

HSIP: CR Guardrail Delineation Enhancements

0001(475)/55750

PIH/Pre-PS&E Combined Review

PIH/Pre-PS&E COMBINED REVIEW COMMENTS are due on August 5, 2013. The review meeting will be held at 9:00 am on August 7, 2013 in the **Main** conference room.

Please E-mail comments, using the comment form, to Ryan Norkoli

(ryan.norkoli@alaska.gov) and Carla Smith (carla.smith@alaska.gov)

DISTRIBUTION:

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Chris Post, Highway Design Peer Review Coordinator, 2525 (2)
Ken Morton, Pre-Construction Engineer, 2525

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Attn: Marc Guzik (18)

4700 S. Elmore Road

Anchorage, AK 99507

MEMORANDUM

State of Alaska

Department of Transportation and Public Facilities

TO: See Distribution

DATE: July 18, 2013

FILE NO: 55750

TELEPHONE: 269-0423

FROM: Ryan Norkoli, P.E. *RNN*

SUBJECT: **HSIP CR Guardrail Delineation
Enhancements
0001(475)/55750
PIH/Pre-PS&E Review**

Attached for final review and comments are the appropriate copies of the subject assembly. The following specific replies are requested in addition to any other comments:

Right-of-Way	Either that R/W is available for the project or an estimated date when it may be available.
Utilities	Either the utility agreements have been completed or an estimated date when they may be available.
Project Control	Inform us as to whether or not the funding is available for the current estimate.
Environmental	What permits are required for this project and an estimated date when they will be acquired.

Ordinarily, only the principal reviewers are invited to attend. Comments are limited to those submitted in writing unless there are significant omissions.

Please use the review comment form located on the Library drive in /admin/forms/forms/pre PS&E review comment.doc. If you don't have access to the L drive, and still need a current version of the comment form, let me know and I will E-mail it to you.

The applicable ledger code for charging review time is **30419122** and collocation code is **24417287**.

HSIP: CR GUARDRAIL DELINEATION ENHANCEMENT

Project# 0001(475)/ 55750

DESIGN STUDY REPORT

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

PREPARED BY:

CENTRAL REGION - DESIGN AND CONSTRUCTION
4111 AVIATION AVENUE
ANCHORAGE, ALASKA 99502

AUGUST 2013

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION &
PUBLIC FACILITIES

Central Region Design & Construction
Traffic Design

Division of Statewide Design & Engineering Services

Design Study Report

for

HSIP: CR Guardrail Delineation Enhancements
Project# 0001(475)/ 55750

Prepared by:

Chris Bentz, P.E., Design Squad Leader Date

Concur:

Carla J. Smith, P.E. Date
Project Manager

Concur:

John R. Linnell, P.E. Date
Traffic, Safety and Utilities Group Chief

Approved by:

Kenneth M. Morton, P.E. Date
Regional PreConstruction Engineer



NOTICE TO USERS

This document reflects the thinking and design decisions at the time of publication. Changes frequently occur during the evolution of the design process, so persons who may rely on information contained in the document should check with the Alaska Department of Transportation and Public Facilities (“the Department”) for the most current design. Contact the Project Manager, Carla J. Smith, P.E. at 269-0544 for information.

PLANNING CONSISTENCY

This document was prepared in accordance with currently acceptable design standards and Federal Regulations, and with the input offered by the local government and public. The Department’s Planning Section has reviewed and approved this report as being consistent with the present community planning.

CERTIFICATION

The Alaska Department of Transportation and Public Facilities hereby certifies that this document was prepared in accordance with section 520.5.2 of the current edition of the AK DOT&PF Highway Preconstruction Manual and CFR Title 23, Highways Section 771.111(h).

The Department has considered the project’s social and economic benefits upon the community, its impacts on the environment and its consistency with planning goals and objectives as approved by the local community. All records are on file in the Division of Statewide Design & Engineering Services, PO Box 196900, 4111 Aviation Avenue, Anchorage, Alaska 99519-6900.

Kenneth M. Morton, P.E. Date
Regional Preconstruction Engineer

Jennifer W. Witt, AICP Date
Chief, Planning & Admin. Services

The Department's Pre-Construction Manual Section 450.5.2 requires that each of the following topics be addressed in a design study report. Considered items are further developed in the text of this document. Items not elaborated have been considered and found irrelevant and/or not pertinent to the design of this project and are not discussed further.

Description of Topic	Consider/Study	
	YES	NO
Description of project location, existing facilities, and purpose and need for project.	√	
Design standards to be used, including project design criteria and design designation.	√	
Descriptions and comparative differences of design alternatives and their effects.	√	
Discussion of preferred alternatives.	√	
Typical sections, including shoulder treatment.		√
Horizontal and vertical alignment, including location of bridges and other structures.		√
Erosion and sediment control.	√	
Drainage considerations.		√
Material and soil conditions for installation of foundations for lighting structures.		√
Access Control features.		√
Traffic analysis, as needed to substantiate need for project features.		√
Safety improvements.	√	
Right-of-Way requirements.	√	
Pedestrian, bicycle facilities, including provisions for ADA compliance.		√
Utility relocation and coordination.		√
Pavement design, including life-cycle cost analysis.		√
Updated cost estimate for all phases (PE, ROW, Utilities and Construction)	√	
Environmental commitments and mitigation measures.	√	
Preliminary bridge layout		√
Identification and justification of exceptions to standards.	√	
Preliminary work zone traffic control	√	
Maintenance considerations.	√	

FIGURES

Figure 1 – Project Location and Vicinity Map

Appendices

Appendix A – Environmental Document

PROJECT LOCATION AND DESCRIPTION

PURPOSE & NEED:

This project is located within the Central Region and includes not only the four major NHS rural highway routes: Glenn, Parks, Seward and the Sterling highway, but also some secondary highways with a crash history or significant quantity of guardrail. The purpose of this project is to increase guardrail retro reflectivity, to reduce guardrail impacts and resulting multivehicle crashes, especially during poor visibility and at night. This project will treat all guardrails, tangents included with guardrail reflectors and new flexible delineators.

EXISTING CONDITIONS:

Roadways included within this project vary in functional classification with varying widths, lengths, profiles, and speeds. In 2011, the HSIP project NHS Warning and Delineation completed installation of post mounted delineators and web reflectors with a focus along highway curves regardless of guardrail. The treatment of full lengths of guardrail and all curves on a roadway where not included in this project. Guardrail reflectors were installed at curves spaced every 50 feet per state standard drawings.

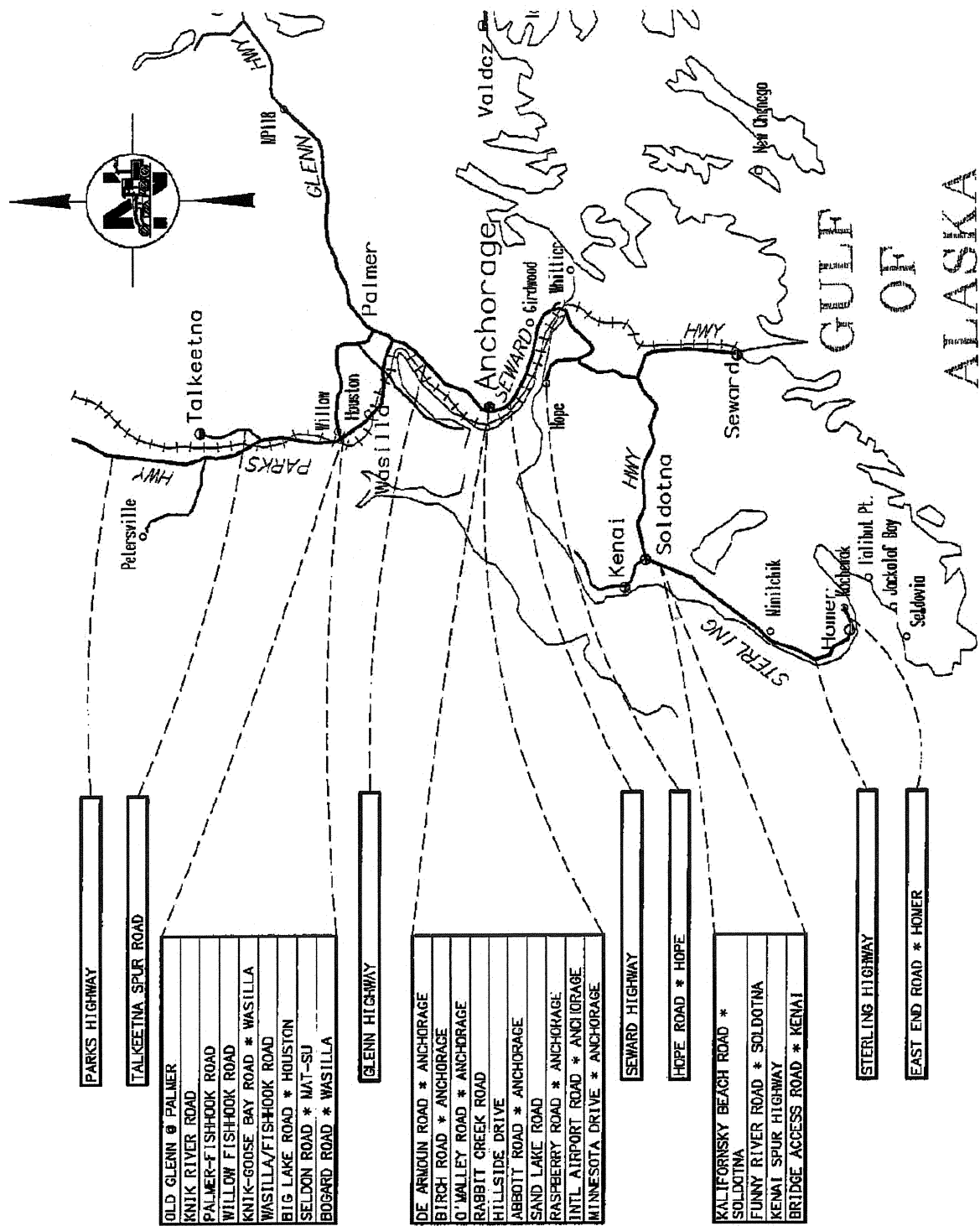
DESCRIPTION OF WORK:

The project will place flexible guardrail delineators in select, low elevation locations and increase the density of guardrail reflectors spaced every 50 feet on straight sections of guardrail and 12.5 feet spacing leading into and around curves.

Those locations are:

- Sterling Highway
- East End Road *Homer
- Kalifornsky Beach Road * Soldotna
- Funny River Road *Soldotna
- Kenai Spur Highway
- Bridge Access Road *Kenai
- Seward Highway
- Hope Road *Hope
- De Armoun Road * Anchorage
- Birch Road *Anchorage
- O'Malley Road *Anchorage
- Rabbit Creek Road *Anchorage
- Hillside Drive *Anchorage
- Abbott Road *Anchorage
- Sand Lake Road *Anchorage
- Raspberry Road *Anchorage
- International Airport Road *Anchorage
- Minnesota Drive *Anchorage
- Old Glenn @ Palmer
- Knik River Road
- Palmer-Fishhook Road
- Willow Fishhook Road
- Parks Highway
- Knik-Goose Bay Road
- Wasilla/Fishhook Road
- Big Lake Road * Houston
- Seldon Road *Mat-Su
- Bogard Road *Wasilla
- Talkeetna Spur Road

Figure 1: Project Location and Vicinity Map



DESIGN STANDARDS

This study was evaluated in accordance with the following publications:

- Alaska Highway Preconstruction Manual (PCM), published by the State of Alaska, Department of Transportation and Public Facilities, revised January 2005.
- Roadside Design Guide, published by the American Association of State Highway and Transportation Officials, 2011.
- Alaska Traffic Manual (ATM) 2012, which consists of the 2009 Manual of Uniform Traffic Control Devices, published by the U.S. Department of Transportation, Federal Highway Administration, and the latest edition of the Alaska Supplement published by the State of Alaska, Department of Transportation & Public Facilities.

DESIGN ALTERNATIVES

The following options or combination of options were considered:

- **Option 1-** No build would result in no changes to the guardrail reflectivity.
- **Option 2-** Add Flexible Guardrail Delineators and increase the number of Guardrail Reflectors.

PREFERRED ALTERNATIVE

The preferred alternative for this project are **Option 2**.

Option 2 will increase guardrail visibility serving the purpose of this project. Increased guardrail visibility will help reduce vehicle/ guardrail collisions.

EROSION AND SEDIMENT CONTROL

There will be no ground disturbances when installing the Flexible Guardrail Delineators and Guardrail Reflector, therefore an Erosion and Sediment Control Plan (ESCP) has not been prepared for this project.

RIGHT-OF-WAY REQUIREMENTS

All permanent improvements will be constructed within the existing highway Right-of-Way. Alaska Railroad personnel will be notified of guardrail within their ROW. No TCE's are required to complete the work proposed in this project.

COST ESTIMATE

Project costs are estimated as follows:

Design	\$65,000.00
Utilities	0
Right of Way	0
Construction	\$1,000,000.00
PROJECT TOTAL	\$1,065,000.00

ENVIRONMENTAL COMMITMENTS

As this project is not expected to be controversial or have any significant impacts to the natural or manmade environment it was found to qualify as an Expedited Categorical Exclusion (CE) as per 23 CFR 771.117. This document is included in Appendix A.

The Contractor will prepare a HMCP (Hazardous Material Control Plan) and submit it for approval by the Department's Environmental Section. The Contractor shall conduct construction activities in accordance with the approved HMCP. If contaminated or hazardous materials are encountered during construction, all work in the vicinity of the contaminated site will be stopped until the Alaska Department of Environmental Conservation (ADEC) is contacted and a corrective action plan is approved by the ADEC and implemented.

If active eagle nests are found within 660 feet of the project area (primary and secondary protection zones), the DOT&PF, in conjunction with the United States Fish & Wildlife Service (USFWS), will determine appropriate actions. Appropriate actions could include: 1) restricting certain construction activities during sensitive nesting time periods; or 2) monitoring the nest during construction.

