PART 4

STANDARD MODIFICATIONS

AND SPECIAL PROVISIONS

to the STATE OF ALASKA

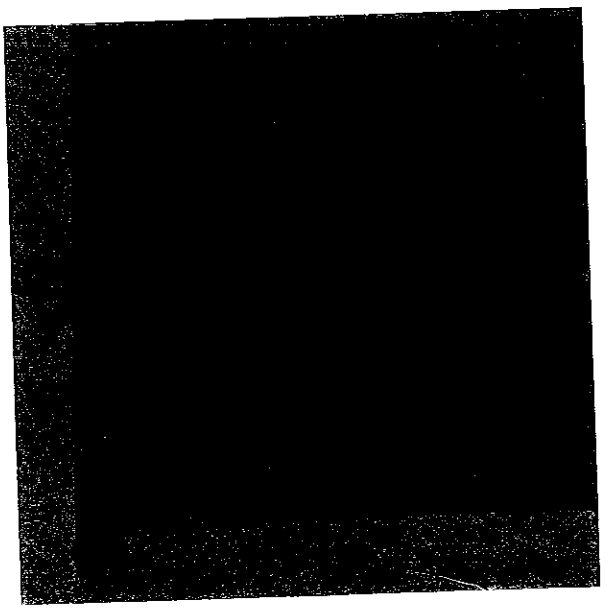
STANDARD SPECIFICATIONS
FOR
HIGHWAY CONSTRUCTION

2004

ANCHORAGE AREAWIDE TRAILS REHABILITATION
PHASE II

CM-0001(240)/55711
PM&E 01-65

PS&E Submittal



SECTION 101
DEFINITIONS AND TERMS

Standard Modifications

101-1.03 DEFINITIONS. Replace the definitions of SUBGRADE with the following:

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

Special Provisions

ROADWAY. Replace with the following: The portion of a highway or park facility including shoulders within the limits of construction. (01/01/01)PARKS

Standard Modifications

101-1.03 DEFINTIONS.

TRAIL. Modify the definition of TRAIL. After "unpaved" add: or paved.

SECTION 102
BIDDING REQUIREMENTS AND CONDITIONS

Standard Modification

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 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.

(1/1/06)E23

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," and add: or agent.

(6/30/04)E18

SECTION 105
CONTROL OF WORK

Special Provisions

105-1.02 PLANS AND WORKING DRAWINGS. Add the following to the first paragraph: Full size plan sheets are 11" by 17". Plans are not available in CAD digital format. (01/01/01)PARKS

105-1.05 COOPERATION BY CONTRACTOR. Add the following: Since a portion of this contract is for work in a State Park, the aesthetic value of the finished product is of particular interest to the Department. Special care must be taken by the Contractor to provide an acceptable finished product and to avoid damaging areas outside the actual construction limits. This will require hand work to assure final acceptance. (07/15/06)PARKS

105-1.06 COOPERATION WITH UTILITIES. Add the following: Request locates from the utilities having facilities in the area a minimum of one and one-half (1.5) business days before excavation. 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:
ACS
Aircraft Service International Group
Alaska Fiberstar
Alaska Railroad Corp
Anchorage School District
Anchorage Water & Wastewater
AT&T Alascom, Inc.
Chugach Electric Assoc
DOT Street Lights, State of Alaska
Enstar Natural Gas
Eyecom TV/Interior Telephone
GCI Communications
Marathon Oil
MOA Street Maint. Dept MFS
Technologies, inc.
Tesoro Alaska Pipeline
Municipality of Anchorage
Municipal Light & Power
Phillips Petroleum
PTI
Telalaska

Unocal United Utilities

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. There are no known conflicts and relocation of existing utilities is not anticipated.

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 an/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 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

Special Provisions

105-1.07 COOPERATION BETWEEN CONTRACTORS. Add the following: The following nearby project(s) may be under construction concurrently with this project:

1. Sullivan Arena / Ben Boeke Water Upgrade (2006)
2. Veterans Wheelchair Olympic Games / Anchorage Football Stadium Improvements (2006)

Coordinate traffic control, construction, and material hauling operations with the prime contractor of the above project(s) to minimize impact on the traveling public, and to minimize conflicts with the work being performed under the other contract.

(02/01/00)R175M98

105-1.15 PROJECT COMPLETION. Replace the first sentence of the last paragraph with the following: When all physical work and cleanup provided for under the contract is found to be complete, except for work specified under Subsection 618-3.04, Plant Establishment and Maintenance; and Subsection 621-3.04, Period of Establishment; Subsection 641-2.01, Storm

Water Pollution Prevention Plan (SWPPP) Requirements; and Subsection 641-3.01, Construction Requirements, a letter of project completion will be issued by the Engineer. (07/15/06)PARKS

Standard Modification

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

Add the following Subsection:

Special Provisions

105-1.18 CONSTRUCTION LIMITATIONS. It is the intent of this contract to construct these park facilities without entering land outside clearing limits. Equipment, materials, and manpower shall not be allowed outside clearing limits without prior approval of the Engineer. Excavation of any kind shall only be stored within clearing limits while awaiting final placement or disposal. The Contractor shall not use construction equipment or workers that, in the opinion of the Engineer, cannot consistently operate within clearing limits. (01/01/01)PARKS

SECTION 106
CONTROL OF MATERIAL

Special Provisions

106-1.01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS. 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 other coatings that protect or enhance 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 Modification

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 sources 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

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 off project site, is not expected to impact 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 cultural resources are discovered 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 sites outside the project limits or not previously permitted, impacted by the Contractor's operations. These delineations will be subject to Corps of Engineers approval.

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

Provide 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.

Add the following: The Department has received the following permits on the Contractor's behalf:

1. ADEC Letter of Non-Objection, Permit #06-WW-216-005
2. Department of the Army, Corps of Engineers Permit No. POA-1999-1218-M to place approximately 2,529 cubic yards of fill into wetlands and waters of the United States.
3. Municipality of Anchorage Flood Hazard Permit No. 04-0001-00 dated 06/30/05.
4. Department of Fish & Game Special Area Permit FG05-II-0070 dated 10/04/05.
5. Department of Natural Resources Land Use Permit No. LAS 24039 dated 03/01/03.
6. Division of Governmental Coordination Final Consistency Determination dated 02/18/03.
7. Department of Environmental Conservation Conditional Approval to Construct a Community Wastewater Disposal System (Vaulted Toilets and Wastewater Holding Tank) dated January 9, 2006

8. Department of Environmental Conservation Certificate of Reasonable Assurance dated February 19, 2003.

9. Department of Environmental Conservation Non-objection No.06-WW-143-040 dated May 24, 2006.

A Municipality of Anchorage (MOA) Right-of-Way Use permit will be required. The Municipality will require a copy of the approved Traffic Control Plan and a copy of the Notice to Proceed from the Contractor.
(05/29/02)R7M98

107-1.11 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE.
Add the following: If required water for construction purpose from a nonmunicipal 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

Add the following: Construction equipment will not be allowed on park land outside the excavation and embankment limits of the proposed roads, toilets, and structures without the approval of the Engineer and any structures or camps required by the Contractor shall be established outside the park area. (01/01/01)PARKS

Add the following: Clearing of any kind shall not be allowed between April 1 and July 15 due to the Migratory Bird Act. (05/01/06)PARKS

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

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

108-1.04 LIMITATION OF OPERATIONS. Add the following: This project consists of rehabilitation of recreational pathways and amenities. Work is limited to mostly narrow strips of park and greenbelt property. These facilities are used by a high number of pedestrians.

Public access shall be maintained to adjacent recreational facilities (i.e. parks, ballfields, playgrounds, etc.) during construction, unless previously approved by the Engineer and adequately signed in advance.

Contractor should be aware of attempts of unauthorized pedestrian crossings of the work area, and work accordingly. Construction vehicles and private worker vehicles should be kept to a minimum and parked off-site.

Access to the work area shall be achieved in a manner that precludes movement of heavy vehicles or machinery onto adjacent vegetated wetlands.

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."

Add the following:

14. Hour. Measured items by the hour shall be full payment for the work described in the contract including labor, equipment, and operating costs of the equipment. Items to be measured by the hour will be recorded to the nearest quarter-hour by the Engineer. The measurement shall start when the required equipment & operator, surveyor, or survey party begins work at the specified location as directed by the Engineer. The measurement will stop when the required work is accomplished, when the equipment fails, when directed to stop work by the Engineer, or when the operator stops work. Times will be reconciled with the Contractor on a daily basis.

(01/01/05)PARKS

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

109-1.07 PAYMENT FOR MATERIAL ON HAND. Add the following under item 3:

d. The location of stockpiled materials for payment in acceptable storage facilities off the project will be in Alaska, at a location acceptable to the Engineer.

(02/15/05)R16

Standard Modification

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

Standard 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. 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 the Department 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 determination of CUF is made by the Engineer 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 cannot 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, 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 subcontracts, purchase orders or service agreements with that DBE.

c. **DBE Replacement**. If a DBE replacement is approved by the Engineer, replace the DBE with another DBE for the same work in order to fulfill its commitment under the DBE Utilization Goal. In the event 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 cannot 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 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 cannot 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 (7) calendar days before bid opening. The bidder must give the DBEs no less than five (5) 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. Non-competitive DBE quotes may be rejected by the bidder. Allegations of non-competitive DBE quotes must be documented and verifiable. A DBE quote that is more than 10 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 requests 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. Such an opportunity must be exercised by the bidder within three (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 decision on reconsideration will be made by the DBE Liaison Officer.

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 (4) 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. **Determination of Commercially Useful Function.** In order for the CUF work of the DBE to be credited toward the goal, the Contractor will ensure 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 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 either 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, portable bathrooms, etc. 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) Subcontract work, with the exception of truck hauling, will be sublet by the same unit of measure as is contained in the Bid Schedule unless prior written approval of the Engineer is obtained.

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, 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 payor, 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, immediately notify the Engineer of the default and the circumstances surrounding the default.

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 cannot 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 5 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 5 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 5 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 201
CLEARING AND GRUBBING

Special Provisions

201-3.01 GENERAL. Add the following: The Contractor shall perform the work necessary to preserve and/or restore land monuments and property corners from damage. A land monument or property corner that is disturbed shall be restored according to Section 642 at the Contractor's expense. An undisturbed area 5 foot in diameter may be left around existing monuments and property corners. A list of land monuments and property corners is shown on the Right of Way maps.

(06/10/04)R107USC04

Add the following: No cutting of trees, clearing and/or grubbing operations shall occur between April 20 and July15, due to the Migratory Bird Treaty Act, unless prior approval is granted through the Engineer. Refer to the U.S. Fish and Wildlife Service Advisory in Appendix A.

Special Provisions

201-3.04 HAND CLEARING. Delete this subsection in its entirety and substitute the following:

Station limits for hand clearing shall be as shown in the Plans with a width of 10 feet from pathway edge. Cut and dispose of trees and brush less than 4" in diameter, down timber, stubs, brush, bushes and debris from designated areas, with minimal disturbance to grass and/or moss cover. In addition cut limbs that intrude into the 10 foot wide selective hand clearing zone that are less than 8 feet above the ground.

Do not use equipment on wheels or tracks in areas designated as hand clearing except where approved by the Engineer, the Contractor may use a mechanical brush cutter.

Cut stumps 2 inches maximum above the ground.

201-3.05 SELECTIVE TREE REMOVAL. Delete this subsection in its entirety and substitute the following:

Remove and dispose of selected trees, as described within this Section.

The Contractor shall mark trees determined to be removed. Marked trees shall be approved by the Engineer before cutting. The Engineer may designate additional trees to be removed. Cut off designated trees to a height of no more than 2 inches above surrounding ground, unless otherwise indicted on the Plans or directed by the Engineer.

Determination of the removal of trees located within areas of Root Barrier installation shall be as described on the Plans. Removal of trees located within areas of Hand Clearing shall be as described as follows, and shall apply primarily to cottonwoods, unless directed otherwise by the Engineer.

Tree Removal Size, Diameter	Distance from Edge of Pathway
4-10 inch	0-7 feet
11-15 inch	0-8.5 feet
$\geq$ 16 inch	0-10 feet

In areas where Root Barrier installation and Hand Clearing occur simultaneously, the determination of removal of trees shall be as described for Root Barrier installation, unless directed otherwise by the Engineer.

SECTION 202
REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Special Provisions

202-1.01 DESCRIPTION. Add the following: Item includes work associated with the Pathway Removal of East 24th Avenue Spur as defined in subsection 202-3.01.

202-3.01 CONSTRUCTION REQUIREMENTS – GENERAL. Add the following: Pathway Removal of East 24th Avenue Spur includes removal of the existing pavement and disposal according to Section 202; filling ditches not required for drainage; and grading operations necessary to approximate original contour of the ground and reincorporate the existing pathway into the natural surroundings, in order to provide a pleasing appearance, when completed, along the length of the removed pathway.

202-4.01 METHOD OF MEASUREMENT. Add the following:

Pathway Removal shall be measured according to square yard of pavement removed.

202-5.01 BASIS OF PAYMENT. Add the following:

Pathway Removal shall include grading and fill operations necessary to reincorporate the existing pathway into the natural surroundings, and will be subsidiary to Item 202(2) Removal of Pavement.

SECTION 203
EXCAVATION AND EMBANKMENT

Special Provisions

203-3.03 EMBANKMENT CONSTRUCTION. Delete the first sentence of the tenth paragraph and substitute the following: Place roadway embankment of earth materials in horizontal layers not exceeding 8 inches in thickness measured before compaction. Each layer of classified material shall have its joint offset from the joint below, longitudinally by 1 foot and transversely by 10 feet.

Add the following: Where the Plans call for placement of selected material and excavation is required, the existing material may be left in place at the Engineer's discretion if tests determine that it will meet the appropriate selected material requirements. Reduction in excavation or Borrow quantities because of this condition shall not constitute a basis for adjustment in contract unit prices except as provided for in Section 104, Scope of Work.

(11/18/04)R23USC02

Add the following: References to "roadway" shall also refer to "pathway".

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

203-5.01 BASIS OF PAYMENT. Add the following: Grading and placement of material used within 20 feet of bridge abutments will not be paid for directly but will be subsidiary to Item 203(6A) Borrow, Type A.

(11/05/02)R113USC02

SECTION 301
AGGREGATE BASE COURSE

Special Provisions

301-2.01 MATERIALS. Add the following after the first paragraph: At the Contractor's option, recycled asphalt material (RAM) may be substituted for aggregate base course, inch for inch.

SECTION 504
STEEL STRUCTURES

Special Provisions

CONSTRUCTION REQUIREMENTS

504-3.01 FABRICATION. In subsection 8, Welding, replace item e in the second paragraph with the following:

e. Names and qualifications of the NDE technicians.

(07/15/05)R224USC02

SECTION 603
CULVERTS AND STORM DRAINS

Standard Modifications

603-1.01 DESCRIPTION. Add the following: This work shall also consist of installing culvert marker posts.

603-2.01 MATERIALS. Delete the second paragraph and substitute the following: When Item 603(17-xx), Pipe, is listed in the bid schedule, furnish either Corrugated Steel Pipe (CSP) or Reinforced Concrete Pipe. Corrugated Polyethylene Pipe is not allowed. End Sections for Metal Pipe must be of the same material as the pipe.

Add the following: 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.

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, 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 will not be measured for payment.

603-5.01 BASIS OF PAYMENT. Add the following: Culvert marker posts will not be paid for directly, but will be subsidiary to pipe items.

(08/27/03)R42USC

SECTION 606
GUARDRAIL

Special Provisions

606-1.01 DESCRIPTION. Add the following: This work shall consist of furnishing, constructing and placing Removable Steel Posts, including locks and keys, conforming to the Plans and Special Provisions.

Add the following subsections:

606-1.02 APPLICABLE ACCESSIBILITY STANDARD. Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities.

606-1.04 QUALIFICATIONS.

A. Qualifications of Installers: Welding shall be performed by welders currently certified by the American Welding Society (AWS).

B. Codes and Standards: Comply with "Code for Welding in Building Construction" of the American Welding Society, latest edition.

606-2.01 MATERIALS. Add the following: Equipment or materials for submission of "or equals" must match quality and function of specified equipment or materials. If the "or equal" equipment or material occupies a different footprint, the Contractor is responsible for the redesign and submittal of shop drawings of the areas as well as the increase in costs, as calculated by the Engineer.

The following products shall be installed where indicated on the Plans. Materials substituted as "or approved equal," must be similar with same characteristics, and functions as materials specified or Contractor will assume responsibility for related costs of construction. The Contractor shall notify the Engineer at least 72 hours before picking up materials.

Add the following subsections:

606-2.02 WOOD POSTS.

1. General. Wood Posts shall be as shown on the Plans. Wood for posts shall be all-weather wood. Wood species shall be Douglas Fir, Western Hemlock or Hem-Fir unless otherwise specified.

   a. Dimensional. Dimensional lumber and timbers are shown on the Plans in nominal dimensions, i.e.; 2 x 4, indicating surfaced four sides (S4S) or planed material. Use classification for light framing shall be Construction Grade. Manufacturing classification shall be Dressed (Surfaced) Lumber. Size classification shall be Nominal Size Designations of Boards, Dimension, and Timbers.

   b. Rough Cut. Unless otherwise indicated, rough cut lumber and timbers are shown on the Plans in actual dimensions, e.g.; 12 x 12, indicating rough cut material. Use

classification shall be Structural Lumber, No. 2 Grade or Better. Manufacturing classification shall be Rough Lumber. Size classification shall be Rough Dry Sizes.

2. Preservative.

   a. Above Ground Wood Preservative. Brown preservative with active ingredient of minimum 0.4 pcf (pounds per cubic foot) alkaline copper quat treatment. Color shall be according to Section 708 or as approved by the Engineer.

   b. Below Ground Wood Preservative. Preservative with active ingredient of minimum 0.6 pcf (pounds per cubic foot) alkaline copper quat treatment.

   c. End Cut Preservative for Treated Wood. According to wood treatment manufacturer's recommendations. Color to match preservative pressure treatment color.

606-2.03 REMOVABLE STEEL POSTS. Removable Steel Post. shall be as detailed on the Plans and as specified under General materials for Steel, Galvanizing and Fasteners. Obtain lock and key information from MOA Parks and Recreation.

606-2.04 CONCRETE. An approved, pre-mixed sacked concrete conforming to Section 501, Class W.

606-2.05 BACKFILL. Selected Material, Type A conforming to subsection 703-2.07.

606-2.06 STEEL. Unless otherwise specifically permitted, steel shall conform to ASTM Specification A36 (Standard Specification for Carbon Structural Steel), and shall be clean new stock, free from rust and pitting. Tube steel shall conform to ASTM A500.

606-2.07 GALVANIZING. Conform to AASHTO M111/ASTM A123 (Standard Specification for Zinc [Hot-Dip Galvanized] Coatings on Iron and Steel Products), or AASHTO M232/ASTM A153 (Standard Specification for Zinc Coating [Hot-Dip] on Iron and Steel Hardware).

606-2.08 FASTENERS. Commercial quality and type of nails and screws as required to securely hold members in place according to National Design Specifications. Nails shall be hot dipped galvanized. Other fasteners shall be corrosion resistant. Fasteners in pressure treated wood shall be hot dipped galvanized. Nails and wood screws below grade in pressure treated wood shall be stainless steel.

606-2.09 PAINT. Shall be as specified in subsection 606-3.01 and Section 708 Paints.

606-3.01 CONSTRUCTION REQUIREMENTS - GENERAL. Add the following: Locations shown on the Plans for posts are approximate. Posts shall be field located at the time of construction and approved by the Engineer.

Add the following subsections:

606-3.09 REMOVABLE STEEL POST.

1. Installation of Removable Steel Posts shall be as shown on the Plans.

2. Excavation and backfill for removable steel posts shall conform to the requirements of Section 204 and the details on the Plans.

606-4.01 METHOD OF MEASUREMENT. Add the following: Measurement of Removable Steel Posts will be by the individual unit complete and in place. Excavation and backfill for Removable Steel Posts will not be measured. Concrete for Pay Item 606(17) Removable Steel Post will not be measured.

606-5.01 BASIS OF PAYMENT. Add the following: The accepted quantity of Removable Steel Posts will be paid for at the contract unit price according to unit of measurement for the type specified, completed in place.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
606(17)	Removable Steel Post	Each

SECTION 607
FENCES

Special Provisions

607-1.01 DESCRIPTION. Add the following: This work includes installing Decorative Fence at the locations and to the dimensions shown on the Plans or as directed by the Engineer, and as specified herein.

Add the following subsection:

607-1.02 SUBMITTALS.

The following submittals for the decorative fence shall be provided by the Contractor for the Engineer's review and approval. The Contractor will not be allowed to begin decorative fence construction until submittal requirements are satisfied and found acceptable to the Engineer. Changes or deviations from the approved submittals must be re-submitted for approval. No adjustments in contract time will be allowed due to incomplete submittals. At least 15 working days before beginning the work, the Contractor shall submit to the Engineer:

1. Shop drawings of decorative fence panels and posts clearly showing materials, finishes, connections, joining methods, location of installation and field measurements for construction of ornamental fence. Approved shop drawings shall become the basis for acceptance of Work.

2. After shop drawing approval, Contractor shall provide a full size sample panel that will serve as the basis of quality control for metal fabrication. This panel shall be unfinished and available for review at an Anchorage location. Subsequent panels shall meet the fabrication standard established by the approved sample.

3. Contractor shall furnish color chips from standard RAL (Reichs-Ausschuss fuer Lieferbedingungen) color chart for approval by the Engineer.

607-2.01 MATERIALS. Add the following:

Concrete	Section 501
All-Weather Wood posts	Section 606 as modified
Paint	Section 708 as modified
Lumber	Section 713
Structural Steel	Section 716

Add the following subsection:

607-2.02 CONTRACTOR QUALIFICATIONS. Add the following:

Qualifications for Contractors constructing the decorative fence shall include the following:

1. Not less than five years of continuous experience in the fabrication of similar products.

2. Welding shall be performed by welders currently certified by the American Welding Society (AWS).

3. Comply with "Code for Welding in Building Construction" of the American Welding Society, latest edition.

607-2.03 PRODUCT DELIVERY AND STORAGE. Add the following: Steel fabrications and material shall be stored on skids above the ground. The storage area shall be kept clean and properly drained. Keep materials dry during delivery. Protect exposure to weather and contact with damp or wet surfaces.

607-3.01 CONSTRUCTION REQUIREMENTS. Add the following:

Decorative fence shall be constructed as shown on the Plans. Decorative fence panels shall be assembled in shop or factory. Welds shall be neat and clean made using the gas metal arc method. Flush welds shall be ground smooth. Holes for attachment shall be predrilled before painting.

Contractor shall layout decorative fence according to the Plans and approved Shop drawings. Contractor shall investigate site for grade changes, surface irregularities, and obstructions before installation and modify panels as necessary to accommodate grade changes. Discrepancies between Plans and field conditions shall be addressed to the Engineer to approve proposed modifications.

All-weather wood posts shall be plumb and level erected and evenly spaced with allowable tolerances for decorative panel installation. Footings and other components shall be installed to provide a continuous top surface at uniform height above the pathway or adjacent grade.

Materials for all-weather wood posts shall meet the requirements of Section 606.

Paint, treatment and color for all-weather wood posts shall meet the requirements of Section 708.

Panel and top rail painting shall be polyester powder coating and meet the requirements of Section 708.

Polyester powder coating application shall be prepared through a five step process to provide an acceptable finish:

a. Rinsing and cleaning with clear water
b. Phosphate treating to etch surfaces
c. Re-rinsing with clear water
d. Oven drying surfaces before powder coating
e. Application of polyester powder by the electrostatic spray process to a thickness as specified in Section 708. The metal shall be oven heated at 450°C for 14 minutes.

Add the following subsection:

607-3.02 CLEANUP. Abrasions to factory coatings and finishes shall be thoroughly cleaned. Powder coated surfaces shall be re-primed and touched up with paint of the same color and quality used in the factory. Drop cloths shall be laid under and around items to protect ground surfaces. Excess materials and rubbish shall be removed from job site and disposed of off-site upon completion of Work. The work area shall be clean and left in an acceptable condition.

607-4.01 METHOD OF MEASUREMENT. Add the following: The Decorative Fence shall be measured according to linear foot installed, center of post to center of post, complete in place.

607-5.01 BASIS OF PAYMENT. Add the following: Decorative Fence at the contract unit price according to pay unit as shown below. This price will be full compensation for furnishing materials, labor, equipment, and incidentals necessary to complete these items.

Add the following pay items:

Pay Item No.	Pay Item	Pay Unit
607(10)	Decorative Fence	Linear Foot

SECTION 608
SIDEWALKS

Special Provisions

608-1.01 DESCRIPTION. Add the following: This work also consists of constructing asphalt pathway(s) conforming to the Plans.

608-2.01 MATERIALS. Delete paragraph number 2 and substitute the following:

2. Asphalt Sidewalk and Asphalt Pathway

Asphalt Cement, PG 52-28	subsection 702-2.01
Aggregate, Type II or III	subsection 703-2.04
Mix Design Requirements (ATM T-17)	
Marshall Stability, pounds, min.	1,000
Percent Voids, Total Mix	2-5
Compaction, Blows/side	50

(02/01/00)R47USC

Special Provisions

608-3.03 CURB RAMPS. Delete subsection and replace with the following: Retrofitting curb ramps or pathway approaches consists of removal and replacement of existing ramps, curb and gutter, sidewalk, and/or asphalt according to the details and locations shown on the Plans. Follow the construction requirements of subsection 608-3.01. Provide labor, materials, and equipment necessary to bring existing curb ramps or approaches up to current ADA standards. Give the exposed concrete surface a coarse broom finish. Install composite detectable warning tiles such as Armor Tile Cast-In-Place In-Line Tactile Panels, manufactured by Engineered Plastics, Inc., or approved tactile warning bumps as shown in the details on the Plans.

Add subsection:

608-3.04 DETECTABLE WARNINGS. Construct detectable warnings according to the details and the locations shown on the Plans. Install cast in place tactile tiles integral with new construction. Install either molded in place epoxy systems, or remove the ramp and replace with new concrete and integrally attached tactile tile, when retrofitting existing cured concrete ramps. Install tile so there are no vertical changes in grade exceeding 0.25 inch or horizontal gaps exceeding 0.5 inch. Align pattern on a square grid in the predominant direction of travel. Detectable warnings are made of composite materials, safety yellow color, slip resistant, with truncated dome pattern.

When detectable warnings are required for curbed or uncurbed asphalt path to roadway intersections, install Top Mark or approved equal heat activated glue down 12" x 24" panels according to the manufacturer's instructions full width of the path.

Detectable warnings shall be manufactured and installed according to the Americans with Disabilities Act Accessible Guideline.

(01/01/06) E25

608-3.05 ASPHALT PATHWAY. Construct asphalt pathway according to subsection 608-3.02, Asphalt Sidewalks.

(02/01/00)R47USC

608-3.06 SURFACE REQUIREMENTS AND 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 two contacts of more than ¼ inch.

608-3.07 WEATHER LIMITATIONS.

Do not place the asphalt concrete mixture on a wet surface, on an unstable\yielding roadbed, when the base material is frozen, or when weather conditions prevent proper handling, compacting or finishing of the mix. Do not place the asphalt concrete mixture unless the air temperature is above 40-degrees F, as measured in the shade and away from heat sources.

