

SECTION 318

FOAMED ASPHALT TREATED BASE COURSE

Special Provisions

318-1.01 DESCRIPTION. The work consists of constructing a mixed in place foamed asphalt stabilized base. Create foamed asphalt treated base course by simultaneously injecting and thoroughly mixing metered amounts of asphalt, Portland cement and water into pulverized asphalt and base course material. Spread, shape, and compact the mixed material according to these specifications and conforming to the dimensions shown on the Plans.

Provide an experienced foamed asphalt technician on site to supervise the foamed asphalt process and to supervise the related process control testing.

At the Preconstruction Meeting, provide information on the equipment proposed for use, the name and resume of the foamed asphalt technician, and the location of the demonstration site.

MATERIALS

318-2.01 COMPOSITION OF MIXTURE – JOB MIX DESIGN.

1. Sampling. Before foamed asphalt stabilized base course production, laboratory tests of materials submitted by the Contractor shall be made to determine the quantity of asphalt cement and Portland cement required in the mix. At least 15 days before the production of foamed asphalt stabilized base course, the Contractor shall furnish the following:

    a. 500-pound representative sample of in-place aggregate
    b. 200- pound representative sample of in-place asphalt concrete pavement
    c. 10-gallons of asphalt cement
    d. One sack of Portland cement

2. Job Mix Details. The Engineer will determine the Job Mix Design using procedures contained in the Wirtgen Manual Foamed Bitumen Mix Design Procedure, using the Wirtgen WLB 10 to generate foamed asphalt. The Job Mix Design will provide the following:

    a. The percent by weight of foamed asphalt cement to be added to the mix.
    b. The optimum percent by weight of water to be added to the asphalt cement to foam it.
    c. The minimum Foamed Asphalt Expansion Characteristics required.
    d. The temperature of asphalt cement at the time of injection.
    e. The percent by weight of Portland cement to be added to the mix.
    f. The gradation of the in place aggregate.

g. The optimum compaction moisture content.
h. Design dry indirect splitting tensile strength.
i. The maximum dry density.

318-2.02 ASPHALT CEMENT. Conform to subsection 702-2.01 Asphalt Cements PG 52-28. Each batch of asphalt cement shall be tested to conform to specifications before shipping. Storage tanks used for the batch shall be noted on the test report.

Provide the following shipping documents:
1. Manufacturer's certification of compliance.
2. Conformance test results of the batch
3. Manufacturer shall also document:
   a) date and time of loading
   b) batch number and storage tank
   c) type, grade, and quantity of materials loaded.

The vendor's certified test report for the asphalt cement can be used for acceptance or tested independently by the Engineer.

Excess asphalt cement shall remain the property of the Contractor. Removal of excess asphalt cement from the project area shall be incidental to the Contract and no separate payment will be made.

318-2.03 PORTLAND CEMENT. Conform to subsection 701-2.01, Type I or II meeting low alkali requirements.

318-2.04 WATER. Water shall be clean and free from sewage, oil, acid, strong alkalis, or vegetable matter. Water of questionable quality shall be tested according to the requirements of AASHTO T 26.

318-2.05 CONTRACTOR'S FOAMED ASPHALT TECHNICIAN. The Contractor shall provide an onsite technician to supervise the foamed asphalt process and the related process control of the product on the test strip and for 10 days of production. This technician shall have supervised at least 5 successful projects using foamed asphalt cement with similar base material and equipment. The technician must also be qualified to develop a foamed asphalt stabilized base course mix design and supervise the process control.

Provide a submittal that includes the following information:

1. Resume of Technician
2. Successful projects listing, owners - contact, address, telephone number, and location of projects.
3. Description of foamed asphalt cement equipment used on the project.

318-2.06 CONTRACTOR PROCESS CONTROL AND ACCEPTANCE SAMPLING AND TESTING. The quantity of foamed asphalt stabilized base produced will be divided into lots and the lots evaluated individually.

A lot will normally be 24,000 square yards. The lot will be divided into sublots of 4,000 square yards. The Contractor shall randomly sample and test for density and Indirect Tensile Strength for each sublot. The Engineer will validate this test data for each lot through independent random testing before accepting it.

The Contractor shall provide the following:

1. Daily production records for each sublot, including the quantity of asphalt cement, Portland cement, and in place compaction moisture content.

2. Measure and report expansion ratio and half life of foamed asphalt cement for every 4 hours of production.

3. Monitor and report in place field density, according to ATM 412, of the foamed asphalt stabilized base for each sublot.

4. Provide a laboratory equipment and a qualified technician for ITS to density testing using ATM 412, on the jobsite. Sample and perform Indirect Tensile Strength testing for each sublot according to Wirtgen Foamed bitumen mix design procedure manual, using calibrated equipment and a qualified technician. Make a minimum of 3 specimens to average for each sublot Indirect Tensile Strength test.

5. Report process control and acceptance sampling and testing data to the Engineer within 24 hours.

318-2.07 PREPROCESS MEETING. A minimum of 5 days before initiating operations, hold a meeting on the jobsite where the Contractor's technician outlines a processing plan. This plan must address the sequence of operation, equipment to be used, and process control. Outline steps to assure product consistency, conformity to strength requirements, and proposed quality control testing frequency, traffic control, and public notification.

CONSTRUCTION REQUIREMENTS

318-3.01 WEATHER LIMITATIONS. Foamed asphalt stabilized base course shall not be mixed while the air or surface temperature is below 40°F, or when conditions indicate that the temperature may fall below 40°F within 24 hours, or when the aggregate is above the optimum compactions moisture content, or when the aggregate or subgrade is frozen. Follow the recommendations made by the Contractor's technical representative as approved by the Engineer regarding the acceptability of the weather conditions for foaming operation.

318-3.02 CONTROL SECTION. Before full production, the Contractor shall use the equipment specified for the foamed asphalt stabilized base course operation and construct a control section at a location approved by the Engineer. Process material in the control section in two passes wide, 150 feet long and to the depth shown on the Plans, and develop a density standard according to ATM 412. The Contractor's technical representative shall supervise this process.

318-3.03 RECLAIMER (RECYCLER). The reclaimer shall have the following features and capabilities:

1. A minimum power capability of 600 horsepower.

2. The capability to pulverize to the size specified, mix and recycle material to the depth shown on the Plans.

3. Ability to increase the effective volume of the mixing chamber in relation to depth of cut.

4. Two microprocessor controlled systems, complete with two independent pumping systems and spray bars, to regulate the application of foamed asphalt cement, separate from water that is used to increase the moisture content of the mixed material. Both systems shall perform in relation to the forward speed of the reclaimer and the mass of the material being processed.

5. Two spray bars, one for foamed asphalt cement and one for compaction moisture, shall each be fitted with self cleaning nozzles at a maximum spacing of one nozzle for each 6 inch width of the mixing chamber. Provide a way to monitor the flow rate at each nozzle to verify that all nozzles are producing foamed asphalt at the same rate.

6. The foamed asphalt cement shall be produced at the spray bar in individual expansion chambers into which hot asphalt cement, water, and air are injected under pressure through individual and small orifices that promote atomization. The rate of additional water into the hot asphalt cement shall be kept at a constant percent by mass of asphalt cement by the same microprocessor.

7. A system within the operator cabin to verify the foamed asphalt is being evenly distributed across the full width of the spray bar at the rate specified. The system shall be demonstrated to the Engineer to verify even spraying.

8. An inspection or test nozzle shall be fitted at one end of the spray bar that produces a representative sample of foamed asphalt cement.

9. An electrical heating system capable of maintaining the temperature of asphalt cement flow components above 300 degrees F.

10. A single asphalt cement feed pipe installed between the recycler and the supply tanker. Do not use circulating systems that incorporate a return pipe to the supply tanker.

11. The ability to print out asphalt cement quantities used during production.

12. The teeth on the mandrel mixing head form a Chevron pattern.

The reclaimer model proposed for use shall have successfully been used by the Contractor/subcontractor on other projects. Provide a submittal of the reclaimer specifications at the Preconstruction conference.

318-3.04 PORTLAND CEMENT DISTRIBUTOR. Use a cement distributor designed to spread a uniform coverage of Portland cement at a specified rate. The spread rate shall be integrated with the speed of travel to maintain a uniform coverage.

318-3.05 ROLLERS. Provide the following types of rollers as required:

1. Self propelled vibratory pad foot roller having a minimum dynamic force of 60,000 lbs. for initial compaction.

2. Pneumatic tired roller having a minimum operating weight of 50,000 lbs. for secondary compaction and finishing.

3. Vibratory steel drum roller for secondary compaction and finishing.

318-3.06 GRADER. Grader must have calibrated automatic cross slope blade controls.

318-3.07 PREPARATION. The area to be stabilized with foamed asphalt cement may require pulverization, grading, and shaping to conform to the grades and typical cross section shown on the Plans before being stabilized with foamed asphalt. If additional material is required to attain the levels shown on the Plans, then aggregate shall be provided and paid for under a separate bid item. Soft or yielding spots shall be removed and replaced with acceptable aggregate before being stabilized.

318-3.08 PULVERIZING. Pulverize the existing asphalt pavement and base material so that at the completion of moist mixing, 100% passes a 2 inch sieve. Multiple passes may be required to size the insitue material and to adjust moisture content before applying Portland cement and injecting foamed asphalt.

318-3.09 FOAMED ASPHALT CEMENT AND PORTLAND CEMENT APPLICATION, MIXING, AND SPREADING. Mix insitu material with foamed asphalt cement, Portland cement, and water in place with a reclaimer.

Measure the moisture concrete of insitu material before processing and adjust if necessary. The percentage of moisture in the aggregate at the time of Portland cement application shall not

exceed the quantity that will permit a uniform mixture during mixing operations, and it shall not exceed the specified optimum moisture content for the foamed asphalt stabilized base course mixture.

Spread the required quantity of Portland cement uniformly on the surface to be stabilized. Pulverize to the depth required while simultaneously injecting foamed asphalt cement and compaction water. Mixing shall continue until the foamed asphalt cement, Portland cement and compaction water have been sufficiently blended with the existing material.

318-3.10 COMPACTION. Immediately upon completion of the mixing operations, the mixture shall be thoroughly compacted with the initial compaction done with the vibratory pad foot roller. The intermediate compaction shall be done with the pneumatic tired roller and the finish compaction shall be done with the vibratory steel drum roller.

Acceptable field dry density of the compacted mixture shall not be less than 98 percent of the standard developed on the control strip according to ATM 412, as tested by the Department. Determine the in place field density by direct transmission according to WAQTC FOP for AASHTO 310, Method A. The moisture content of the mixture at the start of the compaction shall not be below nor more than 2 percentage points above the optimum moisture content as determined by the foamed asphalt stabilized base course mix design.

318-3.11 FINISHING. The completed foamed asphalt stabilized base course shall conform to the required lines, grades and cross section. If necessary, the surface shall be lightly scarified to eliminate any deep imprints made by the compacting or shaping equipment. The surface shall then be recompacted to the required density. Seal the surface with water and a pneumatic roller.

Apply and maintain a tack coat of STE-1 according to Section 402 on the finished surface until it is covered with pavement. Apply at a shot rate of 0.10 gal./sy. or as adjusted by technical representative.

318-3.12 CONSTRUCTION LIMITATIONS. When the operation, after the application of cement, is interrupted for more than 30 minutes or when the uncompacted mixture is wetted by rain so that the optimum moisture content is exceeded by 2 percentage points, the decision to reconstruct the portion affected shall rest with the Engineer. In the event the uncompacted, rain wetted mixture exceeds the specified moisture content tolerance, the Contractor shall reconstruct at the Contractor's expense the portion affected. Material along the longitudinal or transverse construction joints not properly compacted shall be reconstructed, at the Contractor's expense, with properly moistened and mixed foamed asphalt stabilized base compacted to specified density.

Pave the completed foamed asphalt stabilized base course surface in 48 hours.

318-3.13 SURFACE TESTS. The finished surface shall not vary more than 3/8 inch when tested with a 10 foot straightedge applied parallel with, or at right angles to, the longitudinal axis

of the pavement. Variations in excess of this tolerance shall be corrected by the Contractor, at the Contractor's expense, and in a manner satisfactory to the Engineer.

318-3.14 MAINTENANCE. Maintain, at the Contractor's expense, the entire base course within the limits of the Contract in a condition satisfactory to the Engineer from the time work starts until the work has been completed. Maintenance shall include immediate repairs of defects that may occur either before or after the foamed asphalt stabilized base course has been constructed. The work shall be done by the Contractor at the Contractor's expense and repeated as often as necessary to keep the area intact. Repairs shall be made in a manner that will ensure restoration of a uniform surface and the durability of the part repaired. Faulty work, as determined by the Engineer, shall be reconstructed for the full depth of treatment. Low areas shall be remedied by reconstructing the material for the full depth of treatment rather than by adding a thin layer of foamed asphalt stabilized base course to the completed work.

The Contractor is responsible for cost of road spray on vehicles, traffic control, and informing the public of potential hazards.

318-4.01 METHOD OF MEASUREMENT. Section 109 and the following:

1. Foamed Asphalt Stabilized Mix. By area of finished top surface meeting specifications.

2. Asphalt Cement. By the weight recorded on delivery tickets minus waste, diversion, and remnant.

3. Portland Cement. By the weight recorded on delivery tickets minus waste, diversion, and remnant.

318-4.02 EVALUATION OF MATERIAL FOR ACCEPTANCE. The Engineer must have Indirect Tensile Strength results and passing densities of the foamed asphalt stabilized base before allowing it to be covered by hot mix asphalt pavement. The Engineer will calculate the lot average of the Indirect Tensile Strength results from the acceptance testing for the project. Payment shall be made at the Contract unit price per square foot for foamed asphalt stabilized base course when the lot average dry Indirect Tensile Strength is greater than 85% of the mix design. This price shall be full compensation for furnishing materials, except asphalt cement or Portland cement, and for preparation, delivering, placing, and mixing of materials; and for labor, equipment, tools, and incidentals necessary to complete the item.

If the lot average dry Indirect Tensile Strength value is less than 85% of the Job Mix Design dry Indirect Tensile Strength value, the foamed asphalt stabilized base is deemed to not meet specifications. The Contractor shall increase the thickness of the hot asphalt pavement for that lot and adjust the surface grade at the Contractor's expense to compensate for reduced dry Indirect Tensile Strength.

T=(5.5-(6.25*(lot average dry ITS/Job Mix Design dry ITS)

T= increase in hot asphalt pavement thickness in inches
ITS= Indirect Tensile Strength

318-5.01 BASIS OF PAYMENT.

STE-1 tack coat is subsidiary to 318 items.

If the Contractor chooses to remove the centerline monuments to allow easier construction of the Foamed Asphalt Stabilized Base Course, the removal of the monuments will be subsidiary to Item 318(1). The Contractor does not need to reinstall the monuments.

Payment will be made under:

Pay Item	Pay Unit
318(1) Foamed Asphalt Stabilized Base Course	Square Yard
318(2) Asphalt Cement, Grade PG 52-28	Ton
318(3) Portland Cement, Type I or II	Ton

(06/25/07)R&M

Replace Section 401 with the following:

SECTION 401

HOT MIX ASPHALT AND SURFACE TREATMENTS

401-1.01 DESCRIPTION. Construct one or more layers of plant-mixed hot asphalt concrete pavement on an approved surface, to the lines, grades, and depths shown on the Plans.

MATERIALS

401-2.01 COMPOSITION OF MIXTURE - JOB MIX DESIGN. Meet the requirements of Table 401-1 for the Job Mix Design performed according to ATM 417.

TABLE 401-1
HOT MIX ASPHALT DESIGN REQUIREMENTS

DESIGN PARAMETERS	CLASS "A"	CLASS "B"
Stability, pounds	1800 min.	1200 min.
Flow, 0.01 inch	8-14	8-16
Voids in Total Mix, %	3-5	3-5
Compaction, number of blows each side of test specimen	75	50
Percent Voids Filled with Asphalt (VFA)	65-75	65-78
Asphalt Content, min. %	5.0	5.0
Dust-asphalt ratio*	0.6-1.4	0.6-1.4
Voids in the Mineral Aggregate (VMA), %, min.		
Type I	12.0	11.0
Type II	13.0	12.0
Type III, IV	14.0	13.0

*Dust-asphalt ratio is the percent of material passing the No. 200 sieve divided by the percent of effective asphalt (calculated by weight of mix).

The approved Job Mix Design will specify the target values for gradation, the target value for asphalt cement content, the Maximum Specific Gravity (MSG) of the hot mix asphalt, the additives, and the allowable mixing temperature range.

Target values for gradation in the Job Mix Design must be within the broad band limits shown in Table 703-3, for the type of hot mix asphalt specified. For acceptance testing, hot mix asphalt concrete mixture will have the full tolerances in Table 401-2 applied. Except the tolerances for the No. 200 sieve, the tolerance limits will apply even if they fall outside the broad band limits

shown in Table 703-3. The tolerance limits for the No. 200 sieve will be confined by the broad band shown in Table 703-3. Tolerance limits will not be applied to the largest sieve specified.