The Contractor will be required to dispose of solid waste at an ADEC approved landfill.

Advanced public notice of construction activities and potential traffic delays will be given to reduce construction impacts on local businesses, residents, and road travelers.

Vegetation clearing will not take place between May 1st and July 15th to avoid the migratory bird nesting period.

If cultural, archeological, or historical sites are discovered in the process of the project construction, the Alaska State Historic Preservation Office (SHPO) will be contacted and any work that might impact these sites will be halted. Work will not resume in the vicinity of the site until a written non-objection from the SHPO is issued to the Project Engineer.

EXCEPTIONS TO STANDARDS

No design exceptions are anticipated.

PRELIMINARY WORK ZONE TRAFFIC CONTROL

In accordance with chapter 14 of the PCM, a Transportation Management Plan (TMP) must be prepared for this project. The TMP is composed of a Traffic Control Plan (TCP), Transportation Operations Plan (TOP) and a Public Information Plan (PIP). These plans are not standalone documents, but component parts that are being included in the design process and will be integrated in the construction phase.

The level of detail required for the TMP is based on the expected impact of the project on the traveling public. The recommended alternative is expected to result in a work zone classification of “Category 1 Significant” for this project since it will “occupy a location for more than three days with intermittent or continuous lane closures on Interstate Highways within a Transportation Management Area (TMA)”. The Municipality of Anchorage (MOA) contains an area known as the Anchorage Metropolitan Area Transportation System (AMATS); this boundary is included within the project limits and is defined in chapter 14 of the PCM as a TMA. Lane closures will be necessary to provide room for the installation of Guardrail reflectors and Guardrail flexible delineators.

A feasible TCP will be made available to bidders when the project is advertised. However, the Contractor selected to construct the project will be required to develop and obtain approval for their own TCP that will accommodate the specific means and methods they plan to use to construct the project. The TCP will be required to adhere to the Alaska Traffic Manual. Project specifications will limit the hours during which lane reductions or closures will be permitted. Details will be provided in the TCP depicting when positive protection devices are warranted by roadside conditions.

The TOP includes coordination with other projects, agencies, and transportation groups to minimize project impacts. This information is included in the Special Provisions. Although the State of Alaska operates and maintains guardrail within the project limits, the MOA will be included in project reviews as the project is within the AMATS boundaries. Coordination will continue with the MOA through construction. Other MOA agencies (Anchorage Fire Department, Anchorage School District, PeopleMover, etc.) are made aware of the project during the review process and encouraged to make comments as appropriate. The Construction Section may decide to include on-project law enforcement to enhance safety if required.

The PIP will be accomplished by the Department’s Construction Section through the Alaska Navigator system. In addition, the Contractor’s “worksite traffic supervisor” and the Department’s 511 system will be used to notify the public and relevant agencies (emergency responders, PeopleMover, Alaska Trucking Association, etc) of road and lane closures or other construction activities that will impact traffic.

MAINTENANCE CONSIDERATIONS

An increase in maintenance cost is anticipated, due to additional reflectors installed on guardrail that will be the responsibility of SOA maintenance to maintain.

APPENDIX A

Environmental Document

Expedited CE Approval Form
for 6004 Program projects



I. Project Information:

1. Project Name: HSIP: CR Guardrail Delineation Enhancements
2. Federal-aid Project Number: AC-HHE-0001(475)
3. AKSAS (State Project Number): 55750
4. CE Designation: 23 CFR 771.117(c)(8)
23 CFR 771.117() ()
5. List of attachments: List of project locations
Section 106 Consultation
Section 4(f) Consultation

6. Project Description:

The proposed project will upgrade an estimated 150 miles of guardrail along high speed routes throughout Central Region Alaska (see the attached route list). This project proposes to improve traveler safety and reduce crashes by improving guardrail retroreflectivity beyond current conditions. Project activities will include:

- Increasing the number of w-beam web reflectors on guardrail
- Increasing the density of w-beam reflectors to nearly every 12.5 feet in the approach to curves
- Adding new post top reflectors in select, low elevation locations

The proposed project will enhance safety features on highway guardrails with technology that is similar to what is already in place, and no new guardrail will be installed. Because the work will be limited to existing facilities, no adverse impacts to protected resources are anticipated.

Per the Chief Engineer Directive issued November 6, 2012, Programmatic Approval 1, the proposed project does not involve any unusual circumstances and will not result in environmental impacts to any of the following resources:

-Historic and Archaeological Sites-

On June 21, 2013, the NEPA Program Manager concurred that the project meets the criteria for no formal review under Section 106 of the National Historic Preservation Act [36 CFR 800.3(a)(1)] per Roger Healy's July 7, 2010, Chief Engineer Directive for "Program Undertakings with No Potential to Cause Effects to Historic Properties", and does not require any additional Section 106 processing. See attached consultation documentation.

-Section 4(f)-

On June 26, 2013, the Statewide NEPA Manager concurred that the proposed project will not use any 4(f) protected resources. See attached consultation documentation.

-Other-

Although some areas of wetlands, anadromous and residential fish streams, water bodies, and threatened and endangered species may be adjacent to proposed work sites, no impacts to these resources are anticipated due to the nature of the work.

II. Expedited Categorical Exclusions:

1. Are all the project actions covered by Programmatic Approval 1 in the November 6, 2012 Chief Engineer Directive as actions that do not require a CE Documentation Form? ☒ Yes ☐ No
 - If yes, answer II.I.i.
 - If no, a CE Documentation Form is required. Programmatic Approval 1 does not apply.

i. Does the following statement apply?

☒ Yes ☐ No

"The State has determined that this project has no significant impact(s) on the environment and that there are no unusual circumstances as described in 23 CFR 771.117(b). As such, the project is categorically excluded from the requirements to prepare an environmental assessment or environmental impact statement under the National Environmental Policy Act. The State has been assigned, and hereby certifies that it has carried out, the responsibility to make this determination pursuant to Chapter 3 of title 23, United States Code, Section 326 and a Memorandum of Understanding dated September 20, 2012, executed between the FHWA and the State"

- *If yes, a CE Documentation Form is not required for the approval of this "c" list CE.*
- *If no, the action cannot be approved under Programmatic Approval 1.*

2. Approved by:

Brian Elliott Brian Elliott
[Printed Name and Signature] Regional Environmental Manager

Date: 7/3/13

Notes:

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC
FACILITIES
CENTRAL REGION



PROPOSAL, CONTRACT, BONDS, STANDARD MODIFICATIONS AND
SPECIAL PROVISIONS FOR:

**HSIP: CR Guardrail Delineation Enhancements
Project No. 0001(475)/ 55750**

**As Advertised: N/A
DOCUMENT FEE: \$100.00**

**To be used in conjunction with State of Alaska Standard Specifications for Highway
Construction dated 2004, and the Plans for the above referenced project.**

www.dot.state.ak.us - "Procurement"

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(Federal-Aid Highways)

1. Invitation (yellow)

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2. Bid Notices (yellow)

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FEDERAL EEO BID CONDITIONS	25A-301	(8/01)
DBE SUBCONTRACTABLE ITEMS	25A-324	(8/01)
3. Forms (yellow)

SUBCONTRACTOR LIST	25D-5	(10/09)
BIDDER REGISTRATION	25D-6	(6/03)
CONTRACTOR'S QUESTIONNAIRE	25D-8	(8/01)
BID FORM	25D-9	(7/03)
BID SCHEDULE		
CONSTRUCTION CONTRACT	25D-10A	(8/01)
PAYMENT BOND	25D-12	(8/01)
PERFORMANCE BOND	25D-13	(8/01)
BID BOND	25D-14	(8/01)
BID MODIFICATION	25D-16	(8/01)
MATERIAL ORIGIN CERTIFICATE	25D-60	(8/01)
EEO-1 CERTIFICATION	25A-304	(8/01)
CONTACT REPORT	25A-321A	(1/02)
DBE UTILIZATION REPORT	25A-325C	(1/02)
PRIME CONTRACTOR'S WRITTEN DBE COMMITMENT	25A-326	(8/01)
SUMMARY OF GOOD FAITH EFFORT DOCUMENTATION	25A-332A	(8/01)
4. Contract Provisions and Specifications (white)

STANDARD MODIFICATIONS		
SPECIAL PROVISIONS		
APPENDIX A: CONSTRUCTION SURVEY REQUIREMENTS		
APPENDIX B: MATERIALS CERTIFICATION LIST		
REQUIRED CONTRACT PROVISIONS FOR		
FEDERAL-AID CONSTRUCTION CONTRACTS	25D-55H	(10/09)
5. Federal Wage Rates

Federal wage rates can be obtained at <http://www.wdol.gov/dba.aspx#0> for the State of Alaska. Use the federal wage rates that are in effect 10 days before Bid Opening. The Department will include a paper copy of the federal wage rates in the signed Contract.
6. State Wage Rates

State wage rates can be obtained at <http://www.labor.state.ak.us/lss/pamp600.htm>. Use the State wage rates that are in effect 10 days before Bid Opening. The Department will include a paper copy of the State wage rates in the signed Contract.



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

INVITATION TO BID
for Construction Contract

Date N/A

HSIP: CR Guardrail Delineation Enhancements
Project No. 0001(475)/ 55750

Location of Project: Central Region, Alaska
Contracting Officer: Joel G. St. Aubin, P.E., Director of Design & Construction
Issuing Office: Central Region
State Funded [☐] Federal Aid [☒]

Description of Work:

This federally funded project will install reflector tabs and flexible delineators to existing sections of guardrail on various roadways throughout Central Region.

The Engineer's Estimate is between **\$1,000,000** and **\$2,500,000**
All work shall be completed by: **October 31, 2014**
Interim Completion dates, if applicable, will be shown in the General Requirements.

Bidders are invited to submit sealed bids, in single copy, for furnishing all labor, equipment, and materials and for performing all work for the project described above. Bids will be opened publicly at 2:00 pm local time, in the main conference room, 4111 Aviation Avenue, Anchorage, Alaska on N/A.

SUBMISSION OF BIDS

ALL BIDS INCLUDING ANY AMENDMENTS OR WITHDRAWALS MUST BE RECEIVED PRIOR TO BID OPENING. BIDS SHALL BE SUBMITTED ON THE FORMS FURNISHED AND MUST BE IN A SEALED ENVELOPE MARKED AS FOLLOWS:

Bid for Project:
HSIP: CR Guardrail Delineation
Enhancements
Project No. 0001(475)/ 55750

ATTN: Contracts
State of Alaska
Department of Transportation & Public Facilities
P.O. Box 196900
Anchorage, AK 99519-6900

Bids, amendments or withdrawals transmitted by mail must be received in the above specified post office box no later than 7 hours prior to the scheduled time of bid opening. Hand-delivered bids, amendments or withdrawals must be received by the **Sharon L. Smith P.E., Chief of Contracts** at the Contracts Section, 4111 Aviation Avenue, prior to the scheduled time of bid opening. Faxed bid amendments must be addressed to **Sharon L. Smith, P.E., Chief of Contracts**. Fax number: (907) 269-0425.

A bid guaranty is required with each bid in the amount of 5% of the amount bid. (Alternate bid items as well as supplemental bid items appearing on the bid schedule shall be included as part of the total amount bid when determining the amount of bid guaranty required for the project.)

The Department hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this Invitation, Disadvantaged Business Enterprises (DBEs) will be afforded full opportunity to submit bids and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award.

NOTICE TO BIDDERS

Bidders are hereby notified that data to assist in preparing bids is available as follows:

See attached Special Notice to Bidders for this project.

Plans and Specifications may be ordered, for the price of **\$100.00** from:

State of Alaska, Department of Transportation & Public Facilities
Plans Room
4111 Aviation Avenue
P.O. Box 196900
Anchorage, AK 99519-6900

Phone: (907) 269-0408

All questions relating to design features, constructability, quantities, or other technical aspects of the project should be directed to the following. Bidders requesting assistance in viewing the project must make arrangements at least 48 hours in advance with:

Carla Smith, P.E.

Phone: (907) 269-0544

Fax: (907) 269-0654

All questions concerning bidding procedures should be directed to:

Sharon L. Smith, P.E.
Chief of Contracts
P.O. Box 196900
Anchorage, AK 99519-6900

Phone: (907) 269-0414

The Bid Calendar, Planholder lists, Bid Results and DBE information are available on the Internet at:
www.dot.alaska.gov under Procurement. Sorry – we no longer fax planholder lists.

Reminder: Alaska Statute AS 36.30.110 requires all Bidders to have a valid Alaska Business License and an Alaska Contractor's Certificate of Registration prior to submitting a bid.

SPECIAL NOTICE TO BIDDERS

The Department hereby notifies bidders that information to assist in bid preparation is available from the Department of Transportation and Public Facilities, Anchorage office, located at 4111 Aviation Avenue.

1. Publications. The following are available from the Plans Room:
 - a. Standard Specifications for Highway Construction, 2004 Edition (\$25.00).
 - b. Alaska Test Methods Manual (Lab & Field), April 30, 2012 Edition (\$25.00). Available online at: http://www.dot.state.ak.us/stwddes/desmaterials/mat_waqtc/pop_testman.shtml
 - c. Alaska Storm Water Pollution Prevention Plan Guide, February, 2011. http://www.dot.state.ak.us/stwddes/desenviron/pop_swppp.shtml
 - d. Quantity Computations
2. Materials Certification List (MCL). The MCL provides the Engineer with the appropriate approving authority. Contractor, submit certification for each material to the Engineer. The MCL is included in Appendix B.
3. Environmental Documents. The Department has approved an environmental document addressing concerns and environmental commitments. This document is available for review in the Department Section of Preliminary Design and Environmental. (907) 269-0542.
4. Laborers Mechanics Minimum Rate of Pay. The current Laborers Mechanics Minimum Rate of Pay contains information on remote sites and per diem. The Department of Labor has issued WHPL #197, which further clarifies this requirement. See pay item 640(4).