Place the top layer of paving or surface course between May 1 and August 15. Place bottom and middle layers of asphalt, leveling courses, and treated bases according to the limitations of this subsection.

Special Provisions

608-4.01 METHOD OF MEASUREMENT. Replace Curb Ramp with the following:

Curb Ramp. By each installation, complete in place and accepted by the Engineer, including removal of the existing curb ramp, if applicable, or pathway approach, construction of the detectable warnings, curb ramp curb and gutter, ramp runs, flares, backing curbs, and landings. necessary to provide a single street level access.

Add the following:

Asphalt Pathway. By the ton of asphalt concrete according to Section 109, Measurement and Payment. Asphalt cement will not be measured for payment.

(02/01/00)R47USC

608-5.01 BASIS OF PAYMENT. Add the following: Asphalt cement for Asphalt Pathway will not be paid for separately, but will be subsidiary to Item 608(7).

Embankment and bed course materials will be furnished, placed and paid under Sections 203 and 306, respectively.

(02/01/00)R47USC

Add the following: Backing curb will be subsidiary to Item 608(6) Curb Ramp.

The composite detectable warning tiles are subsidiary to Item 608(6) Curb Ramp.
(06/11/02)R256USC

Add the following:

Obliteration or removal of existing asphalt pathway shown on the Plans for realignment of the pathway will be subsidiary to Item 608(7) Asphalt Pathway.

Concrete and tactile warning bumps used in the construction of curb ramps are subsidiary to item 608(6) Curb Ramp.

Add the following pay items:

Pay Item No.	Pay Item	Pay Unit
608(7)	Asphalt Pathway	Ton

SECTION 615
STANDARD SIGNS

Special Provisions

615-2.01 MATERIALS. Under item 1. delete the first sentence and substitute the following: Unless Shop Drawings have been provided in the Contract, submit shop drawings for signs that require the use of the Alaska Sign Design Specifications (ASDS), the Department of Transportation and Public Facilities - Sign Face Fabrication Requirements, and the Alaska Traffic Manual, letter width and spacing charts for approval before fabrication.

Standard Modification

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.

   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

615-3.01 CONSTRUCTION REQUIREMENTS. Replace the sixth sentence in item 7 and substitute the following:

Coordinate with the MOA Street Maintenance Manager, Dan Southard at 343-8277 for delivery of removed sign panels, posts and hardware.

615-3.02 SIGN PLACEMENT AND INSTALLATION. Add the following: Do not remove existing signs without authorization from the Engineer.

615-5.01 BASIS OF PAYMENT. Delete the first sentence and substitute the following: Sign posts, bases, mounting hardware, and concrete used for sign bases are subsidiary.

Add the following: No separate payment for keeping existing signs in service until they are no longer needed or temporary relocation of existing signs will be made. This work is subsidiary to Item 615(1) Standard Sign.

No separate payment for removal of existing sign post foundations or work required to abandon them in place will be made, but shall be subsidiary to Item 615(1) Standard Sign.

No separate payment for salvaging activities detailed in subsection 615-3.01 will be made. This work will be subsidiary to Item 615(1) Standard Sign.

(11/06/02)R50USC02

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

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. Prepare slopes for seed by "walking" a dozer transversely up and down the slopes, or by grading with a scarifying slope board, as determined by the Engineer. The resultant indentations shall be perpendicular to the fall of the slope. Complete slope preparation as soon as topsoil is placed on the slopes. Rounding the top and bottom of the slopes is acceptable to facilitate tracking and to create a pleasing appearance, but do not disrupt drainage flow lines.

618-3.02 SEEDING SEASONS. Add the following: Seeding shall be performed between May 15 and August 15.

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	Slender Wheatgrass (Wainwright) Red Fescue (Arctared) Annual Ryegrass (Lolium)	0.50 lbs. 0.40 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.

Upon the Engineer's approval, Nortran Tufted Hairgrass or Norcoast Bering Hairgrass may be used as a substitute for Slender Wheatgrass (Wainwright) if Slender Wheatgrass (Wainwright) is commercially unavailable. If this substitution is made, apply at the same application rate.

618-4.01 METHOD OF MEASUREMENT. Add the following: Water, mulch, fertilizer, and soil preparation are subsidiary. Water used in hydraulic application and maintenance of seeded areas will not be measured directly for payment but will be considered subsidiary to the seeding item.

618-5.01 BASIS OF PAYMENT. Add the following: The amounts of fertilizer, mulch and water for application used in this work, including required reseeding, are subsidiary to other 618 items.

The work described under subsection 618-3.01, Soil Preparation is subsidiary to seeding.

Water required for the hydraulic method of application is subsidiary to seeding.

(11/06/02)R52USC

SECTION 619
SOIL STABILIZATION

Special Provisions

619-1.01 DESCRIPTION. Add the following: This work also includes installing Root Barrier in the locations shown on the Plans and specified herein.

Add the following subsections:

619-1.02 REFERENCES. Standards of the following as referenced:

1. American National Standards Institute (ANSI)

2. American Society for Testing Materials (ASTM)

619-1.03 SUBMITTALS. The following submittals for root barrier shall be provided by the Contractor for the Engineer's review and approval. The Contractor will not be allowed to begin root barrier installation until submittal requirements are satisfied and found acceptable to the Engineer. Changes or deviations from the approved submittals must be re-submitted for approval. No adjustments in contract time will be allowed due to incomplete submittals. At least 15 working days before beginning the work, the Contractor shall submit to the Engineer:

1. Product data: Manufacturer's product data, including installation instructions, recommended trench depth and width, and backfill material.

2. Samples: One full length panel.

3. Warranty: Manufacturer's standard warranty.

619-1.04 QUALITY ASSURANCE. Manufacturer qualifications: Minimum 15 years experience in tree and plant protection and accessories.

619-1.05 DELIVERY, STORAGE, AND HANDLING.

1. Delivery: Deliver materials to site in manufacturer's original unopened containers and packaging, with manufacturer's labels intact and legible. Keep materials dry during delivery.

2. Acceptance at site: Damaged materials determined by visual inspection will not be accepted. Remove rejected materials from Project site immediately.

3. Storage: Store materials in a clean, dry area protected from weather according to manufacturer's instructions. Do not store materials in direct sunlight. in unopened boxes.

4. Handling: Protect materials during handling and installation to prevent damage from weather and equipment.

619-2.01 MATERIALS. Add the following to the list of material specifications:

Root Barrier	subsection 727-2.04

Add the following subsections:

619-2.02 ROOT BARRIER. Root barrier materials shall meet the following requirements:

1. Product standard of quality, or approved equal:
   a. UB 24-2 root barriers by DeepRoot
   b. Shawtown EP Series root barriers by NDS, Inc.
2. Material: Minimum 50% post-consumer recycled polypropylene plastic panels with ultraviolet (UV) inhibitors.
3. Thickness: Minimum 0.085 inch.
4. Joining System: Factory installed, interlocking joining mechanisms, zipper type or independent interlocking joiner strips, for easy assembly.
5. Reinforcing Ribs: Integral molded, 0.5 inch deep, raised vertical root deflecting ribs at 90° from the barrier panel, spaced 6 inches on center.
6. Top Edge: Minimum 3/8 inch wide.
7. Ground Anchorage: Ground locking anti-lift tabs or minimum 1/8 inch wide base flange.
8. Panel Size: Minimum 24 inch wide by 24 inch deep.
9. Color: Black

619-2.03 MANUFACTURERS. Acceptable root barrier manufacturers shall be as follows, or approved equal:

1. DeepRoot Partners L.P. (Deep Root); 81 Langdon Street, Suite 4, San Francisco, CA 94103; 415/437-9700; 800/458-7668; fax 800/277-7668; www.deeproot.com
2. NDS, Inc.; 851 North Harvard Avenue, PO Box 339, Lindsay, CA 93247; 559/562-9888; 800/726-1994; fax 800/726-1998; www.ndspro.com

619-3.04 INSTALLATION. Installation of root barrier shall meet the following requirements:

1. Contractor shall install root barrier at the locations indicated on the Plans and according to the Plans and manufacturer's recommendations. Install root barrier in an excavated trench after construction of structural section.
2. Coordinate root barrier installation with removal of roots from existing pathway areas.
3. Roots shall be cut off cleanly, outside of the root barrier either by trenching or excavating, then using shears or saw to cut the roots.
4. Install with vertical root deflecting ribs facing away from the pathway and towards remaining roots.

5. Connect panels together as required.

619-4.01 MEASUREMENT. Add the following: Item 619(20) Root Barrier shall be measured according to linear foot installed, complete in place. Trenching, excavation or backfill for root barrier installation shall not be measured but shall be subsidiary to work.

619-5.01 BASIS OF PAYMENT. Add the following: Item 619(20) Root Barrier at the contract unit price according to unit of measurement. This price will be full compensation for furnishing materials, labor, equipment, trenching, excavation, backfill, and incidentals necessary to complete these items.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
619 (20)	Root Barrier	Linear Foot

SECTION 620
TOPSOIL

Special Provisions

620-3.01 PLACING. Delete paragraph in its entirety and substitute the following:

Topsoil shall be evenly spread to a minimum depth of 4 inches on areas to be seeded.

Slopes to be seeded with the ratio of 1V:4H or steeper shall be prepared by a method approved by the Engineer to result in indentations perpendicular to the fall of the slope. Complete as soon as topsoil is placed on the slopes. The Contractor shall round the top and bottom of the slopes to create a pleasing appearance. Drainage flow lines shall not be disrupted. Equipment performing the placement of topsoil or other operations for this project shall be kept clear of wetland areas. If access into wetlands is required, it shall be approved by the Engineer and shall be performed under close supervision.

Topsoil shall not be placed in heavy rainfall, snowfall, when the soil is frozen or during other conditions detrimental to the work. Contractor shall keep roadway surfaces clean of topsoil during hauling and spreading operations.

620-4.01 METHOD OF MEASUREMENT. Add the following: Track walking shall be subsidiary to Item 620(1) Topsoil.

Add the following: Limestone, if required, will not be measured for payment, but will be subsidiary to Item 620(1) Topsoil. Track walking shall be subsidiary to Item 620(1) Topsoil.
(08/01/05)R53USC02

SECTION 622
REST AREA FACILITIES

Special Provisions

622-1.01 DESCRIPTION. Add the following:

9. Benches

Add the following subsections:

622-1.02 APPLICABLE ACCESSIBILITY STANDARD. Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities.

622-1.03 SUBMITTALS. Conform to subsection 106-1.01.

The following submittals shall be provided by the Contractor for the Engineer's review and approval. The Contractor will not be allowed to begin construction until submittal requirements are satisfied and found acceptable to the Engineer. Changes or deviations from the approved submittals must be re-submitted for approval. No adjustments in contract time will be allowed due to incomplete submittals. At least 15 working days before beginning the work, the Contractor shall submit to the Engineer:

1. Manufacturer's installation instructions and product data if used.
2. Shop drawings showing connections and dimensions.

622-1.04 QUALIFICATIONS.

1. Qualifications of Installers: Welding shall be performed by welders currently certified by the American Welding Society (AWS).
2. Codes and Standards: Comply with "Code for Welding in Building Construction" of the American Welding Society, latest edition.

622-2.01 GENERAL. Add the following: Equipment or materials for submission of "or equals" must match quality and function of specified equipment or materials. If the "or equal" equipment or material occupies a different footprint, the Contractor is responsible for the redesign and submittal of shop drawings of the areas as well as the increase in costs, as calculated by the Engineer.

The following products or approved equals shall be installed where indicated on Project Drawings. Materials substituted as "or approved equal," must be similar with same characteristics, and functions as materials specified or Contractor will assume responsibility for related costs of construction. The Contractor shall notify the Engineer at least 72 hours before picking up materials.

Add the following subsections:

622-2.13 BENCH. Shall be a 6-foot long, backed bench with arms, Ipe wood slat seating, and surface mounted.

Bench shall be one of the following or approved equal:

1. Parsons Series, Model P-8 by Victor Stanley, Inc. (Rep: Division 10 – 907-345-1633); www.victorstanley.com
2. Leda Series, Model SBLED-3BA by Forms+Surfaces (800-451-0410); www.forms-surfaces.com

622-2.14 BACKFILL. Selected Material, Type A conforming to subsection 703-2.07.

622-2.15 STEEL. Unless otherwise specifically permitted, steel shall conform to ASTM Specification A36 (Standard Specification for Carbon Structural Steel), and shall be clean new stock, free from rust and pitting. Tube steel shall conform to ASTM A500.

622-2.16 FASTENERS. Commercial quality and type of nails and screws as required to securely hold members in place according to National Design Specifications. Nails shall be hot dipped galvanized. Other fasteners shall be corrosion resistant. Fasteners in pressure treated wood shall be hot dipped galvanized. Nails and wood screws below grade in pressure treated wood shall be stainless steel.

622-2.17 PAINTING.

Paint, treatment and color for Rest Area facilities shall meet the requirements of Section 708.

Bench painting shall be polyester powder coating and meet the requirements of Section 708.

Polyester powder coating application shall be prepared through a five step process to provide an acceptable finish:

a. Rinsing and cleaning with clear water
b. Phosphate treating to etch surfaces
c. Re-rinsing with clear water
d. Oven drying surfaces before powder coating
e. Application of polyester powder by the electrostatic spray process to a thickness as specified in Section 708. The metal shall be oven heated at 450°F for 14 minutes.

622-3.01 CONSTRUCTION REQUIREMENTS - GENERAL. Add the following: Locations shown on the Plans for Benches are approximate. The Engineer will field locate Benches at the time of construction.

622-3.04 EXCAVATION. Add the following: Excavation and backfill for in-ground mounts shall conform to the requirements of Section 204 and the details on the Plans.

Add the following subsections:

622-3.08 INSTALLATION. Installation of Benches shall comply with Manufacturer's specifications for surface mount and shall be in locations as shown on the Plans and approved by the Engineer. Contractor is responsible for acquiring manufacturer's specifications and submitting for review and approval.

622-3.09 CLEANUP. Abrasions to factory coatings and finishes shall be thoroughly cleaned. Powder coated surfaces shall be re-primed and touched up with paint of the same color and quality used in the factory. Drop cloths shall be laid under and around items to protect ground surfaces. Excess materials and rubbish shall be removed from job site and disposed of off-site upon completion of Work. The work area shall be clean and left in an acceptable condition.

622-4.01 METHOD OF MEASUREMENT. Add the following:

622(15) Bench. Measurement of Benches shall be by individual unit, measured by the actual number complete-in-place and accepted. Excavation and embankment for Benches outside the limits shown on the Plans will be measured for payment only if said activity is directed by the Engineer. Excavation, backfill, and concrete required for Benches will not be measured for payment.

622-5.01 BASIS OF PAYMENT. Add the following:

The accepted quantity of Benches will be paid for at the contract unit price according to unit of measurement for the type specified completed in place, and listed below excluding clearing, grubbing, topsoil, and aggregate base course which shall be paid for separately at contract unit prices.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
622(15)	Bench	Each

SECTION 641
EROSION AND SEDIMENTATION CONTROL

Special Provisions

641-1.02 DEFINITIONS.

Item 1. Add the following to the end of the last sentence:

BMP: Add " , most recent revisions."

Item 2. Add: ESCP is in Appendix C.

Item 5. After "EPA Form 3510-9 add the following: ", most recent revisions."

Add the following: "eNOI. Electronic notice of intent to begin ground disturbing activities under the NPDES General Permit."

Item 6. Change EPA Form number to: 3510-13

Replace subsection 641-1.03 with the following:

641-1.03 SUBMITTALS. For projects that disturb one acre or more of ground submit three 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 no less than five calendar days before the preconstruction conference.

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 having been approved by the Department. Besides a copy of the Contractor's NOI, the approved SWPPP must contain a certification and be signed by an authorized representative according to the Standard Permit Conditions of the NPDES General Permit Part 8, Appendix G. The Contractor must receive written notification from the Department that the SWPPP has been approved before the Contractor submits the Contractor's original NOI to EPA. NOIs can be submitted by Certified Mail or through the EPA's electronic NOI system (eNOI).

For regular U.S. Mail delivery:
EPA Storm Water Notice Processing Center
Mail Code 4203 M
U.S. EPA, 1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

For Overnight/Express Mail delivery:
EPA Storm Water Notice Processing Center
Room 7420, U.S. EPA
1201 Constitutional Avenue, NW
Washington, D.C. 20004

For electronic mail:
The Contractor must register on line with EPA at:
http://cfpub.epa.gov/npdes/stormwater/enoi.cfm.
This website has instructions and guidance on how to set up and use the eNOI system."

The Contractor shall not begin ground disturbing activities until the Engineer has issued the Contractor a written statement that the EPA has listed the Contractor's NOI and the Department's NOI as active.

The Department will submit the approved SWPPP to ADEC that will include both the Contractor's and Department's NOIs. The Department will transmit the Department's NOI to the EPA."

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.

When the Department has determined the site has achieved final stabilization, the Engineer will provide written notification to the Contractor that the Contractor's NOT may be submitted to EPA with a copy to the Engineer. The Department will transmit the Department's NOT to the EPA.

When the Contractor receives written notice from the Department that the project is stabilized, submit signed NOT to EPA with a copy to the Engineer. The Department will transmit the Department's NOT to the EPA.

641-2.01 STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS: Add following to the end of the third sentence: "most recent revisions."

641-3.01 CONSTRUCTION REQUIREMENTS.

Postings.

Do not begin ground disturbing work until receiving written notification from the Engineer that the EPA has acknowledged receipt of the Contractor's NOI and the department's NOI, and has listed them as active status. The EPA will post the status of the NOIs on the EPA website.

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

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/or 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.

Inspections

Perform inspections and prepare inspection reports in compliance 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 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 1/2 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.

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

   c. 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 state Form 25D-100, with 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 complies 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, Part 8, Appendix G. Include reports as an appendix to the SWPPP.

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 because 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

Submit a signed NOT to EPA and a copy to the Engineer:

1. Upon receipt of written notification from the Engineer the project site (including material sources, disposal sites) has been finally stabilized and storm water discharges from construction activities authorized by this permit have ceased, or

2. When the construction activity operator (as defined in the NPDES General Permit) has changed and the Engineer provides written notification that the Contractor's responsibilities with respect to compliance with the NPDES GP on the project have ceased.

Penalties

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 all aspects of the work are coordinated in a satisfactory manner.

If the Contractor fails to:

1. Pursue 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 Engineer may, after giving written notice, proceed to perform such work and deduct the cost thereof, including project engineering costs, from progress payments.

641-5.01 BASIS OF PAYMENT. Replace the first sentence with the following: Use only Items 641(1), (2), and (4).

(10/27/05) R272USC04

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.

Add the following: Contractor's approved Traffic Control Plan shall indicate appropriate pedestrian detour routes, as necessary.

Standard Modification

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. (3/15/06)E29

Add the following:

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

Standard Modification

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. (3/15/06)E29

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.

643-3.03 PUBLIC NOTICES. Add the following: A construction schedule shall be published in the local newspaper, at least 1-week before beginning construction activities. A construction schedule and typical pathway closure schedules, shall be provided along with all other notices to MOA Parks and Recreation Supervisor, Monique Anderson, 343-4427.

Standard Modification

643-3.04 TRAFFIC CONTROL DEVICES. In the sixth paragraph and also in Item 4.b., delete: "ATTSA" and replace with: ATSSA (American Traffic Safety Services Association). (3/15/06) E29

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.

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

Special Provisions

643-3.08 CONSTRUCTION SEQUENCING. Add the following:

The project could be divided into five work zones, one for each spur pathway. Substantial completion of each work zone must be accomplished before moving to another zone, unless previously approved by the Engineer. Work zones adjacent to an active pathway shall be adequately signed and/or fenced to deter access by the public.

There are many races held on Anchorage's numerous pathways.

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 pedestrian traffic during the following races:

1. Diabetes Bike Tour de Cure.....SUN, JUN 4
2. Alaska Run for Women .....SAT, JUN 10
3. 50/20 Fifty Miles in 20 Hours for Youth Opportunity and Achievement ..SAT, JUN 10
4. Great Strides.....SUN, JUN 11
5. Mayor's Midnight Sun Marathon & related races .....SAT, JUN 17
6. National Wheelchair Games .....SAT, JUL 8

Races listed are those currently scheduled between June 1 to October 31, 2006 and may not be necessarily all inclusive. The Contractor shall obtain the most current Anchorage Runner's Calendar at the following web site http://www.muni.org/parks/index.cfm and shall verify race dates and race courses. Races shall take precedence over Contractor's work schedule and Contractor shall coordinate the work efforts to ensure that scheduled races are not delayed through the construction zone.

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. Tops.

   Wear fluorescent vests, jackets, or coverall tops at all times. Furnish each vest, jacket, or coverall top with at least one 360 degree horizontal retroreflective band around the torso; and two vertical retroreflective bands that begin at the horizontal band or lower in front, reach over the shoulder, and end at the horizontal band or lower in back. Furnish each jacket and coverall top with two horizontal retroreflective bands on each sleeve; one above and one below the elbow.

2. Bottoms.

   Wear fluorescent red-orange pants or coverall bottoms during nighttime work (sunset to sunrise). Worksite traffic supervisors, employees assigned to traffic control duties, and flaggers wear fluorescent orange-red pants or coverall bottoms at all times. Furnish each pants or coverall bottom with two horizontal retroreflective bands on each leg.

3. Raingear.

   Raingear tops and bottoms, when worn as the outer visible surface or layer, shall conform to the requirements listed in this subsection 643-3.11.

4. Exceptions.

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

5. Standard.

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

   Retroreflective bands are made of material conforming to either:

   a. A 2 inch wide strip, fluorescent yellow-green color, made of retroreflective microprisms; or
   b. A 2 inch wide strip, silver color, made of retroreflective lenses bonded to a durable cloth backing; and on 2 long edges apply 1 inch wide strips, fluorescent yellow-green color, made of durable cloth material. Total width of band is 4 inch.

6. Labeling.

Garments shall be labeled according to Section 10.2 of ANSI/ISEA-107-2004; except garments may be labeled to conform to ANSI/ISEA 107-1999 until 1/1/08.

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 Provisions

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.

Standard Modification

643-5.01 BASIS OF PAYMENT. Add the following: Payment for high visibility clothing for workers is subsidiary to other items.
(3/15/06) E29

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
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

The Engineer will pay for Item 643(15) Flagging on a contingent sum basis at the rate of $38/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. (02/10/06)R222USC04

Delete Item 643(15) and substitute the following:

Pay Item No.	Pay Item	Pay Unit
643(15)	Flagging	Contingent Sum

(02/10/06)R222USC04

SECTION 644
SERVICES TO BE FURNISHED BY THE CONTRACTOR

Special Provisions

644-2.01 FIELD OFFICE. Delete this subsection in its entirety and substitute the following: Furnish and maintain a suitable office for the Engineer, available for occupancy from 2 weeks before beginning work, through 30 days after issuance of the notice of project completion as defined in subsection 105-1.15. The following office requirements shall be met:

1. A minimum of 1,000 square feet of floor area. The office area shall be divided so that it contains an office room separated by a closable door. The office room shall have a minimum of 160 square feet of floor area.
2. A thermostatically controlled interior heating system with necessary fuel.
3. Adequate electrical lighting and 120 volt, 60 hertz power, with a minimum of 6 electrical outlets.
4. A minimum of 100 square feet of window area and adequate ventilation.
5. Adequate parking for a minimum of 16 vehicles, with one disability parking space meeting the requirements of Americans with Disabilities Act Accessibility Guidelines (ADAAG). The Engineer's office shall be accessible by the disability parking.
6. Attached indoor plumbing with sanitary lavatory facilities and potable drinking water.
7. Four telephone service lines available at the office location.
8. If a part of the Contractor's building, it shall be completely partitioned off from the balance of the structure and provided with a separate outside door equipped with a lock.
9. Located within 3 miles of the project.
10. Weekly janitorial service consisting of emptying trash receptacles, vacuuming office area and cleaning restrooms and counter areas.
11. Provide one mobilization and one demobilization of the Engineer's office equipment and furniture, from Anchorage.

(11/19/02)R63USC

SECTION 646
CPM SCHEDULING

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

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 hand tools, power tools, electric power generators, welders, small air compressors and other shop equipment needed for maintenance of the construction equipment.

The Engineer will provide direction to the Contractor's supervisory personnel only, not to the operators or laborers. In no case shall direction 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, 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 kinds, sizes, capacities, and other requirements set forth shall be understood to be minimum requirements. The number of pieces of equipment to be furnished and used shall be, as the Engineer considers necessary for economical and expeditious performance of the work. The equipment shall be used 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 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 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.

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.

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.

Furnish equipment, tools, labor, and materials in the kinds, number, and at times directed by the Engineer and shall begin, continue, and stop 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, which shall be verified and signed by the Contractor's representative at the end of each shift, and a copy will be 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 is actually engaged in the performance of work in the designated areas according to the direction of the Engineer. The pay time will not include idle periods, time used in oiling, servicing, or repairing of equipment, or in making changeovers of parts to the equipment. Travel time to or from the work site project will not be authorized for payment.

647-5.01 BASIS OF PAYMENT. Payment for Item 647(2) Wide Pad Dozer, 65 HP Minimum will be paid at the contract price for the number of hours required to complete the work according to the engineers direction. This shall be full compensation for furnishing, operating, maintaining, servicing and repairing the equipment, and for 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 extra compensation.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
647(2)	Wide Pad Dozer, 65 HP Minimum	Hour

(08/24/05)R15USC

Delete this Section in its entirety and substitute the following:

SECTION 660
SIGNALS AND LIGHTING

Special Provisions

660-1.01 DESCRIPTION. Furnish and install necessary labor and equipment to provide a fully functioning multi-use pathway illumination system. This work shall consist of furnishing and installing, or modifying one or more trail lighting systems including load centers, luminaires, poles, foundations, junction boxes, conduit and appurtenances as required by the Plans and as specified.

Where an existing system is to be modified, reuse the existing material in the revised system as shown on the Plans or specified in the Special Provisions, and salvage or dispose of other materials.

When required by these Special Provisions, provide an on-site manufacturer's representative to:
1. Turn on and adjust the electrical system.
2. Provide acceptable instruction for the operation and maintenance of the electrical system.

660-1.02 DEFINITIONS. Use the following definitions:

Electrolier. The complete assembly of pole, mast arm, luminaire, ballast, and lamp.

Luminaire. The assembly that houses the light source and controls the light emitted from the light source. Luminaires consist of hood (including socket), reflector, and glass globe or refractor.

Lighting Standard. The pole and mast arm that supports the luminaire.

