

**STATE OF ALASKA  
DEPARTMENT OF FISH AND GAME**

**DIVISION OF SPORT FISH  
BOATING & ANGLER ACCESS PROGRAM**



**PROPOSAL, CONTRACT, BOND  
AND SPECIAL PROVISIONS**

**SUSITNA LANDING BOAT LAUNCH AND  
FACILITY RENOVATION  
PROJECT NO. F-13-D-188/2011280224**

**AS ADVERTIZED JUNE 26, 2026**

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6.	<u>State Wage Rates</u>		
	State wage rates can be obtained at <a href="http://www.labor.state.ak.us/lss/pamp600.htm">http://www.labor.state.ak.us/lss/pamp600.htm</a> 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 FISH AND GAME

**INVITATION TO BID**

for Construction Contract

Date 6/26/2026

**Susitna Landing Boat Launch and Facility Renovation, Project No. F-13-D-188/2011280224**

Project Name and Number

The Department invites bidders to submit bids for furnishing all labor, equipment, and materials and performing all work for the project described below. The Department will only consider bids received **before 2:00 PM local time (per the Department's time source) on the 17th day of July 2026**. On that date, the Department will assemble, open, and then publicly announce the timely-received bids at **1255 W 8<sup>th</sup> St. Juneau, AK, at 3:00 PM**, or as soon thereafter as practicable.

Location of Project: 14400 Susitna Landing Road Willow, AK 99688  
Contracting Officer: Eric Verrelli, Procurement Specialist 5  
Issuing Office: Department of Fish and Game Procurement Office  
State Funded  Federal Aid

Description of Work:

**Replace the existing articulated-concrete-block boat launch and floats with a new concrete ramp and aluminum boarding floats supported by new galvanized steel pipe. The associated scope includes demolition and disposal of the existing ramp, cast-place-concrete slabs and abutments, pre-cast concrete panels, aluminum boarding floats, galvanized steel pipe pile, riprap revetment, streambank restoration and stabilization, excavation, embankment, water line utility improvements, vault toilets, signage, electrical, and other miscellaneous improvements. Elements of the scope require in-water work.**

The Engineer's Estimate is between \$2,500,000 and \$5,000,000

All work shall be completed in N/A Calendar Days, or by **November 15, 2027**.  
The Department will identify interim completion dates, if any, in the Special Provisions.

The apparent successful bidder must furnish a payment bond in the amount of **100%** of the contract and a performance bond in the amount of **100%** of the contract as security conditioned for the full, complete and faithful performance of the contract. The apparent successful bidder must execute the said contract and bonds within fifteen calendar days, or such further time as may be allowed in writing by the Contracting Officer, after receiving notification of the acceptance of their bid.

**Submission of Bidding Documents**

Bidders may submit bidding documents electronically via email to [dfg.contracting@alaska.gov](mailto:dfg.contracting@alaska.gov) through the State of Alaska Zendto service, or through the mail or hand delivered. For mailed or hand delivered bids and for electronically submitted bids with a paper bid guaranty, documents shall be submitted in a sealed envelope marked as follows:

<p><b>Bidding Documents for Project:</b> Susitna Landing Boat Launch and Facility Renovation, Project No. F-13-D-188/2011280224</p>	<p><b>ATTN:</b> Alaska Department of Fish and Game Contracting – Eric Verrelli PO BOX 115526 Juneau, AK 99811-5526</p>
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It is incumbent upon the bidder to ensure its bid, any amendments, and/or withdrawal arrive, in its entirety, at the location and before the deadline stated above. A bidder sending a bid amendment or withdrawal via email must transmit its documentation to the Department at this email address: [dfg.contracting@alaska.gov](mailto:dfg.contracting@alaska.gov)

To be responsive, a bid must include a bid guaranty equal to 5% of the amount bid. *(When calculating the bid amount for purposes of determining the 5% value of the bid guaranty, a bidder shall include its base bid amount, plus the amount bid for alternate and supplemental bid items, if any.)*

The Department hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this Invitation, Disadvantaged Business Enterprises 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

The following data may assist a bidder in preparing its bid:

### SEE SPECIAL NOTICE TO BIDDERS

#### Bid Submission Options:

1. Email bid to [dfg.contracting@alaska.gov](mailto:dfg.contracting@alaska.gov)
2. Use the State of Alaska Zendto tool: <https://drop.state.ak.us/>
3. Physically mail your bid:
  - a. If using the United States Postal Service, mail bids to:  
PO Box 115526  
Juneau, AK 99811-5526
  - b. If using private mailing services, mail bids to:  
1255 W 8th St  
Juneau, AK 99801

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A bidder may obtain electronic copy of project plans and specifications by emailing [dfg.contracting@alaska.gov](mailto:dfg.contracting@alaska.gov).

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If a bidder has a question relating to design features, constructability, quantities, or other technical aspects of the project, it may direct its inquiry to [dfg.contracting@alaska.gov](mailto:dfg.contracting@alaska.gov)

A bidder requesting assistance in viewing the project site must make arrangements at least 48 hours in advance.

The point of contract for inquiries for this project is:

Tracy Smith  
HQ Boating & Angler Access Program Coordinator  
Email: [dfg.dsf.HQaccess@alaska.gov](mailto:dfg.dsf.HQaccess@alaska.gov)  
Phone: (907) 267-2264

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A bidder may direct questions concerning bidding procedures and requirements to:

Eric Verrelli  
Procurement Specialist 5  
Email: [dfg.contracting@alaska.gov](mailto:dfg.contracting@alaska.gov)  
Phone: (907) 465-6178

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#### Other Information:

Bid results will be available approximately 1 hour after the bid opening on the Online Public Notices website solicitation posting for this project.

## SPECIAL NOTICE TO BIDDERS

The Department hereby notifies bidders that information to assist in bid preparation is available.

1. **Publications.** The following are available online, or as noted:
  - a. Standard Specifications for Highway Construction, download at: [www.dot.state.ak.us/stwddes/dcsspecs/assets/pdf/hwyspecs/sshc2020.pdf](http://www.dot.state.ak.us/stwddes/dcsspecs/assets/pdf/hwyspecs/sshc2020.pdf), or order bound book from LuLu at: <https://www.lulu.com/en/us/shop/state-of-alaska-dept-of-transportation/2020-alaska-standard-specification-for-highway-construction/paperback/product-1gq9j9qk.html>
  - b. Alaska Test Methods Manual (Lab & Field), May 19, 2025 Edition. Available online at: [www.dot.state.ak.us/stwddes/desmaterials/mat\\_waqtc/testman.shtml](http://www.dot.state.ak.us/stwddes/desmaterials/mat_waqtc/testman.shtml)
  - c. Alaska Storm Water Pollution Prevention Plan Guide, March 2021. [www.dot.state.ak.us/stwddes/desenviron/resources/stormwater.shtml](http://www.dot.state.ak.us/stwddes/desenviron/resources/stormwater.shtml)
  - d. Utility facility clearance requirements. Available online at: Matanuska Electric Association, Inc. (MEA) Electrical Facility Clearance Requirements <https://www.mea.coop/power-safety/electrical-safety>
2. **Other Publications.** These items are available upon request from the Department:
  - a. Wheaton Water Wells Well Log, Dated June 6, 1989
  - b. As-Builts/Bid Documents
    - Susitna Landing Facility Improvements, Project 77954-2, Dated August 21, 2006
    - Susitna Landing Facility Repairs, Project 70453-1, As-Built date June 25, 2014
3. **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 C.
4. **Build America, Buy America Act.** Effective for Federal award obligations after October 23, 2023, meet the requirements at 2 CFR 184 for construction materials.
  - a. **Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment.** 2 CFR 200.216, as amended effective August 13, 2020, Federal Register, Vol. 85, No. 157, 49506 – 49582, Prohibition on certain telecommunication and video surveillance services or equipment. Refer to Subsection 106-1.01.
5. **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 640.0004.0000.
6. **Interim Completion Phase.** This project includes at least one interim completion phase. Refer to Subsection 651-1.05 Interim Completion and Subsection 652-1.05 Failure to Complete on Time for further
7. **Contract Price Adjustment(s).** The Department will not provide cost escalation or de-escalation price adjustment for this contract, except for specific items described in the bid package at the time of bid opening.
8. **Electronic Bidding.** The Department can receive bids electronically, by mail, or hand delivered.
  - a. Email bid to [dfg.contracting@alaska.gov](mailto:dfg.contracting@alaska.gov)
  - b. Use the State of Alaska Zendto tool: <https://drop.state.ak.us/>
  - c. Physically mail your bid:
    1. If using the United States Postal Service, mail bids to:  
PO Box 115526  
Juneau, AK 99811-5526
    2. If using private mailing services, mail bids to:  
1255 W 8th St  
Juneau, AK 99801



STATE OF ALASKA  
DEPARTMENT OF FISH AND GAME

**REQUIRED DOCUMENTS**  
Federal-Aid Contracts  
(FHWA)

**REQUIRED FOR BID.** Bids will not be considered if the following documents are not completely filled out and submitted at the time of bidding:

**1. Bid Forms**

- a. Bid Cover Sheet
- b. Bid Schedule
- c. Bid Attachments (as applicable)
  - There are no required attachments for this solicitation.
- d. Addenda Acknowledgement
- e. Bidder's Acknowledgement and Certification

**2. Bid Security**

**REQUIRED FOR BID MODIFICATIONS.** Any bid revisions must be submitted by the bidder prior to bid opening. Use the following form to modify Manual (paper) bids:

**3. Bid Modification (Form 25D-166ADF&G)**

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**REQUIRED AFTER NOTICE OF APPARENT LOW BIDDER.** The apparent low bidder is required to complete and submit the following documents within 5 working days after receipt of written notification:

**1. Subcontractor List (Form 25D-56ADF&G)**

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**REQUIRED FOR AWARD.** In order to be awarded the contract, the successful bidder must completely fill out and submit the following documents within the time specified in the intent to award letter:

1. Construction Contract (Form 25D-10H6ADF&G)
2. Payment Bond (Form 25D-126ADF&G)
3. Performance Bond (Form 25D-136ADF&G)
4. Contractor's Questionnaire (25D-86ADF&G)
5. Certificate of Insurance (from carrier)
6. EEO-1 Certification (Form 25A-304)
7. Non-Domestic Minimal Use & De Minimis Register (Form 25D-60)
8. Bidder Registration (Form 25D-6ADF&G) Bidders must register annually with the Civil Rights Office in order to be eligible for award.



STATE OF ALASKA  
DEPARTMENT OF FISH AND GAME

## FEDERAL EEO BID CONDITIONS

### NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

<b>Economic Area</b>	<b>Goals for minority participation in each trade</b>	<b>Goals for female participation in each trade</b>
Anchorage Metropolitan Statistical Area	8.7%	6.9%
Remainder of State	15.1%	

These goals are applicable to all of the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is the **Anchorage MSA.**

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS FOR ALL NON-EXEMPT FEDERAL AND FEDERALLY-ASSISTED CONSTRUCTION CONTRACTS TO BE AWARDED IN THE STATE OF ALASKA

1. Definitions. As used in these specifications:
  - a. “**Covered area**” means the geographical area described in the solicitation from which this contract resulted;
  - b. “**Director**” means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;
  - c. “**Employer identification number**” means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
  - d. “**Minority**” includes:
    - (1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
    - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
    - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
    - (4) American Indian or Alaska Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area, either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance

Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer to either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
  - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
  - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
  - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
  - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
  - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
  - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, general foreman, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and dispositions of the subject matter.
  - h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
  - i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
  - j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
  - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
  - l. Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
  - m. Ensure that seniority practices, job classifications, work assignments and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
  - n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
  - O. Document and maintain a record of all solicitations of offers for subcontractors from minority and female construction contractors and suppliers, including circulations of solicitations to minority and female contractor associations and other business associations.
  - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any or more of its obligations under 7a through 7p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, or national origin.
11. The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR part 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic apprentice, trainees, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that the existing records satisfy this requirement, Contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws that establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Programs).



STATE OF ALASKA  
DEPARTMENT OF FISH AND GAME

**SUBCONTRACTOR LIST**

Susitna Landing Boat Launch and Facility Renovation, Project No. F-13-D-188/2011280224

**Project Name and Number**

The apparent low bidder shall complete this form and submit it so as to be received by the Contracting Officer prior to the close of business on the fifth working day after receipt of written notice from the Department.

An apparent low bidder who fails to submit a completed Subcontractor List form within the time allowed will be declared nonresponsible and may be required to forfeit the bid security.

Scope of work must be clearly defined. If an item of work is to be performed by more than one firm, indicate the portion or percent of work to be done by each.

Check as applicable:  All Work on the above-referenced project will be accomplished without subcontracts

Or

List all first tier Subcontractors as follows:

FIRM NAME, ADDRESS, PHONE NO.	AK BUSINESS LICENSE NO., CONTRACTOR'S REGISTRATION NO.	SCOPE OF WORK TO BE PERFORMED

CONTINUE SUBCONTRACTOR INFORMATION ON REVERSE

For projects with federal-aid funding, I hereby certify Alaska Business Licenses and Contractor Registrations will be valid for all subcontractors prior to award of the subcontract. For projects without federal-aid funding (State funding only), I hereby certify the listed Alaska Business Licenses and Contractor Registrations were valid at the time bids were opened for this project.

\_\_\_\_\_  
Signature of Authorized Company Representative

\_\_\_\_\_  
Title

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Company Address (Street or PO Box, City, State, Zip)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Phone Number







2. What percent of the total value of this contract do you intend to subcontract? \_\_\_\_\_%

3. Do you propose to purchase any equipment for use on this project?  
 No  Yes If YES, describe type, quantity, and approximate cost:

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4. Do you propose to rent any equipment for this work?  
 No  Yes If YES, describe type and quantity:

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5. Is your bid based on firm offers for all materials necessary for this project?  
 Yes  No If NO, please explain:

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**C. EXPERIENCE**

1. Have you had previous construction contracts or subcontracts with the State of Alaska?  
 Yes  No

Describe the most recent or current contract, its completion date, and scope of work:

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2. List, as an attachment to this questionnaire, other construction projects you have completed, the dates of completion, scope of work, and total contract amount for each project completed in the past 12 months.

**I hereby certify that the above statements are true and complete.**

\_\_\_\_\_  
Name of Contractor

\_\_\_\_\_  
Name and Title of Person Signing

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



STATE OF ALASKA  
DEPARTMENT OF FISH AND GAME

**BID FORM**

for

**Susitna Landing Boat Launch and Facility Renovation, Project No. F-13-D-188/2011280224**

Project Name and Number

by

Company Name

Company Address (Street or PO Box, City, State, Zip)

**TO THE CONTRACTING OFFICER,  
DEPARTMENT OF FISH AND GAME:**

In compliance with your Invitation to Bid dated \_\_\_\_\_, the Undersigned proposes to furnish and deliver all the materials and do all the work and labor required in the construction of the above-referenced Project, located at or near Willow, Alaska, according to the plans and specifications and for the amount and prices named herein as indicated on the Bid Schedule consisting of \_\_\_ sheet, which is made a part of this Bid.

The Undersigned declares that he has carefully examined the contract requirements and that he has made a personal examination of the site of the work; that he understands that the quantities, where such are specified in the Bid Schedule or on the plans for this project, are approximate only and subject to increase or decrease, and that he is willing to perform increased or decreased quantities of work at unit prices bid under the conditions set forth in the Contract Documents.

The Undersigned hereby agrees to execute the said contract and bonds within fifteen calendar days, or such further time as may be allowed in writing by the Contracting Officer, after receiving notification of the acceptance of this bid, and it is hereby mutually understood and agreed that in case the Undersigned does not, the accompanying bid guarantee shall be forfeited to the State of Alaska, Department of Transportation and Public Facilities as liquidated damages, and the said Contracting officer may proceed to award the contract to others.

The Undersigned agrees to commence the work within 10 calendar days, and to complete the work within NA calendar days, after the effective date of the Notice to Proceed, or by **November 15, 2027**, unless extended in writing by the Contracting Officer.

The Undersigned proposes to furnish Payment Bond in the amount of **100%** (of the contract) and Performance Bond in the amount of **100%** (of the contract), as surety conditioned for the full, complete and faithful performance of this contract.

The Undersigned acknowledges receipt of the following addenda to the drawings and/or specifications (give number and date of each).

<b>Addenda Number</b>	<b>Date Issued</b>	<b>Addenda Number</b>	<b>Date Issued</b>	<b>Addenda Number</b>	<b>Date Issued</b>

---

**NON-COLLUSION DECLARATION**

The Undersigned declares, under penalty of perjury under the laws of the United States, that neither he nor the firm, association, or corporation of which he is a member, has, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this bid.

---

**The Undersigned has read the foregoing and hereby agrees to the conditions stated therein by affixing his signature below:**

\_\_\_\_\_  
**Signature of Authorized Company Representative**

\_\_\_\_\_  
**Typed Name and Title**

( )

**Phone Number**

( )

**Fax Number**

\_\_\_\_\_  
**Email Address**



STATE OF ALASKA  
DEPARTMENT OF FISH AND GAME

**BID SCHEDULE**

Project Name: Susitna Landing Boat Launch and Facility Renovation

Project Number: F-13-D-188/2011280224

Before preparing this bid schedule, read carefully, Section 102 of the 2020 edition of the Standard Specifications for Highway Construction, and the following:

The Bidder shall insert, as called for, a unit price or lump sum price in figures opposite each pay item for which an estimated quantity appears in the bid schedule. A unit price or lump sum price is not to be entered or tendered for any pay item not appearing in the bid schedule. The estimated quantity of work for payment on a lump sum basis will be "All Required" (All Req'd) and as further specified in the contract.

Whenever a Contingent Sum is shown for any item in this schedule, such amount shall govern and be included in the bid total.

Conditioned or qualified bids will be considered non-responsive.

Notice: Contract award will be made on the basis of the total adjusted basic bid.

The bidder shall insert a unit bid price for each pay item listed below. Type or print legibly.

Pay Item Number	Pay Item Description	Pay Unit	Quantity	Unit Bid Price	Amount Bid
-----------------	----------------------	----------	----------	----------------	------------

\*\*\*\*\* BASIC BID \*\*\*\*\*

201.0009.0000	Clearing And Grubbing	LS	All Req'd		
202.0001.0000	Removal of Structures and Obstructions	LS	All Req'd		
202.0003.0000	Removal of Sidewalk	SY	1,950		
202.0004.0000	Removal of Culvert Pipe	LF	30		
203.0003.0000	Unclassified Excavation	CY	7,910		
203.0005.000A	Borrow, Type A	CY	2,300		
203.2057.0000	Dewatering	LS	All Req'd		
301.0004.00E1	Aggregate Surface Course, Grading E-1	CY	1,350		
603.0001.0030	CSP 30 Inch	LF	108		
607.2002.0000	Double Swing Gate	EA	2		
607.3000.0000	Dumpster Enclosure	LS	All Req'd		
609.2003.0000	Concrete Parking Bumper	EA	39		
611.0001.0001	Riprap, Class I	CY	611		

611.0001.0002	Riprap, Class II	Cy	35		
615.0001.0000	Standard Sign	SF	54		
615.0002.0000	Remove and Relocate Sign	EA	8		
615.0006.0000	Salvage Sign	EA	4		
618.0001.0000	Seeding	Acre	2.4		
620.0001.0000	Topsoil	SY	11,430		
621.0001.0001	Tree (Betula papyrifera – 2” Cal.)	EA	56		
621.0001.0002	Tree (Picea glauca – 6’ Ht)	EA	32		
621.2008.0001	Landscape Boulder (Boulder Type C)	EA	16		
621.2008.0002	Landscape Boulder (Boulder Type B)	EA	29		
621.2008.0003	Landscape Boulder (Boulder Type A)	EA	24		
621.2008.0004	Landscape Boulder Type A with Anchor	EA	6		
626.2011.0000	Wastewater System	LS	All Req’d		
627.2012.0000	HDPE Water Conduit, 1 inch	LF	420		
628.1000.0001	Water Well	LS	All Req’d		
630.0001.0000	Geotextile, Separation	SY	3,400		
635.0002.0000	Insulation Board, 4 inch	SF	2,120		
640.0001.0000	Mobilization and Demobilization	LS	All Req’d		
640.0004.0000	Worker Meals and Lodging, or Per Diem	LS	All Req’d		
641.0001.0000	Erosion, Sediment and Pollution Control Administration	LS	All Req’d		
641.0005.0000	Temporary Erosion, Sediment and Pollution Control by Directive	LS	All Req’d		
641.0006.0000	Withholding	CS	All Req’d		
641.0007.0000	SWPPP Manager	LS	All Req’d		
642.0001.0000	Construction Surveying	LS	All Req’d		
643.0002.0000	Traffic Maintenance	LS	All Req’d		
646.0001.0000	CPM Scheduling	LS	All Req’d		
647.2000.0000	Wide Pad Dozer, 65-HP Minimum	CS	All Req’d		
647.2002.0000	Backhoe, 4WD, 1 CY Bucket, 75-HP Minimum, 15 ft Depth	CS	All Req’d		
680.2000.0000	Showerhouse Improvements	LS	All Req’d		
690.2003.0000	Stream Bank Revegetation and Protection	LF	200		

691.2001.0000	Precast Concrete Planks & Sleepers	SF	2,422		
691.2002.0000	Concrete Approach Slab	CY	70		
691.2003.00000	Concrete Block Protective Apron	CY	30		
692.2001.0000	Floating Dock	LS	All Req'd		
693.0001.0000	CXT - single vault toilet	EA	3		
695.2000.0000	Electrical Improvements	LS	All Req'd		
TOTAL BASIC BID					\$

No: \_\_\_\_\_ Expires \_\_\_\_\_  
Alaska Business License

No: \_\_\_\_\_ Expires \_\_\_\_\_  
Alaska Contractor's License

**BID SCHEDULE**  
Susitna Landing Boat Launch and  
Facility Renovation  
Project No. F-13-D-188/2011280224

Name of Bidding Firm \_\_\_\_\_



STATE OF ALASKA  
DEPARTMENT OF FISH AND GAME

**CONSTRUCTION CONTRACT**

Susitna Landing Boat Launch and Facility Renovation, Project No. F-13-D-188/2011280224

**Project Name and Number**

This CONTRACT, between the STATE OF ALASKA, DEPARTMENT OF FISH AND GAME, herein called the Department, acting by and through its Contracting Officer, and

**Company Name**

**Company Address (Street or PO Box, City, State, Zip)**

a/an  Individual  Partnership  Joint Venture  Sole Proprietorship  Corporation incorporated under the laws of the State of \_\_\_\_\_, its successors and assigns, herein called the Contractor, is effective the date of the signature of the Contracting Officer on this document.

WITNESSETH: That the Contractor, for and in consideration of the payment or payments herein specified and agreed to by the Department, hereby covenants and agrees to furnish and deliver all the materials and to do and perform all the work and labor required in the construction of the above-referenced project at the prices bid by the Contractor for the respective estimated quantities aggregating approximately the sum of

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_), and such other items as are mentioned in the original Bid, which Bid and prices named, together with the Contract Documents are made a part of this Contract and accepted as such. *The Alaska Standard Specifications for Highway Construction, \_\_\_\_\_ Edition* is incorporated by reference and made a part hereof as if set forth in full. *The Alaska Standard Specifications for Highway Construction* can be downloaded at <http://www.dot.state.ak.us/stwddes/dcspsecs/index.shtml>.

It is distinctly understood and agreed that no claim for additional work or materials, done or furnished by the Contractor and not specifically herein provided for, will be allowed by the Department, nor shall the Contractor do any work or furnish any material not covered by this Contract, unless such work is ordered in writing by the Department. In no event shall the Department be liable for any materials furnished or used, or for any work or labor done, unless the materials, work, or labor are required by the Contract or on written order furnished by the Department. Any such work or materials which may be done or furnished by the Contractor without written order first being given shall be at the Contractor's own risk, cost, and expense and the Contractor hereby covenants and agrees to make no claim for compensation for work or materials done or furnished without such written order.

The Contractor further covenants and agrees that all materials shall be furnished and delivered and all labor shall be done and performed, in every respect, to the satisfaction of the Department, on or before: **November 15, 2027** or within **NA** calendar days. It is expressly understood and agreed that in case of the failure on the part of the Contractor, for any reason, except with the written consent of the Department, to complete the furnishing and delivery of materials and the doing and performance of the work before the aforesaid date, the Department shall have the right to deduct from any money due or which may become due the Contractor, or if no money shall be due, the Department shall have the right to recover **one thousand four hundred dollars (\$ 1,400)** per day for each calendar day elapsing between the time stipulated for the completion and the actual date of completion in accordance with the terms hereof; such deduction to be made, or sum to be recovered, not as a penalty but as liquidated damages.

The bonds given by the Contractor in the sum of \$\_\_\_\_\_ Payment Bond, and \$\_\_\_\_\_ Performance Bond, to secure the proper compliance with the terms and provisions of this Contract, are submitted herewith and made a part hereof.

IN WITNESS WHEREOF, the parties hereto have executed this Contract and hereby agree to its terms and conditions.

---

CONTRACTOR

---

Company Name

---

Signature of Authorized Company Representative

---

Typed Name and Title

---

Date

(Corporate Seal)

---

STATE OF ALASKA  
DEPARTMENT OF FISH AND GAME

---

Signature of Contracting Officer

---

Typed Name

---

Date



STATE OF ALASKA  
DEPARTMENT OF FISH AND GAME

**PAYMENT BOND**

Bond No. \_\_\_\_\_

For

Susitna Landing Boat Launch and Facility Renovation, Project No. F-13-D-188/2011280224

**Project Name and Number**

KNOW ALL WHO SHALL SEE THESE PRESENTS:

That \_\_\_\_\_  
of \_\_\_\_\_ as Principal,  
and \_\_\_\_\_  
of \_\_\_\_\_ as Surety,  
firmly bound and held unto the State of Alaska in the penal sum of \_\_\_\_\_ Dollars

(\$ \_\_\_\_\_) good and lawful money of the United States of America for the payment whereof,  
well and truly to be paid to the State of Alaska, we bind ourselves, our heirs, successors, executors, administrators, and assigns,  
jointly and severally, firmly by these presents.

WHEREAS, the said Principal has entered into a written contract with said State of Alaska, on the \_\_\_\_ of \_\_\_\_\_  
A.D., 20\_\_\_\_, for construction of the above-referenced project, said work to be done according to the terms of said contract.

Now, THEREFORE, the conditions of the foregoing obligation are such that if the said Principal shall comply with all requirements  
of law and pay, as they become due, all just claims for labor performed and materials and supplies furnished upon or for the work  
under said contract, whether said labor be performed and said materials and supplies be furnished under the original contract, any  
subcontract, or any and all duly authorized modifications thereto, then these presents shall become null and void; otherwise they  
shall remain in full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals at \_\_\_\_\_  
\_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_ A.D., 20\_\_\_\_

**Principal:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**By:** \_\_\_\_\_

**Contact Name:** \_\_\_\_\_

**Phone:** ( ) \_\_\_\_\_

**Surety:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Contact Name:** \_\_\_\_\_

**Phone:** ( ) \_\_\_\_\_

The offered bond has been checked for adequacy under the applicable statutes and regulations:

\_\_\_\_\_  
**Alaska Department of Fish and Game Authorized Representative** **Date**

See Instructions on Reverse

## INSTRUCTIONS

1. This form, for the protection of persons supplying labor and material, shall be used whenever a payment bond is required. There shall be no deviation from this form without approval from the Contracting Officer.
2. The full legal name, business address, phone number, and point of contact of the Principal and Surety shall be typed on the face of the form. Where more than a single surety is involved, a separate form shall be executed for each surety.
3. The penal amount of the bond, or in the case of more than one surety the amount of obligation, shall be typed in words and in figures.
4. Where individual sureties are involved, a completed Affidavit of Individual Surety shall accompany the bond. Such forms are available upon request from the Contracting Officer.
5. The bond shall be signed by authorized persons. Where such persons are signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of authority must be furnished.



STATE OF ALASKA  
DEPARTMENT OF FISH AND GAME

**PERFORMANCE BOND**

Bond No. \_\_\_\_\_

For

Susitna Landing Boat Launch and Facility Renovation, Project No. F-13-D-188/2011280224

**Project Name and Number**

KNOW ALL WHO SHALL SEE THESE PRESENTS:

That \_\_\_\_\_  
of \_\_\_\_\_ as Principal,  
and \_\_\_\_\_  
of \_\_\_\_\_ as Surety,  
firmly bound and held unto the State of Alaska in the penal sum of \_\_\_\_\_ Dollars

(\$ \_\_\_\_\_) good and lawful money of the United States of America for the payment whereof, well and truly to be paid to the State of Alaska, we bind ourselves, our heirs, successors, executors, administrators, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has entered into a written contract with said State of Alaska, on the \_\_\_\_\_ of \_\_\_\_\_ A.D., 20\_\_\_\_, for construction of the above-named project, said work to be done according to the terms of said contract.

Now, THEREFORE, the conditions of the foregoing obligation are such that if the said Principal shall well and truly perform and complete all obligations and work under said contract and if the Principal shall reimburse upon demand of the Department of Fish and Game any sums paid him which exceed the final payment determined to be due upon completion of the project, then these presents shall become null and void; otherwise they shall remain in full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_ A.D., 20\_\_\_\_

**Principal:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**By:** \_\_\_\_\_

**Contact Name:** \_\_\_\_\_

**Phone: ( )** \_\_\_\_\_

**Surety:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**By:** \_\_\_\_\_

**Contact Name:** \_\_\_\_\_

**Phone: ( )** \_\_\_\_\_

The offered bond has been checked for adequacy under the applicable statutes and regulations:

\_\_\_\_\_  
**Alaska Department of Fish and Game Facilities Authorized Representative**

\_\_\_\_\_  
**Date**

See Instructions on Reverse

## INSTRUCTIONS

1. This form shall be used whenever a performance bond is required. There shall be no deviation from this form without approval from the Contracting Officer.
2. The full legal name, business address, phone number, and point of contact of the Principal and Surety shall be typed on the face of the form. Where more than a single surety is involved, a separate form shall be executed for each surety.
3. The penal amount of the bond, or in the case of more than one surety the amount of obligation, shall be typed in words and in figures.
4. Where individual sureties are involved, a completed Affidavit of Individual Surety shall accompany the bond. Such forms are available upon request from the Contracting Officer.
5. The bond shall be signed by authorized persons. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of authority must be furnished.



STATE OF ALASKA  
DEPARTMENT OF FISH AND GAME

**BID BOND**

For

Susitna Landing Boat Launch and Facility Renovation, Project No. F-13-D-188/2011280224

**Project Name and Number**

DATE BOND EXECUTED: \_\_\_\_\_

PRINCIPAL (Legal name and business address):

TYPE OF ORGANIZATION:

	Individual Joint Venture	Partnership Corporation
		STATE OF INCORPORATION:

SURETY(IES) (Name and business address):

A.	B.	C.
----	----	----

PENAL SUM OF BOND:

DATE OF BID:

We, the PRINCIPAL and SURETY above named, are held and firmly bound to the State (State of Alaska), in the penal sum of the amount stated above, for the payment of which sum will be made, we bind ourselves and our legal representatives and successors, jointly and severally, by this instrument.

THE CONDITION OF THE FOREGOING OBLIGATION is that the Principal has submitted the accompanying bid in writing, date as shown above, on the above-referenced Project in accordance with contract documents filed in the office of the Contracting Officer, and under the Invitation for Bids therefor, and is required to furnish a bond in the amount stated above.

If the Principal's bid is accepted and he is offered the proposed contract for award, and if the Principal fails to enter into the contract, then the obligation to the State created by this bond shall be in full force and effect.

If the Principal enters into the contract, then the foregoing obligation is null and void.

**PRINCIPAL**

Signature(s)	1.	2.	3.
Name(s) & Title(s) (Typed)	1.	2.	3.

Corporate Seal

**See Instructions on Reverse**

**CORPORATE SURETY(IES)**

<b>Surety A</b>	<b>Name of Corporation</b>	<b>State of Incorporation</b>	<b>Liability Limit</b>
Signature(s)	1.	2.	Corporate Seal
Name(s) & Titles (Typed)	1.	2.	

<b>Surety B</b>	<b>Name of Corporation</b>	<b>State of Incorporation</b>	<b>Liability Limit</b>
Signature(s)	1.	2.	Corporate Seal
Name(s) & Titles (Typed)	1.	2.	

<b>Surety G</b>	<b>Name of Corporation</b>	<b>State of Incorporation</b>	<b>Liability Limit</b>
Signature(s)	1.	2.	Corporate Seal
Name(s) & Titles (Typed)	1.	2.	

**INSTRUCTIONS**

1. This form shall be used whenever a bid bond is submitted.
2. Insert the full legal name and business address of the Principal in the space designated. If the Principal is a partnership or joint venture, the names of all principal parties must be included (e.g., "Smith Construction, Inc. and Jones Contracting, Inc. DBA Smith/Jones Builders, a joint venture"). If the Principal is a corporation, the name of the state in which incorporated shall be inserted in the space provided.
3. Insert the full legal name and business address of the Surety in the space designated. The Surety on the bond may be any corporation or partnership authorized to do business in Alaska as an insurer under AS 21.09. Individual sureties will not be accepted.
4. The penal amount of the bond may be shown either as an amount (in words and figures) or as a percent of the contract bid price (a not-to-exceed amount may be included).
5. The scheduled bid opening date shall be entered in the space marked Date of Bid.
6. The bond shall be executed by authorized representatives of the Principal and Surety. Corporations executing the bond shall also affix their corporate seal.
7. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.
8. The states of incorporation and the limits of liability of each surety shall be indicated in the spaces provided.
9. The date that bond is executed must not be later than the bid opening date.





STATE OF ALASKA  
DEPARTMENT OF FISH AND GAME

EEO-1 CERTIFICATION  
Federal-Aid Contracts

Susitna Landing Boat Launch and Facility Renovation, Project No. F-13-D-188/2011280224

Project Name and Number

This certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor [41 CFR 60-1.7 (b) (1)] and must be completed by the successful Bidder and each proposed Subcontractor participating in this contract.

PLEASE CHECK APPROPRIATE BOXES

The  Bidder  Proposed Subcontractor hereby CERTIFIES:

**PART A.** Bidders and proposed Subcontractors with 50 or more year-round employees and a federal contract amounting to \$50,000 or more are required to submit one federal Standard Report Form 100 during each year that the two conditions exist (50 employees and a \$50,000 federal contract).

The company named below (Part C) is exempt from the requirements of submitting the Standard Report Form 100 this year.

[ ] NO (go to PART B) [ ] YES (go to PART C)

Instructions and blank Standard Report Form 100 may be obtained by contacting:

EEOC - Surveys Division  
131 M Street, NE - Room 4SW22G  
Washington, D.C. 20507  
Telephone number: (877)392-4647 or (866)286-6440

**PART B.** The company named below has submitted the Standard Report Form 100 this year.

[ ] NO [ ] YES

**Note:** Bidders and proposed Subcontractors who have not filed the required Standard Report Form 100 and are not exempt from filing requirements will not be awarded this contract or subcontract until Form 100 has been filed for the current year ending June 30.

**PART C.**

Signature of Authorized Company Representative

Title

Company Name

Company Address (Street or PO Box, City, State, Zip)

Date

Phone Number



**MATERIAL ORIGIN CERTIFICATE**  
Federal-Aid Highway Contracts

**Project Name and Number:** Susitna Landing Boat Launch and Facility Renovation, F-13-D-188/2011280224

FOREIGN CONSTRUCTION MATERIALS AND PRODUCTS <sup>1</sup>	COUNTRY OF ORIGIN	COST <sup>2</sup>

I certify under penalty of law that all construction materials, steel products, and iron products to be furnished for this project are manufactured in the United States, and comply with the requirements of Public Law No. 117-58, Sections 70901-52, 23 CFR 635.410, and Contract subsection 106-1.01, Buy America Provisions; except for those foreign construction materials and products that are listed on this page or on a separate and clearly identified attachment.' The term "manufactured in the United States" is defined in Contract subsection 106-1.01, Buy America Provision.

I certify that I have knowledge that submitting false statements and/or information may result in civil and criminal penalties.

\_\_\_\_\_  
Authorized Corporate Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Contractor's Company Name

\_\_\_\_\_  
Position Title

Form 25D-60ADF&G Instructions:

1. Enter "NONE" on the first line if there are no exceptions.
2. Invoice cost for foreign construction materials, steel products, and iron products as delivered to the project including freight.
3. When the Contractor becomes aware of a change from or error in a previously submitted Material Origin Certificate, the Contractor shall submit an updated Material Origin Certificate. The Department of Transportation and Public Facilities shall not accept or approve any Material Origin Certificate over the limit specified in the contract.
4. Attach additional complete form sheets if necessary to include more than one page of materials and products.

**STANDARD MODIFICATIONS  
AND  
SPECIAL PROVISIONS**

To the  
**STATE OF ALASKA**

**DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES**

**STANDARD  
SPECIFICATIONS FOR  
HIGHWAY CONSTRUCTION  
2020 EDITION**



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# **DIVISION 100 — GENERAL PROVISIONS**

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**SECTION 101  
DEFINITIONS AND TERMS**

Special Provisions

**101-1.03 DEFINITIONS.**

**DEPARTMENT.** Replace with the following: The Alaska Department of Fish and Game.

**SECTION 102  
BIDDING REQUIREMENTS AND CONDITIONS**

Special Provisions

**102-1.04 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND WORK SITE.**

Replace the second paragraph with the following:

Material reports and/or soils investigation reports are not available for this project.

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**SECTION 104  
SCOPE OF WORK**

Standard Modification

**104-1.01 INTENT OF CONTRACT.**

Replace the second paragraph with the following:

The Contractor is responsible for the means, methods, techniques, sequence, and procedures of construction, safety, and quality control. This includes ensuring safety and overseeing the safety of all personnel and Subcontractors. In the event of a multi-employer site, the Contractor is the controlling employer responsible for coordinating site-wide safety efforts, ensuring compliance with applicable safety regulations, and mitigating potential hazards across all employees, Subcontractors or suppliers on the site, consistent with any applicable federal, state, and local laws, rules, regulations, and ordinances.

**HSM20.53-25.0610**

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**SECTION 105  
CONTROL OF WORK**

Standard Modification

**105-1.05 COOPERATION BY CONTRACTOR.**

Replace the second paragraph with the following:

Either the Contractor's Superintendent or an acting Superintendent with authority to represent and act for the Contractor shall be available on-site, or within a reasonable distance to ensure timely response and oversight of the project whenever work is occurring. The Contractor shall employ, as its agent, a competent superintendent thoroughly experienced in the work being performed and capable of reading and thoroughly understanding the Plans and Specifications.

The Contractor shall be responsible for maintaining a safe work environment, ensuring compliance with all applicable safety regulations, and overseeing the safety of all work being performed. The Superintendent shall have the Contractor's authority to stop work and implement immediate corrective action if safety concerns arise, or if the work is not being performed in accordance with the Contract documents.

The Contractor shall provide 24-hour contact information for the Superintendent. The Contractor shall ensure that the superintendent is available at all times to receive and execute Directives and other instructions from the Engineer, to supervise personnel and to coordinate the work of subcontractors. The Contractor shall give the superintendent full authority to supply the resources required. The Contractor shall furnish superintendence regardless of the amount of work sublet.

**HSM20.52-25.0610**

**SECTION 106  
CONTROL OF MATERIALS**

Standard Modification

**106-1.01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS.**

Add the following:

**PROHIBITION ON CERTAIN TELECOMMUNICATION AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT.** On projects using federal funds, the Contractor shall comply with the requirements of 2 CFR 200.216, Prohibition on certain telecommunication and video surveillance services or equipment, including any future amends thereto that are applicable to the project.

By submitting a bid or by execution of the contract, the Contractor certifies that it has not entered into a contract nor extended or renewed a contract to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system produced by:

- Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
- Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
- Any entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

The Contractor further certifies that it has complied with the requirements of 2 CFR 200.216 and that it will continue to do so throughout the term of the Contract.

**HSM20.20-21.1231**

Special Provisions

**106-1.01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS.**

Replace the fourth paragraph of 106-1.01 with the following:

The Contractor shall submit a certificate of compliance according to Subsection 106-105 for each item listed on the Material Certification List. The Engineer may authorize the use of articles, materials, or supplies based on a certificate of compliance Form 25D-62 Certificate of Domestic Materials Compliance. Materials incorporated into the project on the basis of a certificate of compliance may be tested or verified at any time, whether in place or not, and if they do not conform to Contract specifications, they may be rejected and ordered removed under the Subsection 105-1.11.

Replace the BUY AMERICA PROVISION with the following:

**DOMESTIC MATERIALS PREFERENCE PROVISION.** On projects using federal-aid funds the Contractor shall ensure all Iron and Steel Products, Manufactured Products, and Construction Materials, incorporated into the project are produced in the United States as required by 23 CFR 635.410-Buy America requirements (Iron, Steel, and Manufactured Products), and 2 CFR 184-Buy America Preferences for Infrastructure Projects (Construction Materials).

Domestic material requirements apply when articles, materials, or supplies are permanently incorporated into the work. Domestic material requirements do not apply to articles, materials, or supplies: (i) brought temporarily to the construction site and removed at or before the completion of the project, e.g., tools, construction equipment, Jersey barriers; or (ii) used by the Contractor to facilitate construction that are left in place upon completion of the work and are not required to be permanently installed as part of the contract requirements.

An article, material, or supply shall only be classified as an iron or steel product, a manufactured product, a construction material, or other material. An article, material, or supply shall not be considered to fall into multiple categories. The classification of an article, material, or supply as falling into one of the categories listed must be made based on its status at the time it is brought to the work site for incorporation into the project. The work site is the location of the project at which the articles, material, or supply will be incorporated.

†As addressed in paragraph 3) below, 23 CFR 635.410(c)(2) creates an exception to the single category requirement regarding precast concrete products (Precast Concrete) and intelligent transportation systems (ITS) and other electronic hardware systems cabinets and other enclosure.

### **DOMESTIC MATERIAL CATEGORIES:**

**1) IRON AND STEEL PRODUCTS (23 CFR 635.410).** Defined as articles, materials, or supplies that consist wholly or predominantly of iron and steel or a combination of both. To be classified as domestic, all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

If the cost of iron and steel content of an article, material, or supply exceeds 50 percent of the total cost of all components, the iron and steel must meet the domestic materials requirements of the Iron and Steel Products of this provision. The remaining components are then exempt from any domestic procurement requirement.

The cost of iron or steel is the cost of the iron and steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the product, or a good faith estimate of the cost of iron or steel components. Buy America requirements do not apply to iron ore, pig iron, and processed, pelletized and reduced iron ore.

#### Iron and Steel Minimal Use:

All wholly or predominantly iron and steel, or a combination of both, products incorporated into the work, shall be manufactured in the United States. Minimal amounts of iron and steel products of foreign or unknown 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 (established at award), or \$2,500, 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 shipping.

**2) CONSTRUCTION MATERIALS (2 CFR 184).** Defined as the articles, materials, or supplies that consist of only one of the items listed. Each material has a specific standard to be considered in compliance with domestic materials requirements. The items are:

- a. Non-ferrous metals. All manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.
- b. Plastic and Polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiberoptic cables). All manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.

- c. Glass (including optic glass). All manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.
- d. Fiber Optic Cable (including drop cable). All manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-bases products, or any others.
- e. Optical Fiber. All manufacturing process, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.
- f. Lumber. All manufacturing processes, from initial debarking through treatment and planning, occurred in the United States.
- g. Drywall. All manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.
- h. Engineered Wood. All manufacturing processes from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.

If a Construction Material contains, as minor additions, other Construction Materials, it remains classified as a Construction Material for the purposes of this section. Minor additions of articles, materials, supplies, or binding agents to a Construction Material do not change the categorization of the construction material.

**3) MANUFACTURED PRODUCTS (23 CFR 635.410)**. Defined as articles, materials, or supplies, that have been processed into a specific form and shape or combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies. Manufactured products are acceptable under this provision if the product was manufactured in the United States. For the purposes of this provision, "manufactured in the United States" means that the final assembly of the product occurred in the United States.

For Precast Concrete and ITS and other electronic hardware systems cabinets and other enclosures that are classified as manufactured products, the components that are predominantly steel or iron or a combination of both must comply with the domestic materials requirements of the Iron and Steel Products in paragraph 1) above.

Declare all manufactured products on Form 25D-62 regardless of their exemption.

**4) OTHER MATERIALS**. Defined as articles, materials, or supplies that do not meet the definition of Iron and Steel Products, Manufactured Products, or Construction Materials. These materials do not have any requirements for domestic sourcing. This includes the following items that are specifically categorized as other (excluded) materials per BABA Section 70917(c) of the Infrastructure Investment and Jobs Act of 2021.

1. Cement and cementitious materials;
2. Aggregates such as stone, sand, or gravel; or
3. Aggregate binding agents or additives

The Contractor shall submit a completed Non-Compliant Minimal Use & De Minimis Register, Form 25D-60, prior to award of the Contract. When the Contractor becomes aware of a change from or error in a previously submitted Form 25D-60, the Contractor shall submit an updated Form 25D-60 prior to incorporating the non-compliant item on the subject federal-aid Project, (as defined by the NEPA decision).

The Contractor shall submit a completed Certificate of Domestic Materials Compliance Form 25D-62 for all materials incorporated into the project. The Department will not allow installation of, nor pay for, products that must comply with Domestic Materials requirements until the Contractor has submitted acceptable Forms 25D-60 and 25D-62.

Non-compliant Iron and Steel Products, Manufactured Products, and Construction Materials in Excess of the minimal use and/or the de minimis amounts are prohibited and shall be immediately replaced at no expense to the State. Failure to comply may also subject the Contractor to default, suspension, or debarment.

The entity certifying Form 25D-62 may be the manufacturer, fabricator, vendor, or supplier; provided they have sufficient control and knowledge of the manufacturing process to accept responsibility and certify full and complete conformance with 23 CFR 635.410, 2 CFR 200.322, and 2 CFR 184. The Prime Contractor shall also certify Form 25D-62. Provide additional certifications and backup documentation to signed Form 25D-62 when required by the Engineer. False statements may result in criminal penalties prescribed under AS 36.30.687 and Title 18 US Code Section 1001 and 1020.

The United States, Mexico, Canada Agreement (USMCA) does not apply to the Domestic Materials requirements.

#### De Minimis Waiver:

Notwithstanding the domestic materials requirements outlined in this section regarding Manufactured Products and Construction Materials, US DOT has adopted a limited, non-domestic content waiver regarding articles, materials, and supplies used in the project. As applicable here, US DOT has determined that it is in the public interest to waive domestic materials requirement for Manufactured Products and Construction Materials for which:

The total value of the non-compliant products is no more than the lesser of \$1,000,000 or 5% of total applicable costs for the project. In applying the waiver:

1. "Total value of non-compliant products" does not include the value of those products subject to a separate Buy America Waiver.
2. "Total applicable project cost" (as defined by the NEPA finding, determination, or decision and referenced in Form 25D-60) include the cost of materials used in the project that are subject to a domestic preference requirement, including materials that are within the scope of an existing waiver.

*("Total value of non – compliant products" (Construction Materials + Manufactured Products))*

\_\_\_\_\_ x 100

*("Total applicable project costs" (Iron + Steel + Manufactured Products + Construction Materials))*

**HSP20.7B-25.1030**

### **106-1.05 CERTIFICATES OF COMPLIANCE.**

Replace the first four paragraphs of 106-1.05 with the following:

A certificate of compliance must meet one of the following:

1. If by manufacturer's certification, the certificate must include the project name and federal project number, the quantity represented, the signature of the manufacturer, and must include information that clearly demonstrates the material or assembly complies with all Contract requirements including for domestic materials preference.
2. If by Contractor's summary sheet, the summary sheet must include the project name and federal project number, the quantity represented, the signature of the contractor, and must include attached documentation that clearly demonstrates the material or assembly fully complies with all Contract requirements including for domestic materials preference.

**HSP20.7B-25.1030**

**SECTION 107**  
**LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC**

Special Provisions

**107-1.02 PERMITS, LICENSES, AND TAXES.**

The Department will: Add No. 3:

3. See Section 00852 for all Department-secured permits.

The Contractor shall:

Replace No. 1. With the following:

1. Acquire all permits and licenses required to complete the project that are not acquired by the Department.
  - a. Complete all draft permits. Draft permits are included in Appendix B, when there are draft permits.

Standard Modification

**107-1.06 SANITARY, HEALTH, AND SAFETY PROVISIONS.**

Replace the fourth paragraph with the following:

The Contractor is responsible for ensuring all workers are adequately protected. The Contractor shall have a safety and health management program that complies with AKOSH requirements, and includes:

1. A Site Specific Safety Plan(s) (SSSP) prior to the commencement of work. This plan must outline the safety measures and procedures to be followed on-site, ensuring compliance with all applicable federal, state, and local safety regulations.
2. The SSSP shall be accessible to all contractor personnel and subcontractors, and provided to the Department upon request.
3. A hazard analysis prior to the commencement of work. It must specifically focus on the job functions and the hazards associated with performing them. The contractor is responsible for ensuring that all necessary personnel are informed of and follow the hazard analysis guidelines.
4. New employee training and periodic worker training regarding safety and health.
5. Regular safety meetings with written documentation of attendance, safety topics discussed, worker safety complaints, and corrective actions taken; and
6. The Contractor shall implement a comprehensive Safety Program to oversee site safety, including the development and maintenance of the SSSP, hazard analysis, employee training, and safety meetings. The program must ensure compliance with safety regulations and promote a proactive safety culture. For specific tasks, refer to Subsection 108-1.03.

**HSM20.49-25.0610**

## Special Provisions

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

Non-municipal Water Source. 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.

C107.3-17.0515

Add the following:

Eagles. Eagles are protected under 16 U.S.C. 668-668c Protection of Bald and Golden Eagles, that prohibits “takes” of 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 minimum 330-feet as an undisturbed habitat buffer around nesting eagles. If topography or vegetation does not provide an adequate screen or separation, extend the buffer to 1320-feet, 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-feet and 660-feet from a 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, extend the buffer up to 2640-feet. No blasting, logging and other noisy, disturbing activities should occur during the nesting period (February 1 – August 31) within the primary or secondary zones.

Do not disturb a nesting eagle. Notify the Engineer when an active eagle nest is within the primary or secondary zones.

C107.1-18.1001

**SECTION 108  
PROSECUTION AND PROGRESS**

Standard Modification

**108-1.01 SUBCONTRACTING OF CONTRACT.**

In item 1g. replace AS 45.45.101(a) with AS 45.45.010(a).

In item 2f. replace AS 45.45.101(a) with AS 45.45.010(a).

**HSM20.41-22.0101**

Special Provisions

Replace Subsection 108-1.01 1h. with the following:

1h. Other required items listed in Form 25D-042 are included in the subcontracts;

Replace Subsection 108-1.01 2g. with the following:

2g. Other required items listed in Form 25D-042, are included in the lower tier subcontracts;

**C108.4-20.0101**

Add the following Subsection 108-1.011 Related Sections:

**108-1.011 RELATED SECTIONS.**

Section 652, Prosecution and Progress – Supplemental Requirements

**CR108.3-012816R**

Standard Modifications

**108-1.03 PROSECUTION AND PROGRESS.**

Replace item 9. with the following: The Contractor shall provide a letter designating a Safety Officer, and designating that person's responsibilities and authority. The Safety Officer is responsible for the Safety Program. The Safety Officer must be familiar with the project plans, specifications, and proposed operations and have the necessary experience and training to assess and address safety elements associated with the project.

Add the following:

10. The Contractor shall implement a comprehensive Safety Program for the Project to ensure all safety measures are met throughout the duration of the project and that the program complies with all applicable federal, state, and local safety regulations.

Requirements. The Safety Program shall include the development, implementation, and ongoing maintenance of the Site-Specific Safety Plan (SSSP), along with the preparation and regular updating of hazard analyses to identify and mitigate risks associated with specific construction activities. It shall ensure that the site complies with project-specific safety requirements, OSHA/AKOSH regulations, and oversees the appropriate use of personal protective equipment (PPE) on-site.

The program will involve routine safety inspections to identify hazards, site-specific safety orientations, and ensure all personnel and Subcontractors receive the necessary training in accordance with AKOSH/OSHA

standards. It will also establish procedures for investigating incidents, injuries, and near misses, with corrective actions implemented as needed. Detailed records, such as safety meeting minutes, training logs, incident reports, safety audits, and inspections shall be maintained. Safety reports shall be submitted to the project manager, engineers, or clients as requested.

The Safety Program shall have clear procedures for halting work and implementing immediate corrective actions if safety concerns arise, or if the work is not being conducted in compliance with the Contract documents, safety standards, or applicable federal, state, and local laws.