Do not produce hot mix asphalt for payment until the Engineer approves the Job Mix Design. Do not mix asphalt produced from different plants.

Use Hot Mix Asphalt Type II, Class B, minimum, for temporary pavement.

Submit the following to the Engineer at least 15 days before the production of hot mix asphalt:

1. A letter stating the location, size, and type of mixing plant, the proposed gradation for the Job Mix Design, gradations for individual stockpiles with supporting process quality control information, and the blend ratio of each aggregate stockpile. The proposed gradation must meet the requirements of Table 703-3 for each type of hot mix asphalt specified in the Contract.

2. Representative samples of each aggregate (coarse, intermediate, fine, and blend material and/or mineral filler, if any) in the proportions required for the proposed mix design. Furnish a total of 500 pounds of material.

3. Five separate 1-gallon samples of the asphalt cement proposed for use in the hot mix asphalt. Include name of product, manufacturer, test results of the applicable quality requirements of subsection 702-2.01, manufacturer's certificate of compliance according to subsection 106-1.05, a temperature viscosity curve for the asphalt cement or manufacturer's recommended mixing and compaction temperatures, and current Material Safety Data Sheet.

4. One sample, of at least 1/2 pint, of the anti-strip additive proposed, including name of product, manufacturer, and manufacturer's data sheet, and current Material Safety Data Sheet.

The Engineer will then evaluate the material and the proposed gradation using ATM 417 and the requirements of Table 401-1 for the appropriate type and class of hot mix asphalt specified and establish the approved Job Mix Design that will become a part of the Contract.

No payment for hot mix asphalt for which a new Job Mix Design is required, will be made until the new Job Mix Design is approved. Approved changes apply only to hot mix asphalt produced after the submittal of the changes.

Changes. Failure to achieve results conforming to Table 401-1 or changes in the source of asphalt cement, source of aggregates, aggregate quality, aggregate gradation, or blend ratio, will require a new Job Mix Design. Submit changes and new samples in the same manner as the original submittal.

401-2.02 AGGREGATES. Conform to subsection 703-2.04.

Use a minimum of three stockpiles for crushed hot mix asphalt aggregate (coarse, intermediate, and fine). Place blend material or mineral filler, if any, in a separate pile.

401-2.03 ASPHALT CEMENT. Provide the grade of asphalt cement specified in the Contract meeting the applicable requirements of Section 702. If not specified, use PG 52-28.

Provide test reports for each batch of asphalt cement showing conformance to the specifications in Section 702 before delivery to the project. Require that the storage tanks used for each batch be noted on the test report, the anti-strip additives required by the mix design be added during load out for delivery to the project, and a printed weight ticket for anti-strip is included with the asphalt cement weight ticket. The location where anti-strip is added may be changed with the written approval of the Engineer.

Furnish the following documents at delivery:

1. Manufacturer's certificate of compliance (106-1.05).
2. Conformance test reports for the batch (Section 702).
3. Batch number and storage tanks used.
4. Date and time of load out for delivery.
5. Type, grade, temperature, and quantity of asphalt cement loaded.
6. Type and percent of anti-strip added.

401-2.04 ANTI-STRIP ADDITIVES. Use anti-strip agents in the proportions determined by ATM 414 and included in the approved Job Mix Design. At least 70% of the aggregate must remain coated when tested according to ATM 414.

401-2.05 PROCESS QUALITY CONTROL. Sample and test materials for quality control of the hot mix asphalt according to subsection 106-1.03. Provide copies of these test results to the Engineer within 24 hours.

Failure to perform quality control forfeits the Contractor's right to a retest under subsection 401-4.02.

Submit a paving and plant control plan at the pre-paving meeting to be held a minimum of 5 working days before initiating paving operations. Address the sequence of operations and joint construction. Outline steps to assure product consistency, to minimize segregation, and to prevent premature cooling of the hot mix asphalt. Include a proposed quality control testing frequency for gradation, asphalt cement content, and compaction.

CONSTRUCTION REQUIREMENTS

401-3.01 WEATHER LIMITATIONS. Do not place the hot mix asphalt on a wet surface, on an unstable/yielding roadbed, when the base material is frozen, or when weather conditions prevent proper handling or finishing of the mix. Do not place hot mix asphalt unless the roadway surface temperature is 40 °F or warmer.

401-3.02 EQUIPMENT, GENERAL. Use equipment in good working order and free of hot mix asphalt buildup. Make equipment available for inspection and demonstration of operation a minimum of 24 hours before placement of hot mix asphalt.

401-3.03 ASPHALT MIXING PLANT. Meet AASHTO M 156. Use an asphalt plant designed to dry aggregates, maintain accurate temperature control, and accurately proportion asphalt cement and aggregates. Calibrate the asphalt plant and furnish copies of the calibration data to the Engineer at least 4 hours before hot mix asphalt production.

Provide a scalping screen at the asphalt plant to prevent oversize material or debris from being incorporated into the hot mix asphalt.

Provide a tap on the asphalt cement supply line just before it enters the plant (after the 3-way valve) for sampling asphalt cement.

Provide aggregate and asphalt cement sampling conditions meeting OSHA safety requirements.

401-3.04 HAULING EQUIPMENT. Haul hot mix asphalt in trucks with tight, clean, smooth metal beds, thinly coated with a minimum amount of paraffin oil, lime water solution, or an approved manufactured asphalt release agent. Do not use petroleum fuel as an asphalt release agent.

Cover the hot mix asphalt in the hauling vehicle, when directed.

401-3.05 ASPHALT PAVERS. Use self-propelled pavers equipped with a heated vibratory screed. Control grade and cross slope with automatic grade and slope control devices. Use an erected string line, a 30-foot minimum mobile stringline (ski), or other approved grade follower, to automatically actuate the paver screed control system. Use grade control on either (a) both the high and low sides or (b) grade control on the high side and slope control on the low side.

Equip the paver with a receiving hopper having sufficient capacity for a uniform spreading operation. Equip the hopper with a distribution system to place the hot mix asphalt uniformly in front of the screed.

Use a screed assembly that produces a finished surface of the required smoothness, thickness and texture without tearing, shoving or displacing the hot mix asphalt. Heat and vibrate screed extensions. Place auger extensions within 20 inches of the screed extensions or according to written manufacturer's recommendations.

Equip the paver with a means of preventing the segregation of the coarse aggregate particles from the remainder of the bituminous plant mix when that mix is carried from the paver hopper back to the paver augers. The means and methods used shall be approved by the paver manufacturer and may consist of chain curtains, deflector plates, or other such devices and any combination of these.

The following specific requirements apply to the identified bituminous pavers:

(1) Blaw-Knox bituminous pavers shall be equipped with the Blaw-Knox Materials Management Kit (MMK).
(2) Cedarapids bituminous pavers must have been manufactured in 1989 or later.
(3) Caterpillar bituminous pavers shall be equipped with deflector plates.

The use of a "Layton Box" or equivalent towed paver is allowed on bike paths, sidewalks, and driveways.

401-3.06 ROLLERS. Use both steel-wheel (static or vibratory) and pneumatic-tire rollers. Operate rollers according to manufacturer's instructions. Avoid crushing or fracturing of aggregate. Use rollers designed to compact hot mix asphalt and reverse without backlash.

Use fully skirted pneumatic-tire rollers with a minimum operating weight of 3000 pounds per tire.

401-3.07 PREPARATION OF EXISTING SURFACE. Prepare existing surfaces conforming to the Plans and Specifications. Before applying tack coat to the existing surface, clean out loose material from cracks in existing pavement wider than 1 inch in width full depth then fill using asphalt concrete tamped in place. Clean, wash, and sweep existing paved surfaces of loose material.

Existing surface must be approved by the Engineer before applying tack coat. Clean existing pave surfaces of loose material.

Before placing the hot asphalt mix, uniformly coat contact surfaces of curbing, gutters, sawcut pavement, cold joints, manholes, and other structures with tack coat material meeting Section 402.

Allow prime coat to cure and emulsion tack coat to break before placement of hot mix asphalt on these surfaces.

401-3.08 PREPARATION OF ASPHALT. Provide a continuous supply of asphalt cement to the asphalt mixing plant at a uniform temperature, within the allowable mixing temperature range.

401-3.09 PREPARATION OF AGGREGATES. Dry the aggregate so the moisture content of the hot mix asphalt, sampled at the point of acceptance for asphalt cement content, does not exceed 0.5% (by total weight of mix), as determined by WAQTC FOP for AASHTO T 329.

Heat the aggregate for the hot mix asphalt to a temperature compatible with the mix requirements specified.

Adjust the burner on the dryer to avoid damage to the aggregate and to prevent the presence of unburned fuel on the aggregate. Hot mix asphalt concrete containing soot or fuel is considered unacceptable according to subsection 105-1.11.

401-3.10 MIXING. Combine the aggregate, asphalt cement and additives in the mixer in the amounts required by the Job Mix Design. 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 asphalt cement.

Mix the hot mix asphalt within the temperature range determined by the Job Mix Design.

401-3.11 TEMPORARY STORAGE. Silo type storage bins may be used, provided that the characteristics of the hot mix asphalt are not altered. Signs of visible segregation, heat loss, changes from the Job Mix Design, change in the characteristics of asphalt cement, lumpiness, or stiffness of the hot mix asphalt are causes for rejection.

401-3.12 PLACING AND SPREADING. Place the hot mix asphalt upon the approved surface, spread, strike off, and adjust surface irregularities. Use asphalt pavers to distribute hot mix asphalt, including leveling courses. The maximum compacted lift thickness allowed is 3 inches.

During placement, the Engineer may evaluate the hot mix asphalt immediately behind the paver for temperature uniformity. Areas with temperature differences more than 25°F lower than the surrounding hot mix asphalt are likely to produce areas of low density. Any thermal images and/or thermal profile data will become part of the project record and shared with the Contractor. The Contractor shall immediately adjust laydown procedures to correct the problem.

Use hand tools to spread, rake, and lute the hot mix asphalt in areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impracticable.

When the section of roadway being paved is open to traffic, pave adjacent traffic lanes to the same elevation within 24 hours. Place approved material against the outside pavement edge when the drop off exceeds 2 inches.

When multiple lifts are specified in the Contract, do not place the final lift until all lower lifts throughout that section, as defined by the Paving Plan, are placed and accepted.

Do not pave against new Portland concrete curbing until it has cured for at least 72 hours.

Place hot mix asphalt over bridge deck membranes according to Section 508 and the manufacturer's specifications.

401-3.13 COMPACTION. Thoroughly and uniformly compact the hot mix asphalt by rolling. In areas not accessible to large rollers, compact with mechanical tampers or trench rollers.

The target value for density is 94% of the maximum specific gravity (MSG), as determined by WAQTC FOP for AASHTO T 209. For the first lot of each type of hot mix asphalt, the Job Mix Design will determine the MSG. For additional lots, the MSG will be determined by the sample from the first sublot of each lot.

Acceptance testing for density will be performed in according to WAQTC FOP for AASHTO T 166/T 275 using a 6-inch diameter core. (Acceptance testing for density of leveling course or temporary pavement is not required.)

Do not leave rollers or other equipment standing on hot mix asphalt that has not cooled sufficiently to prevent indentation.

401-3.14 JOINTS. Minimize the number of joints. Place and compact the hot mix asphalt to ensure a continuous bond, texture, and smoothness between adjacent sections of the hot mix asphalt.

Remove to full depth improperly formed joints resulting in surface irregularities, replace with new hot mix asphalt, and thoroughly compact.

Precut pavement removal to a neat line with a power saw or by other method approved by the Engineer.

Form transverse joints by saw cutting back on the previous run to expose the full depth of layer with a power saw or other method approved by the Engineer or use a removable bulkhead. Skew transverse joints between 15-25 degrees.

Offset the longitudinal joints in one layer from the joint in the layer immediately below by at least 6 inches. Align the joints of the top layer at the centerline or lane lines. Where preformed marking tape striping is required, offset the longitudinal joint in the top layer not more than 12 inches from the edge of the stripe.

Uniformly coat joint surfaces below the final lift with tack coat conforming to Section 703 before placing any fresh HMA against the joint.

Before placing an adjacent panel of hot mix asphalt to form a joint in the top layer, apply Crafco Pavement Joint Adhesive No. 34524 Deery Cold Joint Adhesive or approved equal, to the edge

of the existing panel. Edge surface preparation, application temperature, thickness, and method shall be according to manufacturer's recommendations.

For the top layer of hot mix asphalt, the minimum specification limit for longitudinal joint density is 91% of the MSG of the panel completing the joint. Cut one 6 inch diameter core centered on the longitudinal joint at each location the panel completing the joint is cored for acceptance density testing. Density will be determined according to WAQTC FOP for AASHTO T 166/T 275.

Hot lapped joints formed by paving in echelon must be completed while the mat temperature is over 150°F. These joints do not need to be tacked and will be measured but not evaluated for joint density.

Longitudinal joints will be evaluated for acceptance according to subsection 401-4.05.

401-3.15 SURFACE TOLERANCE. The Engineer will test the finished surface after final rolling at selected locations using a 10 foot straightedge. Correct variations from the testing edge, between any two contacts of more than 1/4 inch.

401-3.16 PATCHING DEFECTIVE AREAS. Remove hot mix asphalt that becomes contaminated with foreign material, is segregated, or is in any way determined to be defective. Do not skin patch. Remove defective hot mix asphalt for the full thickness of the course. Cut the pavement so that edges are vertical, the sides are parallel to the direction of traffic and the ends are skewed between 15-25 degrees. Coat edges with a tack coat meeting Section 402 and allow to cure. Place and compact fresh hot mix asphalt according to subsection 401-3.13 to grade and smoothness requirements.

Costs associated with patching defective areas are subsidiary to the Hot Mix Asphalt pay item.

401-4.01 METHOD OF MEASUREMENT. Section 109 and the following:

Hot Mix Asphalt.

a) By weighing. No deduction will be made for the weight of asphalt cement or anti stripping additive.

b) By the area of final hot mix asphalt surface.

Asphalt Price Adjustment. Calculated by quality level analysis under subsection 401-4.03.

Asphalt Cement. By the ton, as follows.

1. Percent of asphalt cement for each sublot multiplied by the total weight represented by that sublot. ATM 405 or WAQTC FOP for AASTHO T 308 will determine the percent of asphalt cement. The same tests used for the acceptance testing of the sublot will be

used for computation of the asphalt cement quantity. If no acceptance testing is required, the percent of asphalt cement is the target value for asphalt cement in the Job Mix Design.

2. Supplier's invoices minus waste, diversion and remnant. This procedure may be used on projects where deliveries are made in tankers and the asphalt plant is producing hot mix asphalt for one project only.

   The Engineer may direct, at any time, that tankers be weighed in the Engineers presence before and after unloading. If the weight determined at the project varies more than 1% from the invoice amount, payment will be based on the weight determined at the project.

   Any remnant or diversion will be calculated based on tank stickings or weighing the remaining asphalt cement. The Engineer will determine the method. The weight of asphalt cement in waste hot mix asphalt will be calculated using the target value for asphalt cement as specified in the Job Mix Design.

Method 1 will be used for determining asphalt quantity unless otherwise directed in writing. The procedure initially used will be the one used for the duration of the project. No payment will be made for any asphalt cement more than 0.4% above the optimum asphalt content specified in the Job Mix Design.

Job Mix Design. When specified, Contractor furnished Job Mix Designs will be measured at one according to the hot mix asphalt class and type.

Temporary Pavement. By weighing. No deduction will be made for the weight of asphalt cement or anti-stripping additive.

Preleveling. By weighing. No deduction will be made for the weight of asphalt cement or anti stripping additive.

401-4.02 ACCEPTANCE SAMPLING AND TESTING. The quantity of each class and type of hot mix asphalt produced and placed will be divided into lots and the lots evaluated individually for acceptance.

A lot will normally be 5,000 tons. The lot will be divided into sublots of 500 tons; each randomly sampled and tested for asphalt cement content, density, and gradation according to this subsection. If the project has more than 1 lot, and less than 8 additional sublots have been sampled at the time a lot is terminated, either due to completion of paving operations or the end of the construction season (winter shutdown), the material in the shortened lot will be included as part of the prior lot. The price adjustment computed, according to subsection 401-4.03, for the prior lot will include the samples from the shortened lot.

If 8 or 9 samples have been obtained at the time a lot is terminated, they will be considered as a lot and the price adjustment will be based on the actual number of test results (excluding outliers) in the shortened lot.

If the Contract quantity is between 1,500 tons and 4,999 tons, the Contract quantity will be considered one lot. The lot will be divided into sublots of 500 tons and randomly sampled for asphalt cement content, density, and gradation according to this subsection except that a determination for outliers will not be performed. Hot mix asphalt quantities of less than 300 tons remaining after dividing the Contract quantity into sublots will be included in the last sublot. Hot mix asphalt quantities of 300 tons or greater will be treated as an individual sublot. The lot will be evaluated for price adjustment according to subsection 401-4.03 except as noted.