660-2.01 MATERIALS. Use materials that conform to Section 740, the Materials Certification List, the Plans, specifications, and the following:

Concrete	Section 501 (Class A)
Grout	subsection 701-2.03
Reinforcing Steel	Section 503
Paint	subsection 708-2.01
Steel Pipe Pile	Section 715
Anchor Plate	ASTM A 709
Galvanizing	subsection 716-2.07

1. Equipment List(s) and Drawings. Within 30 days after the Contract award, submit 8 collated copies of a portfolio of equipment and materials proposed for installation to the Department for review and approval. Include a table of contents in the portfolio(s) that includes each item's intended use(s) and the following:

a. Materials on the *Approved Products List*: The Approved Products List does not apply to the 660 items. Provide catalog cuts of materials to the Engineer for review and approval.

b. Materials Not on the *Approved Products List*: Catalog cuts that include the manufacturer's name, type of product, size, model number, conformance specifications, and other data as may be required, including manufacturer's maintenance and operations manuals, or sample articles. Paint color chips shall be submitted and approved before acceptance of poles and lamps.

c. Pole Package. A complete set of design, fabrication, and installation proposals for each signal and lighting pole. Include stamped engineering calculations, shop drawings, welding plans, equipment lists, and pole installation plans.

d. Materials Not Requiring Certification: Incidental materials incorporated into the work (nuts, ties, bolts, washers, etc.) must meet applicable Specifications and be installed according to manufacturer's recommendations. Certification is not needed unless required by the Special Provisions or requested by the Engineer.

2. As-Built Plans. Prepare 3 complete sets of red lined as-built Plans and keep them current with the construction. Detail in the as-built Plans construction changes made to the Plans. Include the following information on the appropriate sheets:
   a. Location and depth of conduit runs
   b. Station and offset of junction boxes
   c. Heights of signal faces and overhead signs
   d. A list of equipment, including manufacturer, brand, and model number installed in each controller cabinet

   Furnish copies of the as-built Plans at least twice a month during construction so that they may be reviewed for accuracy and completeness. Furnish additional information required to clarify the as-built Plans and correct discrepancies. The Department will not make progress payments for the signal and illumination work completed until reviewing accurate as-built Plans reflecting the construction progress. Correct deficiencies before payment.

   Before final inspection of the work, submit 3 complete sets of as-built Plans to the Engineer. Two (2) colored copies of the as-built Plans may be submitted in lieu of keeping the 3 separate original copies. If this option is chosen a sample of the method of copying must be approved before starting work on the signal and lighting items.

   The Engineer will deliver one copy each to State Maintenance and Operations; Technical Services; and attach the appropriate sheets of the last set in clear plastic envelopes to the inside of each load center.

3. Warranties, Guarantees, and Instruction Sheets. Deliver to the Engineer manufacturers' warranties, guaranties, instruction sheets, and parts furnished with materials used in the work before the Department assumes maintenance responsibilities.

CONSTRUCTION REQUIREMENTS

660-3.01 GENERAL.

1. Scheduling of Work. Do not pull conductors into conduit until junction boxes are set to grade, crushed rock sumps are installed, grout is placed around the conduit, and metallic conduits are bonded.

2. Safety Precautions. Before starting work on existing trail lighting circuits, de-energize the system by opening disconnect switches, and/or opening bypass switch plugs, and tagging each opened device as detailed in Part 4, Section 44, Article 440 of NESC. Where said circuits are under the control of an electric utility, obtain written assurance daily from the utility that the circuit being worked on has been de-energized.

   Post suitable-signs at load centers when circuits from that load center are being worked on.

3. Excavating and Backfilling. Complete excavation and backfill required to install the lighting components embedded in the pathway as shown in the Plans, including foundations, conduits, and junction boxes. Place excavated materials where it will not interfere with surface drainage.

   Support and protect conduits and utilities scheduled to remain in service when they are encountered during excavation.

   Excavate trenches wide enough to install the number of conduits specified side by side, to provide clearances of at least 2½ -inches around two-inch conduits and at least two-inches around conduits larger than two-inches, and to compact the bedding and backfill materials according to these specifications.

   To install conduits, excavate trenches deep enough to allow for six inches of bedding material, the conduits, and at least 30-inches of cover between the top of the largest conduit and finished grade. Keep the longitudinal profile of trench bottoms free of irregularities that would prevent the assembled conduit run from continuously contacting the top of the bedding material.

   Dispose of, according to subsection 203-3.01, excavated materials that remain after completing backfill work and excavated material not meeting the requirements of Selected Material, Type C, as specified in subsection 703-2.07.

   Dewater excavations immediately before and during embedding and backfilling operations. Backfill excavations with materials that meet the following requirements

a. Around foundations, use material that meets the requirements of Selected Material, Type A,
b. Within four feet of paved surfaces, embed conduits and backfill excavations using the material that is excavated if it meets the requirements of the lift in which it is located as shown in the applicable typical section,
c. In other locations, embed conduits and backfill excavations using the material that is excavated if it meets the requirements of Selected Material, Type C.
d. Import, when ordered, embedment and backfill materials that satisfy the preceding materials requirements.

Embed conduit(s) between two six inch lifts of material gleaned free of rocks exceeding a one-inch maximum dimension. Grade and compact the first lift to provide a surface that continuously contacts the assembled conduit run.

Within four feet of paved surfaces and around foundations, backfill in uniform layers no more than six-inches deep and compact each layer according to subsection 203-3.04. In other locations, compaction may be as approved by the Engineer.

4. Welding. Complete work according to subsection 504-3.01.8. Welding and the approved shop drawing(s). Submit the shop drawing(s) with the welding plans for approval. The shop drawings shall detail the proposed work and include materials specifications, component dimensions, welds that will be made, and the welding inspection that will be done.

5. Removing and Replacing Improvements. Complete the following work at the Contractor's expense.
   a. Reconstruct with new materials the nonreusable improvements you must remove to complete the work, the repairs of which are not covered by other items in the contract.
   b. Replace with new materials the reusable items that you damage, which are specified for reuse.
   c. Reconstruct with new materials improvements you damage or remove, which do not conflict with the work and are not scheduled for removal.

Non-reusable improvements consist of cast in place items, including: asphalt concrete pavement, sidewalks, curb and gutter, lawns, and traffic markings. Reusable improvements include the items that were made before they were installed. You may not, however, reuse crushed aggregate base material as backfill in the base course if excavation depth exceeds the thickness of the base course.

Complete reconstruction work according to the Sections that cover the improvements, and leave the work in a satisfactory and serviceable condition. Use materials that match the existing material type and conform to the Sections that cover the improvements. Match the alignments, widths, thicknesses, shapes, sizes, cross sections, and finishes of the existing improvements.

If you remove a portion of sidewalk or curb and gutter, remove an entire segment between the weakened plane contraction joints or between an expansion joint and a weakened plane contraction joint.

Before removing a segment of Portland or asphalt cement concrete material, cut completely through the material with a saw along the outline of the area to be removed. Make cuts neat and true and prevent shatter outside the area removed.

To replace lawns, leave the top of the backfilled excavation low enough to install four inches of compacted topsoil. Match the top of the topsoil with the bottom of the vegetative mat. Apply seed and keep the seeded areas watered according to Section 618.

Remove, keep alive, and replant trees, shrubs, and plants according to Section 621. Replace the trees, shrubs, and plants that do not survive with plants of like size and type.

6. Field Tests. Electrical circuits must pass the following tests to gain final acceptance. Perform these tests in the presence of the Engineer, and document the results of each test on a per circuit basis. Retain a copy of test results and give the original documents to the Engineer. The Contractor shall furnish equipment needed to perform these tests.

Replace or repair at Contractor's expense, and in an approved manner, faulty materials and work revealed by these tests. After making repairs, repeat tests on the repaired circuit and continue this process until no faults appear. The Department reserves the right to have the Contractor retest circuits, and to use the retest results to accept or reject individual circuits.

a. Grounds. Before completing the circuitry and functional tests, physically examine conduits ends, junction box lids, load centers, and the foundations for signal posts and poles, lighting poles, and controller cabinets to ensure the grounding system required by subsections 660-3.06 and 661-3.01 has been installed and splices and connections are mechanically firm.

b. Continuity. Test each circuit for continuity.

c. Insulation Resistance Test. Perform a conductor insulation (megohm) test on each circuit, between circuits, and between the circuit and a ground. Disconnect lamps before completing the megohm test.

d. Functional. Perform the following tests on each lighting system after the component circuits have satisfactorily passed the tests for continuity, grounding, insulation integrity, and circuitry.

    1) Perform the functional test for each trail lighting until the systems burn continuously 5 days without the photocell, followed by a 5-day operational test using the photocell.

2) A shut down of the electrical system due to a power interruption does not constitute discontinuity of the functional test if the system is functional when the power is returned.

7. Repairing Damaged Finishes. Examine new, reused, and State-furnished equipment for damage to its finish before you put the equipment into service. Repair the damaged finishes found according to the following:

a. Galvanized. Repair damaged areas more than 12-inches away from welds and slip fit areas, by applying a minimum 7.8 mils of zinc-based alloy applied according to ASTM A780.

If the damaged areas are within 12-inches of welds and slip fit areas, make the repair by applying a minimum 7.8 mils of zinc-rich paint applied according to ASTM A780.

b. Painted. Repair damage to painted finishes according the manufacturer's recommendations or the following

(1) Wash the equipment with a stiff bristle brush using a solution containing two tablespoons of heavy-duty detergent powder per gallon of water. After rinsing, wire brush surfaces to remove poorly bonded paint, rust, scale, corrosion, grease, or dirt. Remove dust or residue remaining after wire brushing before priming.

(2) Factory or shop cleaning methods may be used for metals if equal to the methods specified herein.

(3) Immediately after cleaning, coat bare metal with pre-treatment, vinyl wash primer, followed by 2 prime coats of zinc chromate primer for metal.

(4) Give signal equipment, excluding standards, a spot-finishing coat on newly primed areas, followed by 1 finishing coat over the entire surface.

(5) Give non-galvanized standards 2 spot-finish coats on newly primed areas.

Paint coats may be applied either by hand brushing or by approved spraying machines. Perform the work in a neat and workmanlike manner. The Engineer reserves the right to require the use of brushes for the application of paint, should the work done by the paint spraying machine prove unacceptable.

660-3.02 FOUNDATIONS.

1. Cast-in-Place Foundations. Cast foundations for posts and poles in holes drilled at each pole's location shown in the Plans. Use precast or cast-in-place foundations for cabinets.

Locate the tops of pole or post foundations flush with the adjacent finished: walkway, or surrounding ground.

a. Form the entire controller foundation and the top 12-inches of pole or post foundations and give the top a smooth steel trowel finish.

b. Place conduits in the center of the pole or post foundations with clearance allowed for bushings. If subsurface conditions prevent completing a drilled hole, and when approved, use a corrugated metal pipe (CMP) form as a substitute for the drilled hole. Consider the savings in concrete to offset the cost of supplying and installing the CMP form. No additional payment will be made for the CMP formed foundation.

c. When a CMP is used, over-excavate the area around the form enough to allow for proper compaction around the form. Perform backfill operations according to Section 204. Do not use water for drilling operations or other purposes where it may enter the hole.

d. Place Class A concrete meeting Section 501. Place reinforcing steel meeting Section 503. If required, use corrugated steel pipe that is at least 14 gage, meeting subsection 707-2.01.

e. Drill holes or use forms that are vertical and true to the locations shown in the Plans. Before placing the form or reinforcing steel cage, remove loose material to ensure the foundation rests on firm, undisturbed ground.

f. If a reinforcing steel cage is required, place and secure it symmetrically about the vertical axis and securely block it to clear the sides of the foundation. Use a template to securely support anchor bolt assemblies and conduit ends so they do not move during concrete placement.

g. Do not permit surface water to enter the hole. Before placing concrete, remove water that may have infiltrated in the hole. Thoroughly moisten both the forms and the ground before placing concrete. Pour each foundation in one continuous pour.

h. Do not erect or place posts, poles, and pedestals on the foundation until 7 days after placing the concrete. Plumb the assembly by adjusting the nuts on the anchor bolts before attaching the galvanized skirt.

i. Replace, with no additional compensation, finished foundations with anchor bolts that do not match the base plate of the pole or are out of plumb. Do not modify the anchor bolts or base plate to get the base plate set on the leveling nuts.

j. Install the bottoms of the bottom leveling nuts in a level plane within one-inch of the top of foundations. Generously lubricate the bearing surface and internal threads of top nuts with beeswax and tighten the top nuts according to the anchor bolt tightening procedure included in the contract documents.

k. Attach a 4 AWG, bare, solid copper wire as a grounding electrode conductor to the #4 spiral bar in the reinforcing steel cage. Use an irreversible compression connector or cadweld to make the attachment. Protect the attachment during concrete placement. In foundations that lack reinforcing steel cages, install 21 feet of coiled 4 AWG, bare, solid copper wire as the grounding electrode. Route the conductor to protrude near the top, center of the foundations. Slide a minimum six-inch long, non-metallic, protective sleeve over the conductor. Allow one-inch of the sleeve and 24-inches of conductor to protrude from the foundations.

2. Pile Foundations.

a. Install pipe piles according to Section 505.

b. Install pipe piles open-ended and to a minimum depth of 15 feet (less top projection).

c. Use CJP groove welds for circumferential welds.

d. Inspect 100% of CJP welds using UT or RT.

e. Backfill and compact the work hole around upper portion of each pile in 8-inch lifts with a soil-cement mixture that consist of a minimum of 3 sacks of cement per cubic yard of soil.

f. Certify steel pipe piles by matching the stencils on the pipe piles (by 300 feet lots) to the physical and chemical tests for the applicable lot.

g. Use no more than one splice per foundation. Locate the splice at least seven feet from the top of pile.

3. All Foundations.

a. Provide new foundations and anchor bolts of the proper type and size for standards that are to be relocated. Install the anchor bolts on a bolt circle that matches the base plate.

b. Existing foundations may be abandoned-in-place. However, remove the tops of the foundations, reinforcing steel, anchor bolts, and conduits to at least 12-inches below the unimproved ground. Backfill the resulting hole with material equivalent to and compacted to the density of the surrounding ground.

660-3.03 CONDUIT. Run electrical conductors in conduit, except for overhead wiring, wiring inside poles, and when otherwise specified. Use rigid metal conduits and fittings for raceways, including bored casings. Install conduits along the routes detailed in the Plans. When the routing is not shown in the Plans, route conduits as directed by the Engineer.

1. For conduit runs between trail lighting luminaire junction boxes, electrical conductors that are pre-installed in HDPE conduit will be allowed. Conduit runs between junction boxes and load centers or luminaire poles, and above grade conduit shall be galvanized

rigid. Risers into junction boxes shall be galvanized rigid. Provide galvanized rigid elbows and transition couplings for HDPE conduit.

2. Thread and ream the ends of conduits, whether shop or field cut, to remove burrs and rough edges. Make cuts square and true so that the ends butt together for the full circumference. Do not use slip joint or running threads for coupling conduit. When a standard coupling cannot be used for coupling metal type conduit, use an approved threaded union coupling. Where the coating on ferrous metal conduit has been damaged, paint damaged places with rust preventative paint.

3. Until wiring is started, cap conduit ends with standard pipe caps or approved plug and coupling combinations. When caps are removed, provide the threaded ends with approved conduit grounding bushings.

4. Bury conduit at least 30-inches below the finished grade. However, under paved areas behind a curb, bury the conduit at least 18-inches below the top back of curb or abutting pavement, whichever is lower. See subsection 660-3.01.3 for backfill requirements.

5. Install rigid metal conduit under pavements that will not be overlaid by jacking them under pavements up to 30 feet wide and by boring or drilling methods under pavements greater than 30 feet wide.

6. When encountering obstructions during jacking or drilling operations, obtain approval and cut small test holes in the pavement to clear the obstruction. Locate the bottom inside face of the borepit no closer than the catch point of a 1-1/4 H: 1 V slope from the edge of pavement. Do not leave these pits unattended until the means of protection has been approved.

7. Keep the bottom of trenches for conduit relatively free of sharp irregularities that would cause pinching and excessive bending of the conduit.

8. Position conduit ends in junction boxes to provide clearances of at least 2½ -inches around two-inch conduits and at least two-inches around conduits larger than two-inches.

9. Sweep conduits through the bottom of junction boxes using 90-degree elbows and nipples. Add nipples that terminate at least five-inches above the bottom of junction boxes and a minimum of six-inches below the top of the Type IA boxes and 12-inches below the top of Type II and Type III boxes. When you adjust existing junction boxes to a new grade, replace the nipples as required to ensure these clearances are met.

10. Furnish foundations with conduits as shown on the Plans. Extend the conduits a maximum of two-inches vertically above the foundation and slope towards the hand hole opening. Provide enough clearance between conduits, including protective sleeves, to ensure the installation of grounding bushings on all conduit ends.

11. Drill a 3/8-inch drain hole in the bottom of the lower straight section of all elbows and in the bottom of conduits at the low points of conduit runs. Smooth the edges of the drilled holes to prevent scraping the conductors. Cover the holes with a wrap of approved filter cloth secured with self-clinching nylon cable ties. At the low points of conduit runs, install sumps containing a minimum two cubic-feet of coarse concrete aggregate material. Compact the aggregate sumps as directed to prevent settlement of the trench backfill.

12. Provide conduits for future use with grounding bushings, bonded to ground, and capped with an approved plastic insert type plug. Install a polypropylene pull rope with a minimum 200-pound tensile strength in conduits that are to receive future conductors. Double back at least two feet of pull rope into the conduits at each end.

13. Bury a continuous strip of 4 mils thick, six-inch wide polyethylene marker tape above underground conduit runs. Install the tape nine-inches (± three inches) below finished grade, using two strips side-by-side to mark road crossings. Furnish tape with a black legend on a red background.

14. Where new junction boxes are placed in existing rigid metal conduit runs, fit the conduit with threaded bushings and bond them.

15. Use conduit of larger size than shown on the Plans, when desired. If used, it must be for the entire length of the run from junction box to junction box. Reducing couplings are not allowed. Increase the size of the junction boxes and perform additional work at the foundations due to the use of larger size conduit, without extra compensation.

16. Conduits may require routing under or over existing culverts or storm drain systems and other underground utilities with additional drains and aggregate sumps at the low spots.

17. When the Plans specify modifying existing conduit runs, complete the work as required for new installations using the same sizes of type of conduit. When extending existing conduits to a new junction box or foundation, add no more than 90 degrees of horizontal bend to the extension. When you install junction boxes in existing conduit runs, remove enough conduit to ensure the conduits meet the requirements of a new installation.

18. Install expansion fittings in conduits that cross expansion joints. Provide watertight expansion fittings capable of the following movements without damaging the conduits attached to it or the conductors that pass through it. The movements include: axial expansion or contraction to ¾-inch, angular misalignments in any direction to 30 degrees, and parallel misalignment of the conduits to ¾-inch. The fittings shall also include a braided-copper bonding jumper equal to an 8 AWG conductor, bushings to prevent scraping the conductors, and a smooth inner sleeve that maintains a constant diameter regardless of conduit alignment.

660-3.04 JUNCTION BOXES. Install pre-cast reinforced concrete junction boxes of the types specified with cast iron lids. For junction boxes that contain traffic signal conductors, furnish lids with the word TRAFFIC cast into them. For junction boxes that contain lighting conductors exclusively, furnish lids with the word LIGHTING cast into them.

When shown, install junction boxes at the locations specified. When shown near the ends of medians, install junction boxes at least ten feet from the median end. At electroliers, install junction boxes on the downstream side of traffic flow. When locations are not specified, install the junction boxes as directed avoiding ditch bottoms and areas that collect drainage.

Laterally, install junction boxes in areas that conform to the following:

1. Do not install junction boxes in Portland and asphalt cement concrete surfaces used by vehicles and pedestrians, including shoulders and curb ramps.
2. Install junction boxes ten feet from the face of curb or edge of pavement, unless the ten feet offset falls:
    a. In a pathway, then install the junction boxes on the backside of the pathway.
    b. Outside the right of way, then install the boxes adjacent to the right of way line.
    c. In ditch bottoms or areas that collect drainage, then install the junction boxes at reduced offsets as directed.
    d. Behind guardrails that shield slopes steeper than 3:1, then install junction boxes between posts and at least five feet back from the face of rail.
    e. On top of underground utilities or storm drains, then install the junction boxes at reduced offsets as directed.

Upon completion of roadside grading, vertically adjust those junction boxes that do not conform to the following. In unpaved areas that will not be seeded, in areas adjacent to pedestrian facilities, and in paved medians, install the tops of junction boxes one-inch below finished grade. In seeded areas, install the tops of junction boxes to two-inches below the seeded surface.

Limit the distance between adjacent junction boxes to the following:

1. 300 feet for conduits that exclusively contain a single cable.
2. 190 feet for conduits that contain more cables than those listed in the preceding limitation.
3. If the two preceding limitations require installing additional junction boxes not shown on the Plans, the Engineer will pay for them as extra work, otherwise, installing additional junction boxes will be at the Contractor's expense.

Effectively ground junction box covers with tinned copper braid equal to 8 AWG. Use three-feet long bonding-jumpers on Type IA junction boxes and five-feet long bonding-jumpers on Type II and Type III junction boxes.

Under junction boxes, install sumps that consist of coarse aggregate for concrete that conforms to subsection 703-2.02. Install the sumps according to Standard Drawings L-23 or T-34. Compact the aggregate material as directed to prevent junction box settlement.

660-3.05 WIRING. Wire cabinets with conductors sized to handle the amperage drawn under full cabinet use. Make wiring neat in cabinets by cabling wires together with self-clinching nylon ties. Terminate spare conductors on terminal blocks. Attach conductors, including spares, to terminal blocks with "spade" type terminal lugs. Furnish additional terminal blocks if enough locations are unavailable in existing terminal blocks. Do not splice conductors within junction boxes.

Pull conductors into conduit only after junction boxes are set to grade, crushed rock sumps are installed, grout is placed around the conduit, and grounding bushings have been installed on conduits.

1. Pull conductors by hand or by approved commercially built cable-pulling equipment that is specially designed for that purpose. Do not pull cable by other means. Equip the cable pulling device with a force limiting circuit and force gauge.

2. Use wire-pulling lubricant when placing the cables and conductors in conduit. Do not allow the tension of the wire or cable to exceed the manufacturer's recommend allowable tension for the conductor or cable.

3. When adding new conductors to a conduit with existing conductors, remove conductors and clean the conduit with a mandrel or brush. Pull both old and new conductors through as a unit. In a new installation, pull conductors through the conduit as a unit.

4. Neatly leave at least three feet of slack illumination cable curled up in the bottom of each junction box.

5. Route pathway illumination cable through each lighting pole designated for connection to that cable's circuit. Do not splice illumination cable between a load center and a pole or between poles. Join the individual conductors by using non-insulated overlap type pressure connectors. Insulate with mastic-lined heat shrink tubing or 2 layers of one-half lapped UL listed electrical tape. Do not use wire binding screws, studs, or nuts. Stagger splices to minimize the overall diameter.

6. Encapsulate illumination cable splices in rigid 2-piece plastic molds filled with an insulating and sealing epoxy resin. Furnish molds large enough to complete the splices and encase the cable jackets in the epoxy resin. Furnish molds rated for 600 volts AC operation and feature fill and vent funnels for epoxy resin. Fill the splice mold bodies with epoxy resin that is resistant to weather, aromatic and straight chain solvents, and that will not sustain combustion.

7. Permanently identify cables and single wire conductors by labeling pole bases and in junction boxes adjacent to lighting poles. When modifying an existing system, label new and existing lighting cables/conductors with circuit numbers at locations noted above. If the existing circuits are not identified, the Engineer will provide the required circuit numbers.

8. Label the cables used in the illumination systems with the following legend:

   a. Use the legends included in Table 740-2, for the cables listed. Furnish the identification tags listed below that feature hand written legends. Write the legends specified neatly and legibly, using a black marking pen recommended by the tag manufacturer. Replace at no expense to the State identification tags the Engineer deems illegible.

   b. To label cables, use cable tags made of nylon reinforced vinyl impervious to the elements and that will not tear. Provide tags with a four-inch by 1¾-inch minimum size that attaches flag style at one corner to a single strap. Furnish red tags for labeling lighting and feeder cables.

9. Terminate the power cables as shown in Table 740-2.

10. Wire luminaires using No. 10 AWG illumination tap conductors that run from the fused disconnect kit in the pole base.

    Install a fused splice connector between the line and luminaire ballast tap conductors in the base of every pole equipped with a luminaire.

    Attach the conductors to the connector halves with setscrew type pressure connectors. Provide the plug and socket assembly so that the fuse remains in the load side plug without exposing live metal parts when the connector separates and the coil springs are not included in the current carrying circuit.

    Make the fused connectors readily accessible from the handhole. Install tap conductors to prevent slack when their ends touch the top of the foundation.

11. Retrofit reused poles with new tap wires, fused disconnect kits, and fuses.

12. Whenever conductors cannot be terminated in circuit breakers due to their size, splice a piece of 8 AWG power conductor onto the end of each conductor using an overlap type, irreversible compression connector. Insulate the splice with heat shrink tubing. Complete the splice in the space between the top of the load center foundation and the bottom of the cabinet. Limit the length of the #8 AWG conductor to five-feet.

660-3.06 BONDING AND GROUNDING. Bond and ground branch circuits according to the NEC and the following requirements. Make non-current carrying but electrically conductive components, including: metal conduits, junction box lids, cabinets, transformer cases, and metal posts and poles, mechanically and electrically secure to an equipment grounding conductor. Make fixtures mounted on metal poles, including signal components and luminaires, mechanically and electrically secure to the pole.

Install grounding bushings with insulated throats on the ends of metallic conduits. Use malleable iron or steel bushings with a mechanically galvanized or zinc plated finish and a locking stainless

steel or brass mounting screw. Grounding lugs shall either be an integral part of the bushing or consist of an attached tin-plated copper saddle. Grounding lugs shall feature a stainless steel screw, the centerline of which falls within 20 degrees of conduit centerline.

Install a bare stranded copper wire for the equipment grounding conductor in conduits, except those conduits installed for future use. Install size 8 AWG conductors, except in those conduits that contain circuit conductors larger than 8 AWG. In this case, install a wire equal in size to the largest circuit conductor. Attach the grounding conductors to the grounding bushings, leaving 12-inches of slack between each bushing. Connect grounding conductors together using irreversible compression type connectors to form a fully interconnected and continuous grounding system.

Retrofit existing spare conduits that will contain new cables exclusively with new grounding bushings. When the Plans require installing or removing conductors from existing conduits, retrofit them with new grounding conductors sized according to the preceding paragraph.

Bond junction box lids to the grounding conductor using copper braid with a cross-sectional area equal to an 8 AWG conductor. Connect bonding jumpers to the grounding conductors using irreversible compression type connectors. Replace missing or damaged conduit and junction box lid bonding jumpers.

Join the equipment grounding conductors from the conduits to the 4 AWG grounding electrode conductor using irreversible compression connectors at Portland cement concrete foundations. For pile foundations, attach the equipment grounding conductor from the conduit to the pile cap adapter with a listed mechanical grounding connector.

Bond slip-base type standards and pedestals by using 2 conductors from the conduit, one attached with a ground rod clamp to an anchor bolt and the other connected to the grounding lug located in the hand hole of each pole.

Ground one side of the secondary circuit of a transformer.

Install a ¾" by 10 feet copper clad ground rod inside each controller cabinet foundation and a 6 AWG bare stranded copper wire for the grounding electrode conductor.

660-3.07 LIGHTING INSTALLATION REQUIREMENTS. Install lighting equipment according to the details shown on the Plans and the following:

Determine the shaft lengths on poles to meet the Plan mounting heights of luminaires.

Remove burrs and sharp edges from the inside and outside of holes before passing conductors through the walls of posts, poles, mast arms, and other equipment.

Furnish work to install foundations for relocated poles, including: conduit, excavation, reinforcing steel, class A concrete, anchor bolts, nuts, and washers.