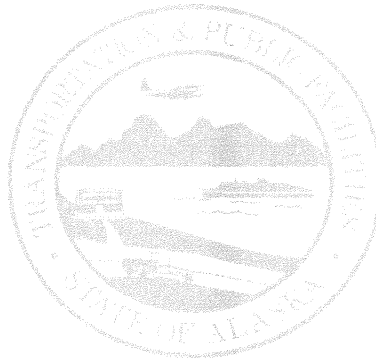
Any questions about this notice may be directed to Dennis Good, Manager of the Civil Rights Office, (907) 269-0848, or email dennis.good@alaska.gov.
5. High Visibility Clothing. The Department requires all workers within the project limits to wear an outer visible surface or layer of high visibility color and retroreflectivity. See subsection 643-3.11.
6. Railroad Permit. A draft Temporary Construction Permit from the Alaska Railroad Corporation (ARRC) is included in Appendix C, the contractor must obtain a signed copy prior to NTP. Reference subsection 107-1.02 and Appendix for further information.

FED_SOA-CRSNtB-011013

PART 4

**STANDARD MODIFICATIONS
AND
SPECIAL PROVISIONS**

To the **STATE OF ALASKA**



**STANDARD
SPECIFICATIONS
FOR
HIGHWAY CONSTRUCTION**

**2004
EDITION**

SECTION 101**DEFINITIONS AND TERMS**

Standard Modifications

101-1.03 DEFINITIONS.

PLANS. Delete Text of PLANS and replace with:

The Department's Contract drawings, profiles, typical cross sections, standard drawings, and supplemental drawings or reproductions showing the location, character, dimensions, and details of the work.

E32-012707

Add the following definition:

QUALIFIED PRODUCTS LIST. A list of companies and products that the Department has found conforms to the SSHC.

E36-012707

Insert the following definition after RESPONSIVE BID:

RETAINAGE. A percentage of a payment established in advance under a contract or subcontract to be withheld from progress payment due on the contract or subcontract. Payment or a percentage of payment withheld for unsatisfactory performance is not retainage.

E101-030512

Replace the definitions of SUBGRADE with the following:

SUBGRADE. The soil or embankment upon which the pavement structure is constructed.

E22-010106

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 any interpretation or conclusion drawn from its records by the bidder or Contractor.

Bidders and Contractors shall examine subsection 106-1.02 Material Sources for further information about material source development.

E23-010106

102-1.05 PREPARATION OF BID. Modify the second sentence in the third paragraph, after:

"If a bidder is a corporation, the bid must be signed by a corporate officer," add: or agent.

E18-063004

SECTION 103

AWARD AND EXECUTION OF CONTRACT

Standard Modifications

Delete Subsection 103-1.05 and replace with the following:

103-1.05 PERFORMANCE AND PAYMENT BONDS. The successful bidder shall furnish all required Performance and Payment Bonds on forms provided by the Department for the sums specified in the Contract. If no sum is specified, the successful bidder shall comply with AS 36.25.010. The Surety on each bond may be any corporation or partnership authorized to do business in the state as an insurer under AS 21.09 or two individual sureties approved by the Contracting Officer.

If individual sureties are used, two individual sureties must each provide the Department with security assets located in Alaska equal to the penal amount of each bond. Any costs incurred by the Contractor and the individual Surety are subsidiary and shall be borne by the Contractor or the individual Surety. In no event will the Department be liable for these Costs.

Individual sureties shall provide security by one, or a combination, of the following methods:

1. Escrow Account, with a federally insured financial institution, in the name of the Department. Acceptable securities include, but are not limited to, cash, treasury notes, bearer instruments having a specific value, or money market certificates.
2. Irrevocable letters of credit, with a financial institution approved by the Contracting Officer.
3. Cashier's or certified check, made payable to the State of Alaska issued by financial institutions approved by the Contracting Officer.

These bonds and security assets, as applicable, shall remain in effect for 12 months after the date of final payment or, if longer, until all obligations and liens under this Contract are satisfied, including, but not limited to, obligations under Subsection 107-1.19.

The Department may, in its discretion, notify the bonding company or Surety of any potential default or liability.

The Contractor shall substitute, within five working days, another bond or surety acceptable to the Department if an individual Surety or the Surety on any bond furnished in connection with the Contract:

1. Becomes insolvent or is declared bankrupt;
2. Loses its right to do business in any state affecting the work;
3. Ceases to meet Contract requirements;
4. Fails to furnish reports of financial condition upon request; or
5. Otherwise becomes unacceptable to the Department.

When approved by the Contracting Officer, the Contractor may replace:

1. An individual surety with a corporate surety; or
2. Posted collateral with substitute collateral.

Failure to maintain the specified bonds or to provide substitute bonds when required under this section may be grounds for withholding contract payments until substitute bonding is obtained, and may, in the Department's discretion, be grounds for declaring the Contractor in default.

E65-022309

SECTION 104**SCOPE OF WORK**

Standard Modifications

104-1.01 INTENT OF CONTRACT. Add to the end of this subsection:

The Contractor is responsible for the means, methods, techniques, sequence, or procedures of construction, safety, quality control, and to perform or furnish the work in accordance with the Contract documents.

E58-072808

SECTION 105
CONTROL OF WORK

Standard Modifications

105-1.02 PLANS AND WORKING DRAWINGS. In the third paragraph delete:

"(24"x36")" and replace with: (22"x34")

105-1.03 CONFORMITY WITH PLANS AND SPECIFICATIONS. In the first sentence of the first paragraph after:

"Work performed and materials furnished shall conform to the Plans and Specifications" add: and approved Working Drawings,

In the first sentence of the second paragraph after: "All work or material not conforming to the Plans and Specifications" add: and approved Working Drawings,

E33-012707

Special Provisions

105-1.06 UTILITIES. Add the following:

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.

55750-070913

105-1.07 COOPERATION BETWEEN CONTRACTORS. Add the following:

The following state owned projects may be under construction concurrently with this project.

Project Name:	Project No.:
HSIP 11: Minnesota Dr Moose-Vehicle Crash Mitigation	53455
HSIP 11: CR RR/Hwy grade Crossing Guardrail Replacement	52113
HSIP 11: Sterling Hwy: Soldotna-Homer Hill Slow Vehicle Turnouts	52997
HSIP: Anchorage Area Safety Imp, 2014	58197
Glenn Hwy Pkmt Repairs-Boniface I/C to Knik River Br (GF)	55815
Parks Hwy: MP 99-146 Resurfacing	56169
CR Highway Safety Corridors Near Term Imp (GF)	53425
CR Public Safety and Reduced Maintenance ITS, Mat-Su	52761
CR School Zone Upgrades Phil Ak090	55500
HSIP 12: Glenn Hwy and Muldoon Road Interchange Signals	54713
HSIP: CR RR Xing Signing and Delineation	54822
HSIP: Dearmoun Rd & Elmore Rd OH Beacon	54697
HSIP: Glenn Hwy Continuous Lighting, MP 27-31	55613
HSIP: O'Malley Rd & Elmore Rd OH Beacon	56010
HSIP: Parks Hwy & Petersville Road OH Beacon	55749
HSIP: Sterling Hwy & North Fork Rd OH Beacon	55910
HSIP: STWD Railroad Crossing Surface Upgrades	55841
Parks Hwy & Pittman Rd Signal Modifications	54602
Soldotna: Birch Street Signal at Sterling Highway	59767
Sterling Hwy 45 to 58 Resurfacing	52081
Seward Highway Reconstruction Dowling Rd to Tudor Rd	50816
HSIP: Seward Hwy Turnagain Pass-Potter Slow Vehicle Turnouts & Passing Lanes	52451
HSIP: Seward Hwy MP88 Safety Imp	52121
Kalifornsky Beach Rd Pedestrian Pathway	54633
Cooper Landing – Walkable Community (GF)	54575
Fairview Loop realign and Signalization	54800
Parks Hwy: MP 43.5 to MP 44.5 Reconstruct Lucas-Church	52914
Seward Hwy: MP 99-105 Improvements	52784
Sterling Hwy: MP173-174 Pavement Preservation	56176
Sterling Hwy: MP174-179 Pavement Preservation	55260
Homer: East End Rd 12.5-End and Old East End Rd Pavement Preservation	52261
Homer: East End Rd Reconst. MP 3.75-5.5, Kach-Waterman	53164
Sterling Hwy: MP 79-82.5 Pavement Preservation	54151
Ninilchik Village Bridge Replacement	52765

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

CR1051-110309

105-1.13 MAINTENANCE DURING CONSTRUCTION. Add the following at the end of this subsection:

PROJECT NAME: HSIP: CR GUARDRAIL DELINEATION ENHANCEMENTS
PROJECT NO.: 0001(475)/55750

SECTION 105

Costs of maintenance work during construction and before the project is accepted as substantially complete shall be subsidiary to the prices bid on the various Contract items, and the Contractor will not be paid an additional amount for such work.

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

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

E33-012707

105-1.15 PROJECT COMPLETION. In the second paragraph, second sentence, delete:

“Subsection 621-3.04” and replace with: Subsection 618-3.06 and 621-3.04.

In the third paragraph, first sentence, delete:

“Subsection 621-3.04” and replace with: Subsection 618-3.06 and 621-3.04.

E59-072808

105-1.16 FINAL ACCEPTANCE AND RECORD RETENTION. Modify the first paragraph, Item 4. after:

“DOLWD” add: and State Department of Revenue.

E19-063004

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.

CR1054-032101

Add the following Subsection 105-1.18:

105-1.18 RESERVED FOR WARRANTIES.

E33-012707

Special Provision

SECTION 106

CONTROL OF MATERIAL

Standard Modifications

106-1.01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS. In fifth paragraph, in two places remove the text. “Approved Products List” and replace with: *Qualified Products List*

E36-012707

Special Provision

Add the following:

Buy America Provision. Comply with the requirements of 23 CFR 635.410, Buy America Requirements, and 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 process must be undertaken in the United States. The definition of “manufacturing process” is smelting or any subsequent process that alters the material’s physical form, shape or chemical composition. These processes include rolling, extruding, machining, bending, grinding, drilling, etc. The application of coatings, such as epoxy coating, galvanizing, painting or any other coating that protects or enhances the value of steel or iron materials shall also be considered a manufacturing process subject to the “Buy America Requirements.”

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

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

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

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

CR13-020705

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:

- 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.

- e. Excluded Material Sources. Replace the paragraph with the following:

Some material sources may not be considered acceptable regardless of location or ownership. The bid documents may identify some material sources excluded from use. The Department reserves the right to exclude a material source or any portion of a material source, at any time after Contract Award that is determined by material testing to be unsuitable for use on the Project.

E24-010106

Add new Subsection 106-1.08:

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

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

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

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

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

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

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

Add the following Subsection 106-1.09:

106-1.09 RESERVED.

E34-012707

SECTION 107

LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

Special Provisions

107-1.02 PERMITS, LICENSES, AND TAXES.

The Department will: Add No. 3.:

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

a. A draft Temporary Construction Permit from the Alaska Railroad Corporation (ARRC). This draft permit is attached in Appendix C. The contractor is required to adhere to all conditions stipulated in the permit and Exhibit B of the permit. The Contractor must contact ARRC, provide required documents, and pay a permit fee of \$500 to obtain the final permit. The Department will pay any costs associated with railroad flagging.

The Contractor shall: Add the following:

9. Obtain through the Engineer a written statement from the State Historic Preservation Officer stating that material disposal, extraction, stockpiling, or staging, on or 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 the site and notify the Engineer.
10. Provide a wetland specialist able to conduct wetlands determinations and delineations according to the Corps of Engineers 1987 Wetland Delineation Manual, and the Regional Supplement to the Corps of Engineers Wetland Delineations Manual (Alaska Region, Version 2.0, September 2007). 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.
11. Provide information to comply with the Alaska Department of Environmental Conservation (ADEC) Alaska Pollutant Discharge Elimination System (APDES) 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.
12. 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.

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.

CR1072-042313

Standard Modifications

107-1.05 FEDERAL AID PROVISIONS. Add the following after paragraph two:

Form 25D-55H Required Contract Provisions for Federal-Aid (FHWA) Construction Contracts. The FHWA no longer requires the Contractor to fill out FHWA Form 47, Statement of Materials and Labor Used By Contractors on Highway Construction Involving Federal Funds. Section VI Records of Materials, Supplies and Labor of Form 25D-55H is no longer applicable to highway construction contracts.

Title VI Requirements. During the performance of this Contract, the Contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "Contractor") agrees as follows:

- (1) **Compliance with Regulations:** The Contractor shall comply with the Regulation relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (hereinafter, "DOT") title 49, Code of Federal Regulations, Part 21, and the Federal Highway Administration (hereinafter "FHWA") Title 23, Code of Federal Regulations, Part 200 as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Contract.
- (2) **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin, sex, age, and disability/handicap in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor shall not participate either directly or indirectly in the discrimination prohibited by 49 CFR, Section 21.5 of the regulations, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.
- (3) **Solicitation for Subcontractors, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this Contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin, sex, age, and disability/handicap.
- (4) **Information and Reports:** The Contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the DOT&PF or the FHWA to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information the Contractor shall so certify to the DOT&PF, or the FHWA as appropriate, and shall set forth what efforts it has made to obtain the information.
- (5) **Sanctions for Noncompliance:** In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the DOT&PF shall impose such contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:
 - (a) withholding of payments to the Contractor under the Contract until the Contractor complies, and/or
 - (b) cancellation, termination, or suspension of the Contract, in whole or in part.
- (6) **Incorporation of Provisions:** The Contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

The Contractor shall take such action with respect to any subcontract or procurement as the DOT&PF or the FHWA may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the DOT&PF to enter into such litigation to protect the interests of the DOT&PF, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

E67-101509

107-1.07 ARCHAEOLOGICAL OR HISTORICAL DISCOVERIES. Change the first sentence to the following:

When operation encounters historic or prehistoric artifacts, burials, remains of dwelling sites, paleontological remains, (shell heaps, land or sea mammal bones or tusks, or other items of historical significance), cease operations immediately and notify the Engineer.