For Contract quantity of less than 1,500 tons (and for temporary pavement), hot mix asphalt will be accepted for payment based on the Engineer's approval of a Job Mix Design and the placement and compaction of the hot mix asphalt to the specified depth and finished surface requirements and tolerances. The Engineer reserves the right to perform any testing required in order to determine acceptance. Remove and replace any hot mix asphalt that does not conform to the approved JMD.

Samples collected at the plant from dry batched aggregates, the conveyor system, or the asphalt cement supply line shall be taken by the Contractor in the presence of the Engineer. The Engineer will take immediate possession of the samples.

1. Asphalt Cement. Hot mix samples taken for the determination of asphalt cement content will be taken randomly from behind the screed before initial compaction, at the end of the auger, or from the windrow according to WATC FOP for AASHTO T 168 and ATM 403, as directed by the Engineer. Hot mix asphalt samples taken for the determination of both asphalt cement content and gradation will be taken randomly from behind the screed before initial compaction or from the windrow according to WAQTC FOP for AASHTO T 168 and ATM 403.

   Two separate samples will be taken, one for acceptance testing and one held in reserve for retesting if applicable. At the discretion of the Engineer, asphalt cement content will be determined according to ATM 405 or WAQTC FOP for AASHTO T 308.

2. Aggregate Gradation.

   a. Drum Mix Plants. Samples taken for the determination of aggregate gradation from drum mix plants will be from the combined aggregate cold feed conveyor via a diverter device, or from the stopped conveyor belt according to WAQTC FOP for AAHSTO T2, or from the same location as samples for the determination of asphalt cement content. Locate diverter devices for obtaining aggregate samples from drum mix plants on the conveyor system delivering combined aggregates into the drum. Divert aggregate from the full width of the conveyor system and maintain the diverter device to provide a representative sample of

aggregate incorporated into the hot mix asphalt. Two separate samples will be taken, one for acceptance testing and one held in reserve for retesting if applicable. The aggregate gradation for samples from the conveyor system will be determined according to WAQTC FOP for AASHTO T 27/T 11. For hot mix asphalt samples, the gradation will be determined according to WAQTC FOP for AASHTO T 30 from the aggregate remaining after the ignition oven (WAQTC FOP for AASHTO T 308) has burned off the asphalt cement.

b. Batch Plants. Samples taken for the determination of aggregate gradation from batch plants will be from the same location as samples for the determination of asphalt cement content, or from dry batched aggregates according to WAQTC FOP for AASHTO T 2. Two separate samples will be taken, one for acceptance testing and one held in reserve for retesting if applicable. Dry batched aggregate gradations will be determined according to WAQTC FOP for AASHTO T 27/T 11. For hot mix asphalt samples, the aggregate gradation will be determined according to WAQTC FOP for AASHTO T 30 from the aggregate remaining after the ignition oven (WAQTC FOP for AASHTO T 308) has burned off the asphalt cement.

3. Density. Cut full depth core samples from the finished hot mix asphalt within 24 hours after final rolling. Neatly cut one 6 inch diameter core sample with a core drill at each location marked by the Engineer. Use a core extractor to prevent damage to the core. The Engineer will determine the density of the core samples according to WAQTC FOP for AASHTO T 166/T 275. Do not core hot mix asphalt on bridge decks. Backfill and compact voids left by coring with new hot mix asphalt within 24 hours.

Cores for longitudinal joint density shall be centered on the longitudinal joint at each location the panel completing the joint is cored for mat density acceptance testing.

4. Retesting. A retest of any sample outside the limits specified in Table 401-2 may be requested provided the quality control requirements of 401-2.05 are met. Deliver this request in writing to the Engineer within 7 days of receipt of the initial test result. The Engineer will mark the sample location for the density retest within a 2 foot radius of the original core. The original test results will be discarded and the retest result will be used in the price adjustment calculation regardless of whether the retest result gives a higher or lower pay factor. Only one retest per sample is allowed. Except for the first lot, gradation and asphalt cement content are determined from the same sample, retesting for gradation or asphalt cement from the first sublot of a lot will include retesting for the MSG; when separate samples are used, retesting for asphalt cement content will include retesting for MSG.

5. Asphalt Cement.

The lot size for asphalt cement will normally be 200 tons. If a project has more than one lot and the remaining asphalt cement quantity is less than 150 tons, it will be added to the

previous lot and that total quantity will be evaluated for price adjustment as one lot. If the remaining asphalt cement quantity is 150 tons or greater, it will be sampled, tested and evaluated as a separate lot.

If the Contract quantity of asphalt cement is between 85 – 199 tons, the contact quantity will be considered as one lot and sampled, tested, and evaluated according to this subsection. Quantities of asphalt cement less than 85 tons will be accepted based on manufacturer's certified test reports and certification of compliance.

Asphalt cement will be sampled according to WAQTC FOP for AASHTO T 40, tested for conformance to the specifications in Section 702, and evaluated for price adjustment according to 401-4.03. Asphalt cement pay reduction factors for each sample will be determined from Table 401-4. Three separate samples from each lot will be taken, one for acceptance testing, one for Contractor retesting, and one held in reserve for referee testing if applicable.

The total asphalt cement price adjustment is the sum of the individual lot price adjustments and will be subtracted under Item 401(6) Asphalt Price Adjustment.

401-4.03 EVALUATION OF MATERIALS FOR ACCEPTANCE. The following method of price adjustment will be applied to each type of Hot Mix Asphalt for which the Contract quantity equals or exceeds 1,500 tons, except as specified in subsection 401-4.02.

Acceptance test results for a lot will be analyzed collectively and statistically by the Quality Level Analysis method as specified in subsection 106-1.03 to determine the total estimated percent of the lot that is within specification limits.

The price adjustment is based on the lower of two pay factors. The first factor is a composite pay factor for hot mix asphalt that includes gradation and asphalt cement content. The second factor is for density.

A lot containing hot mix asphalt with less than a 1.00 pay factor will be accepted at an adjusted price, provided the pay factor is at least 0.75 and there are no isolated defects identified by the Engineer. A lot containing hot mix asphalt that fails to obtain at least a 0.75 pay factor will be considered unacceptable and rejected under subsection 105-1.11.

The Engineer will reject hot mix asphalt that appears to be defective based on visual inspection. A minimum of two samples will be collected from the rejected hot mix asphalt and tested if requested. If test results are within specification limits, payment will be made for the hot mix asphalt. If any of the test results fail to meet specifications, no payment will be made and the cost of the testing will be subtracted under Item 401(6) Asphalt Price Adjustment. Costs associated with removal and disposal of the rejected hot mix asphalt are subsidiary to the Hot Mix Asphalt pay item.

Outlier Test. Before computing the price adjustment, the validity of the test results will be determined by SP-7, the Standard Practice for Determination of Outlier Test Results. Outlier test results will not be included in the price adjustment calculations.

When gradation and asphalt cement content are determined from the same sample, if any size on the gradations test or the asphalt cement content is an outlier, then the gradation test results and the asphalt cement content results for that sublot will not be included in the price adjustment. The density test result for that sublot will be included in the price adjustment provided it is not an outlier also.

If the density test result is an outlier, the density test result will not be included in the price adjustment, however, the gradation and asphalt cement content results for that sublot will be included provided neither is an outlier.

When gradation and asphalt cement content are determined from separate samples, if any sieve size on the gradation test is an outlier, then the gradation test results for that sample will not be included in the price adjustment. The asphalt cement content and density test results for that sublot will be included in the price adjustment provided neither is an outlier. If the asphalt cement content test result is an outlier, it will not be included in the price adjustment but the gradation and density test results for the sublot will be included provided neither is an outlier. If the density test result is an outlier, it will not be included in the price adjustment but the gradation and asphalt cement content test results will be included provided neither is an outlier.

Quality Level Analysis. Pay factors are computed as follows:

1. Outliers (determined by SP-7), and any test results on material not incorporated into the work, are eliminated from the quality level analysis.

   The arithmetic mean ($\bar{x}$) of the remaining test results is determined: $\bar{x} = \frac{\Sigma x}{n}$

   Where: Σ = summation of
   x = individual test value to x_n
   n = total number of test values

   $\bar{x}$ is rounded to the nearest tenth for density and sieve sizes except the No. 200 sieve. $\bar{x}$ is rounded to the nearest hundredth for asphalt cement content and the No. 200 sieve.

2. The sample standard deviation(s), after the outliers have been excluded, is computed:

$$s = \sqrt{\frac{n\Sigma(x^2) - (\Sigma x)^2}{n(n-1)}}$$

   Where: $\Sigma (x^2)$ = sum of the squares of individual test values.
   $(\Sigma x)^2$ = square of the sum of the individual test values.

The sample standard deviation (s) is rounded to the nearest hundredth for density and all sieve sizes except the No. 200 sieve. The sample standard deviation (s) is rounded to the nearest 0.001 for asphalt cement content and the No. 200 sieve.

If the computed sample standard deviation (s) is <0.001, then use s = 0.20 for density and all sieves except the No. 200. Use s = 0.020 for asphalt cement content and the No. 200 sieve.

3. The USL and LSL are computed. For aggregate gradation and asphalt cement content, the Specification Limits (USL and LSL) are equal to the Target Value (TV) plus and minus the allowable tolerances in Table 401-2. The TV is the specification value specified in the approved Job Mix Design. Specification tolerance limits for the largest sieve specified will be plus 0 and minus 1 when performing PWL calculations. The TV for density is 94% of the maximum specific gravity (MSG), the LSL is 92% of MSG and the USL is 98%.

TABLE 401-2
LOWER SPECIFICATION LIMIT (LSL) & UPPER SPECIFICATION LIMIT (USL)

Measured Characteristics	LSL	USL
3/4 inch sieve	TV-6.0	TV+6.0
1/2 inch sieve	TV-6.0	TV+6.0
3/8 inch sieve	TV-6.0	TV+6.0
No. 4 sieve	TV-6.0	TV+6.0
No. 8 sieve	TV-6.0	TV+6.0
No. 16 sieve	TV-5.0	TV+5.0
No. 30 sieve	TV-4.0	TV+4.0
No. 50 sieve	TV-4.0	TV+4.0
No. 100 sieve	TV-3.0	TV+3.0
No. 200 sieve[1]	TV-2.0	TV+2.0
Asphalt %	TV-0.4	TV+0.4
Mat Density %	92	98

Note 1.Tolerances for the No. 200 sieve may not exceed the broad band limits in Table 703-3.

4. The Upper Quality Index (Q_U) is computed: $Q_U = \frac{USL - \bar{x}}{s}$

Where: USL = Upper Specification Limit
Q_U is rounded to the nearest hundredth.

5. The Lower Quality Index (Q_L) is computed: $Q_L = \frac{\bar{x} - LSL}{s}$

Where: LSL = Lower Specification Limit
Q_L is rounded to the nearest hundredth.

6. P_U (percent within the upper specification limit which corresponds to a given Q_U) is determined. See subsection 106-1.03.

7. P_L (percent within the lower specification limit which corresponds to a given Q_L) is determined. See subsection 106-1.03.

8. The Quality Level (the total percent within specification limits) is determined for aggregate gradation, asphalt cement content, and density.

   Quality Level = $(P_L + P_U) - 100$

9. Using the Quality Levels from Step 8, the lot Pay Factor is determined for Density (DPF) and gradation and asphalt cement content pay factors (PF) from Table 106-2. The maximum pay factor for the largest sieve size specification for gradation is 1.00.

10. The Composite Pay Factor (CPF) for the lot is determined using the following formula:

$$CPF = \frac{[f_{3/4\ inch}\ (PF_{3/4\ inch}) + f_{1/2\ inch}\ (PF_{1/2\ inch}) + \ldots . f_{ac}\ (PF_{ac})]}{\Sigma f}$$

The CPF is rounded to the nearest hundredth.

Table 401-3 gives the weight factor (f) for each sieve size and asphalt cement content.

TABLE 401-3
WEIGHT FACTORS

Sieve Size	Type I	Type II	Type III
	Factor "f"	Factor "f"	Factor "f"
1 inch sieve	4		
3/4 inch sieve	4	4	
1/2 inch sieve	4	5	4
3/8 inch sieve	4	5	5
No. 4 sieve	4	4	5
No. 8 sieve	4	4	5
No. 16 sieve	4	4	5
No. 30 sieve	4	5	6
No. 50 sieve	4	5	6
No. 100 sieve	4	4	4
No. 200 sieve	20	20	20
Asphalt Cement Content, %	40	40	40

The price adjustment will be based on either the CPF or DPF, whichever is the lowest value. The price adjustment for each individual lot will be calculated as follows:

Price Adjustment = [(CPF or DPF)* -1.00] x (tons in lot) x (PAB)

* CPF or DPF, whichever is lower.

PAB = Price Adjustment Base = $164.40 per ton

The total asphalt concrete price adjustment is the sum of all price adjustments for each lot and will be adjusted under Item 401(6) Asphalt Price Adjustment.

EVALUATION OF ASPHALT CEMENT

Asphalt cement will be randomly sampled and tested every 200 tons and evaluated for price adjustment. If the last sample increment is 100 tons or less, that quantity of asphalt cement will be added to the quantity represented by the previous sample and the total quantity will be evaluated for price adjustment. If the last sample increment is greater than 100 tons, it will be sampled, tested and evaluated separately. Asphalt cement pay reduction factors for each sample will be determined from Table 401-4.

The total asphalt cement price adjustment is the sum of the individual sample price adjustments and will be subtracted under Item 401(6) Asphalt Price Adjustment.

Table 401-4
ASPHALT CEMENT PAY REDUCTION FACTORS
(Use the single, highest pay reduction factor)

	Spec	Pay Reduction Factor (PRF)								
		0	**0.04**	**0.05**	**0.06**	**0.07**	**0.08**	**0.1**	**0.25**	**Reject or Engr Eval**
Tests On Original Binder										
Viscosity	<3 Pa-s	≤3		>3						
Dynamic Shear	>1.00 kPa	>1.00		0.88-0.99				0.71-0.89	0.50-0.70	<0.50
Toughness	>110 in-lbs	>93.5	90.0-93.4	85.0-89.9	80.0-84.9	75.0-79.9	70.0-74.9			<70.0
Tenacity	>75 in-lbs	>63.8	61.0-63.7	58.0-60.9	55.0-57.9	52.0-54.9	48.0-51.9			<48.0
Tests On RTFO										
Mass Loss	<1.00 %	<1.00		1.001-1.092				1.093-1.184	1.185-1.276	>1.276
Dynamic Shear	>2.20 kPa	>2.20		1.816-2.199				1.432-1.815	1.048-1.431	<1.048
Test On PAV										
Dynamic Shear	<5000 kPa	<5000		5001-5289				5290-5578	5579-5867	>5867
Creep Stiffness, S	<300 MPa	<300		301-338				339-388	389-450	>450
Creep Stiffness, m-value	>0.300	>0.300		0.287-0.299				0.274-0.286	0.261-0.273	<0.261
Direct Tension	>1.0 %	>1.0		0.86-0.99				0.71-0.85	0.56-0.70	<0.56

Asphalt Cement Price Adjustment for each sample = 5 x PAB x Qty X PRF
PAB = Price Adjustment Base
Qty = Quantity of asphalt cement represented by asphalt cement sample
PRF = Pay Reduction Factor from Table 401-4

Asphalt Cement Appeal Procedure. Once notified of a failing test result of an asphalt cement sample, the Contractor has 21 days to issue a written appeal. The appeal must be accompanied by all of the Contactor's quality control test results and a test result of Contactor's sample of this lot tested by an AASHTO accredited asphalt laboratory (accredited in the test procedure in question). The Engineer will review these test results and using ASTM D3244 determine a test value upon which to base a price reduction.

If the Contractor challenges this value, then the referee sample held by the Engineer will be sent to a mutually agreed upon independent AASHTO accredited laboratory for testing. This test result will be incorporated into the ASTM D3244 procedure to determine a test value upon which to base a price reduction. If this final value incurs a price adjustment, the Contractor under Item 408(3) Asphalt Price Adjustment, shall pay the cost of testing the referee sample.

The total Asphalt Price Adjustment is the sum of all the price adjustments for each lot and will be included in 401(6) Asphalt Price Adjustment.

EVALUATION OF LONGITUDINAL JOINT DENSITY. Longitudinal joint density price adjustments apply when hot mix asphalt quantities are equal to or greater than 1,500 tons. A longitudinal joint density price adjustment for the top layer will be based on the average of all the joint densities on a project and determined as follows:

1. If project average joint density is less than 91% MSG, apply the following disincentive:

   a. Longitudinal joint density price adjustment equal to $3.00 per lineal foot is deducted under Item 401(6) Asphalt Price Adjustment.

2. If project average joint density is greater than 92% MSG apply the following incentive:

   Longitudinal joint density price adjustment equal to $1.50 per linear foot is added under Item 401(6) Asphalt Price Adjustment.

The longitudinal joint price adjustment will be included in Item 401(6) Asphalt Price Adjustment.