Orient photoelectric control units to face the north sky.

To install photoelectric controls on wood poles and on Load Centers, use a receptacle manufactured to fit the end of a rigid metal conduit, General Electric model MB-PECTL or approved equal.

1. Electrolier Installation. Before installing electroliers, check the socket position of each luminaire to verify it matches the position indicated in the instructions for the light distribution type shown on the Plans.
   Install electroliers without mast arms with the centerline of the pole plumb.

2. Wood Pole Installation. Place the poles in the ground to at least six feet deep.

   After setting each pole in the ground, backfill the space around the pole with selected earth or sand, free of rocks four-inches and larger, or deleterious material. Place in layers approximately four-inches thick and thoroughly compact with mechanical tampers.

   Furnish poles that provide a minimum vertical clearance of 21 feet between the pavement and low point of overhead conductor.

660-3.08 MAINTAINING TEMPORARY AND EXISTING ELECTRICAL SYSTEMS. This work consists of protecting and maintaining the existing and temporary electrical systems during the life of the contract. The work includes: locating, repairing, replacing, adjusting, realigning, cleaning, and relocating components of lighting systems to keep them wholly operational and positioned according to the following specifications.

Furnish the Engineer with the name and phone number of the person who will maintain the existing and temporary electrical facilities at the Preconstruction Conference. Make this person available at all times until the date of Acceptance for Maintenance and provide labor, materials, and equipment this person may need to complete repairs ordered by the Engineer.

When beginning work, the Engineer will notify the Contractor and the local maintenance agencies in writing of the transfer of maintenance responsibilities, providing an effective date and time. Maintenance does not include replacing defective equipment or repairing damage before transferring maintenance responsibility. Therefore, before starting work on the project, inventory the condition of the existing equipment and document damaged and defective equipment, the Engineer will inspect with the Contractor. If beginning work before providing the Engineer with an inventory, the Contractor will waive the right to claim extra compensation when the Engineer later finds damaged or defective equipment.

Keep components of the existing and temporary electrical systems operational during the progress of the work, except when the Engineer allows shutdowns to alter or remove the systems. The Engineer will consider these systems operational when no damaged or defective equipment is found in service, components are clean, located, and aligned as specified herein, and photoelectric controls operate the lighting systems. The State will pay for electricity used to operate the systems, if the public benefits from their operation. Furnish replacement equipment compatible with equipment used in the Central Region.

Begin work to repair, replace, adjust, realign, clean, and/or relocate components of an affected system within one hour when ordered by the Engineer. If work is not complete, the Engineer may have outside forces complete the repairs and deduct the amount billed from monies due the Contractor.

Locate existing conduit runs, buried cables, junction boxes, and underground utilities before starting work that may damage these facilities or interfere with these systems.

660-4.01 METHOD OF MEASUREMENT. Section 109 and the following:

Item 660(9), Bored Casing. By the foot along the slope of the bored or jacked casing for the actual length bored or jacked, in place.

660-5.01 BASIS OF PAYMENT. Sign removal and reinstallation required to install foundations, conduits, and junction boxes is subsidiary. Minor conduit routing changes as directed are subsidiary to existing contract pay items. Concrete required to complete the foundations is subsidiary. If no item for Bored Casing is included in the bid schedule, boring is subsidiary to other items of work.

The lump sum prices paid for the items included in the Contract includes full compensation for work involved in furnishing and installing, assembling, modifying, and removing the components of the systems shown on the Plans. This includes: completing excavation to install poles, conduits, and junction boxes, backfilling and compacting trenches, removing and replacing improvements, installing sumps under junction boxes, and pulling conductors. The lump sum prices paid also include full compensation for work specified in the Standard Specifications and Special Provisions. This includes: getting materials approved; preparing as-built Plans, maintaining the electrical systems, adjusting junction boxes to grade, making splices, labeling conductors, completing tests, and delivering salvaged electrical equipment.

Dewatering excavations is a subsidiary obligation of completing the excavation work.

The Engineer will pay for the disposal of surplus and unusable excavation and for imported backfill and bedding material at their respective contract unit prices, or as extra work if the contract does not include these items.

Include in your bid the costs of repairing the improvements you must remove or damage to complete the work, the repairs of which are not covered by other items in the contract.

The costs of repairing damage to finishes on new equipment are a subsidiary obligation.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
660(9)	Bored Casing __ Inch Minimum Diameter	Linear Foot
660(28)	Trail Lighting System Complete	Lump Sum

SECTION 661
ELECTRICAL LOAD CENTERS

Special Provisions

661-1.03 EQUIPMENT LIST(S) AND DRAWINGS. Add the following subsection: Within 30 days following award of the contract, submit 4 collated copies of a portfolio of equipment and material to be installed. The Department will review these for approval. The portfolio(s) shall consist of a table of contents which includes each item's intended use(s) and the following:

1. For materials on the Approved Products List: a description that includes product name, manufacturer, model or part number, and the conditions listed for approval.

2. For materials not on the Approved Products List: catalog cuts that include the manufacturer's name, type of product, size, model number, conformance specifications, and supplemented by other data as may be required, including manufacturer's maintenance and operations manuals, or sample articles.

This information may be included in the portfolio for 660 items.

The Department will not be liable for any material purchased, labor performed, equipment used, or delay to the work before all equipment and materials have been reviewed and approved.

661-2.01 MATERIALS. Add the following to the paragraph titled Meters: Furnish meter sockets and landing pads rated for 200 ampere services.

661-5.01 BASIS OF PAYMENT. Add the following: Payment of fees required by the local authority for an electrical inspection and the costs of correcting the deficiencies noted during the inspection shall be considered subsidiary to the Section 661 items.

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

(06/22/04)R117USC04

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

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				100
3/4 inch	80-90	100			90-100
1/2 inch	60-84	75-90	100	100	65-75
3/8 inch	48-78	60-84	80-90	80-95	48-60
No. 4	28-63	33-70	44-81	55-70	30-40
No. 8	14-55	19-56	26-70	35-50	20-30
No. 16	9-44	10-44	16-59	20-40	$\leq$22
No. 30	6-34	7-34	9-49	15-30	$\leq$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.

SECTION 708
PAINTS

Special Provisions

708-1.01 GENERAL REQUIREMENTS. Add the following paragraphs: This special provision covers steel and wooden structures associated with this pathway unless such structures are hot dip galvanized (except for fasteners), temporary structures or otherwise exempted in writing. In particular, items to be painted include, but are not necessarily limited to, metal components and fasteners for decorative metal fencing and fasteners, electrolier assemblies and wooden structures including fence posts and bollards.

Paint shall be delivered in sealed containers with labels legible and intact. Remove dirt, grease, oil and other construction debris before painting. Ensure that surfaces to be painted are even, smooth, sound, clean, dry, and free from defects affecting proper application. Metal surfaces to receive paint shall be corrosion free. Apply according to manufacturer's recommendations. Apply paint material evenly without runs, sags, or other defects. Work each coat into the material being coated at an average rate of coverage recommended by the manufacturer. Cover surfaces completely to provide uniform color and appearance. Remove paint, stain, or other finish material where it has spilled or spattered.

708-2.01 PAINT FOR STEEL. Add the following:

4. Polyester Powder Coat: Shall be TGIC Polyester powder coat, or approved equal meeting US Federal Standards. Material shall be as follows:

Chemical Type:	Polyester
Particle Size:	30-60 microns average
Specific Gravity:	1.2-1.7
Cure Cycle:	400F-10MINS Peak Metal Temperature (TGIC)
Gloss @ 60 Degree:	Available from 20-80+ Degrees
Theoretical Coverage:	110-160 square feet per pound at 1 mil film
Thickness:	2mils primer, 4 mils top coat for fence & light poles

708-2.02 PAINT FOR TIMBER. Add the following: For wood structures, coating shall be exterior latex paint.

Add the following subsection:

708-2.05 FINISH SCHEDULE. Unless otherwise specified, schedule finishes are as follows:

Treatment and Coating Schedule			
Item	**Treatment**	**Finish**	**Color***
▪ Decorative Fence Wood Posts	Below Ground Wood Preservative	Latex Paint	RAL 8011 Nut Brown
▪ Bench Posts and Frame ▪ Decorative Fence Panels and Top Rails	Steel	Polyester powder coat	RAL 6029 Mint Green
▪ Light Poles	Steel	Polyester powder coat	RAL 6013 Reed Green

* Note: RAL refers to the standard Reichs-Ausschuss fuer Lieferbedingungen color chart.

SECTION 712
MISCELLANEOUS

Special Provisions

712-2.13 GABIONS. Wire Mesh: Add the following: Wire shall be provided with a PVC coating, gray in color.

SECTION 716
STRUCTURAL STEEL

Special Provisions

716-2.03 HIGH TENSILE STRENGTH BOLTS. Add the following paragraphs:

4. Bolt, Nut and Washer Finish: Hot-dip Zinc Coating, ASTM A153, Class C.

SECTION 724
SEED

Special Provisions

724-2.01 DESCRIPTION. Add the following:

The Contractor shall submit to the Owner's Representative, 10 working days before application, a certification tag for the seed mix in this Contract, depicting species, proportion by weight, percent purity, and percent germination. The certification tag shall come from the specified seed mix and be removed from the unopened bags in the presence of the Owner's Representative. Tags from bags already opened before coming on-site will not be accepted.

724-2.02 MATERIALS. Delete Table 724-1 in its entirety and substitute the following table:

TABLE 724-2
SEED REQUIREMENTS

Schedule B – Unmowed Seed Mix (Application Rate: 43.5 lbs/acre)

NAME	GERMINATION PERIOD	PURITY	GERMINATION RATE	RATE/ACRE
"Arctared" Red Fescue *(Festuca rubra "Arctared")*	14 days	95%	85%	17.6 lbs
Tufted Hairgrass *(Deschampsia caespitosa)*	14 days	90%	75%	13.0 lbs
American Sloughgrass *(Beckmania syzigachne)*	14 days	95%	95%	6.5 lbs
Alpine Bluegrass 'Gruening' *(Poa alpina 'Gruening')*	14 days	95%	95%	6.4 lbs

SECTION 726
TOPSOIL

Special Provisions

726-2.01 TOPSOIL. Delete item 2 and substitute the following:

2. Contain between 10 percent and 20 percent organic matter as determined by loss on ignition of oven dried samples according to ATM 203.

Item 3. Delete last sentence in first paragraph and substitute the following:

The Contractor shall submit to the Engineer, 10 working days before final placement, a soil analysis for particle size, nutrient content and organic content, before topsoil shall be accepted for this project. The Engineer may test the topsoil at any time to verify compliance with the topsoil analysis. If the supplied topsoil does not meet specifications in this section, the Contractor shall supply new topsoil of a quality required to meet the section standards.

SECTION 727
SOIL STABILIZATION MATERIAL

Special Provisions

Add the following subsection:

727-2.04 ROOT BARRIER.

Properties of the root barrier system material shall be:

Test	ASTM Test Method	Typical Value
Tensile Stress @ Yield	D638	3,600 – 4,200 PSI
Elongation @ Yield	D638	12%
Flexural Modulus	D790	150,000 PSI
Notched Izod Impact	D256A	3.0 ft-lbs
Rockwell Hardness, r-scale	D758	68

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

Delete this Section in its entirety and substitute the following:

SECTION 740
SIGNALS AND LIGHTING MATERIALS

740-2.01 GENERAL. Use electrical materials, devices, fittings, and hardware that conform to applicable NEMA and ANSI standards.

Use electrical products that are Third Party Labeled or Listed (by an approved independent electrical testing laboratory such as UL, ETL, CSA, etc.), unless otherwise indicated on the Materials Certification List (MCL).

Ensure that material and workmanship, as determined by the Department, conform to the standards of the NEC, the NESC, and local safety codes as adopted and amended by the authority having jurisdiction.

740-2.02 LIGHTING POLES. Design and fabricate trail lighting to conform to the 1994 Edition of AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals* with interim revisions.

A registered professional engineer shall design the structures and provide stamped shop drawings and calculations. Submit the stamped drawings and calculations for each pole to the Engineer for approval. Design for stresses on the completed structure with hardware in place.

1. In the stamped calculations, indicate the edition of Standard Specifications to which the poles are being designed and provide the input data used to design each pole and mast arm, including: design wind speed, cross section shape, yield strengths of the component materials, dimensions of the pole components, and a summary of the loads used.
2. On the stamped shop drawings, provide design wind speed and the details for building the poles and mast arms, including: materials specifications, slip fit joint dimensions, pole component dimensions, welds that will be made, and the welding inspection that will be done.

Submit the mill certifications for the steel items (piles, plates, bolts, and other related items) to the Engineer for approval.

Design poles for 100 mph winds with a 1.3 gust factor.

Fabricate lighting structures tapered shaft 8 inches at the base, 4.5 inches at the top, 11 gage, ASTM A595 material grade A, galvanized steel according to ASTM A-153, 25-feet tall direct-bedded.
Handhole size 5.13 inches by 10.5 inches. Orient hand holes near the base of poles and facing downstream from the nearest direction of travel.

Furnish poles in one piece.

Fabricate tubes with walls up to ½-inch thick from the prequalified base metals listed in AWS D1.1 and which feature maximum yield strengths of 70,000-psi. Fabricate elements greater than ½-inch thick from steel that conforms to ASTM A 709 and meets the Fracture Critical Impact Test requirements for zone 3. The Department will not accept structures that contain or are made with laminated steel elements.

Fabricate each tube from no more than 2 pieces of steel. When using 2 pieces, place the longitudinal welded seams directly opposite one another. Place the welded seams on adjacent sections to form continuous straight seams from the base to the top of the pole.
The Department does not allow holes made for lifting purposes in the ends of tubular segments, except in the free ends of luminaire mast arms. To add lift points, weld them to the tube opposite the longitudinal seam weld on the outside of female segments and on the inside of male segments. Before shipment, remove lift points added to the outside of the tubes, grind the area smooth with the base metal, and hot stick repair the finish according to subsection 660-3.01.7.a. You may leave the lift points added to the inside of tubes in place.

Hot-dip galvanize lighting structures to meet AASHTO M 111 and these specifications. Completely submerge pole and mast arm segments in one dip in a kettle of concentrated zinc ammonium chloride flux solution heated to 130 °F, then completely submerge in one dip in a separate kettle of prime western grade zinc heated to approximately 825 °F. Galvanize bolts and fasteners to meet AASHTO M 232.

After the poles are galvanized, remove excess zinc from all drip lines and points provide a smooth finish.

The Department will reject poles that are:

1. Not fabricated according to these specifications or the approved shop drawings,
2. Bowed with sweeps exceeding ¾ inch throughout the length of the pole.
3. Out of round. Sections are out of round when the diameters of round members or the dimension across the flats of multi-sided members exceed two percent of the dimension specified on the shop drawings.

Fabricate pile cap adapters from grade X42 steel line pipe that conforms to API 5L and from steel plate that conforms to ASTM A 709 Grade 50. Attach the anchor plate to the pile section with a complete joint penetration (CJP) weld. Fabricate the anchor plate to match the base plate of the lighting standard.

Perform welding to conform to subsection 504-3.01 8. Welding and the following:
1. Make welds continuous.
2. Use partial joint penetration (PJP) welds in longitudinal seams. PJP welds must provide at least 60% penetration.

3. Use CJP groove welds to connect base plates to tubes with walls 7/32 inch thick and thicker. When CJP groove welds are used, the designer may use additional fillet welds when deemed necessary.
4. Use socket-type joints with two fillet welds to connect base plates to tubes with walls less than 7/32 of an inch thick.
5. On steels 5/16 of an inch thick and thicker, inspect 100 Percent of CJP welds by either radiography (RT) or ultrasound (UT).
6. On steels between 7/32 and 5/16 of an inch thick, inspect 100 Percent of CJP welds by UT per annex K of AWS D1.1.
7. Inspect a random 25 percent of PJP and fillet welds by magnetic particle (MT). If a defect is found, inspect 100% of the PJP and fillet welds made to fill the order. In steels less than 1/8 inch thick, complete the tests per AWS D1.3.

Finish the edges of poles to conform to the following requirements. Before they are hot dip galvanized, neatly round the following features to the radius specified

1. On holes through which electrical conductors pass, provide a 1/16-inch radius on both the entrance and exit edges,
2. On pole base plates, provide a 1/8-inch radius on edges along which plate thickness is measured and a smooth finish on other exposed edges,
3. Grind exposed welds flush with the base metal, except fillet welds and seam welds on top of mast arms. Grinding seam welds on multi-sided poles is not required, except in slip type joints.

Provide caps to cover the free ends of poles.

Identify critical information for poles with visible permanent aluminum tags that contain the information shown in Table 740-1. The measurements shown are for illustration purposes only. Use tags large enough to include required information using ¼ inch high text, 3/8 inch of space between successive lines of text, and at least 3/8 inch of space between the edges of the tag and the text. Secure the tags with two 1/8 inch blind rivets at the base of poles.

TABLE 740-2
POLE MARKINGS

Note: *Italic type indicates additional Tag Markings if poles have 2 luminaire or 2 signal mast arms.*		
	MEASUREMENTS	**TAG MARKINGS**
Light Poles		
a) Pole height	37 ft.	PH 37
b) Pole number		P 4

740-2.03 CONDUCTORS. Use conductor sizes based on the American Wire Gage (AWG). Use sizes that conform to the Plans or, when not shown, to this subsection.

Use insulated conductors made of uncoated, stranded copper that conforms to the specifications of ASTM B 8. Use grounding conductors that are bare copper of the gage required by the NEC. They may be stranded, solid, or braided.

Provide the following markings on the outer coverings of conductors and cables on intervals of 24 inches or less: manufacturer, the number of conductors or pairs in cables, conductor size, 600V, the conductor or cable type and environmental conditions for which the conductor or cables are listed, and the symbol of an approved independent testing laboratory.

Use conductors meeting the referenced specifications for the following purposes:

1. Power Conductors. For individual conductors, install general-purpose building wire manufactured according to UL Standard 44, ICEA S-66-524, and NEMA No. WC7. Furnish conductors insulated with cross-linked polyethylene listed as type XHHW-2 and rated for 600 volts AC operation.

TABLE 740-2
CONDUCTOR TERMINATION TABLE

CONDUCTORS PER CABLE	CIRCUIT	WIRE COLOR	AWG. NO.	BAND LEGEND
5	Photo Electric Control Load to Contactor Neutral Spare Spare	Black Red White Orange Green	14	PEC
3	Trail Luminaire Trail Luminaire Trail Luminaire Spare	Black Red White	8 or 6	Circuit No.

Use size 10 AWG wire for illumination tap conductors. In an electrolier, the illumination tap conductors run from the fused disconnect kit to the ballast in the luminaire. Furnish conductors with black, red, or white colored insulation as required to identify the two phase and neutral conductors, respectively.

2. Illumination Cables. For cables that consist of three size 6 or 8 AWG conductors, furnish power cables that feature three conductors, each insulated with cross-linked polyethylene, and a black, low density, high molecular weight polyethylene jacket. Use insulated conductors listed as type XHHW-2. Furnish these cables with one black, one white, and one red colored conductor and no grounding conductor. Use cables rated for 600 volts AC operation.

Use insulated conductors meeting ICEA S-66-524 and UL Standard 44. The jacket must also meet ICEA S-66-524.

740-2.04 ELECTRICAL CONDUIT.

1. Rigid Metallic Conduit. Use UL Standard UL-6 galvanized conduit and fittings that are rigid metal type and manufactured of mild steel according to ANSI Standard C80.1.

2. Nonmetallic Conduit. When specified in the Plans, use a smooth wall, schedule 40, high-density polyethylene (HDPE) pipe that conforms to UL 651 B for raceways.

740-2.05 FUSED SPLICE CONNECTORS. Use fused, quick disconnect, splice connector that is weather tight and has two halves: a single-unit line side socket and a load-side plug. Use fuses that are 10 ampere, midget (3/8-inch x 1½ inch) ferrule type with a fast acting current limiting (KTK type) design.

740-2.06 TRAIL LUMINAIRES. Luminaires shall provide the light distributions specified and meet or exceed the initial light levels and light distribution uniformities when specified. Furnish each luminaire with a high pressure sodium lamp of the wattage specified and matching ballast. Furnish lamps that feature a rated life of 24,000 hours based on 10 hours per start and ballasts that conform to subsection 740-2.21.

Provide luminaires that include the following features:

1. A corrosion-resistant enclosure with gray paint finish and space for the ballast.
2. Third party certified for use in wet locations.
3. Borosilicate glass lenses, unless polycarbonate resin refractors are specified.
4. Terminal blocks for attaching the illumination tap conductors.
5. Aluminum reflectors with an ALZAK or ALGLAS finish.
6. Optical components free of substances that affect photometric performance, e.g. paint..
7. Housings cast with no provision for a photoelectric control receptacle.
8. A sealed reflector and lens design with elastomer gaskets and activated charcoal filters. Gasket material must withstand the temperatures involved and be securely held in place.
9. With lamps through 400 watts, starting aids that plug into a socket for easy replacement.

When cut off distributions are specified, furnish luminaires with flat glass lenses and a full cutoff light distribution as defined in the American National Standard Practice for Roadway Lighting, A.N.S.I./I.E.S RP-8, dated 2000.

For each luminaire and light distribution type specified, submit luminaire specifications, lumen output of the lamps that will be furnished, and current electronic photometric data to the Engineer for approval. Furnish photometric data in Illuminating Engineering Society (I.E.S.) format to enable the Engineer to verify lighting levels and uniformity ratios according to the American National Standard Practice for Roadway Lighting, A.N.S.I./I.E.S RP-8, dated 1983 using computer programs.

When polycarbonate resin lenses are specified, furnish lenses the fabricator certifies conforms to the following criteria.

1. The lenses are molded in a single piece from virgin polycarbonate resin.
2. The lenses are free from cracks, blisters, burns, and flow lines, and furnished with the natural molded surface.
3. The lenses are of uniform density throughout and free from air, gas, or moisture pockets, and uncured areas.
4. The lenses are transparent with a clear bluish tint, produced from ultraviolet stabilized resin to reduce the effects of ultraviolet radiation on their color properties.
5. The resins used meet the requirements for the self-extinguishing classification of ASTM D 635 and feature a minimum impact strength, Izod notched of 12 foot-pounds per inch when tested according to ASTM D 256, Method A, using a 1/8 inch by ½ inch bar molded according to ASTM recommended practice.

740-2.07 ILLUMINATION CONTROL. Use photoelectric controls capable of directly switching multiple lighting systems. Furnish photoelectric units designed for pole top mounting that include a slip-fitter, terminal block, and cable supports or clamps to support pole wires.

1. Photoelectric Unit. A light sensitive element connected directly to a normally closed, single-pole throw control relay without intermediate amplifications. Plug the unit into a phenolic resin twist lock receptacle set in a cast aluminum mounting bracket with a threaded base. Screen photoelectric units to prevent artificial light from causing cycling.

   Use either horizontal sensing or zenith sensing type units meeting the following:

   a. A supply voltage rating of 60 Hz, 105-277 volts

   b. A maximum rated load at a minimum of 1,800 volt-amperes

   c. An operating temperature range from -40 °F to +150 °F

   d. A power consumption of less than 10 watts

   e. A unit base with a 3-prong, EEI-NEMA standard, twist-lock plug mounting

   Furnish units for trail lighting that have a "turn-on" between one and five footcandles and a "turn-off" at between 1.5 and 5 times "turn-on."

   Measurements must meet the procedures in EEI-NEMA *Standards for Physical and Electrical Interchangeability of Light-Sensitive Control Devices Used in the Control of Roadway Lighting*.

740-2.08 BALLASTS. Include ballasts for high intensity discharge lamps rated for the voltages and lamp types specified. Furnish ballasts with starting currents less than operating currents.

Furnish regulator-type ballasts with copper windings electrically isolated from each other, which will start and operate the lamps in temperatures down to -40 °F. The allowable line voltage variation is plus and minus 10%.

Equip high-pressure sodium luminaires, except those with 1000 watt lamps, with magnetic regulator ballasts with the following additional operating characteristics:

1. The lamp wattage regulation spread over the life of the lamp must not exceed 18% of nominal lamp watts at plus and minus 10% line voltage variations.

2. With nominal line and lamp voltages, the ballast must regulate the lamp output to within 5% of the ballast design center, and sustain lamp operation with a minimum 60% voltage drop lasting 4 seconds or less.

Submit the ballast manufacturer's specification sheets for review and approval.

*** *End of Special Provisions* ***

APPENDIX A

POTTER MARSH TECHNICAL SPECIFICATIONS & SPECIAL PROVISIONS

SECTION 202

REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202-1.01 DESCRIPTION. Replace the first sentence with the following: This work shall consist of, but not be limited to, the removal of 3,200 square yards of asphalt pavement, 52 linear feet of culvert, 23 concrete parking bumpers, 20 linear feet of boardwalk with substructure, and any other obstructions which are not designated or permitted to remain, except for the obstructions to be removed and disposed of under other items in the contract.

(01/01/01)PARKS-Special Provision

Add the following: This work also includes relocating a sign as indicated on the Plans.

(04/01/06)PARKS-Special Provision

Add the following:

Materials which are designated to be salvaged and remain the property of the Department of Fish & Game are the concrete parking bumpers. By arrangement with the Engineer, deliver salvaged materials to the Alaska Department of Fish & Game Rabbit Creek Riffle Range.

(01/01/01)PARKS-Special Provision

202-3.01 GENERAL. Replace paragraphs three, four, and five with the following: Remove and satisfactorily dispose of materials not designated to be salvaged. Remove and satisfactorily dispose of designated salvage materials determined by the Engineer to be unusable to the Department. (01/01/01)PARKS-Special Provision

202-3.05 REMOVAL OF PAVEMENT, SIDEWALKS AND CURBS. Add the following: For disposal of waste asphalt pavement, the Contractor shall obtain a solid waste disposal permit from the Department of Environmental Conservation (DEC) or use a site previously approved by DEC for disposal of removed asphalt. A DEC permitting officer in Anchorage may be contacted at (907) 269-7590.

A DEC approved site for disposal of removed asphalt is available at no charge to the Contractor at the Hiland Road Solid Waste Facility. In order to use this site, the Contractor shall meet the following requirements:

1. Dumping shall be coordinated through the Eagle River Street Maintenance office at (907) 694-3487.

2. Leveling course material may be included with removed asphalt if it does not exceed 30 percent of the total volume delivered.
3. For quantities over 500 tons, the Contractor shall stockpile materials in a manner acceptable to the Municipality of Anchorage.
4. The broken asphalt pieces shall be 6 inches or less in maximum dimension.