HSM20.50-25.0610

**108-1.07 FAILURE TO COMPLETE ON TIME.**

Replace Table 108-1 with the following:

**Table 108-1**  
**DAILY CHARGE FOR LIQUIDATED DAMAGES**  
**FOR EACH CALENDAR DAY OF DELAY**

Original Contract Amount		Daily Charge
From More Than	To and including	
\$ 0	500,000	\$1,400
500,000	1,000,000	\$1,700
1,000,000	5,000,000	\$2,600
5,000,000	10,000,000	\$3,800
10,000,000	25,000,000	\$4,500
25,000,000	-----	\$6,600

HSM20.43A-24.0701-1

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**SECTION 109  
MEASUREMENT AND PAYMENT**

Special Provisions

**109-1.01 GENERAL.**

Replace the 2<sup>nd</sup> paragraph with the following:

When more than one type of material or work is specified for a pay item, the proposal line number, and the description are used to differentiate the material or work.

C109.4-20.0101

**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.

Provide a printed copy of the current EquipmentWatch rate sheet for each piece of equipment utilized on time and materials work.

C109.2-18.1101

Standard Modification

**109-1.08 FINAL PAYMENT.** Add the following after the fifth paragraph:

On federally funded projects, if DOLWD Wage and Hour Administration notifies the Department of a pending prevailing wage investigation, and that the investigation is preventing the closing out of the project, the Contractor may place the notified amount in escrow under Wage and Hour for the exclusive purpose of satisfying unpaid prevailing wages. Upon receipt of notice from Wage and Hour that the Contractor has satisfactorily transferred the necessary funds into escrow, the Department will proceed to issue final payment.

HSM20.3-20.1130-1

**SECTION 120  
DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM**

Standard Modifications

**120-1.01 DESCRIPTION.**

In the first sentence of the second paragraph, replace "8.83 percent" with "9.39 percent".

HSM20.21A-24.0415

**120-3.01 DETERMINATION OF COMPLIANCE.**

2. Phase II – Award.

- a. Written DBE Commitment. Delete in its entirety and substitute the following: Complete Form 25A-326 for each DBE to be used on the project.

HSM20.21A-24.0415

# **DIVISION 200 — EARTHWORK**

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## SECTION 201 CLEARING AND GRUBBING

Special Provisions

### 201-1.01 DESCRIPTION.

Add the following:

1. Vegetative Mat and Soil. Salvage/harvest, stockpile, protect, and transport vegetative mat and native organic soil.

### 201-3.01 GENERAL.

Add the following:

Perform the work necessary to preserve and/or restore land monuments and property corners from damage. Restore land monuments and/or property corners that are disturbed according to Section 642. An undisturbed area five feet in diameter may be left around existing monuments and property corners. A list of land monuments and property corners is shown on the Right of Way maps.

**C201.3-13.0423**

Add the following:

Clearing and grubbing is not permitted within the migratory bird window of May 1 to July 15; except as permitted by Federal, State and local laws.

**CR201.1-010114**

Add the following:

Vegetative Mats and Soil. Vegetative mat may contain woody and/or herbaceous vegetation. Salvage and stockpile vegetative mats and native organic soil. Acquire the mats and soil in the confines of the area to be cleared and grubbed and from areas where waterway bank revegetation and bank protection work is occurring. Vegetative mats may be harvested in additional areas on-site where shown in the Plans. If needed, acquire additional mats from offsite (a donor site similar to the transplanting site) or purchased from a landscaping supplier, with approval from the Engineer. Remove the mats in at least 12-inch-thick sections and preserve intact as possible. Do not damage the plant shoots, roots or rhizomes. Protect the mat from damage, sun, wind and drying during salvage, storage, transporting, and installation. Keep moist throughout the root zone at all times. Plant the mats as soon as possible after salvage. Maintain the plant material in live condition. Construction, establishment survivability and maintenance according to Section 690.

Dormant Cuttings Refer to Section 621 for harvesting willow cuttings.

### 201-5.01 BASIS OF PAYMENT.

Add the following:

The work required to preserve and restore land monuments and property corners is subsidiary to 201 Pay Items.

**C201.3-13.0423**

Add the following:

Vegetative Mats and Soil. Salvaging, stockpiling, and transporting vegetative mats and native organic soil is subsidiary to Pay Item 690.2003.0000 Stream Bank Revegetation and Protection. Refer to Subsection 690-5.01.

Dormant Cuttings. Refer to Section 621.

## SECTION 202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

### Special Provisions

**202-1.01 DESCRIPTION.** Replace the first sentence with the following: This work shall consist of, but not be limited to, the removal of fence, gate, signs, electrical hookups, parking bumpers, ramp floats, articulated concrete block mat boat ramp, culverts, manhole cover, bollards, flag pole, holding tank, sewer cleanout, and any other obstructions which are not designated or permitted to remain, except for the obstructions to be removed and disposed of under other items in the contract. Work also consists of abandonment of items shown in plans, such as leach fields and sewer lines.

Add the following:

Materials which are designated to be salvaged and remain the property of the Department are as outlined in the plans. By arrangement with the Engineer, deliver salvaged items to the staging area off Camp Loop B/C access road.

Add the following Subsection 202-3.06 Salvage and Disposal of Construction and Demolition Materials:

**202-3.06 SALVAGE AND DISPOSAL OF CONSTRUCTION AND DEMOLITION MATERIALS.** Unless otherwise noted, remove, handle, salvage, transport, store, and dispose waste materials according to the Occupational, Safety, and Health Administration (OSHA), Environmental Protection Agency (EPA), Alaska Department of Environmental Conservation (ADEC), and other Federal, State and local government agency's statutes, rules and regulations.

Use disposal sites outside the project limits unless directed otherwise, in writing, by the Engineer. Obtain written consent from the private or public property owner for such disposal and a waiver of all claims against the State for any damage to such land which may result, together with all permits required by law for such disposal. Furnish a copy of such permission, waiver of claims, and permits to the Engineer before commencing work. Grade disposal areas to drain.

**C202.1-20.0401**

Add the following Subsection 202-3.07 Decommissioning and Abandonment of Sanitary Sewer Systems:

### **202-3.07 DECOMMISSIONING AND ABANDONMENT OF SANITARY SEWER SYSTEMS**

Decommission or abandon pipe and tanks used for domestic wastewater in accordance with the requirements of the Alaska Department of Environmental Conservation (ADEC) 18 AAC 72 and ADEC Onsite Wastewater Systems Installation Manual (Current Edition).

Wastewater tanks and pipes larger than 4 inches in diameter must be decommissioned. Wastewater, sewage, and sludge shall be completely removed by a septic tank pumper. Tanks and other large subsurface structures must be removed as required by the currently adopted Uniform Plumbing Code. Abandon wastewater pipe and smaller components in place, where indicated on the Plans. Pipes 4 inches and larger must be filled with sand slurry prior to being permanently sealed.

Exposed end(s) of abandoned sewer pipe, cleanouts, risers, and exposed ends of previously abandoned wastewater pipe encountered during construction must be permanently sealed with a watertight cap or end plug.

Leach field abandoned in place must have monitoring tubes and cleanouts cut 6 inches below grade and buried. Pipe and valves that allows wastewater to overflow, bypass, or diversion must be permanently disconnected and sealed.

Remove and dispose of all sewage-saturated soils encountered within the trench area. All sewage-saturated soils are to be considered unsuitable material, not to be used as fill material anywhere on the project and must be disposed of at a legal disposal site. There is to be no separate payment and is considered incidental to the associated pay item.

Document methods used to decommission or abandon existing tanks, pipes, and other wastewater components. Acceptable documentation of each decommissioned or abandoned utility includes: daily/weekly construction reports, correspondence, and photos indicating the location of components, method, and materials used.

The location and extent of abandoned lines shall be recorded in survey notes and redlined plans.

Standard Modification

#### **202-5.01 BASIS OF PAYMENT.**

Replace the first paragraph, with the following:

Items 202.0001.\_\_\_\_ and 202.0013.\_\_\_\_. Payment includes removing, decommissioning, abandoning, and disposing or relocating of all structures and obstruction encountered under the provisions of this Section.

Standard Modification

In the fourth paragraph, replace the words “Items 020.0014.\_\_\_\_” with the following: “Items 202.0014.\_\_\_\_.”

**HSM20-4-113020**

Special Provision

Add the following:

Acquiring waste disposal permits is subsidiary to 202 Pay Items.

**CR202.1-040120**

## SECTION 203 EXCAVATION AND EMBANKMENT

### Special Provisions

#### **203-1.01 DESCRIPTION.**

##### Add the following:

Dewatering work consists of furnishing, installing, operating, maintaining, and removing all dewatering systems required to temporarily isolate in-water work areas and control surface water and groundwater during construction activities within the river channel, floodplain, and adjacent areas, in accordance with the Contract Documents and as directed by the Engineer.

#### **203-2.01 MATERIALS**

##### Add the following:

7. Provide pumps, piping, hoses, cofferdams, turbidity curtains, filtration systems, sediment control devices, and appurtenances suitable for continuous operation and compatible with site conditions, flow velocities, debris loading, and freezing conditions as applicable. All materials shall be maintained in watertight and serviceable condition.

### CONSTRUCTION REQUIREMENTS

### Standard Modification

#### **203-3.04 COMPACTION WITH MOISTURE AND DENSITY CONTROL.**

In the second paragraph delete "and ATM 214".

**HSM20.5-20.1130-1**

### Special Provisions

##### Add the following:

**203-3.06 DEWATERING FOR IN-WATER WORK.** Design and implement a dewatering system that maintains a stable, dry work area while preventing erosion, sediment transport, turbidity increases, and downstream water quality impacts. The system shall be capable of accommodating fluctuating river stages and storm events. Submit a dewatering plan to the Engineer for review at least 14 days prior to dewatering activities.

1. Do not exceed State of Alaska water quality standards.
2. Do not divert water from dewatering into a waterway.
3. Isolation of Work Area. Isolate in-water construction zones using cofferdams, sheet piling, sandbags, super sacks, diversion channels, or other approved methods. The isolation system shall be stable under expected hydraulic conditions and shall not obstruct fish passage outside approved work windows.
4. Pumping and Conveyance. Pumps and conveyance systems shall be sized to manage anticipated inflows, seepage, and precipitation. Discharge lines shall be stabilized, secured, and routed to prevent erosion, scour, and re-suspension of sediments.
5. Discharge and Water Quality Protection. All dewatering effluent shall be filtered prior to discharge using sediment basins, filtration bags, geotextile filtration systems, or equivalent approved treatment methods. Discharge shall not cause visible turbidity plumes, erosion, or sediment deposition in the river or on adjacent banks. Provide an approved disposal site for work area excess water. Maintain disposal site a minimum of 100 feet from waterway.

6. In addition to the other equipment required to complete the temporary water diversion and dewatering work, maintain a minimum of two trash pumps with hoses at the site during diversion construction activities. Maintain the intake to prevent fish entrapment, entrainment, or injury with the use of perforated or slotted plate and woven wire with a mesh size not greater than 3/32 inch or a profile bar and wedgewire with openings not greater than 1/16 inch. Do not exceed passive approach velocity of 0.2 fps and active approach velocity of 0.4 fps.
7. Environmental Protection. Dewatering operations shall comply with all applicable permits and approvals, including but not limited to ADF&G Fish Habitat Permits, USACE Section 404/10 permits, and Alaska Department of Environmental Conservation requirements. No petroleum products, concrete slurry, or contaminated water shall be discharged to surface waters.
8. Monitoring and Maintenance. Continuously monitor dewatering systems during operations. Maintain backup pumping capacity on site at all times. Immediately repair failures, leaks, or breaches in isolation systems.
9. Flow Events. In the event of rising water levels or high-flow events, suspend in-water work and stabilize the site as necessary to prevent sediment release and damage to temporary works.
10. Removal and Site Restoration. Upon completion of in-water work, remove all dewatering systems and temporary isolation features. Restore disturbed areas to original or specified conditions, including channel geometry, bank stabilization, and revegetation where required.

#### **203-4.01 METHOD OF MEASUREMENT.**

Add the following:

10. Item 203.2057.0000 is measured as lump sum. All equipment, dewatering plans, and additional permits required to complete the dewatering are subsidiary.

#### **203-5.01 BASIS OF PAYMENT.**

Add the following pay items:

<b>PAY ITEM</b>		
<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>
203.2057.0000	Dewatering	LS

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

Special Provisions

**204-3.01 CONSTRUCTION REQUIREMENTS.**

Add the following after the second paragraph:

The pipe is to be laid in trenches when the adjacent soil 1 foot from the trench bottom, sides, and above the pipe are in a thawed state.

**204-5.01 BASIS OF PAYMENT.** The Contract price includes the placing and compacting of all backfill and bedding when the materials used are obtained from excavation, any clearing and grubbing required and not paid for under some other item, formation of any embankments made with surplus material from structure excavation, and disposal of all surplus or unsuitable excavation.

Culvert baffles, headwalls, temporary water diversion, dewatering and rewatering, and the removal of pavement are subsidiary to the conduit and minor structure Pay Items.

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

When item 204.0001.\_\_\_\_, 0002.\_\_\_\_, or 0003.\_\_\_\_ Structure Excavation, does not appear in the bid schedule, structure excavation required to complete other items of work is subsidiary, except that excavation and disposal of unsuitable material required from below a plane 12 inches below the invert elevation of conduits and 12 inches below the bottom of structures is paid as extra work.

Any backfill or bedding material required whose source is other than project excavation is paid at the contract unit price for the materials being used, or as extra work if no unit price has been established.

Traffic control paid under Section 643 and Erosion, Sediment, and Pollution Control paid under Section 641.

<b>PAY ITEM</b>		
<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>
204.0001.____	Structure Excavation	CY
204.0002.____	Structure Excavation	Ton
204.0003.____	Structure Excavation	LS

C204-24.0501

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**SECTION 206  
FILTER BLANKET**

Special Provisions

Replace Subsection 206-4.01 with the following:

**206-4.01 METHOD OF MEASUREMENT.** No measurement will be made for Filter Blanket.

Replace Subsection 206-5.01 with the following:

**206-5.01 BASIS OF PAYMENT.** The work required for excavating, processing, hauling, spreading and leveling of the filter blanket layer is subsidiary to 691 Pay Items.

# **DIVISION 300 — BASES**

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**SECTION 301  
AGGREGATE BASE AND SURFACE COURSE**

Special Provision

**301-2.01 MATERIALS.**

Add the following after the first sentence:

Aggregate Surface Course, Grading E-1 may be substituted for Aggregate Base Course, Grading D-1, inch for inch.

Standard Modification

**301-3.03 SHAPING AND COMPACTION.**

In the second paragraph delete "and ATM 214".

HSM20.5-20.1130-2

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# **DIVISION 500 — STRUCTURES**

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## Special Provision

Delete this section and replace the following:

**SECTION 504  
STEEL STRUCTURES**

**504-1.01 DESCRIPTION.**

The work in this Section shall include all labor, materials, tools and equipment necessary for fabrication, handling, transport and installation of all structural steel in accordance with the requirements of the Contract Documents and as shown on the Drawings.

**504-1.02 REFERENCES.**

1. AISC (American Institute of Steel Construction) Code of Standard Practice - Manual of Steel Construction - Allowable Stress Design (ASD).
2. ASTM (American Society of Testing Materials) Specifications
3. ASTM A36/A36M Structural Steel.
4. ASTM A6 – General Requirements for Rolled Steel Plates, Shapes, Sheet piling, and Bars for Structural Use.
5. ASTM A108 – Steel Bars, Carbon Cold-Finished, Standard Quality.
6. ASTM A123 - Zinc (Hot Dipped Galvanized) Coatings on Iron and Steel Products.
7. ASTM A153 - Zinc Coating (Hot Dip) on Iron and Steel Hardware.
8. ASTM A325 High Strength Bolts for Structural Steel Joints.
9. ASTM A500 Cold Formed Welded and Seamless Carbon Steel Structural Tubing in Round and Shapes.
10. ASTM A53 – Steel Pipe.
11. ASTM F593 – Stainless Steel Bolts, Hex Cap Screws, and Studs.
12. ASTM F594 – Stainless Steel Nuts.
13. AWS D1.1 Structural Welding Code - Steel.

**504-1.03 SUBMITTALS.**

1. Fabrication Shop Drawings of all fabricated steel items prior to fabrication.
  - a. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length and type of each weld.
  - b. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
  - c. Indicate type, size and length of bolts, distinguishing between shop and field bolts. Identify high-strength bolted slip-critical, direct-tension, or tensioned shear/bearing connection.
2. Manufacturer's Mill Certificate: Steel certification for all steel used shall include chemistry, yield strength, and mill numbers.
3. Galvanizing Certifications.
4. Galvanizing Repair Method and Materials
5. Welding Procedures.
6. Welders Certificates: Certify welders employed in the work, verifying AWS or WABO certification.
7. Product data, samples, preparation, application, QA/QC Plan, and field repair of metal coatings
8. Provide fabrication shop QA/QC Plan for review by Engineer. Provide qualification data for firms and/or persons to demonstrate their capabilities and experience.
9. Steel Pipe Hinge Assembly – Submit rubber bushing material specifications and a completely assembled hinge assembly sample consisting of a rubber bushing with UHMW sleeve and a galvanized steel pipe hinge segment. Critical fit up tolerances will be verified with this sample.
10. Steel Cleats – Submit manufacturer's published information including product description, illustration, model number and dimensions. Include shop drawings or details for modifications, if required, to allow bolt installation from top of cleat.

**504-1.04 QUALITY ASSURANCE.**

1. Fabricate and install structural steel in accordance with AISC Code of Standard Practice.
2. Quality Assurance. The metal fabricator must have an ongoing quality assurance program approved by a qualified, independent source. At the option of the Engineer, the fabricator shall submit a copy of

their operational quality assurance program, and shall not begin fabrication until the Engineer has approved this quality assurance program. The objectives of the quality assurance program are as follows:

- a. Completed products shall conform completely to all governing codes and specifications stipulated in the Design Contract Documents, and Plans.
- b. Quality Assurance Program is an integral part of the ongoing manufacturing activities of the Fabricator.

Although periodic inspections will be carried out by the Engineer, the purpose of these inspections is to note general conformance to the design documents. It is still the responsibility of the fabricator to produce a quality product, in complete conformance with the design documents, and to document and correct any non-conformance. All documentation, including that submitted, shall be kept on file by the fabricator, for review, if requested by the CITY or Engineer.

3. Fabrication Facility. The fabrication facility shall provide the proper environment and physical conditions necessary for welding, cutting, and general metal fabrication. The facility shall provide adequate work space, equipment, level surfaces, and protection from wind, moisture and freezing. The fabricator shall have the capability to carry out the following work in-house or on a contract basis:
  - a. Design of lifting and erection devices not shown on the drawings.
  - b. Preparation of shop fabrication drawings.
  - c. Receiving, checking and storing of materials for metal fabrication.
  - d. Dimensional checking and verification.
  - e. Resolution of non-conformities.
  - f. Documentation of all stages of work with capability of tracing all major components.
  - g. Finishing, repairing, storing and shipping.
4. Fabricator Qualifications: Engage a firm experienced in fabricating structural steel similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to fabricate structural steel without delaying the Work. Shop welding procedures and qualifications shall be submitted for review by the Engineer.
5. Welding Standards: Comply with applicable provisions of AWS D1.1 Structural Welding Code - Steel, current edition.
  - a. Present evidence that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.
  - b. Present evidence that each welder is certified by either AWS or WABO.
  - c. Submit welding procedures in accordance with AWS Structural Welding Codes.

#### **504-1.05 DELIVERY, STORAGE AND HANDLING.**

1. Deliver materials to Fabricator's shop in such quantities and at such times to ensure continuity of installation.
2. Store materials to permit easy access for inspection and identification. Materials shall be protected during shipping and handling. Materials shall be stored above ground on pallets, platforms or other supports. Materials shall be kept clean and properly drained. Girders and beams shall be placed upright and shored. Long members shall be adequately supported on skids to prevent damage from deflection.
3. Store fasteners in a protected place. Clean and re-lubricate bolts and nuts that become dry or rusty before use.
4. Do not store materials or assembled structures in a manner that might cause distortion or damage to members or supporting structures. Repair or replace damaged materials or structures as directed.

#### **504-2.01 MATERIALS.**

##### Metal Materials:

All materials for metal fabrication shall conform to the Contract Documents and as shown on the Plans. Purchase orders shall contain all necessary information to verify that materials purchased comply with the fore mentioned documents. The Fabricator shall inspect all materials, upon arrival, for conformance with the purchase orders. The Fabricator shall confirm that mill certificates and test reports are provided and that they correctly identify the materials delivered. If a supplier proposes a substitute for any material, the proposed substitution shall be submitted to the Engineer for approval prior to commencing any Work

involving use of the proposed substitute material. Supplier must be prepared to supply materials as identified on the design documents if the proposal for a substitution is not approved by the Engineer.

1. All miscellaneous steel shapes and plate steel shall be ASTM A36, hot-dip galvanized, unless otherwise noted.
2. Square and rectangular HSS shall be ASTM A500, Grade B, hot-dip galvanized, unless otherwise noted.
3. Pipe less than 12-inch diameter shall be ASTM A53, Grade B, Type E or S, hot-dip galvanized, unless otherwise noted. Pipe greater than 12-inch diameter shall conform to Section 832 - Steel Pipe Piles.
4. Bolts and Miscellaneous Hardware: Unless otherwise noted, all bolts shall be ASTM A307, hot-dip galvanized. Washers are required under both the head and nut of all bolts, unless otherwise noted. All nuts and washers shall be hot-dip galvanized. Plate washers, with a diameter equivalent to a malleable iron washer, shall be used in all areas where the bolt head or nut bear against wood, except under economy head bolts. All bolts called out as ASTM A325 shall be hot-dip galvanized. A325 bolts shall be installed per AISC turn-of-nut method, or other Engineer approved method, unless otherwise indicated on the Drawings
5. All bolts, nuts, washers, screws, and miscellaneous hardware called out as Stainless Steel shall be Type 316 Stainless Steel conforming to ASTM F593 and F594 as applicable.
6. All nails shall be hot-dip galvanized.
7. All reinforcing steel used on metal fabrications shall be ASTM A706 Gr 60.

#### Metal Coatings:

1. Unless otherwise noted, all steel shall be hot-dip galvanized in accordance with ASTM A123 or A153 as appropriate.

### **504-3.01 CONSTRUCTION.**

#### Metal Fabrication:

1. Shop Inspection: The Contractor shall furnish the Engineer with 30 days' notice of the beginning of Work at the mill or in the shop so that special fabrication inspections may be scheduled by the Engineer.
2. Fabricate and assemble components in a shop, to greatest extent possible. Workmanship and finish shall be equal to the best industry standards and in accordance with the requirements of AWS and AISC
  - a. Mark and match-mark materials for field assembly.
  - b. Fabricate for delivery in a sequence that will expedite erection and minimize field handling.
  - c. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
  - d. Holes: Drill holes perpendicular to metal surfaces; do not flame-cut holes or enlarge holes by burning.
3. Structural material, either plain or fabricated, shall be stored at the fabricating shop above ground, on platforms, skids or other supports. It shall be kept free from dirt, grease or other foreign matter, and shall be protected, as far as practical, from corrosion.
4. All holes required for steel hot-dip galvanizing shall be clearly identified on the Shop Fabrication Drawings for Engineer review and approval. Fabricator shall coordinate with Galvanizer to determine size and quantity of holes required. Some, or all of the holes, may be required to be fully repaired per AWS D 1.1, at the discretion of the Engineer.

#### Metal Erection:

1. General: The Contractor shall provide and later remove all falsework, temporary shoring, and bracing necessary for erection and to complete assembly. All such devices shall be properly designed and constructed by the Contractor to meet anticipated construction and handling loads.
2. Handling and Storing of Materials: Material to be stored shall be placed on skids above the ground. It shall be kept clean and properly drained. Girders and beams shall be placed upright and shored. Handling and erection procedures shall be conducted in a manner to avoid over stressing any structural element. Stress and deflection calculations shall be provided by the Contractor, as deemed necessary by the Engineer, for any erection procedure.
3. Method and Equipment: Before starting the WORK of erection, the Contractor shall inform the Engineer fully as to the method of erection proposed, and the amount and character of equipment proposed to be used. Approval by the Engineer shall not be considered as relieving the Contractor of the responsibility for the safety of his method and equipment, or from carrying out the WORK in full accordance with the Plans and Specifications.

4. Assembling: Metal parts shall be accurately assembled as shown on the Plans, following applicable Industry Standards, Codes, erection drawings and fabricators' match-marks. Excessive force or manipulation of parts shall not be allowed as determined by the Engineer. The material shall be carefully handled so that no parts will be bent, broken, or otherwise damaged. Hammering, which will injure or distort the members will not be permitted. Bearing surfaces shall be cleaned before the members are assembled.
5. Bolt Holes and Bolting: Bolt holes and bolting shall follow the requirements as stated on the Plans and as indicated by applicable Industry Standards and Codes. Any steel-to-steel connections noted to be considered "slip-critical" shall be installed by the "turn-of-nut" tightening method per AISC. In addition to the requirements of AISC, bolting of slip-critical joints shall proceed in the following manner:
  - a. The joint shall be fitted up and aligned with drift pins.
  - b. Sufficient force shall be applied so as to bring the faying surfaces of steel into close contact. If high strength bolts are used for this purpose (i.e. used to pull steel into position), they shall be clearly marked for identification, and not used in the final connection.
  - c. High strength bolts shall be installed and brought up to snug-tight condition, such as can be produced by a few blows of an impact wrench, or by an ordinary spud wrench.
  - d. High strength bolts shall then be tightened by turn-of-nut method, progressing from the most rigid part of the joint toward the free edges.
  - e. Bolts used to pull steel into position (mentioned above) shall then be removed, replaced with high strength bolts, and tightened as described above.
  - f. The impact wrench used for bolt tightening shall be of adequate capacity so as to provide the required tightening in approximately 10 seconds.
  - g. Bolt lengths shall be such that 0" to ¼" of the bolt shall extend past the end of the nut after tightening.
6. Welding: All welding shall be in accordance with AWS D1.1 or AWS D1.2, current edition, as applicable. All welders shall be qualified per AWS for the type of welding anticipated. Welds will be spot tested by the Engineer by VT, MT, or UT and any welds which fail shall be repaired at the Contractor's expense, which will also include all costs for retesting. No welding through galvanized coatings will be permitted. The galvanizing within one inch of the weld shall be removed and repaired, after welding, according to these Specifications. All weld filler metal shall have chemistry similar to the base metal and shall have a minimum Charpy Impact Test Value of 20 ft-lbs. at -20 degrees F and have chemistry similar to the base metal. Filler metals shall only be used in welding positions recommended by the manufacturer. Welding materials shall be stored, and the condition maintained, according to AWS.
7. Galvanize Repair: Galvanized coatings damaged due to fabrication, welding, material handling or occurring during installation shall be repaired per ASTM A780.

**504-4.01 METHOD OF MEASUREMENT.** Section 109 and the following.

Metal fabrication and erection Work is incidental to other items listed in the Bid Schedule, and shall not be measured separately for payment.

**504-5.01 BASIS OF PAYMENT.**

Metal fabrication and erection Work is incidental to other items listed in the Bid Schedule. No separate payments shall be made for metal fabrication or erection.

## Special Provision

Delete this section and replace the following section:

**SECTION 505  
STEEL PILES**

**505-1.01 DESCRIPTION.**

The work in this section shall include all labor, materials, tools and equipment necessary to furnish and install all piles, pile splices, fiberglass caps, pile driving shoes, appurtenances and hardware, and all other related work in accordance with the requirements of the Contract Documents and as shown on the Plans

**505-1.02 REFERENCES.**

2. ASTM A252 – Welded Seamless Steel Pipe Piles
3. ASTM A139 – Electric-Fusion (Arc)-Welded Steel Pipe
4. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
5. AWS D1.1 – Structural Welding Code – Steel

**505-1.03 SUBMITTALS.**

1. Manufacturer's Mill Certificate: Steel Certification including chemistry, yield strength, and mill numbers.
2. Shop Drawings for all fabricated items per Section 504
3. Welding Procedures and Welder Certification per Section 504
4. Pile Splice Design: Pile splices shall meet AWS D1.1 requirements and shall be submitted for Engineer review.
5. Pile Installation Plan: As specified herein.
6. Manufacturer's information on all pile hammers intended for use, complete with satisfactory data to ensure properly suited for installation of pipe piles.
7. Galvanizing certificates verifying that coated material conforms to ASTM A123.
8. Fiberglass Pile Caps: Submit manufacturer's product data sheet along with proposed attachment method.
9. Pile Driving Shoes: Submit manufacturer's published literature for specific product, including specifications, and installation requirements for driving shoe pile tips as shown on the Plans.

**505-2.01 MATERIALS.**General:

1. All materials shall conform to the Contract Documents and as shown on the Plans. Purchase orders shall contain all necessary information to ensure that materials purchased will comply with the Contract Documents. The fabricator shall inspect all materials, upon arrival, for conformance with the purchase orders, and the fabricator shall confirm that mill certificates and test reports are provided and that they correctly identify the materials delivered. If a supplier proposes a substitute for any material, the proposed substitution shall be submitted to the Engineer for approval prior to commencing any work involving use of the proposed substitute material. Supplier must be prepared to supply materials as identified in the Contract Documents if the proposal for a substitution is not approved by the Engineer.
2. All materials incorporated into this project shall be new, unless otherwise noted on the Plans. Material not specifically noted in the Contract Documents or on the Plans shall be submitted by the Contractor for approval by the Engineer. Approval will be based on conformance to current standards utilized by the City.
3. All materials shall conform to good workmanship, acceptable industry standards and manufacturer's recommendations.

Piles:

1. Unless otherwise noted herein, all steel pipe piles shall be straight seam ERW pipe resulting in a smooth exterior pile wall and conforming to ASTM A252, Grade 3, with physical and chemistry requirements that meet ASTM A572 Grade 50. Carbon Equivalency shall not exceed 0.45 based on the following formula:

$$CE = \frac{(C+Mn+Si)}{6} + \frac{(Cr+Mo+V)}{5} + \frac{(Ni+Cu)}{15}$$

2. All steel pipe piles shall be hot-dip galvanized, full length, in accordance with ASTM A123.
3. All steel pipe piles shall be furnished, complete with pile tips, in the lengths indicated on the Plans. Piles shall be delivered full length or field spliced in accordance with approved welding and galvanizing repair procedures. Splice segments shall be no less than 10-foot in length. Pile splices shall be full strength groove-weld with backing per AWS specifications. No additional compensation shall be made for splicing piles to make up the pile lengths shown on the Plans.
4. Miscellaneous steel plates, shapes and fabricated metal weldments shall comply with Section 504

Miscellaneous:

1. Miscellaneous steel plates, shapes and fabricated weldments shall comply with Section 504
2. Fiberglass pile caps shall be white in color. Attachments shall be per manufacturer's recommendations to resist 100 mph wind speed.
3. Cutting shoes shall be of the make and model specified on the Plans, or approved equal.

**505-3.01 CONSTRUCTION.**

Pile Driving Equipment:

5. Pile Driving System. Pile driving hammers, and supporting equipment shall be selected by the Contractor subject to review by the Engineer, prior to mobilizing to the project site. The pile driving equipment shall be suitably sized to achieve the design embedment and ultimate bearing capacities identified in the plans. A vibratory hammer shall be used to drive piles to the maximum extent possible. Determine the pile bearing capacity by driving the pile a minimum of 5 feet with an impact hammer. Pile ultimate bearing capacities shall be determined solely by the Engineer. Use pile driver leads that allow the hammer to move freely. Do not use followers to drive piles. 2. All materials incorporated into this project shall be new, unless otherwise noted on the Plans. Material not specifically noted in the Contract Documents or on the Plans shall be submitted by the Contractor for approval by the Engineer. Approval will be based on conformance to current standards utilized by the City.
6. It shall be the responsibility of the Contractor to select hammer and associated equipment that is capable of efficiently achieving the required penetrations without damage to the pile considering the type and size of pile and expected soil conditions. The pile driving systems shall, at a minimum, meet the following requirements:
  - a. Impact Hammer – 20 k-ft minimum rated energy, maximum rated energy no greater than 110 k-ft
  - b. Vibratory Hammer – 2,200 in-lb eccentric moment, 100 ton driving force, and 40-ton line pull
7. Fit the pile driving hammer with a cast-steel driving head (or similar device) that is recommended in the hammer manufacturer's guidelines, is compatible with the pile, and aligns concentrically and fits closely with the top of the pile.
8. Any hammer that causes damage to the piles during driving operations shall be substituted with an acceptable alternative hammer at no additional expense. Impact hammer shall be supplied with new cap block cushions, which shall be changed at the manufacturer's recommended interval. The submitted pile driving plan shall include manufacturer's recommendations and information on hammer cushion. Do not use wood, wire rope, or asbestos hammer cushions.
9. Use only equipment included in the approved pile driving plan. The Engineer may inspect the pile driving equipment for conformance with the approved pile driving plan after it has been mobilized to the site and prior to beginning pile driving operations. Remove and replace pile driving equipment the Engineer determines does not conform with the approved pile driving plan, at no extra cost to the Department and with no adjustment to contract time.

Pile Driving Plan:

8. Submit a detailed work plan including technical narrative and illustrations for all pile driving systems. The plan shall be submitted no less than 30 days prior to the anticipated start of pile driving. Include in the pile driving plan:
  - a. Manufacturer's catalog cuts, specifications, manuals, guidelines, and technical bulletins for all pile driving equipment to be used.

- b. Limitations and capacities of listed equipment. Including, but not limited to: Crane capacity and maximum reach with the specified hammer and maximum pile length, pile driving hammer rated energy, etc.
  - c. Manufacturer's recommendations and information on hammer cushion.
  - d. A description of the techniques to be used for ensuring proper placement and alignment of the piles, obtaining the bearing capacity, and advancing the piles to the estimated pile tip elevation.
  - e. Alternate methods of pile installation in the event obstructions are encountered.
  - f. Shop Drawings and configuration for pile driving template(s).
9. Do not mobilize pile driving equipment to the site without an approved pile driving plan.
  10. Submit all revisions to the approved pile driving plan to the Engineer for approval. For all pile driving equipment not previously identified in the pile driving plan, include in the submittal all of the information required above for the pile driving plan. Explain to the Engineer, in writing, which portions of the approved pile driving plan will be superseded by the revision and which portions remain unchanged. Allow at least 5 days for the Engineer's approval of pile driving plan revisions.

#### Driving Piles:

1. The Contractor is responsible to become familiar with the site conditions and any available geotechnical information, prior to bid, so as to make their own assessment of pile installation means and methods. It is recommended that the Contractor visit the site, prior to bid, to assess the site conditions, particularly during a minus tide.
2. Drive all piles to the ultimate load capacities and minimum tip elevations specified in the plans. Pile bearing capacities shall be determined by the Engineer.
3. All float anchor piles shall be installed at planned locations, through the pile hoops to assure that the floats move freely along the piles throughout the entire tidal range. Any pile installed in a manner that causes binding between the pile and pile hoop shall be extracted and re-driven at no additional cost. Forcing of piles to achieve required alignment will not be allowed. Minimum pile lengths and embedment requirements shall be as specified on the Plans. A vibratory hammer shall be utilized for all initial pile driving. If refusal occurs prior to complete embedment being achieved, the Contractor shall drive the remaining pile to the desired embedment with a suitable sized impact hammer.
4. Pile installation restrictions and monitoring requirements are described in the Environmental Commitments & Permits contained in the bid documents. These are incorporated by reference to this section.
5. All pile installations shall be conducted with the owners representative present. The Contractor shall assist the Engineer in monitoring the pile driving. The Contractor shall mark each pile with one-foot increments, with every five-foot increment numbered. For determination of pile refusal or capacity, the Contractor shall mark the piles with 1-inch increments during the final drive. The marks shall be visible and readable from all sides of the pile above local extreme low tide level. Provide notification a minimum of 24 hours prior to any pile installation.
6. If a bearing pile is driven to the estimated tip elevation and the Engineer determines that the required capacity has not been obtained, the Engineer may direct the Contractor to continue pile driving operation until adequate capacity is obtained.

Placement and Alignment. Ensure proper placement and alignment of the piles. The Engineer will reject piles that are bent or otherwise damaged by forcing the pile into the leads or template.

Piles shall be placed within 1% of specified vertical alignment and within 2 inches of specified location at cut-off, unless otherwise noted. Piles shall be installed to allow free vertical movement of the float under varying water elevations without binding. Piles resulting in binding of the floats shall be repositioned at no additional cost.

Obstructions. Obstructions may be encountered below mudline during pile driving. Perform full-depth probing at all trestle pile locations prior to installation of production piles. Any obstructions encountered within five feet of the existing mudline shall be removed at no additional cost. Obstructions extending below five feet from mudline elevation that require removal shall be removed in accordance with General Conditions – Differing Site Conditions. The Contractor shall be prepared to immediately remove obstructions in the event they are encountered, or shall alternatively move to other contract Work to prevent delays.

Defective Piles:

Use a pile driving method which does not damage the pile. Do not manipulate the piles to force them into proper position. Correct damaged or improperly driven piles using a method approved by the Engineer. Drive down all piles pushed up by driving adjacent piles or by any other cause. Approved methods may include one of the following:

1. Withdraw and replace the pile with a new and, when necessary, longer pile.
2. Splice or build up the pile.

Cutting Off Piles:

Cut off the piles at the elevations indicated on the Plans. Ensure that all injured material is removed. In pile bents with steel cap beams, make accurate cut-offs to ensure full bearing between the caps and piles.

Fiberglass Caps:

The Contractor shall furnish and install new fiberglass caps in accordance with the manufacturer's recommendations for each float anchor pile as indicated on the Plans.

In-Water Work Restrictions:

All requirements regarding pile driving, other in-water work activities and monitoring requirements set forth by the project permit requirements shall be followed.

Clean Up:

All steel pipe pile cutoffs on this Project shall become the property of the Contractor.

Reasonable Care:

Construction methods and products not specified in these Contract Documents shall be utilized using reasonable care and the highest quality industry standard construction practices. Final inspection and acceptance of all Work and products not specified in these Contract Documents shall be made by the Engineer. Approval shall be based upon conformance to the Contract Documents, quality of workmanship, applicable industry standards, and pertinent manufacturer's recommendations.

**505-4.01 METHOD OF MEASUREMENT.** No measurement will be made for steel piles.

**505-5.01 BASIS OF PAYMENT.** The work required for furnishing and installation of pile is subsidiary to 692 pay items.

# **DIVISION 600 — MISCELLANEOUS CONSTRUCTION**

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Special Provision

Replace Section 603 with the following:

### SECTION 603 CULVERTS AND STORM DRAINS

**603-1.01 DESCRIPTION.** Construct or reconstruct culvert and storm drain pipe. Install culvert marker posts, and strap plastic culvert ends.

**603-1.02 REFERENCES.**

ASTM D3953	Standard Specification for Strapping, Flat Steel and Seals
ASTM D4675	Standard Guide for Selection and Use of Flat Strapping Materials

**603-2.01 MATERIALS.** Use materials that conform to the following:

Bedding and Backfill	Subsection 204-2.01
Joint Mortar	Subsection 705-2.04
Flexible Watertight Gaskets	Subsection 705-2.05
Non-reinforced Concrete Pipe	Subsection 706-2.01
Reinforced Concrete Pipe	Subsection 706-2.02
Corrugated High Density Polyethylene (HDPE) Pipe	Subsection 706-2.07
Corrugated Steel Pipe and Pipe Arches	Subsection 707-2.01
Corrugated Aluminum Pipe	Subsection 707-2.03
Galvanize	Subsection 716-2.07
Culvert Marker Posts (Flexible Delineator Posts)	Subsection 730-2.05

Item 603.0017.\_\_\_\_, Pipe, listed in the bid schedule, furnish either Corrugated Steel Pipe (CSP), Corrugated Aluminum Pipe, Reinforced Concrete Pipe, or Corrugated Dual Wall HDPE (plastic) Pipe. Select pipe for each installation that meets or exceeds the requirements shown on the Plans for height of cover.

Steel and Plastic Pipe: match the coupling band material and end section material to the pipe material.

Separate dissimilar materials with an electrical insulating material. The insulating material must be at least 1/16 inch thick and approved by the Engineer.

Culvert marker post is 6-foot tall by 2.5 inches wide with reinforcing ribs, capable of a 9-inch minimum bending radius, and blue with no marking.

Culvert marker Strap and Seals according to ASTM D3953. .625 inch x .02 inch, dry Type 1 regular-duty (magnetic, ferritic), galvanized Finish B (hot-dipped Grade 2 moderate coating, .18 oz./ft<sup>2</sup> surface or .0002 inch thick minimum. Push type seals, Style III (overlap), regular duty, galvanized Finish B (hot-dipped coating) by 1.75-inch minimum length and matched to strapping width.

#### CONSTRUCTION REQUIREMENTS

**603-3.01. GENERAL.** Excavate, bed, and backfill according to the requirements of Subsections 204-2.01 and 204-3.01, and the Plans.

Dewater ground water from work areas; construct and maintain temporary water diversion when working in waterways, and for facilities or structures with active drainage according to Section 204.

**603-3.02. LAYING PIPE.** Begin the pipe laying at the downstream end of the pipe. Keep the lower segment of the pipe in contact with the bedding throughout its full length. Place bell or groove ends of rigid pipe and outside circumferential laps of flexible pipe facing upstream.

Lay paved or partially lined pipe so that the longitudinal centerline of the paved segment coincides with the flow line. Install elliptical conduit and circular conduit reinforced with other than a full circular cage or cages so the orientation of a vertical plane through the longitudinal axis of the conduit does not vary more than 5 degrees from the design orientation.

Repair damaged metallic coating on metal pipe according to AASHTO M36.

**603-3.03 JOINING PIPE.** Joints shall provide circumferential and longitudinal strength to preserve the pipe alignment, prevent separation of pipe sections, and provide a watertight joint between new sections of pipe and joints between new and existing sections of pipe of similar and dissimilar materials. Include a continuous gasket (seal) in all joints. Construct the watertight joint capable of passing a laboratory hydrostatic pressure and vacuum test of at least 4 psi for 10 minutes.

1. Rigid Pipe. Use either bell and spigot or tongue and groove joints. Join pipe sections with the ends fully entered and the inner surfaces reasonably flush and even.

Use one or more of the following joint materials, or any other if approved:

- a. Portland cement mortar
- b. Portland cement grout
- c. Rubber gaskets
- d. Coupling bands
- e. Preformed plastic sealing compound

Make mortar joints using an excess of mortar to form a bead around the outside of the pipe.

For grouted joints, use molds or runners to retain the poured grout. Install rubber ring gaskets to form a flexible, watertight seal.

When using portland cement mixtures, protect the completed joints against rapid drying using suitable covering material.

2. Metal Pipe. Join metal pipe firmly using one of the types of coupling bands shown on the Plans and as described below. Provide coupling bands that are no more than two nominal sheet thickness lighter than pipe being joined and in no case thinner than the minimum sheet thickness of the material. The minimum sheet thickness is 0.048 inches for aluminum and 0.052 inches for steel. Include a gasket each side of the gap.
  - a. Annular, Spiral, Semi-Corrugated, and Rod and Lug Bands. Provide standard bands as described by ASTM A760 and ASTM B745. Join the pipe so the gap between the pipes is in the center of the band and is no wider than one corrugation width.
  - b. Dimple and Bias Bands. Use these bands only where it is not possible to use other bands, such as on field-cut pipe ends or joining new pipe to existing pipe. Join the pipe so the gap between the pipes is in the center of the band and is not wider than 2 inches.

3. Plastic Pipe. Use push-on or mechanical joints. Ensure that the plastic pipe couplings' corrugation matches the pipe corrugation and that their width is not less than one-half the nominal pipe diameter.

Furnish all bolted connections on coupling bands with cut washers placed between the nut and the angle bracket or use nuts with integral washers.

Take up any pipe that is out of alignment, unduly settled, or damaged and re-lay or replace it.

#### **603-3.04 CULVERT MARKER.**

1. Marker Post. Install a culvert marker on the approach side of storm drain outfalls 30 inches and smaller, field inlets not in paved parking lots, all end sections to cross culverts, or as directed. Drive to maintain forty-two inches of post above the ground after driving, and
2. Marker Strap. In addition to marker posts, install marker strap around the plastic pipe ends.

Position the strap in the valley of the first annular ring from the top end of the culvert. From the vertical centerline of the culvert, at the top, overlap the strap and extend the ends to approximately 30 degrees each side of the centerline. Place the strap loosely without twists in the valley, without compressing the pipe, and tight enough to keep the strap from moving out of the valley without deforming the pipe or pipe corrugation. Seal the strap at three locations, one at each of the ends, and one at the top of the culvert. Extend the strap ends beyond the end seals approximately 1/2-inch. Double crimp the seal, two pairs of crimps minimum each seal.

Repair the strap galvanizing where abraded and at cut ends according to ASTM A780. Prepare the surface with power tools per SSPC-SP11, hand tools per SSPC-SP2, and as required by the paint manufacturer. Apply paint, Type – paint containing zinc dust, to the prepared surfaces and allow enough time for curing as required by the manufacturer's printed instructions.

#### **603-4.01 METHOD OF MEASUREMENT.** Section 109, and as follows:

1. Culvert Pipe. The length of pipe, measured in place, along the invert.
2. Pipes for Storm Drains. The length of pipe, measured in place, along the invert, from center to center of structures. The length through the inlets, catch basins, and manholes is included in the measured length.

**603-5.01 BASIS OF PAYMENT.** Branch connections and elbows are subsidiary to the pipe unless included as a separate Pay Item.

Coupling bands, seals (gaskets), and other items necessary for the proper joining of the sections are subsidiary.

Culvert markers are subsidiary to the pipe.

Excavation, bedding, and backfill paid under Section 204.

PAY ITEM		
Item Number	Item Description	Unit
603.0001.____	CSP ____ Inch	LF
603.0002.____	____ Inch CSP Arch	LF
603.0003.____	End Section for CSP ____ Inch	Each
603.0004.____	End Section for ____ Inch CSP Arch	Each
603.0009.____	Corrugated Aluminum Pipe ____ Inch	LF
603.0010.____	____ Inch Corrugated Aluminum Pipe Arch	LF
603.0011.____	End Section for Corrugated Aluminum Pipe ____ Inch	Each
603.0012.____	End Section for ____ Inch Corrugated Aluminum Pipe Arch	Each
603.0013.____	Reinforced Concrete Pipe, ____ Inch, Class ____	LF
603.0014.____	Reinforced Concrete End Section, ____ Inch	Each
603.0015.____	Elbow, (Type & Size)	Each
603.0016.____	Branch Connection, (Type & Size)	Each
603.0017.____	Pipe ____ Inch	LF
603.0019.____	____ Inch Pipe Arch	LF
603.0020.____	End Section for Pipe ____ Inch	Each
603.2032.____	Corrugated HDPE Pipe ____	LF
603.2033.____	End Section for Corrugated HDPE Pipe ____	Each

C603-25.0201

## SECTION 607 FENCES

### Special Provision

**607-1.01 DESCRIPTION.** Add the following after the first paragraph: This work consists of furnishing and installing gates in accordance with the plans, and the specifications at the locations indicated on the plans or as directed by the Engineer. This work shall include foundation, assembly, installation, application of reflective markings, and all materials and incidentals necessary to place gates into operation to the satisfaction of the Engineer.

**607-2.01 MATERIALS.** Add the following:

Concrete Class W	Subsection 501-2.01
Structural Steel	Subsection 716-2.02
High strength bolts, nuts and washer	Subsection 716-2.03
Machine bolts, cap screws, nuts and washers	Subsection 716-2.05

Add the following Subsections:

**607-2.02 GALVANIZING.** Structural steel shall be hot dipped galvanized in conformance with AASHTO M 111. Gates shall be galvanized after fabrication.

Hot-dip galvanize all anchor bolts, nuts, washers, tie-rods, clamps and other miscellaneous ferrous parts in conformance with AASHTO M 232. After galvanizing, ensure that the bolt threads accept galvanized standard nuts without requiring tools or causing removal of protective coatings. Bolts and nuts shall be the heavy hex type and galvanized if connected components are galvanized.

Repair damage to galvanized coatings in conformance with AASHTO M 36.

**607-2.03 LOCKS.** Locks shall be provided for each gate and shall be brass, restricted keyway padlocks with a shackle that is 3/8 inch in diameter having a closed clearance of 2-1/4 inches. The locks shall have control key removable cores and each lock shall have a separate replacement core. All cores shall be keyed differently. The Contractor shall provide 4 keys per lock, and 2 core-removal keys.

Add the following Subsection:

**607-3.02 GATES.**

1. Fabrication. The Contractor shall furnish 15 days' notice of the beginning of fabrication work at the shop, so that inspection may be provided.

Workmanship and finish shall be equal to the best practice in modern fabrication shops. Portions of the work exposed to view shall be finished neatly. Shearing, flame cutting, and chipping shall be done carefully and accurately. Steel or wrought iron may be flame cut, provided a smooth surface is secured by the use of a mechanical guide. Flame cutting by hand shall be done only where approved, and the surface shall be made smooth by planing, chipping, or grinding. The cutting flame shall be adjusted and manipulated so as to avoid cutting beyond the prescribed lines. Re-entrant cuts shall be filleted to a radius of not less than 3/4 inch.

2. Finishing and Shaping. Finished members shall be true to line and free from twists, bends, and open joints. Structural material, either plain or fabricated, shall be stored at the fabricating shop above the ground on platforms, skids, or other supports. It shall be kept free from dirt, grease, or other foreign matter, and shall be protected, as far as practicable, from corrosion.

3. Welding. Welding shall be in accordance with AWS D1.1.
4. Post Installation. All gate posts shall be set in Concrete Class W at the required dimensions and depths and at the spacing shown on the Plans.

The post holes shall be in proper alignment so that there is a minimum of 3 inches of concrete on all sides of the posts. The concrete shall be thoroughly compacted around the posts by tamping or vibrating and shall have a smooth finish slightly higher than the ground and sloped to drain away from the posts. All posts shall be set plumb and to the required grade and alignment. No materials shall be installed on the posts, nor shall the posts be disturbed in any manner within 7 days after the individual post footing is completed.

Should rock be encountered at a depth less than the planned embedment depth, a hole 2 inches larger than the greatest dimension of the posts shall be drilled to a depth of 12 inches. After the posts are set, the remainder of the drilled hole shall be filled with grout, composed of one part Portland cement and two parts mortar sand. Any remaining space above the rock shall be filled with concrete in the manner described above.

In lieu of drilling, the rock may be excavated to the required embedment depth.

5. Gate Installation. Gates shall be installed level and plumb with the swing as indicated on the drawings. Reflective sheeting shall be installed on clean dry surface in accordance with manufacturer's recommendations.

**607-4.01 METHOD OF MEASUREMENT.** Add the following: The method of measurement for Items 607.2001.\_\_\_\_, Single Swing Gate and 607.2002.\_\_\_\_, Double Swing Gate shall be by the number of complete gate units installed and accepted by the Engineer.

**607-5.01 BASIS OF PAYMENT.** Add the following: Payment for Items 607.2001.\_\_\_\_ and 607.2002.\_\_\_\_ shall be made at the contract unit price for each furnished, completed and accepted gate installation. This price shall be full compensation for furnishing all materials, for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete Items 607.2001.\_\_\_\_, Single Swing Gate and 607.2002.\_\_\_\_, Double Swing Gate.

Payment will be made under:

PAY ITEM	PAY UNIT
607.2001.____ Single Swing Gate	Each
607.2002.____ Double Swing Gate	Each
607.3000.____ Dumpster Enclosure	LS

**SECTION 609  
CURBING**

Special Provisions

Add the following Subsection 609-3.06 Bumper Curbs:

**609-3.06 BUMPER CURBS.** Concrete Parking Bumper shall conform to Subsection 609-3.03, Precast Concrete Curb, and the Plans.

**609-5.01 BASIS OF PAYMENT.**

Add the following:

**Concrete Parking Bumper** is for each complete installation.

PAY ITEM		
Item Number	Item Description	Unit
609.2003._____	Concrete Parking Bumper	Each

C609.1-00.0201-2

**SECTION 611  
RIPRAP**

Special Provision

**611-2.01 MATERIALS.**

Replace the first paragraph with the following:

Evenly graded stones that are hard, angular, and have no more than 50 percent wear at 500 revolutions as determined by AASHTO T 96. Apparent specific gravity will be determined by ATM 308. Use stones with breadth and thickness at least 1/3 of its length. Do not use round boulders or cobbles on slopes steeper than 3:1.