401-4.04 ASPHALT MATERIAL PRICE ADUSTMENT – UNIT PRICE.

This subsection provides a price adjustment for asphalt material by:
(a) additional compensation to the Contractor or
(b) a deduction from the Contract amount.

1. This provision shall apply to asphalt material meeting the criteria of Section 702, and is included in items listed in the bid schedule of Sections 306, 307, 308, 401 thru 405, 608, and 609.

2. This provision shall only apply to cost changes in asphalt material that occur between the date of bid opening and the date the asphalt material is incorporated into the project.

3. The asphalt material price adjustment will only apply when:
   a. There is more than 500 tons of asphalt material in the bid schedule of Sections described in Item 1; and

b. There is more than a 7.5% increase or decrease in the Alaska Asphalt Material Price Index, from the date of bid opening to the date the asphalt material is incorporated into the project.

4. As used in this subsection, the Alaska asphalt material price index is calculated bimonthly on the first and third Friday of each month, and will remain in effect from the day of calculation until the next bimonthly calculation. The Alaska asphalt material price index is posted on the Department's Statewide Materials website, and calculated according to the formula posted there.

5. Price adjustment will be cumulative and calculated with each progress payment. Use the price index in effect on the last day of the pay period, to calculate the price adjustment for asphalt material incorporated into the project during that pay period. The Department will increase or decrease payment under this Contract by the amount determined with the following asphalt material price adjustment formula:
For an increase exceeding 7.5%, additional compensation = [(IPP – IB) – (0.075 x IB)] x Q
For a decrease exceeding 7.5%, deduction from Contract = [(IB – IPP) – (0.075 x IB)] x Q

Where:

Q = Quantity of Asphalt Material incorporated into project during the pay period, in tons

IB = Index at Bid: the bimonthly Alaska asphalt material price index in effect on date of bid, in dollars per ton

IPP = Index at Pay Period: the bimonthly Alaska asphalt material price index in effect on the last day of the pay period, in dollars per ton

Method of measurement for determining Q (quantity) is the weight of asphalt material that meets the criteria of this subsection and is incorporated into the project. The quantity does not include aggregate, mineral filler, blotter material, thinning agents added after material qualification, or water for emulsified asphalt.

401-5.01 BASIS OF PAYMENT.

Asphalt cement, anti-strip additives for Item 401(3) Temporary Hot Mix Asphalt, or for hot mix asphalt for leveling course is subsidiary to item 401(3).
(05/01/07)R199USC04 (06/19/07)R&M

Payment for furnishing and installing joint adhesive according to subsection 401-3.14 will be subsidiary to 401 items.

Asphalt cement, anti stripping additives, tack coat, and crack sealing (401-3.07) are subsidiary to the hot mix asphalt unless specified as pay items.

Price adjustments will not apply to:

1. Hot Mix Asphalt for leveling course
2. Temporary Hot Mix Asphalt

(06/19/07)R&M

Failure to cut core samples within the specified period will result in a deduction of $100.00 per sample per day. Failure to backfill voids left by sampling within the specified period will result in a deduction of $100.00 per hole per day. The accrued amount will be subtracted under Item 401(6) Asphalt Price Adjustment.

The Engineer will assess a fee of $2,500.00 under Item 401(6) Asphalt Price Adjustment, for each mix design subsequent to the approved Job Mix Design for each Type and Class of Hot Mix Asphalt specified.

Payment will be made under:

Pay Item	Pay Unit
401(1A) Hot Mix Asphalt, Type II; Class A	Ton
401(2) Asphalt Cement, Grade PG 52-28	Ton
401(6) Asphalt Price Adjustment	Contingent Sum
401(10) Asphalt Material Price Adjustment – Unit Price	Contingent Sum

(05/01/07)R199USC04 (06/20/07)R&M

SECTION 402

TACK COAT

Special Provisions

402-5.01 BASIS OF PAYMENT. Add the following: Tack coat is subsidiary to Section 318 and 401 pay items.
(06/20/07)R&M

SECTION 603

CULVERTS AND STORM DRAINS

Special Provisions

603-1.01 DESCRIPTION. Add the following: This work shall also consist of installing culvert marker posts and wrapping joints with a geotextile fabric.

603-2.01 MATERIALS. Add the following:

Geotextile Fabric	subsection 729-2.01 use fabric meeting the requirements for Separation
Arctic Insulated Corrugated Steel Pipe	subsection 707-2.01

Culvert marker posts shall meet the requirements of subsection 730-2.05 Flexible Delineator Posts. The color shall be blue with no other markings. The 2.5-inch by 6-foot post shall be rectangular in cross-section with reinforcing ribs capable of a minimum bending radius of 9 inches.
(08/27/03)R42USC

603-3.03 JOINING PIPE. Add the following to the first paragraph under item 2. Metal Pipe.: Wrap CSP pipe joints with geotextile fabric extending three feet on both sides of the coupling bands.

Add the following subitem:

4. Arctic Insulated Corrugated Steel Pipe. Join inner core of arctic pipe firmly according to the requirements for joining metal pipe. Complete the joint using half shell insulation inserts and coupling band around the outer jacket. Install components using the manufacturer's recommendations. Cut back insulation and outer jacket to allow installation of half shell insulation inserts at the joints. Install half shell insulation at joints and jacket with heat shrink sleeves. Do not allow gaps at field joints between adjacent insulation edges exceeding one-eighth (1/8)-inch. If a gap does exist, fill with a neoprene gasket or spray urethane foam. The heat shrink must fill the valleys of the outer jacket to prevent water intrusion. If the heat shrink material is unable to conform adequately to the corrugated shape, then the prefill the valleys with mastic. Install a coupling band around the joint to protect the heat shrink sleeve.

   Unless the Contractor's personnel are certified in the installation of arctic pipe, provide the pipe suppliers pipe personnel to instruct the Contractor in the handling, installation, and testing of their products. Provide for the on-site services of one supplier's representative at the start of construction. Additional technical representative services, if necessary, will also be at the Contractor's expense.

Random tests of field joints will be made by the Engineer, as necessary, as a quality control measure. The Contractor shall be responsible for removal or repair of unsatisfactory joints.

Add the following subsection:

603-3.06 CULVERT MARKER POSTS. Culvert marker posts shall be installed on the approach side of storm drain outfalls 30 inches and smaller, field inlets not in paved parking lots, all end sections to cross culverts, or as directed by the Engineer. Forty-two (42) inches of post shall remain above the ground after driving.

603-4.01 METHOD OF MEASUREMENT. Add the following: Culvert marker posts and geotextile fabric will not be measured for payment.

603-5.01 BASIS OF PAYMENT. Add the following: Culvert marker posts and geotextile fabric will not be paid for directly, but will be subsidiary to pipe items. (08/27/03)R42USC

Shortening of culvert pipe shall not be measured for payment and is subsidiary to end section pay items.

Payment will be made under:

Pay Item	Pay Unit
603(26-__) ___ Inch Arctic Insulated Corrugated Steel Pipe	Linear Foot

(05/15/06)R&M

SECTION 606

GUARDRAIL

Special Provisions

606-2.01 MATERIALS. Delete "Flexible Markers" in its entirety and substitute the following:

Flexible Markers. Use flexible markers with an over all length of 72 inches. The marker shaft shall have a coil spring at the bottom and a flag at the top. The shaft and spring shall be one piece and made from galvanized spring steel. The flexible marker shall have an orange HDPE flag which provides approximately 20 square inches of surface area. Use stainless or galvanized steel attaching hardware. The following is an example of an acceptable flexible marker:

Model:	FF2
Manufacturer:	Nordic Fiberglass, Inc. P.O. Box 27 Highway 75 South Warren, MN 56762
Phone:	(218) 745-5095
Fax:	(218) 745-4990
E-mail:	www.nordicfiberglass.com

If using another brand, submit specifications to the Engineer for approval before ordering the markers.
(4/06/06)R45aUSC

606-3.01 GENERAL. Replace the second sentence of the first paragraph with the following:
Conform with these Specifications and the Standard Drawings with the following exception. Modify Standard Drawing G-20.10 to only allow an offset of 1.5 feet for the ET-2000.
(05/12/04)R266

606-3.02 POSTS. Delete the first two numbered items in this subsection and substitute the following:

1. Exclusive of end treatments, use one type of post in each run of guardrail.

606-3.06 REMOVAL AND RECONSTRUCTION OF GUARDRAIL. Add the following:
Guardrail removed and to be replaced with new guardrail shall have the entire new run installed within 14 calendar days after removal.

Guardrail located within 50 feet of bridge ends shall have the new guardrail installed by the end of the shift in which the existing guardrail is removed.
(4/06/06)R45aUSC

606-3.07 REMOVAL AND DISPOSAL OF EXISTING GUARDRAIL. Delete the last sentence and substitute the following: Notify the Engineer a minimum of 5 days before removing guardrail for disposal. The Engineer will notify ADOT&PF M&O (L. J. Davis at 907-543-2495) and have an M&O representative physically identify portions of guardrail to be salvaged. Deliver guardrail and associated hardware designated to be salvaged to the ADOT&PF M&O yard located at 3517 Chief Eddie Hoffman Hwy, Bethel Alaska. Remaining items removed become your property.
(06/12/03)R259M98

Add the following subsections:

606-3.09 FLEXIBLE MARKERS. For each slotted rail terminal, a flexible marker shall be attached to the extreme piece of rail. The flexible markers shall be attached using hardware and attachment methods recommended by the manufacturer.

606-3.10 LENGTH OF NEED VERIFICATION. After shaping the slopes and staking the proposed guardrail locations, notify the Engineer to field verify the beginning and ends. The Engineer will approve the staked location of the guardrail before installation. The Engineer may determine additional guardrail is necessary and the Contractor shall comply without delay.
(4/06/06)R45aUSC

SECTION 607

FENCES

Special Provisions

607-1.01 DESCRIPTION. Delete the second sentence and replace with the following: Remove and reconstruct fences where shown on the Plans.

607-3.01 CONSTRUCTION REQUIREMENTS. Add the following: Carefully remove fences designated on the Plans as reconstructed fence or by the Engineer to the limit of excavation, or to the end of the span beyond the limit of excavation. Salvage these materials and protect against theft and damage so that they may be reused in reconstruction of the fence after the construction of adjacent improvements is complete.
(11/27/06)R&M

SECTION 611

RIPRAP

Special Provisions

611-1.01 DESCRIPTION. Replace this subsection with the following: This work consists of performing the required excavation and furnishing and placing geotextile and protective covering of stone as shown on the Plans.
(7/8/05)R&M

611-2.01 MATERIALS. Add the following after the first sentence: Apparent specific gravity will be determined by WAQTC FOP for AASHTO T85.

Add the following: Erosion control geotextile material shall meet the requirements of subsection 729-2.02, Subsurface Drainage and Erosion Control.

611-3.01 CONSTRUCTION REQUIREMENTS. Add the following after the second sentence: A minimum sample size of 5 cubic yards is required. A cubic foot volume will be calculated for each rock in the sample. The weight of individual rocks will be obtained by multiplying volumes by the apparent specific gravity and 62.43 lbs./ft^3.
R277USC04(02/07/05)

Add the following: Place geotextile according to Section 631, Geotextile for Subsurface Drainage and Erosion Control.

611-4.01 METHOD OF MEASUREMENT. Add the following: Erosion control geotextile material will not be measured for payment.

611-5.01 BASIS OF PAYMENT. Delete the first sentence and replace with the following: Excavation and erosion control geotextile are subsidiary.
(7/8/05)R&M

SECTION 615

STANDARD SIGNS

Standard Modifications

615-2.01 MATERIALS. Delete the first paragraph of Item 2, including subitems a., b., and c. and replace with:

2. Sign Fabrication. Use Type IV reflective sheeting (for lettering, symbols, borders, and background) on sheet aluminum panels for signs except the following:

   a. Orange Background Signs: Use either Type II or Type III orange reflective sheeting or use Type VII or Type IX fluorescent orange reflective sheeting. For temporary installations place reflective sheeting on sheet aluminum, plastic, or plywood panels.

      Roll Up Signs: Use 3M series RS 24, Reflexite Marathon Orange, or approved equal (based on durability and reflectivity, as determined by the Engineer). Use flexible signs with fluorescent reflective sheeting that is Type VI or better. (01/27/07)E41

   b. Railroad Crossbucks and Vertical Crossbuck Supports: Use white Type VIII or Type IX reflective sheeting for background of sign and strips.

   c. Non-Illuminated Overhead Signs with White Legends on Green Backgrounds: Use Type IX reflective sheeting for legends and background. Create the legend in one of the following ways:
      (1) Cut border and legend from white Type IX reflective sheeting and adhere to a green Type IX background, or
      (2) Cut stencil of border and legend out of green transparent acrylic film and use transparent adhesive to overlay the film on a white Type IX reflective background.

   d. Fluorescent Yellow-Green School Area Signs: Use Type VIII or Type IX reflective sheeting for background.

Add the following paragraph:

Reflective Sheeting Warranty. Supply manufacturer's warranty for reflective sheeting, including retention of fluorescent yellow-green (measured according to ASTM E 2301) for ten years according to the following criteria:

Minimum Fluorescent Luminance Factor	Y_F: 20%
Minimum Total Luminance Factor	Y_T: 35%

The warranty shall stipulate that: If the sheeting fails to meet the minimum fluorescence values within the first 7 years from the date of fabrication, the manufacturer shall, at the manufacturer's expense, restore the sign surface to its original effectiveness. If the reflective sheeting fails to meet the minimum fluorescence values within the 8th through the 10th year from the date of fabrication, the manufacturer shall, at the manufacturer's expense, provide enough new replacement sign sheeting to the Department to restore the sign surface to its original effectiveness.
(1/1/06)E26

SECTION 616

THAW PIPE AND THAW WIRES

Standard Modifications

616-2.01 THAW PIPE. In the second sentence delete: "and Fittings"

Add the following sentence: Fittings: ASTM A 234 galvanized according to AASHTO M 111. (6/30/04)E14

Special Provisions

616-3.01 THAW PIPE. Add the following to the numbered paragraph 3: Drain the thaw pipe of water and fill with non-toxic antifreeze, such that a visible level of antifreeze can be seen in both standpipes. Thaw pipes shall be free of leaks upon completion.

616-5.01 BASIS OF PAYMENT. Add the following: Antifreeze is subsidiary to thaw pipe pay items.

(06/25/07)R&M

SECTION 618

SEEDING

Special Provisions

618-1.01 DESCRIPTION. Add the following: Topsoil and seed new or disturbed slopes and other areas directed by the Engineer. Track the soil and apply seed, mulch, fertilizer, and water. Provide a living ground cover on slopes as soon as possible.

618-2.01 MATERIALS. Add the following to the list of material specifications:

Mulch subsection 727-2.01
(01/27/07)R52USC

Standard Modification

618-3.01 SOIL PREPARATION. Delete the fourth paragraph and replace with the following: Roughen the surface to be seeded by grooving the soil in a uniform pattern that is perpendicular to the fall of the slope. Use one or more of the following grooving methods before the application of seed:

1. Manual raking with landscaping rakes;
2. Mechanical track walking with track equipment; or
3. Mechanical raking with a scarifying slope board. Form one inch wide grooves spaced no more than six inches apart.

Rounding the top and bottom of slopes to facilitate tracking or raking and to create a pleasant appearance is acceptable, but disrupting drainage flow lines is not.
(01/27/07)E42

Special Provisions

618-3.01 SOIL PREPARATION. Add the following: Apply seed as detailed in subsection 618-3.03 immediately after the shaping of the slopes. Cover slopes to be seeded with topsoil according to Section 620. Complete slope preparation as soon as topsoil is placed on the slopes.
(01/27/07)R52USC

Standard Modification

618-3.02 SEEDING SEASONS. Add the following: Seed disturbed areas that require seeding within 14 days of the permanent cessation of ground disturbing activities in that area.

Seed between May 15 and August 15, or obtain written approval from the Engineer to seed at a different date.

618-3.03 APPLICATION. Delete the first three sentences and replace with: Apply seed mix, fertilizer, and mulch (if required) at the rate specified in the Special Provisions. If no seed mix, seed mix application rate, or fertilizer rate are specified in the special provisions, use the recommendations of the Alaska Department of Natural Resources (ADNR) and the Revegetation Manual for Alaska.

Do not seed areas of bedrock, plant beds, and areas indicated on the Plans as "no seeding".

Water and fertilizer required for application are subsidiary to the Seeding bid item.
(01/27/07)E42

Special Provisions

618-3.03 APPLICATION. Add the following: Apply seed, mulch, and fertilizer as follows per acre. Apply seed and mulch in one application if using the hydraulic method. Apply fertilizer with the hydraulic method.

Component	Ingredients	Application Rate (per MSF)
Seed	Bering Hairgrass (Noarcoast) Red Fescue (Arctared) Polargrass (Alyeska) Glaucous Bluegrass (Tundra)	0.50 lbs. 0.30 lbs. 0.10 lbs. 0.10 lbs. Total = 1.00 lbs
Soil Stabilizer Slope $\leq$ 3:1 Slope >3:1	 Mulch Mulch with tackifier	 46 lbs. 45-58 lbs.
Fertilizer	20-20-10	12.0 lbs.