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

If water is required for a 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) 269-8645.

CR1072-042313

Standard Modification

Add the following paragraphs:

7. Restoring Areas. Areas used by the Contractor, including haul routes, shall be restored to their original condition after the Contractor's operations are completed. The original condition of an area shall be determined as follows:

Before beginning operations, the Engineer and the Contractor shall inspect each area and haul route that will be used by the Contractor and take photographs to document their condition. After construction operations are completed, the condition of each area and haul route will be compared to the earlier photographs. Before demobilization, the Contractor shall repair damages attributed to its operations. The Contractor agrees that costs associated with repairs shall be subsidiary to other items of work and will not be paid for directly.

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

E35-012707

Add the following:

Bald Eagles are protected under the Bald Eagle Protection Act (16 U.S.C. 668-668c) which prohibits “takes” of bald eagles, their eggs, nests, or any part of the bird. The Act defines “taking” as “to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.”

Maintain a Primary Zone of a minimum 330 ft as an undisturbed habitat buffer around nesting bald eagles. If topography or vegetation does not provide an adequate screen or separation, extend this buffer to 0.25 miles, or a sufficient distance to screen the nest from human activities. The actual distance will depend on site conditions and the individual eagle's tolerance for human activity. Within the Secondary Zone, between 330 ft and 660 ft from eagles nest tree no obtrusive facilities or major habitat modifications shall occur. If nesting occurs in sparse stands of trees, treeless areas, or where activities would occur within line-of-site of the nest, this buffer shall extend up to 0.5 miles. No blasting, logging and other noisy, disturbing activities should occur during the nesting period (March 1 – August 31) within the primary or secondary zones.

Extremely noisy activities such as road construction or other activities that occur within the Secondary Zone shall be conducted outside the nesting period to avoid disturbance to eagles. If activities occur in proximity to a nest site, employ an individual qualified to observe and assess the impact of such activities on nesting eagles. Behavior generally associated with disturbed eagles includes alarm calls, birds flushed from their nest or perch, and aggressiveness.

If nest trees are discovered within the vicinity of the project site, the U.S. Fish and Wildlife Service must be notified immediately by calling (907) 786-3503 or (907) 271 – 2772, before starting construction activities, for further site evaluation. This is an advisory. Do what is required to keep from disturbing a nesting eagle.

CR1071-081210

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
ADOT&PF Training Program Request	Form 25A 310
Training Utilization Report	Form 25A 311
Contact Report	Form 25A 321A
DBE Subcontractable Items	Form 25A 324
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.

S80-012202

SECTION 108

PROSECUTION AND PROGRESS

Standard Modification

Delete Subsection 108-1.01 in its entirety and replace with the following:

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

The Contractor shall perform, with the Contractor's own organization, work amounting to at least 30 percent of the difference between the original Contract price and the price of designated Specialty Items. For the purpose of this Subsection, work is defined as the dollar value of the services, equipment, materials, and manufactured products furnished under the Contract. The Engineer will determine the value of the subcontracts based on Contract unit prices or upon reasonable value, if entire items are not subcontracted.

The Department's consent to the subcontracting, sale, transfer, assignment, or disposal of all or a part of the Contract shall not relieve the Contractor and the Surety of responsibility for fulfillment of the Contract or for liability under bonds regardless of the terms of the transfer or sublet approvals.

1. The Contractor shall ensure that for all subcontracts (agreements):
 - a. The Department is furnished with one completed Contractor Self Certification, Form 25D-042, for each subcontract;
 - b. The subcontractors have submitted a Bidder Registration; Form 25D-6;
 - c. The required prompt payment provisions of AS 36.90.210 are included in all subcontracts;
 - d. A clause is included requiring the Contractor to pay the subcontractor for satisfactory performance according to AS 36.90.210 and within eight (8) working days after receiving payment for which the subcontractor is to be paid.
 - e. A clause is included requiring the Contractor to pay the subcontractor interest, according to AS 45.45.100(a), for the period beginning the day after the required payment date and ending on the day payment of the amount due is made;
 - f. A clause is included requiring the Contractor to pay the subcontractor all retainage due under the subcontract, within eight (8) working days after final payment is received from the Department, or after the notice period under AS 36.25.020(b) expires, whichever is later;
 - g. A clause is included requiring the Contractor to pay interest on retainage, according to AS 36.90.250 and AS 45.45.101(a);
 - h. Other required items listed in Form 25D-042 are included in the subcontracts;
 - i. The subcontractors pay current prevailing rate of wages as per Subsection 107-1.04 and file certified payrolls with the Engineer and DOLWD for all work performed on the project; and
 - j. Upon receipt of a request for more information regarding subcontracts, the requested information is provided to the Department within 5 calendar days.
2. The Contractor shall ensure that for all lower tier subcontracts (agreements between subcontractors and lower tier subcontractors):
 - a. The required prompt payment provisions of AS 36.90.210 are included in all lower tier subcontracts;
 - b. A clause is included requiring the subcontractor to pay the lower tier subcontractor for satisfactory performance according to AS 36.90.210, and within eight (8) working days after receiving payment from which the subcontractor is to be paid;
 - c. A clause is included requiring the subcontractor to pay the lower tier subcontractor interest, according to AS 45.45.010(a), for the period beginning the day after the required payment date and ending on the day payment of the amount due is made;

- d. A clause is included requiring the subcontractor to pay the lower tier subcontractor all retainage due under the subcontract, within eight (8) working days after final payment is received, or after the notice period under AS 36.25.020(b) expires, whichever is later;
 - e. A clause is included requiring the subcontractor to pay the lower tier subcontractor interest on retainage, according to AS 36.90.250 and AS 45.45.101(a);
 - f. Other required items listed in Form 25D-042 are included in the lower tier subcontracts;
 - g. The lower tier subcontractors pay current prevailing rate of wages as per Subsection 107-1.04 and file certified payrolls with the Engineer and DOLWD for all work performed on the project; and
 - h. Upon receipt of a receipt for more information regarding subcontracts, the requested information is provided to the Department within 5 calendar days.
3. The following will be considered as subcontracting, unless performed by the Contractor:
- a. **Roadside Production.** Roadside production of crushed stone, gravel, and other materials with portable or semi-portable crushing, screening, or washing plants set up or reopened in the vicinity of the project to supply materials for the project, including borrow pits used exclusively or nearly exclusively for the project.
 - b. **Temporary Plants.** Production of aggregate mix, concrete mix, asphalt mix, other materials, or fabricated items from temporary batching plants, temporary mixing plants, or temporary factories that are set up or reopened in the vicinity of the project to supply materials exclusively or nearly exclusively for the project.
 - c. **Hauling.** Hauling from the project to roadside production, temporary plants, or commercial plants, from roadside production or temporary plants to the project, from roadside production or temporary plants to commercial plants, and all other hauling not specifically excluded in this subsection.
 - d. **Other Contractors.** All other contractors working on the project site under contract with the Contractor are considered subcontractors unless specifically excluded in this subsection.
4. The following will not be considered as subcontracting, but the Contractor shall comply with the prompt payment provisions AS 36.90:
- a. **Commercial Plants.** The purchase of sand, gravel, crushed stone, crushed slag, batched concrete aggregates, ready-mixed concrete, asphalt paving mix, and any other materials or fabrication produced at and furnished from established and recognized commercial plants that sell to both public and private purchasers.
 - b. **Hauling.** Delivery of materials from a commercial plant to a different commercial plant, and delivery from a commercial plant to the project site by vehicles owned and operated by the commercial plants or by commercial freight companies that have a contract with the commercial plant. Commercial freight companies are trucking or hauling companies that deliver multiple types of materials to multiple clients, both public and private, on an established route, and on a recurrent basis.
 - c. **Contractors' General Business.** Work within permanent home offices, branch plants, fabrication plants, tool yards, and other establishments that are part of a contractor's or subcontractor's general business operations.
5. **Owner-Operators.** Hauling of materials for the project by bona fide truck owner-operators who are listed as such on the certified payroll of the Contractor or approved subcontractor is not considered subcontracting for purposes of AS 36.30.115.

The Contractor shall ensure that the required prompt payment provisions of AS 36.90.210 are included in contracts with owner-operators.

The Contractor shall collect and maintain at the project site current and valid copies of the following to prove that each trucker listed is a bona fide owner-operator.

- a. Alaska Driver's License with appropriate CDL class and endorsements;
- b. Business license for trucking with supporting documents that list the driver as the business owner or corporate officer;
- c. Documents showing the driver's ownership interest in the truck, including copies of:
 - (1) Truck registration; and
 - (2) Lease (if truck is not registered in driver's name or in the name of the driver's company).

The Contractor shall maintain legible copies of these records for a period of at least three years after final acceptance of the project.

Owner-operators must qualify as independent contractors under the current Alaska Department of Labor's criteria. Owner-operators may be required to show:

- a. The owner-operator's right to control the manner in which the work is to be performed;
- b. The owner-operator's opportunity for profit or loss depending upon their managerial skill;
- c. The owner-operator's investment in equipment or materials required for their task, or the employment of helpers;
- d. Whether the service rendered requires a special skill;
- e. The degree of permanence of the working relationship; and
- f. Whether the service rendered is an integral part of the owner-operator's business.

The status of owner-operators is subject to evaluation throughout the project period. If the criteria for an independent contractor are not met, the Contractor shall submit amended payrolls listing the driver as an employee subject to all labor provisions of the Contract.

The Contractor shall issue each owner-operator a placard in a form approved by the Engineer that identifies both the truck driver and the vehicle. The placard shall be prominently displayed on the vehicle so that it is visible to scale operators and inspectors.

Notwithstanding the Department's definitions of contracting and subcontracting, the Contractor shall be responsible for determining and complying with all federal and state laws and regulations regarding contracting, subcontracting, and payment of wages. The Contractor shall promptly pay any fines or penalties assessed for violations of those laws and regulations, and shall promptly comply with the directives of any government agency having jurisdiction over those matters.

E102-030512

Special Provision

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 the last sentence of the first paragraph in No. 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.

CR261-121302

SECTION 109

MEASUREMENT AND PAYMENT

Special Provisions

109-1.02 MEASUREMENT OF QUANTITIES. Under subtitle Electronic Computerized Weighing System Item (1) add the following to the end of the first sentence:

", CD, or a USB device."

109-1.05 COMPENSATION FOR EXTRA WORK ON TIME AND MATERIALS BASIS. 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.

CR14-043105

Standard Modification

Delete Subsection 109-1.06 in its entirety and replace with the following:

109-1.06 PROGRESS PAYMENTS. The Department will make monthly progress payments to the Contractor based on estimates of the value of work performed and materials on hand under Subsection 109-1.07. At the Departments discretion, a progress payment may be made twice monthly if the value of the estimate exceeds \$10,000.

Contractor's failure to pay subcontractors or subcontractor's failure to pay lower tier subcontractors, according to prompt payment provisions required under Subsection 108-1.01 is considered unsatisfactory performance.

The Department will not withhold payment as retainage but may withhold payment for unsatisfactory performance. If satisfactory progress is being made and subcontractors are paid according to Subsection 108-1.01 and AS 36.90.210, the Engineer will authorize 100 percent payment for the estimated value of work accomplished, less any authorized deductions.

If the Engineer finds that satisfactory progress is not being made or payment for satisfactory work by a subcontractor or lower tier subcontractor is not paid according to Subsection 108-1.01, the Engineer may withhold up to 100 percent of the total amount earned from subsequent progress payments. The Engineer may withhold up to 200 percent of the estimated cost to complete final punch list items for unsatisfactory performance until those items are complete. The Engineer will notify the Contractor in writing within eight (8) working days of a request for a progress payment of the reasons why part or all of the payment is being withheld for unsatisfactory performance and what actions may be taken by the Contractor to receive full payment.

Payments of withheld amounts will be made in accordance with AS 36.90.200. No interest will be paid to the Contractor for amounts withheld for unsatisfactory performance except if the Department fails to pay the amount withheld within twenty one (21) calendar days after the Contractor satisfactorily completes the remedial actions identified by the Engineer, as provided in AS 36.90.200(e).

The Contractor shall pay interest on retainage withheld from subcontractors, and at an interest rate according to AS 36.90.250 and AS 45.45.010(a).

E103-030512

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.

E11-063004

SECTION 606**GUARDRAIL**

Delete Subsection 606-2.01 and replace with the following:

606-2.01 MATERIALS. Use materials that conform to the following:

Guardrail Flexible Delineator- The marker includes the delineator (flexible), reflective and retroreflective sheeting and mounting hardware.

The marker materials shall be durable, resistant to impact from (snow and vehicle), vandals, ultraviolet light, moisture, ozone, and hydrocarbons.

When the delineator is loaded, the marker shall bend/flex, remain flexible and oriented as installed continuing to function as designed without permanent displacement. The flexibility may be in the primary vertical element, a connecting device between the vertical element and connection to the support member (spring or other) or a combination.

- Hardware and Fasteners:
 - Steel, and/or
 - Stainless Steel, or
 - Aluminum alloy (hardware only)

Guardrail Reflector Assembly Brackets.....Section 730

Fabricate from aluminum alloy or galvanized steel.

Retroreflective SheetingAASHTO M 268, Type VIII or IX

55750-071713

CONSTRUCTION REQUIREMENTS

Add the following Subsection 606-3.10 Flexible Markers:

606-3.09 GUARDRAIL FLEXIBLE DELINEATOR. For each installation, the flexible delineator shall be attached to the trailing edge of the guardrail post. The flexible markers shall be attached using hardware and attachment methods recommended by the manufacturer.

55750-071713

606-4.01 METHOD OF MEASUREMENT. Add the following:

Guardrail Reflector. Measured by each unit installed and accepted.

Guardrail Flexible Delineator. Measured by each unit installed and accepted.