CR611.1-020119

## Special Provisions

Replace Section 618 with the following:

**SECTION 618  
SEEDING**

**618-1.01 DESCRIPTION.** Establish a healthy living perennial stand of grass or other specified vegetative living groundcover by clearing, applying soil stabilization material(s) and seeding the area(s) shown in the plans, including new and disturbed area(s), and area(s) identified by the Engineer. Maintain the living cover for the term of the Contract.

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

Water	Subsection 712-2.01
Seed	Section 724 (Grass Seed)
Topsoil	Section 726
Soil Stabilization	Section 619
Soil Stabilization Material	Section 727

**CONSTRUCTION REQUIREMENTS**

**618-3.01 SOIL PREPARATION.** Clear area(s) to be seeded; remove ruts, holes, humps, and other irregularities from the surface. Clear stones four inches in diameter and larger, weeds, plant growth, sticks, stumps, and other debris that will interfere with the application of stabilization material, topsoil, the seeding operation, growth of vegetative groundcover, and subsequent maintenance of the vegetative-covered area(s).

Mix the seed with the stabilization material before applying the material (not including topsoil), or seed the stabilization material immediately after the material is applied for the best results as recommended by the supplier/manufacturer.

Smooth the slopes for a uniform appearance and round the top and bottom of the slopes to facilitate tracking or raking. Do not disrupt drainage flow lines.

Evenly place stabilization material and or topsoil when specified.

Prepare the surface material by grooving the material in a uniform pattern that is perpendicular to the fall of the slope. Use one or more of the following grooving methods with associated equipment before the application of seed:

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

**618-3.02 SEEDING SEASONS.** Seed disturbed areas after permanent cessation of ground disturbing activities in that area, within the period specified in the Alaska Department of Environmental Conservation (ADEC) Alaska Pollutant Discharge Elimination System (APDES) Construction General Permit (CGP) for Alaska, Section 4.5 Soil Stabilization, and Section 641 Erosion, Sediment, and Pollution Control.

Do not seed during windy conditions, when climatic conditions or ground conditions would hinder placement or proper growth.

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

**618-3.03 APPLICATION.** Seed, seeding, reseeding includes the application of seed, and stabilization material.

Apply seed mix, fertilizer, and stabilization material at the rate specified. If the seed mix, fertilizer and stabilization material are not included in the Plans or Specifications, including their application rates, use the recommendations of the ADNR and the Revegetation Manual for Alaska.

Do not seed areas of bedrock and plant beds.

**TABLE 618-1  
TYPE A SEED MIX AND SOIL STABILIZER APPLICATION RATES**

<b>Materials</b>	<b>Ingredients</b>	<b>Application Rate (per MSF<sup>c</sup>)</b>
<b>Grass Seed Mix</b> <sup>a, b</sup>	Nortran – Tufted Hairgrass	2.5 lbs.
	Arctared – Red Fescue	2.0 lbs.
	Annual Ryegrass	0.5 lbs.
		Total = 5.0 lbs.
<b>Soil Stabilizer</b> <b>Slope ≤ 3:1</b>	Mulch	46 lbs.
	<b>Slope &gt;3:1</b>	Mulch with tackifier

- Do not remove the tags from seed bags.
- Submit an alternate seed mix when the specified seed is not commercially available. Provide a letter confirming the specified seed is not available. Include an agronomist certified seed mix design, including application rate, suited to the project site.
- MSF = 1000 ft<sup>2</sup>.

**TABLE 618-2  
TYPE B SEED MIX AND SOIL STABILIZER APPLICATION RATES**

<b>Materials</b>	<b>Ingredients</b>	<b>Application Rate (per MSF<sup>c</sup>)</b>
<b>Grass Seed Mix</b> <sup>a, b</sup>	Nortran – Tufted Hairgrass	2.0 lbs.
	Arctared – Red Fescue	1.5 lbs.
	Wainwright - Slender Wheatgrass	1.25 lbs.
	Annual Ryegrass	0.25 lbs.
	Total = 5.0 lbs.	
<b>Soil Stabilizer</b> <b>Slope ≤ 3:1</b>	Mulch	46 lbs.
	<b>Slope &gt;3:1</b>	Mulch with tackifier

- Do not remove the tags from seed bags.
- Submit an alternate seed mix when the specified seed is not commercially available. Provide a letter confirming the specified seed is not available. Include an agronomist certified seed mix design, including application rate, suited to the project site.
- MSF = 1000 ft<sup>2</sup>.

Do not remove required tags from seed bags.

#### 1. Hydraulic Method

Apply seed and stabilization material in one application when using the hydraulic method.

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

- c. If mulch material is required, it may be added to the water slurry in the hydraulic seeder. Add seed to the slurry mixture no more than 30 minutes before application.
- d. Mix the slurry and apply it evenly.

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

**618-3.04 MAINTENANCE.** Maintenance includes but is not limited to the following:

1. Protecting seeded areas against traffic by approved warning signs or barricades and against erosion.
2. Repairing surfaces gullied or otherwise damaged following seeding. Fill erosion gullies 4 inches deep and greater filling the gully to surrounding grade including the portions less than 4 inches deep. Apply and prepare the stabilization material and or topsoil for seeding. Seed repaired area. Refer to Subsections 618-3.01 & 3.03.
3. Reseeding areas not showing evidence of satisfactory growth within 3 weeks of seeding and after repairs are complete. Reseed bare patches of soil more than 2 square feet in area. Contact ADNR for advice or corrective measures, when seeded areas are not showing evidence of satisfactory growth.
4. Watering seeded areas for healthy growth of vegetative cover. If in the opinion of the Engineer, too little or too much water is being applied, adjust the amount of water as directed.

**618-3.05 ACCEPTANCE.** The vegetative groundcover will be inspected considering each station and each side of the road a separate area. Acceptance of the cover requires a minimum of 90% cover density in the inspection area, gullies repaired and reseeded, and no bare patches of soil more than 2 square feet in area.

Repair/reseed areas that are not accepted.

**618-3.06 PERIOD OF ESTABLISHMENT.** For each area accepted, the establishment period extends one complete growing season following the date of Project Completion, Subsection 105-1.15. Employ all possible means to preserve/maintain the new vegetative groundcover in a healthy and vigorous condition to ensure successful establishment. Maintain the vegetative cover, according to Subsection 618-3.04, to not less than the requirements for acceptance, Subsection 618-3.05.

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

Seeding by the Acre. By the area of ground surface acceptably seeded and maintained.

**618-5.01 BASIS OF PAYMENT.**

1. 1. Seeding by the Acre. Payment is for established vegetative mat.
  1. Stabilization material preparation (seed, fertilizer, stabilization material, and the water required for all hydraulic applications) are subsidiary.
  2. Maintenance including: 1. Protection, 2. Repairs, 3. Reseeding, is also subsidiary. Repairs and reseeded include, but are not limited to: fill, stabilization material and preparation for seeding, seed, fertilizer, and the water required for hydraulic application.

Except for maintenance, stabilization material is paid under Section 619 and topsoil under Section 620.

**PAY ITEM**

<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>
618.0001.____	Seeding	Acre

## SECTION 619 SOIL STABILIZATION

### Special Provisions

Replace Section 619 with the following:

**619-1.01 DESCRIPTION.** Furnish, install, and maintain materials to stabilize the soil. Control erosion, sediment, and pollution.

### **619-1.02 RELATED SECTIONS, REFERENCE ORGANIZATIONS, AND STANDARD DOCUMENTS.**

Seeding .....	Section 618
Topsoil.....	Section 620
Planting Trees and Shrubs .....	Section 621
Silt Fence .....	Section 633
Erosion, Sediment, and Pollution Control .....	Section 641
Soil Stabilization Material .....	Section 727

**619-1.03 SUBMITTALS.** Submit stabilization and erosion, sediment and pollution control performance testing results with certifications for each material, Section 619-2.01 Materials. Submit a sample of each material to the Engineer 7 days before the scheduled installation.

- 1) Test compost, all applications, no more than 90 days before installation.
- 2) At a minimum, certificate will include the name of the manufacturer, product name, style number or similar, chemical composition of the material, the fibers, netting, yarn and similar and the weed free status of the material.
- 3) Organic materials shall be accompanied with all applicable health certificates and permits.
- 4) Furnish a Material Safety Data Sheet (MSDS) that demonstrates the product is not harmful to plants, animals, and aquatic life.

**619-2.01 MATERIALS.** Select stabilization materials, individually or a combination of, matched to the project applications/conditions (sheet flow, concentrated flow, slope, length of slope, access, etc.) providing performance and functional longevity meeting the most restrictive requirements of the Construction General Permit (CGP), the approved Stormwater Pollution Prevention Plan (SWPPP) and Section 641 Erosion, Sediment and Pollution Control.

- 1) Mulch..... Subsection 727-2.01
  - Dry Erosion Control, Stabilization Products
  - Hydraulic Erosion Control Products (HECPs)
- 2) Matting..... Subsection 727-2.02
  - Rolled Erosion Control Products (RECPs)
- 3) Sediment Retention Fiber Rolls (SRFRs) ..... Subsection 727-2.03
  - Filter Socks
  - Compost Socks
  - Coir Logs
- 4) Compost..... Subsection 727-2.04
- 5) Tackifier..... Subsection 727-2.05
- 6) Soil Binders (Polyacrylamide (PAM))..... Subsection 727-2.06
- 7) Geotextile-Encased Check Dams and Sediment Barriers ..... Subsection 727-2.07
- 8) Sandbag ..... Subsection 727-2.08
- 9) Manufactured Inlet Protection System ..... Subsection 727-2.09
- 10) Clear Plastic Covering..... Subsection 727-2.10
- 11) Staples ..... Subsection 727-2.11
- 12) Other stabilization materials submitted to and approved by the Engineer.

Include on the packaging the manufacturer's name, the content, the air dry-weight and the guaranteed chemical analysis of the contents. Ship and deliver to the site in the original, unopened containers.

### CONSTRUCTION REQUIREMENTS

**619-3.01 GENERAL.** Stabilization may include individual or a combination of materials, including but not limited to temporary seeding, mulch, tackifier, staples, matting, stabilizing emulsions, soil binders, dustless sweeping, dust palliatives, and others.

1. Material Storage and Protection. Store materials elevated off the ground and covered protecting them from construction and or damage from the environment including but not limited to:
  - Precipitation
  - Extended ultraviolet radiant including sunlight
  - Chemicals that are strong acids or other
  - Flames and welding sparks
  - Excess temperatures
  - Other environmental conditions that may damage the materials
2. Fabrication.
  - a. Sandbags. Sand bags shall measure 15 inches by 30 inches. Place approximately 1.0 cubic foot of select Material, Type B, in each sandbag sack. Close the open end of the sandbag as recommended by the fabric manufacturer.

**619-3.02 SURFACE PREPARATION.** Clear all areas to be stabilized of stones 4 inches in diameter and larger and of weeds, plant growth, sticks, stumps, and other debris or irregularities that might interfere with the stabilization operation, growth of cover (where vegetative cover is part of the stabilization operation) or subsequent maintenance of the vegetative-covered area(s).

Smooth the surface of the area(s) to be stabilized; make the areas reasonably free of ruts, holes, and humps; trackwalk if required by the manufacturer; apply the stabilization material to each area.

If specified, apply topsoil to the area to be stabilized before application of the stabilizing material. Section 618 and 620.

**619-3.03 APPLICATION.** Apply stabilization material, including rate of application, according to the specifications. If not specified, apply according to the manufacturer's requirements. Where manufacturer requirements conflict with the specification, except where the Engineer directs otherwise, apply the material according to the requirements of the manufacturer.

If seeding is specified, except where seed is included in the stabilization material, complete the application of stabilization materials within 24 hours after seed is placed.

Do not use vehicles or equipment which cause rutting or displacement of the subgrade or topsoil.

1. Temporary Seeding. Annual Ryegrass per Subsection 724-2.02, Table 724-1. Apply at a rate of 1/2 lb/1000 sq. ft., minimum, on level ground to a maximum of 1 1/2 lb/1000 sq. ft., maximum, on sloping ground and highly erodible soils. Prepare surface and place seed as noted under Subsection 619-3.02 Surface Preparation and Section 618 Seeding. Confirm application of temporary seeding with the Engineer.
2. Tacking Agents - Tackifiers. Apply tacking agents according to the manufacturer's installation instructions matched to the application providing functional longevity, erosion control effectiveness, and vegetative establishment.
3. Soil Binders. Apply soil binders according to the manufacturer's installation instructions.
  - a. Using Polyacrylamide (PAM) and PAM with Short-Term Mulch:  
Apply PAM on bare soils.  
  
Apply PAM and PAM with short-term mulch only where sediment control is in place and complete.

Do not apply PAM and PAM with short-term mulch on saturated ground during rainfall.

b. Using Moderate-Term Mulch:

Apply moderate-term mulch according to manufacturer's installation instructions. If the curing period to achieve maximum performance is greater than the time period before precipitation is predicted, or the soil is saturated, do not apply the moderate-term mulch except as approved by the Engineer.

c. Using Long-Term Mulch:

Apply long-term mulch according to the manufactures' installation instructions.

4. Erosion Control Blankets (ECBs). Select blankets, as specified by the manufacturer, to match the slope; and installed according to the manufacturer's instructions rolled out on well-prepared soils to assure intimate contact and anchored with staples, stakes and or anchor trenches. Temporary erosion control blankets with 60 percent or greater open area may be installed prior to seeding. Place blankets with less than 60 percent open area immediately after the seeding operation.

Staple matting/ECBs as recommended by the manufacturer for the application.

5. Compost Blankets. Construct compost blankets according to AASHTO R 52-10 and as specified. Use coarse compost and place over bare soil a blanket of 2 inch minimum thickness, except as otherwise specified. Apply material either by hand spreading and or pneumatically. Compost will have no free water visible or produce dust when handled. Place compost before seeding or mix seed with compost.

6. Check Dams. Place check dams as soon as possible and practicable or when and where if directed by the Engineer. Place the check dams perpendicular to channels and construct of a height sufficient to maximize detention while keeping the water in the channel. Place and install check dams according to the Plans and anchor to maintain in effective position.

- a. Sandbag. Place the initial row in tight contact with the ditchline for the length of the dam. Place each following row centered across the joint between the bags of the lift/row below.

7. Stabilized Construction Entrance.

Temporary stabilized construction entrance shall be constructed according to the Plans, prior to beginning any clearing, grubbing, earthwork, or excavation.

When the stabilized entrance no longer prevents track out of sediment or debris, the Contractor shall either rehabilitate the existing entrance to original condition, or construct a new entrance.

When the Plans require a tire wash in conjunction with the stabilized entrance, the Contractor shall include details for the tire wash and the method for containing and treating the sediment-laden runoff as part of the SWPPP. All vehicles leaving the site shall stop and wash sediment from their tires.

8. Sediment Control Barriers. Sediment control barriers shall be installed according to the Plans or manufacturer's recommendations in the areas of clearing, grubbing, earthwork, or drainage prior to starting those activities.

- a. Sandbag. Place the initial row in tight contact with the surface perpendicular to the slope. Place each following row centered across the joint between the bags of the lift/row below.

- b. Sediment Retention Fiber Rolls.

- c. Silt Fence.

- d. Compost Berm. Construct compost berms according to AASHTO R 51-10. Use coarse compost.

9. Turf Reinforcement Mats. According to manufacturer's installation instructions.

**619-3.04 MAINTENANCE.** Maintain stabilized areas in a satisfactory condition for the term of the Contract, including warranty obligations. Inspect as required by the CGP, approved SWPPP, and Section 641 Erosion, Sediment and Pollution Control and correct any deficiencies immediately. Remove and dispose of temporary measures, including trapped sediment and contaminants, off project at approved locations. Materials manufactured as degradable may be left in place when approved by the Engineer.

Maintenance includes but is not limited to:

- a. Protecting stabilized areas against traffic by approved warning signs or barricades.
- b. Repairing surfaces gullied or otherwise damaged following application of stabilization material(s).

Where seeding is included as a part of the soil stabilization:

- c. Reseeding, as required by Section 618 Seeding. Reapply the stabilization materials correcting the problems of the initial application.
- d. Watering, where vegetative growth is part of the soil stabilization, according to Section 618 Seeding.

The Engineer will perform inspection of the stabilization as required in the CGP, Section 641, and the SWPPP. Make repairs as required by same and as directed.

**619-4.01 METHOD OF MEASUREMENT.** No measurement will be made.

**619-5.01 BASIS OF PAYMENT.** Water, maintenance, repair, removal, and disposal of temporary stabilization materials are subsidiary.

Seeding is paid under Section 618 Pay Items, topsoil under Section 620 Pay Items, silt fence under Section 633 Pay Items and temporary erosion, sediment, and pollution control under 641 Pay Items.

## SECTION 621 PLANTING TREES AND SHRUBS

### Special Provisions

#### 621-1.01 DESCRIPTION.

##### Add the following:

This work shall consist of furnishing, planting, maintaining, and storing dormant Willow cuttings to be used in the protection and revegetation of waterway banks.

#### 621-2.01 PLANT STOCK.

##### 2. Collected Stock.

##### Add the following:

Collect dormant cuttings under the supervision of a plant material consultant provided by the Contractor and approved by the Engineer. Locate, harvest, and provide a controlled cold storage facility for dormant cuttings. Submit, at least one week before the harvest, the harvest site locations for site inspection and approval.

- a. Dormant Willow Cuttings. Harvest dormant cuttings from living woody plants when the plants are not actively growing. Collect the cuttings from the species specified unless the Engineer approves alternates. Do not mix invasive vines or plant materials with the cuttings. Leave such material at the harvest site.

Provide live dormant cuttings ½-inch to 2-inches in diameter, 3-feet to 4-feet long. Handle live dormant cuttings with care to avoid bark stripping and trunk wood splitting. Make cuts 8-inches to 12-inches from the ground. Make cuts flat or at a blunt angle with pruning shears. Cut the basal ends, not the growing tips to obtain the required length.

Collect cuttings, to be used for spring and early summer plantings, during winter/early spring before leaves appear but no later than March 31. For fall dormant plantings, collect cuttings in the late summer/early fall, after plants have gone dormant, after leaves change color, and have dropped. Flower buds (“pussy willows”) are not acceptable. These buds typically occur at the tips of branches produced during the last growing season.

1. Binding. Group cuttings and bind together securely with twine at the harvesting site for ease of handling and for protection during transport. Keep side branches intact. Place growing tips in the same direction. Do not damage the cuttings.
2. Identification. Label live dormant cuttings. Securely attach labels to the bundles and/or groups of cuttings, indicating plant species and the date collected.
3. Transportation to Cold Storage. Place cuttings in the transport vehicle using hoisting belts, in an orderly manner, and cover to prevent damage or bruising and to prevent drying out. Schedule cutting and delivery to the cold storage facility so that the materials can be processed the day they arrive.
4. Inspection. Upon arrival at the cold storage facility, the Engineer will inspect labeled dormant cuttings for proper length, diameter, binding, labeling, and the presence of unapproved plants.
5. Cold Storage. Store live dormant cuttings in a secure refrigerated area. If collection of dormant cuttings occurs while daytime temperatures remain below freezing, freeze not colder than 0°F

until planting. If daytime temperatures are above freezing during collection, refrigerate cuttings at temperatures between 31°F and 40°F, with 60 to 70 percent humidity, until planting.

Place cuttings in ventilated plastic bags or a plastic cover. Monitor temperature and humidity to prevent cuttings from drying out, sprouting, or getting mildew. Discard cuttings that have mold, are dried out, or have sprouted. Shade and protect outside storage locations from wind. Protect cuttings from drying.

6. Transportation to Work Site. Before use, soak cuttings in cool water for at least 24-hours, but for no more than 48-hours. Take cuttings directly from the cold storage site to the planting site. Deliver only plant material, to be installed that day, to the work site. Do not return unplanted cuttings to cold storage. Shade and protect cuttings from damage, bruising, wind, and drying during transport and while on site.

#### **621-2.02 FERTILIZER.**

Add the following:

1. Use a regular release, 8-32-16 (nitrogen-phosphoric acid-potassium) fertilizer in granular form with seedlings, trees, and willow bundles. The fertilizer shall be mixed with soil at the manufacturer's recommended application rate.

#### **621-2.04 MULCH.**

Add the following:

1. For use as a ground cover in landscape beds as shown on Plans.
  - a. Organic Mulch: It shall consist of shredded wood fibers with the characteristics of retaining moisture and forming a mat so as not to be disturbed by wind or rain. Mulch shall not contain individual components greater than 2 inches in length with a minimum of 75 percent of the total mulch component passing through a 1-inch screen. Mulch shall contain no growth or germinating inhibiting ingredients. Locally harvested shredded wood fibers shall be aged for one-year minimum prior to installation. Commercially available shredded wood fiber landscape mulch may be used, provided any added color shall be a natural dark brown. "Green" or "Fresh" wood chips are not acceptable. It shall not contain resin, tannin, or other compounds in quantities that are detrimental to plant life.

Add the following:

**621-2.08 LANDSCAPE BOULDERS.** Landscape boulders shall be native rock or fabricated stone with dimensions per Contract Documents. Sharply fractured boulders or shot-rock are not acceptable unless otherwise noted. Boulders shall have one flat side to place down in a stable formation with no wobbling in the required locations. Specific characteristics of boulders shall be:

1. Angular with a minimum of three distinct faces.
2. Boulder Samples: Identify and submit the sources for all landscape boulders for field approval by Engineer.
3. Boulder examples: Provide samples of boulders on site of the three different sizes identified in the Plans.

### **CONSTRUCTION REQUIREMENTS**

#### **621-3.03 PLANTING.**

Replace Item 1. Plant Season with the following:

1. Plant Season.
  - a. Locally Grown: When locally grown seedlings and trees are furnished for the project, plant them between June 1 and September 15.

- b. Imported: Handle plants shipped in from out-of-state according to the nursery recommendations. Place plants imported from out-of-state between June 1 and August 15.
- c. Dominant Willow Cuttings. Plant Willow bundles between May 1 and June 15, or per Subsection 690-3.04.

Delete paragraph c. under Item 2. Excavation and substitute the following:

- c. Construct planting pits for trees and trenches for Willow bundles as shown on the Plans.

#### 5. Placing Plants

Add the following to paragraph a.: Trees shall be planted as shown on the Plans and as directed on site by the Engineer.

Delete paragraph b and substitute the following: Balled and burlapped plants, plants in wire baskets or containers shall be handled by the earth ball, container, or basket and not by the plant itself. Wire baskets, and burlap shall be removed fully. Containers shall be removed from the site. The Engineer may reject any plants whose rootballs collapse during planting

Add the following to Item 5. Placing Plants:

- d. Plant Willow cuttings and live Willow staking according to Subsection 690-3.04.

#### 6. Backfilling.

Delete in its entirety and substitute the following:

Hold plants upright during the backfilling operation. Backfill around the roots and lightly compact the soil to eliminate air pockets. Avoid damaging roots. The engineer may reject any plants where root balls collapse during planting. Add water while placing backfill, allowing the soil to soak up the water. When backfilling is complete, build an earth berm approximately 3 inches high around the outer edge of the planting area, to facilitate watering. Remove berm after one growing season.

Add the following to Item 6. Backfilling:

Backfill Willow cuttings with topsoil according to Subsection 690-3.04.

#### 7. Wrapping. Delete this paragraph in its entirety.

### **621-3.04 PERIOD OF ESTABLISHMENT.**

Add the following:

Willow Cuttings and Live Willow Stakes. According to Subsection 690-3.05.

The Period of Establishment for seedlings and trees shall extend from May 1 to September 30.

Provide a reapplication of fertilizer to seedlings and trees by driving a 1 1/2 ounce fertilizer spike of the same chemical proportions as the initial application into the ground at the drip line of each plant. Perform the reapplication between May 15 and May 31.

Provide a reapplication of fertilizer as described above for trees between June 15 and June 30.

Standard Modifications

Add the following second paragraph:

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

### **621-3.06 PLANT REPLACEMENTS.**

Delete the last sentence and substitute the following:

Plants shall be replaced following the same details and specifications as used in the original plans. Plants which are dead or dying shall be replaced immediately during the months of June through September. Plants dead at the end of the growing season shall be replaced at the beginning of the following season.

Add the following:

Willow Cuttings and Live Willow Stakes. According to Subsection 690-3.06.

### **621-3.07 MAINTENANCE.**

Add the following:

Deep water the seedlings and trees immediately after planting. Deep watering shall provide water penetration throughout the entire root zone to the total depth of the planting pits with a minimum of runoff. Rain will not be considered a substitute for deep watering unless permitted by the Engineer.

Deep water seedlings and trees according to the following maintenance schedule:

1. Deep water seedlings and trees at least twice a week during the first 45 days after planting. If these 45 days extend past September 30, cease the twice weekly deep watering after that date and resume on May 1 of the following calendar year. If the 45 days does not extend past September 30, additional deep watering in the planting year after the 45 days expire shall be as follows:
  - a. Once a week in June and July.
  - b. Once between August 10 and August 20.
  - c. Once during the last week in September.
2. Deep water seedlings and trees during the Period of Establishment as follows:
  - a. Once a week during May, June, and July.
  - b. Once between August 10 and August 20.
  - c. Once during the last week in September.
3. The Engineer may direct the Contractor to deep water seedlings and trees past September 30, or provide supplemental watering any time during the life of the project if weather conditions are excessively warm or dry.
4. The Engineer may direct the Contractor to deep water conifer tree seedlings and trees before freeze-up in order to minimize over-wintering desiccation.

Watering equipment shall be equipped with, or followed by a vehicle equipped with a Type B advance warning arrow panel using caution mode according to Part VI of the Alaska Traffic Manual

Willow Cuttings and Live Willow Stakes. According to Subsection 690-3.07.

Add the following subsection:

### **621-3.08 LANDSCAPE BOULDERS INSTALLATION**

1. Boulders shall be placed prior to installation of planting soils and planting materials.

2. Stake locations or outline areas to receive boulders as indicated on Drawings. Adjust locations when requested and obtain Engineer acceptance of layout before installing boulders. Make minor adjustments as required.
3. Set boulders on or into subgrade as indicated on Drawings and ensure boulders are stable and will not move. Place boulder using nylon slings or other suitable equipment to prevent marring of the boulders by equipment. Do not drop or roll boulders from equipment.
4. Orient most aesthetic side of boulder up directed to allow maximum visibility. Boulders shall be placed as to provide minimum of exposed rough, fractured, or marred edges, or areas previously underground. Make minor adjustments as requested by Engineer.

#### **621-4.01 METHOD OF MEASUREMENT.**

Delete this subsection in its entirety and substitute the following:

The quantity to be paid for shall be the actual number of seedlings, trees, and willow bundles furnished, planted and maintained according to the Plans, Specifications, and as accepted by the Engineer. This shall be inclusive of all items associated with installation, including but not limited to, staking, webbing, mulch, and soil.

Water for maintenance of seedlings and trees is subsidiary.

Willow Cuttings and Live Willow Stakes. According to Subsection 690-4.01.

#### **621-5.01 BASIS OF PAYMENT.**

Add the following:

Fertilization as indicated in Subsection 621-3.04, Period of Establishment will not be paid for directly, but will be subsidiary to Items 621 trees.

Add the following pay items:

<b>PAY ITEM</b>		
<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>
621.0001.0001	Tree (Betula papyrifera – 2” Cal.)	Each
621.0001.0002	Tree (Picea glauca – 6’ Ht)	Each
621.2008.0001	Landscape Boulder (Boulder Type C)	Each
621.2008.0002	Landscape Boulder (Boulder Type B)	Each
621.2008.0003	Landscape Boulder (Boulder Type A)	Each
621.2008.0004	Landscape Boulder Type A w/ Anchor	Each
621.2012.0001	Furnishing and Planting Willow Bundles	Each

Willow Cuttings and Live Willow Stakes. Salvaging/harvesting, storage and transporting Willow cuttings is subsidiary to Pay Item 690.2003.0000 Stream Bank Revegetation and Protection. Refer to Subsection 690-5.01.

**SECTION 623  
BLOCK SODDING**

Special Provisions

**623-2.01 MATERIALS.**

Add the following:

2. Vegetative Mats and Soil. Vegetative mats obtained as specified in Section 201 Clearing and Grubbing. Stock pile vegetated mats and soil in the confines of the area to be cleared and grubbed.

Transplanting shall be under the supervision of an approved plant material professional provided by the Contractor. It is the Contractor's responsibility to locate, secure harvest permits, and harvest mat material. Submit harvest site locations prior to the harvest for site inspection and approval.

If the material must be stored on site prior to installation, the storage area shall be shaded, and mats kept moist throughout the root zone. Plant the mat the same day if possible and no more than 48 hours from time of salvage. Maintain the plant material in live condition.

**623-3.01 CONSTRUCTION REQUIREMENTS.**

Add the following:

6. Vegetative Mats and Soil. Construction, survivability, and maintenance according to Section 690.

**623-4.01 METHOD OF MEASUREMENT.**

Add the following:

Vegetative Mats and Soil. According to Subsection 690-4.01.

**623-5.01 BASIS OF PAYMENT.**

Add the following:

Storage of native organic soil and vegetative mats, including transportation, is subsidiary to Pay Item 690.2003.0000 Stream Bank Revegetation and Protection. Refer to Subsection 690-5.01.

Special Provision

Replace the Section with the following:

**SECTION 626  
SANITARY SEWER SYSTEM**

**626-1.01 DESCRIPTION.** Construct or reconstruct sanitary sewer, alternative onsite wastewater systems, and appurtenances to conform to the Plans. This Section refers to conduit used for Sanitary Sewers as “sewer conduit”.

**626-1.02 REFERENCES.**

- A. Alaska Administrative Code (AAC), 18 AAC 72, current amendment.
- B. Alaska Department of Environmental Conservation Onsite Wastewater System Installation Manual, current edition.
- C. International Association of Plumbing and Mechanical Officials: Uniform Plumbing Code (UPC) – (2018 Edition)

**626-1.03 SUBMITTALS.** Provide submittal for all materials incorporated into the project, other pertinent related products, and requested information.

1. Certification of installer meeting the requirements of 18 AAC 72.
2. Shop Drawings:
  - a. Provide shop drawings for precast concrete deadman anchors. Submit drawings showing construction details, anchor point spacing, type of anchor point used, reinforcement size, spacing, dimension, and other required information.
3. Insulation:
  - a. Certificates of Compliance
  - b. Manufacturer’s Material Data
4. Holding Tank:
  - a. Tank risers- type, size, height, sealant, manhole lids, manhole frames, and insulation.
  - b. Internal and external joint sealer
  - c. Installation guidance and maintenance manuals.
  - d. Tank shop drawings – including elevations, location, and sizes of penetrations.
  - e. Tank material and protective coatings.
  - f. Electrical all conduit and conductors as applicable to codes and manufacture specifications.
5. Pipe and Fittings:
  - a. All piping sizes, manufacture, and fittings, and adhesives for bonding fittings.
6. Project Record Documents:
  - a. Maintain and submit as-built drawings of the wastewater treatment system installation.
7. Provide construction certification meeting the requirements of 18 AAC 72.240.

**626-2.01 MATERIALS.**

Insulation Board	Subsection 635-2.01
Bedding Material	Subsection 703-2.17
Joint Materials	Subsection 705-2.05
PVC Pipe	Subsection 706-2.05
HDPE Pipe	Subsection 706-2.08
Detectable Warning Tape	Subsection 712-2.25
Holding Tanks	Subsection 741-2.01
Alarm System	Subsection 741-2.02
Manhole Risers	Subsection 741-2.03
Drain Hatch	Subsection 741-2.04
Pipe Fittings	Subsection 741-2.05
Standard Padlock	Subsection 741-2.06
Reinforcing Steel	Subsection 741-2.07

Concrete	Subsection 741-2.08
Deadman Anchor System	Subsection 741-2.09
Holding Tank Bedding Material	Subsection 741.2-10
Leveling Material	Subsection 741.2-11

**626-3.01 CONSTRUCTION REQUIREMENTS.** Complete the sanitary sewer system and make sure it operates properly at the time of acceptance of the work. Furnish and install all incidental parts not shown on the Plans or specified in this Section that are necessary to complete the sanitary sewer system.

Meet the applicable provisions of Sections 201, 204, and 603 for all clearing and grubbing, excavation, bedding, backfill, conduit, and appurtenances.

If sewer conduit is directly connected to or supported by rigid structures such as manholes, it must have a joint or flexible connection located 5 feet or less from the point of connection or support.

Install all service connections as indicated on the Plans. Sewer conduit is to be laid accurately to the staked line and grade shown on the Plans. The Contractor must ensure a functioning sanitary sewer system meeting the minimum separation, slope, and burial requirements. Pipe laying minimum slopes for gravity sewers are as follows:

<u>Pipe Diameter</u>	<u>Slope</u>	
4"	2.08%	0.0208 ft/ft

The minimum standard depth of bury for gravity sewer is 4 feet, unless otherwise indicated on the Plans. Where this cannot be achieved, the sewer pipe is to be laid at the minimum slope to achieve the greatest depth of bury possible. Sewer conduit installed with less than minimum separation, slope, or bury will be cause for rejection.

In all cases pipe installation is to proceed from lower to higher elevations with the spigot ends of the pipe at the lower end of each pipe segment. Each pipe is to be laid true to line and grade. Joints may not deflect or offset. Each section of pipe is to be handled carefully, placed accurately; and joined in accordance with the pipe manufacturer's recommended standards. Each section of pipe is to be properly supported to ensure true alignment and an invert which is smooth and free from roughness or irregularity.

The Contractor is to notify the Engineer where a conflict in grade occurs between a gravity sewer and another utility. The Contractor may not lower or raise the conflicting utilities without first providing the elevations of the conflicting utilities to the Engineer in writing and allowing the Engineer five (5) days to analyze the information and provide the Contractor direction. Except when otherwise directed by the Engineer, the Contractor is required to excavate gravity utilities from the point of conflict to a sufficient distance to gather elevation information such that the Engineer can provide direction.

Provide suitable fittings and adapters when connecting existing service sewers.

The Contractor shall take every precaution to preclude foreign debris from entering the sanitary sewer system. The Contractor is responsible for removing and cleaning any foreign debris that enters the sanitary sewer system. Keep water out of trenches until joints are completed. Plug or cover open ends of conduit and fittings when work is not in progress to keep out foreign matter and rodents. At all times, when Work is not in progress, open ends of pipe and fittings are to be securely and satisfactorily closed so that no undesirable substance will enter the pipe or fittings. All costs associated with the removal of foreign debris from the sanitary sewer system, resulting from the Contractor's activities, is considered incidental.

Join pipe according to manufacturer's recommendations, or as detailed on the Plans. All pipe connections shall be watertight.

Remove trench sheeting and bracing above the elevation of the conduit. Do not pull, remove, or disturb sheeting below the conduit.

Preserve and protect all existing utilities and other facilities and protect any underground utility conduits, pipes, or service lines where they cross the trench.

Furnish and install a holding tank and related appurtenances in accordance with the plans and specifications. Repair scrapes, dents, or any other type of tank or coating damage prior to installation.

Excavation should extend at least 2 feet horizontal beyond the outer surface of structure and trench wall to allow for proper placement of deadman anchors, installation of straps, and compaction of backfill. Establish deadman anchor subgrade elevation leaving undisturbed soil between the two deadman anchors. Position deadman anchors as shown on plans; tank shall not rest on deadman anchors or within the tank shadow. Deadmen must be placed parallel and anchor points aligned with the opposite deadman.

Excavate material between the deadman anchors to provide leveling material below bottom of tank. Prepare subgrade for leveling course by compacting material to meet Subsection 203-3.04 or 203-3.05. Place a minimum of 6 inches of well-graded clean pea-gravel (minimum 1/8 to 3/4-inch diameter) or compacted coarse sand over subgrade and rake smooth. Set the tank on the leveling material and install tank centered between the deadmen. Verify tank is level after placement.

Install turnbuckles to deadmen anchor points and connect D-ring of FRP strap. Lay FRP strap across the top of the tank and connect the strap to the other deadman's turnbuckle. Use only one strap per anchor point. All straps and turnbuckles should be uniformly tightened so that they are snug on the tank but not overly tightened to the point of that they cause the tank to deflect or lift the deadman. Verify that there is at least 1" of clearance between metal on the anchoring hardware, including strap ends, and the tank. If alternative anchoring system is approved, install per manufacturer's written instructions.

Backfill shall be placed carefully around tank. Avoid damage to coating especially where compaction is required. Evenly place and compact fill along the bottom sides of tank to fully support the bottom quadrant of the tank. Care shall be taken to not push or shift the tank during initial placement of bedding and subsequent backfill lifts. Backfill bedding material in 12-inch lifts or less. Alternate lifts on each side of tank during installation. At no point shall there be a 12-inch difference in backfill elevation on either side of tank. Repeat lift and compaction procedures until bedding has been installed to the top of the tank. Install manhole riser, standpipe and other top of tank appurtenances. All risers and their connection to the tank and pipes shall be constructed watertight. After installing top of tank components, continue specified material lifts to finished grade.

Where rock is encountered at the established subgrade elevation, remove the rock to a minimum of 8 inches below the tank and backfill with tank bedding material.

Backfill in an alternating method around tank in 6- to 8-inch lifts. Backfill material may be native soils provided soil is free of debris, organic matter, sharp stones, and stones greater than 3 inches. The Contractor shall not backfill with muddy or frozen soil.

Insulation shall be installed over the tank and on all sides as shown on the plans and specified in Section 635.

The warning tape must be continuously laid with the pipe and be at least twenty-four inches (24") and no more than thirty-six inches (36") above the pipe. For sewer lines, warning tape must be colored green with "Caution Buried Sewer Line Below". Place warning tape around holding tank as shown in the drawings.

Terminate all manhole risers 2 feet above finish grade to allow for settlement and to ensure positive drainage away from the access. The top 4 feet of risers shall be completely insulated with 4 inches of polyurethane spray applied insulation and water-resistant coating. Insulation and water-resistant coating shall be fully cured before arriving at the project.

Cleanouts are required on sewer lines greater than one hundred feet (100') long, at a single bend greater than forty-five degrees (45°), and where a combination of bends adding up to more than forty-five degrees (45°) in alignment change taking place within ten linear feet (10'). Any damage to cleanouts resulting from construction under this Contract is to be repaired or the damaged portion replaced at the Contractor's expense. All vertical cleanout joints and fittings must be restrained. Terminate cleanouts a minimum of 2-feet above finished grade. All risers and their connection to the tank and pipes shall be constructed watertight.

Install alarm control panel, floats, float mounting assembly, and wiring according to the manufacturer's instructions.

Construct concrete sewer hookup in accordance with the plans. Reinforce concrete with No. 4 bar no more than 12 inches on center. Reinforcement clear cover shall meet ACI requirements. Provide tight fit at junction of drain hatch, pipe and concrete. Apply hard trowel finish to concrete.

**626-3.02 TESTING.** With the Engineer present, test the sewer for grade, alignment, and leakage. Grade and alignment must conform to staking with no deviation allowed that would inhibit flow.

The Contractor may test any portion of the installed sewer pipe at any time for their convenience, but acceptance testing is to be performed in the presence of the Engineer or Department's representative. The Contractor is to clean and flush all sanitary sewer pipe installed prior to testing and substantial completion inspection. Water used for flushing shall be removed from all holding tanks after testing.

All sanitary sewer pipe installed is subject to either an infiltration test or an exfiltration test. The Contractor is to provide all materials, equipment and labor related to testing that is acceptable to perform the testing. Testing, retesting, and any required repairs to pass testing of the installed sewer pipe is an obligation of the Contractor to perform and is incidental to the bid item under construction. After testing, if repairs are needed then the previous testing will be considered void and the segment of pipe in which the repair took place is to be retested.

Pneumatic exfiltration testing is the standard method of testing. Exfiltration and infiltration testing using water may occur when requested by the Contractor and if the Engineer finds that the groundwater and soil conditions are satisfactory to complete an infiltration test.

Test for exfiltration when no groundwater exists above the conduit invert. Test for infiltration if the normal groundwater table lies above the invert of the sewer conduit.

## 8. Exfiltration Tests

### a. Low Pressure Pneumatic Exfiltration Test

Safety braces are required to hold plugs in place and to prevent a sudden release of compressed air. Due to the large forces that could be exerted by an escaping plug during the testing of the pipe, workmen must not be allowed in the manholes in which plugs have been placed while internal pipe pressure is above atmospheric pressure. Such as while testing is in progress. The Contractor's testing equipment is to be arranged in such a manner that a pressure relief device will prohibit the pressure in the pipeline from exceeding ten pounds per square inch (10 PSI).

All air used to pressure up the line being tested is to pass through a single above-ground control panel. The above ground air control equipment is to include a shutoff valve, pressure relief valve, input pressure gauge, and a continuous monitoring pressure gauge having a pressure range from 0 to at least 10 PSI and no more than 20 PSI. The continuous monitoring gauge is to be no less than three inches (3") in diameter with a minimum division of 0.50 PSI and an accuracy of plus or minus three percent ( $\pm 3\%$ ) (Miljoco Part # P3508L-02 or equal). Two separate hoses connected to their own dedicated plug connection are to be used to:

- i. connect the control panel to the sealed line for introducing low-pressure air; and
- ii. a separate hose connection for constant monitoring of air pressure build-up in the line.

Air is to be slowly supplied to the test section until the internal air pressure reaches four (4.0) pounds per square inch. Where the groundwater table is above the sewer test section, then the air test pressure is increased by the head of ground water above the lowest invert of the test section to a maximum test pressure of 9 PSI. A conversion of 0.43 PSI/ft of head is to be used to convert head pressure to PSI. At least two (2) minutes will be allowed for temperature stabilization before proceeding further.

To obtain the groundwater table height above the lowest invert of the pipe; the Contractor is to install a temporary slotted 3/4" PVC pipe. The ground water level will be measured after a minimum of forty-eight hours (48hrs) have passed from the installation to allow the ground water to reach equilibrium. The Contractor, is to measure the ground water level. After completion of the testing, the PVC pipe is to be cut off 1' below grade and buried.

When temperatures have been equalized and the pressure stabilized at 4.0 PSI plus the groundwater pressure increase, the air hose from the control panel to the air supply is to be disconnected. The pressure is to be decreased through bleeding to the test pressure of 3.5 PSI plus the groundwater pressure increase. Upon reaching the test pressure the Inspector is to begin timing with a stopwatch.

The test time for 4-inch pipe shall be 3 minutes and 46 seconds. If the pressure drops 1.0 PSI before time expires as found in the table below, then the section undergoing testing has failed and must be repaired and/or retested.

b. Hydrostatic Exfiltration Test

A minimum head of four feet (4') of water above the crown at the upper end of the test section is to be maintained for a period of four (4) hours during which time it will be presumed that full absorption of the pipe body has taken place and thereafter for a further period of one (1) hour for the actual test of leakage. During this one-hour period, the measured loss must not exceed the rate of five (5) gallons per inch diameter per 1000 feet of pipe per twenty-four (24) hours.

All wyes, tees, and pipe ends are to be plugged or capped and secured to withstand the test pressures. Plugs or caps are to be readily removable and their removal is to provide a bell suitable for extending the sanitary sewer extension.

9. Infiltration Test

Infiltration testing may be allowed at the Engineer's option when the natural ground water table is six feet (6') above the crown of the higher end of the test section. The maximum allowable limit for infiltration is not to exceed the rate of four (4) gallons per inch diameter per 1000-feet per twenty-four (24) hours.

The Engineer may require the Contractor to repair obvious leaks even though the total leakage of the test section falls within the maximum allowable leakage for the test used.

Correct all leakage before backfilling.

**626-4.01 METHOD OF MEASUREMENT.** Wastewater System is a lump sum item and will not be measured directly for payment. System components and items necessary to complete an operational system, including the camp host sewer hookup, will be considered subsidiary to this item and will not be measured separately for payment. This item will be considered complete when it is operational. Excavation, bedding and backfill of the holding tank and sewer conduits will be a subsidiary obligation. Insulation Board will be paid under Section 635.

**626-5.01 BASIS OF PAYMENT.** Wastewater System will be paid for at the contract lump sum price.

Payment will be made under:

<b>pay item</b>		
<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>
626.2011.____	Wastewater System	LS

## Special Provision

Replace the Section with the following:

**SECTION 627  
WATER SYSTEM**

**627-1.01 DESCRIPTION.** Furnish and place water line improvements and replacements, including all appurtenances, as shown on the Plans or specified in this Section. Remove, salvage and reinstall or abandon existing fire hydrants, valve boxes, and water meters, as specified. The term “water conduit” refers to all conduits used for water lines. The term “service pipe” refers to service lines.

**627-1.02 REFERENCES.**

- A. Alaska Administrative Code (AAC), 18 AAC 70, current amendment.
- B. Alaska Administrative Code, 18 AAC 72, current amendment.
- C. Alaska Administrative Code, 18 AAC 80, current amendment.
- D. ASTM D2657 – Standard Practice for Heat Fusion Joining of Polyolefin Pipe and Fittings.
- E. ASTM D3139 – Standard Specification for Joints for Plastic Pressure Pipes using Flexible Elastomeric Seals.
- F. ASTM D3350 – Standard Specification for Polyethylene Plastics Pipe and Fittings Materials.
- G. ASTM F2164 – Standard Practice for Field Leak Testing of Polyethylene (PE) and Crosslinked Polyethylene (PEX) Pressure Piping Systems Using Hydro Static Pressure.
- H. ASTM F2620 – Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings.
- I. AWWA B300 - Hypochlorites; American Water Works Association.
- J. AWWA B301 - Liquid Chlorine; American Water Works Association.
- K. AWWA B302 - Ammonium Sulfate; American Water Works Association.
- L. AWWA B303 - Sodium Chlorite; American Water Works Association.
- M. AWWA C651 - Disinfecting Water Mains; American Water Works Association.
- N. AWWA C654 – Disinfection of Wells; American Water Works Association.
- O. AWWA C655 – Field Dechlorination,
- P. AWWA C901 – Polyethylene Pressure Pipe and Tubing, 3/4-inch through 3-inch for Water Service.
- Q. AWWA C906 – Polyethylene Pressure Pipe and Fittings, 4-inch through 63-inch for Water Distribution and Transmission.
- R. AWWA M55 – PE Pipe – Design and Installation.
- S. NSF 61 – Drinking Water Components – Health Effects.
- T. PPI TR-33 – Generic Butt Fusion Joint Procedure for Field Joining of Polyethylene Pipe.

**627-2.01 MATERIALS.** All Pipes, fittings, valves, and other parts in contact with potable water, and as required by Alaska DEC 18 AAC 80, shall be NSF/ANSI 61 Certified. Use materials that conform to the following:

Concrete for Thrust Blocks	Subsection 550, Class W
Insulation Board	Subsection 635-2.01
Bedding Material	Subsection 703.17
HDPE Pipe	Subsection 706-2.08
Ductile Iron Pipe	Subsection 707-2.05
Copper Pipe	Subsection 707-2.06
Corporation Stops	Subsection 712-2.09
Valve Boxes	Subsection 712-2.11
Field Applied Coatings	Subsection 712.23
Tracer Wire	Subsection 712.24
Detectable Warning Tape	Subsection 712.25

**627-1.03 SUBMITTALS:** Provide submittal for all materials incorporated into the project, other pertinent related products, and requested information.

1. Product technical data including:
  - a. Manufacturer's product data
    - i. Product's standards
    - ii. NSF 61 Certifications
    - iii. Pressure ratings
    - iv. Pipe
    - v. Fittings
    - vi. Valves and appurtenances
    - vii. Detectable underground warning tape
    - viii. Coatings
    - ix. Flushing and testing Plan
    - x. Field applied coatings
  - b. Equipment product data
    - i. Equipment used for joint fusion of HDPE pipe. Must include an operation manual, maintenance requirements, and calibration procedures.
  - c. Any other requested product information
2. Pressure Test Records.
3. Disinfection Plan
4. Permits and approvals authorizing the disposal of dechlorinated water.
  - a. Includes reporting and/or closeout documents for the permit or approval.
5. Test Reports:
  - a. Indicate results comparative to specified requirements including coliform and E-coli, as required to obtain final approval to operate from the State of Alaska.
6. Certificate:
  - a. From authority having jurisdiction indicating approval of water system.
  - b. Certification of individual(s) performing joint fusion of HDPE pipe and fittings.
  - c. Certification of equipment used to perform joint fusion of HDPE pipe and fittings.
7. Project Record Documents:
  - a. Maintain and submit as-built drawings of the water system installation.

### CONSTRUCTION REQUIREMENTS

**627-3.01 GENERAL.** Water lines and services are to be constructed to meet all separation requirements of 18 AAC 80.020 and conditions set by the Alaska Department of Environmental Conservation for the pending separation waiver(s) that will be obtained for the project. Variance from the separation requirements or conditions requires prior approval from the Department and approval from the Alaska Department of Environmental Conservation. Complete the water system and ensure the system operates properly at the time of acceptance of the work. Furnish and install all incidental parts not shown on the Plans or specified in this Section that are necessary to complete the water system.

Meet the applicable provisions of Sections 201, 204, and 603 for all clearing and grubbing, excavation, bedding, backfill, conduit, and appurtenances.

Consult the Plans for approximate location of existing sewers, water lines, and other utilities near the construction. Use this data for information only. The Department does not guarantee their accuracy. Confirm and mark the exact locations of all existing utilities before starting work.

Excavate, bore, or probe by hand ahead of your work where necessary to determine the exact location of underground conduit or other features that might interfere with construction. Support and protect conduits or other services that cross the trench. Immediately repair or replace any existing utilities that you break or damage. Immediately replace any existing valves, valve boxes, or water lines that you break or damage.

Furnish and install concrete thrust blocks as shown on the Plans or specified in this Section. Place blocks against firm natural ground at the trench site. When the trench is in soft, unstable soil, remove the soft soil and replace it with a ballast backing large and heavy enough to resist the thrust.

Connect to existing water lines and structures, avoiding contamination of water in lines that are in use.

Where water lines under this contract approach within 10 feet horizontal clearance and are below or less than 3 feet above existing sanitary sewers all water and sewer/storm crossings, the Contractor is to stagger the joints for the water pipe such that no joint is closer than nine feet (9') from the centerline crossing of water to sewer. In addition, where water and sewer lines and services intersect, the vertical separation between the water and sewer pipe is to be a minimum of eighteen inches (18") between exterior pipe surfaces.

**627-3.02 INSTALLATION OF CONDUIT.** Install conduit and fittings according to these Specifications or the manufacturer's recommendations. Installation is to follow applicable requirements of AWWA C600, C605, M23, M41, and M55.

The water pipe shall be laid to the horizontal and vertical alignments shown on the Plans. A minimum 4-foot of cover shall be maintained from finish grade to top of water pipe, unless otherwise shown on the Plans. Fittings shall be installed at the location shown on the Plans.

Keep trenches dry to avoid laying conduit in water. Do not lay conduit when weather or trench conditions are unsuitable. Keep water away from new joints, until the joint materials have hardened.

Use methods to cut conduit that will produce tight joints. Whenever it becomes necessary to cut a length of conduit, the cut shall be made by abrasive saw or by special pipe cutter. Cutting of pipe shall be done in a workmanlike manner without damage to the pipe. All pipe ends shall be square with the longitudinal axis of the conduit and shall be reamed and smoothed to assure a good connection. Inspect conduit before lowering it into the trench. Replace defective, damaged, or unsound conduit.

Deflection at pipe-to-pipe joints, either horizontal or vertical, shall not exceed 80% the maximum recommended by the pipe manufacturer. Cold bending of pipe, either horizontal or vertical, shall not exceed 80% the maximum recommended by the pipe manufacturer or M55; the more stringent shall apply. If the specified or required alignment deflections beyond the limits, furnish special bends or enough shorter lengths of conduit to provide angular deflection within the limits.

All HDPE water piping and fittings are to be butt-fused in accordance with ASTM D2657 and F2620. Individual(s) who performs the joint fusion is to have written certification from an HDPE pipe manufacturer or supplier stating they has successfully completed an 8-hour (minimum) certification class on joint fusion techniques and procedures. In addition, this individual is to have fused a combined total of more than 5,000 feet of HDPE piping in diameters 4- inches and larger.

The individual(s) who performs the joint fusion must be trained on the equipment used for joint fusion. Qualification shall be demonstrated by evidence of training within one year on the equipment and pipe size(s) to be utilized for the project. Equipment must be capable of securing and precisely aligning pipe ends for the fusion process. At the start of each work day, the individual(s) shall prepare the fusion equipment for the destructive testing; in order to verify that the equipment is properly calibrated, producing acceptable fusions, and operating.

All heating surfaces shall be clean and free of dirt and residue before applying to ends of pipe to be joined. The Contractor shall ensure that each joint is fused at the temperature and pressure recommended by the pipe manufacturer in order to achieve the maximum pressure rating for that joint.

Improperly performed, uneven, or joints with questionable appearance shall be cut out and re-accomplished. Transitions to other piping materials shall be accomplished using approved transition fittings.