(02/15/05)R84A-Special Provision

SECTION 203

EXCAVATION AND EMBANKMENT

203-3.01 GENERAL. Replace the first sentence of the tenth paragraph with the following: Borrow material shall not be used until after all usable excavation has been placed in the fill. Placing and compacting selected material acquired from usable excavation is included in the scope of work of the excavation item. The design estimates show that less than 5% of the unclassified excavation will be suitable for use as Selected Material, Type A.
(09/02/96)PARKS-Special Provision

Add the following: Existing asphalt pavement to be removed may be used in the construction of the roadway embankment or earth mounds. All reused asphalt pavement placed in mounds shall be buried so as not to be exposed at the completed surfaces. All reused asphalt pavement used in the construction of roadway embankment shall be broken into maximum dimension of 6 inches and blended with selected material at least 24 inches below top of subgrade. (07/10/96)PARKS-Special Provision

Add the following: Outside of the existing parking area and access road surfaces, excavate 8 inches depth of original ground prior to embankment construction.
(04/01/06)PARKS-Special Provision

203-3.03 EMBANKMENT CONSTRUCTION. Replace the first sentence of the tenth paragraph with the following: Place roadway embankment of earth materials in horizontal layers not exceeding 8 inches in thickness measured before compaction. Each layer of classified material shall have its joint offset from the joint below, longitudinally by 1 foot and transversely by 10 feet. (11/18/04)R23USC02- Special Provision

Add the following:

Where the Plans call for placement of selected material and excavation is required, the existing material may be left in place at the Engineer's discretion if tests determine that it will meet the appropriate Selected Material requirements. Reduction in excavation or Borrow quantities because of this condition shall not constitute a basis for adjustment in contract unit prices except as provided for in Section 104, Scope of Work.

The surface of Selected Material, Type D, shall be compacted by coverage of the Contractor's placement equipment to provide a smooth and firm slope. The surface of Selected Material, Type D shall be free of surface irregularities, rutting, slope breaks or unconsolidated material.

(11/18/04)R23USC02-Special Provision

Add the following: Cut and fill slopes shall be constructed to template. At the direction of the Engineer, the Contractor may be required to finish all slopes by a method of hand raking. This work shall be at no additional cost to the State. The finished slope surface parallel to the shoulder line shall not vary more than 0.10 foot when tested using a 10-foot straightedge. The finished slope surface perpendicular to the shoulder line shall not vary more than 0.10 foot for the following slope ratios and corresponding straightedge lengths: 2:1 slope and two-foot length; 3:1 slope and three-foot length; 4:1 slope and four-foot length; 5:1 slope and five-foot length; and 6:1 slope and six-foot length. (01/01/01)PARKS-Special Provision

Add the following Subsection:

203-3.06 MOUND CONSTRUCTION. Mound size and shape will be field located by Engineer. Mound slopes shall be smooth and shapes irregular, with no slopes steeper than 2:1.

(01/10/97)PARKS-Special Provision

203-4.01 METHOD OF MEASUREMENT. Add the following: Mound construction will not be measured directly for payment but will be considered subsidiary to other Section 203 items. (01/31/94)PARKS-Special Provision

SECTION 204

STRUCTURE EXCAVATION FOR CONDUITS AND MINOR STRUCTURES

204-5.01 BASIS OF PAYMENT. Replace the second and third paragraphs with the following: When Item 204(1), Structure Excavation, does not appear in the Bid Schedule, structure excavation required to complete other items of work will not be paid for directly but will be considered as subsidiary to those items. Excavation of unsuitable material for culverts and pipe required from below a plane 12 inches below the invert elevation of conduits, or from beyond the excavations limits shown on the plans and standard drawings for structures will be considered extra work.

Any backfill material or bedding material required for conduits whose source is other than excavation will be paid for at the contract unit price for the material being used, or as extra work if no unit price has been established. Any backfill material or bedding material required for structures other than conduits will be considered as subsidiary to those items.

(01/01/03)PARKS-Special Provision

SECTION 205

EXCAVATION, BACKFILL, AND FOUNDATION FILL FOR MAJOR STRUCTURES

205-3.03 BACKFILL. Add the following: All backfill placed within 1 foot of a structural unit shall be graded to pass the 3 inch sieve.

(07/24/95)R154USC-Special Provision

205-5.01 BASIS OF PAYMENT. Add the following: Grading and placement of material used within 1 foot of structural units will be subsidiary to Item 203(6) Borrow, Type A.

(07/24/95)R154USC-Special Provision

SECTION 301

AGGREGATE BASE COURSE

301-2.01 MATERIALS.

Add the following after the first paragraph: At the Contractor's option, 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.

(11/05/02)R176USC02-Special Provision

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 in accordance with ATM 412.

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.

(11/05/02)R176USC-Special Provision

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. (11/05/02)R176USC02-Special Provision

SECTION 401

ASPHALT CONCRETE PAVEMENT

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 in accordance with ATM 417.

TABLE 401-1
ASPHALT CONCRETE MIX 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 mix, 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 asphalt concrete pavement specified but asphalt concrete mixture will have the full tolerances in Table 401-2 applied for evaluation in accordance with 401-4.03 except the tolerances for the largest sieve specified will be plus 0% and minus 1%, and the #200 sieve is limited by the broad band limits.

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

Use Asphalt Concrete, Type II; Class B, minimum, for temporary pavement.

Submit the following to the Engineer at least 15 days before the production of asphalt concrete mixture:

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 asphalt concrete pavement specified in the Contract.

2. Representative samples of each aggregate (coarse and/or intermediate, fine, and natural blend material) 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 mixture. Include name of product, manufacturer, test results of the applicable quality requirements of Subsection 702-2.01, manufacturer's certificate of compliance per 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 asphalt concrete pavement specified and establish the approved Job Mix Design which will become a part of the Contract.

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 Asphalt Concrete Pavement specified.

No payment for asphalt concrete pavement 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 asphalt concrete mixture 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 asphalt concrete aggregate (coarse, intermediate, and fine). Place blend material 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 prior to delivery to the project. Document the storage tanks used for each batch 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 asphalt concrete mixture according to Subsection 106-1.03. Provide copies of these test results to the Engineer within 24 hours.

Failure to perform quality control forfeits your 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 asphalt concrete mixture. 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 asphalt concrete mixture on a wet surface, on an unstable/yielding roadbed, when the base material is frozen, or when weather conditions prevent proper handling or compaction of the mix. Do not place asphalt concrete mixture unless the roadway surface temperature is 40 °F or warmer.

Add the following second paragraph: Place the top layer of paving or surface course between May 1 and August 15. Place bottom and middle layers of asphalt, leveling courses, and treated bases according to the limitations of this Subsection. (07/03/03)S90-Special Provision

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

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 asphalt concrete mixture production.

Provide a scalping screen at the asphalt plant to prevent oversize material or debris from being incorporated into the asphalt concrete mixture. Provide a tap on the asphalt cement supply line just before it enters the plant (after the 3-way valve) for sampling asphalt cement.

401-3.04 HAULING EQUIPMENT. Haul asphalt mixtures 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 asphalt concrete mixture 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 a 30-foot minimum 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.

Use a screed assembly that produces a finished surface of the required smoothness, thickness and texture without tearing, shoving or displacing the asphalt concrete mixture. Heat and vibrate screed extensions. Place auger extensions within 20 inches of the screed extensions or per 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 as identified in the December 2000 Service Magazine – entitled: New Asphalt Deflector Kit {6630, 6631, 6640}.

The Contractor shall supply a Certificate of Compliance that verifies the required means and methods used to prevent bituminous paver segregation have been implemented.

The Engineer shall approve all means and methods used to prevent bituminous paver segregation before the bituminous paver is used to place bituminous plant mix on the project.

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 asphalt concrete mixtures 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 in conformance with the Plans and Specifications. Prior to 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 tamp in place. Clean, wash, and sweep existing paved surfaces of loose material.
Preparation of a milled surface,

- Prelevel remaining ruts, pavement delaminations, or depressions having a depth greater than 1/2 inch with Asphalt Concrete, Type IV. No density testing is required for the leveling course material. The Engineer will inspect and accept this material.

- If planing breaks through existing pavement remove 2 inches of existing base and fill with Asphalt Concrete, Type II. Notify the Engineer of pavement areas that might be considered thin or unstable during pavement removal.

Existing surface must be approved by the Engineer before applying tack coat.

Prior to placing the asphalt concrete mixture, 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 asphalt concrete mixture 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 asphalt concrete mixture, sampled at the point of acceptance for asphalt cement content, does not exceed 0.5% (by total weight of mix), as determined by WAQTC TM 6.

Heat the aggregate for the asphalt concrete mixture to a temperature specified in the mix design.

Adjust the burner on the dryer to avoid damage to the aggregate and to prevent the presence of unburned fuel on the aggregate. Asphalt concrete mixture containing soot or fuel is considered unacceptable per 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 asphalt concrete mixture 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 asphalt concrete mixture 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 mixture are causes for rejection.

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

Use hand tools to spread, rake, and lute the asphalt concrete mixture 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.

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

During placement of asphalt concrete the Engineer may evaluate the HMA immediately behind the paver for cyclic low density using an infrared camera. Cyclic low density areas are defined as spots or streaks in the pavement that are less than 89 percent of the reference maximum density. If there is a temperature differential that exceeds 25° F within the newly placed mat, low density is likely to occur. The real time thermal images and thermal profile data will become part of the project records shared with the Contractor. The Contractor shall immediately adjust his lay down procedures to correct the problem. If the Engineer observes four or more areas in any given pay lot where the thermal images indicate cyclic low density is probable, he will order those areas to be cored for determination of density. These cores will be evaluated under Subsection 401-4.06.

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 asphalt concrete pavement, the MSG will be determined by the Job Mix Design. 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 accordance with 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 pavement that has not cooled sufficiently to prevent indentation.

401-3.14 JOINTS. Minimize the number of joints to ensure a continuous bond, texture, and smoothness between adjacent sections of the pavement.

Remove to full depth improperly formed joints resulting in surface irregularities. Replace with new, and thoroughly compact.

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

Form transverse joints by saw-cutting back on the previous run to expose the full depth of the course 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 6 inches from the edge of the stripe.

Seal the vertical edge of longitudinal joints with Crafco 34524 Joint Adhesive or approved equal before paving against it. Apply a 1/8 inch thick band of joint adhesive over the surface according to manufacturer's recommendations.

For the top layer of asphalt concrete pavement, 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 in accordance with WAQTC FOP for AASHTO T 166/T 275.

Seal the pavement surface 12 inches on each side of the longitudinal joints while the pavement is clean, free of moisture, and before traffic marking with GSB-78 (from Asphalt Systems), or approved equal.

401-3.15 SURFACE TOLERANCE. The Engineer will test the finished surface after final rolling at selected locations using a 16-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 any asphalt concrete mixture that becomes contaminated with foreign material, is segregated, or is in any way determined to be defective. Do not skin patch. Remove defective materials 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 asphalt concrete mixture per Subsection 401-3.13 to grade and smoothness requirements.

All costs associated with patching defective areas are subsidiary to the Asphalt Concrete pay item.

401-4.01 METHOD OF MEASUREMENT. Item 401(10) Asphalt Concrete, Type II; Class B is a lump sum item and will not be measured separately for payment. Acceptance by the Engineer constitutes acceptance.

401-4.02 ACCEPTANCE SAMPLING AND TESTING. The quantity of each type of asphalt concrete mixture 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. Hot mix asphalt quantities of less than 300 tons remaining after dividing the lot 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. Remove and replace any hot mix asphalt that does not conform to the approved JMD.

Any area of finished surfacing that is visibly segregated, fails to meet surface tolerance requirements is considered unacceptable per Subsection 105-1.11.

1. Asphalt Cement. Samples for the determination of asphalt cement content will be taken from either the windrow in front of the paver, or at the end of the auger, or behind the screed prior to initial compaction. 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 in accordance with ATM 405 or WAQTC FOP for AASHTO T 308.

2. Asphalt Cement Quality. The Contractor shall sample asphalt cement from the asphalt cement supply line when requested, witnessed by the Engineer's representative. After purging residual asphalt cement, take 3 one-quart samples into wide mouth one-quart metal containers. Asphalt cement will be sampled for acceptance testing in accordance with WAQTC FOP for AASHTO T 40 and tested for conformance to the specifications in Section 702. Three separate samples will be taken, one for acceptance testing, one for Contractor retesting, and one held in reserve for referee testing.

3. 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, from the stopped conveyor belt or from the same location as samples for the determination of asphalt cement content. 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 in accordance with WAQTC FOP for AASHTO T 27/T 11. For asphalt concrete mixture samples, the gradation will be determined in accordance with 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. 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 asphalt concrete mixture.

   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. 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 in accordance with WAQTC FOP for AASHTO T 27/T 11. For asphalt concrete mixture samples, the aggregate gradation will be determined in accordance with 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.

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. The original test results for gradation, asphalt cement content, or density 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 or asphalt cement content retesting of the sample from the first sublot of a lot will include retesting for the MSG.

401-5.01 BASIS OF PAYMENT.

Item 401(10) Asphalt Concrete, Type II; Class B will be paid for at the contract lump sum price and shall be full compensation for all labor, equipment, and material necessary to complete the work under this Section. Asphalt cement, anti-stripping additives, tack coat, and crack sealing (401-3.07) are subsidiary to the asphalt concrete pavement.

Payment will be made under:

Pay Item	Pay Unit
401(10) Asphalt Concrete, Type II; Class B	Lump Sum

(07/29/05)R199USC04-Special Provision

SECTION 501

STRUCTURAL CONCRETE

501-1.01 DESCRIPTION. Add the following: Concrete for sign foundations, park facilities, and concrete vaulted toilets shall conform to the following:

1. 5-Sack Concrete. Use for sign bases, footings, ballast and anchors. Commercially produced concrete from a central mixing plant or mixed on site from factory packaged concrete mixture with minimum cement content of 5.0 sacks per cubic yard concrete. Field testing will be required at the discretion of the Engineer, if the Engineer feels the concrete is not being mixed or placed properly. Acceptance will be based on certification by manufacturer that concrete mix meets mix design requirements.

2. 6-Sack Concrete. Use for slabs, pads, sidewalks, curbs, gutters, parking bumpers, and the planter. Commercially produced concrete from a central mixing plant with minimum cement content of 6.0 sacks per cubic yard concrete, plant mix design air entrainment of 4-7 percent, and a slump range of 2 inches-4 inches. Field testing except slump will be required at the discretion of the Engineer, if the Engineer feels the concrete is not being mixed or placed properly. Acceptance will be based on Engineer verification of slump and certification by manufacturer that concrete mix and air entrainment meet mix design requirements.

Subsections 501-3.01 and 501-3.02 do not pertain to 5-Sack Concrete and 6-Sack Concrete. The supplier's plant mix design will be used for the specified cement content and air entrainment for concrete commercially produced at a central mixing plant. Cement content is based on a 94 pound sack. Submit batch and delivery tickets to document cement content and air entrainment.

(01/01/01)PARKS-Special Provision

501-2.01 MATERIALS. Add the following: No testing will be required for the components of 5-Sack Concrete and 6-Sack Concrete although testing will be at the discretion of the Engineer if the Engineer feels that unacceptable materials have been used. Acceptance of materials for 5-Sack Concrete and 6-Sack Concrete commercially produced at a central mixing plant will be based on certification by the central mixing plant that all materials meet the requirements of Subsection 501-2.01. Acceptance of materials for 5-Sack Concrete mixed on site from factory packaged concrete mixture will be based on the Engineer's verification that a factory packaged concrete mixture was used. (01/27/97)PARKS-Special Provision

501-3.01 PROPORTIONING. Under 1. Contractor Mix Design, replace the first sentence with the following: Submit a mix design developed in accordance with ACI 211 and ACI 301, Section 4 to the Engineer for approval. (11/05/02)R37USC02-Special Provision

501-2.01 MATERIALS. Add the following: No testing will be required for the components of 5-Sack Concrete and 6-Sack Concrete although testing will be at the discretion of the Engineer if the Engineer feels that unacceptable materials have been used. Acceptance of materials for 5-Sack Concrete and 6-Sack Concrete commercially produced at a central mixing plant will be based on certification by the central mixing plant that all materials meet the requirements of Subsection 501-2.01. Acceptance of materials for 5-Sack Concrete mixed on site from factory packaged concrete mixture will be based on the Engineer's verification that a factory packaged concrete mixture was used. (01/27/97)PARKS-Special Provision

Add the following Subsection:

501-3.14 TRUCK CLEANUP. The Contractor will arrange with the Engineer for an area to be used for concrete delivery truck cleanup.

(01/01/05)PARKS-Special Provision

SECTION 505

PILING

Add the following Subsections:

505-3.14 CUTTING OFF EXISTING PILES. The existing piles may require leveling. The pedestrian walkway to rest on these piles shall be to the grades as indicated on the Plans.

The cut-off elevations shall be as follows: (See Appendix D for pile number location)

Pile #	Cut-Off Elevation (ft.)
1	21.01
2	21.01
3	21.01
4	21.01
5	21.01
6	21.01
7	21.01
8	21.01
9	21.01
10	21.61
11	21.61
12	21.87
13	21.87
14	21.87
15	21.87
16	21.87
17	21.87
18	21.87
19	21.87
20	21.87

Pile #	Cut-Off Elevation (ft.)
21	21.87
22	22.13
23	22.13
24	22.39
25	22.39
26	22.39
27	22.39
28	22.39
29	22.39
30	22.03
31	22.03
32	22.03
33	22.03
34	22.03
35	23.93
36	26.35
37	22.03
38	23.93
39	22.03

505-3.15 PILE CAPS. The existing pile caps are tack welded to the existing piles. The welds shall be removed in a manner that does not damage the pile or the cap. The piles and the caps shall be coated then the pile caps replaced on the piles. Once the pedestrian walkway is set in place, the pile caps shall be re-tack welded.

505-3.16 COATING OF EXISTING PILES. The existing piles shall be coated from cut-off elevation to ground level. The existing pile caps shall also be coated. The coating shall be metal primer paint as recommended by the enamel paint manufacturer.

505-4.01 METHOD OF MEASUREMENT. Add the following: All labor, material, and equipment to perform the pile cutting off, pile and pile cap coating, and the pile cap removal and replacing will be considered subsidiary to 505(12) Pile Adjustments and will not be measured separately for payment.

505-5.01 BASIS OF PAYMENT. Add the following:

Pile Adjustments. The contract price includes all labor, material, and equipment to perform the work.

Payment will be made under:

Pay Item	Pay Unit
505(12) Pile Adjustments	Lump Sum

(04/01/06)PARKS-Special Provision

SECTION 604

MANHOLES AND INLETS

604-1.01 DESCRIPTION. Replace with the following: This work shall consist of the construction of cast-in-place curb drain in conformance with the Plans.

604-2.01 DESCRIPTION. Replace this Subsection with the following: Concrete shall be 6-sack concrete conforming to Section 501. Reinforcing steel shall conform to the requirements of Section 503. Drain Rock shall conform to Subsection 703-2.13. Steel diamond tread plate and fasteners shall conform to the details on the Plans.

604-3.01 CONSTRUCTION REQUIREMENTS. Add the following: Construct curb drain in accordance with the Plans and Specifications.

604-5.01 BASIS OF PAYMENT. Add the following: At the contract price per unit of measurement for the pay item listed below. All drain rock, incidental materials, equipment, and labor are subsidiary to Item 604(8) Curb Drain.

Payment will be made under:

Pay Item	Pay Unit
604(8) Curb Drain	Each

(01/23/06)PARKS-Special Provision

SECTION 608

SIDEWALKS

608-1.01 DESCRIPTION. Add the Following: Concrete sidewalk area will have cedar construction joints and imprints. The imprinting will be performed by others.
(04/01/06)PARKS-Special Provision

608-2.01 MATERIALS. Replace "Concrete, Class A" with "6-Sack Concrete" in the first paragraph: Concrete for sidewalks shall conform to the requirements of Section 501.
(06/20/95)PARKS-Special Provision

Add the following Subsection:

608-2.02 LUMBER. Lumber shall conform to Section 713. Wood species shall be Western Red Cedar. Use classification Structural No. 2 Grade or Better. Manufacturing classification shall be Dressed (Surfaced) Lumber. Size classification shall be Nominal Size Designations of Boards, Dimension, and Timbers.

Join forms with framing anchors or by toe-nailing. Joints shall be of sufficient strength to resist the pressure of the concrete without movement.

(03/17/06)PARKS-Special Provision

Add the following Subsection:

608-2.03 IMPRINTS. Imprinting material will be supplied by the Department.

(04/01/06)PARKS-Special Provision

608-3.03 CURB RAMPS. Replace this Subsection with the following: Construct curb ramps according to the details and locations shown on the Plans. Follow the construction requirements of Subsection 608-3.01. Give the exposed concrete surface a coarse broom finish. Install detectable warnings. (06/30/04)E01-Standard Modification

Add the following Subsection:

608-3.04 DETECTABLE WARNINGS. Construct detectable warnings according to the details and the locations shown on the Plans. Install cast in place tactile tiles integral with new construction. Install either molded in place epoxy systems, or remove the ramp and replace it with new concrete and integrally attached tactile tile, when retro-fitting existing cured concrete ramps. Install tile so there are no vertical changes in grade exceeding 0.25 inches or horizontal gaps exceeding 0.5 inches. Align pattern on a square grid in the predominate

direction of travel. Detectable warnings are made of composite materials, safety yellow color, slip resistant, with truncated dome pattern.

Detectable warnings shall be manufactured and installed according to the Americans with Disabilities Act Accessible Guideline.

(06/30/04)E20-Stnadard Modification

Add the following Subsection:

608-3.05 IMPRINTING. Imprinting will be done by the Department. The layout of the imprints will be similar to the plans.

The Contractor shall notify the Engineer 10 days prior to pouring. The concrete shall be poured in a sequence that allows others to easily reach the imprint section without damaging the surrounding concrete. The Contractor shall have a worker experienced with concrete set-up to aid in the imprinting operation. The worker will tell the Engineer when the concrete is set-up enough to keep the imprinted shape.

(04/01/06)PARKS-Special Provision

608-4.01 METHOD OF MEASUREMENT. Replace "Curb Ramp" paragraph of Subsection with the following:

Curb Ramp. By each installation, complete in place, including detectable warnings, ramp runs, flares and landings necessary to provide a single street level access.

(06/30/04)E01-Standard Modification

Add the following: 6 inch concrete sidewalk will be measured by the square yard, including the area occupied by permanent interior and exterior form boards. (06/17/94)PARKS-Special Provision

Add the following: All labor and equipment aiding in the concrete sidewalk imprinting operation will be considered subsidiary to 608(1b) Concrete Sidewalk, 6 inches thick, and will not be measured directly for payment.

Sequence pouring of the concrete will be considered subsidiary to 608(1b) Concrete Sidewalk, 6 inches thick , and will not constitute additional payment.

(04/01/06)PARKS-Special Provision

608-5.01 BASIS OF PAYMENT. Add the following: Embankment and bed course materials will be furnished, placed and paid under Sections 203 and 301, respectively.

Backing curb will be subsidiary to Item 608(6) Curb Ramp.

The composite detectable warning tiles are subsidiary to item 608(6) Curb Ramp.

(06/11/02)R256USC-Special Provision

SECTION 609

CURBING

609-2.01 MATERIALS. Replace "Concrete, Class A" in the 1st paragraph with the following: Concrete shall be 6- Sack Concrete conforming to Section 501 except that the slump shall be less than 2 inches for concrete placed by the extrusion or slip-form process. (06/20/95)PARKS-Special Provision

609-3.02 CAST-IN-PLACE CONCRETE CURBING. Add the following to the sixth paragraph: Concrete placed by the extrusion or slip-form process shall have a slump of less than 2 inches. (11/06/02)R202USC02-Special Provision

SECTION 615

STANDARD SIGNS

615-1.01 DESCRIPTION. Add the following: Sign type designations shall conform to the Alaska Traffic Manual.

Custom signs are standard signs that require additional definition of layout, including characters, symbols, borders, size, and color. The drawings included in this Section gives the general layout for the signs. Although the drawings represent the sign panel and border corners as square, the corners are rounded in accordance with the Alaska Traffic Manual. Custom signs that are to be included on this project are as follow:

DESIGNATION	COLOR	DESCRIPTION
CS-1	White on Brown	Information Sign – Volunteer Host
CS-2	White on Brown	Information Sign – Rules
CS-3	White on Brown	Directional Sign – Highway sign to Site
CS-4	White on Brown	Directional Sign – Highway sign to Site
CS-5	White on Brown	Directional Sign – Access road to Site

CS-1 through CS-2 are information signs with design characteristics conforming to MUTCD Chapter 2D. Guide Signs – Conventional Roads except signs have shall white letters on brown background.

(08/03/96)PARKS-Special Provision

CS-3 through CS-5 are directional signs with design characteristics conforming to MUTCD Chapter 2H. Recreational and Cultural Interest Area Signs and MUTCD Chapter 2D. Guide Signs – Conventional Roads except signs have shall white letters on brown background.

(03/08/06)PARKS-Special Provision

615-2.01 MATERIALS. Under item 1. replace the first sentence with the following: Unless Shop Drawings have been provided in the Contract, submit shop drawings for signs that require the use of the Alaska Sign Design Specifications (ASDS), the Department of Transportation and Public Facilities - Sign Face Fabrication Requirements, and the Alaska Traffic Manual, letter width and spacing charts for approval before fabrication.
(11/06/02)R50USC02-Special Provision

Replace the first paragraph of Item 2. with the following:

2. Sign Fabrication. Use Type IV reflective sheeting (for lettering, symbols, borders, and background) on sheet aluminum panels for signs except the following:
(01/01/06)E26-Standard Modification

Add the following under 2. Sign Fabrication: Custom signs shall be fabricated to the dimensions shown. The signs listed below shall have high intensity reflective sheeting with color as specified. White sheeting for symbols, letters, and borders shall match the 3M Scotchlite High Intensity Reflective Sheeting #3870 or #6870. Brown sheeting for background shall match 3M Scotchlite Reflective Sheeting #3879 or #6879.

Layout of custom signs are shown in the Plans. Layout details of custom signs shall conform to the Alaska Sign Design Specifications. (01/01/01)PARKS -Special Provision

Replace the second paragraph of 3. Sign Posts and Bases with the following: Sign installations shall have 2-1/2 inch by 2-1/2 inch perforated steel tube posts with sleeve type concrete foundations. Concrete for steel-reinforced slip base and breakaway foundations shall conform to Section 501, 6-Sack Concrete. Concrete for other sign foundations shall be 5-Sack Concrete. (01/01/01)PARKS -Special Provision

615-3.01 CONSTRUCTION REQUIREMENTS. Replace item 7 with the following:

Deliver sign panels, posts and hardware to the State Maintenance Yard located in ADF&G Rabbit Creek Riffle Range.

615-3.02 SIGN PLACEMENT AND INSTALLATION. Add the following: Do not remove existing signs without authorization from the Engineer. (11/06/02)R50USC02-Special Provision

615-4.01 METHOD OF MEASUREMENT. Add the following: The quantity of custom signs for permanent installation will be measured for payment in accordance with Subsection 615-4.01 in the same manner as standard regulatory, warning and guide signs.

(08/20/93)PARKS-Special Provision

615-5.01 BASIS OF PAYMENT. Replace the first sentence with the following: Sign posts, bases, mounting hardware, and concrete used for sign bases are subsidiary.

Add the following: No separate payment for keeping existing signs in service until they are no longer needed or temporary relocation of existing signs will be made. This work is subsidiary to Item 615(1), Standard Sign.

No separate payment for removal of existing sign post foundations or work required to abandon them in place will be made, but shall be subsidiary to Item 615(1), Standard Sign.

No separate payment for salvaging activities detailed in Subsection 615-3.01 will be made. This work will be subsidiary to Item 615(1), Standard Sign.

(11/06/02)R50USC02-Special Provision

Replace this entire Section with the following:

SECTION 618

SEEDING

618-1.01 DESCRIPTION. This work consists of establishing a perennial stand of grass or other specified living vegetative cover in the areas indicated on the Plans and to acceptably maintain the cover for the term of the Contract.