Do not remove the required tags from the seed bags.
(01/27/07)R52USC (03/05/07)R&M

Standard Modification

Delete subsection 618-3.04 in its entirety, and add the following new subsections:

618-3.04 MAINTENANCE AND WATERING. Protect seeded areas against traffic by approved warning signs or barricades. Repair surfaces gullied or otherwise damaged following seeding. Maintain seeded areas in a satisfactory condition until final acceptance of work.

Water and maintain seeded areas. Water applied by this subsection is a paid Contract item. If, in the opinion of the Engineer, too much water is being applied, reduce amount of water as directed.

Reseed areas not showing evidence of satisfactory growth within 3 weeks of seeding. Bare patches of soil more than 10 square feet in area must be reseeded. Erosion gullies over 4 inches deep must be filled and reseeded. Fill the entire erosion gully to surrounding grade, even the portions less than 4 inches deep.

Contact ADNR for advice or corrective measures, when seeded areas are not showing evidence of satisfactory growth. The Contractor is responsible for retracking, reseeding, refertilizing and remulching areas that do not show satisfactory growth, and those actions are subsidiary.

618-3.05 ACCEPTANCE. During final inspection the Engineer will perform a visual inspection of seeding to determine final stabilization. During the visual inspection each station and each side of the road will be considered a separate area. The Engineer will accept seeding that has become a vegetative matt with 70% cover density in the inspection area.

Reseed areas that are not acceptable to the Engineer.

618-3.06 PERIOD OF ESTABLISHMENT. Establishment periods extend for one complete growing season following acceptable seeding. Employ possible means to preserve the new vegetative matt in a healthy and vigorous condition to ensure successful establishment. Reseed areas that do not meet the specifications. Watering and reseeding after the final inspection are subsidiary.

The Engineer may, but is not required to, determine the Project is complete except for the period of establishment, and issue a letter of final acceptance. After final acceptance, work or materials due under this subsection during any remaining period of establishment are considered warranty obligations that continue to be due following final acceptance according to subsection 105-1.16.

618-4.01 METHOD OF MEASUREMENT.

After Seeding by the Pound, delete text and replace with: By the weight of dry seed acceptably seeded and maintained.

618-5.01 BASIS OF PAYMENT. Delete paragraphs beginning: "Seeding by the Acre" and "Seeding by the Pound" and replace with:

Seeding by the Acre. Payment is for established vegetative matt. Soil preparation, fertilizer, and water required for hydraulic method are subsidiary.

Seeding by the Pound. Payment is for established vegetative matt. Soil preparation, fertilizer, and water required for hydraulic method are subsidiary.

Add new pay description: Water for Seeding. Water applied for growth of vegetative matt. Water for hydraulic seeding, fertilizing or mulching is subsidiary. Water after project completion is subsidiary.
(01/27/07)E42

SECTION 620

TOPSOIL

Special Provisions

620-3.01 PLACING. Delete paragraph in its entirety and substitute the following: Topsoil shall be evenly spread on the designated areas to a minimum depth after settlement of 4 inches. Settlement shall be achieved by rolling the topsoil with a water-filled drum or other method approved by the Engineer.

Grade topsoil with a scarifying slope board or rake. The resultant indentations shall be perpendicular to the fall of the slope. Complete the grading as soon as topsoil is placed. The resultant indentations shall be perpendicular to the fall of the slope. The Contractor may round the top and bottom of the slopes to facilitate working the slope and to create a pleasing appearance. Do not disrupt drainage flow lines. Equipment performing the placement of 4 inches topsoil or other operations for this project shall be kept clear of wetland areas. If access into the wetland is required, it shall be approved by the Engineer and shall be performed under close supervision.

Do not place topsoil in heavy rainfall, snowfall, when the soil is frozen or during other conditions detrimental to the work. Keep roadway surfaces clean of topsoil during hauling and spreading operations.

620-4.01 METHOD OF MEASUREMENT. Add the following: Limestone, if required, will not be measured for payment.

620-5.01 BASIS OF PAYMENT. Add the following: Limestone will be subsidiary to Item 620(1) Topsoil.
(7/16/05)R&M

SECTION 626

SANITARY SEWER SYSTEM

Special Provisions

626-1.01 DESCRIPTION. Add the following: This work consists of the installation of Sewer Casing Pipe as shown on the Plans and as specified in these Special Provisions. This work shall also consist of installing flexible marker posts.

626-2.01 MATERIALS. Add the following: Use materials that conform to the following:

Geotextile Separation Fabric. Conform to the requirements of Section 630.

Insulation Board. Conform to the requirements of Section 635.

Flexible marker posts shall have an overall length of 72-inches. The marker shaft shall have a coil spring at the bottom and flag at the top. The shaft and spring shall be one piece and made of galvanized spring steel. The marker posts shall be Model FF2 as manufactured by Nordic Fiberglass, Inc., or approved equal.

Add the following subsection:

626-2.02 OWNER FURNISHED MATERIALS. The 24-inch diameter steel conduit for the Utilidor Road Crossings, at the total lengths specified in the Plans, will be provided by the City of Bethel to the Contractor at no cost. The materials will be available at the City of Bethel's pipe lay-down yard located on South Port Access Road, which is routed along the north side of the Crowley Fuel Tank Farm. Contractor will schedule materials pickup with Wayne Ogle, City of Bethel Public Works Director (907-543-3110) during City of Bethel normal working hours (Monday through Friday between the hours of 8:00 am and 5:00 pm). Materials pickup must be scheduled a minimum of 24 hours in advance of pickup.

626-3.01 CONSTRUCTION REQUIREMENTS. Add the following: Deliver materials to the project site in a manner that protects said materials from damage. Conform to elevations and dimensions shown on the Plans within a tolerance of plus or minus 0.10 foot.

Marker posts shall be installed per the manufacturer's recommendations at both ends of all casing pipes, or as directed by the Engineer.

Add the following subsections:

626-3.03 MAINTENANCE OF EXISTING UTILITIES. The Contractor shall be responsible for locating, shoring and protecting of property, (real and personal) in the vicinity of each Sewer Casing Pipe installation. The approximate locations of known underground obstructions are shown on the Plans; however, it shall be the Contractor's responsibility to establish the location

of each facility by calling for field locates according to subsection 105-1.06, Cooperation with Utilities. Hand digging shall be required to expose buried utilities.

626-3.04 DEWATERING. Shall be according to Section 641.

626-3.05 AS-BUILT DRAWINGS. The Contractor shall maintain a complete and accurately dimensioned record of deviations, deletions, additions and alterations from and to the Plans and Specifications to indicate the work as actually installed.

The Contractor shall as-built each utilidor road crossing. The as-built drawings shall include the elevation of the finish grade, project centerline at the crossing locations, line, grade and swing ties. Provide a Registered Land Surveyor who will document the location and elevation information for each Sewer Casing Pipe to be shown on the as-built document.

One set of final red-lined as-built Plans shall be delivered to the City of Bethel.

626-4.01 METHOD OF MEASUREMENT. Add the following: Section 109.

626-5.01 BASIS OF PAYMENT. Add the following: Payment for Item 626(24) Sewer Casing Pipe shall be full compensation for loading, transporting, and installing the 24-inch steel conduits, provided by the City of Bethel; furnishing and installing the geotextile fabric, the 2-inch insulation board located at the bottom of the trench excavation, and backfill materials; excavation and backfill; dewatering; surveying and staking; completing as-built drawings; and all subsidiary items necessary to complete the work complete in place. Marker posts and installation is subsidiary to Sewer Casing Pipe.

Payment will be made under:

Pay Item	Pay Unit
626(24) Sewer Casing Pipe	Each

(5/3/06)R&M

SECTION 631

GEOTEXTILE FOR SUBSURFACE DRAINAGE AND EROSION CONTROL

Special Provisions

631-5.01 BASIS OF PAYMENT. Add the following: Geotextile, Labor, excavation, and materials to install geotextile is subsidiary to Aggregate Base Course, Grading D-1 when installed at the bridge abutments. Goetextile is subsidiary to 611 items when installed at drainage structures, rock slope lining, ditches, and channels.

(6/25/07)R&M

SECTION 635

INSULATION BOARD

Special Provisions

635-5.01 BASIS OF PAYMENT. Delete this subsection in its entirety and substitute the following: Payment will be made under:

Pay Item	Pay Unit
635(2) Insulation Board	Square Foot

(6/23/06)R&M

SECTION 636

GABIONS

Special Provisions

636-5.01 BASIS OF PAYMENT. Replace the first sentence with the following: Excavation for gabions will be paid for under section 203(3).

Delete the pay item and replace with the following:

Payment will be made under:

Pay Item	Pay Unit
636(1B) Gabion, PVC Coated Mesh	Cubic Yard

(5/3/06)R&M

Delete this Section in its entirety and substitute the following:

SECTION 639

DRIVEWAYS

Special Provisions

639-1.01 DESCRIPTION. Construct approaches, residential or commercial driveways at the locations shown in the Plans.

639-2.01 MATERIALS. Use materials that conform to the standards for the main roadway.

639-3.01 CONSTRUCTION. Construct driveways and approaches to the dimensions shown on the Plans.

639-4.01 METHOD OF MEASUREMENT. By the number of approaches constructed as shown on the Plans or as directed. Pavement removal, excavation, and relocating or adjusting existing private improvements as required beyond the limits of the adjacent mainline will be subsidiary.

639-5.01 BASIS OF PAYMENT. At the Contract unit price shown in the bid schedule. The Contract unit price for driveways and approaches shall be full compensation for furnishing equipment and labor necessary to complete the work as specified.

Materials required to construct driveways and approaches will be paid for separately under the respective items listed in the bid schedule.

Native material meeting the minimum requirements of Selected Material, Type C will not be paid for directly, but will be considered subsidiary to Item 639(6) Approach.
(05/09/02)R58M98(7/08/05)R&M

Payment will be made under:

Pay Item	Pay Unit
639(6) Approach	Each

SECTION 640

MOBILIZATION AND DEMOBILIZATION

Standard Modifications

640-1.01 DESCRIPTION. Add the following:

6. Comply with the Alaska Department of Labor and Workforce Development (DOLWD) requirements for Worker Meals and Lodging, or Per Diem; as described in their July 25, 2005 memo WHPL #197 (A2) and the State Laborer's and Mechanic's Minimum Rates of Pay (current issue).

   Ensure subcontractors comply with the DOLWD requirements.

   Ensure facilities meet the Alaska Administrative Code 8 AAC 61.1010 and 8 AAC 61.1040 Occupational Safety and Health Standards, 18 AAC 31 Alaska Food Code, and U. S. Code of Federal Regulations 29 CFR Section 1910.142 Temporary Labor Camps.

   Do not consider the cost of Meals and Lodging, or Per Diem in setting wages for the worker or in meeting wage requirements under AS 23.10.065 or AS 36.05.

640-4.01 METHOD OF MEASUREMENT. Delete the numbered paragraph 3 and substitute the following:

3. The remaining balance of the amount bid for Mobilization and Demobilization will be paid after all submittals required under the Contract are received and approved.

Add the following:

4. Progress payments for Worker Meals and Lodging, or Per Diem will be computed as equivalent to the percentage, rounded to the nearest whole percent, of the original Contract amount earned.

640-5.01 BASIS OF PAYMENT. Add the following pay item:

Payment will be made under:

Pay Item	Pay Unit
640(4) Worker Meals and Lodging, or Per Diem	Lump Sum

(1/01/06)E27

Delete Section 641 in its entirety and substitute the following:

SECTION 641

EROSION, SEDIMENT, AND POLLUTION CONTROL

641-1.01 DESCRIPTION. Plan, provide, inspect, and maintain control of erosion, sedimentation, water pollution, and hazardous materials contamination.

641-1.02 DEFINITIONS.

1. BMP (Best Management Practices). A wide range of project management practices, schedules, activities, or prohibition of practices, that when used alone or in combination, prevent or reduce erosion, sedimentation, and/or pollution of adjacent water bodies and wetlands. BMP include temporary or permanent structural and nonstructural devices and practices. Common BMP can be found on the EPA website: *National Menu of Storm Water Best Management Practices.* [www.epa.gov/npdes/stormwater/menuofbmps]

2. ESCP (Erosion and Sediment Control Plan). The ESCP is a project specific document that illustrates measures to control erosion and sediment problems on a project. The ESCP normally consists of a general narrative and a map or site plan. It is developed by the Department and included in the project plans and specifications. It serves as a resource for bid estimation and a framework from which the Contractor develops the project SWPPP.

3. Final Stabilization. A point in time when ground disturbing activities are complete and permanent erosion and sediment controls are established and functional. The stabilized site is protected from erosive forces of raindrop impact and water flow. Typically, unpaved areas except graveled shoulders, crushed aggregate base course, or other areas not covered by permanent structures are protected by either a uniform blanket of perennial vegetation (at least 70% cover density) or equivalent permanent stabilization measures such as riprap, gabions or geotextiles.

4. HMCP (Hazardous Material Control Plan). The Contractor's detailed plan for prevention of pollution that stems from the use, containment, cleanup, and disposal of hazardous material, including petroleum products generated by construction activities and equipment.

5. eNOI. Electronic Notice of Intent to begin construction activities under the NPDES General Permit. Use EPA Form 3510-9 found at www.epa.gov/npdes/stormwater/enoi

6. eNOT. Electronic Notice of Termination of coverage under the NPDES General Permit. Use EPA Form 3510-13 found at www.epa.gov/npdes/stormwater/cgp

7. NPDES General Permit. The Storm Water General Permit for Large and Small Construction Activities, issued by the Environmental Protection Agency (EPA) under the

National Pollutant Discharge Elimination System (NPDES). It requires an approved SWPPP and NOIs listed as active status by the EPA before ground disturbing activities for the project.

8. SPCC Plan (Spill Prevention, Control and Countermeasure). The Contractor's detailed plan for oil spill prevention and control measures, that meets the requirements of 40 CFR 112.

9. SWPPP (Storm Water Pollution Prevention Plan). The Contractor's plan for erosion and sediment control and storm water management. The SWPPP is developed by the Contractor and identifies specific areas where erosion may occur, describes site specific controls to prevent erosion and manage sediment and establishes a record of the installation and removal of these controls. The approved SWPPP replaces the ESCP.

641-1.03 REFERENCES.

The following websites have up to date information about erosion, sediment and pollution control.

Developing the SWPPP. EPA. January 2007. Includes a SWPPP template in WORD [www.epa.gov/npdes/swppppguide]

National Menu of Storm Water Best Management Practices. EPA. [www.epa.gov/npdes/stormwater/menuofbmps]

International Erosion Control Association website [www.ieca.org/Resources/Resources.asp]

Construction Industry Compliance Assistance Center website [www.CICAcenter.org/bmps.html]

641-1.04 SUBMITTALS. Submit two copies each of the SWPPP and HMCP to the Engineer for approval. Submit one copy of the SPCC Plan (if required under subsection 641-2.03) to the Engineer. Sign submittals. Deliver these documents to the Engineer.

The Department will review the SWPPP and HMCP submittals within 14 calendar days. Submittals will be returned to the Contractor as either requiring modification, or as approved by the Department. The approved SWPPP must contain certifications, and be signed according to the Standard Permit Conditions of the NPDES General Permit. Approval of the SWPPP must be received before submitting the eNOI to the EPA.

For projects that disturb five acres or more of ground, submit a copy of the approved and signed SWPPP, with the required permit fee to the Alaska Department of Environmental Conservation (ADEC) Storm Water Coordinator. Transmit proof of this submission to the Engineer.

For projects that disturb one acre or more, submit the signed eNOI to EPA. Submit copies of the signed eNOI receipt to the Engineer and to ADEC. Transmit proof of the ADEC submission to

the Engineer. The Department will transmit the Department's NOI to the EPA. Allow adequate time for state and federal processing, before beginning ground disturbing activities.

The active status NOIs, approved SWPPP, approved HMCP, and submitted SPCC Plan (when required) become the basis of the work required for the project's erosion, sediment, and pollution control.

Submit the signed eNOT to EPA with a copy to the Engineer when notified by the Engineer that the Project is stabilized. The Department will transmit the Department's eNOT to the EPA.

641-2.01 STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS. Prepare a Storm Water Pollution Prevention Plan. Use the Department's ESCP to develop a SWPPP based on scheduling, equipment, and use of alternative BMPs. The SWPPP Preparer must visit the project site before preparing the SWPPP. The plan must include both erosion control and sediment control measures. The plan must address first preventing erosion, then minimizing erosion, and finally trapping sediment before it leaves the project site.

The SWPPP must follow the format presented in Appendix A of *Developing Your Storm Water Pollution Prevention Plan* (EPA, January 2007) found at http://cfpub.epa.gov/npdes/stormwater/swppp.cfm.

The plan must address site specific controls and management plan for the construction site as well as for material sites, waste disposal sites, haul roads, and other affected areas, public or private. The plan must also incorporate the requirements of the project permits.