Copper pipe may be joined with the use of silver brazing copper couplers, flared fittings and by swaging and silver brazing. Copper pipe thrust restraint systems are the use of flared fittings and silver solder brazed joints. Solder must be lead free silver solder. The contractor shall minimize the number of joints required. Furnish and install dielectric union if existing water service line piping is of dissimilar metal from new piping. Buried bronze and brass fittings are to be field coated. Damage to a factory applied coating on copper pipe is to be repaired with a field applied coating system.

Place conduit bedding to conform to plan details. Place bedding, if required, to give conduit a uniform bearing for its full length. Do not permit couplings to rest on solid or original trench bottoms.

The interior of the pipe and accessories are to be thoroughly cleaned of foreign matter before being lowered into the trench. Prevent dirt and other foreign material from entering the pipe and fittings during handling and installation. The open end of the pipes, fittings, and valves shall be protected by a water-tight plug when work is not progressing. Secure all open ends of conduit and fittings to keep out trench water, earth, rodents or other substances.

Pipe and appurtenances are to be carefully lowered into the trench by means of derrick, ropes, belt slings, or other suitable equipment. Under no circumstances are any of the pipes or appurtenances to be dropped or dumped into the trench. Care is to be taken to avoid abrasion of the pipe's surface or coating. Poles used as levers or skids are to be of wood and have broad flat faces to prevent damage to the pipe and coating. Where any part of the coating or lining is damaged, a repair is to be made by the Contractor at their expense and in a manner satisfactory to the Department.

Use standard lengths of conduit except where fittings require short lengths, or where conduit passes through a rigid structure.

Insulation shall be installed over lines where shown on the plans.

Elevations and locations for each piece of pipe and appurtenances are to be recorded in a field book. The Contractor will furnish to the Department a copy of the surveyor's notes and redlined drawings for transfer to record drawings and permitting closeout. The Contractor is to make any clarifications, corrections, or fill in missing data in the survey notes and redlines when requested.

Existing water pipes and appurtenances to be removed or abandoned shall be as designated on the Plans or directed by the Department.

Water lines to be abandoned in place require the pipe to be disconnected and emptied. Water risers, valves, key boxes, valve boxes, and other appurtenances shall be removed and disposed. Cutting of pipe shall be done in a workmanlike manner with abrasive saw or special pipe cutter. All pipe ends shall be square with the longitudinal axis of the conduit and shall be reamed and smoothed to assure a good connection for the permanent seal. Permanently seal exposed end of pipe with approved watertight cap or end plug. Crushed pipe sections or portions thereof are to be removed and disposed of by the Contractor.

#### **627-3.03 DETECTABLE WARNING TAPE.**

Detectable underground warning tape is required for installation of all pipe types. The warning tape must be continuously laid with the pipe and be at least twenty-four inches (24") and no more than thirty-six inches (36") above the pipe. For water lines, warning tape must be colored blue with "Caution Buried Water Line Below"

#### **627-3.04 TRACER WIRE FOR NON-METALLIC PIPE.**

Where shown on plans, install tracer wire to the top exterior surface of the pipe as recommended by manufacturer. Tracer wire must be continuous and without splices, breaks, or cuts except for spliced-in connections as approved by the Engineer. Tracer wire must be brought to the surface at all junctions and terminals, including at all valve boxes by splicing into the main line tracer wire.

Tracer wire is to be spiral wrapped around the exterior of the valve box riser pipe and brought to the top section. Tracer wire is to be looped around curb stops, and other appurtenances in such a manner that there is no interference with the operation of the appurtenances.

**627-3.05 VALVES.** Install valves as shown on the Plans. Valve interiors are to be cleaned of all foreign matter before installation. If the valve is at the end of the line, it is to be plugged prior to backfilling. The

valve shall be inspected by the Contractor in the open and closed positions prior to installation to ensure that all parts are in working condition. Valves shall be set on a firm base.

**627-3.06 VALVE BOXES.** Install valve boxes over the valve as shown on the Plans. Place the rubber centering ring inside the bottom section to place over the valve bonnet. Center box over valve and rest the base section onto foot piece. Foot piece must be placed on well-compacted backfill. Valve box components are to be plumb and centered over the operating nut.

Insert the connection pin completely through the cast connection head that is welded to the operating rod.

Install field applied coating system on exterior of valves boxes and valve box base sections. Prepared surfaces by hand-removing all loose dirt, dust, or other foreign matter that may interfere with the tape's adhesion. Power tool cleaning of the surfaces is not required. Ensure valve box and base section surfaces are clean and dry prior to beginning application of approved field applied coating. Apply a thin coat of primer to the surfaces, denso paste or approved equal. Spiral wrap the tape with 50% overlap. Wrap tape continuously between valve box and base section. While wrapping, press air pockets out and smooth all lap seams. Tape coat and primer material shall be products of the same manufacturer.

After placement of the bottom section the Contractor is to wrap three (3) layers of woven geotextile fabric around the outside of the valve and bottom section of the valve box. The geotextile is to be secured in place with PVC pipe tape to the bottom section and pipes. Encase the valve box assembly with three layers of eight-mil (8 mil) polyethylene, encasement, taped securely in place.

Set top telescoping section to allow equal movement above and below finished grade, with final elevation at or no more than 1 inch above finished grade.

**627-3.07 TESTING WATER SYSTEM.** Conduct tests after installing, thoroughly flushing, and pre-disinfecting the complete system or any portion thereof, and before backfilling. Fill all lines with water and eliminate all air. Hydrostatic testing of water lines containing chlorine above 2ppm is prohibited.

Test all water line and service connection work for both pressure and leakage after laying. Leave conduit joints fully exposed. Place only enough backfill between joints to hold the conduit in place during testing. Open corporation stops after successful tests. Conduct all tests with the Engineer present.

Furnish all testing equipment, labor, materials, and supplies. The Engineer has the right to test and approve all gauges used.

Pumping will be terminated and disconnected upon starting the test. The test pressure at the start of the test is to be maintained for the duration of the test period. Any loss of pressure will be considered a failed pressure test for all pipe types except for HDPE.

Newly installed HDPE water line is to be hydrostatically tested in accordance with M55 Manual of Water Supply Practices and ASTM F2164 to the rated pressure of the pipe and appurtenances. The rated operating pressure of PE4710 HDPE SDR9 piping is two hundred and fifty pounds per square inch (250 psi). Test pressure shall not exceed the lowest pressure rated pipe or appurtenance. Contractor must verify the pressure ratings of pipe and components used in the system prior to pressure testing. ASTM F2164 is summarized below:

1. Phase 1 - Initial Expansion (4 hours): Pressurize the test section to the test pressure and maintain for four (4) hours. The Contractor is to pump in additional test water into the pipe to maintain test pressure as the pipe expands slightly. It is not necessary to monitor the amount of water added during this phase.
2. Phase 2 - Pressure Testing (minimum 1 hour): Immediately following the initial expansion phase the Contractor is to stop adding testing fluid and then reduce pressure by 10 psi. The reduced pressure then becomes the test pressure and is to be held within five percent (5%) for one hour and show no visible leaks to be deemed as having passed the test. The maximum test duration is eight (8) hours. If the test is not completed in the maximum duration period, then the Contractor is to depressurize the

test section completely and allow it to relax for at least eight (8) hours before pressurizing the test section again.

If visible leakage other than minor sweating occurs, immediately stop the test and tighten the joint to eliminate leakage when pressure is resumed. Replace leaking fittings, nipples, or lengths of conduit. Do not caulk or use paints, asphalts, enamels or other types of compounds to eliminate leaks.

Submit Test Records conforming to ASTM F2164.

Complete backfilling after acceptance of the tests.

**627-3.08 DISINFECTION.** A disinfection plan must be submitted and approved prior to disinfecting water systems. Disinfection plan must include:

- Method of chlorination to be used;
- Method and equipment used to introduce the disinfectant;
- Procedures and methods to flush, store, dechlorinate, and dispose/discharge chlorinated water;
- How and what section of the water system will be concurrently or individually disinfected.
- List all permits and approvals authorizing the discharge of dechlorinated water that the contractor will obtain.
- Bacteriological testing plan.

The contractor may request an alternative disinfection method than the one specified herein for approval. Alternative disinfection methods used must be covered within the Disinfection Plan and meet the requirements of AWWA C651.

After acceptance of pressure and leakage tests, disinfect all portions of the water system, including valves and stops and any portion of the existing connecting system that may have been contaminated during construction.

Use calcium hypochlorite, conforming to AWWA B300, as the disinfecting medium. Use "HTH," Perchloron, or a similar commercial product with approximately 70 percent available chlorine. Make a 5 percent solution by mixing 5 percent of powder with 95 percent water (by weight). Mix the solution into a paste, thin it to slurry by adding water, and add it to the system. Place enough disinfecting material in the system to ensure a chlorine dosage of 50 ppm. This dosage is equivalent to 10 ounces of commercial hypochlorite powder to each 1,000 gallons of water.

After adding the chlorine solution, open and leave open all taps, valves, etc., until you notice a strong chlorine odor in the water coming from the outlets; then close the taps, valves, etc. Keep chlorinated water in the system for at least 24 hours; then thoroughly flush the system. During the retention period, operate all valves, stops, and other appurtenances to assist disinfection.

After treating the system, thoroughly flush. Then take samples from representative points in the system. Place samples in sterile bottles and submit them to proper authorities as directed for bacteriological examination. If the bacteriological examination report is unsatisfactory, repeat disinfection until you obtain satisfactory results.

Provide a plan to dechlorinate and/or dispose of chlorinated water for approval. The plan must include a method to dechlorinate, hold the discharge prior to leaving the contractor's control. Plan must include how and where the dechlorinated water is discharged.

Permits and approvals must be obtained prior to disinfecting the water systems. Under no circumstances is the chlorinated solution allowed to be discharged to sanitary sewer systems without obtaining approval from the authorities having jurisdiction of the approved receiving site/facility. Under no circumstance is the

dechlorinated solutions allowed to be discharged to water bodies, stormwater systems, or the environment without obtaining all required federal, state, and local permits.

Dechlorination of chlorinated water must be in accordance with AWWA C655. The dechlorinated solution must meet the water quality standards of 18 AAC 70 and the conditions of all permits and/or approvals authorizing the discharge.

#### **627-3.09 WINTER SUSPENSION.**

Prior to suspension of work for the winter season, the Contractor must take every precaution to prevent any damage or unreasonable deterioration of the complete or partially completed work during the winter. This may include but is not limited to maintaining site stability, and prevent damage from freezing conditions, erosion, or unauthorized access to the system. The contractor must plan their work around the anticipated winter suspension.

The Contractor shall drain, cap, plug, and secure all installed piping, fittings, valves, and appurtenances to prevent entry of water, debris, animals, other contaminants, and protect the system from freezing. Any temporary or permanent systems installed shall be winterized and maintained operational where required. Open excavations shall be backfilled. All disturbed surfaces shall be graded to provide positive drainage away from trenches and above grade appurtenances. Material and equipment susceptible to freeze damage shall be removed from the site, temporarily placed in heated storage, or stored in accordance with manufacturer recommendations.

The Contractor shall prepare the site before winter shutdown, maintain work during the suspension, and resume work in accordance with Subsections 105-1.13 and 643-3.07.

#### **627-4.01 METHOD OF MEASUREMENT.**

1. Water Conduit. By the length, along the slope of the conduit, from center to center of fittings and valves, and center of tee in main to center of fire hydrant gate valve. No deduction in length will be made for valves and fittings.

**627-5.01 BASIS OF PAYMENT.** The contract price for water conduit includes installation of a curb stop, valve box, yard blowout line assembly, key box, service pipe and connections to a new or existing water lines with a service saddle, or corporation stop, as shown on the Plans.

Structural excavation, bedding, and backfill for installation of the new water line is subsidiary.

Flushing, disinfection, testing, couplings and thrust blocks are subsidiary.

The development of the disinfection plan to disinfect the water system and associated components will be subsidiary to this pay item.

Any costs involved in service changeovers and providing temporary water service are subsidiary.

Removing or abandoning existing water lines or appurtenances designated on the Plans is subsidiary.

Winterization and protection of the water system is subsidiary.

Payment will be made under:

<b>PAY ITEM</b>		
<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>
627.2012.0000	HDPE Water Conduit, 1 inch	LF

## Special Provision

Replace the Section with the following:

**SECTION 628  
WATER WELL**

**628-1.01 DESCRIPTION.** The work shall consist of furnishing all materials, equipment, field verification, reporting, flushing, disinfection, testing, and labor to install the new pumping system for the existing water well. The installation and documentation of the Transient Non-Community water well's new pumping system must be in strict conformance with the requirements of the Alaska Department of Environmental Conservation (ADEC) Regulations 18 AAC 80.

Water may not be served from the Transient Non-Community well until:

1. Construction of well and water line is complete;
2. The finished water analyses for coliform bacteria and for a raw water contaminant that exceeded an MCL under 18 AAC 80.300, exceeded an action level, or requires a treatment technique under 18 AAC 80.303 are complete and approved; and
3. An interim approval to operate or final approval to operate is received from the Department of Environmental Conservation Drinking Water Program.

**628-1.02 REFERENCES.**

- A. Alaska Administrative Code (AAC), 18 AAC 80, current amendment.
- B. AWWA B300 - Hypochlorites; American Water Works Association.
- C. AWWA B301 - Liquid Chlorine; American Water Works Association.
- D. AWWA B302 - Ammonium Sulfate; American Water Works Association.
- E. AWWA B303 - Sodium Chlorite; American Water Works Association.
- F. AWWA C651 - Disinfecting Water Mains; American Water Works Association.
- G. AWWA C654 – Disinfection of Wells; American Water Works Association.
- H. AWWA C655 – Field Dechlorination,
- I. NSF 61 – Drinking Water Components – Health Effects.

**628-1.03 SUBMITTALS.** Provide submittal for all materials incorporated into the project, other pertinent related products, and requested information.

1. Product Data:
  - a. Manufacturer's catalog information with valve data and ratings. All valves exposed to domestic water are to be lead free and NSF 61 compliant. Product cut sheets must note compliance with this requirement.
  - b. Specifications, product description, model, dimensions, component sizes, pressure rating, and other pertinent product information.
  - c. Drop pipe
  - d. Fittings
  - e. Valves
  - f. Pump, motor, wiring, control box, and other pertinent information. Include pump sizing and total dynamic head calculations,
2. Operation and Maintenance Data:
  - a. Submit installation instructions, spare parts lists, exploded assembly views.
  - b. System description and operation procedures.
  - c. Maintenance requirements and schedules.
3. Well Field Verification Report: After field verifying the configuration and condition of existing components in the well, submit a written report of measurements, sketches, observations, condition, potential deviations from plans, and note incompatible materials specified within this section for existing well.
4. Test Reports:

- a. Raw water testing, in accordance with DEC 18 AAC 80, for the water treatment system and as required to obtain final approval to operate from the State of Alaska.
5. Project Record Documents:
  - a. Submit record documents with clear delineations of any changes or deviations from the previously submitted and approved plans.
  - b. Submit photos of the completed well head in all four main and intermediate directions (8 total).
  - c. Maintain and submit as-built drawings of the installation.

**628-2.01 MATERIALS.** All materials used that will contact potable water must be approved and certified for that use by NSF International, Underwriter Laboratories (UL), or an equivalent organization that evaluates products using NSF/ANSI Standard 61.

Unless indicated otherwise in the plan details, all materials shall be new and conform to the details on the Plans or as specified in the following:

Submersible Pump	Subsection 744-2.01
Pump Accessories	Subsection 744-2.02
Drop Pipe	Subsection 744-2.03
Check Valves	Subsection 744-2.04

Materials specified herein shall be used for the well's pumping system, unless the specified materials are determined to be incompatible during the well's field verification. Submit new pumping system materials and components as a substitution conforming to Subsection 106-1.01.

### CONSTRUCTION REQUIREMENTS

**628-3.01 GENERAL.** Furnish and install the new pumping system within the existing well and verify the system operates at the time of acceptance of work. Pump, motor, and other components must be sized to meet the anticipated water demand and total dynamic head of the final pumping system design defined in Section 680 Showerhouse Improvement. Furnish and install all incidental parts not shown on the plans or specified in this section that are necessary to complete the pumping system.

There are no as-built or record drawings available for the existing well. The existing well's approximate location is as shown on the Plans. The Contractor shall field verify the existing configuration and condition of all well components, and all local conditions, which might affect his work. Report the condition of the components that will be salvaged and reused.

While field verifying the well, sample and analyze raw water for sizing and selecting plumbing equipment in Section 680. Raw water testing and test methods shall be in accordance with current regulations set forth in the Alaska Department of Environmental Conservation Drinking Water Regulations 18 AAC 80 for a Transient Non-Community Public Water System. Sampling procedures shall be in accordance with 18 AAC 80. Water samples shall be taken, by, or under the guidance of, a groundwater professional and delivered to a State-certified testing laboratory.

**628-3.01 PUMP INSTALLATION.** Remove existing sanitary seal, secondary seals, drop pipe, wires, and pump from the casing. Remove and dispose of existing pump, motor, wire, and check valve. Take precautions to limit groundwater discharge and contamination by sealing whenever work is not actively being performed in the casing.

Install a new spring-loaded check valve immediately above the submersible pump and at intervals along the drop pipe recommended by the pump manufacturer. Where check valves are installed along the existing drop pipe, install check valves at existing couplings or joints. Care shall be taken to ensure pipes are kept clean, free from soil, scale, and other foreign debris.

New pump and motor must not be set below the casing. Submersible pump and motor must be set at least 10 feet from the bottom of the casing to the bottom of the assembly. If required, adjust the drop pipe to set new pump to meet the bottom of the casing, system performance, and water system requirements.

Submersible wiring and cable splicing shall be installed in accordance with the manufacturer's written instructions. Submersible pump cable shall not be used for underground application. Wire must be sized to accommodate voltage, current flow, and distance from pump motor to power source.

Connect motor to submersible pump. Connect power cable while connection points are dry and undamaged. Do not damage power cable during installation. Secure cable to drop pipe at intervals not to exceed 10' with approved ties, clamps, tape, or cable guard. Cable clamps must not have sharp edges.

Ensure that permanent pump can be installed within the casing. Before lowering permanent pump into well, start pump to verify correct rotation and securely tighten discharge piping joints. Pump must be submerged, unless otherwise stated by the manufacturer when testing. Correct alignment problems.

Ensure that all seals and the sanitary seal have been securely reinstalled.

The ground surface must be graded at least 10' in all directions or contoured away from well.

**628-3.02 PROTECTION OF SITE AND WATER SUPPLY.** Protect all structures, site features, vegetation, etc., during the progress of the work. Remove from the site all debris and unused materials; and upon completion of the work, restore the site as nearly as possible to its original condition or as specified in the Plans. Water pumped or discharged from the well shall be directed to a controlled location; where it will be possible to dispose of uncontaminated groundwater without erosion, damage to property, or create a nuisance. A settling trench, basin, or other controls may be required for the artesian well.

At all times during the progress of the work, protect the well in such a manner as to prevent tampering with the well or allow foreign debris to enter until the well is secured with a sealed. Provide a temporary cap, seal, or plug for the anticipated artesian head pressure; until the pump is set in its final location and sanitary seal is installed. Take the necessary precautions, or as directed, to prevent contaminants or water having undesirable physical or chemical characteristics from entering.

In the event that the well becomes contaminated due to the neglect of the Contractor, the Contractor shall, at their own expense, perform such work as may be necessary to corrective action to remove the contamination, clean the system, and/or disinfect the well.

**628-3.03 PUMP CONTROLLER.** Install three wire cable rated for underground use from the well casing to the Showerhouse as set forth in the Electrical Drawings and sheet specifications.

Ensure that power supply corresponds with the electrical rating of the pump and control box. Verify that the pump controller's electrical rating matches with the motor's electrical rating. Connect pump cable to the control box according to the manufacturer's installation instructions.

The new pressure tank and switch will be located within the showerhouse; locate pump controller in an accessible area near the pressure tank and connect the pressure switch to the pump control box. Pump controller shall be installed in accordance with manufacturer's instructions. Connect the control box grounding terminal to supply ground per the National Electrical Code (NEC) requirements and manufacturer's written instructions.

All wiring must be installed in accordance with applicable national and local electrical codes.

**628-3.04 WELL AND SUBMERSIBLE PUMP CLEANING AND DISINFECTION.** Existing well must be flushed and disinfected. Furnish all materials, equipment, and labor to perform the work in accordance with ANSI/AWWA Standard C654 Disinfection of Wells for a flowing well.

A disinfection plan must be submitted and approved prior to disinfecting all water systems. The plan must include the items listed in Section 627 to disinfect the well. Plan must include how and what section of the water system will be concurrently or individually disinfected.

All permanent equipment and materials to be installed in the well are to be chlorinated just before installation following AWWA C654.

Dose the well with disinfectants and methods described in AWWA C654. Meet residual chlorine concentration requirements and required contact times. Verify and report the initial residual chlorine. After the required contact time has been met, flush the disinfectant from the well while periodically testing for residual chlorine. When there is no detectable residual chlorine, continue to pump water from the well for at least 15 minutes before collecting bacterial water samples. Document the time of initial chlorination, the contact duration, residual chlorination after flushing, and duration of additional flushing.

Collect water samples following the procedures of AWWA C654. If samples show the presence of coliform follow procedures outline in AWWA C654, resample, and test at no cost to the Department.

Collect and/or dispose of chlorinated water in accordance with Federal, State, and local regulations. Where field dichlorination is permitted, the work shall be in accordance with ANSI/AWWA C655 Field Dechlorination.

Care must be taken when circulating disinfectant; installer shall follow standard practices.

Furnish two copies of the laboratory analysis to the Engineer for submittal to the Alaska Department of Environmental Conservation. The Contractor shall bear all costs of samples and analysis.

### **628-3.05 FIELD QUALITY CONTROL.**

1. Perform inspection to verify construction of well and condition of existing components. Submit written report of measurements, sketches, observations, condition, potential deviations from plans, and note incompatible materials specified within this section for existing well.
2. Perform plumbness and alignment testing comply with AWWA A100.
3. Performance Test Preparation: Start well pump and adjust controls and pressure setting. Replace damaged and malfunctioning controls and equipment.
4. Ensure that all existing seals are in serviceable condition and free of leaks after installing.
5. Record of Commissioning: The pump installer must provide a pump install log to the Department within 30 days of installing the pump. At a minimum, the pump install log must include:
  - a. Property Owner's Name;
  - b. Legal description and street address to the property;
  - c. Artesian head pressure;
  - d. Static water level
  - e. Pump set elevation;
  - f. Date of pump installation;
  - g. Manufacturer's name, model, size, and voltage of the pump installed;
  - h. Name, address, and contact information of the pump installer; and
  - i. Description of the standard and method of disinfection used.
6. Document dates, times, duration, and residual chlorine concentrations while disinfecting the well.
7. Test and submit the results of the number of samples for each set of tests required for bacterial testing.
8. Provide redlines markups of all deviations for Record drawings.

**628-3.06 WINTER SUSPENSION.** Contractor is responsible for planning, preparing, protecting, maintaining, and resuming work on the water system, in accordance with 627-3.09.

**628-4.01 METHOD OF MEASUREMENT.** The installation of the new pumping system will be measured on a lump sum basis.

**628-5.01 BASIS OF PAYMENT.** Installation of submersible pump, drop pipe, pump controller, underground pump cable, grading around the existing well, and field verification is subsidiary to this pay item.

Protection of site, controls for managing discharged water, and protection of the water supply are subsidiary to this pay item.

Related work for documentation, logging, reports, disinfection, sampling, testing, and cleanup will be subsidiary to this pay item.

Raw water sampling and testing will be subsidiary to this pay item.

The development of a plan to disinfect the water system is subsidiary to 627.2012.0000 HPDE Water Conduit, 1 inch.

Pressure tank and switch are paid for under Section 680 Showerhouse Improvements. Wiring from the pump controller to the pressure switch is subsidiary to Section 628 Water Well.

Preparing, winterizing, maintaining, and protection of the well and appurtenances are subsidiary.

Payment will be made under:

**PAY ITEM**

<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>
628.1000.0001	Water Well	LUMP SUM

Special Provision

Replace Section 641 with the following:

**SECTION 641  
EROSION, SEDIMENT, AND POLLUTION CONTROL**

**641-1.01 DESCRIPTION.**

Provide project administration and Work relating to control of erosion, sedimentation, and discharge of pollutants, according to this Section and applicable local, state, and federal requirements, including the Alaska Pollution Discharge Elimination System (APDES) Construction General Permit (CGP). The state APDES program is administered by the Department of Environmental Conservation (DEC). Section 301(a) of the Clean Water Act (CWA) and 18 AAC 83.015 provide that the discharge of pollutants to water of the U.S. is unlawful except as allowed by the CGP.

**641-1.02 DEFINITIONS.**

These definitions apply only to Section 641.

**ACTIVE TREATMENT SYSTEM (ATS) OPERATOR.** CGP Appendix C.

**ALASKA CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (AK-CESCL).** A person who has completed training, testing, and other requirements of, and is currently certified as, an AK-CESCL from an AK-CESCL Training Program (a program developed under a Memorandum of Understanding between the Department and others). The Department recognizes AK-CESCLs as “qualified personnel” required by the CGP. An AK-CESCL must be recertified every three years. (See Qualified Person)

**ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (DEC).** The state agency authorized by EPA to administer the Clean Water Act’s National Pollutant Discharge Elimination System.

**ALASKA GENERAL PERMIT FOR EXCAVATION, DEWATERING (Excavation Dewatering Permit).**

Permit authorizing excavation dewatering discharges from Construction Activities.

**ALASKA MULTI-SECTOR GENERAL PERMIT (MSGP).** Permit authorizing storm water discharges associated with Industrial Activity.

**ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM (APDES).** A system administered by DEC that issues and tracks permits for storm water discharges.

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**ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM (APDES).** A system administered by DEC that issues and tracks permits for storm water discharges.

**BEST MANAGEMENT PRACTICES (BMPS).** CGP Appendix C.

**CLEAN WATER ACT (CWA).** Federal Water Pollution Control Amendments of 1972, as amended (33 U.S.C. 1251 et seq.).

**CONSTRUCTION ACTIVITY.** Ground disturbing activity by the Contractor, Subcontractor or utility company; that may result in erosion, sedimentation, or a discharge of pollutants into storm water. CGP Appendix C.

**CONSTRUCTION GENERAL PERMIT (CGP).** The permit authorizing storm water discharges from Construction Activities, issued and enforced by Alaska DEC. It authorizes storm water discharges providing permit conditions and water quality standards are met.

**U.S. ARMY CORPS OF ENGINEERS PERMIT (COE Permit).** U.S. Army Corps of Engineers Permit for construction in waters of the U.S. may be issued under Section 10 of the Rivers and Harbors Act of 1899, or Section 404 of the Clean Water Act.

**ELECTRONIC NOTICE OF INTENT (ENOI).** CGP Appendix C.

**ELECTRONIC NOTICE OF TERMINATION (ENOT).** CGP Appendix C.

**ENVIRONMENTAL PROTECTION AGENCY (EPA).** The federal agency charged to protect human health and the environment.

**ERODIBLE STOCKPILE.** Any material storage area or stockpile consisting of mineral aggregate, organic material, or a combination thereof, with greater than 5 percent passing the #200 sieve, and any material storage where wind or water transports sediments or other pollutants from the stockpile. Erodible Stockpile also includes any material storage area or stockpile where the Engineer determines there is potential for wind or water transport of sediments or other pollutants away from the stockpile.

**EROSION AND SEDIMENT CONTROL PLAN (ESCP).** The Department’s project specific document that illustrates measures to control erosion and sediment on the project. The ESCP provides bidders with the basis for cost estimating and guidance for developing an acceptable Storm Water Pollutant Prevention Plan (SWPPP).

**FINAL STABILIZATION.** CGP Appendix C, "Stabilization".

**HAZARDOUS MATERIAL CONTROL PLAN (HMCP).** The Contractor's detailed project specific plan for prevention of pollution from storage, use, transfer, containment, cleanup, and disposal of hazardous material (including, but are not limited to, petroleum products related to construction activities and equipment). The HMCP is included as an appendix to the SWPPP.

**MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT.** A DEC storm water discharge permit issued to certain local governments and other public bodies, for operation of storm water conveyances and drainage systems. CGP Appendix C.

**OPERATOR(S).** The party(s) responsible to obtain CGP permit coverage. CGP Appendix C.

1. Contractor – the Contractor is an Operator inside and outside the Project Zone.
2. Department – the Department is an Operator inside the Project Zone.

**POLLUTANT.** Any substance or item meeting the definition of pollutant contained in 40 CFR § 122.2. A partial listing from this definition includes: dredged spoil, solid waste, sediment, sewage, garbage, sewage sludge, chemical wastes, biological materials, wrecked or discarded equipment, rock, sand, cellar dirt and industrial or municipal waste.

**PROJECT ZONE.** The physical area provided by the Department for Construction. The Project Zone includes the area of highway or facility under construction, project staging and equipment areas, and material and disposal sites; when those areas, routes and sites, are provided by the Contract.

Material sites, material processing sites, disposal sites, haul routes, staging and equipment storage areas; that are furnished by the Contractor or a commercial operator, are not included in the Project Zone.

**QUALIFIED PERSON.** CGP Appendix C and Section 641-1.04.

**SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN (SPCC PLAN).** The Contractor's detailed plan for petroleum spill prevention and control measures that meet the requirements of 40 CFR 112.

**SPILL RESPONSE FIELD REPRESENTATIVE.** The Contractor's representative with authority and responsibility for managing, implementing, and executing the HMCP and SPCC Plan.

**STORM EVENT.** CGP Appendix C.

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP).** The Contractor's plan for compliance with the CGP for construction activities inside the Project zone, CGP Appendix C and Section 641.

**STORM WATER POLLUTION PREVENTION PLAN TWO (SWPPP2).** The Contractor's plan for compliance with the CGP and MSGP for construction activities outside the Project Zone.

**SUPERINTENDENT.** The Contractor's duly authorized representative with authority and responsibility for the overall operation of the Project and Contractor furnished sites and facilities.

**SWPPP AMENDMENT.** A modification to the SWPPP. CGP Part 5.0.

**SWPPP MANAGER.** The Contractor's Qualified Person with authority and responsibility. CGP Appendix C.

**SWPPP PREPARER.** The Contractor's Qualified Person with authority and responsibility. CGP Appendix C.

**TEMPORARY STABILIZATION.** CGP Appendix C, "Stabilization".

#### **641-1.02.01 REFERENCE.**

A list of websites and documents referenced herein, including SWPPP preparation documents and construction forms, are available at the DOT&PF Statewide Design and Engineering Services Storm Water web page and Construction Forms webpage.

DEC Permit information is available at the DEC Division of Water webpage.

#### **641-1.03 PLAN AND PERMIT SUBMITTALS.**

For plans listed in Subsection 108-1.03.5 (SWPPP, HMCP, and SPCC), use the Contractor submission and Department review deadlines identified in this subsection.

Partial and incomplete submittals will not be accepted for review. Any submittal that is re-submitted or revised after submission, but before the review is completed, will restart the submittal review timeline. No additional Contract time or additional compensation will be allowed due to delays caused by partial or incomplete submittals, or required re-submittals.

1. Storm Water Pollution Prevention Plan. Submit one electronic copy (single PDF file) and one hard copy of the SWPPP to the Engineer for approval. Deliver these documents to the Engineer at least 21 days before beginning Construction Activity. Organize the SWPPP and related documents for submittal according to the requirements of Subsection 641-2.01.2.

The Department will review the SWPPP submittals within 14 days after they are received. Submittals will be returned to the Contractor, and marked as either “rejected” with reasons listed or as “approved” by the Department. When the submittal is rejected, the Contractor must revise and resubmit the SWPPP. The 14-day review period will restart when the contractor submits an electronic copy and one hard copy of the revised SWPPP to the Engineer for approval.

After the SWPPP is approved and certified by the Department using Form 25D-109, the Contractor must certify the approved SWPPP using Form 25D-111. See Subsection 641-1.03.4 for further SWPPP submittal requirements.

Submit the final SWPPP. Transmit an electronic copy (single pdf file) of the final SWPPP to the Engineer when the Contractor's eNOT is filed, or within 30 days of the Department's eNOT being filed, whichever is sooner. Include all SWPPP documents.

2. Hazardous Material Control Plan. The HMCP Template is available at the DOT&PF Construction Forms webpage. The HMCP submittal, review timeline, and signature requirements are the same as the SWPPP.
3. Spill Prevention, Control, and Countermeasure Plan. When a SPCC Plan is required under Subsection 641-2.03, submit an electronic copy and one hard copy of the SPCC Plan to the Engineer. Deliver these documents to the Engineer at least 21 days before beginning Construction Activity. The Department reserves the right to review the SPCC Plan and require modifications.
4. CGP Coverage. The Contractor is responsible for permitting of Contractor and subcontractor Construction Activities related to the Project. Do not use the SWPPP for Construction Activities outside the Project Zone where the Department is not an operator. For Construction Activities outside the Project Zone, the Contractor must use a SWPPP2. Department approval is not required for a SWPPP2.

After the Department certifies the SWPPP and prior to beginning Construction Activity, submit an eNOI with the required fee to DEC for coverage under the CGP. Submit a copy of the signed eNOI and DEC's written acknowledgement (by letter or other document), to the Engineer as soon as practicable and no later than three days after filing eNOI or receiving a written response.

Do not begin Construction Activity until the conditions listed in Subsection 641-3.01.1 are completed.

The Department will submit an eNOI to DEC for Construction Activities inside the Project Zone. The Engineer will provide the Contractor with a copy of the Department's eNOI and DEC's written acknowledgment (by letter or other document), for inclusion in the SWPPP.

Before Construction Activities occur, transmit to the Engineer an electronic copy and one hard copy of the approved and certified SWPPP, with signed Delegations of Signature Authorities on Forms 25D-107 and 25D-108, SWPPP Certifications on Forms 25D-111 and 25D-109, both permittee's signed eNOIs and DEC's written acknowledgement.

5. DEC SWPPP Review. When CGP Part 2.1.3, or 2.1.4 requires DEC SWPPP review:
  - a. Transmit a copy of the Department-approved SWPPP to DEC using delivery receipt confirmation;
  - b. Transmit a copy of the delivery receipt confirmation to the Engineer within seven days of receiving the confirmation; and

- c. Retain a copy of delivery receipt confirmation in the SWPPP.
6. Local Government SWPPP Review. When local government or the CGP Part 2.1.4, requires local government review:
- Transmit a copy of the Department-approved SWPPP and other information as required to local government, with the required fee. Use delivery receipt confirmation;
  - Transmit a copy of the delivery receipt confirmation to the Engineer within seven days of receiving the confirmation;
  - Transmit a copy of any comments by the local government to the Engineer within seven days of receipt;
  - Amend the SWPPP as necessary to address local government comments and transmit SWPPP Amendments to the Engineer within seven days of receipt of the comments;
  - Include a copy of local government SWPPP review letter in the SWPPP; and
  - File a notification with local government that the project is ending.
7. Modifying Contractor's eNOI. When required by the CGP Part 2.7, modify your eNOI to update or correct information within 30 calendar days of the change. Reasons for modification are in the CGP Part 2.7.1. The Contractor must submit an eNOT instead of an eNOI modification when the operator has changed. The new operator must file an eNOI to obtain permit coverage.

#### 641-1.04 PERSONNEL QUALIFICATIONS.

Provide documentation in the SWPPP that the individuals serving in these positions meet the personnel qualifications. The Department accepts the following certificates as equivalent to AK-CESCL: Certified Professional in Erosion and Sediment Control (CPESC), or Certified Inspector in Sediment, and Erosion Control Certified (CISEC). These equivalent certificates are included in the CGP Appendix C and repeated below.

**TABLE 641-1.04 PERSONNEL QUALIFICATIONS**

<b>Personnel Title</b>	<b>Required Qualifications</b>
SWPPP Preparer	<ol style="list-style-type: none"> <li>Current certification as a Certified Professional in Erosion and Sediment Control (CPESC); or</li> <li>Current certification as AK-CESCL, and at least two years' experience in erosion and sediment control as a SWPPP Manager or SWPPP writer, or equivalent; or</li> <li>Professional Engineer registered in the State of Alaska with current certification as AK-CESCL.</li> </ol>
Superintendent	Current AK-CESCL, or substitute training from CGP Appendix C, Qualified Person Table 4
SWPPP Manager	Current AK-CESCL or substitute training from CGP Appendix C, Qualified Person Table 4.
Active Treatment System Operator	Current AK-CESCL or substitute training from CGP Appendix C, Qualified Person Table 4. ATS operator should possess a recognized certification, or professional standing, or who by extensive knowledge, training, and experience has successfully demonstrated the ability to meet the ATS requirement.

#### 641-1.05 SIGNATURE/CERTIFICATION REQUIREMENTS AND DELEGATIONS.

- eNOI and eNOT. The eNOI, eNOT, and eNOI Modifications must be signed and certified by a responsible corporate officer according to CGP Appendix A, Part 1.12. Signature and certification authority for the eNOI and eNOT cannot be delegated.
- Delegation of Signature Authority for Other SWPPP Documents and Reports. Use Form 25D-108 to delegate signature authority and certification authority to the Superintendent position, according to CGP Appendix A, Part 1.12.3, for the SWPPP, Inspection Reports and other reports required by the CGP.

The Superintendent position is responsible for signing and certifying the SWPPP, Inspection Reports, and other reports required by the CGP, except the eNOI, eNOI Modifications, and eNOT. The Engineer will provide the Department's delegation on Form 25D-107, which the Contractor must include in the SWPPP.

3. Subcontractor Certification. Subcontractors must certify on Form 25D-105, that they have read and will abide by the CGP and the conditions of the project SWPPP.
4. Signatures and Initials. Certify or initial the CGP documents and SWPPP forms, wherever a signature or initial is required.

#### **641-1.06 RESPONSIBILITY FOR STORM WATER PERMIT COVERAGE.**

107-1.02 includes the requirements to obtain permits, and to provide permit documents to the Engineer.

1. The Department and the Contractor are jointly responsible for permitting and permit compliance within the Project Zone.
2. The Contractor is responsible for permitting and permit compliance for all construction support activity in the Project Zone and outside the Project Zone. The Contractor has sole responsibility for compliance with DEC, COE, and other applicable federal, state, and local requirements, and for securing all necessary clearances, rights, and permits. The Contractor is responsible for protection, care, and upkeep of all work, and all associated off-site zones.
3. The Contractor is responsible for obtaining an Excavation Dewatering Permit (AKG002000) if construction activities are within 1,500 feet of a DEC-identified contaminated site or groundwater plume.
4. An entity that owns or operates, a commercial plant (as defined in Subsection 108-1.01.4) or material source or disposal site outside the Project Zone, is responsible for permitting and permit compliance. The Contractor has sole responsibility to verify that the entity has appropriate permit coverage.
5. The Department is not responsible for permitting or permit compliance, and is not liable for fines resulting from noncompliance with permit conditions:
  - a. For areas outside the Project Zone;
  - b. For Construction Activity and Support Activities outside the Project Zone; and
  - c. For commercial plants, commercial material sources, and commercial disposal sites.

#### **641-1.07 UTILITY.**

Relocation Coverage. A Utility company is not an Operator when utility relocation is performed concurrently with the Project, as outlined in Section 105-1.06. The Department maintains operational control over the Utility's plans and specifications for coordination with project construction elements, and the Contractor has day-to-day control over the various utility construction activities that occur in support of the Project. A Utility company is considered a subcontractor for concurrent relocation.

After the Contractor has an active NOI for the Project, a Utility Company performing advance relocation work under a separate SWPPP no longer has Operator status and files the NOT for the Utility Company's SWPPP covering only the completed utility work. Remaining utility relocation work is included in and performed under the Project SWPPP.

#### **641-2.01 STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS.**

1. SWPPP Preparer and Pre-Construction Site Visit. Use a SWPPP Preparer to develop the SWPPP according to the CGP, DEC and Department SWPPP Template. Subsection 641-1.02.01 provides directions to templates.

The SWPPP Preparer must conduct a pre-construction inspection at the Project site before construction activity begins. If the SWPPP Preparer is not a Contractor employee, the SWPPP Preparer must visit

the site accompanied by the Contractor. Give the Department at least seven days advance notice of the site visit, so that the Department may participate.

Document the SWPPP Preparer's pre-construction inspection in the SWPPP on Form 25D-106, SWPPP Pre-Construction Site Visit, include the names of attendees and the date.

## 2. Developing the SWPPP.

- a. Meet all CGP requirements.
- b. Use the Department's ESCP, Environmental commitments, and other Contract documents as a starting point for developing the SWPPP.
- c. Develop the SWPPP with sections and appendices according to the DEC CGP SWPPP Template and DOT&PF SWPPP Template. Include the information required by the Contract and described in the CGP Part 5.0. Use the forms available at the DOT&PF Construction Forms website.
- d. Compile the SWPPP in three ring binders with tabbed and labeled dividers for each appendix. Submit the SWPPP according to Subsection 641-1.03.

## 3. SWPPP Considerations and Contents.

- a. The SWPPP must provide erosion and sediment control measures for all Construction Activity within the Project Zone.

Construction activity outside the Project Zone must have permit coverage. Document permit compliance according to SWPPP2 requirements.

- b. The SWPPP must consider the activities of the Contractor and all subcontractors and utility companies performing work in the Project Zone. Describe the roles and responsibilities of the Contractor, subcontractors, utility companies, and the Department with regard to implementation of the SWPPP. Include the utility companies and other operators performing Construction Activity. Identify areas:

- (1) Over which each operator has operational control; and
- (2) Where the Department and Contractor are co-operators.

- c. For work outside the Project Zone the SWPPP must identify the entity that has storm water permit coverage, the operator, and areas that are:

- (1) Dedicated to the Project and where the Department is not an operator; and
- (2) Not dedicated to the project, but used for the project.

- d. If the project discharges to a Tier III, Outstanding Natural Resource Water, comply with the CGP Part 2.1.6. Submittal deadlines apply prior to filing an eNOI and beginning construction activities. As of the issuance of the CGP 2021, no Tier III, Outstanding Natural Resource Water is designated in the State of Alaska.

- e. There are special requirements in the CGP Part 3.2, for storm water discharges into an impaired water body. Monitoring of storm water discharges may be required. The Contractor is responsible for monitoring and reporting inside and outside the project zone.

- f. Describe the sequence and timing of activities that disturb soils and BMP implementation and removal. Phase earth-disturbing activities to minimize unstabilized areas, and to achieve temporary or final stabilization. Whenever practicable incorporate final stabilization work into excavation, embankment, and grading activities. Include drawings showing each phase of the project with the BMPs implemented in the Phase.

- g. Delineate the site according to the CGP Part 4.2.1.

- h. Minimize the amount of soil exposed and preserve natural topsoil on site, unless infeasible according to the CGP Part 4.2.2.
- i. Describe methods and time limits, to initiate temporary or final soil stabilization. Comply with stabilization requirements in the CGP Part 4.5.
- j. If construction will cease during winter months, describe all requirements for winter shutdown according to the CGP Part 4.12.
- k. Plans for ATS must meet with the requirements in the CGP Part 2.1.5 and 4.6.
- l. Design all temporary BMPs to accommodate a two year 24-hour storm event. Describe and document all installed control measures in the SWPPP according to the CGP Part 5.3.6. Include a citation from a published BMP Manual, publication, or manufacturers specification used as a source, or include a statement "No BMP Manual was used for this design". If using out of state BMPs, follow the instructions in the DOT&PF SWPPP Guide.
- m. Provide a legible site map or set of maps in the SWPPP, showing the entire site and identifying boundaries of the property where construction and earth-disturbing activities will occur. Include all elements described in the CGP Part 5.3.5 and the DEC CGP SWPPP Template Section 5.0.
- n. Identify the inspection frequency in the SWPPP according to the CGP Part 6.1; except, inspect once every seven calendar days regardless of the precipitation amount.
- o. Linear Project Inspections, described in CGP Part 6.5, are not applicable to this Contract.
- p. The SWPPP must cite and incorporate applicable requirements of the Project permits, environmental commitments, COE permit, and commitments related to historic preservation. Make additional consultations or obtain permits as necessary for Contractor specific activities that were not included in the Department's permitting and consultation.
- q. The SWPPP is a dynamic document. Keep the SWPPP current by noting installation, modification, and removal of BMPs, and by using amendments, SWPPP amendment logs, Inspection Reports, corrective action logs, records of land disturbance and stabilization, and any other records necessary to document storm water pollution prevention activities and to satisfy the requirements of the CGP and this specification. See Subsection 641-3.03 for more information.

#### 4. Recording Personnel and Contact Information in the SWPPP.

Identify the SWPPP Manager as the Storm Water Lead and Storm Water Inspector positions in the SWPPP. Document the SWPPP Manager's responsibilities in Section 2.0 Storm Water Contacts, of the SWPPP Template and:

- a. Identify that the SWPPP Manager does not have authority to sign inspection reports (unless the SWPPP Manager is also the designated project Superintendent).
- b. Identify that the SWPPP Manager cannot prepare the SWPPP unless the SWPPP Manager meets the Contract requirements for the SWPPP Preparer.

Include in the SWPPP proof of AK-CESCL, or equivalent certifications for the Superintendent and SWPPP Manager, and for any acting Superintendent and acting SWPPP Managers. If the Superintendent or SWPPP Manager is replaced, permanently or temporarily, by an acting Superintendent or acting SWPPP Manager; record in the SWPPP, on Form 25D-127, the names of the replacement personnel, and date of replacement. For temporary personnel, record their beginning and ending dates.

Provide 24-hour contact information for the Superintendent and SWPPP Manager. The Superintendent and SWPPP Manager must have 24-hour contact information for all Subcontractor SWPPP Coordinators and Utility SWPPP Coordinators.

Include in the SWPPP, proof of AK-CESCL or equivalent certifications of ATS operators. Record names of ATS operators and their beginning and ending dates, on Form 25D-127.

The Department will provide proof of AK-CESCL, or equivalent certifications for the Department's Project Engineer, Storm Water Inspectors, and Monitoring Person, and names and dates they are acting in that position. Include Department's staff certifications in SWPPP Appendix E. Include the Department's staff names, dates acting, and assignments in Section 2.0 of the SWPPP and on Form 25D-127.

#### **641-2.02 HAZARDOUS MATERIAL CONTROL PLAN (HMCP) REQUIREMENTS.**

Prepare the HMCP using the Department template for the prevention of pollution from storage, use, containment, cleanup, and disposal of all hazardous material, including petroleum products related to construction activities and equipment. Include the HMCP as an appendix to the SWPPP. Compile Material Safety Data Sheets in one location and reference that location in the HMCP.

#### **641-2.03 SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN (SPCC Plan) REQUIREMENTS.**

Prepare and implement an SPCC Plan, required by 40 CFR 112; when both of the following conditions are present on the project:

1. Oil or petroleum products from a spill may reach navigable waters (defined in 40 CFR 112), and
2. Total above ground storage capacity for oil and any petroleum products is greater than 1,320 gallons (not including onboard tanks for fuel or hydraulic fluid used primarily to power the movement of a motor vehicle or ancillary onboard oil-filled operational equipment, and not including containers with a storage capacity of less than 55 gallons).

Reference the SPCC Plan in the HMCP and SWPPP.

#### **641-2.04 RESPONSIBILITY AND AUTHORITY OF THE SUPERINTENDENT AND SWPPP MANAGER.**

The Superintendent shall certify the SWPPP, Inspection Reports, and other reports required by the CGP, except the eNOI and eNOT. The Superintendent may not delegate the task or responsibility of certifying these documents.

The Superintendent may assign certain duties to the SWPPP Manager.

1. Ensuring Contractor's and subcontractor's compliance with the SWPPP and CGP;
2. Ensuring the control of erosion, sedimentation, or discharge of pollutants;
3. Directing and overseeing installation, maintenance, and removal of BMPs;
4. Performing Inspections; and
5. Updating the SWPPP including adding amendments and forms.

When Bid Item 641.0007. \_\_\_\_ is part of the Contract, the SWPPP Manager must be a different person than the Superintendent, be available at all times to administer SWPPP requirements, and be physically present within the Project Zone or the project office, when construction activities are occurring.

The Superintendent and SWPPP Manager shall be knowledgeable in the requirements of Section 641, the SWPPP, CGP, BMPs, HMCP, SPCC Plan, environmental permits, and environmental commitments.

The Superintendent and SWPPP Manager shall have the Contractor's complete authority and be responsible for suspending construction activities that do not conform to the SWPPP or CGP.

#### **641-2.05 MATERIALS.**

Use materials suitable to withstand hydraulic, wind, and soil forces, and to control erosion and trap sediments according to the requirements of the CGP and the Specifications.

Use the seed mixture specified in the Contract or as directed by the Engineer.

Use soil stabilization material as specified in Section 727.

Use silt fences as specified in Section 729.

Use straw and straw products certified weed free of prohibited and restricted noxious weed seed and quarantined pests, according to Alaska Administrative Code, Title 11, Chapter 34 (11 AAC 34). When straw or straw products certified according to 11 AAC 34 are not available, use non-certified products manufactured within Alaska before certified products manufactured in another state, country, or territory. Non-certified straw or straw products manufactured in another state, country, or territory shall not be used. Grass, legumes, or any other herbaceous plants produced as hay, shall not be substituted for straw, or straw products.

### **641-3.01 CONSTRUCTION REQUIREMENTS.**

Comply with the SWPPP and the requirements of the CGP Part 5.0.

#### 1. Before Construction.

The following actions must be completed before Construction Activity begins:

- a. The SWPPP Preparer must visit the Project. Document the visit on SWPPP Form 25D-106. The SWPPP must be developed, or amended with the findings from the visit.
- b. The SWPPP must be approved by the Engineer on Form 25D-109.
- c. The Contractor must be authorized to begin work by the Engineer.
- d. The Project must have an eNOI for the Department and for the Contractor.
- e. The Department approved SWPPP must be submitted to DEC and Local Governments per CGP Part 2.1.2, Part 2.1.4, and Part 2.4.1.
- f. The Contractor has transmitted to the Engineer an electronic copy, and at least one hardcopy of the approved SWPPP.
- g. The Delegation of Authority, Forms 25D-108 and 25D-107, for both the Contractor and Engineer are signed.
- h. Main entrance signage must meet the requirements of CGP Part 5.10.2. Post notices on the outside wall of the Contractor's project office, and near the main entrances of the construction project. Protect postings from the weather. Locate postings so the public can safely read them without obstructing construction activities or the traveling public (for example, at an existing pullout). Do not use retroreflective signs for the SWPPP posting. Do not locate SWPPP signs in locations where the signs may be confused with traffic control signs or devices. Update the notices if the listed information changes.
- i. Track precipitation according to CGP Part 7.3.9. Submit the method to track precipitation to the Engineer for approval.

#### 2. During Construction.

- a. Delineate The Site. Comply with the CGP Part 4.2.1.
- b. BMPs. Install BMPs according to the SWPPP prior to the initiation of ground disturbance.
- c. Document subcontractors. Provide a copy of the SWPPP and the CGP to all subcontractors and utility companies before they begin soil-disturbing activities. Verify they understand and comply with the SWPPP and CGP.

- (1) Document all subcontractors and utility companies that may work on the site, according to the CGP Part 5.3.1, and SWPPP Section 1.2.
  - (2) Require subcontractors and utility companies to sign the SWPPP Subcontractor Certification, Form 25D-105. Include Form 25D-105 in the SWPPP Appendix E.
  - (3) Inform subcontractors and utility companies, in a timely manner, of SWPPP amendments that affect them. Coordinate with subcontractors and utility companies to protect BMPs, including temporary and final stabilization from damage.
  - (4) Notify the Engineer immediately if the actions of any utility company or subcontractor do not comply with the SWPPP and the CGP.
- d. Provide Training. Provide ongoing training to all employees, subcontractors, and utility companies according to the CGP Part 4.14.
- (1) Provide training no less than once a month during construction activity;
  - (2) Document training in the SWPPP Training Log on Form 25D-125. Include the training record in the SWPPP Appendix I.
- e. Protection and Restoration. Comply with Subsection 107-1.11.
- f. Good Housekeeping Measures. Comply with the SWPPP and CGP Part 4.8.
- g. Control Measures. Comply with the SWPPP and CGP Part 5.3.6.
- (1) Maintain BMPs.
  - (2) Comply with requirements of the HMCP and SPCC Plan, and all local, state, and federal regulations that pertain to the handling, storage, containment, cleanup, and disposal of petroleum products or other hazardous materials.
  - (3) Keep the SWPPP and HMCP current, Subsection 641-2.01.3, SWPPP Considerations and Contents.
3. Winter Construction.  
If winter construction activity occurs, the project must have BMPs in place, Part 4.12.2. Inspections can be reduced to once per month if the project meets the CGP Part 6.2.4.
4. Storm Water Discharge Pollutant Reporting Requirements.  
If an incident of non-compliance occurs, that may endanger health or the environment, a report must be made, CGP Appendix A, Part 3.4.