Topsoil and seed all new or disturbed slopes and any other areas directed by the Engineer. Track soil and apply seed, mulch, fertilizer and water. Provide a living ground cover on all slopes as soon as possible.

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

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

CONSTRUCTION REQUIREMENTS

618-3.01 SOIL PREPARATION. Clear all areas to be seeded of stones 4 inches in diameter and larger and of all weeds, plant growth, sticks, stumps, and other debris or irregularities that might interfere with the seeding operation, growth of grass, or subsequent maintenance of the grass-covered areas.

Make areas to be seeded reasonably free of ruts, holes, and humps.

Apply seed as detailed in Subsection 618-3.03 immediately after the shaping of the slopes. Cover all slopes to be seeded with topsoil in accordance with Section 620. Prepare slopes for seed by "walking" a dozer transversely up and down the slopes, or by grading with a scarifying slope board, as determined by the Engineer. The resultant indentations shall be perpendicular to the fall of the slope. Complete slope preparation as soon as topsoil is placed on the slopes. Rounding the top and bottom of the slopes is acceptable to facilitate tracking and to create a pleasing appearance, but do not disrupt drainage flow lines.

(03/05/02)R52USC-Special Provision

Flat surfaces shall also be topsoiled and prepared by "walking" with a dozer.

618-3.02 SEEDING SEASONS. Seed and fertilize during the local growing season. Do not seed during windy conditions or when climatic conditions or ground conditions would hinder placement or proper growth. The seeding season is from May 15 to September 1

618-3.03 APPLICATION. Apply seed, mulch and fertilizer as follows per 1000 ft^2. Apply seed and mulch in one application using the hydraulic method. Apply all fertilizer with the hydraulic method.

Item	Ingredients	Application Rate (per 1000 S.F.)
Seed Mix	Bering Hairgrass (Norcoast) Red Fescue (Arctared) Blue Joint Reed Grass (Calamagrostis canadensis) Annual Ryegrass (Lolium)	0.60 lbs 0.30 lbs 0.05 lbs 0.05 lbs Total = 1.00 lbs
Mulch		35.0 lbs
Fertilizer	20-20-10	12.0 lbs

The Contractor shall not remove the required tags from the seed bags.

Upon the Engineer's approval, Nortran Tufted Hairgrass may be used as a substitute for Bering Hairgrass if Bering Hairgrass is commercially unavailable. Substitute Bering Hairgrass with Nortran Tufted Hairgrass at the same application rate.

Use the following method unless otherwise specified:

Hydraulic Method.

a. Furnish and place a slurry made of seed, fertilizer, water, and other components as required by the Special Provisions.

b. Use hydraulic seeding equipment that will maintain a continuous agitation and apply a homogeneous mixture through a spray nozzle. The pump must produce enough pressure to maintain a continuous, non-fluctuating spray that will reach the extremities of the seeding area with the pump unit located on the roadbed. Provide enough hose to reach areas not practical to seed from the nozzle unit situated on the roadbed.

c. If mulch material is required, it may be added to the water slurry in the hydraulic seeder after adding the proportionate amounts of seed and fertilizer. Add seed to the slurry mixture no more than 30 minutes before application.

d. Mix the slurry and apply it evenly.

618-3.04 PLANT ESTABLISHMENT AND MAINTENANCE. Protect seed areas against traffic and erosion. Promptly repair surfaces that are gullied or otherwise damaged following seeding by re-grading, reseeding, and re-mulching as needed.

Water and maintain seeded areas until acceptance of the work. Use equipment that can water all seeded areas without damaging the seed bed.

Reseed any areas not showing evidence of satisfactory growth within 3 weeks of seeding.

A reapplication of fertilizer shall be applied with water between May 1 and June 30 of the year following seeding. Re-fertilization shall be applied at a rate of one-half the initial application.

618-4.01 METHOD OF MEASUREMENT.

Seeding by the pound. Weight of seed acceptably placed and maintained. Water, mulch, and fertilizer are subsidiary.

The work described under subsection 618-3.01 Soil Preparation is subsidiary to seeding.

The amounts of fertilizer, seed, mulch and water for application used in this work, including any required reseeding and re-fertilization are subsidiary to other 618 items.

Water used in hydraulic application and maintenance of seeded areas will not be measured directly for payment but will be considered subsidiary to the seeding item.

618-5.01 BASIS OF PAYMENT. At the contract unit price per unit of measurement for the pay items listed below that appear on the bid schedule.

Payment will be made under:

Pay Item	Pay Unit
618(2) Seeding	Pound

(01/01/01)PARKS-Special Provision

SECTION 620

TOPSOIL

620-2.01 MATERIALS. Add the following: Provide topsoil in conformance with Class A.

(11/06/02)R53USC02-Special Provision

SECTION 621

PLANTING TREES AND SHRUBS

621-1.01 DESCRIPTION. Add the following: Plant locations will be staked by the Department. This work shall also include furnishing and installing wood chip mulch, geotextile mulch and edging as detailed on the plans. (01/01/05)PARKS-Special Provision

621-2.01 PLANT STOCK. Add the following:

Tree Species	Root Condition	Minimum Size	Comments
White Spruce (Picea Glauca)	Container or Ball & Burlap	12" - 18" High	Field Collected or Field Grown
Shrub Species	**Root Condition**	**Minimum Size**	**Comments**
Pacific Red Elder (Sambucus racemosa)	Container	9"-18" High	Field Collected or Field Grown
Prickly Rose (Rosa acicularis)	Container	9"-18" High	Field Collected or Field Grown
Potentilla (Potentilla fruticosa)	Container	6"-12" High	Nursery Grown
Native Iris (Iris setosa)	Container	6"-12" High	Nursery Grown

Field collected plants are local plants harvested in Alaska. Field grown plants are plants field grown in Alaska nurseries. Nursery grown plants are plants grown in any nursery.

621-2.02 FERTILIZER. Replace with the following: Fertilize all trees and shrubs with slow release tablet, stake, or packet form fertilizers having a minimum two year release period, as approved by the Engineer. Place tablet, stake, or packet form fertilizer near the root zone at the time of planting in accordance with manufacturer's recommendations.

621-2.05 BACKFILL MIX. Replace this Subsection with the following: Backfill Mix shall be Class A Topsoil conforming to Section 726. Prepare backfill mix for planting by mixing in a water retention additive at the manufacturer's recommended application rate.

Add the following Subsections:

621-2.08 WOOD CHIP MULCH. Wood chip mulch shall consist of spruce, Douglas fir, pine, or hemlock wood or bark and shall not contain resin, tannin, or other compounds in quantities that are detrimental to plant life. Approximately 95 percent of the chips by volume shall be .2 inches to 1.6 inches in length.

621-3.03 PLANTING. Replace item 1 with the following:

1. Plant Season.

    a. Locally Grown: Plant between May 1 and September 15.

    b. Imported: When plants are shipped in from out-of-state, handling shall be in accordance with the nursery recommendations. Plants imported from out-of-state shall be planted between June 1 and August 15.

Delete the second, third, and fourth sentences of paragraph 3b.

Replace paragraph b. of item 5., Placing Plants, with the following:

    b. Handle balled and burlapped plants, and plants in wire baskets or containers by the earth ball, container, or basket and not be the plant itself. Clip wire baskets completely off the root ball. Strip and trim burlap from the top half of the root ball after the plant has been placed in the hole. Remove discarded wire baskets, burlap and containers from the site. The Engineer may reject plants whose rootballs break or collapse during planting.

Add the following to item 5., Placing Plants:

    d. Plant trees and shrubs as shown on the plans.

621-3.04 PERIOD OF ESTABLISHMENT. Replace the first sentence with the following: The Period of Establishment for trees and shrubs shall extend to August 1, 2007.

621-3.06 PLANT REPLACEMENTS. Replace the first sentence with the following: Prior to completion of the Period of Establishment, all trees, shrubs, and vines not alive and healthy during the plant season, shall be immediately replaced by the Contractor with plants of the same species, size and quality at no expense to the Department.

621-4.01 METHOD OF MEASUREMENT. Replace this Subsection with the following: The quantity to be paid for shall be the actual number of trees and shrubs furnished, planted and maintained through Period of Establishment, and as accepted by the Engineer.

Wood chip mulch will not be measured for payment.

621-5.01 BASIS OF PAYMENT. Add the following: Furnishing and installing wood chip mulch, edging, water retention additive, tree wrap, staking and guying will not be not be paid for separately, but will be subsidiary to Items 621(1) Trees, and 621(2) Shrubs.
(05/01/95)PARKS-Special Provision

SECTION 641

EROSION, SEDIMENT, AND POLLUTION CONTROL

641-1.02 DEFINITIONS. Under Item 1. add the following to the end of the last sentence: BMP: Add ", most recent revisions." (10/27/05)R272USC04-Special Provision

Add the following to Item 2.: The ESCP can be found under Appendix C. (10/27/05)R272USC04-Special Provision

Under Item 5. after "EPA Form 3510-9 add the following: ", most recent revisions." Add the following: "eNOI. Electronic notice of intent to begin ground disturbing activities under the NPDES General Permit." (10/27/05)R272USC04-Special Provision

Under Item 6. Change EPA Form number to 3510-13. (10/27/05)R272USC04-Special Provision

Replace Subsection 641-1.03 with the following:

641-1.03 SUBMITTALS. For projects that disturb one acre or more of ground submit three 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 no less than five calendar days before the preconstruction conference.

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 having been approved by the Department. The approved SWPPP must contain a certification and be signed by an authorized representative according to the Standard Permit Conditions of the NPDES General Permit Part 8, Appendix G. The Contractor must receive written notification from the Department that the SWPPP has been approved before the Contractor submits the Contractor's original NOI to EPA. NOIs can be submitted by Certified Mail or through the EPA's electronic NOI system (eNOI).

For regular U.S. Mail delivery:

EPA Storm Water Notice Processing Center
Mail Code 4203 M
U.S. EPA
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

For Overnight/Express mail delivery:

EPA Storm Water Notice Processing Center
Room 7420
U.S. EPA
1201 Constitutional Avenue, NW
Washington, D.C. 20004

For electronic mail, the Contractor must register online with EPA at: *http://cfpub.epa.gov/npdes/stormwater/enoi.cfm*. This website has instructions and guidance on how to set up and use the eNOI system.

(10/27/05)R272USC04-Special Provision

Delete paragraphs 3 and 4 and add the following:

The Contractor shall not begin ground disturbing activities until the Engineer has issued the Contractor a written statement that the EPA has listed the Contractor's NOI and the Department's NOI as active.

The Department will submit the approved SWPPP to ADEC that will include both the Contractor's and Department's NOIs. The Department will transmit the Department's NOI to the EPA.

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.

(10/27/05)R272USC04-Special Provision

Replace paragraph 6, with the following: When the Contractor receives written notice from the Department that the project is stabilized, submit signed NOT to EPA with a copy to the Engineer. The Department will transmit the Department's NOT to the EPA. (01/27/05)R272USC04-Special Provision

641-2.01 STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS. Add following to the end of the third sentence: "most recent revisions." (07/05/05)R272USC05-Special Provision

Add the following Subsection:

641-2.04 RUNOFF SETTLING DITCH. Material for Runoff Settling Ditch shall conform to the following:

Drain Rock	Subsection 703-2.13
Filter Sand	Subsection 703-2.14
Geotextile, Separation	Subsection 729-2.01

(04/04/06)PARKS-Special Provision

641-3.01 CONSTRUCTION REQUIREMENTS. Replace this Subsection in it's entirety with the following:

Postings.

Do not begin ground disturbing work until receiving written notification from the Engineer that the EPA has acknowledged receipt of the Contractor's NOI and the department's NOI, and has listed them as active status. The EPA will post the status of the NOIs on the EPA website.

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

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/or other materials hazardous to the land, air, water, and organic life forms. Perform all 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.

Inspections.

Perform inspections and prepare inspection reports in compliance 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 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 1/2 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.

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

c. 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 state Form 25D-100, with 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 complies 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, Part 8, Appendix G. Include reports as an appendix to the SWPPP.

Retain copies of the SWPPP and all 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 because 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.

Submit a signed NOT to EPA and a copy to the Engineer:

1. Upon receipt of written notification from the Engineer the project site (including material sources, disposal sites, etc.) has been finally stabilized and storm water discharges from construction activities authorized by this permit have ceased, or

2. When the construction activity operator (as defined in the NPDES General Permit) has changed and the Engineer provides written notification that the Contractor's responsibilities with respect to compliance with the NPDES GP on the project have ceased.

Penalities.

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 all aspects of the work are coordinated in a satisfactory manner.

If the Contractor fails to:

1. Pursue 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 Engineer may, after giving written notice, proceed to perform such work and deduct the cost thereof, including project engineering costs, from progress payments.

(10/27/05)R272USC04-Special Provision

Add the following Subsection:

641-3.02 RUNOFF SETTLING DITCH. Construct Runoff Settling Ditch in accordance with the Plans and Specifications. During excavation for Runoff Settling Ditch, take special care to preserve and salvage existing vegetative mat for reuse. The vegetative mat shall be harvested with turf intact, minimum 9 square feet in area and 6-8 inches in thickness per mat. Vegetative mat shall be replaced on top of filter sand to produce a smooth, homogenous looking, finished surface.

(04/04/06)PARKS-Special Provision

641-4.01 METHOD OF MEASUREMENT. Add the following: Item 641(7) Runoff Settling Ditch is a lump sum item and will not be measured separately for payment. Acceptance by the Engineer constitutes measurement. Work associated with salvaging and replacing vegetative mat shall be considered subsidiary to Item 641(7) Runoff Settling Ditch. (04/04/06)PARKS-Special Provision

641-5.01 BASIS OF PAYMENT. Add the following after subitem 4.:

5. Item 641(7) Runoff Settling Ditch. At the lump sum price shown on the bid schedule to provide all labor, material, equipment, and incidentals necessary to complete Runoff Settling Ditch in accordance with the Plans and Specifications.

Payment will be made under:

Pay Item	Pay Unit
641(7) Runoff Settling Ditch	Lump Sum

(04/04/06)PARKS-Special Provision

SECTION 642

CONSTRUCTION SURVEYING AND MONUMENTS

642-3.02 CROSS-SECTION SURVEYS Add the following:

Top of Selected Material, Type A red tops and top of base course blue tops are required.

The Contractor shall be responsible for original ground (after-grubbing) and after-excavation cross sections of any unclassified excavation.

The Contractor shall measure original ground and after excavation cross sections for excavation and aggregates measured by the cubic yard. Original ground, after excavation, after fill cross-sections shall be taken at identical stations so that no interpolation of data is needed to calculate end areas.

Where an exact placement is not shown on the Plans, the Department will be responsible for field locating the structures, signs, and mounds. The Contractor shall provide the Engineer with sufficient horizontal and vertical control to enable the Engineer to field locate these facilities. The Contractor shall be responsible for all surveying required to construct the field located item.

(01/01/06)PARKS-Special Provision

642-3.03 MONUMENTS. Replace the second sentence of the first paragraph and with the following: Reference property markers/corners, monuments or accessories which may be disturbed or buried during construction. Prepare and record Monument Record Forms in the appropriate Recorder's Office before disturbing monuments. Monument Record Forms may be obtained from the Engineer. Reestablish monuments in their original position before the completion of the Project. Then, prepare and file a Monument Record Form for each reestablished monument.

642-4.01 METHOD OF MEASUREMENT. Add the following: Clearing required for stake visibility shall not be measured. Maintenance of stakes will not be measured.

642-5.01 BASIS OF PAYMENT. Add the following after the first paragraph: Where the bid item for Reference Existing Monument does not appear in the bid schedule, work necessary to reference existing monuments and prepare and file Monument Record Forms is subsidiary to Item 642(1), Construction Surveying. Five (5) percent of the contract lump sum bid price for Item 642(1) will be withheld until the Monument Record Forms are prepared and recorded in the local Recorder's Office. Where the bid item for Reference Existing Monument does appear in the bid schedule, work associated with preparing and recording the Monument Record Forms is subsidiary to Item 642(9), Reference Existing Monument. Payment will not be

processed payment of Item 642(9) until the Monument Record Forms are prepared and recorded in the local Recorder's Office.

Clearing required for stake visibility is subsidiary to Item 642(1) and no separate payment shall be made.

(2/25/05)R61USC04-Special Provision

SECTION 643

TRAFFIC MAINTENANCE

643-1.01 DESCRIPTION. Add the following: The site shall be closed to the public for the duration of the construction operations for the project. The Contractor shall supply acceptable traffic control devices to adequately communicate the closure to the public.
(05/01/06)PARKS-Special Provision

Add the following as a third paragraph: Illuminate construction activities listed in Table 643-3 during hours of night work on roads open to the public within project limits.
(06/01/05)R276USC04-Special Provision

643-1.02 DEFINITIONS. Add the following paragraphs after paragraph titled "Construction Phasing Plan":

Balloon Light: Light surrounding by a balloon-like enclosure kept inflated by pressurized air or helium, and producing uniform light through 360 horizontal degrees. The top half of the balloon enclosure shall be constructed of an opaque material.

Night Work: Work occurring between sunset and sunrise on all days except the "No Lighting Required" period shown in the table below:

Latitude	No Lighting Required		Nearby
(degrees)	Start	End	Cities
< 61	Lighting Required All Year		Everything S of Hope
61	June 11	July 1	Anchorage, Valdez, Girdwood
62	June 2	July 13	Wasilla, Palmer, Glennallen, Talkeetna
63	May 27	July 17	Cantwell, Paxson, McGrath
64	May 22	July 21	Delta Junction, Nome, Tok
65	May 18	July 25	Fairbanks
66	May 14	July 29	Circle City
67	May 10	August 2	Coldfoot, Kotzebue
68	May 7	August 6	Galbraith Lake
69	May 3	August 9	Happy Valley
70	April 30	August 12	Deadhorse
71	April 27	August 15	Barrow
72	April 24	August 19	

(06/01/05)R276USC04-Special Provision

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 non-street legal vehicles and the motoring public. The Traffic Control plan shall specify the traffic control devices required for these operations. (04/08/05)R222USC04-Special Provision

643-1.04. WORKSITE SUPERVISOR. Add the following to Item 2. Duties:

i. Supervise lighting of Night Work.

(06/01/05)R276USC04-Special Provision

643-2.01 MATERIALS. Under Item 16. Flagger., 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. (01/01/06)E28-Standard Modification

Add the following:

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

(04/08/05)R222USC04-Special Provision

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. (01/01/06)E28-Standard Modification

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.

(04/08/05)R222USC04-Special Provision

643-3.04 TRAFFIC CONTROL DEVICES.

In the sixth paragraph and also in Item 4.b, replace the words "ATTSA" with: ATSSA (American Traffic Safety Services Association. (01/01/06)E28-Standard Modification

Replace the first sentence of the eighth paragraph with the following: Items paid under this Section remain the Contractor's property unless stated otherwise. (04/08/05)R222USC04-Special Provision

Add the following to item 1. Embankments.: Close trenches and excavations at the end of each continuous work shift. (04/08/05)R222USC04-Special Provision

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. (04/08/05)R222USC04-Special Provision

Replace item 4.b. with the following: Flagger Certification by ATSSA. (04/08/05)R222USC04-Special Provision

Replace item 6 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.

(04/08/05)R222USC04-Special Provision

Change items 7 and 8 to 8 and 9 respectively. (04/08/05)R222USC04-Special Provision

643-3.05 AUTHORITY OF THE ENGINEER. Add the following after the second sentence: In no case shall this time exceed 24 hours. (04/08/05)R222USC04-Special Provision

643-3.06 TRAFFIC PRICE ADJUSTMENT. Add the following to the first paragraph: 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. (04/08/05)R222USC04-Special Provision

Replace Table 643-1 with the following:

TABLE 643-1
ADJUSTMENT RATES

Published ADT	Dollars/Minute of Delay/Lane
0-9,999	$30
10,000+	$40

643-3.09 INTERIM PAVEMENT MARKINGS. In the second paragraph, delete the words "or cover them with black removable preformed marking tape." (04/08/05)R222USC04-Special Provision

Add the following new Subsection:

643-3.10 LIGHTING OF NIGHT WORK Illuminate the night work areas specified in Table 643-2 to the light levels specified.

Table 643-3 does not provide a comprehensive list of operations that require lighting. Provide lighting for other operations when necessary.

Table 643-3

Type of Work/ Equipment	Lighting Configuration
Paving, Milling, Striping, Pavement Marking Removal, Rumble Strip Installation	At least 2 machine-mounted balloon lights with a cumulative wattage of at least 4000 watts. Provide additional lights or wattage if necessary to provide complete coverage.
Rolling, pavement sweeping	At least 4 sealed beam halogen lamps in the front and four in the back. Each should be at least 55 watts.
Flagging	One light plant with 4 - 1000 watt metal halide lamps illuminating the flagger located within 50' of the normal flagger location. Orient to avoid creating glare for drivers.
Truck Crossings (meaning where haul vehicles cross or enter a road):	One light plant with 4 - 1000 watt metal halide lamps located in a manner that will illuminate haul vehicles approaching the crossing. Orient to avoid creating glare for drivers. If it is not possible to illuminate both the flagger and haul vehicles at flagger controlled crossings, provide an additional light plant of the same type.
1) with roads with ADTs over 10,000 or	
2) that are controlled by portable signals or flaggers	

Install lighting in a manner that minimizes glare for motorists, workers, and residents living along the roadway. Locate, aim, louver, and/or shield light sources to achieve this goal. When feasible, orient floodlights at 90 degrees to the direction of traffic flow.

The Engineer shall be the sole judge of when glare is unacceptable, either for traffic or for adjoining residences. When notified of unacceptable glare, modify the lighting system to eliminate it.

If the Contractor fails to meet required lighting equipment or provides lighting that creates unacceptable glare at any time, the Contractor shall cease the operations that requires illumination until the condition is corrected.

Lighting equipment shall be in good operating condition and in compliance with applicable OSHA, NEC, and NEMA codes.

Provide suitable brackets and hardware to mount lighting fixtures and generators on machines and equipment. Design mountings so lights can be aimed and positioned as necessary to reduce glare. Locate mounting brackets and fixtures so they don't interfere with the equipment operator or overhead structures. Connect fixtures securely in a manner that minimizes vibration.

Ensure ground, trailer, and equipment mounted light towers are sturdy and freestanding without the aid of guy wires. Towers shall be capable of being moved to keep pace with the construction operation. Position ground and trailer mounted towers and trailers to minimize the risk of being impacted by traffic on the roadway or by construction traffic or equipment.

Raise trailer or equipment mounted lights to maximum height, except do not exceed the clearance required for overhead objects such as trees, aerial utilities, or bridges. Aim and adjust lights to provide the required light levels. Provide uniform illumination on the hopper, auger, and screed areas of pavers. Illuminate the operator's controls on machines uniformly.

Furnish each side of nonstreet legal equipment with a minimum of 75 square inches high intensity retroreflective sheeting in each corner, so at least 150 square inches of sheeting is visible from each direction. Provide red sheeting on the rear of the equipment and yellow sheeting elsewhere.

Existing street and highway lighting and conventional vehicle headlights do not eliminate the need for the Contractor to provide lighting meeting the requirements of Table 643-2.

Provide sufficient fuel, spare lamps, spare generators, and qualified personnel to ensure that required lights operate continuously during nighttime operations. Ensure generators have fuel tanks of sufficient capacity to permit operation of the lighting system for a minimum of 12

hours. In the event of failure of the lighting system, discontinue the operation until the required level and quality of illumination is restored.

Maintain a supply of at least 20 emergency flares for use in the event of emergency or unanticipated situations. Comply with local noise ordinances.

Provide NCHRP 350-compliant breakaway bases for post mounted electroliers located within the clear zone.

(06/01/05)R276USC04-Special Provision

Add the following new Subsection:

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

1. Tops.

   Wear fluorescent vests, jackets, or coverall tops at all times. Furnish each vest, jacket, or coverall top with at least one 360 degree horizontal retroreflective band around the torso; and two vertical retroreflective bands that begin at the horizontal band or lower in front, reach over the shoulder, and end at the horizontal band or lower back. Furnish each jacket and coverall top with two horizontal retroreflective bands on each sleeve; one above and one below the elbow.

2. Bottoms.

   Wear fluorescent red-orange pants or coverall bottoms during nighttime work (sunset to sunrise). Flaggers shall wear fluorescent red-orange pants or coverall bottoms at all times. Furnish each pants or coverall bottom with two horizontal retroreflective bands on each leg.

3. Raingear.

   Raingear tops and bottoms, when worn as the outer visible surface or layer, shall conform to the requirements listed in this Subsection 643-3.11.

4. Exceptions.

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

5. Standard.

High visibility garments shall conform to the requirements of ANSI/ISEA 107-2004, Class 2 for tops or Class E for bottoms, and Level 2 retroreflectivity.

6. Labeling.

   Garments shall be labeled according to Section 10.2 of ANSI/ISEA-107-2004; except garments may be labeled to conform to ANSI/ISEA 107-1999 until 01/01/2008.

7. Condition.

   Furnish and maintain vests, jackets, coverall, raingear, hard hats, and other apparel in a neat, clean, and presentable condition. Maintain retroreflective material to Level 2 standards.

(01/01/06)E28-Standard Modification

643-4.01 METHOD OF MEASUREMENT. 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) Traffic Maintenance. (04/08/05)R222USC04-Special Provision

643-5.01 BASIS OF PAYMENT. Add the following: Payment for high visibility clothing for workers is subsidiary to other items. (01/01/06)E28-Standard Modification

Add the following:

16. Work Zone Illumination. Payment for work zone illumination is subsidiary to other items.

(06/01/05)R276USC04-Special Provision

SECTION 644

SERVICES TO BE FURNISHED BY THE CONTRACTOR

Add the following Subsection:

644-2.06 SANITARY FACILITIES. Furnish and maintain porta-potty at the rate of one each per every ten (10) persons at the project site. Furnish and maintain until project completion.

Porta-potty shall contain minimum polyethylene walls and door, a durable locking system, non-flushing unit with holding tank, and toilet paper.

Porta-potty shall be emptied of all waste per manufacturer's recommendations.

(12/29/03)PARKS-Special Provision

644-3.01 METHOD OF MEASUREMENT Add the following:

Porta-Potty. Will not be measured for payment but shall be considered subsidiary to 640(1) Mobilization and Demobilization. Emptying and maintaining of Porta-potty will not be measured for payment but shall be considered subsidiary to 640(1) Mobilization and Demobilization.

(12/29/03)PARKS-Special Provision

SECTION 646

CPM SCHEDULING

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 fourteen (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.

(12/13/02)R261M98-Special Provision

646-3.01 REQUIREMENTS AND USE OF SCHEDULE.

Delete item 2. 60-Day Preliminary Schedule.

(12/13/02)R261M98-Special Provision

Replace the first sentence of item 3. Schedule Updates. with 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-Special Provision

Add the following Section:

SECTION 647

EQUIPMENT RENTAL

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 hand tools, power tools, electric power generators, welders, small air compressors and other shop equipment needed for maintenance of the construction equipment.

The Engineer will provide direction to the Contractor's supervisory personnel only, not to the operators or laborers. In no case shall direction 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, 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 kinds, sizes, capacities, and other requirements set forth shall be understood to be minimum requirements. The number of pieces of equipment to be furnished and used shall be, as the Engineer considers necessary for economical and expeditious performance of the work. The equipment shall be used 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 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 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.