Specify the line of authority and designate a field representative for implementing SWPPP compliance.

641-2.02 HAZARDOUS MATERIAL CONTROL PLAN (HMCP) REQUIREMENTS. Prepare a HMCP for the handling, storage, cleanup, and disposal of petroleum products and other hazardous substances. (See 40 CFR 117 and 302 for listing of hazardous materials.)

List and give the location of hazardous materials, including office materials, to be used and/or stored on site, and estimated quantities. Detail a plan for storing these materials as well as disposing of waste petroleum products and other hazardous materials generated by the project.

Identify the locations where storage, fueling, and maintenance activities will take place, describe the maintenance activities, and list controls to prevent the accidental spillage of oil, petroleum products, and other hazardous materials.

Detail procedures for containment and cleanup of hazardous substances, including a list of the types and quantities of equipment and materials available on site to be used.

Detail a plan for the prevention, containment, cleanup, and disposal of soil and water contaminated by accidental spills. Detail a plan for dealing with unexpected contaminated soil and water encountered during construction.

Specify the line of authority and designate a field representative for spill response and one representative for each subcontractor.

641-2.03 SPILL PREVENTION, CONTROL AND COUNTERMEASURE (SPCC) PLAN REQUIREMENTS. Prepare and implement a SPCC Plan when required by 40 CFR 112, including:

Control

Prepare and implement a SPCC Plan when required by 40 CFR 112, including:
1. When oil spills may reach navigable waters; and
2. Total above ground oil storage capacity is greater than 1,320 gallons.

Prevention and Countermeasures

Comply with 40 CFR 112 and address the following issues in the SPCC Plan:
1. Operating procedures that prevent oil spills;
2. Control measures installed to prevent a spill from reaching navigable waters; and
3. Countermeasures to contain, clean up, and mitigate the effects of an oil spill.

Self certify the SPCC Plan if the total above ground oil storage capacity is 10,000 gallons or less, and the requirements for self certification in 40 CFR 112 is met. Otherwise the SPCC Plan must be certified, stamped with the seal of, dated by, and signed by a Professional Engineer registered in the State of Alaska.

641-3.01 CONSTRUCTION REQUIREMENTS. On projects with 1 acre or more of ground disturbing activity, do not begin construction activities until the EPA has acknowledged receipt of the Contractor's NOI and Department's NOI, and has listed both as active status. The EPA will post the status of the NOIs on the EPA website. On projects with less than 1 acre of ground disturbing activity, where submittal of an eNOI to EPA is not required, do not begin construction activities until authorized by the Engineer.

Postings.

Post at the construction site:
1. NPDES Permit number, if available, and a copy of the NOI,
2. Name and phone number of the Contractor's local contact person, and
3. Location of a SWPPP available for viewing by the public.

The above notices must be posted at publicly accessible locations. At a minimum post notices at the BOP, EOP, near the intersection of the highway with a major side street, and the Project Office.

Comply with requirements of the approved HMCP, the submitted SPCC Plan, and state and federal regulations that pertain to the handling, storage, cleanup, and disposal of petroleum products or other hazardous substances. Contain, clean up, and dispose of discharges of petroleum products and other materials hazardous to the land, air, water, and organic life forms. Perform fueling operations in a safe and environmentally responsible manner. Comply with the requirements of 18 AAC 75 and AS 46, Oil and Hazardous Substances Pollution Control. Report oil spills as required by federal, state and local law, and as described in the SPCC Plan.

Comply with requirements of the NPDES General Permit, implement temporary and permanent erosion and sediment control measures identified in the SWPPP, and ensure that the SWPPP remains current. Maintain temporary and permanent erosion and sediment control measures in effective operating condition.

Coordinate BMPs with Utility Companies doing work in the project area.

Inspections

Perform inspections and prepare inspection reports to comply with the project SWPPP and the NPDES General Permit.

1. Joint Inspections. Before start of construction, conduct a joint on site inspection with the Engineer, the SWPPP Preparer, and the Contractor's field representative to discuss the implementation of the SWPPP.

   Conduct the following additional joint on site inspections with the Engineer:

   a. During construction, inspect the following at least once every seven days and within 24 hours of the end of a storm exceeding ½ inch in 24 hours (as recorded at or near the project site):
      (1) Disturbed areas that have not been finally stabilized
      (2) Areas used for storage of erodible materials that are exposed to precipitation
      (3) Sediment and erosion control measures
      (4) Locations where vehicles enter or exit the site
      (5) Offsite materials sources and waste sites
      (6) Staging and equipment storage areas.

   b. During construction, the SWPPP preparer shall review the Project Site, Materials Sites, Waste Sites, and the SWPPP for conformance with the NPDES General Permit at least once per month and after every major change in earth disturbing activities for compliance with the General Permit.

c. Before winter shutdown, to ensure that the site has been adequately stabilized and devices are functional.

d. At project completion, to ensure final stabilization of the project.

2. Winter Inspections. During winter shutdown, conduct inspections at least once every month and within 24 hours of a storm resulting in rainfall of 1/2 inch or greater. The Engineer may waive monthly inspection requirements until one month before thawing conditions are expected to result in a discharge, if all of the following requirements are met:
   a. Below freezing conditions are anticipated to continue for more than one month.
   b. Land disturbance activities have been suspended.
   c. The beginning and ending dates of the waiver period are documented in the SWPPP.

3. Inspection Reports. Prepare and submit, within three working days of each inspection, a report on the DOT&PF SWPPP Inspection Report Form (February 2007). At a minimum the report will contain the following information:
   a. A summary of the scope of the inspection
   b. Name(s) of personnel making the inspection
   c. The date of the inspection
   d. Observations relating to the implementation of the SWPPP
   e. Any actions taken as the result of the inspection
   f. Incidents of noncompliance

   Where a report does not identify any incidents of noncompliance, certify that the facility is in compliance with the SWPPP and NPDES General Permit. The Contractor and the Engineer will sign the report according to the Standard Permit Conditions of the NPDES General Permit. Include reports as an appendix to the SWPPP.

Record Retention

Keep the SWPPP up to date at all times. The SWPPP shall denote the location, date of installation, date maintenance was performed, and the date of removal for BMPs. It shall also contain copies of inspection reports and amendments.

Maintain the following records as part of the SWPPP:
1. Dates when major grading activities occur;
2. Dates when construction activities temporarily or permanently cease on a portion of the site; and
3. Dates when stabilization measures are initiated.
4. Daily precipitation as measured from an on site rain gauge.

Provide the Engineer with copies of SWPPP revisions, up dates, records, and inspection reports at least weekly.

Retain copies of the SWPPP and other records required by the NPDES General Permit for at least three years from the date of final stabilization.

If unanticipated or emergency conditions threaten water quality, take immediate suitable action to preclude erosion and pollution.

Amendments

Submit amendments to the SWPPP to correct problems identified as a result of:

1. Storm or other circumstance that threatens water quality, and
2. Inspection that identifies existing or potential problems.

Submit SWPPP amendments to the Engineer within seven days following the storm or inspection. Detail additional emergency measures required and taken, to include additional or modified measures. If modifications to existing measures are necessary, complete implementation within seven days.

Stabilize areas disturbed after the seeding deadline within seven days of the temporary or permanent cessation of ground disturbing activities.

Notice of Termination

For projects that disturb one acre or more of land, submit the signed eNOT to EPA with a copy to the Engineer when the Engineer notifies that:

1. The Project site (including material sources, and disposal sites) has been finally stabilized and that storm water discharges from construction activities authorized by this permit have ceased, or

2. The construction activity operator (as defined in the NPDES General Permit) has changed.

Temporary Seeding

Apply and maintain temporary seeding according to Section 618, or as directed by the Engineer, in locations specified by the Engineer.

Temporary Check Dams

Install temporary check dams as specified in the Plans. Temporary check dams shall be straw wattles and meet subsection 727-2.04.

641-4.01 METHOD OF MEASUREMENT. Section 109 and as follows:

Items 641(2) and (4) will be measured as specified in the Contract or directive authorizing the work.

Temporary Seeding. By the weight of dry seed acceptably seeded and maintained.

Temporary Check Dam. By each installation location, acceptably placed and maintained.

641-5.01 BASIS OF PAYMENT. The Bid Schedule will include either items 641(1), (2), and (5) or items 641(1), (3), (4), and (5).

1. Item 641(1) Erosion and Pollution Control Administration. At the Contract lump sum price for administration of work under this Section. Includes, but is not limited to, plan preparation, plan amendments and updates, inspections, monitoring, reporting, and record keeping.

2. Item 641(2) Temporary Erosion and Pollution Control. At the prices specified in the Contract or as provided in the Directive authorizing the work to install and maintain temporary erosion, sedimentation, and pollution control measures.

3. Item 641(3) Temporary Erosion and Pollution Control. At the lump sum price shown on the bid schedule to install and maintain temporary erosion, sedimentation, and pollution control measures required to complete the project according to Plan and with the BMP, the ESCP, and the original approved SWPPP and HMCP.

4. Item 641(4) Temporary Erosion and Pollution Control Amendments. At the prices specified in the Directive for extra, additional, or unanticipated work to install and maintain temporary erosion, sedimentation, and pollution control measures. Work paid under this Item will be shown as amendments to the original approved SWPPP or HMCP.

5. Item 641(5) Erosion and Pollution Control Price Adjustment. The total value of this Contract will be adjusted as specified in subsection 641-3.01. In addition, a price adjustment equivalent to penalties levied against the Department by the EPA or other state and federal agencies for violations of the Clean Water Act and the NPDES General Permit will be made if the Department is issued a Notice of Violation (NOV) by these agencies. This price adjustment is the actual cost of fines levied against the Department. An amount equal to the maximum fine for the violation will be withheld temporarily until the actual cost of the fine is known. The difference, excluding price adjustments will be released by the Engineer upon satisfactory completion of the requirements of the NPDES General Permit. The Contractor is responsible for the payment of the Contractor's fines.

Temporary erosion and pollution control measures that are required at Contractor furnished sites are subsidiary.

Work that is paid for directly or indirectly under other pay items will not be measured and paid for under this Section, including but not limited to dewatering, shoring, bailing, installation and removal of temporary work pads, temporary accesses, temporary drainage pipes and structures, and diversion channels.

Perform temporary erosion and pollution control measures that are required due to negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or ordered by the Engineer, or for the Contractor's convenience, at the Contractor's expense.

Permanent erosion and pollution control measures will be measured and paid for under other Contract items, when shown on the bid schedule.

Failure

If the Contractor fails to coordinate temporary or permanent stabilization measures with the earthwork operations in a manner to effectively control erosion and prevent water pollution, the Engineer may suspend earthwork operations and withhold monies due on current estimates for such earthwork items until aspects of the work are coordinated in a satisfactory manner.

If there is failure to:

1. Pursue the work required by the approved SWPPP,
2. Respond to inspection recommendations and/or deficiencies in the SWPPP, or
3. Implement erosion and sedimentation controls identified by the Engineer,

the Contractor will be assessed a permanent price adjustment of $500 per day for each day of nonaction, under Item 641(5) Erosion and Pollution Control Price Adjustment. In addition, the Engineer may, after giving written notice, proceed to perform the work and deduct the cost thereof, including project engineering costs, from progress payments under item 641(5).

Temporary Seeding. Payment is for established vegetative matt. Soil preparation, fertilizer, and water required for hydraulic method are subsidiary. Water to establish the vegetative matt will not be measured for payment.

Payment will be made under:

Pay Item	Pay Unit
641(1) Erosion and Pollution Control Administration	Lump Sum
641(3) Temporary Erosion and Pollution Control	Lump Sum
641(4) Temporary Erosion and Pollution Control Amendments	Contingent Sum
641(5) Erosion and Pollution Control Price Adjustment	Contingent Sum
641(9) Temporary Seeding	Pound
641(11) Temporary Check Dam	Each

(04/17/07)R272USC04 (06/20/07)R&M

SECTION 642

CONSTRUCTION SURVEYING AND MONUMENTS

Special Provisions

642-3.01 GENERAL. Add the following:

11. Before any work on the project, stake and reference the centerline existing ground on the right side of the roadway alignment. Stake the centerline at 100 foot on tangents, and 50 foot intervals on curves from the beginning and ending of superelevation changes when the roadway is no longer at normal crown. Stake sign locations at proper offset. Stakes shall be a minimum of 1 inch by 2 inch by 2 feet and be offset 4 to 8 feet from the shoulder on the right side of the roadway. Lath stakes will be a minimum of 2 feet above ground. Show the offset distance to centerline and the station from the beginning of the project. Ensure stakes are visible from roadway by clearing as necessary. Maintain staking until the final roadway striping is completed. Clearing will not be paid for separately and is considered subsidiary to other 642 pay items. Staking accuracy work requires an electronic distance measuring instrument (DMI) be installed in the Contractor's vehicle. Calibrate the DMI to roadway alignments as stationed in the Plans before beginning work. Record calibration and staking information in the field book.

    Install a reference sign every 500 feet. These reference signs shall meet the following requirements:

    a. mounted a minimum of 5 feet above the shoulder,

    b. located a minimum of 10 feet from the edge of shoulder,

    c. marked with the station from the beginning of the project, in 6 inch high black lettering on an orange background.

Compute design centerline profile to best fit the existing profile. Prepare existing top of roadway cross sections for horizontal curves and transitions with design superelevated pavement plotted on each section. The Engineer may require adjustments to the roadway grades. This shall not be considered extra work. Provide this profile information to the Engineer (electronically in Excel format) immediately upon its completion, along with checked computations on level loops, but in no case later than 7 calendar days before slope staking or blue topping.
(03/06/07)R&M

642-3.04 OFFICE ENGINEERING. Delete third sentence and replace with: Perform the work by, or under the responsible charge of, a person registered in the State of Alaska as a Professional Land Surveyor or a Professional Engineer.
(5/1/07)E53

SECTION 643

TRAFFIC MAINTENANCE

Special Provisions

643-1.03 TRAFFIC CONTROL PLAN. Replace the last paragraph with the following: A waiver may be requested of regulation 17 AAC 25 regarding oversize and overweight vehicle movements within this project in writing. If the waiver is approved, movements of oversize and overweight vehicles in or near traffic within the project limits will be done according to the provisions of an approved Traffic Control Plan. Maintain a minimum12 foot lateral separation between the nonstreet legal vehicles and the motoring public. The Traffic Control plan shall specify the traffic control devices required for these operations.

Standard Modifications

643-2.01 MATERIALS. Under Item 16. Flagger Paddles, replace the last sentence with the following: Use reflective sheeting that meets AASHTO M 268 Type VIII or IX. Use background colors of fluorescent orange on one side and red on the other side. E56(5/01/07)

Special Provisions

643-2.01 MATERIALS. Add the following:

17. Flexible Markers. Refer to subsection 606-2.01 Materials.

Standard Modifications

643-3.01 GENERAL CONSTRUCTION REQUIREMENTS. Add the following: Immediately notify the Engineer of a traffic related accident that occurs within the project limits as soon as becoming aware of the accident. (05/01/07)E56

Special Provisions

643-3.01 GENERAL CONSTRUCTION REQUIREMENTS. Add the following: Whenever construction activity encroaches onto the safe route in a traffic control zone, station a flagger at the encroachment to assist pedestrians and bicyclists past the construction activity.

Maintain business accesses during flagging operations.

Furnih and apply Calcium Chloride for Dust Control as directed by the Engineer and according to Section 624.
R&M(**5/01/07**)

Standard Modification

643-3.04 TRAFFIC CONTROL DEVICES.

In the sixth paragraph and also in Item 4.b., delete: "ATTSA" and replace with "ATSSA". E56(5/01/07)

Special Provisions

643-3.04 TRAFFIC CONTROL DEVICES.
Delete the first sentence of the eighth paragraph and substitute the following: Items paid under this Section remain the Contractor's property unless stated otherwise.

Add the following to item 1. Embankments.: Close trenches and excavations at the end of each continuous work shift.

Add the following to item 3. Fixed Objects.: Remove obstructions greater than 4 inches above the nominal foreslope grade at the end of each continuous work shift.

Delete item 4.b. and replace with the following: Flagger Certification by ATSSA

Delete item 6 and replace with the following:

6. Street Sweeping. Keep free of loose material paved portions of the roadway and haul routes open to the public, including sections of roadway off the project where the Contractor's operations have deposited loose material using a street sweeper that can collect materials rather than eject them to the shoulder of the road.

7. Power Brooming. Keep free of loose material paved portions of the roadway and haul routes open to the public, including sections of roadway off the project where the Contractor's operations have deposited loose material using a power broom that can eject them to the shoulder of the road.

Change items 7 and 8 to 8 and 9 respectively.

Add the following:

10. ET-2000 LET. The price listed in the Traffic Control Rate Schedule will be full compensation for the purchase, installation, maintenance during construction, removal and salvaging the ET-2000 LET unit(s). Deliver the salvaged unit(s) to the nearest DOT &PF Maintenance and Operations' district office, or as directed by the Engineer.