A permit non-compliance is any type of pollutant, such as turbidity or petroleum that enters storm water runoff and flows into a receiving water body, MS4, or wetland that is connected to waters of the U.S.

- a. Report the incident to the Engineer immediately;
- b. Report to DEC orally within 24 hours after the permittee becomes aware of the incident; and
- c. Report to DEC in writing within five days after the permittee becomes aware of the circumstances. To report in writing, complete the written noncompliance report on Form 25D-143, and file the written report with DEC. Coordinate the report with the Engineer. Include in the report:
  - (1) A description of the noncompliance and its causes;
  - (2) The exact dates and times of noncompliance;

- (3) If not yet corrected the anticipated time the project will be brought back into compliance; and
  - (4) The corrective action taken or planned to reduce, eliminate and prevent reoccurrence.
- d. Report an incident of noncompliance with COE Permits to the Engineer immediately. The Engineer will notify the COE.
5. Hazardous Materials Reporting Requirements.  
Report any release of a hazardous substance immediately to the Engineer, as soon as the person has knowledge of the discharge.
- Report spills of petroleum products or other hazardous materials to the Engineer and other agencies as required by law, and according to the CGP Part 9.3.
- a. To water.  
Any amount of hazardous material released must be reported immediately to the Engineer, DEC, and the Coast Guard.
  - b. To land.  
Any release of a petroleum product, must be reported as soon as the person has knowledge of the discharge, CGP Part 9.3.2.
    - (1) Release in excess of 55 gallons,
    - (2) Release in excess of 10 gallons but less than 55 gallons, must be reported to the DEC within 48 hours after the person has knowledge of the discharge, and
    - (3) Release in excess of 1 gallon to 10 gallons, must be recorded, logged, and provided to the DEC on a monthly basis.
  - c. Use the HMCP and SPCC Plan for contact information to report spills to regulatory agencies.
  - d. Implement measures to prevent the reoccurrence of and to respond to the release of hazardous materials.
  - e. Prior to disposal of contaminated material, submit a Contaminated Media Transport and Treatment Disposal Approval Form to the DEC Division of Spill Prevention and Response. Dispose as approved by the DEC.
6. Maintenance of BMPs and Corrective Action.  
Implement maintenance and corrective action as required by the CGP Part 4.13 and Part 8.0, SWPPP, and manufacturer's specifications, whichever is more restrictive.
- a. Implement corrective actions. Comply with the CGP Part 8.0 and the SWPPP.
  - b. Corrective Action deadlines and documentation.
    - (1) Complete Corrective actions according to the CGP Part 8.2.
    - (2) Document corrective actions in the Corrective Action Log, Form 25D-112, according to the SWPPP, CGP Part 5.9.2, and Part 8.3.
 

If a different BMP is installed to correct the condition leading to the corrective action, a SWPPP Amendment must be completed.
    - (3) Document the conditions, in the Corrective Action Log, for corrective actions not completed according to the CGP 8.2. Notify the Engineer, and implement the corrective action as soon as possible.

The Engineer may assign a new complete-by date using a Delayed Action Item Report, Form 25D-113 (DAIR Form), if the Contractor is unable to complete the corrective action within the required timeframe. The DAIR Form can only be authorized and completed by the Engineer.

7. Stabilization.

- a. All Soil stabilization requirements must be met in accordance with CGP Part 4.5 and the SWPPP.
- b. When temporary or permanent seeding is required, provide a working hydro seeding equipment located within 100 miles of the project by road; with 1,000 gallon or more tank capacity, paddle agitation of tank, and the capability to reach the seed areas with a uniform mixture of water, seed, mulch and tackifier. If the project is located in an isolated community, the hydro-seeder must be located at the project.
- c. Apply temporary seed and stabilization measures after preparing the surface to reduce erosion potential and to facilitate germination and growth of vegetative cover according to Section 618 and 619.
- d. Apply permanent seed and other stabilization measures after land-disturbing activity has permanently ceased. Comply with the CGP, SWPPP, and the Contract Sections 618, 619, 724, and 727.
- e. Incorporate final or temporary stabilization immediately after installing culverts or other drainage structures to satisfy the CGP Part 4.5, SWPPP and Engineer. Stabilize under any bridge and in areas upstream and downstream of culverts, drainages and areas disturbed by related construction activities after installation, or before deactivating stream bypass or diversion.
- f. Stabilization before Fall Freeze-up, and Spring Thaw.  
Stabilize Construction Activities within the Project Zone with BMPs prior to the anticipated date of fall freeze-up, according to the SWPPP and CGP Part 4.12.  
Exceptions to stabilization prior to anticipated date of fall freeze-up include:
  - (1) Where temporary stabilization activities are precluded by snow cover or frozen ground conditions prior to the anticipated date of fall freeze-up, stabilization measures must be initiated as soon as practicable following the actual spring thaw.
  - (2) When winter construction activity is authorized by the Engineer and conducted according to the Contract.

8. Ending CGP Coverage.

- a. The Engineer will determine the date that the following conditions for ending CGP coverage have been met within the Project Zone:
  - (1) Land disturbing activities have ceased;
  - (2) Final Stabilization has been achieved on all portions of the Project Zone, including Department furnished material sources, disposal sites, staging areas, equipment areas, etc., according to the CGP Part 4.5.2; and
  - (3) Temporary BMPs have been removed.
- b. After the Engineer has determined the conditions for submitting an eNOT have been met according to the CGP Part 10.2, the Department will:
  - (1) Send written notice to the Contractor with the date that the conditions were met;
  - (2) Submit an eNOT to DEC within 30 days, and

- (3) Provide a copy of the eNOT and DEC's acknowledgement letter to the Contractor.
- c. If the Contractor's CGP eNOI acreage includes Support Activities and any other areas where the Department is not an Operator, the Contractor may not be able to file an eNOT at the same time as the Department.
  - d. The Contractor must submit a copy of each signed eNOT and DEC's acknowledgement letter to the Department within three days of filing the eNOT or receiving a written response. Insert the eNOT and DEC acknowledgement letter in the SWPPP Appendix Q.
  - e. The Contractor is responsible for coordinating local government inspections of work and ending permit coverage with local governments. See Subsection 641-1.03.6 for more information.
9. Ending Inspections, BMP maintenance, and SWPPP Updates in the Project Zone.  
The Contractor is responsible for continuing inspections, BMP maintenance, and SWPPP updates until permit coverage is ended.
10. Transmit final SWPPP.  
Transmit one electronic copy of the final SWPPP to the Engineer according to Subsection 641-1.03.1.

### **641-3.02 SWPPP DOCUMENTS, LOCATION ON-SITE, AVAILABILITY, AND RECORD RETENTION.**

The SWPPP and related documents maintained by the Contractor are the Record for demonstrating compliance with the CGP. Copies of SWPPP documents transmitted to the Engineer under the requirements of this specification are informational and do not relieve the Contractor's responsibility to maintain complete records as required by the CGP and this specification.

Keep the SWPPP, HMCP, and SPCC Plan at the on-site project office. If there is not an on-site project office, keep the documents at a locally available location that meets CGP requirements and is approved by the Engineer. Records may be moved to another office for record retention after the eNOTs are filed. Records may be moved to another office during winter shutdown. Update on-site postings if records are relocated during winter shutdown. Provide the Department with copies of all Records. Retain Records including a copy of the SWPPP, for at least three years after the date of eNOT according to the CGP Part 9.4.

The SWPPP and related documents must be made available for review and copy, to the Department and other regulatory agencies that request them. See CGP Parts 5.10, 6.6 and 9.5.

### **641-3.03 SWPPP INSPECTIONS, AMENDMENTS, REPORTS, AND LOGS.**

Perform Inspections, prepare Inspection Reports, and prepare SWPPP Amendments in compliance with the SWPPP and the CGP using Department forms from the DOT&PF Construction Forms website.

1. Inspection during Construction.  
Conduct Inspections according to the schedule and requirements of the SWPPP and CGP Part 6.0, except inspect once every seven calendar days regardless of the precipitation amount, Subsection 641-2.01.3.n.  
  
Inspections required by the CGP and SWPPP must be performed by the Contractor's SWPPP Manager and the Department's Storm Water Inspector jointly, unless approved by the Engineer, when:
  - a. One of the inspectors is not on site, access is only by air, and weather delayed or canceled flights;
  - b. One of the inspectors is sick;
  - c. The project is on a reduced frequency inspection schedule with no staff on site, the only access to the site is by air, and it is economical to send only one inspector; or
  - d. When the Engineer determines a safety concern that makes joint inspection impracticable.

When this is the case, the Operator who conducts the Inspection must provide a copy of the Inspection Report to the other Operator within three days of the Inspection date and document the date of the report transmittal in Appendix K.

2. Inspection Reports.

Use only the Department SWPPP Construction Site Inspection Report, Form 25D-100, to record Inspections. Changes or revisions to Form 25D-100 are not permitted, except for adding or deleting data fields that list: Location of Discharge Points and Site Specific BMPs. Complete all fields in the Inspection Report; do not leave any field blank.

The Superintendent or SWPPP Manager must review and correct all errors within three days of the date of inspection.

Inspection Reports must be signed by the person described in the CGP Appendix A, Part 1.12 or by a duly authorized representative of that person. Only the Superintendent can certify the Inspection Form.

Insert a Complete-by-Date for each corrective action listed that complies with the CGP Part 8.2.

Provide a copy of the completed, unsigned Inspection Report to the Engineer by the end of the next business day following the inspection.

The Engineer may coordinate with the Superintendent to review and correct any errors or omissions before the Superintendent signs the report. Corrections are limited to adding missing information or correcting entries to match field notes and conditions present at the time the Inspection was performed. The signed and certified Inspection Report must be provided to the Engineer on the same day the Superintendent signed the form.

The Engineer will sign and certify the Inspection Report and will return the original to the Contractor within three working days if compliant with the CGP and SWPPP.

If the Inspection Report is not compliant with the CGP or SWPPP, the Engineer may make corrections after the Superintendent has signed and certified the Inspection Report. The Engineer will initial and date each correction. If the Engineer makes corrections, the Superintendent must recertify the Inspection Report by entering a new signature and date in the white space below the original signature and date lines. Send a copy of the recertified Inspection Report to the Engineer on the day it is recertified.

When an Inspection Report, certified by both the Superintendent and Engineer, requires corrections:

- a. Document the corrections in an addendum memo addressing only the omitted or erroneous portions.
- b. Superintendent and Engineer sign and certify the updated Inspection Report and the addendum memo.
- c. File the corrected Inspection Report and addendum memo in Appendix K and update the amendment log.

The issuance of an addendum memo does not relieve the Contractor of liquidated damages that may have been incurred as a result of the error on the original certified inspection report.

3. Items and Areas to Inspect.

Conduct inspections of all areas required by the CGP Part 6.4 and SWPPP.

4. Reduced Inspection Frequencies.

Conduct Inspections according to the inspection schedule indicated in the approved SWPPP. Any change in inspection frequency must be approved by the Engineer, and beginning and ending dates documented as an amendment to the SWPPP.

The frequency of inspections may be reduced according to the CGP Part 6.2.1 if the site is stabilized and the reduced frequency is approved by the Engineer. At actively staffed sites, inspect within two business days of the end of a storm event that results in a discharge from the site.

5. Winter Shutdown Inspections.

Conduct winter shutdown inspection 14 calendar days after the anticipated fall freeze-up date and conditions under the CGP Parts 4.12. and 6.2.3, and the SWPPP are met. The Engineer may approve suspension of inspections and waive requirements for updating the Grading and Stabilization Activities Log and Daily Record of Rainfall, Form 25D-115, during winter shutdown.

Inspections must resume on a regular frequency or reduced inspection frequency identified in the SWPPP, at least 21 days before anticipated spring thaw, CGP Part 6.2.3. Resume updating the Daily Record of Rainfall Form at the start of the 21-day spring thaw inspection.

6. Inspection before Project Completion.

Conduct Inspection to ensure Final Stabilization is complete throughout the Project, and temporary BMPs that are required to be removed are removed. Temporary BMPs that are biodegradable and are specifically designed and installed with the intent of remaining in place until they degrade, may remain in place after project completion if approved by the Engineer.

7. SWPPP Amendments and SWPPP Amendment Log.

The SWPPP Amendment Log, Form 25D-114, must be filled out by an individual who holds a current AK-CESCL, or equivalent certification. The Superintendent or the SWPPP Manager must sign and date amendments to the SWPPP and updates to the SWPPP Amendment Log.

SWPPP Amendments must be approved by the Engineer.

Amendments must occur:

- a. Whenever there is a change in design, construction operation, or maintenance at the construction site that has or could cause erosion, sedimentation or the discharge of pollutants that has not been previously addressed in the SWPPP;
- b. If an Inspection identifies that any portion of the SWPPP is ineffective in preventing erosion, sedimentation, or the discharge of pollutants;
- c. Whenever an Inspection identifies a problem that requires additional or modified BMPs or a BMP not shown in the original SWPPP is added;
- d. If the Inspection frequency is modified (note beginning and ending dates);
- e. When there is a change in personnel who are named in the SWPPP, according to Subsection 641-2.01;
- f. When an inspection is not conducted jointly;
- g. When an eNOI modification is filed;
- h. When a Noncompliance Report is filed with the DEC.

Place all correspondence with the DEC, EPA or MS4s in Appendix Q.

Amend the SWPPP as soon as practicable after any change or modification, but in no case, later than seven days following identification of the need for an amendment. All SWPPP Amendments must have an amendment number, be dated, and signed.

Keep the SWPPP Amendment Log current. Prior to a scheduled Inspection or submittal of an inspection, submit to the Engineer a copy of the pages of the Amendment Log that contain new entries since the last submittal. Include copies of any documents amending the SWPPP.

Keep the SWPPP Amendment Log in appendix M.

8. Site Maps.

Maintain site maps in accordance with CGP Part 5.3.5 and the SWPPP Template 5.0. It is acceptable to have separate site maps for BMPs, grading and stabilization activities.

9. Corrective Action Log.

The Superintendent and SWPPP Manager are the only persons authorized to make entries on the SWPPP Corrective Action Log, Form 25D-112.

The Corrective Action Log must document corrective actions required by the conditions listed in the CGP Part 8.0. Document the need for corrective action within 24 hours of either:

- a. Identification during an inspection, or
- b. Discovery by the Department's or Contractor's staff, a subcontractor, or a regulatory agency inspector.
- c. If a corrective action is discovered outside of an inspection, update the log with the date of discovery, the proposed corrective action, and the date the corrective action was completed.

Keep the Corrective Action Log current and submit a copy to the Engineer prior to performing each scheduled SWPPP Inspection.

Keep the Corrective Action Log in Appendix J.

10. Grading and Stabilization Activities Log.

The Superintendent and SWPPP Manager are the only persons authorized to date and initial entries on the SWPPP Grading and Stabilization Activities Log, Form 25D-110. Use the SWPPP Grading and Stabilization Activities Log, to record land disturbance and stabilization activities.

Keep the Grading and Stabilization Activities Log current and submit a copy to the Engineer prior to performing each scheduled SWPPP Inspection. Keep the Grading and Stabilization Activities Log organized and completed to demonstrate compliance with the CGP Part 4.5.

Keep the Grading and Stabilization Activities Log in Appendix G.

11. Daily Record of Rainfall.

Use SWPPP Daily Record of Rainfall, Form 25D-115, to comply with CGP Part 7.3.9. Submit a copy to the Engineer with each completed Inspection Report. Keep the Daily Record of Rainfall current in Appendix N.

12. Staff Tracking Log.

Use the SWPPP Project Staff Tracking, Form 25D-127, to identify project staff that are required to be AK-CESCL certified or an equivalent qualification, CGP Appendix C. Complete this form to document the positions of Superintendent, SWPPP Manager, Engineer, DOT&PF Storm Water Inspector, and when these positions have changed personnel, either permanently or temporarily. Update the SWPPP Project Staff Tracking Form within 24 hours of any changes in personnel, qualifications, or other staffing items related to administration of the CGP or Section 641.

### **641-3.04 FAILURE TO PERFORM WORK.**

The Engineer has authority to suspend work and withhold monies for an incident of non-compliance with the CGP, or the SWPPP, that may endanger health or the environment or for failure to perform work related to Section 641.

#### **Non-compliance.**

1. **Incidents of Non-compliance.** Failure to:

- a. Obtain appropriate permits before Construction Activities occur;
  - b. Perform SWPPP Administration;
  - c. Perform timely Inspections;
  - d. Update the SWPPP;
  - e. Transmit updated SWPPP, Inspection Reports, and other updated SWPPP forms to the Engineer;
  - f. Maintain effective BMPs to control erosion, sedimentation, and pollution in accordance with the SWPPP, the CGP, and applicable local, state, and federal requirements;
  - g. Perform duties according to the requirements of Section 641;
  - h. Meet requirements of the CGP, SWPPP, or other permits, laws, and regulations related to erosion, sediment, or pollution control; or
  - i. Any other requirements established or included in the Contract.
2. **Notice of non-compliance**, either oral or written will include:
- a. Reason/defects
  - b. Corrective actions required
  - c. Time allowed for completing the corrective action
3. **Levels of Non-compliance and Response** correspond with harm to the workers, the public or the environment and whether the harm is:
- a. **Not-imminent**, the Engineer will either orally or in writing, or both, provide notice to the Contractor indicating the incident of non-compliance.  
Contractor's that take corrective action and complete the action to the satisfaction of the Engineer, within the time specified, may return to the status of compliance, and avoid elevating the response to imminent.
  - b. **Imminent**, the Engineer will orally provide notice to the Contractor of non-compliance and promptly provide written notice to suspend work until corrective action is completed.

Additional actions, taken against the Contract whether the level of non-compliance is Not-imminent or Imminent, may include:

- a. Withholding monies until corrective action is completed
- b. Assessing damages or equitable adjustments
- c. Employing others to perform the corrective action and deduct the cost

No additional Contract time or additional compensation is allowed due to delays caused by the Engineer's suspension of work.

#### **641-3.05 ACCESS TO WORK.**

The Project, including any related off-site areas or support activities, must be made available for inspection, or sampling and monitoring, by the Department and other regulatory agencies. CGP Part 6.6.

#### **641-4.01 METHOD OF MEASUREMENT.**

See Section 109 and as follows:

Item 641.0005.\_\_\_\_, measured as specified in the Directive authorizing the work.

Item 641.0006.\_\_\_\_, measured as specified in Table 641-2 Version C.

**641-5.01 BASIS OF PAYMENT.**

1. BMP Values. Table 641-1 BMP Values – Reserved.

2. Erosion, Sediment, and Pollution Control - Liquidated Damages. Liquidated Damages assessed according to Table 641-2 are not an adjustment to the Contract amount. These damages charges are related to Contract performance but are billed by the Department to the Contractor, independent of the Contract amount. An amount equal to the Liquidated Damages may be withheld, for unsatisfactory performance, from payment due under the Contract until the Contractor remits payment for billed Liquidated Damages.

**TABLE 641-2- VERSION C  
EROSION, SEDIMENT AND POLLUTION CONTROL – LIQUIDATED DAMAGES**

<b>Code</b>	<b>Specification Section Number and Description</b>	<b>Deductible Amount in Dollars</b>	<b>Cumulative Deductible Amounts in Dollars</b>
<b>A</b>	641-1.05 Failure to have a qualified (AK-CESCL or equivalent) SWPPP Manager	Calculated in Code B or F	
<b>B</b>	Failure to meet SWPPP requirements of: (1) 641-2.01.1 Name of SWPPP Preparer (2) Not Applicable (3) 641-3.03.8 Sign and Date SWPPP amendments by qualified person. (4) 641-3.02 Records maintained at project and made available for review	\$750 per omission	
<b>C</b>	Not Applicable.		
<b>D</b>	641-3.03.5 Failure to stabilize a Project prior to fall freeze-up.	\$5,000 per Project per year	
<b>E</b>	641-2.01.1. Failure to conduct pre-construction inspections before Construction Activities on all projects greater than 1 acre.	\$2,000 per Project	
<b>F*</b>	641-3.03. Failure to conduct and record CGP Inspections 641-3.03.1 Personnel conducting Inspections and Frequency 641-3.03.2 Inspection Reports, use Form 25D-100, completed with all required information	\$750 per Inspection	Additional \$750 for every additional 7 day period without completing the required inspection.
<b>G</b>	641-3.01.4 Corrective action, failure to timely accomplish BMP maintenance and/or repairs. In effect until BMP maintenance and/or repairs is completed.	\$500 per Project per day	
<b>H</b>	641-3.01.3 Failure to provide to the Engineer and DEC a timely oral noncompliance report of violations or for a deficient oral noncompliance report	\$750 for the first day the report is late or deficient	Additional \$750 for every 14 day period without the required information
<b>I</b>	641-3.01.3 Failure to provide to the Engineer and DEC a timely written noncompliance report, use Form 25D-143, of violations or for a deficient written noncompliance report	\$750 for the first day the report is late or deficient	Additional \$750 for every 14 day period without the required information
<b>J</b>	641-3.04 Failure to comply with the requirements of the CGP, approved SWPPP, and Section 641, except as listed above	\$750 per occurrence for the first day of noncompliance	Additional \$750 for every day the deficiency remains uncorrected

**\*CODE F.** Liquidated Damages according to Code F will not be billed for typographic errors and minor data entry errors, except the liquidated damages will be assessed for these errors when:

- a. the Contractor has previously been notified and subsequent inspection reports repeat the same or similar error,
- b. multiple inspection reports are submitted after the submission due date and the same or similar errors are repeated on multiple overdue reports,
- c. an error in recording the inspector's AK-CESCL certification date results in an inspector performing the inspection during a period when their certification was lapsed or was otherwise invalid

See Subsection 641-3.04 Failure to Perform Work, for additional work and payment requirements.

Item 641.0001.\_\_\_\_\_ Erosion, Sediment, and Pollution Control Administration. At the Contract lump sum price for administration of all work under this Section. Includes, but is not limited to, SWPPP and HMCP and SPCC Plan preparation, agency fees for SWPPP reviews, SWPPP amendments, pre-construction Inspections, Inspections, monitoring, reporting, and recordkeeping or copying Records related to the SWPPP and required by the CGP, and Record retention.

Item 641.0005.\_\_\_\_\_ Temporary Erosion, Sediment and Pollution Control by Directive. At the contingent sum prices specified in the Directive using time and materials to authorize the work, for all labor, supervision, materials, equipment, and incidentals to install, maintain, remove and dispose of temporary erosion, sedimentation, and pollution control BMPs. Prices for this item will be by time and materials according to Subsection 109-1.05, or by mutual agreement between the Engineer and Contractor. All additional Erosion, Sediment, and Pollution Control Administration necessary due to this item will not be paid for separately but will be subsidiary to other bid items.

Item 641.0006.\_\_\_\_\_ Withholding. The Engineer may withhold an amount equal to Liquidated Damages, assessed according to Section 641, from payment due the Contractor. Liquidated Damages for violations of the Contract, CWA, and CGP are determined by the Engineer according to Table 641-2. The Engineer may withhold payment due the Contractors until the Contractor pays the Liquidated Damages to the Department. The Department will not release performance bonds until Liquidated Damages assessed according to Section 641 are paid to the Department, and all requirements according to Subsection 103-1.05 are satisfied.

Item 641.0007.\_\_\_\_\_ SWPPP Manager. At the Contract lump sum price for a SWPPP Manager that conforms to this specification. When Item 641.0007.\_\_\_\_\_ appears in the Bid Schedule, the SWPPP Manager must be a different person than the superintendent, and must be physically present during construction activity with duties and authority as described in Subsection 641-2.04. When Item 641.0007.\_\_\_\_\_ does not appear in the Bid Schedule, the SWPPP Manager is subsidiary to Item 641.0001.\_\_\_\_\_.

Subsidiary Items. Temporary erosion, sediment, and pollution control measures that are required outside the Project Zone are subsidiary. Work required by the HMCP and SPCC Plan including hazardous material storage, containment, removal, cleanup and disposal, are subsidiary to Item 641.0001.\_\_\_\_\_ Erosion, Sediment and Pollution Control Administration.

Work under other pay items. Work that is paid for directly or indirectly under other pay items will not be measured and paid for under Section 641. This work includes but is not limited to:

1. Dewatering;
2. Shoring;
3. Bailing;
4. Permanent seeding;
5. Installation and removal of temporary work pads;
6. Temporary accesses;
7. Temporary drainage pipes and structures;
8. Diversion channels;
9. Settling impoundment; and
10. Filtration.

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

Work at the Contractor's Expense. Temporary erosion, sediment, and pollution control measures that are required due to carelessness, negligence, or failure to install temporary or permanent controls as scheduled or ordered by the Engineer, or for the Contractor's convenience, are at the Contractor's expense.

Payment will be made under:

**PAY ITEM**

<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>
641.0001.____	Erosion, Sediment and Pollution Control Administration	LS
641.0005.____	Temporary Erosion, Sediment and Pollution Control by Directive	CS
641.0006.____	Withholding	CS
641.0007.____	SWPPP Manager	LS

Special Provision

Replace Section 643 with the following:

**SECTION 643  
TRAFFIC MAINTENANCE**

**643-1.01 DESCRIPTION.** Protect and control traffic during the contract. Furnish, erect, maintain, replace, clean, move and remove the traffic control devices required to ensure the safety of the park users and general public. Perform all administrative responsibilities necessary to implement the work.

**643-1.02 DEFINITIONS.**

Alaska Traffic Manual (ATM). The Manual on Uniform Traffic Control Devices (MUTCD) along with Alaska Supplement.

Traffic. The movement of the park users and general public through and around the project site. Traffic may consist of vehicles, pedestrians, and bicyclists.

Traffic Control Plan (TCP). A drawing or drawings indicating the method or scheme for safely guiding and protecting traffic and workers in a traffic control zone. The TCP depicts the traffic control devices and their placement and times of use.

Traffic Control Zone. A portion of the project that affects traffic and requires traffic control to safely guide and protect traffic and workers.

**643-1.03 TRAFFIC CONTROL PLAN.** Create and implement an approved TCP before beginning work within the project limits.

The TCP includes, but is not limited to, signs, barricades, traffic cones, plastic safety fence, and all other items required to direct traffic through or around the traffic control zone according to these Specifications and the ATM. Address in the TCPs placement of traffic control devices, including location, spacing, size, mounting height and type. Include code designation, size, and legend per the ATM and Alaska Sign Design Specifications (ASDS).

Submit new or modified TCPs to the Engineer for approval. Allow 1 week for the Engineer to review any TCP or each subsequent correction. You may change an approved TCP during construction provided you allow 48 hours for review and the Engineer approves the changes.

**643-2.01 MATERIALS.** Provide traffic control devices meeting the following requirements:

1. Signs. Use signs, including sign supports, that conform to Section 615, the ATM, and ASDS.
2. Barricades and Vertical Panels. Use barricades and vertical panel supports that conform to the ATM. Use Type III Barricades at least 8 feet long. Use reflective sheeting that meet AASHTO M 268 Type II or III.
3. Warning Lights. Use Type A (low intensity flashing), Type B (high intensity flashing) or Type C (steady beam) warning lights that conform to the ATM.
4. Drums. Use plastic drums that conform to the requirements of the ATM. Use reflective sheeting that meets AASHTO M 268 Type II or III.
5. Traffic Cones and Tubular Markers. Use reflectorized traffic cones and tubular markers that conform to the requirements of the ATM. Use traffic cones and tubular markers at least 28 inches high. Use reflective sheeting that meets AASHTO M 268 Type II or III.

6. Plastic Safety Fence. Use 4 foot high construction orange fence manufactured by one of the following companies, or an approved equal:
- 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.

**643-3.01 GENERAL CONSTRUCTION REQUIREMENTS.** Keep the work, and portions of the project affected by the work, in good condition to accommodate traffic/use safely. Provide and maintain traffic control devices and services inside and outside the project limits, day and night, to guide traffic/use safely.

The facility may be closed to traffic and use. Facility closure is intended to complete the work in this contract. All closures must be included in the Traffic Control Plan (TCP) and coordinated through the Project Engineer. Please give the Project Engineer a minimum of 2 weeks' notice prior to any closures. Closures during 2027 shall be coordinated with the Department during winter shutdown.

Unless otherwise determined by the Engineer and on an approved Traffic Control Plan (TCP), do not restrict traffic/use of the facility during the following time: November 16, 2026 – April 14, 2027 (intent is for winter recreational users). Prior to Winter Shutdown prepare the facility for public use throughout the winter. The facility must be open to the public (partial closures allowed) by July 1, 2027. This work is subsidiary to other items.

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.

**643-3.02 TRAFFIC CONTROL DEVICES.** Before starting construction, erect permanent and temporary traffic control devices required by the approved TCPs. Use traffic control devices only when they are needed.

Use only one type of traffic control device in a continuous line of delineating devices.

Keep signs, drums, barricades, and other devices clean at all times. Immediately replace any devices provided under this Section that are lost, stolen, destroyed, inoperable or deemed unacceptable while used on the project.

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".

**643-3.03 AUTHORITY OF THE ENGINEER.** 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. The notice will state the defects, the corrective actions required, and the time required to complete such actions. If you fail to take corrective actions within the specified time, the Engineer will immediately close down the offending operations until you correct the defects. The Engineer may require outside forces to correct unsafe conditions. The cost of work by outside forces will be deducted from any monies due under the terms of this Contract.

**643-4.01 METHOD OF MEASUREMENT.** Item 643.0002.0000 Traffic Maintenance is a lump sum item and will not be measured directly for payment. The approved schedule of values and Engineer's approval shall constitute method of measurement.

**643-5.01 BASIS OF PAYMENT.** Item 643.0002.0000 Traffic Maintenance will be paid for at the contract lump sum price. Payment shall be full compensation for all the labor, equipment, material, and incidentals necessary to complete the work under this Section.

Payment will be made under:

**PAY ITEM**

<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>
643.0002.____	Traffic Maintenance	LS

**SECTION 646  
CPM SCHEDULING**

## Special Provisions

Replace Subsection 646-2.01 with the following:

**646-2.01 SUBMITTAL OF SCHEDULE.**

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.**

Replace the first sentence of No. 2 Schedule Updates. with the following:

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

C646.1-23.0501

Special Provision

Add the following Section:

## **SECTION 647 EQUIPMENT RENTAL**

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

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

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

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

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

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

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

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

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

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

Normally, the work is to be done when weather conditions are reasonably favorable, 6 days per week, Mondays through Saturdays, except holidays.

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

**647-4.01 METHOD OF MEASUREMENT.** Section 109.

Hourly Rental Rate: Includes the equipment rate plus the operating costs including: furnishing, travel time, operating, maintaining/servicing and repairing the equipment along with the costs incidental to the equipment and its' operation.

**647-5.01 BASIS OF PAYMENT.** Payment is for the time that fully operational equipment is engaged in the performance of the work directed by the Engineer. Time not paid for includes: idle periods, maintaining/servicing and repairing the equipment, making change-overs of equipment parts, and time to travel to and from the project. Payment will only be for time supported by certified payroll.

Furnishing and operating equipment that is heavier, has larger capacity, or greater power than specified will not entitle the Contractor to extra compensation.

Pay Item 647.2000.\_\_\_\_ Wide Pad Dozer, 65-HP Minimum: paid at the rate of \$210/hour.

Pay Item 647.2002.\_\_\_\_ Backhoe, 4WD, 1 CY Bucket, 75-HP Minimum, 15 ft Depth: paid at the rate of \$230/hour.

**PAY ITEM**

Item Number	Item Description	Unit
647.2000.____	Wide Pad Dozer, 65-HP Minimum	CS
647.2002.____	Backhoe, 4WD, 1 CY Bucket, 75-HP Minimum, 15 ft Depth	CS

C647-16.1103-2

Special Provision

Replace Section 651 with the following:

**SECTION 651  
CONTROL OF WORK – SUPPLEMENTAL REQUIREMENTS**

**651-1.01 DESCRIPTION.** Supplemental requirements for Section 105, Control of Work.

**651-1.02 RELATED SECTIONS.** Section 105, Control of Work

**651-1.05 INTERIM COMPLETION.** This project includes two interim completion phases.

Interim Completion Phase 1:

Date: 15 November, 2026

Work: Complete work to make a functional pay station, intended for winter use by the public. Boat launch and surrounding parking areas are to be left in a condition that allow for the functional use throughout winter, by the interim completion date.

Interim Completion Phase 2:

Date: 30 June, 2027

Work: Complete all work related to the rootwad bank stabilization and boat launch.

Final Completion Phase:

Date: 15 November, 2027

Work: All remaining work in the Contract.

Special Provision

Replace Section 652 with the following:

**SECTION 652  
PROSECUTION AND PROGRESS – SUPPLEMENTAL REQUIREMENTS**

**652-1.01 DESCRIPTION.** Supplemental requirements for Section 108. Prosecution and Progress.

**652-1.02 RELATED SECTIONS.** Section 108, Prosecution and Progress.

**652-1.03 PROSECUTION AND PROGRESS.** In Subsection 108-1.03:

- Replace the last sentence in the 1<sup>st</sup> paragraph with: "Submit the following at the Preconstruction Conference:"
- Replace No. 1 with: "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, subcontractors, and utilities will start and finish each of the salient features of the work, including scheduled periods of shutdown. Indicate anticipated hours of operations and periods of multiple shift work. Revise the proposed schedule promptly. Promptly submit a revised CPM

**652-1.05 FAILURE TO COMPLETE ON TIME.** In Subsection 108-1.07:

- Add: "for each calendar day that the work remains incomplete after the expiration of the interim completion date(s) as set forth in Subsection 651-1.05 Interim Completion, the liquidated damages per day given in the table below shall be deducted from any monies due the Contractor."

**TABLE 652-1  
INTERIM COMPLETION  
DAILY CHARGE FOR LIQUIDATED DAMAGES  
FOR EACH CALENDAR DAY OF DELAY**

Completion Date	Daily Charge
1 <sup>st</sup> Interim Completion Date	\$1,500
2 <sup>nd</sup> Interim Completion Date	\$1,500

Special Provision

**SECTION 670  
TRAFFIC MARKINGS**

Replace Subsection 670-4.01 with the following:

**670-4.01 METHOD OF MEASUREMENT.** No measurement will be made for Traffic Markings.

Replace Subsection 670-5.01 with the following:

**670-5.01 BASIS OF PAYMENT.** The work required for painting traffic markings is subsidiary to 691 Pay Items. This includes cleaning of the surface, painting traffic markings, furnishing paint, glass beads, and all other materials necessary to complete the work prescribed in this Section.

Special Provision

Add the following Section:

**SECTION 680  
SHOWERHOUSE IMPROVEMENTS**

**680-1.01 DESCRIPTION.** Furnish all labor, materials, equipment, and incidentals necessary for design, demolish, install, test, and place into service a complete and operable public water plumbing system within the showerhouse and mechanical, electrical, plumbing (MEP) room. Perform miscellaneous work indicated on the Plans and specified herein.

The water line between the well and the showerhouse will be constructed as shown in the Plans. All work for the showerhouse is the responsibility of the Contractor.

Contractor shall collect raw water samples for selecting water softener, arsenic treatment system, and other plumbing equipment. Reference Section 628 Water Well for additional information.

Conceptual system layouts are shown in the Plans for reference only. The Contractor is responsible for final design, sizing, configuration, and performance of the complete system. The public water system must be in strict conformance with the requirements of the Alaska Administrative Codes, 18 AAC 80, and applicable plumbing codes, regulations, and standards. Including but not limited to the material, equipment, criteria, regulations, codes, and standards indicated in the drawings and specifications.

1. Design Requirements: Design and construct a complete water system meeting the following performance requirements.
  - a. Winterization and Freeze Protection
    - (1) Provide products, assemblies, and other accessories to efficiently winterize the entire plumbing system annually for winterization methods and equipment currently used by the Department.
    - (2) Insulate piping and equipment.
  - b. System Capacity
    - (1) Provide sufficient flow and pressure to serve one (1) exterior sink and one (1) shower simultaneously.
    - (2) Maintain a minimum of 30 psi at fixtures under normal operating conditions.
  - c. Water Quality
    - (1) Provide a treatment system capable of producing potable water at the exterior sink in accordance with State of Alaska public drinking water requirements.
    - (2) Include filtration and disinfection as required based on source water conditions.
2. Pressure System
  - (1) Provide a pressure tank sized for the water demand, pump, and to minimize pump cycling.
  - (2) Provide pressure switch, controls, and other system protection devices.

Submit in writing to the Department or their representative for review details of any necessary or proposed departures from these Contract Documents, and reasons therefore to meet the intended design. Make no such departure without prior written approval of the Department.

Submit the final design as soon as practicable to complete the review, approval, work, and acceptance within the contract time. Allow the Department at least 30 days to review and approve prior to the beginning of construction.

The Department's review and approval of the final plumbing system shall not be construed as a complete review, but will indicate only that the general drawings, specifications, and construction methods are acceptable to the Department and that the plumbing system appears complete.

Such approvals will not relieve the Contractor of the responsibility for defective work. The contractor shall remain responsible for all aspects of the design, locations, and dimensions of the plumbing system's components, including but not limited to materials, plumbing equipment, insulation, identification, fixtures, and for a satisfactory and safe construction of all work.

**680-1.02 SUBMITTALS.** Submit the documents in accordance with Section 105. The following documents must be submitted for review and approval. Provide submittal for all materials incorporated into the project, other pertinent related products, and requested information. Do not begin installation until submittals are accepted.

1. Shop, Coordination, and Final Design Drawings:
  - a. In mechanical rooms and congested areas of the facility, indicate layout of piping systems, including equipment, critical dimensions, connections, and sizes within the showerhouse and utility room.
  - b. Submit list of wording, symbols, letter size, and color coding for mechanical identification and valve chart and schedule, including valve tag number, location, function, and valve manufacturer's name and model number.
2. Design Calculations:
  - a. Hydraulic calculations demonstrating required flow and pressure.
  - b. Treatment performance and design basis.
3. Product Data:
  - a. In the mechanical rooms and congested areas of the facility, submit final design specifications for approval that add to, supplement, or deviate from this section and the material sections referenced herein.
  - b. Submit pipe schedule indicating what piping materials and joining method will be used for what diameter of pipe and for what system.
  - c. Submit manufacturers' catalog information with valve data and ratings for each service. All valves exposed to domestic water are to be lead free and NSF 61 compliant. Cut sheets shall note compliance with this requirement.
  - d. Submit manufacturers' catalog literature for each product required for pipe and equipment identification.
  - e. Submit plumbing piping and equipment insulation, jackets, and accessories product description, thermal characteristics and list of materials and thickness for each service, and location.
  - f. Provide product data, specifications, product description, model, dimensions, component sizes, treatment ranges, rated capacity, and other pertinent product information for the water treatment systems.
  - g. Submit for manufactured products, assemblies, and equipment intended for use in the Project.
    - (1) Manufacturer's data indicating use, operating range, total range, accuracy, and location for

manufactured components.

- (2) Submit product description, model, dimensions, component sizes, rough-in requirements, service sizes, and finishes.
  - (3) Submit schedule indicating manufacturer, model number, size, location, rated capacity, load served, and features for each piping specialty.
- h. NSF certifications for potable water system components.
  - i. Submit catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.
4. Testing Reports:
    - a. All water tests performed during disinfection of plumbing pipes and equipment.
    - b. Water quality test(s) verifying treatment system performance.
    - c. Functional test reports for testing backflow prevention assemblies.
  5. Contractor Certifications:
    - a. Submit certifications appropriate for the piping materials being provided.
    - b. A written letter, memo, or final inspection report that is dated and signed by the contractor and that certifies: "The plumbing systems have reached Substantial Completion, conforms to the requirements of the approved plumbing system and Contract Documents, the plumbing system meets the sanitary and treatment requirements for a Transient Non-Community Public Water System, and is suitable for public use."
  6. Manufacturer's Installation Instructions:
    - a. Submit valve hanging and support methods, joining procedures.
    - b. Indicate installation instructions, special procedures, and installation for pipe and equipment identification.
    - c. Submit manufacturers published literature indicating proper installation procedures for plumbing piping and equipment insulation, jackets, and accessories.
    - d. Submit hanging and support methods, joining procedures, application, selection, and hookup configuration. Include pipe and accessory elevations.
    - e. Submit fixture installation methods and procedures.
  7. Operation and Maintenance Data:
    - a. Submit installation instructions, spare parts lists, exploded assembly views.
    - b. System description and operation procedures.
    - c. Maintenance requirements and schedules.
  8. Project Record Documents:
    - a. Record actual locations of valves.
    - b. Record actual locations of tagged valves; include valve tag numbers.

**680-2.01 MATERIALS.** Use materials that conform to the following:

Domestic Water Piping, Above Grade  
Sanitary Sewer and Vent Piping, Above Grade

Subsection 743-2.01  
Subsection 743-2.02

Unions and Flanges	Subsection 743-2.03
Ball Valves	Subsection 743-2.04
Check Valves	Subsection 743-2.05
Drain Valves	Subsection 743-2.06
Hanger and Supports	Subsection 743-2.07
Sleeves	Subsection 743-2.08
Fire Stopping and Accessories	Subsection 743-2.09
Plumbing Identification	Subsection 743-2.10
Plumbing Insulation	Subsection 743-2.11
Plumbing Fixtures	Subsection 743-2.12
Plumbing Equipment	Subsection 743-2.13

Materials, equipment, fixtures, parts, and other components in contact with potable water must be NSF/ANSI 61 certified. Water treatment components must be NSF-certified for the intended use. Provide lead-free components in accordance with applicable regulations.

### CONSTRUCTION REQUIREMENTS

**680-3.01 GENERAL PLUMBING REQUIREMENTS.** Furnish all labor, materials, equipment, supervision of labor and performance of all operations required to completely and satisfactorily install operating plumbing systems as defined herein and, on the approved final design documents. System shall be configured to fit within the showerhouse and MEP room with adequate space for operation, maintenance, and winterization.

Major items of work include, but are not limited to, the installation of the following systems:

1. Domestic water systems.
2. Domestic wastewater systems.
3. Plumbing fixture and equipment systems.

The contractor is responsible for final design of the plumbing system. The provided contract plans and specifications are complementary to each other. What is shown on one is as binding as if called for in both. The provided plans are generally diagrammatic and are intended to show mechanical details in a schematic fashion for use in the final design and other work for the showerhouse unrelated to the design of the plumbing system. The contract documents and approved final design may vary; however, the approved final design documents will be used to construct the system. Do not scale the provided mechanical plans or details. Exact locations are not shown unless so indicated or specifically dimensioned. Typical connection diagrams are schematic and do not show the actual physical arrangement of equipment.

The contract documents do not necessarily show complete details of all the features that may be required for the plumbing system and/or affect the mechanical installations; however, it is the intent of the contract documents to provide a complete and satisfactorily working installation.

Submit in writing to the Department or representative for review, details of any necessary or proposed departures from the approved final design documents and reasons therefore, as soon as practicable within 30 days after the award of the contract. Make no such departure without prior written approval of the Department.

Coordinate work with work of other trades to avoid conflicts, errors, and delays.

Verify the approximate location of equipment and other mechanical system components shown on the Drawings and report any conflicts with openings, structural members, and components of other systems and equipment having fixed locations.

During the course of accomplishing the work defined herein and on the Contract Drawings, the Contractor discovers major damage, defect or deterioration to existing equipment or systems indicated as existing to

remain, and where such damage, defect or deterioration will or might affect the safe and proper operation of such equipment and systems, the Contractor shall immediately notify the Department in writing.

Coordinate mechanical work, submittals, and construction meetings with Commissioning requirements noted.

### **680-3.02 PIPES AND TUBES FOR PLUMBING PIPING AND EQUIPMENT.**

1. General. All piping system materials and installation are to be in compliance with the International Mechanical Code and the Uniform Plumbing Code.
2. Examination. Verify existing conditions before starting work. Verify field measurements prior to fabrication. Verify electric power is available and of correct characteristics.
3. Preparation. Remove scale and dirt on inside and outside before assembly. Ream pipe and tube ends. Remove burrs. Prepare piping connections to equipment with flanges or unions. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.
4. Installation. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls. Install piping to maintain headroom without interfering with use of space or taking more space than necessary. Group piping whenever practical at common elevations. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment. Install non-conducting dielectric connections wherever jointing dissimilar metals.

Provide all piping arrangements and valves as recommended by manufacturer's installation instructions to be installed. Provide water hammer arresters with isolation valves unless stated as not needed by the manufacturer's instructions.

Sleeve pipe passing through partitions, walls, and floors.

Slope piping and arrange systems to drain at low points. Establish invert elevations, slopes for drainage to 1/4 inch per foot minimum. Maintain gradients.

Protect piping systems from entry of foreign materials by temporary covers, completing sections of the Work, and isolating parts of completed system.

5. Quality Assurance. Perform Work in accordance with ASME B31.9 code for installation of piping systems and ASME Section IX for welding materials and procedures.
6. Cleaning and Disinfection. A disinfection plan must be submitted and approved prior to disinfecting all water systems. The plan must include the items listed in Section 627 to disinfect the plumbing system. Plan must include how and what section of the water and/or plumbing system will be concurrently or individually disinfected.

Prior to starting work, verify system is complete, flushed and clean.

Verify pH of water to be treated is between 7.4 and 7.6 by adding alkali (caustic soda or soda ash) or acid (hydrochloric). Inject disinfectant, free chlorine in liquid, powder and tablet or gas form, throughout system to obtain residual from 50 to 80 mg/L.

Bleed water from outlets to obtain distribution and test for disinfectant residual at minimum 15 percent of outlets. Maintain disinfectant in system for 24 hours.

When final disinfectant residual tests less than 25 mg/L, repeat treatment.

Flush disinfectant from system until residual concentration is equal to incoming water or 1.0 mg/L.

Take samples no sooner than 24 hours after flushing, from 5 percent of outlets and from water entry, and analyze in accordance with AWWA C651 and 18 AAC 80. Take the number of samples at all locations required to meet DEC requirements.

Alternative potable domestic water pipeline disinfection methods shall be as permitted by the Uniform Plumbing Code or the AWWA Standard C651 and pre-approved by the Authority Having Jurisdiction.

### 680-3.03 VALVES FOR PLUMBING PIPING.

1. Examination. Verify piping system is ready for valve installation.
2. Installation. Company specializing in performing work of this section must have a with minimum three years' experience and install valves in accordance with industry standards. Install valves with stems upright or horizontal, not inverted.

Install 3/4-inch ball valves with hose fitting and cap for drains at main shut-off valves, low points of piping, bases of vertical risers, and at equipment.

Install valves with clearance for installation of insulation and allowing access.

Provide access where valves and fittings are not accessible. Provide ball valves for all piping 2 inches and smaller.

- a. Install ball valves for shut-off and to isolate equipment, part of systems, or vertical risers.
- b. Install ball valves with hose end and cap at boilers, equipment, and piping drains.

Install double check valve backflow prevention assemblies in accordance with the manufacturer's written installation instructions. Backflow assemblies must be installed so that assemblies are easily accessible for testing, maintenance, and repair. Provide at least 18-inches of vertical clearance between the floor and assembly.

**680-3.04 PIPE HANGERS AND SUPPORTS.** Provide pipe hangers and support in accordance with MSS SP-58. Selection and application of pipe hangers and supports shall be in accordance with MSS SP-69. Install in accordance with ASME B31.1

1. Maximum horizontal and vertical hanger space is to be provided in accordance with the International Mechanical Code, International Fuel Gas Code, and the Uniform Plumbing Code for the associated piping material and in accordance with the manufacturer's recommended installation guidelines.
2. Provide copper plated hangers and supports for copper piping. Design hangers for pipe movement without disengagement of supported pipe. Place hangers within 12 inches of each horizontal elbow.

Where piping is installed in parallel and at same elevation, provide multiple pipe hangers. Support riser piping independently of connected horizontal piping.

3. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings. Hangers for insulated pipe shall be sized to accommodate insulation thickness. Provide insulation inserts and shields where required.

### 680-3.05 SLEEVES.

1. Verify openings are ready to receive sleeves. Seal exterior watertight entries with mechanical sleeve seals. Alternate methods must be approved. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.
2. Where piping penetrates floor, ceiling, or wall, close off space between pipe and adjacent work with firestopping insulation and caulk. Provide close fitting metal collar or escutcheon covers at both sides of penetration.

**680-3.06 FIRESTOPPING.** Provide firestopping where required by code and standards. Prepare and install per manufacturer's installation instructions.

**680-3.07 IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT.**

1. Installer: Company specializing in performing Work of this section with minimum three years' experience.
2. Degrease and clean surfaces to receive adhesive for identification materials.
3. Conform to ASME A13.1 for color scheme for identification of piping systems and accessories.
4. Install plastic nameplates with corrosive-resistant mechanical fasteners, or adhesive.
5. Install labels with sufficient adhesive for permanent adhesion and seal with clear lacquer.
6. For pipe markers, provide complete wraps of adhesive direction arrow tape around both ends of marker.
7. Install tags using corrosion resistant chain. Number tags consecutively by location.
8. Identify tanks and water treatment devices with plastic nameplates. Identify other small devices with tags.
9. Identify control panels and major control components outside panels with plastic nameplates.
10. For valves, indicate on tag whether valve is normally open or normally closed (NO or NC). Number tags consecutively by location.
11. Tag automatic controls, instruments, and relays. Key to control schematic.
12. Identify piping, exposed, with plastic tape pipe markers.
  - a. Identify service, flow direction, and pressure.
  - b. Install in clear view and align with axis of piping. Viewable from floor or access opening.
  - c. Locate identification not to exceed 20 feet on straight runs including risers and drops, adjacent to each valve and tee, at each side of penetration of structure or enclosure, and at each obstruction.

**680-3.08 PLUMBING INSULATION.** Verify piping and equipment has been tested before applying insulation materials. Verify field measurements prior to fabrication. Verify surfaces are clean and dry, with foreign material removed.

Prepare surfaces and install insulation, jacketing, and accessories in accordance with manufacturer's recommendations, building codes, and industry standards. Locate insulation and cover seams in least visible locations.

At a minimum, provide 1" of insulation for all domestic hot water plumbing. Insulate fittings, valves, and flanges to the same thickness as the pipe insulation. Insulation shall be continuous at all hangers, supports, penetrations or clamps. Provide inserts and shields as needed. Finish insulation at supports, protrusions, and interruptions.

Continue insulation through penetrations of building assemblies or portions of assemblies having fire resistance rating of one hour or less. Provide intumescent firestopping when continuing insulation through assembly. Finish at supports, protrusions, and interruptions.

Apply insulation close to equipment by grooving, scoring, and beveling insulation. Fasten insulation to equipment with studs, pins, clips, adhesive, wires, or bands. Locate insulation and cover seams in least visible locations. Do not insulate factory insulated equipment.

Fill joints, cracks, seams, and depressions with bedding compound to form smooth surface.

Nameplates and ASME Stamps: Bevel and seal insulation around; do not insulate over.

Install insulation for easy removal and replacement without damage where equipment requires access for operation, maintenance, repair, or cleaning.

**680-3.09 PLUMBING PIPING SPECIALTIES.** Install all specialties in accordance with manufacturer's installation recommendations. Support tanks from building structure. Provide seismic restraint.

**680-3.10 PLUMBING FIXTURES.**

1. General: Install fixtures in accordance with manufacturer's recommended installation instructions. Provide maintenance access to all fixtures and those appurtenances that require maintenance, replacement, or isolation. Install work in accordance with the Uniform Plumbing Code and adopted amendments.

Confirm location and size of all fixtures and openings with all trades. Coordinate electrical locations and requirements for fixtures with electrical trade. Install must be a company specializing in performing Work of this section with minimum three years' experience.

2. Examination: Verify walls and floor finishes are prepared and ready for installation of fixtures.
3. Installation: Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

Install each fixture with trap, easily removable for servicing and cleaning. Vent and trap all drains in accordance with the Plumbing Code. Provide indirect waste piping connections only at indicated locations in the contract documents. Cleanouts are to be line sized unless otherwise allowed per code.

Provide chrome-plated rigid or flexible supplies to fixtures with loose key stops, reducers, and escutcheons.

Install components level and plumb.

4. Adjusting: Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.
5. Protection of Installed Construction: Do not permit use of fixtures before final acceptance.

#### **680-3.11 FIELD QUALITY CONTROL.**

1. System Testing: Test domestic water piping system in accordance with Uniform Plumbing Code. Pressure test piping prior to operation. Test domestic water piping system at one and one-half times the maximum system design pressure, but not less than 100 psi. The duration of each test shall be not less than four hours.