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.

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.

Furnish equipment, tools, labor, and materials in the kinds, number, and at times directed by the Engineer and shall begin, continue, and stop 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, which shall be verified and signed by the Contractor's representative at the end of each shift, and a copy will be 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 is actually engaged in the performance of work in the designated areas according to the direction of the Engineer. The pay time will not include idle periods, time used in oiling, servicing, or repairing of equipment, or in making changeovers of parts to the equipment. Travel time to or from the work site project will not be authorized for payment.

647-5.01 BASIS OF PAYMENT. Payment for Item 647(2) Wide Pad Dozer, 65 HP Minimum will be paid at the contract price for the number of hours required to complete the work according to the engineers direction. This shall be full compensation for furnishing, operating, maintaining, servicing and repairing the equipment, and for 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 extra compensation.

Payment will be made under:

Pay Item	Pay Unit
647(2) Wide Pad Dozer, 65 HP Minimum	Hour

(08/24/05)R15USC-Special Provision

Add the following Section:

SECTION 650

PARK FACILITIES

650-1.01 DESCRIPTION. This work shall consist of furnishing, constructing and placing park facilities in conformance with the plans and Special Provisions.

650-1.02 APPLICABLE ACCESSIBILITY STANDARD. Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities.

650-1.03 SUBMITTALS AND SUBSTITUTIONS. Conform to Subsection 106-1.01.

MATERIALS

650-2.01 GENERAL. All materials shall be new and conform to the details shown on the Plans or as specified.

650-2.02 BACKFILL. Selected Material, Type A conforming to Subsection 703-2.07.

650-2.03 CONCRETE. 5-Sack and 6-Sack Concrete conforming to Section 501.

650-2.04 STRUCTURAL STEEL. Structural steel shall conform to the requirements of ASTM Specification A36 (Standard Specification for Carbon Structural Steel).

650-2.05 GALVANIZING. Conform to AASHTO M111/ASTM A123 (Standard Specification for Zinc [Hot-Dip Galvanized] Coatings on Iron and Steel Products), or AASHTO M232/ASTM A153 (Standard Specification for Zinc Coating[Hot-Dip] on Iron and Steel Hardware). Repair damaged galvanizing by using low melting point zinc repair rods in conformance with ASTM A780-00 (Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings).

650-2.06 LUMBER. Conform to Section 713. Wood species shall be Douglas Fir, Western Hemlock or Hem-fir unless otherwise specified.

1. Dimensional. Dimensional lumber and timbers are shown on the plans in nominal dimensions, i.e.; 2x4, indicating surfaced four sides (S4S) or planed material. Use classification for light framing shall be Construction Grade. Use classification for structural joists and planks shall be No. 2 Grade or Better. Manufacturing classification shall be Dressed (Surfaced) Lumber. Size classification shall be Nominal Size Designations of Boards, Dimension, and Timbers.

2. Rough Cut. Unless otherwise indicated, rough cut lumber and timbers are shown on the plans in actual dimensions, i.e.; 2"x4", indicating rough cut material. Use classification shall be Structural Lumber, No. 2 Grade or Better. Manufacturing classification shall be Rough Lumber. Size classification shall be Rough Dry Sizes.

650-2.07 TREATED LUMBER. Wood species conforms to Subsection 650-2.06.

Treatment shall be as follows:

1. Above Ground Applications. Preservative pressure treatment shall conform to Section 714. Pressure treat with preservative Ammonical Copper Quat - Type A,B,C, or D(ACQ-A,B,C, or D) or Copper Azole – Type A (CBA-A). Minimum retention shall be 0.40 pounds per cubic foot or to refusal. Treated materials shall be uniformly brown in color and nonincised. This type of treated lumber is commonly used for residential decks for above ground applications. Incising may be used on 4x and thicker material to obtain minimum retention.

2. Ground Contact Applications. Preservative pressure treatment shall conform to Section 714. Pressure treat with preservative Ammonical Copper Quat - Type A,B,C, or D(ACQ-A,B,C, or D) or Copper Azole – Type A (CBA-A). Minimum retention shall be 0.60 pounds per cubic foot. Exposed treated materials shall be pigmented uniformly brown in color by manufacturer.

650-2.08 COMPOSITE LUMBER. Composite lumber shall be a combination of at least 50% wood by weight and the remainder thermoplastic polymer plastic. The final product shall have a minimum density of 55 pcf and have UV, fungus, and insect resistant properties. Composite members shall have minimum compressive strength of 550 psi as determined by ASTM D198; tensile strength of 250 psi as determined by ASTM D198; and shear strength of 200 psi as determined by ASTM D143. Color shall be as determined by the Engineer.

650-2.09 FLASHING AND SHEET METAL. Exposed fastener metal roof system with panel base metal steel conforming to ASTM A-446, Grade 80, (80,000 psi minimum tensile strength) with a protective coating of zinc-aluminum alloy conforming to ASTM A-924/ASTM A-792, 45 percent zinc and 55 percent aluminum by weight applied to a thickness of 1.9 mils. Alternate coatings proposed for substitution will not be accepted. Exterior paint finish to be a 0.8 mil Acrylic Emulsion finish coat over a 0.2 mil baked-on acrylic primer. Exterior color to match Denali Green by IMSA Building Products Inc. Interior paint finish to be a 0.25 mil off-white backer over a 0.15 mil baked-on acrylic primer.

1. Roof Panels. Minimum 29 gauge, 36 inch net width panel with 9 inch on center roll-formed profile pattern consisting of three evenly spaced ribs, one tall rib followed by two shorter ribs.

2. Gable Trim and Universal Ridge. Shall be approximately 6 inches wide.

3. Closure Strips. Polyethylene foam type to fit panel profile or 1 inch by 1 inch universal closures.

4. Sidelap Mastics. Closed cell neoprene butyl.

5. Fasteners. Metal to wood fasteners as recommended by the manufacturer. Fastener length should assure penetration of at least one inch into the wood. Fastener heads shall be pre-painted the same color as roof panels.

650-2.10 FASTENERS. Commercial quality and type of nails and screws as required to securely hold all members in place in accordance with National Design Specifications. Nails shall be hot dipped galvanized. All other fasteners shall be corrosion resistant. Fasteners in pressure treated wood shall be hot dipped galvanized. Nails and wood screws below grade in pressure treated wood shall be stainless steel.

650-2.11 STANDARD PARK PADLOCK. Master Lock No. 1 with 5/16 inch shackle diameter, 15/16 inch vertical clearance, 3/4 inch horizontal clearance, 1-3/4 inch case width, and keyed alike to a key number provided by the Engineer specific to the Park area. Provide two keys with each padlock.

650-2.12 PAINT. Unless otherwise specified, use the following paint types and colors, or approved equals:

1. Solid Oil Stain. Exterior oil/alkyd flat finish stain, color "Russet". DF7XX as manufactured by Fuller O'Brien / Devoe Products, Russet as manufactured by Pittsburgh Paint Company, Behr Plus 10 Solid Stain #354 Russet, or Olympic Russet as manufactured by PPG Architectural Finishes, Inc. Submit color samples of proposed substitutions for approval.

2. Semi-Transparent Oil Stain. Exterior alkyd based stain, color to match solid oil stain "Russet". Stains for pressure treated wood shall be recommended by manufacturer for use on pressure treated wood.

3. Clear Oil Stain. Non-pigmented penetrating exterior alkyd base stain formulated for water repellency.

4. Metal Primer Paint. As recommended by enamel paint manufacturer.

5. Enamel Paint. Exterior alkyd base gloss enamel. Color to match solid oil stain color.

6. Concrete Sealer. Clear acrylic copolymer conforming to AASHTO M148/ASTM C 309 (Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete, for Type 1 Compounds).

7. Above Ground Wood Preservative. Brown preservative with active ingredient of minimum 9.08 percent copper naphthenate (equivalent to minimum 1 percent metallic copper). Color to be approved by Engineer.

8. Below Ground Wood Preservative. Preservative with active ingredient of minimum 16 percent copper naphthenate (equivalent to minimum 2 percent metallic copper).

9. End Cut Preservative for Treated Wood. Brown preservative with active ingredient of minimum 10 percent copper naphthenate (equivalent to minimum 1 percent metallic copper). Color to match preservative pressure treatment color.

Paint that has been frozen or is out of date shall be replaced at no additional cost to the Department.

650-2.13 SIGNS. Fabricate sign panels to the dimensions shown on plans. Metal sign panels shall be 0.080 inch thick alloy 6061-T6, 5052-H36, or 5052-H38 aluminum. Wood sign panels shall be medium density overlay plywood. Signs shall have Type II (medium intensity) reflective sheeting background with color as specified. White high intensity sheeting for symbols, letters, and borders shall match 3M Scotchlite Reflective Sheeting #3290. Brown medium intensity sheeting for background shall match 3M Scotchlite Reflective Sheeting #3279.

650-2.14 PICNIC TABLE. Steel picnic table frames shall have 2-3/8 inch O.D. galvanized pipe legs with minimum 1/8 inch wall thickness, and galvanized hardware as follows:

2 each	Welded Pipe End Frame
2 each	Pipe Brace (minimum 15/16 inch O.D.) with bolts, washers, and nuts.
1 each	Table Top Center Channel or Angle (minimum 1/8 inch)
26 each	3/8 inch x 2-1/4 inch Carriage Bolt with nut and washers.

Similar to Model XT/G-6P_/E as manufactured by Pilot Rock (R.J. Thomas Manufacturing Co, Inc.); Box 772; Cherokee, Iowa 51012; 1-800-762-5002 (712) 225-5452.

The tie down anchor system shall consist of 1/8 inch diameter high strength galvanized steel tie down cable with a 2 foot long treated wood anchor. Tie down cable shall be wrapped around anchor and connected back to cable with swaged sleeves. Provide one standard Park padlock for each table.

Seat and table top lumber shall be composite lumber as described under this Section. Composite lumber shall be 6 foot long 2x8's for the seats and 8 foot long 2x8's for the table top configured to be in compliance with ADA requirements.

650-2.15 PARK BENCH, TYPE B.

1. Stationary Model. Six foot long stationary contour park bench, Homestead Series Model 28 by Victor Stanley, Inc. (1-800-368-2573), Model SWRB/G-6 by Pilot Rock Park Equipment (1-800-762-5002), Model RJT-WRB/G-6 by Upbeat, Incorporated (1-800-325-3047), or approved equal.

   Bench shall have two each one piece, welded end frames consisting of an angled back and seat bracket of 3/8 inch thick by 4 inch flat steel bar and steel post leg for permanent installation in concrete footing. Steel posts shall be 2-1/2 inch square tube or 3 inch diameter pipe. Frames shall be galvanized or black powder coated after fabrication.

   Eight or nine each 3x4 or 3 inch by 4 inch slats mount with 3/8 inch carriage bolts to the angled back and seat brackets. Slats shall be redwood or preservative pressure treated pine or fir, surfaced four sides, drilled for bolts, shall have all exposed edges removed to a 3/8 inch radius, and shall have factory applied clear sealer.

2. Surface Mount Model. Six foot long surface mount contour park bench, Homestead Series Model 28 by Victor Stanley, Inc. (1-800-368-2573), Model PWRB/G-6 by Pilot Rock Park Equipment (1-800-762-5002), Model RJT-WRB/G-6 by Upbeat, Incorporated (1-800-325-3047), or approved equal.

   Bench shall have two each one piece, welded end frames consisting of an angled back and seat bracket of 3/8 inch thick by 4 inch flat steel bar, steel post leg, and surface mount foot of 3/8 inch thick by 4 inch flat steel bar. Steel posts shall be 2-1/2 inch square tube or 3 inch diameter pipe. Frames shall be galvanized or black powder coated after fabrication.

   Eight or nine each 3x4 or 3 inch by 4 inch slats mount with 3/8 inch carriage bolts to the angled back and seat brackets. Slats shall be redwood or preservative pressure treated pine or fir, surfaced four sides, drilled for bolts, shall have all exposed edges removed to a 3/8 inch radius, and shall have factory applied clear sealer.

650-2.16 SPOTTING SCOPE. Public use commercial grade telescope with weatherproof housing. Viewer head removable from column for storage by unlocking pedestal cap barrel lock. No coin chute shall be ordered or provided, special instructions must be given to manufacturer to set the scope to operate with coin chute removed. The telescope shall have the following characteristics of the Model Mark One Telescope as manufactured by See Coast Manufacturing Company, Inc. or approved equal:

Height:	57 Inches
Weight:	85 Pounds
Castings:	356 Aluminum Alloy
Column:	4-1/2 Inch Diameter Aluminum Stanchion
Color:	Gray
Base:	N/A
Telescope Width:	9 Inches
Telescope Length:	24 Inches
Housing Movement:	360° Rotation, 33° Up and 40°Down
Power/Field of View:	20x, 121' at 1,000 Yards
Coin Chute:	None
Timing Mechanism:	None

See Coast Manufacturing Company, Inc., Fairhope, Alabama 36533, Telephone (800) 343-8882, (205) 928-8882, Facsimile (205) 928-8909.

650-2.17 PEDESTRIAN WALKWAY. Conform to the Plans. Lumber shall be surfaced four sides and preservative pressure treated for above ground application.

650-2.18 CONCRETE PLANTER. Concrete shall be 6-Sack. Conform to Section 501. Templates for designs to be inlaid on the wall will be supplied by the Department. Imprinting material for the cap will be supplied by the Department.

650-2.19 TRIPOD REST. Lumber shall be surfaced four sides and preservative pressure tread.

650-2.20 CONCRETE PARKING BUMPER. Conform to Standard Drawing P-6, Parking Bumper.

650-2.21 INTERPRETIVE KIOSK, TYPE B. Conform to the Plans. Interpretive panel frame and bulletin board frame shall be surfaced four sides clear cedar. Column bases shall be painted or corrosion resistant and embedded in wet concrete for subsequent connection of wood post to concrete footing. Size column base to dimension of post. Rough cut posts shall have commercially fabricated column bases inset a maximum of 1/2 inch. If commercial bases cannot meet the 1/2 inch requirement, custom fabricate full dimension column bases. Stirrup shall be provided with holes for two galvanized bolts with washers. Similar to Simpson CB88R.

Post Size	Base Plate Gage & Dimension	Stirrup Material	Post Bolts	Allowable Uplift Load
8" X 8"	7 ga & 8" X 8"	3 ga x 3" strap	2 each 3/4"	6,650 pounds

650-2.23 ENTRANCE SIGN. Conform to the Plans. Sign frame shall be surfaced four sides clear cedar. Column bases shall be painted or corrosion resistant and embedded in wet

concrete for subsequent connection of wood post to concrete footing. Size column base to dimension of post. Posts shall have commercially fabricated column bases inset a maximum of 1/2 inch. If commercial bases can't meet the 1/2 inch requirement, custom fabricate full dimension column bases. Stirrup shall be provided with holes for two galvanized bolts with washers. Similar to Simpson CB88R.

Post Size	Base Plate Gage & Dimension	Stirrup Material	Post Bolts	Allowable Uplift Load
8" X 8"	7 ga & 8" X 8"	3 ga x 3" strap	2 each 3/4"	6,650 pounds

Entrance sign wording shall be as shown in the Plans

650-2.24 INTERPRETIVE SIGN, TYPE D. Conform to the Plans for Interpretive Sign, Type D. Aluminum for back plate to conform to ANSI 6061-T6. Provide one pin-in-head torx machine bold driver per sign.

CONSTRUCTION REQUIREMENTS

650-3.01 GENERAL. The location shown on the drawings for park facilities placement are approximate. The Engineer will field locate park facilities at the time of construction.

650-3.02 EXCAVATION AND BACKFILL. Conform to the requirements of Section 204 and the details on the plans.

650-3.03 CONCRETE. Conform to the requirements of Section 501 and the details on the Plans.

650-3.04 STRUCTURAL STEEL. Welding to conform to American Welding Society D1.1.

650-3.05 WOOD. Competent carpenters shall be employed and all framing shall be true and exact. Unless otherwise specified, nails and spikes shall be hand driven with just sufficient force to set the heads flush with the surface of wood. Power nail guns are prohibited. All non-removable shipping, storage, weathering and erection marks on fabricated lumber shall be hidden from view in the completed work. Use of damaged lumber shall not be allowed. Store on-site lumber above the ground and protected from damage and weathering.

Holes for round drift-bolts and dowels shall be bored with a bit 1/16 inch smaller in diameter than that of the bolt or dowel used. Holes for machine and carriage bolts shall be bored with a bit of the same diameter as that of the bolt. Holes for lag screws shall be bored with a bit not larger than the body of the screw at the root of the thread.

Unless otherwise specified, USS flat washers shall be used in contact with all bolt heads and nuts that would otherwise be in contact with wood.

650-3.06 PAINT. Deliver in sealed containers with labels legible and intact. Remove dirt, grease, oil and other construction debris prior to painting. Ensure that surfaces to be painted are even, smooth, sound, clean, dry, and free from defects affecting proper application. Metal surfaces to receive paint shall be corrosion free. Apply per manufacturer's recommendations. Apply paint material evenly without runs, sags, or other defects. Work each coat into the material being coated at an average rate of coverage recommended by the manufacturer. Cover surfaces completely to provide uniform color and appearance. Remove all paint, stain, or other finish material where it has spilled or spattered.

1. General. Unless otherwise specified, schedule finishes as follows:

   a. Non-Treated Wood, Surfaced. Finish surfaces not scheduled to receive stain or clear oil stain with wood preservative.

   b. Non-Treated Wood, Rough Cut. Saturate below and above ground surfaces not scheduled to receive stain with wood preservative.

   c. Treated Wood, Hidden. Dado cuts, cut ends, drilled holes and field cuts in wood materials shall be brush coated to saturation with end cut preservative.

   d. Treated Wood, Exposed. Saturate cut surfaces with scheduled finish. Finish surfaces not scheduled to receive stain with wood preservative.

   e. Concrete and Masonry. Seal exposed surfaces.

   f. Metal. Prime and paint exposed metal surfaces that are not fabricated of corrosion resistant material or galvanized.

2. Picnic Table.
   a. Wood. Composite Lumber, No Finish Required
   b. Metal. Galvanized, No Finish Required

3. Park Bench, Type B.
   a. Wood. Factory Applied Clear Sealer
   b. Metal. Powder Coated or Galvanized, No Additional Finish Required

4. Double Entrance Gate.
   a. Metal. Primer and Heavy Duty Aluminum Enamel Paint

5. Spotting Scope. Factory Applied Gray Enamel Finish

6. Pedestrian Walkway.
   a. Wood, Visible surfaces and Between Decking. Semi-Transparent Oil Stain
   b. Non-Galvanized Metal. Primer and Enamel Paint

7. Concrete Planter.
   a. Concrete. Sealer

8. Tripod Rest.
   a. Wood. Clear Oil Stain

9. Concrete Parking Bumper.
   a. Concrete. Sealer

10. **Interpretive Kiosk, Type B.**
   a. Interpretive/Bulletin Board Frame and Exposed T&G Wood. Clear Oil Stain
   b. Other Wood. Semi-Transparent Oil Stain
   c. Metal. Primer and Enamel Paint
   d. Bulletin Board Sound Board. Off White Flat Latex Paint

11. Entrance Sign.
   a. Clear Cedar. Clear Oil Stain
   b. Other Wood. Semi-Transparent Oil Stain
   c. Metal. Primer and Enamel Paint

12. **Interpretive Sign, Type D.**
   a. Other Wood. Solid Oil Stain
   b. Back Plate. Aluminum, No Finish Required
   c. Other Metal. Primer and Enamel Paint

650-3.07 PICNIC TABLE. Construct in accordance with Standard Drawing C-1, Picnic Table. Bury anchor a minimum of 2-1/2 feet. Wrap anchor cable around table braces at center of table and connect back to cable with swaged sleeves.

650 3.08 PARK BENCH, TYPE B. Install stationary model bench with concrete foundation in accordance with plans and manufacturer's recommendations.

Attach surface mount model bench to concrete and wood deck surfaces in accordance with manufacturer's recommendations. Install additional blocking under wood decking at bench attachment locations. Remove all decals and stickers from bench.

650-3.09 SPOTTING SCOPE. Install with concrete foundation in accordance with plans and manufacturer's recommendations.

650-3.10 PEDESTRIAN WALKWAY. Special attention shall be pad to minimizing damage to existing vegetation (trees and ground cover) in the process of constructing the pedestrian walkway. Walkway will utilize the existing piles for support.

A pile brace shall connect existing piles supporting a shared beam in which the piles are spaced 6.5 feet apart or less. The pile braces shall be connected in accordance with section 505, "Code for Welding in Building Construction" of the American Welding Society, the currently adopted International Building Code, and American Welding Society Standard D1.1.

All carriage bolts shall be cut flush within ¼" of the nuts and ground smooth.

Deck boards, posts, and rail posts shall be installed full length. No splicing will be allowed. Use scarf nailing joints between continuous pieces of the top rail and face boards. All joints for the railing not occurring on angle points shall occur on the 4x4 Posts. When joints occur at angle points and where a post is not located, use commercial fasteners as indicated on the Plans.

Construct the built-in benches as shown on the Plans. Use Continuous lengths of wood. Splice wood only at angles. Install armrests as indicated on the Plans. Place 2x2x6 wood blocking on the underside of the bench for each connection point where the armrests attach. Use carriage bolts long enough to go through the thickness of the materials.

650-3.11 CONCRETE PLANTER. Construct in accordance with the Plans. The Contractor shall notify the Engineer 10 days prior to pouring / casting this item. Imprinting will be done by the Department. The layout of the imprints will be similar to the plans.

The Contractor shall provide labor experienced with concrete set-up to aid in the imprinting operation. The worker will tell the Engineer when the concrete is set-up enough to keep the imprinted shape.

650-3.11 CONCRETE PARKING BUMPER. Construct in accordance with Standard Drawing P-6, Parking Bumper.

650-3.12 ENTRANCE SIGN. Construct in accordance with the Plans. The design for the graphics on the sign will be supplied by the Department. It will be the Contractor's responsibility to give this design to the sign maker.

650-3.13 INTERPRETIVE SIGN, TYPE D. Construct in accordance with the Plans for Interpretive Sign, Type D.

650-3.14 INTERPRETIVE KIOSK, TYPE B. Construct in accordance with the Plans.

650-4.01 METHOD OF MEASUREMENT. Park facilities with the unit measure each will be measured by the actual number of facilities completed and accepted.

Excavation and embankment for park facilities outside the limits shown on the plans will be measured for payment only if directed by the Engineer. Excavation and backfill required for items paid for under this Section will not be measured for payment.

Built-in benches, pile bracing, and all fasteners and hardware shall be considered subsidiary to 650(12) Pedestrian Walkway and will not be measured separately for payment. All labor, equipment, and materials required to construct the Pedestrian Walkway shall be considered subsidiary to 650(12) Pedestrian Walkway and will not be measured separately for payment.

650-5.01 BASIS OF PAYMENT. The accepted quantity of park facilities will be paid for at the contract unit price per unit of measurement for the type specified completed in place, and listed below excluding all clearing, grubbing, topsoil and crushed aggregate base course, which shall be paid for separately at contract unit prices.

ADA Accessible models of a park facility item will be compensated at the same unit price as the standard model.

Payment will be made under:

	Pay Item	Pay Unit
650(1)	Picnic Table	Each
650(3B)	Park Bench, Type B	Each
650(11)	Spotting Scope	Each
650(12)	Pedestrian Walkway	Lump Sum
650(17)	Concrete Parking Bumper	Each
650(24)	Tripod Rest	Each
650(30B)	Interpretive Kiosk, Type B	Each
650(38)	Entrance Sign	Each
650(40D)	Interpretive Sign, Type D	Each
650(45)	Concrete Planter	Lump Sum

(01/23/06)PARKS-Special Provision

Add the follow Section:

SECTION 651

WASTEWATER SYSTEM

651-1.01 DESCRIPTION. Furnishing all materials, equipment, and labor necessary to construct a Wastewater System as shown on the Plans.

MATERIALS

651-2.01 BACKFILL. Selected Material, Type A conforming to Section 703-2.07.

651-2.02 DRAIN HATCH. As specified on the Plans.

651-2.03 HIGH DENSITY POLYETHYLENE PIPE (HDPE). HDPE pipe shall be used to provide wastewater conduit from the wash down basin drain hatch to the steel distribution sump. HDPE pipe and fittings shall conform to Section 706.

651-2.04 HOLDING TANK. Latest International Plumbing Code requirements. Fabricate with 3/16 inch steel in conformance with holding tank detail on the Plans. Coat tank inside and outside with an approved bituminous sealant. Alternative tank design may be used upon approval from the Project Engineer.

651-2.05 MANHOLE COVER. Fabricate using 3/16 inch steel and coat with same bituminous sealant used on holding tank. Cover must firmly attached to manhole flange and provide a watertight fit.

651-2.06 HOLDING TANK INSPECTION/CLEANOUT PIPE. Schedule 40 PVC pipe.

651-2.07 HOLDING TANK INSPECTION/CLEANOUT PIPE CAP. Lockable cap, Clay and Bailey Fillcap model #CB232-4 or equal.

651-2.08 LIQUID LEVEL APPARATUS. Manufactured by Anchorage Tank & Welding, Inc., or approved equal.

651-2.09 LIQUID LEVEL ALARM. Orenco Systems, Inc. Sentinel 2 Liquid Level Alarm or approved equal.

651-2.10 CONCRETE. 5-Sack and 6-Sack Concrete conforming to Section 501.

651-2.11 PIPE FITTINGS. Manufactured by Fernco, Nibco, or other approved manufacturer. Use fittings suited for burial and fasten with T-316 stainless steel clamps.

CONSTRUCTION REQUIREMENTS

651-3.01 SITE WORK. Excavation and backfill shall conform to Subsection 204-3.01 and the details on the Plans. Excavate to a depth of 12 inches below bottom of tank and backfill with material conforming to 651-2.01. For bedding and backfill to a depth of 12 inches below bottom of tank to 12 inches above top of tank, material shall also pass the 3 inch sieve. Utilize native material for the remainder of the backfill.

651-3.02 GENERAL. Wastewater system flow lines, excavation, bedding, and backfill shall be installed accurately to the planned lines and grades and kept clean of all foreign matter. All piping and connections are to be installed with suitable fittings, couplings, connectors, and adapters per the Plans, Specifications, and manufacturers' recommendations.

651-3.03 HOLDING TANK INSTALLATION. Furnish and install a holding tank and related appurtenances in accordance with the Plans and Specifications. Repair scrapes, dents, or any other type of tank or coating damage prior to installation. Install inspection/clean out pipe caps flush with the finish ground surface. Holding tank bedding and backfill shall be constructed in accordance with Subsection 204-3.01. Testing requirements shall conform to Subsection 106-1.03.

651-3.04 LIQUID LEVEL ALARM. Install alarm and the liquid level apparatus in accordance with manufacturer's recommendations and the details on the Plans. Attach alarm to the side of the apparatus using approved tamper proof one-way screws. Provide one 9 volt battery for the alarm.

651-3.05 CONCRETE BASIN. Install in accordance with the Plans. Provide tight fit at junction of drain hatch, pipe, and concrete. Apply hard trowel finish to concrete.