55750-071713

606-5.01 BASIS OF PAYMENT. Add the following:

4. Guardrail Reflector.

The contract price includes elements complete and installed including but not limited to; reflectors, reflective sheeting, and all associated hardware required for a complete installation.

5. Guardrail Flexible Delineator.

The contract price includes elements complete and installed including but not limited to; delineators, reflective sheeting, and all associated hardware required for a complete installation.

Payment will be made under:

Add the following Pay Items:

<u>Pay Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
606(19A)	Guardrail Reflector	Each
606(19B)	Guardrail Flexible Delineator	Each
55750-071713		

SECTION 640**MOBILIZATION AND DEMOBILIZATION**

Special Provisions

640-1.01 DESCRIPTION. Add the following:

6. Comply with the Alaska Department of Labor and Workforce Development (DOLWD) requirements for Worker Meals and Lodging, or Per Diem; as described in their September 1, 2009 memo WHPL #197 (A3) and the State Laborer's and Mechanic's Minimum Rates of Pay (current issue). On Federal-aid projects, PL 109-59, 119 STAT. 1233, Sec. 1409(c) also applies.

Ensure subcontractors comply with the Federal and State DOLWD requirements.

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

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

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

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

Add the following:

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

640-5.01 BASIS OF PAYMENT. Add the following Pay Item:

Payment will be made under:

<u>Pay Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
640(4)	Worker Meals and Lodging, or Per Diem	Lump Sum

CR6401-033012

SECTION 643

TRAFFIC MAINTENANCE

Special Provisions

643-1.01 DESCRIPTION. Add the following:

Additional work:

- Illuminate construction activities listed in Table 643-3, Night Work Illumination Level, and Area of Coverage, during hours of night work on roads open to the public inside the project limits.

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

Balloon Light: Light surrounding's 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 Table 643-2, Night Work Lighting Requirements.

**TABLE 643-2
NIGHT WORK LIGHTING REQUIREMENTS**

Latitude (degrees)	No Lighting Required		Nearby Cities
	Start	End	
< 61	Lighting Required All Year		Everything South 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
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	

ES14-031506

643-1.03 TRAFFIC CONTROL PLAN. Replace the last paragraph with the following:

A waiver may be requested, in writing, of regulation 17 AAC 25 regarding oversize and overweight vehicle movements inside the project limits. If the waiver is approved, movements of oversize and overweight vehicles in or near traffic inside the project limits will be done according to the provisions of an approved Traffic Control Plan. Maintain a minimum 12 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:

Road Closures and Major Traffic Sequencing (events). Submit a written request to the Engineer for review and approval of each proposed event and event date. Allow 7 days for the Engineer to review any proposed event or subsequent changes/corrections. The proposed event date will be no less than 14 days from the date of written approval.

CR6431-051513

643-1.04 WORKSITE SUPERVISOR.

1. Qualifications. Replace with the following:

Qualifications. The Worksite Traffic Supervisor shall be knowledgeable and experienced regarding the requirements of the ATM and the implementation of those requirements. The Worksite Traffic Supervisor shall be familiar with the Plans, the Specifications, your proposed operations, and certified as one of the following:

- a. Traffic Control Supervisor, American Traffic Safety Services Association (ATSSA)
- b. Work Zone Safety Specialist, International Municipal Signal Association (IMSA)

Certify according to Form 25D-124 that the Worksite Traffic Supervisor is competent and capable, and has the authority to perform the duties and responsibilities in accordance with this Section.

Worksite Traffic Supervisors shall maintain current certification and be able to show their certification anytime they are on the project.

CR6432-110410

2. Duties. Add the following:

- I. Supervise lighting of Night Work.

ES14-031506

Add No. 3:

- 3. Authority. The Worksite Traffic Supervisor shall have the Contractor's authority to stop work and implement immediate corrective action to unsafe traffic control, in locations where unsafe traffic control is present.

643-2.01 MATERIALS.

4. Portable Concrete Barriers. Replace with the following:

Portable Concrete and Steel F Shape Barriers. Use Portable Concrete and Steel F Shape Barriers that conform to the Plans. For each direction of traffic, equip each barrier section with at least two side-mounted retroreflective reflectors or a continuous 4-inch wide horizontal retroreflective stripe mounted 6 inches below the top of the barrier. Place the individual reflectors 2-foot or less from each end and space not more than 10-foot apart. Use yellow reflectors or stripe if you use barriers at centerline. Use white reflectors or stripe if you use barriers on the roadway shoulder.

CR6431-051513

Add the following:

Use reflective sheeting that meets AASHTO M 268 Type III, IV or V.

10. Temporary Crash Cushions. Replace with the following:

Temporary Crash Cushions. Must have FHWA Acceptance letter for National Cooperative Highway Research Program (NCHRP) 350 or Manual for Assessing Safety Hardware (MASH), Test Level 3. Use reflective sheeting that meets AASHTO M 268 Type III, IV or V. Application of crash cushion must be appropriate for the intended use and be installed per manufacturer's recommendation. Temporary crash cushions used as rail or barrier end treatments must be redirective. Temporary crash cushions that are barrels or barricade filled with sand or water are considered nonredirective and may only be used when the forecasted temperature during their use is above 32 degrees Fahrenheit.

CR6432-110410

12. Portable Changeable Message Board Sign. Replace with the following:

Portable Changeable Message Board Sign. Use new truck or trailer mounted portable changeable message board signs with self contained power supply for the sign and with:

- a. Message sign panel large enough to display 3 lines of 18 inch high characters.
- b. Eight character display per message module.
- c. Fully programmable message module.
- d. Remote control cellular, wireless radio frequency (RF), landline.
- e. Waterproof, lockable cover for the controller keyboard.
- f. Capacity for electric/hydraulic sign raising or lowering.
- g. Radar over speed detection.
- h. Variable flash and sequence rates.
- i. Light emitting diode (LED) display, using Institute of Transportation Engineers (ITE) amber/yellow
- j. The capacity for a minimum of 150 pre-programmed messages.
- k. Battery-Pack Operation Duration: minimum of 55 hours under full load.
- l. Power chords shall comply with the National Electrical Code (NEC) Article 600.10 Portable and Mobile Signs, paragraph 600.10(c) (2) ground fault circuit interrupter (GFCI). The chord will have integral GFCI protection located either in the attachment plug or 12 inches or less from the plug.

CR6431-051513

13. Plastic Safety Fence. Replace a., b., and c. with the following:

- a. "Safety Fence" by Jackson Safety, Inc., Manufacturing and Distribution Center, 5801 Safety Drive NE, Belmont, Michigan, 49306. Phone (800) 428-8185.
- b. "Flexible Safety Fencing" by Carsonite Composites, LLC, 19845 U.S. Highway 76, Newberry, South Carolina, 29108. Phone (800) 648-7916.
- c. "Reflective Fencing" by Plastic Safety Systems, Inc., 2444 Baldwin Road, Cleveland, Ohio 44104. Phone (800) 662-6338.

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.

Add No. 17:

17. Truck Mounted Attenuator (TMA). The TMA shall be mounted on a vehicle with a minimum weight of 15,000 pounds and a maximum weight per the manufacturer's recommendations. The TMA shall comply with NCHRP 350 or MASH, Test Level 3 requirements.

CR6432-110410

Add No. 18:

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

CR6431-051513

Standard Modification

Replace Subsection 643-2.02 CRASHWORTHINESS with the following:

643-2.02 CRASHWORTHINESS. Submit documentation, by the method indicated, that the following devices comply with the requirements of National Cooperative Highway Research Program (NCHRP) Report 350 or Manual for Assessing Safety Hardware (MASH), Test Level 3 on the given schedule.

Submit documentation of compliance to the Engineer before installing devices on the project.

Work Zone Traffic Control Device Compliance with NCHRP 350 or MASH		
Category	Devices	Method of Documentation
1	Cones, candles, drums w/o attachments, delineators	Manufacturer's Certification for devices exceeding height and weight limits
2	Barricades, portable sign supports, drums w/lights, other devices weighing less than 100 pounds but not included in category 1	FHWA acceptance letter indicating acceptance at Test Level 3 (when no test level is specified in the letter; it is implied that the tests were run for Test Level 3),
3	Truck mounted attenuators, redirective and nondirective temporary crash cushions	FHWA acceptance letter indicating acceptance at Test Level 3 (when no test level is specified in the letter; it is implied that the tests were run for Test Level 3),
	Portable concrete barriers	FHWA acceptance letter specifying the Test Level required in the Plans or Specifications.

Category 1 devices that exceed the following weights and heights require certification that they meet the evaluation criteria of NCHRP Report 350 or MASH, Test Level 3. This certification may be a one-page affidavit signed by the vendor. Documentation supporting the certification (crash tests and/or engineering analysis) must be kept on file by the certifying organization. No certification is required for devices within the weight and height limitations.

<u>Device</u>	<u>Composition</u>	<u>Weight</u>	<u>Height</u>
Cones	Rubber	20 lb.	36 in.
	Plastic	20 lb.	48 in.
Candles	Rubber	13 lb.	36 in.
	Plastic	13 lb.	36 in.
Drums	Hi Density Plastic	77 lb.	36 in.
	Lo Density Plastic	77 lb.	36 in.
Delineators	Plastic or Fiberglass	N/A	48 in.

E77-100410

643-3.01 GENERAL CONSTRUCTION REQUIREMENTS. Add the following:

Immediately notify the Engineer of any traffic related accident that occurs within the project limits as soon as you, an employee, or a subcontractor becomes aware of the accident.

E90-100410

Add the following:

Where 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 access(s) during flagging operations.

CR6431-051513

643-3.02 ROADWAY CHARACTERISTICS DURING CONSTRUCTION. Add the following:

Where specified in the Plans, Specifications, Special Provisions, and or the TCP: traffic may be maintained on a continuous gravel surface.

1. Specified Gravel Surface. Traffic may be maintained on a continuous gravel surface where specified:
 - a. N/A Highway: N/A weeks.
 - b. BOP to Station N/A : No time restriction.
 - c. Station N/A to Station N/A (or EOP).
 - d. Other project roadways: 1000 ft/5000 ft/10000 ft, no time restriction.
2. Gravel Surface Not Specified.
 - a. Through traffic shall not traverse more than two gravel sections of roadway in any given period.
 - b. Pavement Break(s) for Culvert or Utility Work: Patch pavement breaks(s), with hot mix asphalt, not more than 48 hours after removing the existing pavement.
 - c. When approved by the Engineer.

Pave lanes next to the median first. Pave lanes next to exit and entrance ramps last. Place temporary 12:1 sloped wedge of asphalt concrete against the abrupt pavement edge on lanes next to exit and entrance ramps. Do not open the roadway to traffic until slope wedges are in place.

CR6435-041413

Standard Modification

Replace Subsection 643-3.03 PUBLIC NOTICE with the following:

643-3.03 PUBLIC NOTICE. Make sure the Worksite Traffic Supervisor gives a minimum of 3 days notice before major changes, delays, lane restrictions, or road closures to local officials and transportation organizations, including but not necessarily limited to:

- Alaska Carriers Association
- Alaska Trucking Association
- Alaska State Troopers
- Division of Measurement Standards
- Local Police Department
- Local Fire Department
- Local Government Traffic Engineer
- School and Transit Authorities
- Local Emergency Medical Services
- Local Media (newspapers, radio, television)
- Railroads (where applicable)
- U.S. Postal Service
- Major Tour Operators

Provide local traffic enforcement and maintenance agencies 24 hour notice before shutting down a traffic signal system. Provide notice as required by utility companies before repairing or replacing a utility.

Provide the Alaska State Troopers, local police and fire department with the radio frequencies used on the project and the 24-hour telephone numbers of the Worksite Traffic Supervisor and the Project Superintendent. Tell them to use these numbers to alert you when emergency vehicles must pass through the project. When notified of emergencies, use all equipment and make every necessary effort to expedite rapid passage.

Additional notices may be given through the Navigator System for selected projects. Check the special provisions for those requirements.

E78-100410

643-3.04 TRAFFIC CONTROL DEVICES. Replace paragraphs 6 and 7 with the following:

Use only traffic control devices that meet the requirements of the "Acceptable" category in the American Traffic Safety Services Association (ATSSA) "Quality Guidelines for Temporary Traffic Control Devices" and meet crashworthiness requirements per Section 643-2.02.

Immediately replace any devices provided under this Section that are lost, stolen, destroyed, inoperable or deemed unacceptable while used on the project. Stock repair parts for each Temporary Crash Cushion used on the project. Repair damaged crash cushions within 24 hours.

Maintain pre-existing roadside safety hardware at an equivalent or better level than existed prior to project implementation until the progress of construction necessitates removing the hardware. All existing hazards that are currently protected with roadside safety hardware or new hazards which result from project improvements shall be protected or delineated as required in the Plans, Specifications, and approved TCPs until permanent roadside safety hardware is installed. All temporary roadside safety hardware shall meet NCHRP 350 or MASH, Test Level 3 unless otherwise noted.

CR6432-110410

Replace paragraph 8 with the following:

Items paid under this Section remain the Contractor's property unless stated otherwise. Remove them after completing the project.

1. Embankments. Add the following:

Close trenches and excavations at the end of each continuous work shift, except as indicated by the Engineer.

2. Adjacent Travel Lane Paving. Replace 2. With the following:

Limit pavement-edge and lane-edge drop-offs as specified in Section 401. When paving is deeper than 1 inch and you cannot finish paving adjacent travel lanes or paved shoulders to the same elevation before the end of the paving shift, install one of the following, as appropriate: CW8-11 (Uneven Lanes), CW8-9 (Low Shoulder), CW14-3 (no Passing Zone), R4-1 (Do Not Pass), and R4-2 (Pass with Care). If the Section is longer than 1/2 mile, place additional signs every 1500 feet.

3. Fixed Objects. Add the following:

Remove obstructions greater than 4 inches above the nominal foreslope grade at the end of each continuous work shift.