Ensure the pressure tank and switch are cycling and operating correctly with the pump. Verify that minimum pressure and flow is provided by the pump and pressure tank to fixtures.

Test function and performance of installed plumbing equipment.

Test sanitary waste and vent piping system in accordance with Uniform Plumbing Code.

2. Water Quality Testing: Collect and test water samples confirming that the system is operating, treating, and producing potable water that meets the drinking water standards. All treatment and plumbing equipment must be installed and operating in accordance with the manufacturer's instruction prior to taking water quality samples.
3. Backflow Prevention Assembly Testing:
  - a. Hydrostatically test backflow prevention assembly with plumbing pipe.
  - b. Perform functional testing in accordance with the manufacturer's written instructions.
4. Submit test results prior to acceptance.

**680-3.12 WINTER SUSPENSION.** Contractor is responsible for planning, preparing, protecting, maintaining, and resuming work on the water system, in accordance with 627-3.09.

**680-3.13 MISCELLANEOUS CONSTRUCTION.** Contractor is responsible for coordinating the replacement of the showerhouse and existing day-use area's vaulted toilet door hardware with the Department. Existing CXT, showerhouse and new CXT units will all use the same key.

Miscellaneous work shall be in accordance with CXT Inc.'s Maintenance Manual and recommendations. Miscellaneous work includes but is not limited to the demolition, installation of replacement parts, repairs, reinstalling salvaged components, and refinishing surfaces. Patch all existing and new fastener holes, wall penetrations, chips, spalls, and other damage to concrete surfaces in the showerhouse.

Exposed concrete surfaces that have not been painted or finished with a coating do not require a new finish, unless specified otherwise in CXT's Inc.'s Maintenance Manual. All other surfaces must use paint and finishes matching existing. Miscellaneous work shall utilize materials recommended in the Maintenance Manual or CXT Inc.

**680-4.01 METHOD OF MEASUREMENT.** Showerhouse Water System Improvements will be measured on a lump sum basis.

**680-5.01 BASIS OF PAYMENT.** Payment constitutes full compensation for design, demolition, materials, labor, equipment, water treatment system, plumbing, testing, and all incidentals required to provide a complete and operable system. Pressure tank and switch is subsidiary. Door and lock replacement, hole patching, finishing, and other miscellaneous work is subsidiary.

The pump, and wiring from the pump controller to the pressure switch are paid for under Section 628 Water Well.

The development of a plan to disinfect the water system is subsidiary to 627.2012.0000 HPDE Water Conduit, 1 inch.

Raw water sampling and testing paid under Section 628 Water Wells.

Preparing, winterizing, maintaining, and protection of the showerhouse plumbing, equipment, and appurtenances are subsidiary.

Payment will be made under:

**PAY ITEM**

<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>
680.2000.0000	Showrhouse Improvements	LUMP SUM

Special Provision

Add the following Section:

**SECTION 690  
STREAM BANK REVEGETATION AND PROTECTION**

**690-1.01 DESCRIPTION.** The work consists of furnishing and installing rootwads as indicated in the Plans.

**1.02 REFERENCES.**

1. Stream Bank Revegetation and Protection: A Guide for Alaska; published by Alaska Department of Fish and Game.

**690-2.01 MATERIALS.**

Willow Cuttings	Section 621 & 727
Excavation and Embankment (streambank)	Section 203 & 703
Riprap	Section 611
Block Sodding (vegetative mat)	Section 623
Erosion, Sediment, and Pollution Control	Section 641
Stream Boulders	Section 703
Coir Fabric	Section 727

Salvaged Organic Soil: Salvaged topsoil, overburden material, or useable excavation high in organics and fines. Limit height of organic stockpile to prevent anaerobic conditions as directed by the Engineer.

**690-3.01 CONSTRUCTION REQUIREMENTS.** Provide equipment of a size and type to efficiently complete the work with the least impact on the waterway. Submit to the Engineer a list of equipment to be used during construction for review and approval.

Conduct operations in such a manner as to not block any stream or drainage system.

**690-3.02 EXCAVATION.** Excavate to the dimensions shown on the Plans. Control excavated material to minimize disturbance to the channel and banks.

**690-3.03 ROOTWAD INSTALLATION.** Excavate a trench perpendicular to the stream flow to allow for the placing of the root fan and trunk. Place the rootwad in the trench so that the trunk slopes 6 horizontal to 1 vertical and the root fan is located vertically as shown on the plans. The header log must be placed on top of the rootwad immediately behind the root fan. The header log must be secured with anchors (rebar) to the rootwad. Backfill to the top of the tree trunk with 12-inch-minus rock to form a sloped smooth surface for subsequent placement of brush layers. Fill voids with 3-inch-minus rock and fines. Place rootwads on approximately 4.5-foot centers to get adequate overlap with 7-foot-diameter to provide a continuous coverage. Refer to the Plans for installation and dimension information.

Anchor rootwads to the existing bank on the truck end. The root fan end shall abut to the existing bank vegetation.

**690-3.04 BRUSH LAYERING.** Install brush layers above the header log and immediately behind the root fan. Construct the lifts on level contours that follow the natural flow of the bank. Slope the overall front face of the lifts back as they are constructed. Maintain the slope from front to back on each terrace throughout construction.

Construct each fabric wrap using two layers of biodegradable coconut fiber fabric. The inner layer must consist of fine-mesh matting sufficient to contain fine soil particles. The outer layer will be a coarser mesh fiber that supports the complete fabric wrap. The coir fabric used for the soil wraps must not contain any synthetic strands of monofilament line.

Construct the brush layering in the following sequence.

1. Salvage/harvest and stockpile organic soils and woody debris.
2. Salvage/harvest and store Willow cuttings for use in brush layering and live staking. Harvest Willow cuttings before spring thaw and keep refrigerated until use.
3. Bench Preparation:
  - a. Install erosion and sediment control as described in Section 641 and as shown in the Plans prior to brush layering work.
  - b. Prepare bench area for construction of brush layering by installing coir log as shown on the Plans and as directed by the Engineer. Excavate a trench for the log such that 2/3 of the log diameter is buried. Ensure the log has full contact with the soil, and securely stake in place with diagonal-cut 2x4s, 22 to 26 inches in length. Compact the soil around the log.
  - c. Excavate bench so that bench floor angles slightly back into the slope.
  - d. Stockpile excavated material for use in bush layering construction as approved by Engineer.
4. Construction of First Lift
  - a. Lay the biodegradable fabric flat on the bench floor. The fabric should extend to the back of the bench. Place Select Material, Type A, or stockpiled useable excavation, as approved by the Engineer, onto the fabric to a thickness of 12 inches. Wrap fabric up and over the top of the useable excavation. Pull fabric taut and push to the back of the bench area. Secure fabric in place with stakes as shown on the Plans. Fabric should hole the useable excavation in place.
5. Placement of Dormant Willow Cuttings
  - a. Once the first lift is complete, place dormant willow cutting on top of the lift. Make sure the cut ends of willow branches are placed to the back of the bench area. Plant tips or shoots should be pointing out into the creek channel as shown in the Plans. Expose no more than ¼ of the total branch length. Places willows in a crisscross pattern. Place a minimum of 15 willow cuttings per foot of prepared area.
  - b. Plant dormant willow cuttings before July 1st.
  - c. Place topsoil on top of willows to a depth of 6 inches. Lay the fabric back down over the topsoil and willows. Construct the second lift by placing stockpiled useable excavation onto the fabric as shown in the Plans.
  - d. Repeat steps 5.a. and b., creating lifts with willows and topsoil in between layers until approximately 1 foot below existing surround grade to account for vegetated mat placement to top of bank.
6. Placement of Vegetative Mat
  - a. Plant vegetative mats between May 28 and August 2.
  - b. Place 4" of topsoil on top layer of brush layering.
  - c. Wet the bank. Soak vegetative mats to saturation prior to placing mats.
  - d. If the vegetative mat has lost topsoil, such that the in-place thickness of the mat will not be 12 inches thick, place additional topsoil over the willows, filling voids, and increasing the mat thickness to 12 inches plus the initial 4 inches of topsoil.
  - e. Stake all areas to be planted with vegetative mats as shown on the Plans prior to installation. Notify the Engineer of the delineated areas three working days prior to installation. Install only after receiving the Engineer's approval.
  - f. Place vegetative mats tightly together, without gaps, with full contact of the root mass to the soil surface below, tamp into place and anchor with wooden stakes 18 inches long and spaced 1 per square yard.
  - g. Place vegetative mat to extend 8 feet from edge of bank.

If required for maintenance, place live willow stakes as follows:

1. Placement of live Willow stakes:
  - a. Plant live willow stakes before July 1st.
  - b. Prepare several live stakes from one dormant cutting. Cut stakes 10-inches to 24-inches long and roughly 1/2-inch to 2-inches in diameter. Discard flower buds. Each stake requires at least one or two leaf buds near the top of the live stake.
  - c. Create a hole, in the vegetative mat, for the live stake with rebar or similar.
  - d. Plant stakes as vertical as possible, 1-foot to 3-feet apart with 3/4 of the stake below ground and no more than one or two leaf buds exposed above ground.

- e. Tightly pack the soil around the stake so the stakes stand vertical and no air pockets remain. Fill planting hole with water as soil is packed to prevent air pockets.

**690-3.05 STREAM BANK PERIOD OF ESTABLISHMENT.** The establishment period shall extend for one complete growing season after the required planting is completed. A growing season is from May 1 to September 30.

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

**690-3.06 PLANT REPLACEMENTS.** Engineer and Contractor's representative, in the spring of the year following the planting year and before June 30, inventory Willow cuttings and live Willow stakes on the project to determine the number/area of dead plants/organic materials.

1. Willow Cuttings. At least 4 cuttings per foot, on average over a 4-foot section, for each individual layer, shall be healthy and in a flourishing condition. For areas not meeting this requirement, replant the areas using live staking techniques described in subsection 690-3.06, item 8; space the replacement live stakes at 6-inches along the layer or as directed by the Engineer. Do not remove the dead cuttings.
2. Vegetative Mat. If the planted vegetative mat survival (mat being vigorous and healthy) area is greater than 75% of the original planting area, no replacement mat is required. If the mat survival area is less than 75%, replace the vegetative mat to increase the area to 75% of the originally planted area.

Coordinate the replacement of the vegetative mat with the live Willow staking to minimize damage to healthy organic materials. The Engineer will select which of the dead or unhealthy Willow cuttings, Willow stakes, and vegetative mat area to replace.

Perform replacement planting between July 1 and July 15 according to the original planting procedures and as described in this subsection.

If after the maintenance period, a survival rate, as described in 1, 2, and 3 above, of planted organic material has not been attained, replant the materials to attain the levels of survival as described in 1, 2, and 3 above, for each live organic material planted.

Contractor is responsible for replacing plants vandalized, stolen, or damaged during the maintenance period. Replace plants as soon as weather conditions permit. Provide replacement plant quality equal to, or better than, initially specified.

**690-3.07 MAINTENANCE.** Deep water willow cuttings immediately after planting. Deep watering shall provide water penetration throughout the entire layer, to the top of the waterway bank fill, with minimum runoff. Rain will not be considered a substitute for deep watering unless permitted by the Engineer.

Deep water the vegetative mat, willow cuttings, and live willow stakes as follows:

1. Deep water at least twice a week during the first 45 days after planting.
2. 45 days after planting, deep water during the remainder of the first growing season ending September 16 of the same year as the planting, through the maintenance period ending September 16 of the second growing season, as follows:
  - a. Once a week in May, June and July.
  - b. Once between August 10 and August 20.
3. The Engineer may direct the Contractor to deep water past September 30 or provide supplemental waterings any time during the life of the project when weather conditions are excessively warm or dry.

Daily water vegetative mat and willow cuttings, or as directed by the Engineer. Keep the mats moist until final acceptance of the project or as accepted by the Engineer.

The maintenance period extends from the time of planting to September 16 of the next growing season.

**690-4.01 METHOD OF MEASUREMENT.** Section 109 and the following.

1. 690.2003.0000 Stream Bank Revegetation and Protection. Linear foot of bank.

**690-5.01 BASIS OF PAYMENT.**

1. Pay Item 690.2003.0000 includes the materials and all work to salvage/harvest/collect, store, transport, place, and maintain organic materials in the state specified (rootwads, willow cuttings, logs, salvaged organic soil, watering, and similar). Watering under this section; supply, installation, and maintenance are subsidiary.

Partial payments of up to 80% of full amount may be authorized for Pay Item 690.2003.0000, at time of acceptance. The balance will be paid with one final payment at the completion of the maintenance period if at that time a minimum of plants are living, vigorous, and healthy:

- a. Willow Cuttings. 4 plants per foot.
- b. Vegetative mat. 75% of vegetive mat by area.

Replanting to reach the survival level specified is subsidiary.

Hauling, stockpiling, and disposal of unsuitable and surplus material are incidental to Section 690 Pay Items.

Water for maintenance is subsidiary to 690 Pay Items.

Payment will be made under:

<b>PAY ITEM</b>		
<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>
690.2003.0000	Stream Bank Revegetation and Protection	Linear Foot

Special Provision

Add the following Section:

**SECTION 691  
CONCRETE RAMP PLANKS, APRON, AND ABUTMENT**

**691-1.01 DESCRIPTION.** The work in this Section shall include all labor, materials, tools and equipment necessary for fabrication and installation of precast concrete ramp planks, timber sleepers, concrete abutment and slab on grade, and all other hardware and related work in accordance with the requirements of the Contract Documents and as shown on the Plans.

**691-2.01 MATERIALS.**

Concrete Materials:

Concrete and materials used in concrete shall comply with the requirements of Section 501, unless noted otherwise. Job mix designs shall conform to the requirements of Subsection 501-2.02.

Concrete mix for the abutment and approach slab on grade shall conform to the following:

Minimum Design Strength, psi (f'c)	6,000
Silica Fume in Lbs./cy (min)	30
Maximum Water Content Ratio	0.4
Slump Range in Inches (before plasticizer)	4" max.
Entrained Air Range in Percentage	4-7 %
Coarse Aggregate (AASHTO Gradation)	No. 67
Fine Aggregate (AASHTO Gradation)	M-6

Concrete mix for the precast planks shall conform to the following:

Minimum Design Strength, psi (f'c)	8,000
Silica Fume in Lbs./cy	30
Maximum Water Content Ratio	0.4
Slump Range in Inches (before plasticizer)	4" max.
Entrained Air Range in Percentage	4-7 %
Coarse Aggregate (AASHTO Gradation)	No. 67
Fine Aggregate (AASHTO Gradation)	M-6

Alternatively, the silica fume requirement for precast plank concrete mix may be waived if the following requirements are met:

1. Provide a concrete mix design with a proven history of performance in marine environments.
2. Minimum 15% Class F Fly Ash by weight.
3. Maximum water to cement ratio of 0.30.
4. Concrete mix shall be classified as "Very Low Chloride Ion Penetrability" per Table X1.1 of ASTM C1202 tested at 90 days.

Reinforcing Steel:

Reinforcing steel shall be new billet stock ASTM A706, Grade 60. All reinforcing steel shall be galvanized per ASTM A767, Class I, with chromating requirements of section 4.3 omitted. Galvanizing shall be performed after fabrication. ASTM A1094 reinforcing steel (ie galvabar or equivalent) may be substituted for galvanized reinforcing.

Lifting Mechanism:

Contractor shall submit a detail for panel lifting mechanism. Lifting mechanism shall be located below the upper layer of reinforcement. For final installation, lifting penetrations shall be grouted to provide a minimum of 2" cover over all steel or remaining lifting mechanism.

Timber Sleepers:

Timber sleepers shall be surfaced four sides (S4S) and shall be graded in accordance with West Coast Lumber Inspection Bureau Standard No. 17, meeting Douglas Fir No. 1 grade, pressure treated with ACZA per current AWWA U1 and T1 specifications to a minimum retention of 0.6 pounds per cubic foot.

Rubber Pad:

Rubber pad shall be Shore A durometer hardness 50 butyl rubber with temperature rating to -20 degrees F (substitutions are not allowed). Pads are to be bonded to concrete planks in locations shown on the drawings with Sikadur 32 hi-mod epoxy or approved equal applied per manufacturer recommendations. Clean and roughen surface of rubber pad prior to epoxying. Epoxy application thickness shall be 20 mils wet.

Pea Gravel:

Pea Gravel used for filling joints between panels shall be 3/8" washed pea gravel containing no muck, frozen material, roots, sod, or other deleterious matter and with a plasticity index not greater than 6 as determined by ASTM D4318. Pea Gravel material shall meet the following gradation requirements as determined by ASTM C136: 100 percent passing the 1/2" sieve, 85-100 percent passing the 3/8" sieve, 10-30 percent passing the No. 4 sieve, and less than 6 percent passing the No. 200.

**691-3.01 FABRICATION.**

1. Precast concrete ramp planks shall be manufactured within the following tolerances:
 

Depth:	$\pm 1/8$ inch
Width:	$\pm 1/8$ inch
Length:	$\pm 1/2$ inch
Sweep:	$\pm 1/8$ inch per 10 feet
2. Concrete surface texturing for the ramp planks shall be constructed as shown on the plans and in accordance with ACI 325.6R-88 Texturing Concrete Pavements. The precast planks shall be cast in an inverted position (texture down) unless otherwise approved by the Engineer.
3. Fabrication and drilling of timber shall be completed as much as possible before pressure treatment.
4. Rubber Pads shall be installed at the point of manufacturing. In-field installation is not allowed.

**691-3.02 CONSTRUCTION.**

1. Any field drilled holes, cuts and minor damage areas in treated timber shall be field treated per AWWA M-4 with ENGINEER approved treatment product. Bolt holes shall be 1/8" oversized.
2. Sleepers shall be installed such that the difference in elevation between adjacent sleepers varies by no more than 0.02 feet from plan elevation. Sleepers shall vary by no more than 0.2% from plan slope in the longitudinal direction and shall vary by no more than 0.04 feet from the design alignment. Before placement of concrete ramp planks, the location of sleepers shall be surveyed by the Contractor and inspected by the Engineer. Survey locations shall be submitted for approval prior to placing ramp planks.
3. Precast concrete ramp planks shall be installed as shown on the plans. Installation of the precast planks shall begin at the bottom toe of the ramp and progress upslope towards the approach. No changes to the plank installation sequencing will be permitted. The Contractor shall plan and schedule of the work accordingly to facilitate installation as specified. Sleeper end tabs shall be utilized to support the bottom ramp plank and to begin the alignment and grade of the ramp. Ramp planks shall be placed in such a manner that adjacent planks are not damaged nor spalled during placement. This shall be accomplished through the use of wood or plastic spacers placed between ramp planks during installation. Ramp plank locations shall not vary from the plan by more than 0.02 feet in any direction.

4. Contractor shall protect fill materials from erosion at all times during the installation of ramp planks. Any eroded materials shall be replaced prior to the placement of ramp planks at no additional cost.
5. Exposed surfaces of the concrete approach shall meet the tolerance requirements of ACI 117, modified such that a gap below a 10-foot unlevelled straightedge resting on high spots shall not exceed 1/8" in any direction. Dimensional tolerance for the concrete approach shall be as follows:
 

Depth:	$\pm 1/8$ inch
Width:	$\pm 1/8$ inch
Length:	$\pm 1/4$ inch
6. Concrete abutment and approach slab on grade shall be constructed as shown on the plans and in accordance with ACI standards. Provide medium transverse broom finish on horizontal surfaces of concrete abutment and rubbed finish on all exposed vertical surfaces as directed by the Engineer. Provide rough transverse broom finish on approach slab surface.
7. Control joints shall be saw cut as soon as possible, not to exceed 12 hours after concrete placement.
8. Replace defective concrete at no additional cost to the Department.
9. All other execution requirements shall conform to Section 501 –Concrete for Structures.
10. All exposed joints between concrete planks shall be filled with pea gravel following final placement of the planks. Placing pea gravel by water jetting, or other water-based means, is not allowed.

**691-4.01 METHOD OF MEASUREMENT.** Section 109 and the following.

1. Item 691.2001.\_\_\_\_ Precast Concrete Planks & Sleepers is measured by square foot in place.
2. Item 691.2002.\_\_\_\_ Concrete Approach Slab is measured by the cubic yard of concrete, measured in place. The Concrete Abutment shall be measured as 691.2002.\_\_\_\_.
3. Item 691.2003.\_\_\_\_ Concrete Block Protective Apron is measured by the cubic yard of

**691-5.01 BASIS OF PAYMENT.**

Item 691.2001.\_\_\_\_ Precast Concrete Planks & Sleepers includes the material and labor, including forms, reinforcing bars, concrete mix design shop drawings, fabrication, storage, shipping, and placement/installation complete-in-place. Sleepers and hardware associated with construction of the boat ramp system are subsidiary. Filter blanket is subsidiary.

Item 691.2002.\_\_\_\_ Concrete Approach Slab includes the material and labor including shipping and placement/installation complete-in-place.

Item 691.2003.\_\_\_\_ Concrete Block Protective Apron includes the material and labor including shipping and placement/installation complete-in-place.

Payment will be made under:

**PAY ITEM**

Item Number	Item Description	Unit
691.2001.____	Precast Concrete Planks & Sleepers	Square Foot
691.2002.____	Concrete Approach Slab	Cubic Yards
691.2003.____	Concrete Block Protective Apron	Cubic Yards

Special Provision

Add the following Section:

## **SECTION 692 FLOATING DOCK**

### **692-1.01 DESCRIPTION.**

The work in this section shall include all labor, materials, tools and equipment necessary for fabrication, transport, delivery, and installation of the complete new aluminum floating dock system consisting of the floating dock structure, walking surfaces, transition plate assemblies, hinge assemblies, shore mount assemblies, guide assemblies, piles, attachments and all other miscellaneous appurtenances and hardware in accordance with the requirements of the Contract Documents and as indicated on the Plans.

### **692-1.02 REFERENCES.**

6. ASTM (American Society of Testing Materials) Specifications
7. AWS D1.1 - Structural Welding Code – Steel
8. AWS D1.2 - Structural Welding Code – Aluminum
9. The Aluminum Association – Aluminum Design Manual: Specifications and Guidelines for Aluminum Structures.
10. ASTM B209 – Standard Specifications for Aluminum and Aluminum-Alloy Sheet and Plate.
11. ASTM B210 – Standard Specifications for Aluminum and Aluminum-Alloy Drawn Seamless Tube.
12. ASTM B221 – Standard Specifications for Aluminum and Aluminum-Alloy Bar, Rod, Wire, Profiles and Tubes.
13. ASTM B241 – Standard Specifications for Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Tube.
14. ASTM B308 – Standard Specifications for Aluminum and Aluminum-Alloy 6061-T6 Standard Structural Profiles

### **692-2.01 MATERIALS.**

Miscellaneous steel plates and shapes shall be ASTM A36, galvanized per ASTM A123 or A153, and comply with Section 504 – Steel Structures.

Piling shall conform with Section 505 – Piling.

All structural aluminum shall be ASTM 6061-T6.

All bolts, piano hinge connection rods, and miscellaneous hardware shall be 316 stainless steel unless noted otherwise. Isolation washers shall be provided under both the head and nut of connections bearing on aluminum.

All Ultra High Molecular Weight (UHMW) Polyethylene components shall be manufactured from virgin polyethylene material, be U.V. stabilized and shall be partially cross-linked. UHMW components shall be black in color, unless otherwise noted.

Fiberglass grating shall be high-strength, Pultruded type with anti-skid, extra coarse and durable grit surface such as Fibergrate 1" inch deep I4010 ADA Compliant pultruded grating or approved equal. Color of grating shall be gray. Attachment of grating shall use Type 316 Stainless Steel fasteners per manufacturer's recommendations. All cuts, holes or otherwise exposed fiberglass grating shall be sealed with resin seal kit per manufacturer's recommendations. "Fibergrate" is produced by Fibergrate Composite Structures International, Inc. All finished surfaces of FRP items and fabrications shall be smooth, resin-rich, free of voids and without dry spots, cracks, crazes or unreinforced areas. All glass fibers shall be well covered with resin to protect against their exposure due to wear or weathering. Fabricator shall provide tabs or connection points as required for grating connection to the float framing using grating manufacturer's recommended details.

All materials shall conform to good workmanship, acceptable industry standards and manufacturer's recommendations.

Pipe Hinge Rubber Bushings shall comply with the following requirements:

<b>Property</b>	<b>Requirement</b>	<b>ASTM Test</b>
Min. Tensile Strength	2500 psi min.	ASTM D412
Hardness-Shore A Durometer	70 +/- 5	ASTM D2240
Ultimate Elongation	300%	ASTM D412
Compression Set	25% max.	ASTM D395, Method B
Ozone Resistance	No Cracks	ASTM D1171, Method B
Water Resistance	10% max well	ASTM D471
Low Temp. Resistance	Non-brittle	ASTM D2137, Method A
Tear Resistance	200 ppi min.	ASTM D624
Heat Resistance		ASTM D573
Max. Change in Hardness	+10 pts	
Max. Change in Tensile Stg	-25%	
Max. Change in Ult. Elong.	-25%	

The fit-up of rubber bushings into the piano hinge connection is critical for the proper function of the float-to-float connection. Rubber bushings must have a "snug-tight" fit within the end connection weldment pockets and piano hinge pipe segments, prior to bolt tightening and/or hinge bolt placement, so as not to have appreciable movement within the pocket at an ambient temperature of 40°F. Examine all pipe segments to ensure they are free of burrs, slag or other potential conflicts. An ice-bath or other acceptable methods, along with the use of non-petroleum lubricant, may be utilized to aid in placement of the bushings. Minor sanding/grinding of bushings in the field may need to occur, as approved by the Engineer. Contractor shall coordinate with rubber block/bushing manufacturer(s) and metal fabricator(s) to produce sample blocks/bushings that shall be used to determine final dimensions required to achieve a fit that is snug-tight (Fit Classification – Class 4) within the pipe segments. Due to rubber fabrication tolerances, initially fabricated bushings will need to be fabricated larger and then machined, to achieve the final fit-up requirements. In addition, fabricator shall take into consideration that piano hinge steel pipe inside dimensions may vary, particularly if the pipe has different heat numbers and/or is supplied from different mill runs. Fabricator shall order materials and/or fabricate rubber bushings accordingly to achieve the required fit-up. Contractor shall coordinate with the Engineer to observe fit-up of the sample bushings prior to fabrication of the final product.

Polyethylene floatation tubs shall be Eagle Floats as manufactured by Hendren Plastics or approved equal, shall be one-piece rotational molded, with UV inhibitors, and be rectangular in shape with the dimensions and minimum wall thickness as shown on the Plans. Float fabricator shall install vent plugs in float tubs per manufacturer recommendations prior to delivery on site. Where conflicts between vent plugs and float members do not allow the installation of the vent plug, float fabricator shall submit for engineer approval an alternate method of sealing the tubs. Submit tub manufacturer's material specifications and drawings to illustrate tub configuration, for Engineer approval. Contractor shall not drill, nail, or otherwise compromise the integrity of the tub polyethylene shell.

### **692-2.02 SUBMITTALS.**

1. Fabrication Shop Drawings of all fabricated steel and aluminum items prior to fabrication
  - a. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length and type of each weld.
  - b. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
  - c. Indicate type, size and length of bolts, distinguishing between shop and field bolts. Identify high-strength bolted slip-critical, direct-tension, or tensioned shear/bearing connections.
2. Manufacturer's Mill Certificates or MTRs: Certification for all metals used shall include chemistry, yield strength, and mill numbers
3. Welding Procedures

4. Welders Certificates: Certify welders employed in the work, verifying AWS qualification
5. Product data, samples, preparation, application, QA/QC Plan.
6. Provide fabrication shop QA/QC Plan for review. Provide qualification data for firms and/or persons to demonstrate their capabilities and experience. Include lists of projects with project names and addresses, and names and addresses of engineers, architects and owners.

### **692-3.01 FABRICATION.**

Quality Assurance. The metal fabricator must have an ongoing quality assurance program approved by a qualified, independent source. At the option of the Engineer, the fabricator shall submit a copy of their operational quality assurance program, and shall not begin fabrication until the Engineer has approved this quality assurance program. The objectives of the quality assurance program are as follows:

1. Completed products shall conform completely to all governing codes and specifications stipulated in the Design Contract Documents, and Plans.
2. Quality Assurance Program is an integral part of the ongoing manufacturing activities of the Fabricator.

Although periodic inspections may be carried out by the Engineer, the purpose of these inspections is to note general conformance to the design documents. It is still the responsibility of the fabricator to produce a quality product, in complete conformance with the design documents, and to document and correct any non-conformance. All documentation, including that submitted, shall be kept on file by the fabricator, for review, if requested by the Department or Engineer.

Fabrication Facility. The fabrication facility shall provide the proper environment and physical conditions necessary for welding, cutting, and general metal fabrication. The facility shall provide adequate work space, equipment, level surfaces, and protection from wind, moisture and freezing. The fabricator shall have the capability to carry out the following work in-house or on a contract basis:

1. Design of lifting and erection devices not shown on the drawings.
2. Preparation of shop fabrication drawings.
3. Receiving, checking and storing of materials for metal fabrication.
4. Dimensional checking and verification.
5. Resolution of non-conformities.
6. Documentation of all stages of work with capability of tracing all major components.
7. Finishing, repairing, storing and shipping.

Fabricator Qualifications: Engage a firm experienced in fabricating aluminum similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to fabricate structural steel without delaying the work. Shop welding procedures and qualifications shall be submitted for review by the Engineer.

Welding Standards: Comply with applicable provisions of AWS D1.1 Structural Welding Code - Steel, current edition, and AWS D1.2 Structural Welding Code – Aluminum, current edition.

1. Present evidence that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.
2. Submit welding procedures in accordance with AWS Structural Welding Codes.

Shop Inspection: The Contractor shall furnish the Engineer with 30 days' notice of the beginning of work at the mill or in the shop so that special fabrication inspections may be scheduled by the Engineer.

Fabricate and assemble components in a shop, to greatest extent possible. Workmanship and finish shall be equal to the best industry standards and in accordance with the requirements of AWS, AISC, and The Aluminum Association, as applicable.

1. Mark and match-mark materials for field assembly.

2. Materials shall be sourced with matching heat numbers and/or from the same mill runs as necessary for fabricated project elements that require consistent, critical dimensions and fit-up in order to function as intended by design.
3. Fabricate for delivery in a sequence that will expedite erection and minimize field handling.
4. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
5. Holes: Drill holes perpendicular to metal surfaces; do not flame-cut holes or enlarge holes by burning.
6. Aluminum Fabrication: Edges shall be cut true, smooth and free of burrs. Flame cutting is not permitted. Corner edges shall be ground smooth. Holes shall be drilled or punched. Weld spatter and flash marks shall be removed and ground smooth. Mill stamps and markings shall be removed from all exposed surfaces.

Structural material, either plain or fabricated, shall be stored at the fabricating shop above ground, on platforms, skids or other supports. It shall be kept free from dirt, grease or other foreign matter, and shall be protected.

### 692-3.02 INSTALLATION.

General: The complete floating dock assembly shall be installed as indicated on the Plans and/or to the highest industry standards if not fully shown on the Plans. Contractor shall verify that restraint piles are positioned such that the floating dock will not bind at varying water depths.

Handling and Storing of Materials: Material to be stored shall be placed on skids above the ground. It shall be kept clean and properly drained. Handling and erection procedures shall be conducted in a manner to avoid over stressing any structural element. Float units shall be picked using the details provided in the plans.

Method and Equipment: Before starting the work of erection, the Contractor shall inform the Engineer fully to the method of erection proposed, and the amount and character of equipment proposed to be used. Approval by the Engineer shall not be considered as relieving the Contractor of responsibility for the safety of his method and equipment, or from carrying out the work in full accordance with the Plans and Specifications.

Assembling: Metal parts shall be accurately assembled as shown on the Plans, following applicable Industry Standards, Codes, erection drawings and fabricators' match-marks. Excessive force or manipulation of parts shall not be allowed as determined by the Engineer. The fabricated units shall be carefully handled so that no parts will be bent, broken, or otherwise damaged. Hammering, which will injure or distort the members will not be permitted. Bearing surfaces shall be cleaned before the members are assembled.

### 692-4.01 METHOD OF MEASUREMENT. Section 109 and the following.

Item 692.2001. Floating Dock on a lump sum basis, completed in place and accepted.

### 692-5.01 BASIS OF PAYMENT.

692.2001. Floating Dock. The contract price includes all labor, materials, equipment, fabrication, transportation, pile installation, anchorage systems, hardware, and incidentals required to complete the work.

Payment will be made under:

<b>PAY ITEM</b>		
<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>
692.2001. _____	Floating Dock	Lump Sum

## Special Provision

Add the following Section:

**SECTION 693  
VAULTED TOILET**

**693-1.01 DESCRIPTION.** Provide all labor, materials, and equipment and services necessary to furnish and install accessible pre-manufactured concrete toilet and vaults finished and complete with all accessories and incorporating Sweet Smelling Technology.

Concrete Vaulted Toilet shall be the following or approved equivalent.

Single Unit

Manufacturer: CXT Precast Products

Style: Single Rocky Mountain

Roof Texture & Color: Simulated Cedar Shakes in Charcoal Gray

Upper Exterior Wall Texture & Color: Horizontal Lap in Java Brown

Lower Exterior Wall Texture & Color: Napa Valley Stone in Roma

Other: - Include the Marine Package option for the new vaulted toilets only if the existing showerhouse was assembled with components contained in this package or manufacturer records indicate the package purchased.

- Signs shall comply with subsection 693-2.05.

- Deadbolt shall be Schlage Model B660P.

- Exterior Doors and Trim shall be brown in color.

- Wall Vent location: As recommended by the manufacturer for the indicated orientation and location of the vaulted toilets.

- Supply padlocks for each toilet paper roll and manhole cover, complying with 693-2.06

- Provide left - and right-handed layouts as indicated in the plans.

All interior and exterior textures, colors, finishes, sealants, and patterns specified shall match the existing showerhouse. Contractor shall verify items specified within, with the manufacturer, to match the existing showerhouse. Notify the Department of any inconsistencies specified within this section and existing conditions.

The Contractor shall obtain the necessary Borough permits for the construction and installation of the concrete toilet.

If Concrete Vaulted Toilet is the approved equivalent, the toilet shall comply with the remainder of this section.

**693-1.02 CODES AND STANDARDS.**

1. ACI 211.1 - Standard Practice for selecting Proportions for Normal, Heavyweight and Mass Concrete.
2. ADA - Americans with Disabilities Act
3. ASTM C 33 - Specification for Concrete Aggregates
4. ASTM C 39 - Test Method for Compressive Strength of Cylindrical Concrete Specimens
5. WAQTC FOP for AASHTO T119 - Test Method for Slump of Hydraulic Cement Concrete
6. ASTM C 150 - Specification for Portland Cement

7. ASTM C 192 - Method of Making and Curing Test Specimens in the Laboratory
8. PCI MINL 116 - Quality Control for Plants and Production of Precast Prestressed Concrete Products

**693-1.03 DESIGN AND PERMIT REQUIREMENTS.** Units must meet or exceed “Sweet Smelling Technology” (SST) as developed by Briar Cook of the U.S. Forest Service. Vault Clean-outs must be lockable and outside the toilet enclosure.

Units shall also meet 120mph wind loading, 250 lbs/sq.ft. snow loading and seismic zone 4 earthquake requirements in accordance with the current version of the IBC.

The Contractor shall obtain the necessary City and/or Borough permits for the construction and installation of the concrete toilet.

**693-1.04 SUBMITTALS.** Provide submittal for all materials incorporated into the project, other pertinent related products, and requested information. Submittals are required for the following:

Shop Drawings: Shop drawings must be stamped by a professional engineer and shall include plans, elevations and a section of the pre-manufactured units. Include dimensions for sizes and locations of walls, floor, roof, vaults, vent pipes, wall vents, doors, windows, signs and accessories. Indicate reinforcement types, sizes and spacing. Provide details showing anchors or method of attachment for doors, windows, vents, vent risers and accessories.

Product Data: Provide manufacturer's product data for all doors, frames, hardware, toilet accessories, signs, manholes, risers and sealants. Submit data on all parts and accessories indicating manufacturer, supplier, model or part number and finish.

Samples: Submit two 8-1/2-inch x 11-inch samples each of the wood texture and simulated shake roof, clearly displaying texture and color for approval by the Engineer.

Quality Control: Submit concrete test results.

Operations and Maintenance Data: Submit information for repairs, replacement of parts and accessories.

Warranty:

1. Submit Manufacturer's warranty against leakage from the vault for 7 years.
2. Submit Manufacturer's warranty against materials and labor on the building for 1 year.

Project Record Documents: Maintain and submit as-built drawings of the vaulted toilet installation.

### **693-1.05 QUALITY ASSURANCE.**

Manufacturer Qualifications:

1. Shall have three years minimum experience producing toilets of similar design.
2. Must be ISO 9001 certified.
3. Plant must be PCI certified.

Regulatory Requirements: Conform to ADA for accessibility requirements.

### **693-1.06 DELIVERY, STORAGE, AND HANDLING.**

Acceptance at Site: Deliver pre-fabricated concrete vaulted outhouses to the project site. The Contractor shall be responsible for repairing and/or replacing any damaged work or products.

Storage and Protection: Store all pre-fabricated items in the designated location at the project Site. The items shall be protected from any damage. Do not stack or lean items against trees, equipment, or each other.

Handling: Protect all pick points or lifting lug locations with wooden or plastic plugs, metal covers, or their equivalent to protect the threads and exclude foreign matter or ice while in storage or in transit. Pre-fabricated toilet units shall only be lifted with cables or nylon chokers or straps and spreader bars in accordance with the manufacturers printed lifting/rigging instructions. Do not lift without spreader bars.

### MATERIALS

**693-2.01 GENERAL.** All material shall be new and conform to the manufacturer's plans. Toilet must meet ADA requirements.

#### 693-2.02 MANUFACTURERS.

Toilets and Vaults: CXT Incorporated, Precast Products Division, 3808 N. Sullivan Road, Building 7 Spokane WA. 99216. Phone: (800) 696-5766 and Fax: (509) 928-8270 or approved equal.

Vault Liner:	"Lustran ABS" by Bayer Corporation–Polymers Division or approved equal
Vents/Louvers:	Anemostat or approved equal
Doors and Frames:	Amweld, Ceco, Curries, Fenestra, Republic, Steelcraft

#### Hardware:

Hinges (Butts):	Lawrence; McKinney; Hager
Locks/Pull Plates /Strikes:	IlcoUnican; Hager Companies; Schlage; Best
Closers:	LCN; Norton; Sargent
Door Stops:	Hager Companies; Glynn Johnson; Rixson; Quality
Door Silencers:	Quality; Glynn Johnson; Ives
Weatherstripping:	Pemko; Reese; Zero; 3M

Paint: Dunn Edwards, Dupont, Fuller O'Brien, Preservative Paint, Sherwin Williams, United Coatings.

#### Accessories:

Toilet Risers:	Romtec, Inc., Roseburg, Oregon or approved equal
Grab Bars:	ASI, Bobrick, Mckinney/Parker, Seachrome
Toilet Paper Dispenser:	Romtec, Inc., Aslin or approved equal
Double Coat Hook:	TSM, ASI, Bobrick, Ives
Signs:	Screen Tek, Inc.; Letters Unlimited or approved equal

**693-2.03 MANUFACTURED UNITS:** Pre-fabricated concrete toilet structure shall be provided by the Contractor. The Contractor shall provide the necessary equipment and materials to install the vaulted structures.

Toilets: Toilets shall be "Rocky Mountain Single" by CXT Precast Products or approved equal meeting these specifications. Vaults shall be accessible. Texture shall "horizontal lap with simulated Napa Valley" on walls

and "cedar shake" texture on roof as produced by CXT Precast Products or approved equal. Provide colors for board, stone, and roof.

Vaults: One piece, 4-inch-thick steel reinforced concrete, 1,000-gallon capacity each with bottoms sloped to cleanout and with one piece vault liner cast in place.

Vault Liners: Liner shall be made of a rotomolded 8460 polyethylene with a minimum thickness of 0.100-inches. The vault liner shall have molded dovetail embeds to attach the liner to the concrete walls of the vault. The vault liner shall have at least two welded c-channels to attach the liner to the bottom of the vault.

Concrete - General: The concrete mix design shall be designed to ACI 211.1 to produce concrete of good workability.

Concrete shall contain a minimum of 675 pounds of cement per cubic yard. Cement shall be a low alkali type I or III conforming to ASTM C150. Coarse aggregates used in the concrete mix design shall conform to ASTM C33 with the designated size of coarse aggregate #67. Minimum water/cement ratio shall not exceed 0.45. Slump shall not exceed 4 inches.

Air-entraining admixtures shall not be used without approval of the Engineer.

Colored Concrete: The following items shall contain colored concrete:

Toilet building roof panels; building walls; screen panels.

Color additives will conform to ASTM C979.

The same brand and type of color additive shall be used throughout the manufacturing process. All ingredients shall be weighed and the mixing operation shall be adequate to ensure uniform dispersion of the color. Wall panel color and roof color shall be Java Brown and Charcoal Gray, respectively, as identified by CXT Precast Products, Inc. or approved equivalent.

Cold Weather Concrete: Concrete shall not be placed if ambient temperature is expected to be below 35 F. during the curing period unless heat is readily available to maintain the surface temperature of the concrete to at least 45 F. Materials containing frost or lumps of frozen materials shall not be used.

Hot Weather Concrete: The temperature of the concrete shall not exceed 80° F at the time of placement and when the ambient reaches 90° F, the concrete shall be protected with moist covering.

Concrete Reinforcement: All reinforcing steel will conform to ASTM A615. All welded wire fabric will conform to ASTM A185. All reinforcement will be new, free of dirt, oil, paint, grease, loose mill scale and loose or thick rust when placed.

Full lengths of reinforcing steel shall be used when possible. When splices are necessary on long runs, splices shall be alternated from opposite sides of the component for adjacent steel bars. Lap bars #4 or smaller a minimum of 12-inches. Lap bars larger than #4 a minimum of 24 bar diameters.

Steel reinforcement shall be centered in the cross-sectional area of the walls and shall have at least 1 inch of cover on the under surface of the floor and roof. The maximum allowable variation for center-to-center spacing of reinforcing steel shall be 1/2-inch.

Reinforcing bars shall be bent cold. No bars partially embedded in concrete shall be field bent unless approved by the Engineer.

Sealers and Curing Compounds: Curing compounds, if used, shall be colorless. Weather-proofing sealer for exterior of building shall be a clear water repellent penetrating sealer.

Caulking, Adhesive and Grout: All caulking shall remain flexible and non-sag at temperatures from 50 to 140 Fahrenheit. Interior joints shall be caulked with a paintable rubber-based caulk. Exterior joints will be caulked with a tripolymer sealant caulk which compliments the exterior color.

Epoxy concrete adhesive will be two-component, rigid, non-sag gel adhesive for bonding to dry or damp surfaces, moisture insensitive. Color shall compliment surrounding concrete as nearly as possible.

Grout shall be water-proof and resistant to alkali and freeze-thaw cycles. It shall be painted to match the color of surrounding concrete as nearly as possible.

Cement base coating shall be formulated with a very fine aggregate system and a built-in bonding agent.

Caulking between vault and toilet floor to be 1-inch x 1-inch Butyl tape designed specifically to bond precast concrete to precast concrete

Steel Doors and Frames: Doors shall be 3-feet x 6-feet-8-inches, flush panel type, 1-3/4 inches thick, minimum 18 gauge prime-coated steel panels, minimum 12-gauge internal bracing channels, 14-gauge edge reinforcement, rigid foam plastic core, SDI grade II, model 2. Hinge reinforcement shall be 10-gauge minimum.

Door frames shall be welded type, single rabbet, minimum 16-gauge prime-coated steel, width to suit wall thickness, SDI grade II. Hinge reinforcement shall be 10-gauge minimum.

Doors and door frames shall be reinforced to accept butts, deadlock and strike.

Doors and frames shall be factory treated with a three-stage iron phosphate and given one shop coat of synthetic resin, rust-inhibitive alkyd enamel primer.

Hardware: finish shall be BHMA 630 (Satin Stainless Steel)/US32D.

Hinges (Butts): Three per door. Hinges shall be ANSI 156.1, BHMA 5112, full mortise, ball bearing design with a stainless steel non-removable pin, stainless steel, 4-1/2-inches x 4-1/2-inches.

Strikes: Mortised ANSI strikes with strike boxes.

Handle: Cylindrical lockset, ADA compliant, lever style, passage latch, ANSI/BHMA A156.2 Grade 1 certified, and UL 10C 3-Hour rated. Handle shall be furnished by the building manufacturer as part of the building package. Assembly shall be unkeyed and independent from the deadbolt.

Deadbolt: Heavy duty single cylinder deadbolt with 2-3/4-inch backset, ANSI 156.5 Grade 1, US26D, U.L. Listed. Deadbolt shall be Schlage Model B660P or approved equal. Deadbolt shall be keyed to accept Schlage Series C, No. 56349. Provide two keys per deadbolt.

Trim: Series 1000, Grade 2.

Closers: shall be ANSI 156.4, BHMA C02022, Grade 1, similar to LCN 4041 (5 lb. closing force), heavy duty parallel arm, cush mount, metal cover or approved equal accepted by the Department. Closers shall be equipped with extreme temperature fluid and capable of adjustments for latches, closing speed and back check intensity. Closers shall have a corrosion protective coating on all metal surfaces.

Door Stop: Door stop shall be ANSI 156.16, BHMA LO2252, cast brass; rubber, 1-3/4-inch diameter bumper, convex pad, 1 inch projection, base thickness of 1/8 inch.

Wall Stop: Wall stop shall be ANSI 156.16, BHMA LO2252, brass; rubber, 2-7/16-inch diameter bumper, convex pad, 13/16-inch projection.

Door Silencers: Door silencers shall be BHMA LO3011. Three (3) rubber door silencers shall be provided on latch side of frame.

Door Sweep: Provide door sweep at the bottom of door. Polypropylene pile, adjustable brush type, 1/4-inch x 1-1/2-inches, Pemko 18062 CP or approved equal.

Wall Louvers: Louvers shall be 12-inches x 12-inches, fixed, inverted split Y, non-vision, 18 gauge cold rolled steel with a factory prime coat equal to FDLS series. One in each restroom.

Windows and Frames: Window frames shall be constructed from steel. Window glazing shall be 1/4 -inch thick translucent LEXAN polycarbonate with a pebble finish.

Vault Cleanout Covers: Plate for vault cleanout cover shall be 1/4-inch thick, diamond plate steel, raised, and wet rated. Lid shall be hinged and configured so that it can be locked with a padlock. Provide a neoprene gasket around the entire perimeter of lid for an airtight seal.

Paint: All paints and materials shall conform to all Federal specifications. Paints shall not contain more than 0.06 percent by weight of lead. Color shall be as selected from manufacturer's standard palette by the Engineer.

Types of paints for toilets:

Interior Stain - "Canyon Tone Stain" by United Coatings or approved equal. Stain shall be single-component, water-based, and quick setting. Color shall be white. Inside stain shall be sealed with "Monocryl 50" clear acrylic semi-gloss, water-repellent sealer by United Coatings or approved equal.

Floor Paint – "Armorseal Floor-plex 7100" by The Sherwin-Williams Company or approved equal. Shall be glossy, two component, water-based epoxy floor coating capable of withstanding heavy traffic. Color shall be gray.

Floor Anti-Slip Additive - SharkGrip" by H&C Beautiful Concrete Protection or approved equal.

Trim Paint - "Direct-To-Metal Enamel" by The Sherwin-Williams Company or approved equal. Enamel shall be a semi-gloss high-build alkyd coating with rust-inhibitive properties. Color shall be white.

Exterior Walls and Roof - Water repellent penetrating stain in the same color as the walls and/or roof followed by a clear acrylic anti-graffiti sealer.

Exterior slab shall be clear sealer

#### **693-2.04 ACCESSORIES:**

Toilet Risers: Toilet riser shall be cross-linked polyurethane. Toilet risers shall have a heavy-duty seat and lid, and constructed with high-impact polystyrene. Risers shall be mounted at an 18-inch height from floor to top of seat. All mounting materials shall consist of stainless steel hardware.

Grab bars: Grab bars shall be 18-gauge, type 304 stainless steel with 1-1/2-inch clearance. Grab bars shall each be able to withstand 300-pound top loading. Grab bars shall be either two separate bars with supports each end, one 36 inches (914 mm) and the other 42 inches long or a single "L" shaped bar with 3 supports and one leg 54 inches long and the other 36 inches – 42 inches long.

Toilet Paper Dispenser (Two per Toilet Riser): Dispenser shall be constructed of 1/4-inch thick, 304 type stainless steel with a satin finish. Dispenser shall be capable of holding two standard rolls of toilet paper; 18-inch x 2-inch, "restricted" type and have a heavy-duty locking feature. Toilet paper dispenser mechanical attachment system shall withstand 300-pound top loading.

Double Coat Hook: Coat hooks shall be constructed of stainless steel and have tamper-proof mounting screws.

Vent Riser: Shall be 12-inch I.D., unpainted, black, polyethylene vent pipe. Vents shall be equipped with owl guard and rain cap.

#### **693-2.05 SIGNS.**

##### 1. General

Layout details of custom signs not shown shall conform to the Alaska Sign Design Specifications.

Base Material:	Solid color, alloy 6061-T6 aluminum
Base Color:	Brown
Total Thickness:	0.080 inch
Size:	Large enough to accommodate text and pictograms
Edges:	Rounded

2. Raised Character Size and Style: Solid color, metal, character adhered to or integral with base material:

Character Color:	White
Background Color:	Brown
Sign Material:	Reflective sheeting shall be Type II (medium intensity)
Character Thickness:	1/32-inch
Height:	8-inch x 12-inch
Edges:	Square
Character Font:	Helvetica
Character Case:	Upper and lower
Braille:	Grade II
Text:	See Below



3. Raised Pictogram Size and Style: Solid color, metal, character adhered to or integral with base material:

Character Color:	White
Background Color:	Brown
Character Thickness:	1/32 inch
Size:	12-inch x 24-inch
Edges:	Rounded
Character Font:	International Symbol
Mounting Hardware:	Mechanical, tamper resistant
Braille:	Grade II
Text:	"Toilet"
Pictograms:	Men & Women ("Unisex") and accessibility

**693-2.06 PADLOCK.** Master Lock No. 1 with 5/16-inch shackle diameter, 15/16-inch vertical clearance, 3/4-inch horizontal clearance, 1-3/4-inch case width, and keyed alike to a key number provided by the Department for the Campground. Provide two keys with each padlock.

**693-2.07 BEDDING.** Bedding material for the concrete vaulted toilet shall be aggregate base course, grading D-1, and shall meet all the requirements of Section 301.

Use and blanket material (Section 635-2.01) passing the 1/2-inch sieve for leveling coarse.

### FABRICATION AND CONSTRUCTION

**693-3.01 SITE WORK.** Excavation and backfill shall conform to Subsection 204-3.01 and the details on the plans. Finish ground profile to slope away from the building except for areas that abut adjacent sidewalk or parking areas. Place aggregate base course to the extent shown in the plans for all sides of the concrete floor at up to the floor finish grade except for areas that abut adjacent sidewalk or parking areas.

**693-3.02 MIXING AND DELIVERY OF CONCRETE.** Mixing and delivery of concrete will be in accordance with ASTM C94, section 10.6 through 10.9 with the following additions:

1. Aggregate and water will be adjusted to compensate for differences in the saturated surface-dry condition.
2. Concrete will be discharged as soon as possible after mixing is complete. This time will not exceed 30 minutes.

**693-3.03 PLACING AND CONSOLIDATING CONCRETE.** Concrete will be consolidated by the use of mechanical vibrators. Vibration will be sufficient to accomplish compaction but not to the point that segregation occurs.

**693-3.04 FINISHING CONCRETE.** Interior floor and exterior slabs will be floated and troweled. A light broom finish will be applied to the exterior slab.

All exterior top portions of the building walls and exterior screen walls will be a horizontal lap siding texture. The bottom section of the walls will be a napa valley stone textured stone finish in a Roma color.

All exterior surfaces of the roof panels will be cast to simulate a cedar shake roof. The underside of the overhang will have a smooth finish.

**693-3.05 CRACKS AND PATCHING.** Cracks in concrete components which are judged to affect the structural integrity of the building will be rejected. Small holes, depressions and air voids will be patched with a suitable concrete material. The patch will match the finish and texture of the surrounding surface. Patching will not be allowed on defective areas if the structural integrity of the building is affected.

**693-3.06 CURING AND HARDENING CONCRETE.** Concrete surfaces will not be allowed to dry out from exposure to hot, dry weather during initial curing period.