11. Portable Changeable Message Board. The price listed in the bid schedule shall be full compensation for the purchase and maintenance during construction. Deliver the units to the nearest DOT&PF Maintenance and Operations district office, or as directed by the Engineer.

R&M(6/22/07)

643-3.05 AUTHORITY OF THE ENGINEER. Replace the first sentence with the following: When existing conditions adversely affect the public's safety or convenience, the Contractor will receive an oral notice. A written notice will follow the oral notice according to subsection 105-1.01 Authority of the Engineer.

Add the following after the second sentence: In no case shall this time exceed 24 hours.

643-3.06 TRAFFIC PRICE ADJUSTMENT. Add the following: Failure to maintain an acceptable infrastructure or traffic control plan will result in a price adjustment equal to 100 percent of the applicable rate shown in Table 643-1, for the time the roadway or pedestrian facility is in an unacceptable condition.

Delete Table 643-1 and substitute the following:

TABLE 643-1
ADJUSTMENT RATES

Published ADT	Dollars/Minute of Delay/Lane
0-5,000	$30
5,001+	$40

643-3.08 CONSTRUCTION SEQUENCING. Delete the last sentence and substitute the following: Unless otherwise determined by the Engineer and on an approved Traffic Control Plan (TCP), do not restrict traffic between the hours of 0700 to 0830 and 1600 to 1730, Monday thru Friday.

Complete roadway reconstruction improvements through the final placement of Hot Mix Asphalt on Project Work Segments 1 or 2 before beginning in-lane work on the remaining Project Work Segment. In-lane work will not be allowed concurrently in both Project Work Segments. The Project Work Segments are as follows:

Project Work Segment 1 B.O.P. (Station "THRD" 184+50) through Station "THRD" 226+50

Project Work Segment 2 Station "THRD" 226+50 through the E.O.P. (Station "THRD" 233+36).

Before Winter Shutdown, surface the entire traveled roadway with temporary, existing, or permanent pavement and install pavement markings, signs and roadway delineators by October 15 of each construction year. If existing pavement is damaged by construction activities, make repairs to the satisfaction of the Engineer. Temporary pavement will be subsidiary to item 643(2), Traffic Maintenance. Provide positive drainage away from the roadway before acceptance for winter shutdown. Provide roadside safety protection measures according to Traffic Control Devices for Roadsides drawing. Traffic shall not use detours during winter shutdown.

Obtain the local school bus schedule and coordinate work efforts to ensure the school buses are not delayed through the construction zone. This plan shall be submitted, as a TCP, to the Engineer for approval before the implementation of the school bus coordination plan. (06/20/07)R&M

643-3.09 INTERIM PAVEMENT MARKINGS. In the second paragraph, delete the words "or cover them with black removable preformed marking tape."

Replace the first sentence in the last paragraph with the following: Apply final pavement markings according to subsection 670-3.01, Construction Requirements of these Special Provisions.

Standard Modification

Add the following new subsection:

643-3.11. HIGH VISIBILITY CLOTHING. Ensure workers within project limits wear an outer visible surface or layer that complies with the following requirements:

1. Standards.

   Use high visibility garments conforming to the requirements of ANSI/ISEA 107-2004, Class 2 for tops or Class E for bottoms, and Level 2 retroreflective material.

2. Labeling.

   Use garments labeled in conformance with Section 11.2 of ANSI/ISEA 107-2004; except you may use previously purchased garments labeled in conformance with ANSI/ISEA 107-1999 until 1/1/08.

3. Tops.

   Wear high visibility vests, jackets, or coverall tops at all times.

4. Bottoms.

   Wear high visibility pants or coverall bottoms during nighttime work (sunset to sunrise). Worksite traffic supervisors, employees assigned to traffic control duties, and flaggers wear high visibility pants or coverall bottoms at all times.

5. Outer Raingear.

   Wear raingear tops and bottoms conforming to requirements of in this subsection 643-3.11.

6. Exceptions.

When workers are inside an enclosed compartment of a vehicle, they are not required to wear high visibility clothing.

7. Condition.

Furnish and maintain vests, jackets, coveralls, rain gear, hard hats, and other apparel in a neat, clean, and presentable condition. Maintain retroreflective material to Level 2 standards. (3/15/06)E29

Special Provision

643-4.01 METHOD OF MEASUREMENT.

Replace the second sentence of Item 2 with the following: Special Construction Signs are measured by the total area of legend bearing sign panel, as determined under subsection 615-4.01 and compensation for a 24 hour period shall be made under Construction Signs in the Traffic Control Rate Schedule.

Add the following: No measurement required to provide a 24-hour toll free (1-800-###-####) "hotline road report" telephone with a prerecorded message, and weekly notices with daily updates. Work will be subsidiary to Item 643(1) or 643(2) Traffic Maintenance. (12/14/06)R222USC04

Standard Modification

643-5.01 BASIS OF PAYMENT. Add the following: Payment for high visibility garments for workers is subsidiary to other items. (5/01/07)E56

Special Provision

643-5.01 BASIS OF PAYMENT. Add the following: The Engineer does not require a change order/directive for Item 643(25) Traffic Control.

TRAFFIC CONTROL RATE SCHEDULE

Traffic Control Device	Pay Unit	Unit Rate
Construction Signs	Each/Day	$5.00
Special Construction Sign	Square Foot	$20.00
Type II Barricade	Each/Day	$ 3.00
Type III Barricade	Each/Day	$ 10.00
Traffic Cone or Tubular Marker	Each/Day	$ 1.00

Drums	Each/Day	$ 3.00
Sequential Arrow Panel	Each/Day	$55.00
Portable Concrete Barrier	Each	$60.00
Temporary Crash Cushion / ET-2000 LET	Each	$3,000.00
Pilot Car	Hour	$65.00
Watering	M-Gallon	$20.00
Calcium Chloride for Dust Control	Ton	$1500
Street Sweeping	Hour	$150.00
Power Broom	Hour	$75.00
Plastic Safety Fence	Foot	$.75
Portable Changeable Message Board Sign	Calendar Day	$150.00
Temporary Sidewalk Surfacing	Square Foot	$1.15
Flexible Markers	Each	$50.00
Removal of Pavement Markings	Foot	$1.25
Temporary Guardrail	Foot	$21.00

(6/26/07)R&M

The Engineer will pay for Item 643(15) Flagging on a contingent sum basis at the rate of $41/hour. The Engineer does not require a change order/directive for the flagging pay item. Flagging associated with Change Order work will be paid at the prices according to subsection 109-1.05 Compensation for Extra Work. (12/14/06)R222USC04

Delete Item 643(15) and substitute the following:

Pay Item	**Pay Unit**
643(15) Flagging	Contingent Sum

(12/14/06)R222USC04

SECTION 644

SERVICES TO BE FURNISHED BY THE CONTRACTOR

Special Provisions

644-2.05 VEHICLES. Add the following: If working after October 1, provide studded snow tires for vehicles provided for the Department's use.

Equip vehicles used by the Department with CB radios and yellow lightbars wired into the vehicle's electrical system with a dash mounted switch easily accessible to the vehicle operator. Provide Code 3; Model 6005H (formerly PE 6200 LE) lightbars, or approved equal. Approved equals shall have the following characteristics:

Four 55 watt rotators with amber filters
1200 flashes per minute
Two diamond mirrors
55 inches in length
Distance measuring instrument (DMI) on one vehicle (min.) – See subsection 642-2.01

(02/03/03)R245USC

Standard Modification

Add the following new subsection:

644-2.07 STORAGE CONTAINER. Furnish, transport and maintain a weathertight, lockable, steel enclosed 20-foot long by 8-foot wide by 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 documents listing and acknowledging receipt of the Department's goods for shipment.

Deliver an empty and clean container to the Regional Materials Laboratory, or location acceptable to the Engineer, three weeks before transporting to the project site. Allow seven 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 before commencing construction work.

1. Provide electrical service and other facilities as follows:

   a. Electrical current, 120V (ac), 60 cycle on a 24-hour a day basis.

b. Wiring system to support a 20 amp user load demand.
c. Two GFI protected outlets conveniently spaced on the interior walls.
d. Four 100 watt incandescent or eight 40 watt fluorescent lights located for maximum illumination.
e. Provide a stairway with railing, built to meet the International Building Code, if there is more than a 12-inch difference in floor entry and existing ground elevation.

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

644-3.01 METHOD OF MEASUREMENT. Add the following item:

Storage Container. By the number of storage containers specified, to including components, installed and accepted as completed units and ready for materials and equipment storage.
(01/27/07)E44

Special Provisions

644-4.01 BASIS OF PAYMENT. Add the following: Long distance calls made by State personnel and the Internet service provider will be paid by the State. Local calls and connection fees shall be paid by the Contractor.

Delete the third paragraph and substitute the following:

Vehicle. For each vehicle provided. If a replacement vehicle is necessary, no additional measurement will be made.
(02/03/03)R245USC

Standard Modification

644-4.01 BASIS OF PAYMENT. Add the following items:

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.

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 including 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 beginning 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.
(01/27/07)E44

Payment will be made under:

Pay Item	Pay Unit
644(8) Vehicle	Each
644(16) Storage Container	Each

(02/03/03)R245USC (01/27/07)E44

SECTION 646

CPM SCHEDULING

Special Provisions

646-2.01 SUBMITTAL OF SCHEDULE. Replace this subsection with the following: Submit a detailed initial CPM Schedule at the preconstruction conference for the Engineer's acceptance as set forth below.

The construction schedule for the entire Project shall not exceed the specified Contract time. Allow the Engineer 14 days to review the initial CPM Schedule. Revise promptly. The finalized CPM Schedule must be completed and accepted before beginning work on the Project.

646-3.01 REQUIREMENTS AND USE OF SCHEDULE. Delete Item 2. 60-Day Preliminary Schedule.

Delete the first sentence of: Item 3. Schedule Updates. and substitute the following: Hold job site progress meetings with the Engineer for the purpose of updating the CPM Schedule. Meet with the Engineer monthly, or as deemed necessary by the Engineer.
(12/13/02)R261M98

Add the following Section:

SECTION 647

EQUIPMENT RENTAL

Special Provisions

647-1.01 DESCRIPTION. This item consists of furnishing construction equipment, operated, fueled and maintained, on a rental basis for use in construction of extra or unanticipated work at the direction of the Engineer. Construction equipment is defined as that equipment actually used for performing the items of work specified and shall not include support equipment such as, but not limited to, hand tools, power tools, electric power generators, welders, small air compressors and other shop equipment needed for maintenance of the construction equipment.

The work is to be accomplished under the direction of the Engineer, and the Contractor's operations shall at all times be according to the Engineer's instructions. These instructions by the Engineer shall be to the Contractor's supervisory personnel only, not to the operators or laborers. In no case shall these instructions by the Engineer be construed as making the Department liable for the Contractor's responsibility to prosecute the work in the safest and most expeditious manner.

647-2.01 EQUIPMENT FURNISHED. In the performance of this work, the Contractor shall furnish, operate, maintain, service, and repair equipment of the numbers, kinds, sizes, and capacities set forth on the Bid Schedule or as directed by the Engineer. The operation of equipment shall be by skilled, experienced operators familiar with the equipment.

The kinds, sizes, capacities, and other requirements set forth shall be understood to be minimum requirements. The numbers of each piece of equipment to be furnished and used shall be as the Engineer considers necessary for economical and expeditious performance of the work. Use equipment only at such times and places as the Engineer may direct.

Equipment shall be in first-class working condition and capable of full output and production. The minimum ratings of various types of equipment shall be as manufactured and based on manufacturer's specifications. Alterations will not be considered acceptable in achieving the minimum rating. Equipment shall be replaced at any time when, in the opinion of the Engineer, their condition is below that normal for efficient output and production.

Equipment shall be fully operated, which shall be understood to include the operators, oilers, tenders, fuel, oil, air hose, lubrication, repairs, maintenance, insurance, and all incidental items and expenses.

647-2.02 EQUIPMENT OPERATORS AND SUPERVISION PERSONNEL. Equipment operators shall be competent and experienced and shall be capable of operating the equipment to its capacity. Personnel furnished by the Contractor shall be, and shall remain during the work hereunder, employees solely of the Contractor.

The Contractor shall furnish, without direct compensation, a job superintendent or Contractor's representative together with such other personnel as are needed for Union, State, or Federal requirements and in servicing, maintaining, repairing and caring for the equipment, tools, supplies, and materials provided by the Contractor and involved in the performance of the work. Also, the Contractor shall furnish, without direct compensation, such transportation as may be appropriate for the personnel.

647-3.01 CONSTRUCTION REQUIREMENTS. The performance of the work shall be according to the instructions of the Engineer, and with recognized standards and efficient methods.

The Contractor shall furnish equipment, tools, labor, and materials in the kinds, number, and at times directed by the Engineer and shall begin, continue, and stop any of the several operations involved in the work only as directed by the Engineer.

Normally, the work is to be done when weather conditions are reasonably favorable, six days per week, Mondays through Saturdays, holidays excepted.

The Engineer will begin recording time for payment each shift when the equipment begins work on the project. The serial number and brief description of each item of equipment listing in the bid schedule and the number of hours, or fractions thereof to the nearest one-quarter hour, during which equipment is actively engaged in construction of the project shall be recorded by the Engineer. Each day's activity will be recorded on a separate sheet or sheets, that is verified and signed by the Contractor's representative at the end of each shift, and a copy provided to the Contractor's representative.

647-4.01 METHOD OF MEASUREMENT. The number of hours of equipment operation to be paid for shall be the actual number of hours each fully operated specified unit of equipment, or each fully operated specified combination of units of equipment, is actually engaged in the performance of the specified work on the designated areas according to the instruction of the Engineer. The pay time will not include idle periods, and no payment will be made for time used in oiling, servicing, or repairing of equipment, or in making changeovers of parts to the equipment. Travel time to or from the project, will not be authorized for payment.

647-5.01 BASIS OF PAYMENT. Payment for Item 647(5), Backhoe, 4WD, 1 cy Bucket, 75 hp, 15-foot depth will be paid on a contingent sum basis at the rate of $125/hour. Payment for Item 647(8), Motor Grader, 125-Hp minimum will be paid on a contingent sum basis at the rate of $180/hour.This shall be full compensation for furnishing, operating, maintaining, servicing and repairing the equipment, and for all incidental costs related to the equipment. Furnishing and operating of equipment of heavier type, larger capacity, or higher wattage than specified will not entitle the Contractor to any extra compensation.

Payment will be made under:

Pay Item	Pay Unit
647(5) Backhoe, 4WD, 1 CY Bucket, 75 HP, 15 FT Depth	Contingent Sum
647(8) Motor Grader, 125-Hp Min.	Contingent Sum

(08/24/05)R15USC(6/8/06)R&M

SECTION 670

TRAFFIC MARKINGS

Special Provisions

670-1.01 DESCRIPTION. Delete this subsection in its entirety and substitute the following: This work consists of furnishing, preparing and placing durable pavement markings at the locations shown on the Plans or as directed. Meet these Specifications and the applicable portions of the Alaska Traffic Manual.

Durable pavement markings consist of either preformed pavement markings or methyl methacrylate pavement markings at the Contractor's option. Once selected, only one durable pavement marking shall be used throughout the project.

670-3.01 CONSTRUCTION REQUIREMENTS. Delete all paragraphs under item 4. Methyl Methacrylate Pavement Markings. and substitute the following:

a. General. 15 days before starting work meet with the Engineer for a prestriping meeting. At this meeting, do the following:

   1. Furnish a striping schedule showing areas and timing of work, placing materials and the Traffic Control Plans to be used.
   2. Discuss placement of materials, potential problems.
   3. Discuss work plan at off ramps, on ramps and intersections.
   4. Discuss material handling procedures.
   5. Provide copies of the manufacturer's installation instructions and copies of the Material Safety Data Sheets.

b. Manufacturer's Representative. Provide the services of a manufacturer's representative (the "Manufacturer's Representative"). Ensure the Manufacturer's Representative observes the application of the pavement marking materials. Cooperate with the Manufacturer's Representative and the Engineer to ensure that the materials are placed according to these Specifications and the manufacturer's recommended procedures.

c. Manufacturer Certified Installers. Install methyl methacrylate pavement markings using only striping installers certified by the marking materials manufacturer for the specific striping material and method. Submit these certifications to the Engineer at the Preconstruction Conference.

d. Preparation. Prepare the roadway surface to receive methyl methacrylate according to these Specifications and the manufacturer's recommendations. Clean and dry the roadway surface. Completely remove contaminants such as dirt, loose asphalt, curing agents, surface oils, or existing road marking materials before applying pavement marking material.

e. Application. Apply methyl methacrylate marking material according to these Specifications and the manufacturer's recommendations. Use equipment designed and capable of properly mixing at the point and time of application and approved by the manufacturer for the type of product being installed. Unless specified otherwise, marking shall be surface applied as defined below.

For longitudinal markings use truck mounted automatic extrusion equipment capable of installing a double centerline and a single shoulder line in a single pass. Use automatic bead applicators that place a uniform layer of beads on the lines. Hand units will not be allowed.