Replace paragraph three with the following:

If you cannot meet the preceding restrictions because of land features or lack of right-of-way, place vehicles, equipment, material stockpiles, and other items deemed by the Engineer to be fixed objects as far away as practical but at least 15 feet from the edge of traveled way, as approved by the Engineer. Use drums or Type II barricades with flashing warning lights to delineate vehicles, equipment, material stockpiles, and other fixed objects. These traffic control devices are subsidiary.

4. Flagging. Replace with the following:

Furnish trained and competent flaggers and all necessary equipment, including lighting of the flagging position during nighttime operations, to control traffic through the traffic control zone. The Engineer will approve each flagging operation before it begins and direct adjustments as conditions change.

Flaggers must be certified as one of the following:

- a. Flagging Level I Certification by IMSA (International Municipal Signal Association)
- b. Flagger Certification by ATSSA (American Traffic Safety Services Association)
- c. Traffic Control Supervisor, ATSSA
- d. Work Zone Safety Specialist, IMSA
- e. ATSSA Flagging Instructor

Flaggers shall maintain current flagger certification. Flaggers must be able to show their flagger certification anytime they are on the project.

Flaggers must maintain their assigned posts at all times, unless another qualified flagger relieves them, or the approved traffic control plan terminates the flagging requirements. Remove, fully cover, or lay down flagger signs when no flagger is present. Keep the flaggers' area free of encumbrances, keep the flagger vehicle well off the roadway and not close to the flagger station, so that flaggers can be seen easily.

Provide approved equipment for two-way radio communications between flaggers when flaggers are not in plain, unobstructed view of each other.

Obtain the Engineer's written approval before flagging signalized intersections. When you flag a signalized intersection, either turn off and cover the traffic signal or place it in the All-Red Flash mode. Coordinate changing traffic signal modes and turning off or turning on traffic signals with the agency responsible for signal maintenance and operation and the Engineer. Get their written approval in advance. Only uniformed police officers are permitted to direct traffic in an intersection with an operating traffic signal.

6. Street Sweeping and Power Brooming. Replace with the following:

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. Use equipment for brooming and sweeping as recommended by the manufacturer and the following:

Dirt, dust and construction materials, mobilized as a result of power brooming and or sweeping, shall not be pushed, ejected, thrown or drift beyond the lesser of, 2 feet from the equipment perimeter or the edge of the paved surface.

All equipment shall operate to typical industry standards. Maintain equipment to operate as designed by the manufacturer. Equipment will employ safety equipment, warning lights, and other as required by the Specifications and these Special Provisions.

Sweeper and Broom Options: Table 643-4, Traffic Control Rate Schedule, Street Sweeping.

- a. Regenerative Sweeper: Sweeper that blows a stream of air at the paved surface causing fine particles to rise and be caught through a vacuum system.
- b. Vacuum Sweeper: Sweeper that creates a vacuum at the paved surface sucking dirt, dust, and debris into the collection system.
- c. Mechanical Broom Sweeper: Sweeper designed to pick up and collect larger size road debris, stones and litter, etc. In addition to the requirements noted in these Specifications, use of a mechanical broom sweeper requires the Engineer to approve the sweeper for the intended use.
- d. Power Broom: Power brooming that wets, pushes and or ejects loose material directly into an attached collection/pickup container may be used when approved by the Engineer. The added moisture will be contained to the paved roadway surface.

Dry Power Brooming is not permitted. Power brooming without direct/immediate means of collection/pickup is not permitted.

CR6431-051513

Add No. 9:

- 9. Truck Mounted Attenuator (TMA). TMAs are mounted on the rear of work vehicles. TMA shall be mounted on a vehicle with a minimum weight of 15,000 pounds and a maximum weight in accordance with the manufacturer's recommendations. TMA shall have an adjustable height so that it can be placed at the correct elevation during usage and to a safe height for transporting. Approach ends of TMAs shall have impact attenuator markings in accordance with the MUTCD. Do not use a damaged attenuator in the work. Replace at your expense, an attenuator damaged from an impact during work.

Add No. 10:

- 10. Parallel Guardrail Terminal. The price listed in the Traffic Control Rate Schedule, Table 643-4, will be full compensation for the purchase, installation, maintenance during construction, removal, and salvaging the Parallel Guardrail Terminal unit(s). Deliver the salvaged unit(s) to the nearest ADOT & PF Maintenance & Operations yard or as directed by the Engineer.

CR6432-110410

643-3.05 AUTHORITY OF THE ENGINEER. Replace the first sentence with:

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.

CR6431-051513

643-3.06 TRAFFIC PRICE ADJUSTMENT. Add the following in the 2nd paragraph after the 2nd sentence:

Temporary crash cushions required to protect motorists from incomplete guardrail installations, as described in Section 606-5.01 is also an unauthorized lane reduction.

CR6432-110410

Add the following after the 3rd 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, Adjustment Rates, for the time the roadway or pedestrian facility is in an unacceptable condition.

Replace Table 643-1 with the following:

**TABLE 643-1
ADJUSTMENT RATES**

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

CR6431-051513

643-3.08 CONSTRUCTION SEQUENCING. Replace the last sentence with:

Unless otherwise determined by the Engineer and on an approved Traffic Control Plan (TCP), do not restrict traffic during the times listed below.

1. Monday through Friday: 0530 hrs to 0800 hrs and 1630 hrs to 1900 hrs.
2. Around any Holiday:
 - a. If a holiday falls on Sunday, Monday, or Tuesday, the above stipulations apply from 1200 hrs on the Friday before the holiday to 0300 hrs on the day after the holiday.
 - b. If a holiday falls on Wednesday, the above stipulations apply from 1200 hrs on the Tuesday before the holiday to 0300 hrs on the Thursday after the holiday.
 - c. If a holiday falls on Thursday, Friday, or Saturday, the above stipulations apply from 1200 hrs on the day before the holiday to 0300 hrs on the Monday after the holiday.
3. During the Alaska State Fair: Friday from 1600 hrs to Sunday 2300 hrs on all streets except Palmer-Wasilla Highway. No weekend traffic restrictions will be allowed on Palmer-Wasilla Highway.

Lane restrictions, if allowed, shall be conducted so that no more than a 10 minute accumulated stopped delay, 40 vehicles, or 1/4 mile (1320 feet) of traffic is detained, whichever occurs first, before releasing the detained motorists. During paving operations, a 20 minute stopped delay, 80 vehicles, or 1/2 mile (2640 feet) of traffic detained, will be allowed for motorists, except school buses. If a queue of traffic develops at a stop, the entire queue must be emptied to include the last car that entered the queue at the time the queue was released.

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

CR6436-041413

Add the following Subsection 643-3.10:

643-3.10 LIGHTING OF NIGHT WORK. Illuminate the night work areas specified in Table 643-3, Night Work Illumination Level, and Area of Coverage, 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
NIGHT WORK ILLUMINATION LEVEL AND AREA OF COVERAGE**

Type of Work/Equipment	Lighting Configuration
-------------------------------	-------------------------------

Paving, Milling, Striping, Pavement Marking Removal, Rumble Strip Installation	At least two 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 four sealed beam halogen lamps in the front and four in the back. Each should be at least 55 watts.
Flagging	Two balloon lights of at least 2000 watts each located within 30 feet of the normal flagger location. Locate one on the right side of the road beyond the flagger and the other on the left side of the road in front of the flagger.
Truck Crossings (meaning where haul vehicles cross or enter a road): 1) Roads with ADTs over 10,000 2) That are controlled by portable signals or flaggers	Two Balloon lights of at least 2000 watts each located on the main road, one on the far right side of the intersection, the other on the near left. Locate lights within 30 feet of the edges of the side street. If there is a flagger at the crossing, locate the lights to also meet the requirements for flagging.

Use balloon lighting as the main light sources. Do not use floodlights without prior approval by the Engineer. When approved, install floodlighting 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.

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 provide the lighting equipment specified in Table 643-3 or provides lighting that creates unacceptable glare at any time, the Contractor shall cease the operations that require 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 do not interfere with the equipment operator or overhead structures. Connect fixtures securely in a manner that minimizes vibrations.

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 643-3.

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.

ES14-031506

Standard Modification

Add the following Subsection 643-3.11:

643-3.11 HIGH VISIBILITY GARMENTS. Ensure all workers within project limits wear outer garments that are highly visible and comply with the following requirements:

1. Standards. Use high visibility garments conforming to the requirements of ANSI/ISEA 107-2004, Class 2 for tops or Class E for bottoms, and Level 2 retroreflective material.
2. Labeling. Use garments labeled in conformance with Section 11.2 of ANSI/ISEA 107-2004.
3. Tops. Wear high visibility vests, jackets, or coverall tops at all times.
4. Bottoms. Wear high visibility pants or coverall bottoms during nighttime work (sunset to sunrise). Worksite traffic supervisors, employees assigned to traffic control duties, and flaggers wear high visibility pants or coverall bottoms at all times.
5. Outer Raingear. Wear raingear tops and bottoms conforming to requirements in this Subsection, 643-3.11.
6. Exceptions. When workers are inside an enclosed compartment of a vehicle, they are not required to wear high visibility garments.
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.

Payment for high visibility garments for workers is subsidiary to other traffic Pay Items.

E90-100410

643-4.01 METHOD OF MEASUREMENT.

2. Traffic Control Device Items. Replace the second sentence 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, Table 643-4.

CR6431-051513

Add No. 16:

16. Reserved.

CR6433-110812

Add No. 17:

17. Hotline Road Report. 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 Pay Item 643(1) or 643(2), Traffic Maintenance.

643-5.01 BASIS OF PAYMENT.

7. Flagging and Pilot Car. Add the following:

The Engineer will pay for Item 643(15) Flagging on a contingent sum basis at the rate of \$51.00/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.

11. Traffic Control. Add the following:

The Engineer does not require a change order/directive for Pay Item 643(25), Traffic Control.

CR6431-051513

Add No. 16:

16. Reserved.

CR6433-110812

Add No. 17:

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

ES14-031506

Add No. 18:

18. High Visibility Garments. Payment for high visibility garments for workers is subsidiary to other Pay Items.

CR6431-051513

Add No. 20:

20. Temporary Pavement Markings. Except where specified as an individual Pay Item (Interim Pavement Markings) temporary pavement markings are subsidiary to Section 670 Pay Items.

CR6437-041413

Add the following:

**TABLE 643-4
TRAFFIC CONTROL RATE SCHEDULE**

Traffic Control Device	Pay Unit	Unit Rate
Construction Signs	Each/Day	\$6.50
Special Construction Signs	Square Foot	\$28.00
Type II Barricade	Each/Day	\$3.30
Type III Barricade	Each/Day	\$11.00
Traffic Cone or Tubular Marker	Each/Day	\$1.10
Drums	Each/Day	\$3.30
Sequential Arrow Panel	Each/Day	\$55.00
Portable Concrete or Steel F Shape Barrier (12.5 foot long or \$8/foot for other lengths)	Each	\$100.00
Temporary Crash Cushion / Sand or Water Filled Barrels or Barrier (all required per end)	Each	\$1250.00
Temporary Crash Cushion / Redirective	Each	\$2500.00
Pilot Car	Hour	\$70.00
Watering	M-Gallon	\$26.40
Street Sweeping: Regenerative Sweeper, Vacuum Sweeper, Mechanical or Power Broom with Vacuum	Hour	\$183.00
40,000 GVW Truck with Crash Attenuator	Hour	\$130.00
Plastic Safety Fence	Lineal Foot	\$1.00
Portable Changeable Message Board Sign	Calendar Day	\$130.00
Temporary Sidewalk Surfacing	Square Foot	\$2.00
Flexible Markers (Flat Whip, Reflective)	Each	\$60.00
Temporary Guardrail	Lineal Foot	\$25.00

CR6431-051513

Delete Pay Item 643(12).

CR6434-110812

Replace Pay Item 643(15) with the following:

<u>Pay Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
643(15)	Flagging	Contingent Sum

CR6431-051513

SECTION 646
CPM SCHEDULING

Special Provisions

646-2.01 SUBMITTAL OF SCHEDULE. Replace this Subsection with the following:

Submit a detailed initial CPM Schedule at the preconstruction conference for the Engineer's acceptance as set forth below.

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

646-3.01 REQUIREMENTS AND USE OF SCHEDULE. Delete No. 2.

2. 60-Day Preliminary Schedule.

Delete the first sentence of No. 3. Schedule Updates. and substitute the following:

Hold job site progress meetings with the Engineer for the purpose of updating the CPM Schedule. Meet with the Engineer monthly or as deemed necessary by the Engineer.

CR261-121302

SECTION 730

SIGN MATERIALS

Standard Modification

Delete Subsection 730-2.01 SHEET ALUMINUM and replace with the following:

730-2.01 SHEET ALUMINUM. Use alloy 6061-T6, 5052-H36, 5052-H38, or recycled aluminum meeting alloy 3105, as specified in ASTM B 209. Meet the thickness of aluminum sheet designated on the Plans. Verify alloy and temper designation by mill certification.

Before January 1, 2011, treat the aluminum base metal sheets with chromate conversion coating for aluminum to meet ASTM B449, Class 2.

After January 1, 2011, treat the aluminum base metal sheets with a rinsed non-hexavalent chromium conversion coating for aluminum and aluminum alloys that meets ASTM B 921, class one. Handle the cleaned and coated base metal only by a mechanical device or by operators wearing clean cotton or rubber gloves. After cleaning and coating operations, protect the panels at all times from contact or exposure to greases, oils, dust, or other contaminants.

Make each sign panel a continuous sheet for all lengths 72 inches or less in the horizontal direction. Use no more than one vertical splice for signs up to 144 inches in length and 48 inches or less in height.

Meet the panel dimensions specified with a tolerance of 1/16 inch. Furnish metal panels that are cut to size and shape and free of buckles, warp, dents, cockles, burrs, and any other defects resulting from fabrication. Complete all possible fabrication, including shearing, cutting, and punching of holes prior to the base metal preparation.

E86-041210

Special Provision

730-2.04 SIGN POSTS.