**693-3.07 STRUCTURAL JOINTS.** Wall components will be joined together with two welded plate pairs at each joint. Each weld plate will be 6-inches long and located one pair in the top quarter and one pair in the bottom quarter of the seam. Weld plates will be anchored into the concrete panel and welded together with a continuous weld. The inside seams will be a paintable caulk. The outside seams will use a caulk in a coordinating building color or clear. Walls and roof will be joined with weld plates, 3-inch x 6-inch, at each building corner. The joint between the floor slab and walls will be joined with a grout mixture on the inside, a matched colored caulk on the outside and two weld plates 6-inches long per wall.

**693-3.08 PAINTING/STAINING.** An appropriate curing time will be allowed before paint is applied to concrete. Some applications may require acid etching. A 30% solution of hydrochloric acid will be used, flushed with water and allowed to thoroughly air dry. Painting will not be done outside in cold, frosty or damp weather. Painting will not be done outside in winter unless the temperature is 50 degrees F. or higher. Painting will not be done in dusty areas.

**693-3.09 TESTING.** The following tests will be performed on concrete used in the manufacture of toilets. Testing will only be performed by qualified individuals who have been certified ACI Technician Grade 1. Sampling will be in accordance with ASTM C172.

1. The slump of the concrete will be performed on the first batch of concrete in accordance with ASTM C143. This slump will be in the 3 to 4-inch range. Slump may be increased using chemical admixtures provided that the concrete maintains same or lower water to cement ratio and does not exhibit segregation. Slump will never exceed 9 inches.
2. The air content of the concrete will be checked per ASTM C231 on the first batch of concrete. The air content will be in the range of 5.5% +/- 1%.
3. The compressive strength of the cylinders will be tested to ASTM C39. We will make one (1) cylinder for release, one (1) for 7 days and one (1) for 28 days. The release must be a minimum strength of 2500 psi, the 7-day must be a minimum of 4500 psi and the 28-day must be a minimum of 5000 psi.
4. A copy of all test reports will be available to the customer as soon as 28-day test results are available.

**693-3.10 EXCAVATION AND ELEVATION.** Excavate for the installation of the toilet vault to a depth that will allow the structure site to be free draining after installation is completed. Allow for a 2-inch leveling course beneath the toilet vault. Stockpile topsoil in a separate pile at sites.

No excavation will be left open more than seven days unless otherwise approved by the Engineer. All excavations left open overnight will be fenced with wire mesh or plastic mesh fence secured to steel posts all around the excavation.

**693-3.11 BEDDING, BACKFILL AND COMPACTION.** Backfill and compaction shall conform to the requirements of Section 203 and Section 301. Rocks larger than six inches in maximum dimension shall not be placed within six inches of the exterior vault walls.

**693-3.12 FINISH GRADING.** Final grade shall be flush with the top of the front slab. Grade backfill away from the structure at maximum slope of five percent unless otherwise approved by the Engineer.

**693-3.13 VAULT TOILET RISER.** Polyurethane caulk will be applied between toilet riser flange and concrete floor before the toilet riser is installed.

**693-3.14 EXHAUST PIPE INSTALLATION.** After exhaust pipe is installed, seal around pipe at top and underside of roof with polyurethane caulk. Seal around pipe at top of floor slab will be accomplished by using polyurethane caulk.

**693-3.15 SIGNS.** Position signs level, 60-inches above finished floor (AFF) to the center and on the deadbolt side of the door.

**693-3.16 GRAB BARS.** Mount grab bars at 33 to 36-inches above finished floor.

**693-3.17 TOILET PAPER DISPENSERS.** Mount toilet paper dispensers at 19-inches minimum above finished floor to center for accessible units and 16-inches minimum above finished floor to center for standard units. Mount toilet paper dispensers at 36-inches maximum from rear wall.

**693-3.18 COAT HOOKS.** Mount coat hooks at 54-inches maximum above finished floor in accessible units.

**693-4.01 METHOD OF MEASUREMENT.** Measurement will be the actual number of pre-manufactured vaulted toilets completed and accepted. Excavation, embankment, and leveling course required for Concrete Vaulted Toilet construction are considered subsidiary to this item and will not be measured separately for payment.

Work required in preparing and acquiring the necessary City and Borough permits for the construction and installation of the concrete vaulted toilet and paying the applicable fees will be considered subsidiary to Concrete Vaulted Toilet.

**693-5.01 BASIS OF PAYMENT.** The accepted quantity of pre-manufactured vaulted toilets will be paid for the contract unit price for each Concrete Vaulted Toilet completed and in conformance with the plans and specifications.

Excavation and backfill are subsidiary to this pay item.

Payment will be made under:

**PAY ITEM**

Item Number	Item Description	Unit
693.0001.0000	CXT – single vault toilet	Each

Special Provision

Add the following Section:

**SECTION 695  
ELECTRICAL IMPROVEMENTS**

**695-1.01 DESCRIPTION.** The work in this section shall include all labor, materials, tools and equipment necessary for fabrication, transport, delivery, and installation of the complete electrical system and all other miscellaneous appurtenances and hardware in accordance with the requirements of the Contract Documents. This work includes demolition of portions of the existing system and salvaging of materials.

**695-4.01 METHOD OF MEASUREMENT.** See Section 109.

**695-5.01 BASIS OF PAYMENT.** Payment constitutes full compensation for a complete and operational electrical system as specified in the Contract documents. This includes, but is not limited to demolition of the existing system, salvage of components specified, materials, labor, equipment, testing, and all incidentals required to provide a complete and operable system.

Payment will be made under:

<b>PAY ITEM</b>		
<b>Item Number</b>	<b>Item Description</b>	<b>Unit</b>
695.2000.____	Electrical Improvements	LS

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# **DIVISION 700 — MATERIALS**

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**SECTION 703  
AGGREGATES**

Standard Modification

**703-2.03 AGGREGATE FOR BASE AND SURFACE COURSE.**

In Table 703-1 replace the line for Degradation Value with the following:

**TABLE 703-1  
AGGREGATE QUALITY PROPERTIES FOR BASE AND SURFACE COURSE**

PROPERTY	BASE COURSE	SURFACE COURSE	TEST METHOD
Micro-Deval	15%, max.	15%, max.	AASHTO T 327

HSM20.40-050122

Special Provision

**703-2.07 SELECTED MATERIAL.**

Replace Item 1. Type A with the following:

1. Type A. Aggregate containing no muck, frozen material, roots, sod or other deleterious matter and with a plasticity index not greater than 6 as tested by ATM 204 and ATM 205. Meet the following gradation as tested by ATM 304:

<u>Sieve</u>	<u>Percent Passing by Weight</u>
No. 4	20-55%
No. 200	0-6%, determined on the minus 3-inch portion of the sample

CR703.1-050122

Special Provision

Add the following:

**703-2.17 PIPE BEDDING** Aggregate containing no muck, roots, sod or other deleterious matter. Meet the gradation of Table 703-15, as determined by ATM 304:

**TABLE 703-15  
PIPE BEDDING GRADATION**

SIEVE	PERCENT PASSING BY WEIGHT
1/2"	100
3/8"	80-100
#4	20-75
#8	12-50
#30	2-30
#200	0-6

**703-2.18 PEA GRAVEL** 3/8-inch aggregate consisting of clean, hard, durable particles of gravel free from clay, organic matter, frozen material, and other deleterious substances. Meet the following gradation as tested by ATM 304:

<u>Sieve</u>	<u>Percent Passing by Weight</u>
3/8 inch	95-100%
No. 4	0-15%
No. 200	0-1%

**703-2.19 12" MINUS ROCK** Evenly graded stones that are hard, angular and conforms to the following gradation as shown in the Plans. Use stones with breadth and thickness at least  $\frac{1}{4}$  of its length. Do not use rounded boulders or cobbles on slopes steeper than 2:1.

<u>Sieve</u>	<u>Percent Passing by Weight</u>
12"	99-100%
10"	70-90%
8"	30-60%
$\frac{3}{4}$ "	10% max.

Rock shall meet the following test requirements for quality:

<b>PROPERTY</b>	<b>VALUE</b>	<b>TEST METHOD</b>
L.A. Wear, %, 500 Rev.	50, max.	AASHTO T 96
Degradation Value	15, min	ATM 313
Bulk Specific Gravity	2.55, min	AASHTO T 85

Special Provisions

**SECTION 706  
CONCRETE AND PLASTIC PIPE**

**706-2.05 PVC PIPE FOR WATER AND SANITARY SEWER SYSTEMS.**

Add the following at the end of the subsection:

PVC pipe and fittings used for onsite wastewater systems must conform to the material and use requirements of the Alaska Department of Environmental Conservation Onsite Wastewater System Installation Manual, current edition. PVC pipe and fittings shall conform to ASTM D2665.

**706-2.08 HDPE PIPE FOR WATER AND SANITARY SEWER SYSTEMS.**

Replace the first paragraph with the following:

Use high density polyethylene (HDPE) pipe and fittings manufactured in accordance with AWWA C901 or C906 from a PE 4710 resin that meets ASTM D3350 with a cell classification of 445574. HDPE pipe and fitting material compound is to contain color and ultraviolet (UV) stabilizers meeting or exceeding the requirements of Code C per ASTM D3350. Ensure the entire system is made of materials with a 200-psi working pressure, except material two inches or less in diameter shall have a 250-psi rated working pressure. All fittings are to have pressure class ratings not less than the pressure class rating of the pipe to which they are joined. Join all pipe and fittings by either butt fusion or flanges as per manufacturers recommendation. No mechanical joints are allowed, except where an approved transition fittings are specified on the Plans.

HDPE pipe and fittings must be ANSI/NSF 61 certified.

**SECTION 707  
METAL PIPE**

Special Provision

**707-2.06 SERVICE PIPE.**

Add the following at the end of Item 1 "Copper Pipe":

All pipes, fittings, valves and other parts in contact with potable water, and as required by DEC 18 AAC 80, shall be NSF/ANSI 61 rated.

Copper pipe must include a factory applied minimum twenty-six (26) mil thick polyethylene or field applied coating.

Fittings used are to be rated high pressure (150 psi) per AWWA C800. Brass components in contact with potable water are to comply with law 111-380 (No Lead Rule).

**SECTION 712  
MISCELLANEOUS**

## Special Provisions

**712-2.09 CORPORATION STOPS AND CURB STOPS.**

Add the following at the end of the first paragraph:

Corporation stops/valves shall be PTFE coated brass ball valves, rated for 300 psi water pressure, conform to AWWA C800, be NSF 61 certified, and conform to the “no lead” standard.

Curb stops are to conform to AWWA C800, be rated for 175 psi working pressure, be NSF 61 certified, accept copper flair nuts on both ends, and conform to the “no lead” standard.

**712-2.11 VALVE SERVICE BOXES.**

Add the following at the end of the first paragraph:

Key Boxes. Case iron, telescoping, finished with lid, arch pattern base, and foot piece. Operating rod and connection pin are to be constructed of stainless-steel alloy type 304 or 316. Connection pin is to be a minimum of 3/16” by two (2”) long. Bent plate connection heads will not be allowed.

Add the following Subsection 712-2.23. Field Applied Coatings:

**712-2.23 FIELD APPLIED COATINGS.**

Where a coating is required, field applied coatings may be used for repair of, in conjunction with or substitution for other coatings. Field applied coatings are to be denso wrap system, trenton wax tape system or viscotaq viscowrap system. The term “system” requires the use of more than one product from the specified manufacturer to be used in concert to seal the pipe from corrosive and/or potentially contaminated environments and water. At a minimum, the system is to fully encapsulate the piping and fittings, fill voids/gaps and adhere to the pipe. The coating system must not interfere with the operation of moving parts.

Add the following Subsection 712-2.24. Tracer Wire:

**712-2.24 TRACER WIRE**

Install trace wire 6 inches above top of pipe: #10 AWG high-strength copper clad steel with 30-mil HDPE insulation jacket (color blue for water lines) and have a 600 lb. average tensile beak load, by Copperhead Industries or approved equal. Grounding rods are to be a minimum of twenty-four (24) inches in length and copper clad. Direct bury grounding clamps are to be EK17 by Erico or approved equal. All splice connections are to be constructed using 3M DBR watertight connectors or approved equal.

Add the following Subsection 712-2.25. Detectable Warning Tape:

**712-2.25 DETECTABLE WARNING TAPE.**

Warning Tape shall be installed and shall not be less than 5 mil, foil backed, 6-inches wide vinyl tape, colored and labeled in black along the length to match the utility buried below.

1. blue, with “Caution Buried Water Line Below”.
2. green, with “Caution Buried Sewer Line Below”.

Add the following Subsection 712-2.26. Sand Slurry:

Sand slurry consists of a mixture of water and sand with an approximate ratio of seven (7) gallons of water per cubic feet of sand. Sand may consist of native material with a particle size distribution such that one hundred percent (100%) of the material passes the No. 4 U.S. Standard Sieve and contains no lumps, frozen material, organic material, or other deleterious material.

## Special Provisions

Replace Section 724 with the following:

**SECTION 724  
SEED**

**724-2.01 DESCRIPTION.** Grass seed to provide a living vegetative cover.

**724-2.02 MATERIALS.** Provide seed mix as specified in the Special Provisions. Provide seed collected or harvested within 2 years of the targeted seeding date. Provide all seed in pure live seed (PLS) unless otherwise directed.

Furnish seed true of genus and species. Meet applicable requirements of the State of Alaska *Seed Regulations*, Alaska Administrative Code, Title 11, Chapter 34, (11 AAC 34), and the Federal Seed Act, 7 CFR Part 201.

The Engineer will review requests for genus, species, or cultivar substitutions(s). The Contractor shall submit a proposed seed mix accompanied by approval from the Alaska Plant Materials Center, and confirmation the vendor can provide the requested mix in quantities adequate for the project.

1. Prohibited and Restricted Noxious Weeds and Quarantined Pests. Furnish seed certified to be free of prohibited noxious weeds or quarantined pests, and certified to contain no more than the maximum allowable tolerances for restricted noxious weeds, according to 11 ACC 34.
  - a. Seed found to contain prohibited noxious weeds or quarantined pests will be rejected, according to 11 AAC 34.020(a) and 11 AAC 34.105 through 34.180, respectively.
  - b. Seed found to contain restricted noxious weed seed in excess of the maximum allowable tolerance per pound will be rejected, according to 11 AAC 34.020(b).

Prohibited and restricted noxious weeds are listed in 11 AAC 34.020, and can be viewed at the following URL: <http://plants.alaska.gov/invasives/noxious-weeds.htm>.

2. Labeling. Ensure each bag or container of individual seed species is labeled to meet requirements of 11 AAC 34.010. Do not remove labels from bags or containers.
3. Certification. Certify seed is free of prohibited noxious weeds and restricted noxious weeds are within allowable tolerances. Furnish to the Engineer a statement signed by the vendor identifying the lot number or lot numbers, certifying each lot of seed has been tested within the preceding nine months, by a recognized seed testing laboratory, a member of the Association of Official Seed Certifying Agency (AOSCA), or the Alaska Plant Materials Center.

Seed will be rejected if:

- a. Contains prohibited noxious weeds;
- b. Contains restricted noxious weeds above maximum allowable tolerances;
- c. Not certified as tested within the preceding nine months;
- d. Wet, moldy, or otherwise damaged in transit or storage; or
- e. Containers do not have labels or the labels have been removed.

Seed may be rejected for:

- a. Discrepancies in the lot numbers listed on the statement to the lot numbers indicated on the labels of the seed containers.

- b. The Contractor shall immediately remove rejected seed from the project premises. If seed is rejected for containing prohibited noxious weeds or for exceeding maximum allowable tolerances of restricted noxious weeds, dispose of rejected seed according to 11 AAC 34.075(g).

## Special Provisions

Replace Section 726 with the following:

**SECTION 726  
TOPSOIL**

**726-2.01 TOPSOIL.** Furnish topsoil that is representative of the existing, natural organic blanket of the project area, and free of prohibited and restricted noxious weeds (Prohibited and Restricted Noxious Weeds 11AAC 34.020 <http://plants.alaska.gov/invasives/noxious-weeds.htm>). Perform a quality test, as defined by ATM 203, on the soil to determine the organic content of the soil. Supply the results to the Engineer.

Soil with an organic content of 5 percent or more may be reused and spread on the finished slopes where topsoil is noted on the plans. Remove roots, stumps, unnatural material, and rocks greater than 3-inch in diameter from the organic material before it is graded onto the finished slope of road embankment.

Soil with an organic content of less than 5 percent cannot be used as topsoil for the project. In this case furnish topsoil consisting of a natural friable surface soil without admixtures of undesirable subsoil, refuse or foreign materials having an organic content of 5 percent or more, as determined by ATM 203. The material shall be reasonably free from roots, clods, hard clay, rocks greater than 3 inches in diameter, noxious weeds, tall grass, brush, sticks, stubble or other litter, and shall be free draining and nontoxic. Notify the Engineer of the topsoil source location at least 30 calendar days before delivery of topsoil to the project from the identified location. The Engineer will inspect the topsoil and its sources before approval will be granted for its use.

## Special Provisions

Replace Section 727 with the following:

**SECTION 727  
SOIL STABILIZATION MATERIAL**

**727-2.00 GENERAL.** Free of restricted and prohibited noxious weeds (11 AAC 34), seeds, chemical printing ink, germination and growth inhibitors, herbicide residue, chlorine bleach, (except where specified: rock, metal, plastics) and other deleterious materials and not harmful to plants, animals and aquatic life. Wood cellulose "paper" fiber, wood chips, sawdust, and hay are not permitted as stabilization materials.

**727-2.01 MULCH.** Flexible blanket/covering, temporary degradable (bio/photo) form of erosion control. Use one of the following:

**Dry Erosion Control, Stabilization Products.** Hand applied or spread with mulch blower equipment.

1. **Straw.** Use straw, in an air-dried condition, from oats, wheat, rye, barley, or other approved grain crops that are free from noxious weeds, seeds, mold, or other materials detrimental to plant life. Straw material shall be certified weed-free straw using North American Invasive Species Management Association (NAISMA) Standards. In-lieu of certified weed-free straw provide documentation that the material is steam or heat treated to kill seeds or provide U.S. or state's department of agriculture laboratory test reports, dated within 90 days prior to the date of application showing that there are no viable seeds in the straw.
2. **Shredded Bark Mulch.** Shredded bark and wood with the following characteristics:
  - a. Not containing resin, tannin, or other compounds in quantities harmful to plant life.
  - b. Maximum length of individual pieces is 2 inches with 75% passing through a 1 inch sieve.
  - c. Will form a uniform ground cover/mat, have moisture absorption, retention, and percolation properties, not be susceptible to spreading by wind or rain providing a good growth medium.
  - d. May contain up to 50% shredded wood material.
  - e. Shredded wood material aged 1 year minimum prior to use.

**Hydraulic Erosion Control Products (HECPs)** Applied hydraulically.

A fiber mulch matrix: biodegradable and composed of wood, straw, coconut and other fibers natural and man-made. When applied, create a continuous, porous, absorbent high water holding, flexible blanket/mat/mulch/covering making intimate contact with, and adhering to sloped soil surface; permitting water infiltration; resists erosion and promotes rapid germination and accelerated plant growth. The fibers may be thermally processed, and cross-linked with a hydro-colloidal or linear anionic tackifier (curing period 24-48 hours) or mechanically-bonded (no curing period). When agitated in slurry tanks with water the fibers will become uniformly suspended, without clumping to form homogeneous slurry.

The HECPs shall be delivered premixed by the manufacturer. The HECP will contain only the materials provided in the sealed containers from the manufacturer. No added components are permitted after the manufacturer seals the product container, before application, during application or otherwise. Submit documentation dated within 3 years of application, from an independent accredited laboratory as approved by the Engineer, showing that the product's testing performance meets the requirements for the slope(s) to be protected on the project, according to the National Transportation Product Evaluation Program (NTPEP), Erosion Control Technology Council (ECTC) and or the Texas DOT/Texas Transportation Institute (TTI) Laboratory.

If the HECP contains cotton or straw provide documentation that the material is certified weed free using NAISMA Standards. In-lieu of certified weed-free straw, provide documentation that the material is steam or heat treated to kill seeds or provide U.S. or state's department of agriculture laboratory test reports, dated within 90 days prior to the date of application showing that there are no viable seeds in the straw.

The HECP shall contain a dye to facilitate placement and inspection of the material.

1. Wood Strand, Fiber.

A blend of angular, loose, long thin wood pieces with a high length to width ratio and that are frayed. Minimum 95% of strands between 2 inches and 10 inches, at least 50% of the length shall have a width thickness between 1/16 and 1/8 inch. No single strand shall have a width or thickness greater than 1/2 inch. Processed wood fiber with the following characteristics:

- a. Will remain in uniform suspension in water under agitation and will blend with grass seed, and other additives to form homogeneous slurry.
- b. Will form a blotter-like uniform ground cover on application, have moisture absorption, retention and percolation properties, the ability to cover, and hold grass seed in contact with soil, and not create a hard crust upon drying providing a good growth medium.

2. Dried Peat Moss. Partially decomposed fibrous or cellular stems and leaves of any of several species of Sphagnum mosses with the following characteristics:

- a. Chopped or shredded to allow distribution through normal hydraulic type seeding equipment and capable of being suspended in water to form part of a homogeneous slurry.
- b. Free from woody substances and mineral matter such as sulfur or iron and with a pH value of between 4.0 and 6.5.
- c. Furnished in an air dry condition and containing less than 35% moisture by weight. Have a water holding capacity of not less than 800% by weight on an oven dry basis.

3. Fiber Matrix (FM) Mulch - Types.

- a. Stabilized Mulch Matrices (SMMs)
- b. Bonded Fiber Matrices (BFMs)
- c. Mechanical Bonded Fiber Matrix (MBFM)
- d. Polymer Stabilized Fiber Matrix (PSFM)
- e. Fiber Reinforced Matrices (FRMs)
  - Flexible Growth Medium (FGM)
  - Extended-Term Flexible Growth Medium (ET-FGM)

**727-2.02 MATTING.** Fiber mulches, mulch matrices, nets and turf reinforcement mats manufactured from wood fibers, straw, jute, coir, polyolefins, PVC, nylon and others creating dimensionally stable nets, meshes, geotextiles and blankets; creating a continuous, porous, absorbent, flexible blanket/mat/mulch/covering making intimate contact with and adhering to sloped soil surface, resisting erosion and promoting rapid germination and accelerated plant growth.

**Rolled Erosion Control Products (RECPs)** (Temporary Degradable and Permanent Erosion Control)

Use RECPs that bear the Quality and Date Oversight and Review (QDOR) Seal from the ECTC. Independent test results from the NTPEP, that the mulch, when tested according to ASTM 6459 Standard Test Method for Determination of Rolled Erosion Control Products (RECP), Performance in Protecting Hillslopes from Rainfall-Induced Erosion, meets the performance requirement using the Revised Universal Soil Loss Equation (RUSL).

Functional Longevity.

1. Temporary Degradable.

a. Duration.

1) Short-Term RECPs. (RECPs 3 - 12 months)

$C_{Factor} = .15$  maximum

Test Soil Type = Sandy Loam

(National Resources Conservation Service (NCRS) Soil Texture Triangle)

2) Moderate (Extended) -Term RECPs. (RECPs 24 months)

$C_{Factor} = .05$  maximum

Test Soil Type = Sandy Loam (NCRS Soil Texture Triangle)

- 3) Long-Term RECPs. (RECPs 36 months)  
 $C_{\text{Factor}} = .01$  maximum  
 Test Soil Type = Sandy Loam (NCRS Soil Texture Triangle)

b. Product types.

- 1) Mulch-Control Nets (MCNs). Planar woven natural fiber or extruded geosynthetic mesh used to anchor loose fiber matting/mulches.
- 2) Erosion Control Blankets (ECBs). Processed natural and/or polymer fibers, yarns or twines mechanically, structurally, or chemically bound together to form a continuous matrix with a minimum weight of 8 oz/yd<sup>2</sup> and a limiting shear stress of 0.45 lb/ft<sup>2</sup>.
- 3) Netless. Fibers mechanically interlocked and/or chemically adhered together.
- 4) Single-net and Double-net. Fibers mechanically bound together by single or double netting.
- 5) Open Weave Textiles (OWTs). Fibers woven into a continuous matrix.

c. Materials.

- 1) Burlap. Standard weave with a weight of 3.5 to 10 oz/yd<sup>2</sup>.
- 2) Jute Mesh Fabric. Cloth of a uniform, open, plain weave of undyed and unbleached single jute yarn. Use yarn that is loosely twisted and not varying in thickness more than one-half its normal diameter. Furnish jute mesh in rolled strips meeting the following requirements:
  - a) Width: 45 to 48 inches,  $\pm 1$  inch
  - b) 78 warp-ends per width of cloth (minimum)
  - c) 41 weft-ends per yard (minimum)
  - d) Weight: 20 ounces per linear yard,  $\pm 5\%$
- 3) Woven Paper or Sisal Mesh Netting. Woven from twisted yarns available in rolls 45 to 48 inches wide. Mesh may vary from closed to open weave, ranging from 1/8 to 1/4 inch openings. Shrinkage after wetting may not exceed 20% of the surface area.
- 4) Knitted Straw Mat. Commercially manufactured ECB. Use photodegradable netting and biodegradable thread. Use straw, in an air-dried condition, from oats, wheat, rye, barley, or other approved grain crops that are certified weed free of prohibited and restricted noxious weed seed and quarantined pests, according to Alaska Administrative Code, Title 11, Chapter 34 (11 AAC 34), and in conjunction with North American Invasive Species Management Association (NAISMA) standards, and free of mold, or other objectionable materials detrimental to plant life. When straw or straw products certified according to 11 AAC 34 are not available, use non-certified products manufactured within Alaska before certified products manufactured in another state, country, or territory. Non-certified products manufactured in Alaska In-lieu of certified weed-free straw, provide documentation that the material is steam or heat treated to kill seeds or provide U.S. or state's department of agriculture laboratory test reports, dated within 90 days prior to the date of application showing that there are no viable seeds in the straw. Non-certified straw or straw products manufactured in another state, country, or territory shall not be used. ECB may contain coconut or fiber to reinforce the straw.
- 5) Woven/Curled Wood blanket. Machine produced mat of curled wood shavings with a minimum of 80% 6-inch or longer fibers, with consistent thickness and the fibers evenly distributed over the entire area of the blanket. Smolder resistant without the use of chemical additives. Cover the top side of the blanket with biodegradable extruded plastic mesh.
- 6) Coconut (Coir Fiber). Machine produced mat, ECB of consistent thickness and coir fiber evenly distributed over the area of the mat. Use bio/photo degradable netting and thread.

2. Permanent.
  - a. Product Types and Materials.
    - 1) Turf Reinforcement Mats (TRMs). A rolled erosion control product composed of non-degradable synthetic fibers, filaments, nets, wire mesh, and/or other elements, processed into a permanent, three-dimensional matrix of sufficient thickness with a minimum weight of 8 oz/yd<sup>2</sup> and a minimum limiting shear stress of 1.5 lb/ft<sup>2</sup>. TRMs (may be supplemented with degradable components) shall impart immediate erosion protection, enhance vegetation establishment during and after maturation and permanent vegetation reinforcement providing long-term functionality.

**727-2.03 SEDIMENT RETENTION FIBER ROLLS (SRFRs).** Fiber rolls also referred to as wattles. Manufacture of photodegradable or biodegradable fabric netting without preservative treatment, evenly woven, free of crusted material, cuts, and tears. Manufacture stakes of photodegradable or biodegradable material (wood stakes, except as approved by the Engineer).

1. Filter Sock (Wattle)
  - a. Fabric netting.
  - b. Filled with wood fiber, straw, flax, rice, coconut fiber material.
  - c. Minimum diameter 5 inches.
2. Compost Sock.
  - a. Extra Heavy weight fabric netting with a minimum strand width of 5 mils.
  - b. Filled with coarse compost.
  - c. Minimum diameter 8 inches.
3. Coir Log.
  - a. Woven wrap bristle coir twine netting.
  - b. Filled with 100% coconut (coir) fiber uniformly compacted.
  - c. Segments maximum length 20 foot, diameter as suited to the application and a density of 7 lbs/pcf or greater.
  - d. Coir twine strength equal to 80 lb minimum weaved to a 2 inch x 2 inch opening pattern.
  - e. Ties made of hemp rope by 1/4 inch diameter.

**727-2.04 COMPOST.** Suitable for serving as a soil amendment or an erosion control material. Sanitized, mature compost meeting local, state, and Federal quality requirements tested and certified by the U.S. Composting Council (USCC) under the Seal of Testing Assurance (STA) Program. Biosolids compost must meet the Standards for Class A biosolids outlined in 40 Code of Federal Regulations (CFR) Part 503. Additionally, meet the requirements of the AASHTO specifications:

1. Compost Blankets. Standard Practice for Compost for Erosion/Sediment Control (Compost Blankets) R 52.
2. Compost Filter Berms and Filter Socks. Standard Practice for Compost for Erosion/Sediment Control (Filter Berms and Filter socks) R 51.

**727-2.05 TACKIFIER.** Tackifier, viscous overspray, generally composed of dry powered vegetable gums derived from guar gum, psyllium and sodium alginase; asphaltic emulsions; petroleum distillates; copolymer emulsions; and lignosulfonates and used to anchor soil, compost, seed, the mulch fibers to one another, and the ground. Contain no growth or germination inhibiting materials nor significantly reduce infiltration rates. Tackifier shall hydrate in water and readily blend with other slurry material. Tackifier options include:

1. Type A. Organic tackifier with certification of plant sources; or
2. Type B. Synthetic tackifier with certification confirming product is not harmful to plants, animals, or aquatic life.

**727-2.06 POLYACRYLAMIDE (PAM).** Use as a tie-down for soil, compost, seed and as a flocculent. Polyacrylamide (PAM) products shall meet the requirements of American National Standards Institute (ANSI)/National Sanitation Foundation International (NSF) Standard 60 for drinking water treatment, be anionic (not cationic), linear and not cross-linked with an average molecular weight greater than 5 Mg/mole, minimum 30 percent charge density; contain at least 80% active ingredients and a moisture content not exceeding 10% by weight.

Deliver PAM in a dry granular powder or liquid form.

**727-2.07 GEOTEXTILE-ENCASED CHECK DAM AND SEDIMENT BARRIER.** Urethane foam core encased in geotextile material (silt fence material Section 633), minimum 8 inches height by minimum base width of 16 inches by minimum 7-foot length. Overhang the geotextile 6 inch minimum each end with apron type ties by 24 inches each side of the foam core.

**727-2.08 SANDBAG.**

1. Sandbag Sack Fabric. Fabric shall be a nonwoven, needle punched design meeting the Minimum Average Roll Values (MARV) verified in accordance with ASTM D4759.
2. Seam Thread. Similar durability to the sandbag sack fabric.
3. Sandbag Fill Material.
  - a. Selected Material 703-2.07 Type B
4. Cinch Ties. Plastic ties or equivalent tie recommended by the sandbag manufacturer.

**727-2.09 MANUFACTURED INLET PROTECTION SYSTEM.**

1. Manufacturers:
  - a. Ultra Tech International – Ultra-DrainGuard
  - b. Bowhead Environmental and Safety - StreamGuard Exert II Sediment Insert
  - c. Enpac - Catch Basin Insert, Oil and Sediment or
  - d. Approved equal.

**727-2.10 CLEAR PLASTIC COVERING.** A clear plastic covering meeting the requirements of the National Institute of Standards and Technology (NIST) voluntary Product Standard PS 17 - 69 for polyethylene sheeting having a minimum thickness of 6 mils.

**727-2.11 STAPLES.** U-shaped staples for anchoring matting, approximately 6 inches long and 1 inch wide. Machine-made: No. 11 gage or heavier steel wire. Hand-made: 12-inch lengths of No. 9 gage or heavier steel wire.

**CR727-050812R1**

Add the Following:

**727-2.12 WILLOW CUTTINGS.** Dormant "Feltleaf" variety Willow cuttings 1/2 inches to 2 inches in diameter and at least 3 feet long. Collect dormant cuttings during winter/early spring before leaves appear, preferably before March 31. Store cuttings in bundles of approximately 50 to 100 each. Maintain cuttings in dormant state at temperatures between 31°F and 40°F until planted, and free of disease, injurious insects, mechanical wounds, broken branches, decay or other defects.

**727-2.13 COIR FABRIC (BRUSH LAYERING).** Coir (coconut) fabric wrap composed of 2 layers of fabric.

1. The inner layer fabric shall be Bon Terra's ENC2, North American Green's C125BN, or approved equal, and shall consist of a 100% biodegradable double net erosion control blanket with a functional longevity up to 24 months. The blanket shall be of consistent thickness with the coconut evenly distributed over the entire area of the mat. The blanket shall be covered on top and bottom sides with 100%

biodegradable woven natural organic fiber netting. The woven coir fiber netting shall form an approximate 0.5 inch by 1 inch mesh.

2. The outer layer fabric shall be Bon Terra's CF7, North American Green's CCM-700, or approved equal, and shall consist of a 100% biodegradable double net erosion control blanket with a functional longevity of greater than 36 months. The blanket shall be of consistent thickness with the coconut evenly distributed over the entire area of the mat. The woven coir fiber netting shall have mesh openings not to exceed 0.75 inches by 0.75 inches.
3. Refer to Subsection 727-2.02 Matting

## Special Provisions

Add the following Section:

**SECTION 741  
HOLDING TANKS**

**741-2.01 HOLDING TANK.** Provide single compartment holding tanks with the capacity indicated in the Plans. Holding tanks shall be 10 gage steel and rated for a minimum burial depth of 4-feet.

The interior and exterior of tanks must be sand blasted and coated with an approved epoxy coating.

**741-2.02 ALARM SYSTEM.** Furnish Alarm system Kit for each holding tank and UL-listed for UL 508A.

Alarm systems shall have both audio and visual indicators. Audible horns shall be rated for 85 db at 10'. Alarm light shall be visible from all angles. Control features must include the following:

- Horn silencing the alarm system
- Automatic alarm reset
- Testing
- At least two (2) terminals for both floats

Power Requirements: 120 VAC

Control enclosures shall be rated for indoor/outdoor use, thermoplastic, and NEMA 4X rating.

Provide posts for mounting alarm controls and other electrical components as indicated in the Plans.

Each alarm system shall contain two floats set at elevations shown in the Plans. Floats shall be composed of Polypropylene body and foam filled, have a normally open mechanical switch, and compatible with the alarm control. Provide cable lengths necessary to connect to the control panel. Provide float mounting assembly kits compatible with the floats and install per the manufacturer's instructions.

**741-2.03 MANHOLE RISERS.**

One insulated manhole riser shall be provided for each tank and a minimum 20 inches in diameter. Manhole risers shall be constructed of ribbed PVC or engineer approved equal.

Each manhole riser shall have 4 inches of polyurethane spray applied insulation and water-resistant coating. Insulation and water-resistant coating shall be fully cured before arriving at the project.

Lids shall be insulated fiberglass with non-skid finish, and provided with tamper resistant stainless-steel bolts, and matching wrench. Lids shall fit properly and be insulated.

**741-2.04 DRAIN HATCH.** Hatch shall be a 4-inch, foot operated, lockable, ductile iron body, with straight through design. OPW 269-0058 Sanitary Tank Hatch or approved equal. Provide necessary threaded pvc hub x male adapter, or approved equal, for connection with sanitary riser.

**741-2.05 PIPE FITTINGS.** Manufactured by Fernco, Mission, or other approved manufacturer. Use stainless steel shielded rubber fittings suited for burial and fasten with T-316 stainless steel clamps.

**741-2.06 STANDARD PADLOCK.** Master Lock No. 1 with 5/16-inch shackle diameter, 15/16-inch vertical clearance, 3/4-inch horizontal clearance, 1-3/4-inch case width, and keyed alike to a key number provided by the Department for the Campground. Provide two keys with each padlock. Provide one padlock for every lockable pipe cap and drain hatch.

**741-2.07 REINFORCING STEEL.** Shall be grade 60.

**741-2.08 CONCRETE.** Class A Concrete conforming to Section 501.

**741-2.09 DEADMAN ANCHOR SYSTEM.**

Precast Deadman: Provide two reinforced precast concrete anchors meeting ACI Code and the specified size indicated on the plans. Each anchor must have two anchor points, designed to resist anticipated buoyancy forces. Anchor point spacing shall be such that straps are located between the tank's manhole riser hubs. Anchor points may be a corrosion resistant insert, epoxy coated rebar meeting ASTM A775, or approved anchoring point system compatible with specified turnbuckles. Anchor points must be designed to resist anticipated buoyancy forces. Submit shop drawings for approval.

Anchoring system:

1. Anchor Straps shall be Pultruded FRP Straps with galvanized D-ring connections rated for a minimum 25,000 lbs. Strap length must be long enough to allow connections between selected turnbuckles and short enough to provide proper tensioning. Provide drop forged hot dipped galvanized steel 3/4-inch jaw to jaw turnbuckles with a working load limit of 5,200 lbs and ultimate load 5 times the working load. Size jaws to fit strap's D-ring. Size turnbuckle to take up FRP strap slack.
2. Contractor may submit alternative anchoring system compatible with precast concrete Deadman, and anchor points for approval.

**741-2.10 HOLDING TANK BEDDING MATERIAL.** Use selected material, Type A (Subsection 703-2.07) passing the 1/2-inch sieve for bedding material.

**741-2.11 LEVELING COURSE.**

Pea gravel: 3/8" minus pea gravel. Gravel size shall be no larger than 1/2".

Sand: Use sand blanket material (Subsection 635-2.01) passing the 1/2-inch sieve.

Bentonite: Naturally occurring 8 to 20 mesh granular bentonite clay.

Special Provision

Add the following Section:

**SECTION 743  
PLUMBING MATERIALS**

**743-2.01 DOMESTIC WATER PIPING, ABOVE GRADE.** Pipes and fittings shall be suitable for potable water service.

3. Copper Tubing: ASTM B88, Type L hard drawn.
  - a. Fittings: ASME B16.18, cast copper alloy or ASME B16.22, wrought copper and bronze.
  - b. Joints: Solder, lead free, ASTM B32, 95-5 tin-antimony, or tin and silver, with melting range 430 to 535 deg F., lead free. Soldering and brazing fluxes, lead-free, NSF standard 61 for potable water.

**743-2.02 SANITARY SEWER AND VENT PIPING, ABOVE GRADE.**

1. ABS Pipe: ASTM D2751 or ASTM F628, Schedule 40, DWV, Acrylonitrile-Butadiene-Styrene (ABS) material.
  - a. Fittings: ABS, ASTM D2751.
  - b. Joints: ASTM D2235, solvent weld.
2. ABS Pipe: ASTM D2661 or ASTM D2751, Acrylonitrile-Butadiene-Styrene (ABS) material.
  - a. Fittings: ABS, ASTM D2662.
  - b. Joints: ASTM D2235, solvent weld.

**743-2.03 UNIONS AND FLANGES.** Pipes and fittings used for domestic water plumbing shall be suitable for potable water service.

1. Unions for Pipe 2 inches and Smaller:
  - a. Copper Piping: Class 150, bronze unions with soldered joints.
  - b. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

**743-2.04 BALL VALVES.** Valves shall be suitable for potable water service.

1. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years' experience.
2. All valves exposed to domestic water are to be lead free and NSF 61 compliant.
3. Up to 2 inches: MSS SP 110, Class 150, one piece bronze body, chrome plated brass ball, full port, teflon seats, blow-out proof stem, solder or threaded ends, lever handle.

**743-2.05 CHECK VALVES.** Valves shall be suitable for potable water service.

1. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years' experience.
2. All valves exposed to potable water are to be lead free and NSF 61 compliant.
3. Horizontal Swing Check Valves:
  - a. 2 inches and Smaller: MSS SP 80, Class 150, bronze body and cap, bronze seat, Buna- N disc, solder or threaded ends.
4. Spring Loaded Check Valves:

- a. 2 inches and Smaller: MSS SP 80, Class 150 bronze body, in-line spring lift check, silent closing, Buna-N disc, integral seat, solder or threaded ends.
5. Backflow Prevention Assemblies: Double Check Valve Backflow Prevention Assembly, AWWA C510, ASSE 1015, minimum rated working pressure of 175psi, spring loaded, upstream and downstream ball valve shutoff with lever handle, test cocks, and lead free.

**743-2.06 DRAIN VALVES.** Drain Valves shall be suitable for potable water service.

1. Hose-End drain Valves: MSS SP 110 for standard port

**743-2.07 PIPE HANGERS AND SUPPORTS.** Hangers and supports shall be designed and manufactured in conformance with MSS SP-58

1. Dielectric barriers: Provide between metallic supports and metallic piping and associated items of dissimilar type; acceptable dielectric barriers include rubber, plastic sheets, or coatings attached securely to pipe or item.
2. Plumbing Piping - DWV:
  - a. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Carbon steel, adjustable swivel, split ring.
  - b. Hangers for Pipe Sizes 2 inches and Larger: Carbon steel, adjustable, clevis.
  - c. Vertical Support: Steel riser clamp.
  - d. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
3. Plumbing Piping - Water: Conform to ASME B31.9. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Carbon steel, adjustable swivel, split ring.
  - a. Vertical Support: Steel riser clamp.
  - b. Copper Pipe Support: Copper-plated.
4. Anchors and Fasteners: Concrete: Use screw anchors

**743-2.08 SLEEVES.**

1. Sleeves for Pipes Through Non-Fire-Rated Beams, Walls, Footings, and Potentially Wet Floors: Steel pipe or 18 gage thick galvanized steel.

**743-2.09 FIRE STOPPING AND ACCESSORIES.**

1. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
2. Product Description: Different types of products by multiple manufacturers are acceptable as required to meet specified system description and performance requirements; provide only one type for each similar application.
  - a. Furnish UL listed products.
  - b. Select products with rating not less than rating of wall or floor being penetrated.
  - c. Provide clips, collars, fasteners, temporary stops or dams, and other devices required to position and retain fire stopping materials in place.
3. Primer: Type recommended by fire stopping manufacturer for specific substrate surfaces and suitable for required fire ratings.

**743-2.10 PLUMBING IDENTIFICATION.**

1. Manufacturer: Company specializing in manufacturing products specified in this section with

minimum three years' experience.

2. Name Plate Product Description: Laminated three-layer plastic with engraved black letters on light contrasting background color. Minimum 1/2-inch text.
3. Plastic Tags: Laminated three-layer plastic with engraved black letters on light contrasting background color. Tag size minimum 1-1/2 inches diameter.
4. Metal Tags: Brass with stamped letters; tag size minimum 1-1/2 inches finished edges.
5. Information Tags: Black plastic with printed "Danger," "Caution," or "Warning" and message; size 3-1/4 x 5-5/8 inches with grommet and self-locking nylon ties.
6. Tag Chart: Typewritten letter size list of applied tags and location plastic laminated in frame.
7. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings. Color and Lettering to conform to ASME A13.1.
8. Label Product Description: Polyester Laminated Mylar, size 1.9 x 0.75 inches, adhesive backed with printed identification.

#### **743-2.11 PLUMBING INSULATION.**

1. Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular form: ASTM C534; Type I, Tubular form.
2. Elastomeric Foam Adhesive: Air-dried, contact adhesive, compatible with insulation.
3. Insulating Cement/Mastic: Provide product that is compatible with insulation. ASTM C195; hydraulic setting on mineral wool.
4. PVC Plastic Pipe Jacket: ASTM D1784, One piece molded type fitting covers and sheet material, off-white color.
  - a. Thickness: 10 mil.
  - b. Connections: Brush on welding adhesive.
5. Covering Adhesive Mastic: Waterproof, fire-retardant, and compatible with insulation.
6. Lagging Adhesive: Compatible with insulation.
7. Removable Valve Wraps: Approved removable and reusable wrapping system. Wraps must overlap with adjacent adjoining sections of pipe insulation. Wraps or covers shall not require special hand tools.

#### **743-2.12 PLUMBING FIXTURES.**

1. Provide drinking water systems with components certified as complying with NSF 61.
2. All Fixture Supply Pressure: 20 psi minimum.
3. Manufacturers: Company specializing in manufacturing products specified in this section with minimum three years' experience.
4. Utility Sink: Single Compartment Bowl, ASME A112.19.3; 18- x 24- x 13-3/8-inch outside dimensions, 16 gage thick, Type 304 stainless steel. 1-5/8-inch diameter heavy-gauge galvanized tubing legs, directly below sink, with high impact corrosion resistant 1" adjustable flanged bullet feet. All partitions shall have 5/8-inch rolled top edge and all outside corners bull nosed for safety. Faucet holes punched at 8-inches on centers 8-inch splash with 2-inch return to wall at 45° angle and 1-inch upturn. Eagle Group manufacturing model #1824-1-16/3 or approved equal.
  - a. Trim: Stainless Steel, heavy-duty splash mounted, two handle gooseneck faucet with 8-inch fixed centers, 12" high restricted swing, gooseneck spout, Eagle Group model #301001 or approved equal.
  - b. Accessories:
    - (1) Removable P-trap
    - (2) Vacuum breaker
    - (3) Perforated open strainer.
    - (4) Flexible supplies.

- (5) vandal proof aerator
- 5. Exterior Sillcock: ASSE 1019; frost-free, anti-siphon, self-draining type with chrome plated wall plate hose thread spout, removable key, with valve extension sized to place the valve body through wall.
  - a. Accessories:
    - (1) Drain cap.
    - (2) Approved locking device, cover, or housing for all exterior bibbs compatible with sanitary cap.

**743-2.13 PLUMBING EQUIPMENT.** All parts and components in contact with potable water shall meet NSF 61 Standards and Lead Free.

- 1. Sediment Filters:
  - a. Manufacturers: Big Blue or approved equal.
  - b. 20-inch, polypropylene (HFPP) housing and cap, point of entry, cartridge sediment filter with pressure relief button and EPDM O-ring.
  - c. Capacity: 90 psi max pressure, 20 gpm.
  - d. Accessories
    - (1) Cartridge Filter
      - (a) Dual Grade 25 micron outside /1 micron inside 4.5" x 20", 20 gpm
      - (b) Media: Spun Polypropylene
      - (c) Two additional replacement filters.
      - (d) Housing Bracket: White powder coated or stainless steel.
    - (2) Backup O-ring
    - (3) Wrench for removing cartridge housing
- 2. Salt Based Ion-Exchange Water Softener:
  - a. Manufacturers: Kinetico or approved equal.
  - b. Continuous duty, fiberglass wrapped engineered plastic, dual tank system with separate brine feed tank.
  - c. Power: None.
  - d. Capacity: 10 gpm minimum.
  - e. Water meter shall be non-electric use meter that initiates regeneration and cycles between tanks. Water meter shall measure and processed volume and be adjustable from 0.3 to 25 gpm.
  - f. Regeneration Type: Counter Current, service flow shall be up-flow and regeneration flow shall be downflow. Regeneration process shall not allow hard water to bypass.
  - g. Media: Fine Mesh Cation Resin with minimum exchange capacity of 40,000 grains/ft<sup>3</sup> of CaCO<sub>3</sub> when regenerated with 15.0 lbs/ft<sup>3</sup> of salt.
  - h. Water Quality Performance: Suitable for treating tested raw water properties such as, but not limited, to hardness, pH range, raw water temperature range,
- 3. Brine Tank: 12" Diameter x 40" Tall, 100lbs minimum, or approved equivalent compatible with the

water softener.

4. Arsenic Treatment System:

- a. Manufacturers: Advant Edge or approved equal.
- b. Point of Entry, media treatment system.
- c. Power: Receptacle, 120 VAC, 60hz
- d. Capacity: Service flow rate 5 gpm minimum and Peak flow rate 6 gpm. Service treatment volume before backwash, 5,000 gallons minimum.
- e. Controller: Volume and Timed override based for treatment and backwashing cycles with digital display.
  - (1) Displays time, capacity remaining prior to backwash in 10 gallon increments, and current flow rate (gpm).
  - (2) Feature to manually initiate immediate or delayed regeneration.
  - (3) Lockout feature for settings.
  - (4) Call Service indicator for routine service reminders.
  - (5) Diagnostics Data feature storing days since last regeneration, water usage, water usage history for at least 60 days, peak flow rate for at least 7 days, total water usage since install, and total number of regenerations.
  - (6) Valve History feature indicating software version for valve, peak flow rate since installation, and stores total number of errors since programming setup.
- f. Media: NSF approved, Point of Entry, Non-hazardous, meets EPA Toxicity Characteristics Leaching Procedure (TCLP), suitable for landfill disposal, Iron-based absorption media. Contractor shall obtain media life expectancy projections and recommended replacement schedule from the manufacture.
- g. Water Quality Performance: Suitable for treating tested raw water properties such as, but not limited to, Arsenic V, Arsenic III, Total Arsenic, pH, Iron, Manganese, Sulfides, Silica, Phosphates, sulfate, Fluoride, hardness, sediment, tannins, turbidity, and temperature. Treatment system must reduce arsenic concentrations to meet DEC 18 AAC 80 and EPA Water Quality Standards' maximum contaminate level for transient non-community water systems.

5. Pressure Tank:

- a. Manufacturers: Amtrol Well-X-Trol or approved equivalent.
- b. High strength steel shell, antimicrobial lining, projection welded air valve, stainless steel system connection, high corrosion resistant finish (blue or grey), integrated water circulator, and built in floor stand.
- c. Application: Indoor and Outdoor.
- d. Performance:
  - (1) Maximum Working Pressure, 150psig
  - (2) Maximum Relief Valve Setting, 125psig
  - (3) Capacity: Sized for expect water demand, water use, meets minimum pump run time
  - (4) Compatible with selected pump and pump controller.
- e. Accessories:
  - (1) Adjustable, Pressure switch for pump control matching pressure tank manufacturer. Set cut in/out pressure to meet water system requirements.
  - (2) Brass tank tee with drain valve, relief valve, pressure switch pipe nipple, and plug.
  - (3) Wiring meeting applicable plumbing standards and manufacturer's requirements

Special Provision

Add the following Section:

**SECTION 744  
PUMP AND ACCESSORIES**

**744-2.01 SUBMERSIBLE PUMP.** All pump and motor components shall be suitable for potable water systems.

1. Pump: NSF approved, UL listed, submersible pump assembly, of the same manufacturer, designed for using in wells.
  - a. Capacity and Characteristics:
    - (1) AISI 304 Stainless, downthrust protect, Steel body pump. Capable of meeting the typical peak water demand 5 gpm and infrequent, short demands up to 7 gpm.
    - (2) Horse power: 1/2 HP
    - (3) Motor Power: Three wire, 230 Volts, Single Phase, 60Hz.
    - (4) Discharge: Thread and diameter matching existing drop pipe.
    - (5) Stainless steel, Encapsulated, continuous duty motor
    - (6) Impeller Material: Acetal or stainless steel

**744-2.02 PUMP ACCESSORIES.** Pump accessories in contact with drinking water must suitable for potable water systems.

1. Pump Controller: Rated to the submersible pump horse power, UL listed, NEMA Type 3R, three wire, single phase, 230 Volts control box with quick disconnect. Control box manufacturer must match the manufacturer of the pump and motor.
2. Submersible Wire: Rated for water submersion and sized to safely accommodate voltage

**744-2.03 DROP PIPE.** Pipes and fittings used for drop pipe shall be suitable for potable water service.

1. Galvanized Pipe: NSF approved, ASTM A 53, Schedule 40 with threaded ends. Size and section length to match existing drop pipe.
  - a. Fittings: NSF approved, ASME B16.4, threaded, galvanized.

**744-2.04 CHECK VALVES.** Valves shall be suitable for potable water service.

1. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years' experience.
2. All valves exposed to potable water are to be lead free and NSF 61 compliant.
3. Spring Loaded Check Valves:

2 inches and Smaller: NFS approved, No lead, 304 Stainless Steel body, rated for anticipated load and pressure, with threaded ends.



STATE OF ALASKA  
DEPARTMENT OF FISH AND GAME  
**REQUIRED CONTRACT PROVISIONS**  
for  
**FEDERAL-AID (FHWA) CONSTRUCTION CONTRACTS**

FHWA-1273 — Revised October 23, 2023

- i. General
- ii. Nondiscrimination
- iii. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- iX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- xi. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels: ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

**1. GENERAL**

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design- build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own

organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this

contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

**II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)**

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA

requirements.

1. **Equal Employment Opportunity:** Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR

Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty

with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review

indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

#### **6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. **Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR

230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to

the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. **Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. **Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

#### **10. Assurances Required:**

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. **Records and Reports:** The contractor shall keep such

records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

- (1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;
- (2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and
- (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C.

113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101.

Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

#### 1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers

and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

- (i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;
- (ii) The classification is used in the area by the construction industry; and
- (iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (ii) The classification is used in the area by the construction industry; and
- (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to [DBAconformance@dot.gov](mailto:DBAconformance@dot.gov). The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to [DBAconformance@dot.gov](mailto:DBAconformance@dot.gov), refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(5) The contracting officer must promptly notify the

contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

## 2. **Withholding** (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph 2.a. of this section or Section V, paragraph 3.a., or

both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901—3907](#).