For inlaid applications use grooving equipment that produces a dry cut. Use vacuum shrouded equipment or other equally effective containment procedures. Install markings in the same work shift as the grooving operation.

(1) Longitudinal Markings Surface Applied. Apply markings for lane lines, edge lines, and centerlines to yield a minimum thickness of 90 mils as measured from the surface of the pavement. Use Type B material, as specified in subsection 712-2.17.

(2) Longitudinal Extruded Markings Inlaid. Apply markings for lane lines, edge lines, and centerlines to yield a thickness of 250 mils as measured from the surface of the pavement. Groove the area for the inlaid markings to a depth of 250 mils.

(3) Transverse and Symbol Markings Inlaid. Apply markings for onlys, arrows, stop bars, gore stripes, railroad symbols, and cross walks to yield a thickness of 250 mils as measured from the surface of the pavement. Use Type C material, as specified in subsection 712-2.17. Groove the area for inlaid marking to a depth of 250 mils.

(4) Traverse and Symbol Markings Surface Applied. Apply markings for onlys, arrows, stop bars, gore stripes, and cross walks to yield a thickness of 120 mils as measured from the surface of the pavement. Use Type C material.

f. Disposal of Waste. Waste material becomes the Contractor's property. This includes grindings and removed marking material. Do not dispose of or store stripe removal wastes material or asphalt grindings on State property. Dispose of waste material according to applicable Federal, State, and local regulations.

g. Sampling. On the form provided by the Engineer, record the following readings, and the locations where they were taken using project stationing, and submit them to the Engineer within 24 hours for evaluation. Thickness of material and depth of slot are measured from the surface of the pavement.

(1) For inlay applications, record the depth of the slot every 300 feet during the grinding operation.

(2) For other longitudinal applications, measure the thickness of the lines (above the pavement surface), at the time of application, every 300 feet.

(3) For surface applied transverse markings measure the thickness in three locations for each marking.

(4) Inspect the markings initially, and again two weeks after placement, to ensure the material has cured properly. Remove soft spots or abnormally darkened areas and replace with material meeting specifications.

(5) Measure the retroreflecivity of each transverse marking at three locations and of each line at intervals not to exceed 1,500 feet. Take these measurements using a Delta LTL2000 Retrometer, a 100-foot retro-reflectometer, or approved similar device. Perform testing within 72 hours of curing.

The Engineer may elect to use the Contractors readings or perform additional sampling.

670-3.04 PAVEMENT MARKING REMOVAL. Add the following: Coordinate removal work with construction activity. Remove pavement markings the same day permanent markings are applied, unless otherwise directed. Use vacuum shrouded equipment or other equally effective containment procedures.

Add the following subsection:

670-3.07 TOLERANCES FOR METHYL METHACRYLATE PAVEMENT MARKINGS.

1. Length of Stripe. ± 2 inches.
2. Width of Stripe. ± 1/8 inch.
3. Lane Width. ± 4 inches from the width shown in the Plans.
4. Stripes on Tangent. Do not vary more than one inch laterally within a distance of 100 feet when using the edge of the stripe as a reference.
5. Stripes on Curves. Uniform in alignment with no apparent deviations from the true curvature.
6. All Stripes. Keep the center of the stripe within four inches from the planed alignment.
7. Double Stripes. ± ¼ inches
8. Thickness of surface applied. Minimum specified to a maximum of + 30 mils.
9. Depth of Inlay Slot. Minimum 250 mils to a maximum of 290 mils.
10. Thickness of Inlaid Marking Material. Fill inlay area completely from the bottom of the inlay to the surface of the pavement.

If it is determined that the material is being placed too thin, or otherwise not to specification, make immediate adjustments to correct the problem.

Methyl methacrylate pavement markings applied by any method will be unacceptable if:

1. The marking is not straight or wide enough.
2. The thickness of the line is not uniform or less than specified.
3. The top of the line is not smooth and uniform.
4. The material is uncured.
5. The material blackens or is inconsistent in color.
6. The inlay slot is not ground to the specified depth.
7. The inlay slot is not filled to the specified depth.
8. The edges of the markings are not clear cut and free from overspray.
9. The reflective elements are not properly embedded.
10. The markings exhibit poor adhesion.
11. The retro-reflectivity of the markings is less than specified.
12. The color is not as specified.

Perform repairs using equipment similar to the equipment initially used to place the materials. Do not perform repairs in a "patch-work" manner. If more than one repair is required in a single 300-foot section, grind and repair the entire section.

670-4.01 METHOD OF MEASUREMENT. Add the following: Thickness will be measured from the top of the marking to the top of the pavement surface. Marking material placed in a depression left by pavement line removal will not be included in measuring the thickness of the line.

Delete Items 2 and 3 and replace with the following:

2. Square Foot Basis. Transverse pavement marking lines, stop bars, cross walks and gore stripes will be measured by nominal width times actual length. This does not include 24" wide lines required for Railroad Markings.

3. Each. Symbol pavement markings only's and arrow's will be measured on a unit basis with each separate word or symbol constituting a unit. Railroad Markings will be measured by the complete unit shown for each lane of travel.

4. Foot Basis. Longitudinal Pavement Markings, surface applied or inlaid, will be measured by the linear foot of 4-inch wide lines. Wider striping will be measured in multiples of four inches.

670-5.01 BASIS OF PAYMENT. Add the following: There will be no separate or additional payment for the following:

- Over-runs of material caused by the variation of the gradation of the asphalt.

- Additional material required to achieve the thickness specified an open graded pavement.

Traffic control required for the installation of the permanent and temporary markings is subsidiary to Section 670 pay items.

Temporary traffic markings required for all phases of the construction of the roadway is subsidiary to Section 670 pay items.
(01/04/06)R246usco04

Payment will be made under:

Pay Item	**Pay Unit**
670(13A) Durable Pavement Markings Longitudinal Surface Applied	Linear Foot
670(13C) Durable Pavement Marking Only and Arrow Surface Applied	Each
670(13D) Durable Pavement Transverse Markings Surface Applied	Square Foot

(01/04/06)R246usco04 (05/02/06)R&M

SECTION 701

HYDRAULIC CEMENT

Standard Modification

701-2.01 PORTLAND CEMENT. After the words: "Meet AASHTO M 85", add the following: "or ASTM C 150".
(01/27/07)E45

701-2.03 GROUT. Add the following to the end of the last sentence: from specimens made according to ATM 507.
(3/15/06)E30

SECTION 703

AGGREGATES

Special Provisions

703-2.03 AGGREGATE FOR BASE. Delete Table 703-2 and substitute the following:

TABLE 703-2
AGGREGATE FOR UNTREATED BASE
Percent Passing By Weight

Sieve Designation	Grading C-1	Grading D-1	Grading E-1
1 ½ inch	100		
1 inch	70-100	100	100
¾ inch	60-90	70-100	70-100
3/8 inch	45-75	50-79	50-85
No. 4	30-60	35-58	35-65
No. 8	22-52	20-47	23-50
No. 30	10-33	10-26	13-31
No. 50	6-23	6-19	10-26
No. 200	0-6	0-6	8-15

(05/01/06)R199usc04

Replace subsection 703-2.04 with the following:

703-2.04 AGGREGATE FOR ASPHALT CONCRETE PAVEMENT.

Coarse Aggregate (retained on the No. 4 sieve). Crushed stone or crushed gravel consisting of sound, tough, durable rock of uniform quality. Remove natural fines passing a #4 sieve before crushing aggregates for Type V or VH asphalt concrete mixtures. Free from clay balls, organic matter, and other deleterious material. Not coated with dirt or other finely divided mineral matter. Meet the following requirements (note A or B indicate class of mix, see Table 401-1), the Engineer may modify the fracture requirements if the hard aggregate sources stated in 106-1.02 do not meet specifications:

		Type IIA, IV	Type I, IIB, III	Type V	Type VH
LA Wear, % max	AASHTO T 96	45	45	45	45
Degradation Value, min	ATM 313	30	30	30	30
Sodium Sulfate Loss % max (5 cycles)	AASHTO T 104	9	9	9	9
Fracture, min %	WAQTC FOP for AASHTO TP61	90, 2 face	80, 1 face	98, 2 face	98, 2 face
Thin-Elongated Pieces, max % 1:5 1:3	ATM 306	 8 20	 8 -	 3 8	 3 8
Nordic Abrasion, max.%	ATM 312			12	8
Absorption, max. %	AASHTO T85	2.0	2.0	2.0	2.0

TABLE 703-3
BROAD BAND GRADATIONS FOR ASPHALT CONCRETE PAVEMENT AGGREGATE
Percent Passing by Weight

SIEVE	GRADATION				
	Type I	Type II	Type III	Type IV	Type V, VH
1 inch	100				
¾ inch	80-90	100			100
½ inch	60-84	75-90	100	100	65-80
3/8 inch	48-78	60-84	80-90	80-95	48-60
No. 4	28-63	33-70	44-81	55-70	30-45
No. 8	14-55	19-56	26-70	35-50	20-30
No. 16	9-44	10-44	16-59	20-40	≤ 22
No. 30	6-34	7-34	9-49	15-30	≤ 17
No. 50	5-24	5-24	6-36	10-24	≤ 14
No. 100	4-16	4-16	4-22	5-15	≤ 12
No. 200	3-8	3-8	3-8	3-8	3-8

Fine Aggregate (passing the #4 sieve). Meet the quality requirements of AASHTO M 29, including S1.1, Sulfate Soundness.

For Type IV, V and VH mixes, remove natural fines passing a #4 sieve before crushing aggregates for this asphalt concrete mixture. Consist entirely of aggregate produced from aggregate crushing process and be non-plastic as determined by WAQTC FOP for AASHTO T 90, and meets the following:

Property	Test Method	Requirement
Fine Aggregate Angularity	AASHTO T 304	45% min.

(05/01/07)R199usc04

SECTION 707

METAL PIPE

Special Provisions

707-2.01 CORRUGATED STEEL PIPE, PIPE ARCHES, AND UNDERDRAINS. Add the following:

Fabricate arctic insulated pipe using low density rigid urethane foam with a minimum closed cell content of 90% (ASTM D-2856) for insulation of the Arctic pipe's inner pipe. Urethane foam shall have properties and characteristics that meet the following:

1. A minimum compressive strength of 30 psi, measured perpendicular to the pipe axis according to ASTM D1621.
2. Thermal conductivity as produced of 0.16 ± 0.02 BTU-in/F°-Ft²-HR, according to ASTM C518.
3. Water absorption of 0.05 lb/ft² (ASTM D-2842).

The diameter shown on the Plans and listed in the Bid Schedule shall be the nominal inside diameter of the inner core pipe. Inner core pipe shall be corrugated steel pipe (CSP). The inside diameter of the outer jacket shall be a minimum of 5 inches greater than the outside diameter of the inner core pipe and centered within a 1/4-inch tolerance of the outer jacket's center. Submit shop drawings and product data sheets detailing methods and materials used in the fabrication of arctic insulated pipe
(03/06/07)R&M

SECTION 710

FENCE AND GUARDRAIL

Special Provisions

710-2.11 GUARDRAIL TERMINALS. Delete the first two numbered items in this subsection and substitute the following:

3. Controlled Release Terminal. CRT meeting the details shown in the Plans.

(06/26/07)R&M

SECTION 712

MISCELLANEOUS

Standard Modification

712-2.06 FRAMES, GRATES, COVERS, AND LADDER RUNGS. In Gray iron castings, delete text and replace with: AASHTO M 306 and AASHTO M 105, Class 35B.
(01/27/07)E46

Special Provisions

712-2.13 GABIONS. Add the following:

PVC Coating. Supply baskets with polyvinyl-chloride (PVC) coated wire mesh as specified. The PVC coating will meet the following:

a. Specific Gravity: 81-84 pcf according to ASTM D792-00, Table 1;
b. Hardness: between 50 and 60 Shore D, according to ASTM D 2240-04;
c. Tensile Strength: not less than 2,985 psi, according to ASTM D412-98a;
d. Modulus of Elasticity: not less than 2,700 psi, according to ASTM D412-98a;
e. Abrasion Resistance: the percentage of the weight loss shall be less than 12%, according to ASTM D1242-95a.
f. Heat Aging Test: before UV and abrasion degradation, the PVC polymer coating shall have a projected durability life of 60 years when tested according to UL 746B
(01/04/06)R&M

712-2.17 METHYL METHACRYLATE PAVEMENT MARKINGS. Delete the first and second paragraphs under item 1. Quality Requirements. and substitute with the following: Use a marking material formulated for the application type specified. Use a marking material manufactured from new materials and free from dirt and other foreign material. Use a methyl methacrylate based resin system for part "A". Use benzoyl peroxide system for part "B".

Extruded application: Material formulated for extruded application with factory intermix beads and anti skid aggregate, and additional surface applied beads.

2. Performance Properties: Add the following:

   1. Color: Yellow, PR-1 chart, 33538 Federal Yellow. White, minimum daylight reflectance of 84.

712-2.18 GLASS BEADS FOR METHYL METHACRYLATE PAVEMENT MARKINGS. Delete the bead table and substitute the following: Use the type and amount of beads specified in writing by the marking material manufacturer necessary to meet the performance requirements.
(01/04/06)R246usco04

SECTION 724

SEED

Special Provisions

724-2-02. MATERIALS. Delete Table 724-1 and substitute the following:

TABLE 724-1
SEED REQUIREMENTS

Species	Sproutable Seed*, %, Min.
Arctared Red Fescue	78
Egan American Sloughgrass	67
Norcoast Bering Hairgrass	71
Nortran Tufted Hairgrass	71
Alyeska Polargrass	71
Sourdough Bluejoint Grass	71
Tilesy Sagebrush	71
Tundra Glaucous Bluegrass	76
Gruening Alpine Bluegrass	72

* Sproutable Seed is the mathematical product of Germination and Purity.

(01/27/07)R52USC

Delete this Section in its entirety, except for Table 726-1, and substitute the following:

SECTION 726

TOPSOIL

Special Provisions

726-2.01 TOPSOIL. Furnish topsoil that is representative of the existing, natural organic blanket of the project area. Perform a quality test, as defined by ATM 201, on the soil to determine the organic content of the soil. Supply the results to the Engineer.

Soil with an organic content of five percent or more may be reused and spread on the finished slopes where topsoil is noted on the Plans. Remove roots, stumps, unnatural material, and rocks greater than three inches in diameter from the organic material before it is graded onto the finished slope.

Soil with an organic content of less than 5 percent cannot be used as topsoil for the project. In this case, furnish topsoil consisting of a natural friable surface soil without admixtures of undesirable subsoil, refuse, or foreign materials having an organic content of five percent or more, as determined by ATM 201. The material shall be reasonably free from roots, clods, hard clay, rocks greater than three inches in diameter, noxious weeds, tall grass, brush, sticks, stubble or other litter, and shall be free draining and nontoxic. Notify the Engineer of the location topsoil is to be furnished at least 30 calendar days before delivery of topsoil to the project from that location. The Engineer will inspect the topsoil and its sources before approval will be granted for its use.
(04/01/05)R208USC

SECTION 727

SOIL STABILIZATION MATERIAL

Special Provisions

Add the following subsection:

727-2.04 STRAW WATTLES. Furnish straw wattles manufactured from straw, wrapped in tubular black plastic netting and twelve inches in diameter (+/- one inch). The netting shall have a strand thickness of 0.03 inch, a knot thickness of 0.055 and a weight of 0.35 ounce per foot (each +/- 10%) and made from 85% high density polyethylene, 14% ethyl vinyl acetate and 1% color for UV inhibition.

Install straw wattles as shown on the Plans, placed on contour and staked with 1 x 1 x 24 inch wood stakes at three to five foot on center. The ends of adjacent Straw Wattles shall be abutted to each other snugly.
(4/17/07)R&M

SECTION 729

GEOTEXTILES

Special Provisions

729-2.01 GEOTEXTILE, SEPARATION AND STABILIZATION. Delete item 2. Stabilization. and replace with the following:

2. Stabilization. Meet AASHTO M 288 for Stabilization and the Class specified, except provide a minimum permittivity of 0.08 sec^{-1}.

(7/12/05)R&M

SECTION 730

SIGN MATERIALS

Special Provisions

730-2.04 SIGN POSTS. Add the following item:

7. Structural Tubing and W-Shape Beams.

   a. Structural tubing shall conform to either ASTM A500, grade B, or ASTM A501. The tubing shall be square and of the dimensions called for in the Plans with 0.2-inch thick walls. 0.4-inch diameter holes shall be drilled as required to permit mounting of the sign.

   b. W-shape beams shall conform to ASTM A36.

   c. Structural tubing and W-shape beams shall be hot dip galvanized according to 1.b. of this subsection. Damaged and abraded tubes and beams shall be repaired according to 1.c. of this subsection.

(06/22/04)R81USC04

INDEX

Standard Modification

INDEX. Remove the text: "Approved Products List" and replace with: Qualified Products List. (01/27/07)E36