Add No. 7:

7. Structural Tubing and W-Shape Beams.

- a. Structural tubing shall conform to 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.

CR81-062204

INDEX

Standard Modification

INDEX Remove the text. “Approved Products List” and replace with: *Qualified Products List*

E36-012707

APPENDIX A
CONSTRUCTION SURVEY REQUIREMENTS



**Alaska
Department of
Transportation
and
Public Facilities**

**Alaska
Construction
Surveying
Requirements (US
Customary Units)**

Alaska Construction Surveying Requirements (US Customary Units)

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1. Survey accuracy requirements

Third order survey

- ✓ Use a 1/5000 horizontal closure.
- ✓ Use an angle closure of $30\sqrt{N}$ seconds, where N equals the number of angles in the traverse.
- ✓ An Alaska-registered professional land surveyor must perform or supervise replacement of survey monuments (property, USGS, USC&GS, BLM, etc.) or establishment of monuments (including centerline).
- ✓ All monument work must comply with AS 34.65.040 and meet standards in the latest version of the Alaska Society of Professional Land Surveyors' *Standards of Practice Manual*.
- ✓ The allowable vertical error for misclosure is $e = 0.05\sqrt{M}$ e = maximum misclosure in feet, M = length of the level circuit in miles.

Table 1—Survey accuracy requirements (in feet)

	Stationing	HI	Closure	Horizontal Angle	Distance To center line	Grade
Additional cross sections	1.0	0.01	0.04	**	0.1	0.1
Benches		0.01	0.02			
Blue tops***	1.0	0.01	0.04		0.1	0.02
Bridges	*	0.01	0.02			0.01
Centerline	*			*		
Clearing & Grubbing	1.0				1.0	
Culverts	1.0	0.01	0.04	**	0.1	0.1
Curb & gutter	1.0	0.01	0.02		0.1	0.02
Grade stakes	1.0				0.1	0.1
Guardrail	1.0				0.1	
Manholes, catch basins & inlets	1.0	0.01	0.02		0.1	0.02
Monuments	*			*		
Red tops***	1.0	0.01	0.02		0.1	0.05
Riprap	1.0	0.1	0.04		1.0	0.1
Signs	1.0				0.1	
Slope stakes & RP's	1.0	0.01	0.04	**	0.1	0.1
Under drains & sewer	1.0	0.01	0.02		0.1	0.02

* Third order survey

**Right angle prism or transit angles from center line

*** Use blue tops for top of base course and red tops for the bottom of base course.

1. Survey frequency requirements

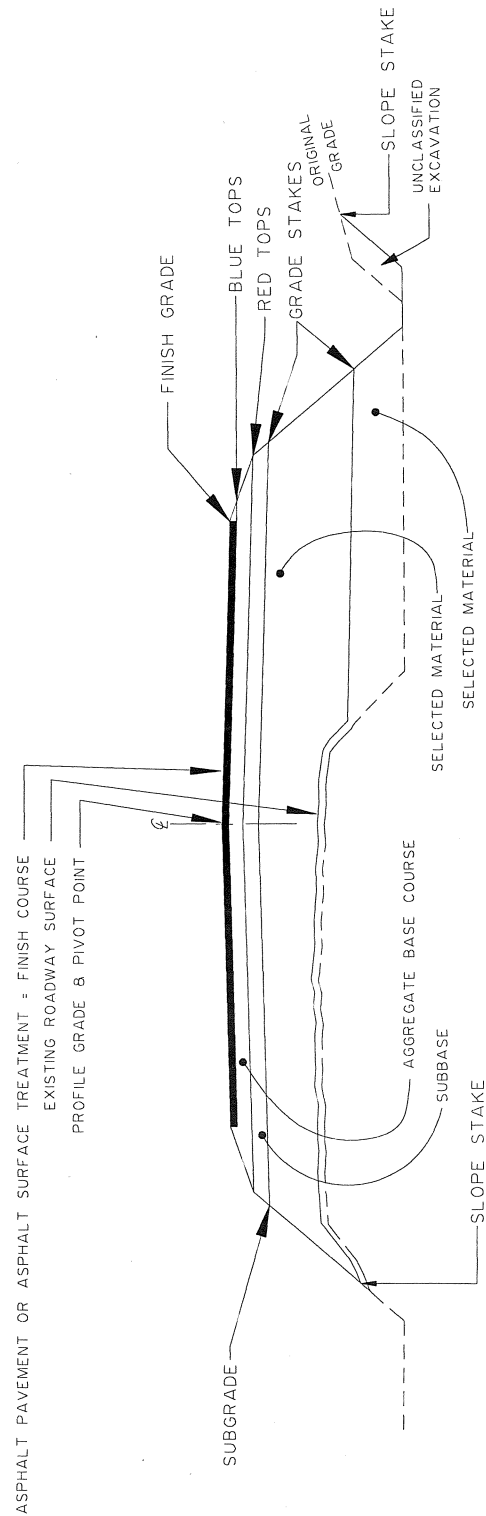
Table 2—Survey frequency requirements (in feet)

	Tangents	Curves	Interchange ramps	Stake each per plan	See special instructions on sample notes
Additional cross sections	*	*	*		
Bench marks					X
Blue tops	100	100**	25		X
Blue tops within 100 feet both sides of railroad track crossings and bridge approaches	25	25	25		X
Bridges				X	X
Center line	100	100**	25		
Clearing	100	100**	25		X
Culverts				X	X
Curb and gutter	25	25	25		
Grade stakes	100	100**	50		
Guardrail	25	25	25		
Manholes, catch basins & inlets				X	
Monuments				X	
Red tops	100	100**	25		X
Riprap	50	50	50		
Signs				X	
Slope stake / cross sections	100	100**	25		X
Under drains and sewers	50	25	25		

* Establish additional cross sections and slope stakes at all breaks in topography and where structures begin and end.

**Curves shall be staked on 50-foot stations if the curve is greater than six degrees.

2. Typical Section Drawing



TYPICAL SECTION

NOT TO SCALE

3. Survey point materials requirements

- ✓ These are minimum requirements; larger sizes may be necessary.
- ✓ Use only stakes with planed sides.

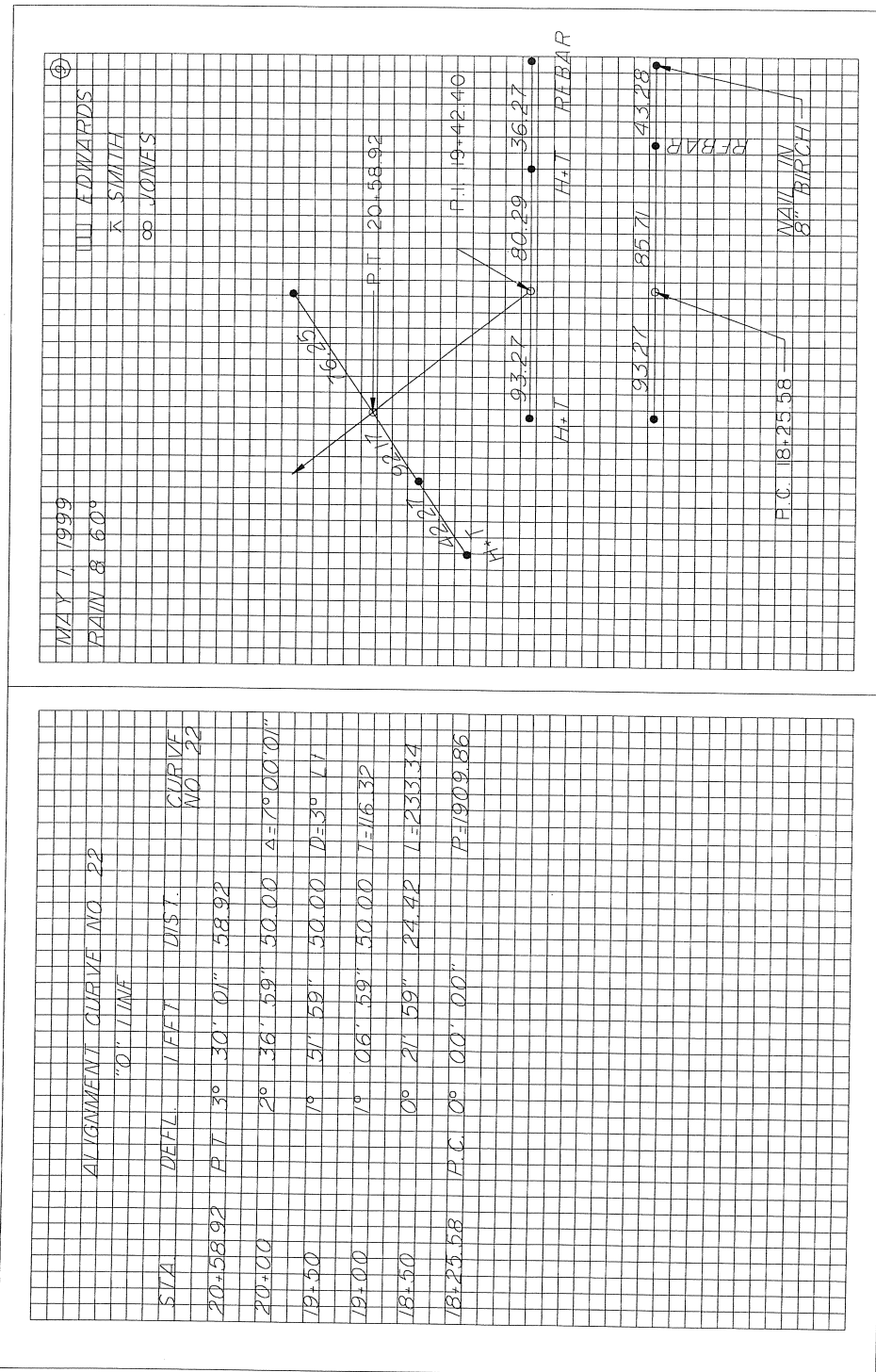
Table 3—Survey point materials requirements

	24" lath or whiskers	2" x 2" x 8" hub	2" x 2" x 12" hub	1" x 2" x 18" stake	1" x 2" x 24" stake	48" lath	Hub and tack	40d nail	60d nail	1/2" x 24" rebar
Benchmarks									X	
Blue tops	X	X								
Centerline P.C., P.T., P.O.T.			X	X			X *			X*
Centerline reference points			X	X			X *			X *
Centerline station				X				X		
Clearing						X				
Culvert stake			X		X	X				
Culvert stake references			X		X	X				
Curb and gutter			X		X		X			
Guardrail								X		
Major structures			X	X *	X *	X	X *			X *
Red tops	X	X								
Signs						X				
Slope stake					X	X				
Slope stake references			X		X	X				

* Optional depending on conditions, and to be determined by the Project Engineer.

4. Typical alignment notes

- ✓ The Chief of Parties must prepare the alignment book before actual staking.
- ✓ Don't use swing ties for reference points.
- ✓ Use three point right angle ties, two to the right and one left, or vice versa.
- ✓ Reference P.C., P.I., P.T., and P.O.T.



5. Typical clearing notes

- ✓ Exclude areas not needing clearing.
- ✓ Draw a diagram as required to show unusual or confusing areas.

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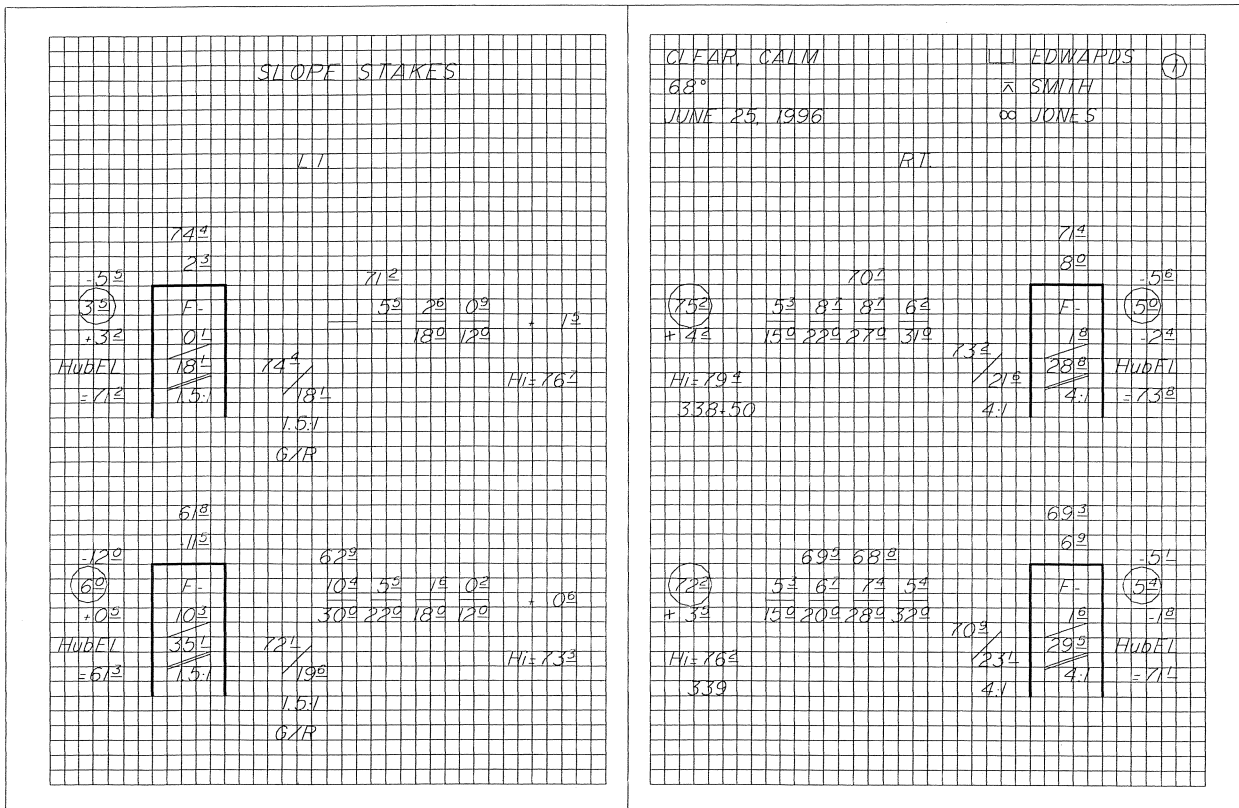
6. Typical level notes

- ✓ Balance back sights and foresights.
- ✓ Establish all benchmarks and take the centerline profile before doing any staking involving elevations.
- ✓ Don't set benchmarks in utility poles.
- ✓ Don't use side shots on benchmarks.
- ✓ Use the turn through method when establishing benchmarks.
- ✓ Re-check benchmarks after each major freeze/thaw cycle and/or any environmental event that may change the benchmark elevation.
- ✓ Do not use double rodding.
- ✓ Run separate level loops between all benchmarks.
- ✓ Set benchmarks in trees of at least six-inch diameter, unless approved by the Project Engineer.
- ✓ Correct errors in benchmark elevations so they will not affect the elevations of succeeding benchmarks.
- ✓ Consult with the Project Engineer before placing benchmarks in areas of permafrost or other unstable ground.
- ✓ Establish benchmarks at intervals and locations consistent with good engineering practice, and generally not more than 1000 feet.
- ✓ Completely describe benchmarks when establishing or re-establishing their elevation. Give centerline stationing, offset, benchmark projection, and observable benchmark characteristics. When checking into or out of benchmarks, note the book and page number that contains the most recent elevation establishment for that benchmark.
- ✓ Write the station on the top twelve inches facing centerline, with numerals a minimum of one inch in height.