651-4.01 METHOD OF MEASUREMENT. Wastewater System is a lump sum item and will not be measured directly for payment. System components and items necessary to complete an operational system will be considered subsidiary to this item and will not be measured separately for payment. This item will be considered complete when it is operational. Excavation and backfill of the holding tank will be a subsidiary obligation.

651-5.01 BASIS OF PAYMENT. Wastewater System will be paid for at the contract lump sum price.

Payment will be made under:

Pay Item	Pay Unit
651(2) Wastewater Holding Tank	Lump Sum

(01/23/06)PARKS-Special Provision

Add the following Section:

SECTION 654

VAULTED TOILET

654-1.01 DESCRIPTION. Provide all labor, materials, and equipment and services necessary to furnish and install accessible pre-manufactured concrete toilet and vaults finished and complete with all accessories and incorporating Sweet Smelling Technology.

Concrete Vaulted Toilet shall be the following or approved equivalent:

Manufacturer:	CXT Precast Products
Style:	Double Rocky Mountain with Chase Area
Roof Texture & Color:	Simulated Cedar Shakes in Java Brown
Exterior Wall Texture & Color:	Horizontal Lap with Simulated Stone in Sand Beige
Other:	Marine Package
	654-2.05 Signs shall comply

If Concrete Vaulted Toilet is the approved equivalent, the toilet shall comply with the remainder of this section.

654-1.02 CODES AND STANDARDS.

ACI 211.1 - Standard Practice for selecting Proportions for Normal, Heavyweight and Mass Concrete.
ADA - Americans with Disabilities Act
ASTM C 33 - Specification for Concrete Aggregates
ASTM C 39 - Test Method for Compressive Strength of Cylindrical Concrete Specimens
WAQTC FOP for AASHTO T119 - Test Method for Slump of Hydraulic Cement Concrete
ASTM C 150 - Specification for Portland Cement
ASTM C 192 - Method of Making and Curing Test Specimens in the Laboratory
PCI MINL 116 - Quality Control for Plants and Production of Precast Prestressed Concrete Products

654-1.03 DESIGN REQUIREMENTS. Units must meet or exceed "Sweet Smelling Technology" (SST) as developed by Briar Cook of the U.S. Forest Service. Vault Clean-outs must be lockable and outside the toilet enclosure.

Units shall also meet 120mph wind loading, 250 lbs/sq.ft. snow loading and seismic zone 4 earthquake requirements in accordance with the current version of the IBC.

Paint: Dunn Edwards, Dupont, Fuller O'Brien, Preservative Paint, Sherwin Williams, United Coatings.

Accessories:

Toilet Risers:	Romtec, Inc., Roseburg, Oregon or approved equal
Grab Bars:	ASI, Bobrick, Mckinney/Parker, Seachrome
Toilet Paper Dispenser:	Romtec, Inc., Aslin or approved equal
Double Coat Hook:	TSM, ASI, Bobrick, Ives
Signs:	Screen Tek, Inc.; Letters Unlimited or approved equal

654-2.03 MANUFACTURED UNITS: Pre-fabricated concrete toilet structure shall be provided by the Contractor. The Contractor shall provide the necessary equipment and materials to install the vaulted structures.

Toilets: Double vault toilets shall be "Double Rocky Mountain with Chase Area" by CXT Precast Products 3808 N. Sullivan Road, Building #7, Spokane, Washington 99216, 1-800-663-5789, or approved equal meeting these specifications. Both vaults shall be accessible. Texture shall "horizontal lap with simulated stone" on walls and "cedar shake" texture on roof as produced by CXT Precast Products or approved equal. Provide colors for board, stone, and roof.

Vaults: One piece, 4 inch thick steel reinforced concrete, 1,000 gals. capacity each with bottoms sloped to cleanout and with one piece vault liner cast in place.

Vault Liners: One sheet black ABS/752 virgin plastic. Initial sheet thickness shall be a minimum of 0.375 inch with a final stamped thickness of a minimum of 0.060 inch. The vault liner shall have molded dovetail embeds to attach the liner to the concrete walls of the vault. The vault liner shall have two J-rails to attach the liner to the bottom of the vault. Vaults with the ABS liner shall be warranted against leads for a period of seven years into or out of the vault itself.

Concrete - General: The concrete mix design shall be designed to ACI 211.1 to produce concrete of good workability.

Concrete shall contain a minimum of 610 pounds of cement per cubic yard. Cement shall be a low alkali type I or III conforming to ASTM C150. Coarse aggregates used in the concrete mix design shall conform to ASTM C33 with the designated size of coarse aggregate #67. Minimum water/cement ratio shall not exceed 0.45. Slump shall not exceed 4 inches.

Air-entraining admixtures shall not be used without approval of the Engineer.

Colored Concrete: The following items shall contain colored concrete:

Toilet building roof panels; Building walls; Screen panels

Color additives will conform to ASTM C979.

The same brand and type of color additive shall be used throughout the manufacturing process. All ingredients shall be weighed and the mixing operation shall be adequate to ensure uniform dispersion of the color. Wall panel color and roof color shall be Sand Beige and Java Brown, respectively, as identified by CXT Precast Products, Inc. or approved equivalent.

Cold Weather Concrete: Concrete shall not be placed if ambient temperature is expected to be below 35° F. during the curing period unless heat is readily available to maintain the surface temperature of the concrete to at least 45° F. Materials containing frost or lumps of frozen materials shall not be used.

Hot Weather Concrete: The temperature of the concrete shall not exceed 80° F at the time of placement and when the ambient reaches 90° F, the concrete shall be protected with moist covering.

Concrete Reinforcement: All reinforcing steel will conform to ASTM A615. All welded wire fabric will conform to ASTM A185. All reinforcement will be new, free of dirt, oil, paint, grease, loose mill scale and loose or thick rust when placed.

Full lengths of reinforcing steel shall be used when possible. When splices are necessary on long runs, splices shall be alternated from opposite sides of the component for adjacent steel bars. Lap bars #4 or smaller a minimum of 12 inches. Lap bars larger than #4 a minimum of 24 bar diameters.

Steel reinforcement shall be centered in the cross-sectional area of the walls and shall have at least 1 inch of cover on the under surface of the floor and roof. The maximum allowable variation for center to center spacing of reinforcing steel shall be 1/2 inch.

Reinforcing bars shall be bent cold. No bars partially embedded in concrete shall be field bent unless approved by the Engineer.

Sealers and Curing Compounds: Curing compounds, if used, shall be colorless. Weather-proofing sealer for exterior of building shall be a clear water repellent penetrating sealer.

Caulking, Adhesive and Grout: All caulking shall remain flexible and non-sag at temperatures from 50° to 140° Fahrenheit. Interior joints shall be caulked with a paintable rubber-based caulk. Exterior joints will be caulked with a tripolymer sealant caulk which compliments the exterior color.

Epoxy concrete adhesive will be two-component, rigid, non-sag gel adhesive for bonding to dry or damp surfaces, moisture insensitive. Color shall compliment surrounding concrete as nearly as possible.

Grout shall be water-proof and resistant to alkali and freeze-thaw cycles. It shall be painted to match the color of surrounding concrete as nearly as possible.

Cement base coating shall be formulated with a very fine aggregate system and a built in bonding agent.

Caulking between vault and toilet floor to be 1 inch x 1 inch Butyl tape designed specifically to bond precast concrete to precast concrete

Steel Doors and Frames: Doors shall be 3 feet x 6 feet 8 inches, flush panel type, 1-3/4 inches thick, minimum 18 gauge prime-coated steel panels, minimum 12 gauge internal bracing channels, 14 gauge edge reinforcement, rigid foam plastic core, SDI grade II, model 2. Hinge reinforcement shall be 10 gauge minimum.

Door frames shall be welded type, single rabbet, minimum 16 gauge prime-coated steel, width to suit wall thickness, SDI grade II. Hinge reinforcement shall be 10 gauge minimum.

Doors and door frames shall be reinforced to accept butts, deadlock and strike.

Doors and frames shall be factory treated with a three stage iron phosphate and given one shop coat of synthetic resin, rust-inhibitive alkyd enamel primer.

Hardware: finish shall be BHMA 630 (Satin Stainless Steel)/US32D.

Hinges (Butts): Three per door. Hinges shall be ANSI 156.1, BHMA 5112, full mortise, ball bearing design with a stainless steel non-removable pin, stainless steel, 4-1/2 inches x 4-1/2 inches.

Strikes: Mortised ANSI strikes with strike boxes.

Handle: Pull plate shall be a barrier free round grip pull plate with 2-1/2 inch handle clearance, 3/4 inch diameter by 8 inch long handle, 316 stainless steel with dull finish. Plate shall be 3-1/2 inch x 15 inch and .050 inch thick.

Deadbolt: Heavy duty single cylinder deadbolt with 2-3/4 inch backset, ANSI 156.5 Grade 1, US26D, U.L. Listed. Deadbolt shall be Schlage Model B660P or approved equal. Deadbolt shall be keyed to accept Schlage Series C, No. 56349. Provide two keys per deadbolt.

Trim: Series 1000, Grade 2.

Closers: shall be ANSI 156.4, BHMA C02022, Grade 1, similar to LCN 4041 (5 lb. closing force), heavy duty parallel arm, Cush mount, metal cover or approved equal accepted by the Contracting Officer. Closers shall be equipped with extreme temperature fluid and capable of adjustments for latches, closing speed and back check intensity. Closers shall have a corrosion protective coating on all metal surfaces.

Door Stop: Door stop shall be ANSI 156.16, BHMA LO2252, cast brass; rubber, 1-3/4 inch diameter bumper, convex pad, 1 inch projection, base thickness of 1/8 inch.

Wall Stop: Wall stop shall be ANSI 156.16, BHMA LO2252, brass; rubber, 2-7/16 inch diameter bumper, convex pad, 13/16 inch projection.

Door Silencers: Door silencers shall be BHMA LO3011. Three (3) rubber door silencers shall be provided on latch side of frame.

Door Sweep: Provide door sweep at the bottom of door. Polypropylene pile, adjustable brush type, 1/4 inch x 1-1/2 inches, Pemko 18062 CP or approved equal.

Wall Louvers: Louvers shall be 12 inches x 12 inches, fixed, inverted split Y, non-vision, 18 gauge cold rolled steel with a factory prime coat equal to FDLS series. One in each restroom.

Windows and Frames: Window frames shall be constructed from steel. Window glazing shall be 1/4 inch thick translucent LEXAN polycarbonate with a pebble finish.

Vault Cleanout Covers: Plate for vault cleanout cover shall be 1/4 inch thick, diamond plate steel. Lid shall be hinged and configured so that it can be locked with a padlock. Provide a neoprene gasket around the entire perimeter of lid for an airtight seal.

Paint: All paints and materials shall conform to all Federal specifications. Paints shall not contain more than .06 percent by weight of lead. Color shall be as selected from manufacturer's standard palette by the Engineer.

Types of paints for toilets:

Interior Stain - "Canyon Tone Stain" by United Coatings or approved equal. Stain shall be single-component, water-based, and quick setting. Color shall be white. Inside stain shall be sealed with "Monocryl 50"

clear acrylic semi-gloss, water-repellent sealer by United Coatings or approved equal.

Floor Paint - "Armorseal Floor-plex 7100" by The Sherwin-Williams Company or approved equal. Shall be glossy, two component, water based epoxy floor coating capable of withstanding heavy traffic. Color shall be gray.

Floor Anti-Slip Additive - "SharkGrip" by H&C Beautiful Concrete Protection or approved equal.

Trim Paint - "Direct-To-Metal Enamel" by The Sherwin-Williams Company or approved equal. Enamel shall be a semi-gloss high-build alkyd coating with rust-inhibitive properties. Color shall be white.

Exterior Walls and Roof - Water repellent penetrating stain in the same color as the walls and/or roof followed by a clear acrylic anti-graffiti sealer.

Exterior slab shall be clear sealer

654-2.04 ACCESSORIES:

Toilet Risers: Toilet riser shall be cross-linked polyurethane. Toilet risers shall have a heavy duty seat and lid, and constructed with high-impact polystyrene. Risers shall be mounted at an 18 inch height from floor to top of seat. All mounting materials shall consist of stainless steel hardware.

Grab bars: Grab bars shall be 18 gauge, type 304 stainless steel with 1-1/2 inch clearance. Grab bars shall each be able to withstand 300 pound top loading. Grab bars shall be either two separate bars with supports each end, one 36 inches (914 mm) and the other 42 inches long or a single "L" shaped bar with 3 supports and one leg 54 inches long and the other 36 inches – 42 inches long.

Toilet Paper Dispenser (Two per Toilet Riser): Dispenser shall be constructed of 1/4 inch thick, 304 type stainless steel with a satin finish. Dispenser shall be capable of holding two standard rolls of toilet paper; 18 inch x 2 inch, "restricted" type and have a heavy duty locking feature. Toilet paper dispenser mechanical attachment system shall withstand 300 pound top loading.

Double Coat Hook: Coat hooks shall be constructed of stainless steel and have tamper-proof mounting screws.

Vent Riser: Shall be 12 inch I.D., unpainted, black, polyethylene vent pipe.

654-2.05 SIGNS.

1. General

Layout details of custom signs not shown shall conform to the Alaska Sign Design Specifications.

Base Material:	Solid color, alloy 6061-T6 aluminum
Base Color:	Brown
Total Thickness:	0.080 inch
Size:	Uniform for all signs, large enough to accommodate text and pictograms, 6 x 9 inches minimum
Edges:	Rounded

2. Raised Character Size and Style: Solid color, metal, character adhered to or integral with base material –

Character Color:	White
Background Color:	Brown
Sign Material:	Reflective sheeting shall be Type II (medium intensity)
Character Thickness:	1/32 inch
Height:	12 inch x 12 inch
Edges:	Square
Character Font:	Helvetica
Character Case:	Upper and lower
Braille:	Grade II
Text:	See Below

PLEASE HELP

Help lower maintenance costs by properly disposing of trash and not placing trash in toilet.

Please close toilet lid

THANK YOU

3. Raised Pictogram Size and Style: Solid color, metal, character adhered to or integral with base material –

Character Color:	White
Background Color:	Brown
Character Thickness:	1/32 inch
Size:	6 inch minimum Square
Edges:	Rounded
Character Font:	International Symbol
Mounting Hardware:	Mechanical, tamper resistant
Braille:	Grade II
Text:	"Toilet"
Pictograms:	Men & Women ("Unisex") and accessibility

654-2.06 BEDDING. Bedding material for the concrete vaulted toilet shall be aggregate base course, grading D-1, and shall meet all the requirements of Section 301.

FABRICATION AND CONSTRUCTION

654-3.01 SITE WORK. Excavation and backfill shall conform to Subsection 204-3.01 and the details on the plans. Finish ground profile to slope away from the building except for areas that abut adjacent sidewalk or parking areas. Place aggregate base course extending a minimum 1 foot from all sides of the concrete floor at up to the floor finish grade except for areas that abut adjacent sidewalk or parking areas.

654-3.02 MIXING AND DELIVERY OF CONCRETE. Mixing and delivery of concrete will be in accordance with ASTM C94, section 10.6 through 10.9 with the following additions:

1. Aggregate and water will be adjusted to compensate for differences in the saturated surface-dry condition.
2. Concrete will be discharged as soon as possible after mixing is complete. This time will not exceed 30 minutes.

654-3.03 PLACING AND CONSOLIDATING CONCRETE. Concrete will be consolidated by the use of mechanical vibrators. Vibration will be sufficient to accomplish compaction but not to the point that segregation occurs.

654-3.04 FINISHING CONCRETE. Interior floor and exterior slabs will be floated and troweled. A light broom finish will be applied to the exterior slab.

All exterior top portions of the building walls and exterior screen walls will be a board & batt siding texture. The bottom section of the walls will be a field stone textured stone finish.

All exterior surfaces of the roof panels will be cast to simulate a cedar shake roof. The underside of the overhang will have a smooth finish.

654-3.05 CRACKS AND PATCHING. Cracks in concrete components which are judged to affect the structural integrity of the building will be rejected. Small holes, depressions and air voids will be patched with a suitable concrete material. The patch will match the finish and texture of the surrounding surface. Patching will not be allowed on defective areas if the structural integrity of the building is affected.

654-3.06 CURING AND HARDENING CONCRETE. Concrete surfaces will not be allowed to dry out from exposure to hot, dry weather during initial curing period.

654-3.07 STRUCTURAL JOINTS. Wall components will be joined together with two welded plate pairs at each joint. Each weld plate will be 6 inches long and located one pair in the top quarter and one pair in the bottom quarter of the seam. Weld plates will be anchored into the concrete panel and welded together with a continuous weld. The inside seams will be a paintable caulk. The outside seams will use a caulk in a coordinating building color or clear. Walls and roof will be joined with weld plates, 3 inch x 6 inch, at each building corner. The joint between the floor slab and walls will be joined with a grout mixture on the inside, a matched colored caulk on the outside and two weld plates 6 inches long per wall.

654-3.08 PAINTING/STAINING. An appropriate curing time will be allowed before paint is applied to concrete. Some applications may require acid etching. A 30% solution of hydrochloric acid will be used, flushed with water and allowed to thoroughly air dry. Painting will not be done outside in cold, frosty or damp weather. Painting will not be done outside in winter unless the temperature is 50 degrees F. or higher. Painting will not be done in dusty areas.

654-3.09. TESTING. The following tests will be performed on concrete used in the manufacture of toilets. Testing will only be performed by qualified individuals who have been certified ACI Technician Grade 1. Sampling will be in accordance with ASTM C172.

1. The slump of the concrete will be performed on the first batch of concrete in accordance with ASTM C143. This slump will be in the 3-4 inch range. Slump may be increased using chemical admixtures provided that the concrete maintains same or lower water to cement ratio and does not exhibit segregation. Slump will never exceed 9 inches.
2. The air content of the concrete will be checked per ASTM C231 on the first batch of concrete. The air content will be in the range of 5.5% +/- 1%.
3. The compressive strength of the cylinders will be tested to ASTM C39. We will make one (1) cylinder for release, one (1) for 7 days and one (1) for 28 days. The release must be a minimum strength of 2500 psi, the 7-day must be a minimum of 4500 psi and the 28-day must be a minimum of 5000 psi.
4. A copy of all test reports will be available to the customer as soon as 28-day test results are available.

654-3.10 EXCAVATION AND ELEVATION. Excavate for the installation of the toilet vault to a depth that will allow the structure site to be free draining after installation is completed. Allow for a 2 inch leveling course beneath the toilet vault. Stockpile topsoil in a separate pile at sites.

No excavation will be left open more than seven days unless otherwise approved by the Engineer. All excavations left open overnight will be fenced with wire mesh or plastic mesh fence secured to steel posts all around the excavation.

654-3.11 BEDDING, BACKFILL AND COMPACTION. Backfill and compaction shall conform to the requirements of Section 203 and Section 301. Rocks larger than six inches in maximum dimension shall not be placed within six inches of the exterior vault walls.

654-3.12 FINISH GRADING. Final grade shall be flush with the top of the front slab. Grade backfill away from the structure at maximum slope of five percent unless otherwise approved by the Engineer.

654-3.13 VAULT TOILET RISER. Polyurethane caulk will be applied between toilet riser flange and concrete floor before the toilet riser is installed.

654-3.14 EXHAUST PIPE INSTALLATION. After exhaust pipe is installed, seal around pipe at top and underside of roof with polyurethane caulk. Seal around pipe at top of floor slab will be accomplished by using polyurethane caulk.

654-3.15 SIGNS. Position signs level, 60 inches above finished floor (AFF) to the center and on the deadbolt side of the door.

654-3.16 GRAB BARS. Mount grab bars at 33-36 inches above finished floor.

654-3.17 TOILET PAPER DISPENSERS. Mount toilet paper dispensers at 19 inches minimum above finished floor to center for accessible units and 16 inches minimum above finished floor to center for standard units. Mount toilet paper dispensers at 36 inches maximum from rear wall.

654-3.18 COAT HOOKS. Mount coat hooks at 54 inches maximum above finished floor in accessible units.

654-4.01 METHOD OF MEASUREMENT. Measurement will be the actual number of pre-manufactured vaulted toilets completed and accepted. Excavation, embankment, and leveling course required for Concrete Vaulted Toilet construction are considered subsidiary to this item and will not be measured separately for payment.

Work required in preparing and acquiring the necessary City and Borough of Sitka permit for the construction and installation of the concrete vaulted toilet and paying the applicable fees will be considered subsidiary to 654(2) Concrete Vaulted Toilet.

654-5.01 BASIS OF PAYMENT. The accepted quantity of pre-manufactured vaulted toilets will be paid for the contract unit price for each Concrete Vaulted Toilet completed and in conformance with the plans and specifications.

Payment will be made under:

Pay Item	Pay Unit
654(2) Concrete Vaulted Toilet	Each

(01/23/06)PARKS-Special Provision

Replace this Section with the following:

SECTION 660

CONDUIT

660-1.01 DESCRIPTION. Furnishing all materials, equipment, and labor necessary to install conduit as shown on the Plans.

660-2.01 MATERIALS. Use materials that conform to Section 740, the Materials Certification List, the Plans, specifications, and the following:

Pipe	Subsection 706-2.08
Bedding & Backfill	Subsection 204-2.01

660-3.01 CONSTRUCTION. Construct in accordance with the Plans, Subsection 203-3.01, and Subsection 204-3.04.

660-4.01 METHOD OF MEASUREMENT. By the linear foot of installed, complete, and accepted conduit. All labor, materials, and equipment to perform the work shall be considered subsidiary to 660(15) Conduit, and will not be measured separately for payment.

660-5.01 BASIS OF PAYMENT. The contract unit price for the accepted quantity of conduit installed and complete.

Payment will be made under:

Pay Item	Pay Unit
660(15) Conduit	Linear Foot

(04/01/06)PARKS-Special Provision

SECTION 670

TRAFFIC MARKINGS

670-3.06 TOLERANCES FOR LINE STRIPING. Replace this Subsection with the following:

1. Length of Stripe. ± 2 inches
2. Width of Stripe. + 1/4 inch, - 1/16 inch
3. Lane Width. ± 4 inches from the width shown in the Plans.
4. Stripes on Tangent. Do not vary more than 1-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. Stripes. Keep the center of the stripe within 4-inches from the planed alignment.
7. Double Stripes. ± 1/4 inch
8. Thickness. Minimum specified to a maximum of + 15 mils.
9. Depth of Inlay Slot. Minimum specified to a maximum of – 40 mils.
10. Thickness of Protected Inlaid Marking Material. Minimum specified to a maximum of + 40 mils.

If it is determined the material is being placed too thin or otherwise not to specification, make immediate adjustments to correct the problem.

Durable 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 edge 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.

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.

(07/12/02)R246USC-Special Provision

SECTION 702

ASPHALT MATERIALS

702-2.01 ASPHALT CEMENTS. Add the following: Performance Graded Asphalt Binder shall conform to the requirements of AASHTO MP1 and the additional properties defined by AASHTO T 53 for and ASTM D 5801 assigned to each grade.

PERFORMANCE GRADED ASPHALT CEMENT

PROPERTY	STANDARD	PG 52-28	PG 58-28	PG 64-28
Softening Point	AASHTO T 53	(none)	120°F	125°F
Toughness (min)	ASTM D 5801	(none)	110 in-lbs	110 in-lbs
Tenacity (min)	ASTM D 5801	(none)	75 in-lbs	75 in-lbs

(09/18/00)R244USC-Special Provision

SECTION 703

AGGREGATES

703-2.03 AGGREGATE FOR BASE. Replace Table 703-2 with the following:

TABLE 703-2
AGGREGATE FOR UNTREATED BASE
Percent Passing By Weight

Sieve Designation	Grading C-1	Grading D-1	Grading E-1
1-1/2 inch	100		
1 inch	70-100	100	100
3/4 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

(07/29/05)R199USC04-Special Provision

703-2.04 AGGREGATE FOR ASPHALT CONCRETE PAVEMENT. Replace this Subsection with the following:

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

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				100
3/4 inch	80-90	100			90-100
1/2 inch	60-84	75-90	100	100	65-75
3/8 inch	48-78	60-84	80-90	80-95	48-60
No. 4	28-63	33-70	44-81	55-70	30-40
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.

(07/29/05)R199USC04-Special Provision

703-2.07 SELECTED MATERIAL. Add the following:

4. Type D. Earth, sand, gravel, or rock materials obtained from the excavation, and shall contain no wood, concrete, or other debris.

(12/04/02)R89USC02-Special Provision

Add the following Subsections:

703-2.13 DRAIN ROCK. Durable, washed, coarse aggregate grades as follows:

Sieve	% Passing
2-1/2 in	100
1-1/2 in	90-100
1 in	20-55
3/4 in	0-15
3/8 in	0-5

(01/23/06)PARKS-Special Provision

703-2.14 FILTER SAND. Shall meet the following requirements:

Sieve	% Passing
No. 10	85-100
No. 20	60-90
No. 40	25-50
No. 60	0-15
No. 200	0-5

The sand shall not have more than 45% (of the total) passing any one sieve and retained on the next consecutive sieve of those shown above.

(04/04/06)PARKS-Special Provision

SECTION 724

SEED

724-2-02. MATERIALS. Replace Table 724-1 with 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
Wainwright Slender Wheatgrass	88
Alyeska Polargrass	71
Bluejoint	71
Tilesy Sagebrush	71
Tundra Glaucous Bluegrass	76
Gruening Alpine Bluegrass	72
Nugget Kentucky Bluegrass	76
Beach Wildrye	70
Annual Ryegrass	76
Perennial Ryegrass	76

* Sproutable Seed is the mathematical product of Germination and Purity.

(11/06/02)R52USC-Special Provision

SECTION 726

TOPSOIL

726-2.01 TOPSOIL. Replace Item No. 3 with the following:

3. Grading Requirements:

TABLE 726-1

TOPSOIL REQUIREMENTS

REQUIREMENT	CLASS A	CLASS B
Sieve Designation	Percent Passing by Weight	
3 in	-	100
1/2 in	100	-
No. 4	95-100	75-100
No.16	64-90	50-95
No. 200	30-60	20-80
Organic Content*	10% - 40%	5% - 40%
Limestone	1.5 Ton/Acre	-

*Determined by loss on ignition of oven dried sample in accordance with ALASKA FOP for AASHTO T 267

(01/01/03)PARKS-Special Provision

SECTION 727

SOIL STABILIZATION MATERIAL

727-2.01 MULCH. Replace numbered Item 1 with the following:

1. Virgin/Recycled Wood Fiber, Recycled Paper ("wood cellulose") Mulch, or a Blend of Virgin/Recycled Wood Fiber with Recycled Paper Mulch. Blended mulch may contain up to 50% recycled paper. The mulch shall meet the following requirements:

    a. Contains no growth or germination inhibiting factors.

    b. Will remain in uniform suspension in water under agitation and will blend with grass seed, fertilizer and other additives to form a homogeneous slurry.

    c. Mulch can be applied uniformly on the soil surface.

    d. Will not create a hard crust upon drying and have moisture absorption and retention properties and the ability to hold grass seed in contact with the soil.

    e. Dyed a suitable color to facilitate inspection of its placement.

    Ship the mulch material in packages of uniform weight (plus or minus 5%) and bear the name of the manufacturer and the air-dry weight content.

    Use a commercial tackifier on all areas steeper than 3:1. Use the amount recommended by the manufacturer.

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