STA.	BS+	HI	FS-		ELEV.	45°± CLEAR WARM CALM			⚠ □ □	EDWARDS
						WILD 413579	3-23-90		+	SMITH
TBM #101										
6+72					161.309	Nail in	base of 12" Spruce			
	3.877	165.186					85' 10" LT.	6+72		
6+00			1.95		163.24					
6+25			2.32		162.87					
6+50			2.96		162.23					
I.P.			3.246		161.940					
	1.103	163.043								
6+75			2.31		160.73					
7+00			2.56		160.48					
I.P.			2.823		160.220					
	2.332	162.552								
						Nail in	base of 18" stump			
TBM #102			1.143		161.409	60' 4" RT	7+21	Elev.	161.413	

7. Typical slope stake notes

- ✓ Enter the station, elevations, shoulder distance or ditch distances, and slope in the slope stake book before staking begins.
- ✓ In areas where slides or overbreak are anticipated, extend the sections beyond the construction limits.
- ✓ Slope-stake each section that is cross-sectioned.
- ✓ Final re-cross sections are required where there are overbreaks, undercuts, etc. Re-cross section book and page numbers shall be noted on the original cross-section and slope staking page for the relevant stations.
- ✓ Include at least the following information on the stake: (1) where to begin the cut or fill (2) the slope ratio (3) the depth of cut or height of fill and (4) the station.
- ✓ Use a hand level only for one turn up or down from the instrument.
- ✓ Clearly note hand level turns.
- ✓ Use a reference point that is 10-20 feet beyond the slope stake.
- ✓ The reference point must show the cut or fill to the slope stake and must include the slope stake information.
- ✓ Slope stake all abrupt changes in typical sections.
- ✓ Position all laths to face centerline.

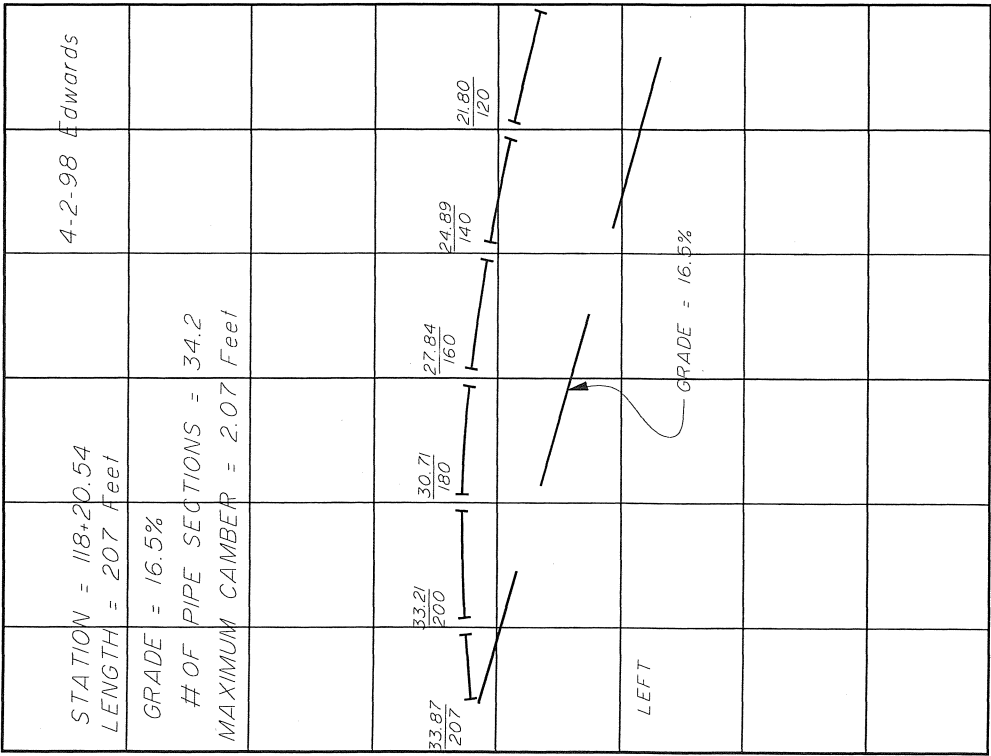
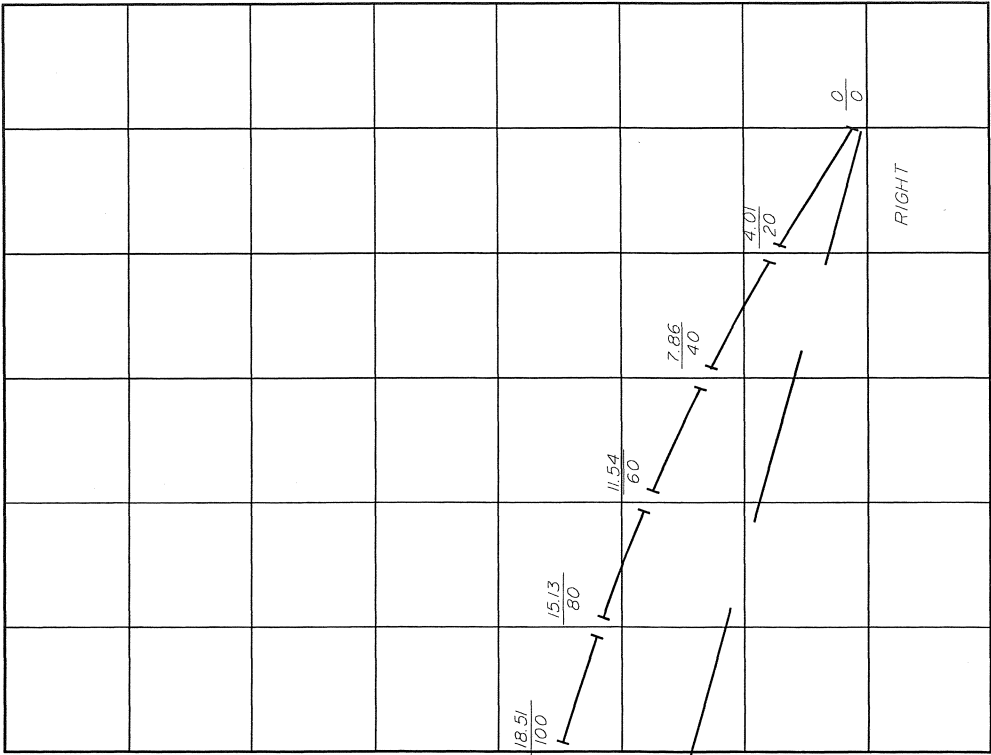


8. Typical culvert notes

- ✓ Show at least the following information on culvert stakes
 - station
 - size
 - length
 - type of pipe (e.g., 24" x 80' CMP)
 - cut or fill from top of hub to inlet & outlet
 - skew angle
 - horizontal distance from hub to end of pipe
 - gradient of pipe
 - drop of pipe
- ✓ Ensure that all culverts have a minimum camber equal to 1% of the length of the pipe, unless the Project Engineer directs otherwise.
- ✓ Develop a culvert camber diagram showing each section of pipe and its elevation and offset.

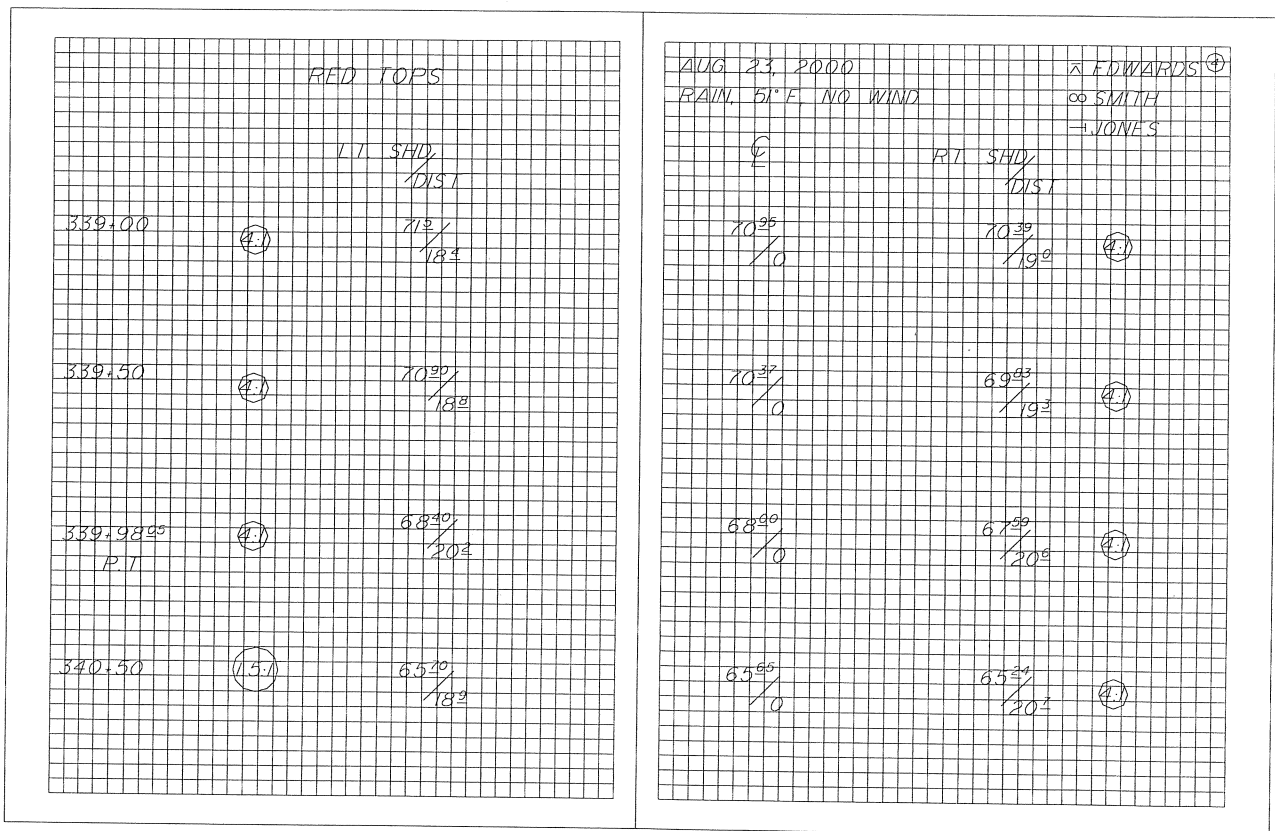
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9. Typical culvert camber diagram



10. Typical blue or red tops and grade stake notes

- ✓ Place blue and red tops at each break in typical section and on centerline.
- ✓ Use blue tops for top of base course.
- ✓ Use red tops for the bottom of the base course.
- ✓ Evenly space red/blue tops at and between crown section break points with a maximum spacing of 25 feet between red/blue tops.
- ✓ Establish horizontal control from centerline references and vertical control from benchmarks.
- ✓ Place blue tops at the same interval as slope stakes.
- ✓ Stake all curve transitions.



APPENDIX B
MATERIAL CERTIFICATION LIST

HIGHWAY MASTER MATERIALS CERTIFICATION LIST, EXCEPT SECTION 660/661/740

(current 1/30/12)

Project Name

HSIP: CR GUARDRAIL DELINEATION ENHANCEMENT

Project Number

0001(475)/ 55750

Project Engineer Signature

Unshaded boxes indicate who approves the manufacturer's certificate of compliance or materials submittals. If two boxes not shaded, either approving authority may be used.

Materials Item	Specification	Construction		Design			Statewide Materials		Manufacturer/ Remarks	Certificate Location e.g. Binder #
	2004 or Std. Mod. if noted	Project Engineer	Regional Materials or QA Engineer	Design Engineer of Record	State Bridge Engineer	Regional Traffic Engineer	*Qualified Products List (QPL)	State Materials or QA Engineer		
606 GUARDRAIL										
Guardrail Flexible Delineator	606-2.01 Details in Plans									
	606-2.01 Details in Plans									
Guardrail Reflector										
Reflective Sheeting Type__	606-2.01									
615 STANDARD SIGNS										
Sheet Aluminum	730-2.01/Plans									
643 TRAFFIC MAINTENANCE										
Traffic Control Devices	643-2.01								643 Materials approved on project with TCP conforming to Alaska Traffic Manual (ATM).	

APPENDIX C
RAILROAD PERMIT