### 3. Records and certified payrolls (29 CFR 5.5)

*a. Basic record requirements (1) Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

*b. Certified payroll requirements (1) Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts- covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of

Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker ( e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH—347 or in any other format desired. Optional Form WH—347 is available for this purpose from the Wage and Hour Division website at

[7 df](#) or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in [29 CFR part 3](#); and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH—347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH—347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHO will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

#### 4. **Apprentices and equal employment opportunity** (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment

and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeymen on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeymen under this part must be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. **Compliance with Copeland Act requirements.** The

contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. **Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. **Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. **Certification of eligibility.** a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

11. **Anti-retaliation.** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or

protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or 3.

## V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)\* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

\* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

### 3. Withholding for unpaid wages and liquidated damages

a. **Withholding process.** The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to

the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901—3907](#).

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs

1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. **Anti-retaliation.** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;
- b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;
- c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or
- d. Informing any other person about their rights under CWHSSA or this part.

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the

contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

## **VII. SAFETY: ACCIDENT PREVENTION**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

## **VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented; Shall be fined under this title or imprisoned not more than 5 years or both."

## **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)**

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

## **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more — as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

### **1. Instructions for Certification — First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR

180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is

erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion — First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner

pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

### 3. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 — 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions

and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

### 4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:
  - a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
  - b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**XII. USE OF UNITED STATES-FLAG VESSELS:**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the

extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS  
PREFERENCE FOR APPALACHIAN DEVELOPMENT  
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS  
ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)**

through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1

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**APPENDIXES**

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**APPENDIX A**  
**Construction Survey Requirements**

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**Alaska  
Department of  
Transportation  
and  
Public Facilities**

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**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

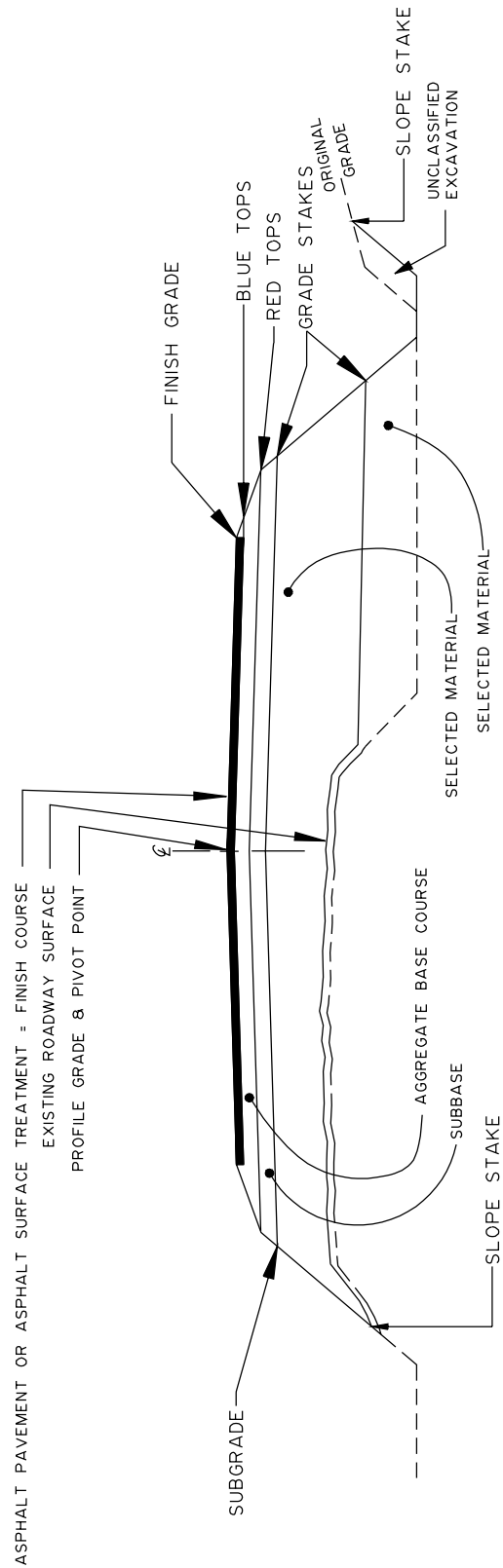
**Table 2—Survey frequency requirements (in feet)**

	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.





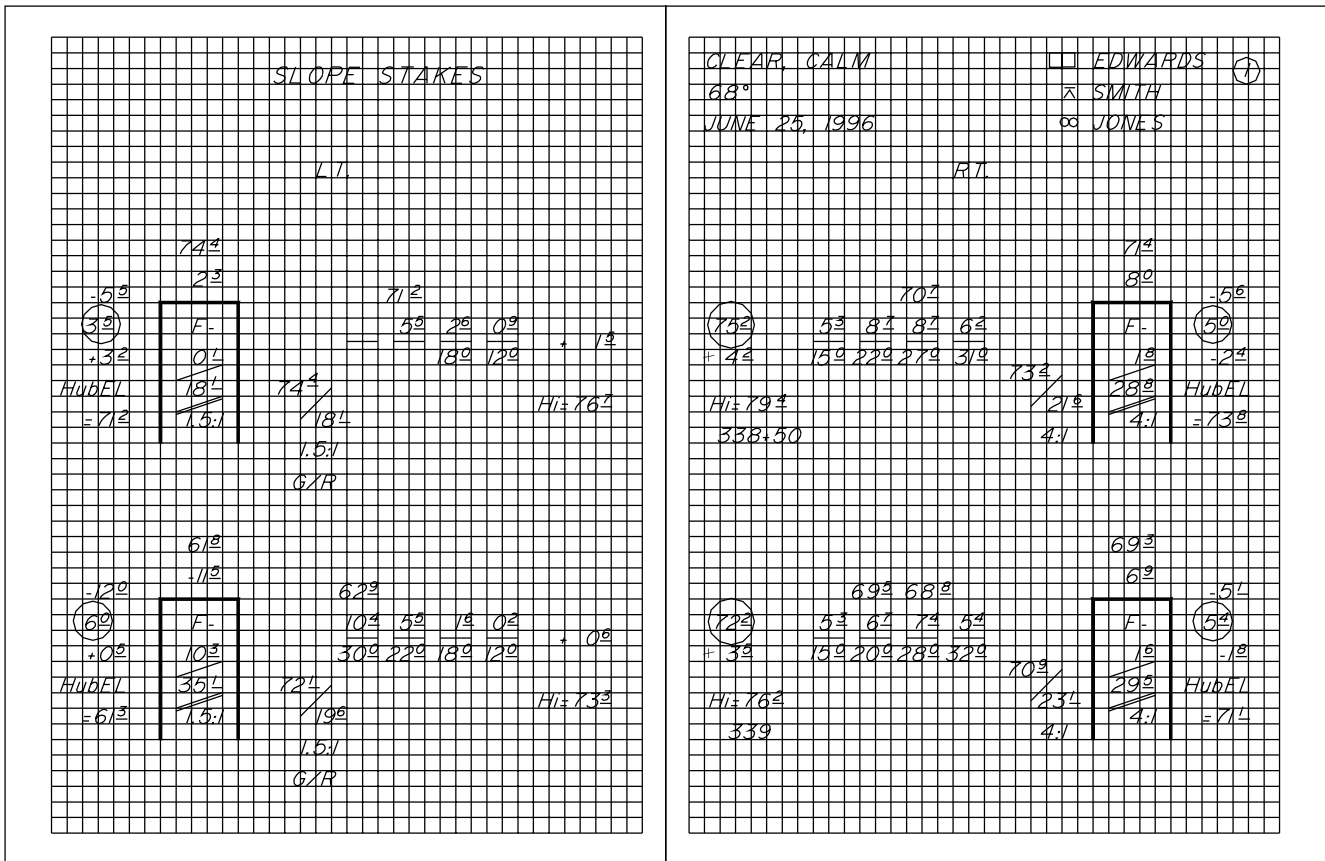
## 6. Typical level notes

- ✓ 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 WILD 413579			3-23-90	⊗ □ EDWARDS ⊕ 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					
T.P.			3.246		161.940					
	1.103	163.043								
6+75			2.31		160.73					
7+00			2.56		160.48					
T.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

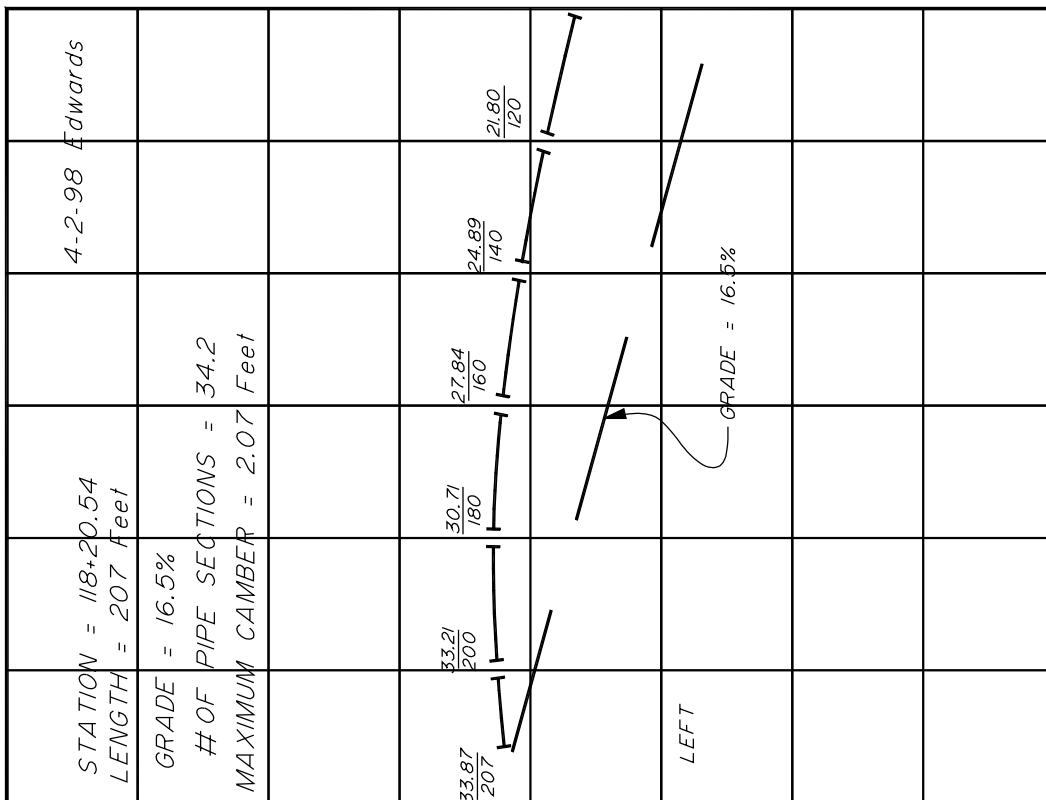
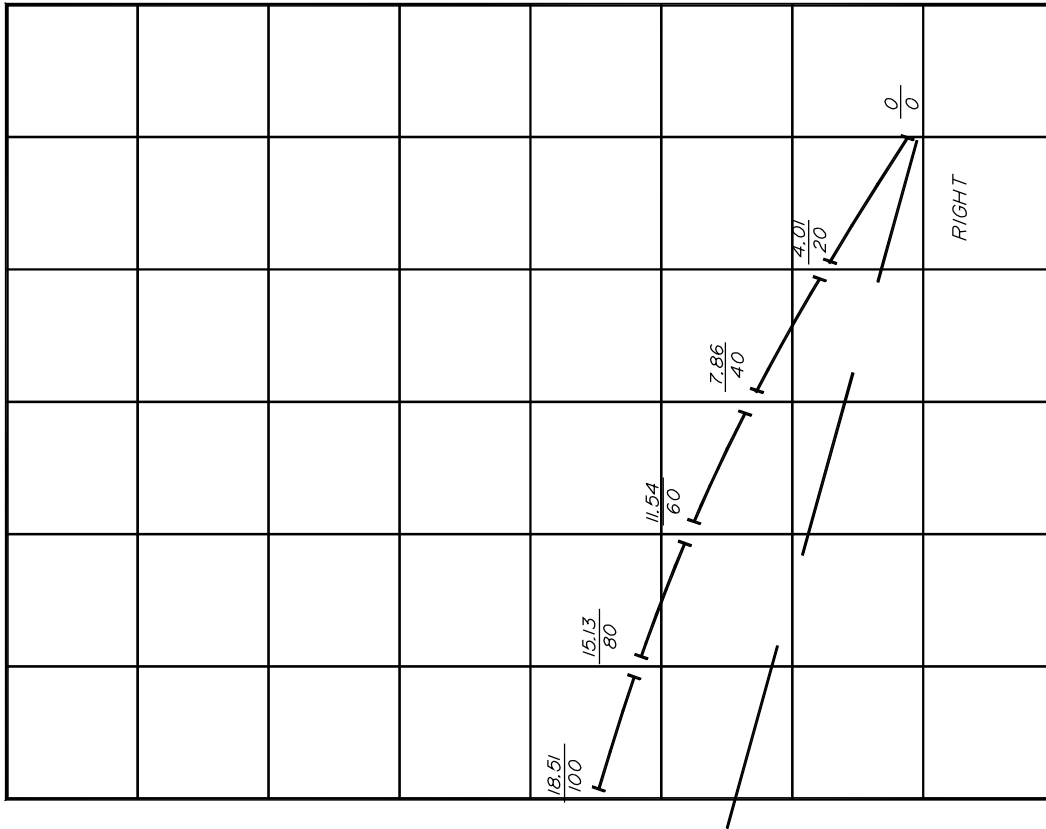
## 7. Typical slope stake notes

- ✓ 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.



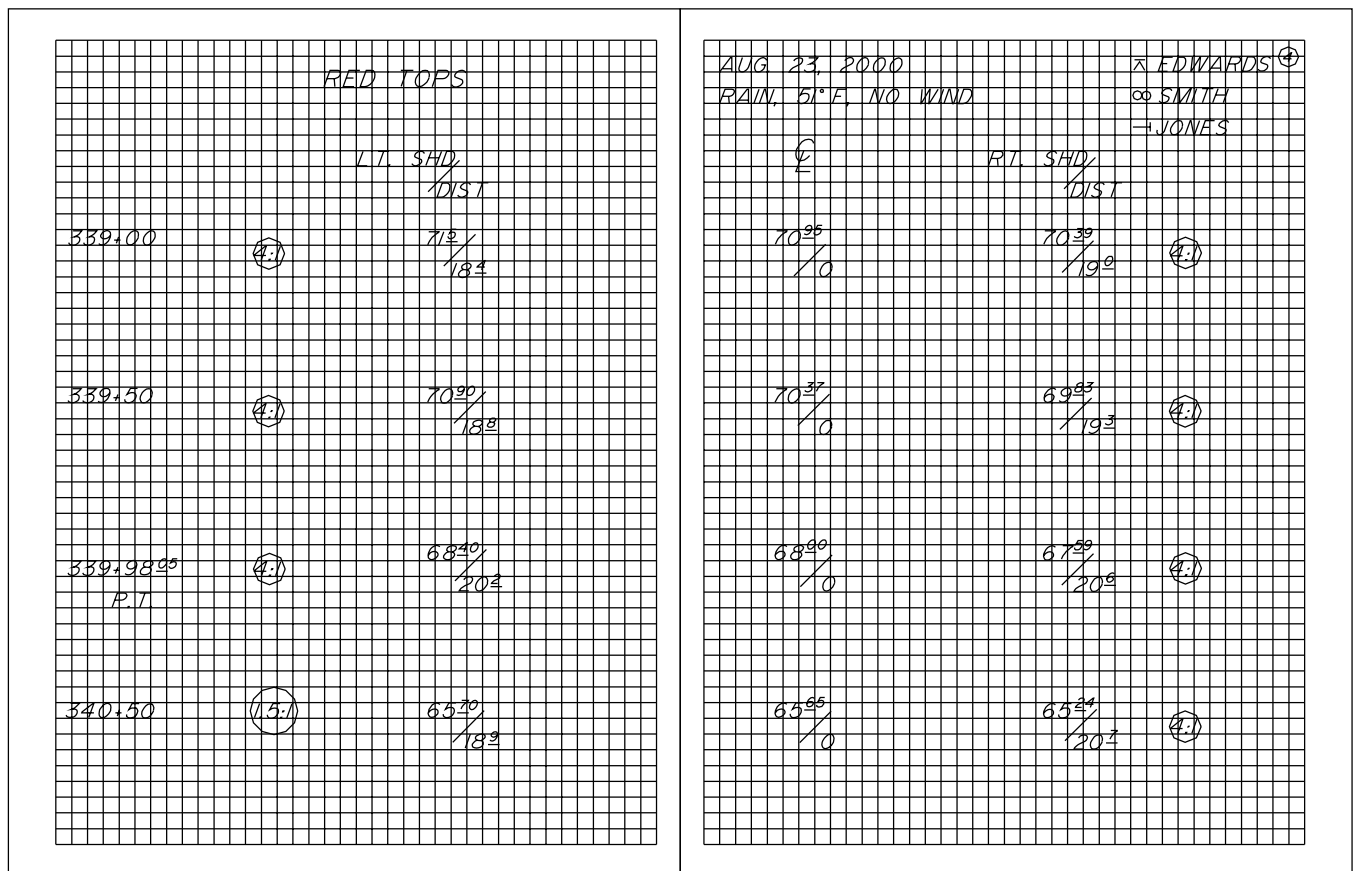


# 9. Typical culvert camber diagram



## 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**  
**Environmental Permits**

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## ENVIRONMENTAL PERMITS

- USACE Department of the Army Permit - *to be included by addendum*
- ADF&G Fish Habitat Permit FH26-IV-0103 Amendment 1
- ADNR Land Use Permit # LAS 25195
- ADEC Conditional Construction Approval (Wastewater)
- ADEC Construction Approval (Water) – *to be included by addendum*



**FISH HABITAT PERMIT FH26-IV-0103 (Amendment #1)**

**ISSUED:** May 12, 2026  
**EXPIRES:** Life of Structure

Tracy Smith  
Alaska Department of Fish and Game  
1801 S Margaret Drive Suite 2  
Palmer, Alaska 99645

**RE: Boat Launch Replacement and Installation/ Bank Stabilization**

Kashwitna River (Water Body No. 247-41-10200-2180)  
Section 13, T 21 N, R 5 W, SM  
Location: 61.9121 N, 150.0997 W

Dear Tracy Smith:

This amendment is written to authorize changes in specifications of excavation, fill, and dimensions of the boat launch. All previous versions of this permit are hereby null and void.

Pursuant to the Anadromous Fish Act at AS 16.05.871 (b), the Alaska Department of Fish and Game (ADF&G) Habitat Section has reviewed your proposal to replace the existing boat launch, construct a dock, stabilize the banks of the launch, and conduct bank restoration at the ADF&G Susitna Landing Boat Launch and Facility at the referenced location.

**Project Description**

According to your application, you intend to replace an existing boat launch with a newly constructed boat launch for public use. The new boat launch will be comprised of two boat ramp lanes separated with a floating dock. Each ramp will be approximately 17 feet wide and extend 64 feet below the ordinary high water line. You intend to shift the toe of the boat launch approximately 25 feet towards the upland from the original location. Installation of the boat launch will require removing approximately 1,330 cubic yards (cy) of riverbed material from below the ordinary high water (OHW) mark. Next, you will place a layer of geotextile fabric and a 12-inch layer of filter rock in the footprint of each ramp followed by a layer of timber sleepers and precast concrete planks to create a 13% slope. Two 8-inch wide and 4-inch high precast concrete curbs will run the inside edges of the ramps from the top of the ramps down 40 feet into the river.

Between the two boat ramp lanes, you intend to install an 82.2-foot long by 8.67-foot wide aluminum floating dock. The dock will be constructed of aluminum framed polyethylene floats

in 20-foot by 8.67-foot sections and secured via two 12.75-inch steel pilings, one in the riverbed and one above the OHW, as well as a 16-foot long by 9.33-foot wide concrete abutment. The steel pilings will be driven in using a vibratory hammer.

In addition, starting at the toe of the ramp lanes and spanning the entire width of the ramp and riprap shoulders, you intend to place a 4-foot deep by 4-foot wide by 47.6-foot long concrete apron. Following these concrete aprons, you will construct a 4-foot deep, 5-foot wide, by 47.6-foot long class II riprap section in order to prevent scouring. Also, you will stabilize a total length of 375 feet of shoreline along either side of the boat ramp which will entail removing an additional 258 cy of bank below the OHW mark and laying 587 cy of 12-inch diameter angular rock.

In addition to replacing the boat launch, you intend to stabilize and restore up to 185 linear feet on Kashwitna River upstream of the boat launch. You intend to remove an approximately 185-foot long by 15-foot wide by 5-foot deep section of the degraded river bank. Once removed, you will lay a footer log, one foot deep, at the toe of the bank. On top of the footer log, you will lay approximately forty 10-to-15-foot spruce tree rootwads. Perpendicular to the rootwad trunks, you will lay an anchor log and a header log. These logs will be secured to the rootwad trunks by drilling holes and driving a ½-inch diameter rebar into each rootwad trunks and log. The site will be backfilled with a 12-inch layer of gravel, excavated riverbed material encased in coir fabric, and felt leaf willows. The slope of the newly installed bank will be no greater than 1:1. Upland of the brush layer, a 5-foot native grass and woody stem vegetative mat, and other native rooted plants will be planted along the 185-foot section. This bank restoration work will be in accordance with the ADF&G publication *Streambank Revegetation and Protection – A Guide for Alaska* (2025).

For the boat launch replacement work and launch stabilization, the worksite will be isolated using a coffer dam and super sacks and then dewatered. Heavy equipment may work below the ordinary high water line for placement of the coffer dam and super sacks. Water in the worksite will be pumped into the uplands or filtered before entering the river. During the dewatering process, ADF&G staff will remove fish. The cofferdam and super sacks are anticipated to be in place for several weeks. Upon completion of the boat launch, the coffer dam will be removed.

For the bank restoration portion, riverbank work will be performed by hand tools and heavy equipment. Heavy equipment will be seated on the uplands. You do not plan on withdrawing water from the Kashwitna River to water the bank restoration.

This project is planned to take place starting in the spring of 2026 and be completed by July 31, 2027. Your permit application and all materials, maps, and drawings are hereby adopted by reference into this permit.

### **Anadromous Fish Act**

The Kashwitna River (Waterbody No. 247-41-10200-2180) has been specified as being important for the spawning, rearing, or migration of anadromous fishes pursuant to AS 16.05.871(a). The water body provides habitat for Chinook, coho, sockeye, and pink salmon. Resident fish species are also present.

In accordance with AS 16.05.871(d), your project is approved subject to the project description, the following stipulations, and permit terms.

1. This project is scheduled to be completed by July 31, 2027. Construction activities after this date may require an amendment. Additionally, an amendment may be required for future maintenance and/or upgrades. Please contact the Habitat Section at (907) 861-3200 for more information.

#### Boat Launch Installation & Stabilization

1. Any inadvertent bank disturbance will be stabilized using standard techniques as soon as possible.
2. Alteration of the river bed or banks, and operation of vehicles on vegetated banks or in a manner or location that induces erosion or sedimentation of the water body shall be limited to that which is necessary to complete your project as described above.
3. No vehicles leaking fuels, oils, hydraulic, or cooling fluids shall be operated below the ordinary high water line (vegetation line) of the Kashwitna River.
4. All construction waste must be properly contained to prevent pollution or contamination of state waters. All waste must be contained and disposed of in a suitable upland location.
5. Corrosion treatments for metal dock components shall be applied in an upland location prior to construction.

#### Bank Restoration

1. Silt fencing or other suitable containment techniques shall be used, as necessary, to minimize the introduction of suspended solids into Kashwitna River.

#### Water Withdrawal

1. The water pump intake structure must be enclosed and centered within a screened intake structure with a maximum screen-mesh size of 1/8 inches. The intake structure must be designed to that the water velocity does not exceed 0.5 feet per second at the screen/water interface.
2. The screened intake shall be inspected for damage (torn screen, crushed screen, screen separated from intake ends, etc.) And damage observed shall be repaired to conform to the original specifications prior to use.

#### **Permit Terms**

This letter constitutes a permit issued under the authority of AS 16.05.871 and must be retained on site during project activities. Please be advised that this determination applies only to Habitat Section regulated activities; other agencies also may have jurisdiction under their respective authorities. This determination does not relieve you of your responsibility to secure other permits; state, federal, or local. You are still required to comply with all other applicable laws.

You are responsible for the actions of contractors, agents, or other persons who perform work to accomplish the approved project. For any activity that significantly deviates from the approved plan, you shall notify the Habitat Section and obtain written approval in the form of a permit amendment before beginning the activity. Any action that increases the project's overall scope or that negates, alters, or minimizes the intent or effectiveness of any provision contained in this permit will be deemed a significant deviation from the approved plan. The final determination as

to the significance of any deviation and the need for a permit amendment is a Habitat Section responsibility. Therefore, we recommend you consult the Habitat Section before considering any deviation from the approved plan.

You shall give an authorized representative of the state free and unobstructed access to the permit site, at safe and reasonable times, for the purpose of inspecting or monitoring compliance with any provision of this permit. You shall furnish whatever assistance and information the authorized representative reasonably requires for monitoring and inspection purposes.

In addition to the penalties provided by law, this permit may be terminated or revoked for failure to comply with its provisions or failure to comply with applicable statutes and regulations. You shall mitigate any adverse effect upon fish or wildlife, their habitats, or any restriction or interference with public use that the commissioner determines was a direct result of your failure to comply with this permit or any applicable law.

You shall indemnify, save harmless, and defend the department, its agents, and its employees from any and all claims, actions, or liabilities for injuries or damages sustained by any person or property arising directly or indirectly from permitted activities or your performance under this permit. However, this provision has no effect if, and only if, the sole proximate cause of the injury is the department's negligence.

You may appeal this permit decision relating to AS 16.05.871 in accordance with the provisions of AS 44.62.330-630.

Please direct questions about this permit to Habitat Biologist Mandy Salminen at (907) 861-3203 or [mandy.salminen@alaska.gov](mailto:mandy.salminen@alaska.gov).

Sincerely,

Doug Vincent-Lang  
Commissioner



By: Sarah Myers  
Matanuska-Susitna Area Manager  
Habitat Section  
(907) 861-3200

-mms

cc:	A. Ott, Habitat	S. Oslund, SF	S. Myers, Habitat	Permits, DNR TWUA
	D. Ledford, AWT	L. Hegg, AWT	T. Boothby, MSB	Lisa Lee, POC
	Permits, SF	Pagemaster, COE	HQ Access, SF	Permits. DNR SCRO



**LAND USE PERMIT**  
**AS 38.05.850**  
**PERMIT # LAS 25195**

DFG SPORT FISH DIV PALMER herein known as the Grantee, is issued this permit from the Department of Natural Resources, herein known as the Grantor, authorizing the use of state land within:

**Legal Description:**

NE 1/4 Section 13, Township 21 North, Range 5 West, Seward Meridian

**This permit is issued for the purpose of authorizing the following:**

A concrete boat ramp consisting of two lanes separated by an aluminum floating dock secured by two pilings, and a concrete abutment. The ramps will have riprap shoulders, a concrete apron and, riprap ahead of the apron. Additional bank stabilization and incidental dredging to maintain the boat launch area and boat mooring basin at Susitna Landing on the Kashwitna River, near the confluence with the Susitna River, is included.

This permit is for the term beginning **May 5, 2025** and ending **May 4, 2030** unless sooner terminated at the state's discretion, effective the date of signature by the Authorized State Representative. This permit does not convey an interest in state land and as such is revocable, with or without cause. The Grantor will give 30 days' notice before revoking a permit at will. A revocation for cause is effective immediately. No preference right for use or conveyance of the land is granted or implied by this authorization.

This permit is issued subject to the following:

The non-receipt of a courtesy billing notice does not relieve the Grantee from the responsibility of paying fees on or before the due date.

All activities shall be conducted in accordance with the following stipulations:

- 1. Authorized Officer:** The Authorized Officer (AO) for the State of Alaska (State), Department of Natural Resources (DNR), Division of Mining, Land and Water (DMLW), is the Regional Manager or designee.
- 2. Change of Contact Information:** The Grantee shall maintain current contact information with the AO. Any change of contact information must be submitted in writing to the AO.

3. **Valid Existing Rights:** This authorization is subject to all valid existing rights and reservations in and to the authorized area. The State makes no representations or warranties, whatsoever, either expressed or implied, as to the existence, number, or nature of such valid existing rights.
4. **Preference Right:** No preference right for subsequent authorizations is granted or implied by this authorization.
5. **Inspections:** The AO shall have reasonable access to the authorized area for inspection, which may be conducted without prior notice. If the Grantee is found to be in noncompliance the authorized area may be subject to reinspection. The Grantee may be charged for actual expenses of any inspection.
6. **Public Access:** The construction, operation, use, and maintenance of the authorized area shall not interfere with public use of roads, trails, waters, landing areas, and public access easements. The ability to use or access state land or public waters may not be restricted in any manner. However, if a specific activity poses a safety concern, the AO may allow the restriction of public access for a specific period of time. The Grantee is required to contact the AO in advance for approval. No restriction is allowed unless specifically authorized in writing by the AO.
7. **Public Trust Doctrine:** The Public Trust Doctrine guarantees public access to, and the public right to use, navigable and public waters and the land beneath them for navigation, commerce, fishing, and other purposes. This authorization is subject to the principles of the Public Trust Doctrine regarding navigable or public waters. The AO reserves the right to grant other interests consistent with the Public Trust Doctrine.
8. **Alaska Historic Preservation Act:** The Alaska Historic Preservation Act, AS 41.35.200, prohibits the appropriation, excavation, removal, injury, or destruction of any state owned historic, prehistoric, archaeological or paleontological site without written approval from the DNR Commissioner. Should any sites be discovered, the Grantee shall cease any activities that may cause damage and immediately contact the AO and the Office of History and Archaeology in the Division of Parks and Recreation.
9. **Compliance with Government Requirements:** The Grantee shall, at its expense, comply with all federal, state, and local laws, regulations, and ordinances directly or indirectly related to this authorization. The Grantee shall ensure compliance by its employees, agents, contractors, subcontractors, licensees, or invitees.
10. **Incurred Expenses:** The Grantor shall in no way be held liable for expenses incurred by the Grantee connected with the activities directly or indirectly related to this authorization.
11. **Waiver of Forbearance:** Any failure on the part of the AO to enforce the terms of this authorization, or the waiver of any right under this authorization by the Grantee, unless in writing, shall not discharge or invalidate the authorization of such terms. No forbearance or written waiver affects the right of the AO to enforce any terms in the event of any subsequent violations of terms of this authorization.
12. **Severability Clause:** If any clause or provision of this authorization is, in a final judicial proceeding, determined illegal, invalid, or unenforceable under present or future laws, then

the Grantor and the Grantee agree that the remainder of this authorization will not be affected, and in lieu of each clause or provision of this authorization that is illegal, invalid, or unenforceable, there will be added as a part of this authorization a clause or provision as similar in terms to the illegal, invalid, or unenforceable clause or provision as may be possible, legal, valid, and enforceable.

- 13. Posting Placard:** The placard included with this permit shall be placed on-site in a conspicuous location visible from the most common access route or vantage point.
- 14. Permit Extensions/Reissuance:** Any request for permit extension or reissuance should be submitted at least 90 days prior to the end of the authorized term. A written statement requesting a one-year extension confirming there will be no changes to the development/operations plan, including photographs clearly depicting the current condition of the site and any improvements, must be submitted to the AO with any required filing fee. A new Land Use Permit application and any required filing fee is required when requesting reissuance of up to five years or for modifications to the approved development/operations plan on file with DMLW.
- 15. Assignment:** This permit may not be transferred or assigned.
- 16. Reservation of Rights:**
  - a. The AO reserves the right to grant additional authorizations to third parties for compatible uses on or adjacent to the land under this authorization.
  - b. Authorized concurrent users of state land, their agents, employees, contractors, subcontractors, and licensees, shall not interfere with the operation or maintenance activities of each user.
  - c. The AO may require authorized concurrent users of state land to enter into an equitable operation or maintenance agreement.
- 17. Violations:** A violation of this authorization is subject to any action available to the State for enforcement and remedies, including revocation of the permit, civil action for forcible entry and detainer, ejectment, trespass, damages, and associated costs, or arrest and prosecution for criminal trespass in the second degree. The State may seek damages available under a civil action, including restoration damages, compensatory damages, and treble damages under AS 09.45.730 or AS 09.45.735 for violations involving injuring or removing trees or shrubs, gathering geotechnical data, or taking mineral resources.
- 18. Directives:** Directives may be issued for corrective actions that are required to correct a deviation from design criteria, project specifications, stipulations, State statutes or regulations. Work at the area subject to the Directive may continue while implementing the corrective action. Corrective action may include halting or avoiding specific conduct, implementing alternative measures, repairing any damage to state resources that may have resulted from the conduct, or other action as determined by DNR.
- 19. Stop Work Orders:** Stop Work Orders may be issued if there is a deviation from design criteria, project specifications, stipulations, State statutes or regulations and that deviation is causing or is likely to cause significant damage to state resources. Under a Stop Work Order, work at the area subject to the Stop Work Order may not resume until the deviation is cured and corrective action is taken. Corrective action may include halting or avoiding specific

conduct, implementing alternative measures, repairing any damage to state resources that may have resulted from the conduct, or other action as determined by DNR.

- 20. Notification of Discharge:** The Grantee shall immediately notify the Department of Environmental Conservation (DEC) and AO of any unauthorized discharge of oil to water, any discharge of hazardous substances (other than oil), and any discharge of oil greater than 55 gallons on land. All fires and explosions must also be reported immediately.

If a discharge, including a cumulative discharge, of oil is greater than 10 gallons but less than 55 gallons, or a discharge of oil greater than 55 gallons is made to an impermeable secondary containment area, the Grantee shall report the discharge within 48 hours. Any discharge of oil greater than one gallon up to 10 gallons, including a cumulative discharge, solely to land, must be reported in writing on a monthly basis.

Notification of discharge during normal business hours must be made to the nearest DEC Area Response Team: Anchorage (907)269-3063, fax (907) 269-7648; Fairbanks (907) 451-2121, fax (907) 451-2362; Juneau (907) 465-5340, fax (907) 465-5245. For discharges in state off shore waters call (907) 269-0667. The DEC oil spill report number outside normal business hours is (800) 478-9300.

Notification of discharge must be made to the appropriate DNR Office, preferably by e-mail: Anchorage email [dnr.scro.spill@alaska.gov](mailto:dnr.scro.spill@alaska.gov), (907) 269-8503; Fairbanks email [dnr.nro.spill@alaska.gov](mailto:dnr.nro.spill@alaska.gov), (907) 451-2739; Juneau email [dnr.sero.spill@alaska.gov](mailto:dnr.sero.spill@alaska.gov), (907) 465-3400. The Grantee shall supply the AO with all incident reports submitted to DEC.

- 21. Returned Check Penalty:** A returned check penalty of \$50.00 will be charged for any check on which the bank refuses payment. Late payment penalties shall continue to accrue.
- 22. Late Payment Penalty Charges:** The Grantee shall pay a fee for any late payment. The amount is the greater of either \$50.00 or interest accrued daily at the rate of 10.5% per annum and will be assessed on each past-due payment until paid in full.
- 23. Use Fees:** In accordance with 11 AAC 05.020, this permit is not subject to an annual fee.
- 24. Request for Information:** The AO, at any time, may require the Grantee to provide any information directly or indirectly related to this authorization, in a manner prescribed by the AO.
- 25. Completion Report:** A completion report and completed "Relinquishment Form and Environmental Hazard Evaluation Affidavit" shall be submitted prior to relinquishment, or within 30 days after expiration or termination of the authorization. Failure to submit a satisfactory report subjects the site to a field inspection requirement for which the Grantee may be assessed an inspection fee, as outlined herein. The report shall contain the following information:
- a. a statement of restoration activities and methods of debris disposal;
  - b. a statement that the Grantee has removed all improvements and personal property from the authorized area;
  - c. a report covering any known incidents of damage to the vegetative mat and underlying substrate, and follow-up corrective actions that may have taken place while operating under this authorization;

- d. and, photographs of the permitted site taken before, during and after the proposed activity to document permit compliance. Photographs must consist of a series of aerial view or ground-level view photographs that clearly depict compliance with site cleanup and restoration guidelines;

**26. Site Disturbance:** Site disturbance shall be kept to a minimum to protect local habitats. All activities at the site shall be conducted in a manner that will minimize the disturbance of soil and vegetation and changes in the character of natural drainage systems.

- a. Brush clearing is allowed but should be kept to the minimum necessary. Removal or destruction of the vegetative mat is not authorized under this permit.
- b. Establishment of, or improvements to, landing areas (i.e. leveling the ground or removing or modifying a substantial amount of vegetation) is prohibited.
- c. Attention must be paid to prevent pollution and siltation of streams, lakes, ponds, wetlands, and disturbances to fish and wildlife habitat.
- d. Any ground disturbances which may have occurred shall be contoured to blend with the natural topography to protect human and wildlife health and safety.

**27. Indemnification:** In connection with the entry on or use of assigned lands, subject to the limitations and provisions of AS 09.50.250-.270 and AS 37.05.170, the Grantee shall ensure that its contractors and subcontractors shall indemnify, save harmless, and defend the State, its agents and its employees from any and all claims or actions for injuries or damages sustained by any person or property arising directly or indirectly from the construction or the contractor's performance of the contract, except when the proximate cause of the injury or damage is the State's sole negligence.

**28. Performance Guaranty and Insurance:** As the Grantee is a Federal/State/Municipal agency that is self-insured and bonded, and as the Federal/State/Municipal Agency guarantees compliance through statutes and regulations, no performance guarantee or insurance will be required. In the event the Grantee becomes aware of a claim against any of its liability coverage, the Grantee shall notify, and provide documentation and full disclosure of the claim to the AO within 30 days.

**29. Fuel and Hazardous Substances:**

- a. The use and/or storage of hazardous substances by the Grantee must be done in accordance with existing federal, state and local laws, regulations and ordinances. Debris (such as soil) contaminated with used motor oil, solvents, or other chemicals may be classified as a hazardous substance and must be removed and disposed of in accordance with existing federal, state and local laws, regulations and ordinances.
- b. Drip pans and materials, such as sorbent pads, must be on hand to contain and clean up spills from any transfer or handling of fuel.
- c. Vehicle refueling shall not occur within the annual floodplain or tidelands. This restriction does not apply to water-borne vessels provided no more than 30 gallons of fuel are transferred at any given time.
- d. During equipment maintenance operations, the site shall be protected from leaking or dripping hazardous substances or fuel. The Grantee shall place drip pans or other surface liners designed to catch and hold fluids under the equipment or develop a maintenance area by using an impermeable liner or other suitable containment mechanism.

- 30. Waste Disposal:** On-site refuse disposal is prohibited, unless specifically authorized. All waste generated during operation, maintenance, and termination activities under this authorization shall be removed and disposed of at an off-site DEC approved disposal facility. Waste, in this paragraph, means all discarded matter, including but not limited to human waste, trash, garbage, refuse, oil drums, petroleum products, ashes and discarded equipment.
- 31. Dock Construction:** Dock construction and installation shall conform to the following:
- a. All work below the mean high-water or ordinary high-water shall occur only when the site is naturally dewatered or at low tide. If, due to high water conditions, the site must be mechanically dewatered, the applicant must first provide this office with a detailed set of plans for approval.
  - b. Attention must be paid to the prevention of pollution, siltation, and disturbances to wildlife habitats. Existing bank or shore vegetation shall not be removed or altered to facilitate dock installation and removal. Any inadvertent bank cuts, slopes, or other earthwork shall be immediately stabilized, returned to pre-project contours, and re-vegetated with native vegetation.
  - c. During the storage, handling and transportation of gravel and soils, precautions must be taken to minimize dust.
  - d. No wheeled or tracked vehicles shall operate in any open water in conjunction with dock construction, use, and maintenance.
  - e. Use of pentachlorophenol or creosote as a wood preservative is prohibited. All wood preservatives shall be applied using pressure treatment.
  - f. Placement of fill or removal of sand, gravel or other materials from state-owned tidelands, shorelands, and submerged lands is prohibited without prior written approval from the AO.
- 32. Navigation and Public Access:** Anchoring methods, shoreties, buoys and running lines shall not preclude reasonable public access nor interfere with the ability to safely navigate within and adjacent to the permitted area.
- 33. Destruction of Markers:** The Grantee shall protect all survey monuments, witness corners, reference monuments, mining claim posts, bearing trees, and unsurveyed corner posts against damage, destruction, or obliteration. The Grantee shall notify the AO of any damaged, destroyed, or obliterated markers and shall reestablish the markers at the Grantee's expense in accordance with accepted survey practices of the DMLW.
- 34. Site Maintenance:** The authorized area shall be maintained in a neat, clean, and safe condition, free of any solid waste, debris, or litter, except as specifically authorized herein. Nothing may be stored that would be an attractive nuisance to wildlife or create a potentially hazardous situation.
- 35. Maintenance of Improvements:** The Grantor is not responsible for maintenance of authorized improvements or liable for injuries or damages related to those improvements. No action or inaction of the Grantor is to be construed as assumption of responsibility.
- 36. Amendment or Modification:** The Grantee may request an amendment or modification of this authorization; the Grantee's request must be in writing. Any amendment or modification must be approved by the AO in advance and may require additional fees and changes to the terms of this authorization.

- 37. Development Plan:** Development shall be limited to the authorized area and improvements specified in the approved development plan or subsequent modifications approved by the AO. The Grantee is responsible for accurately siting development and operations within the authorized area. Any proposed revisions to the development plan must be approved in writing by the AO before the change in use or development occurs.
- 38. Proper Location:** This authorization is for activities on state lands or interests managed by DMLW. It does not authorize any activities on private, federal, native, and municipal lands, or lands which are owned or solely managed by other offices and agencies of the State. The Grantee is responsible for proper location within the authorized area.
- 39. Improvements:** Any improvements/structures that may be authorized under this permit must be constructed in a manner that will allow for removal from the permitted site within 48 hours of receiving a notice to vacate. The establishment of permanent foundations and structures is prohibited under this permit. Authorized temporary improvements must be sited in a manner which impacts the least amount of ground consistent with the purpose of the facility. Any use of these improvements for purposes other than those explicitly authorized by this permit are prohibited.
- 40. Accidents and Incidents:** The Grantee will notify the AO immediately (within 24 hours) of any accidents, injuries, or operational problems associated with the operations authorized under this permit.
- 41. Fire Prevention, Protection and Liability:** The Grantee shall take all reasonable precautions to prevent and suppress forest, structure, brush and grass fires, and shall assume full liability for any damage to state land and structures resulting from the negligent use of fire. The State is not liable for damage to the Grantee's personal property and is not responsible for forest fire protection of the Grantee's activity. To report a wildfire, call 911 or 1-800-237-3633.
- 42. Anchor Lines and Shoreties:**
- a. All lines must be secured and properly tensioned to avoid entanglement with marine mammals. The Grantee shall contact the NOAA Fisheries' 24/7 hotline at (877) 925-7773 if an injured, entangled, or dead marine mammal is seen in the authorized area.
  - b. Shoreties that extend above water must be well-marked with reflective material.
  - c. Shoreties spanning potential boat routes are to be submerged by weights or anchors so as not to impede or impair access and must be marked with buoys where the lines may present a potential navigation hazard.
- 43. Dredging:** The upland disposal of dredged material will be authorized under Material Sale Permit ADL 234649.

The Authorized Officer reserves the right to modify these stipulations or use additional stipulations as deemed necessary. The Grantee will be advised before any such modifications or additions are finalized. DNR has the authority to implement and enforce these conditions under AS 38.05.850. Any correspondence on this authorization may be directed to the Department of Natural Resources, Division of Mining, Land and Water, Southcentral Regional Land Office, 550 W. 7th Ave., Suite 900C, Anchorage, AK 99501-3577, (907) 269-8503.

I have read and understand all of the foregoing and attached stipulations. By signing this authorization, I agree to conduct the authorized activity in accordance with the terms and conditions of this authorization.

Facilities Manager II *Justin Papenbrock* 5.28.2

Signature of Grantee or Authorized Representative		Title	Date
1255 W. 8th Street	Juneau	Alaska	99802

Grantee's Address	City	State	Zip
Tim Blackmon	office 907 235-1730	Cell 907 723-4794	

Contact Person	Home Phone	Work Phone	
<i>John Forbes</i>		NRS3	5/29/2026
Signature of Authorized State Representative		Title	Date

# LAND USE PERMIT

PERMIT NUMBER: LAS 25195

PERMITTEE: DFG SPORT FISH DIV PALMER

**ACTIVITY:** A concrete boat ramp consisting of two lanes separated by an aluminum floating dock secured by two pilings, and a concrete abutment. The ramps will have riprap shoulders, a concrete apron and, riprap ahead of the apron. Incidental dredging is included.

PERMIT TERM: May 5, 2025 THROUGH May 4, 2030



Alaska Department of  
**NATURAL  
RESOURCES**

Division of Mining, Land and Water  
Southcentral Regional Land Office  
550 W. 7th Ave., Suite 900C  
Anchorage, Alaska 99501-3577  
(907) 269-8503

*Christian Gohman*  
\_\_\_\_\_  
DNR REPRESENTATIVE

This permit must be posted in a conspicuous location visible from the most common access route.

Located on the Kashwitna River, near the confluence of the Susitna and Kashwitna Rivers.



THE STATE  
of **ALASKA**  
GOVERNOR MIKE DUNLEAVY

Department of Environmental  
Conservation

Division of Water  
Engineering Support and Plan Review

[dec.alaska.gov](http://dec.alaska.gov)  
[septic.alaska.gov](http://septic.alaska.gov)

June 12, 2026  
Alexandra Jefferies, P.E.  
PND Engineers Inc.  
[mwasson@pndengineers.com](mailto:mwasson@pndengineers.com)

**Plan Tracking No.: PA-000823**

**RE: Susitna Landing  
Boat Launch & Facility Renovation - New Holding Tank and Pit Privies  
A 1500-Gallon Steel Holding Tank and Three 1000-Gallon Concrete Vault Privies  
Conditional Construction Approval**

Alexandra Jefferies:

On 5/11/2026, the Alaska Department of Environmental Conservation (ADEC or Department) received a submittal requesting construction approval for Susitna Landing Boat Launch & Facility Renovation located in Willow. The information was reviewed in accordance with Wastewater Disposal Regulations 18 AAC 72 and **conditional construction approval is granted.**

**Project Description**

The Susitna Landing Boat Launch & Facility Renovation Project includes the installation of a holding tank, three vault privies, and associated piping and wiring.

This system will consist of a 1,500-gallon epoxy-coated single-compartment steel holding tank with high level audio-visual alarm system. Anti-floatation will be provided by two 1'x1'x16' reinforced precast deadman anchors and Pultruded fiberglass reinforced polymer anchor straps. Camp hosts will connect to the system via a foot-operated, 4-inch sanitary drain hatch. The hatch will be located within a cast-in-place concrete basin to contain spills.

This system will include three 1,000-gallon premanufactured reinforced concrete vault privies to serve the campground area. One vault privy will be installed in each of the three loops accessible from the campground loops for pumping operations. Gasketed steel hatches will provide access to the vaults for maintenance and will be locked when not in use. Vent stacks will be equipped with the owl guard and rain cap.

The existing onsite septic infrastructure will be decommissioned as per the DEC guidelines. Fresh water is supplied to the system by an on-site well.

**Construction Approval Conditions**

1. If separation distance requirements from water mains to sewer mains or holding tanks cannot be met, a waiver must be granted from the Drinking Water program prior to proceeding with the project.

## Approval to Operate Requirements

This construction approval includes a 90 day interim approval to operate provided that construction substantially complied with the approved design drawings. In order to receive final operational approval, please submit the following information within 60 days of the completion of this project:

1. Written request for operational approval that includes a statement regarding any changes made during construction
2. Record drawings prepared (signed and dated) by the engineer responsible for observing the construction of this project (The Department prefers drawings that are no larger than 11" x 17".)
3. Certification of Construction form complete with signatures from the Owner, Construction Contractor, and Engineer (A copy of this form may be downloaded and printed from the Department of Environmental Conservation website or a copy will be provided upon request.  
[dec.alaska.gov/water/wastewater/engineering/engineered-systems](https://dec.alaska.gov/water/wastewater/engineering/engineered-systems))

If the approval to operate requirements cannot be met within 90 days of construction completion, an extension of the interim approval to operate must be requested at least 30 days in advance by addressing item 3 above.

## Disclaimers

Approval of submitted plans is not approval of omissions or oversights by this office or noncompliance with any applicable regulation. The Department's construction approval does not guarantee correctness or the functionality of the design, or waive the owner's responsibility for continued compliance with state regulations. Deviations from approved plans which affect capacity, flow, pressure, operation, compliance, or materials of major system components must be approved by this Department prior to their construction or implementation.

**This approval is valid for two years from the date of this letter.** If the applicant fails to construct, alter, install, or modify the system, the approval is void and plans must be resubmitted for department review and approval according to 18 AAC 72.200.

**This approval is contingent upon your receipt of any other state, federal, or local authorizations which are required for your project.** You are required to obtain all other necessary authorizations before proceeding with your project. This approval does not imply the granting of additional authorizations nor obligate any state, federal, or local regulatory body to grant required authorizations.

## Informal Reviews and Adjudicatory Hearings

A person authorized under a provision of 18 AAC 15 may request an informal review of a contested decision by the Division Director in accordance with 18 AAC 15.185 and/or an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340. See DEC's "Appeal a DEC Decision" web page <https://dec.alaska.gov/commish/review-guidance/> for access to the required forms and guidance on the appeal process. Please provide a courtesy copy of the adjudicatory hearing request in an electronic format to the parties required to be served under 18 AAC 15.200. Requests must be submitted no later than the deadline specified in 18 AAC 15.

If you have questions, please contact me at (907) 451-2146 or by e-mail at [fayzul.kabir@alaska.gov](mailto:fayzul.kabir@alaska.gov).

Alexandra Jefferies  
Susitna Landing  
Boat Launch & Facility Renovation - New Holding Tank and  
Pit Privies

3  
6/12/2026

Sincerely,

A handwritten signature in blue ink, appearing to read 'FK', with a small dot to the right.

Dr. Fayzul Kabir  
Engineering Associate 1

cc: Tracy Smith, [dfg.dsf.r2access@alaska.gov](mailto:dfg.dsf.r2access@alaska.gov)

**APPENDIX C**  
**Material Certification List**

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# MATERIALS CERTIFICATION LIST

(updated 5/22/2026)

Project Name Susitna Landing Boat Launch and Facility Renovation

Project Number F-13-D-188/2011280224

Project Engineer Signature \_\_\_\_\_

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

Materials Item	Specification	Construction		Design			Statewide Materials		Manufacturer/ Remarks	Certificate Location e.g. Binder #
	2020 or Std. Mod./Special Provisions, 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		
<b>202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS</b>									ASP = Alaska Standard Plan CRSP = CR Special Provision	
Timber, Pressure Treated	202-2.01								CRSP	
Steel Pipe, Galvanized	202-2.01								CRSP	
Steel Fasteners, Galvanized	202-2.01								CRSP	
Reflectors	202-2.01								CRSP	
<b>505 PILING</b>									ASP = Alaska Standard Plan CRSP = CR Special Provision	
Mill Certificates	505-1.03								CRSP	
Galvanizing Certificates	505-1.03								CRSP	
Fiberglass Pile Caps	505-1.03								CRSP	
Pile Driving Shoes	505-1.03								CRSP	
<b>603 CULVERTS AND STORM DRAINS</b>										
Corrugated Steel Pipe and Pipe Arches	707-2.01									
Culvert Marker Posts	730-2.05									
<b>618 SEEDING</b>										
Seed	618-2.01									
<b>619 SOIL STABILIZATION</b>										
Mulch	727-2.01								CRSP	
Matting	727-2.02								CRSP	
Sediment Retention Fiber Rolls (SRFRs)	727-2.03								CRSP	
Compost	727-2.04								CRSP	
Tackifier	727-2.05								CRSP	

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Materials Item	Specification	Construction		Design			Statewide Materials		Manufacturer/ Remarks	Certificate Location e.g. Binder #
	2020 or Std. Mod./Special Provisions, 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		
Polyacrylamide (PAM)	727-2.06								CRSP	
Geotextile-Encased Check Dams and Sediment Barriers	727-2.07								CRSP	
Sandbags	727-2.08								CRSP	
Clear Plastic Covering	727-2.10								CRSP	
Staples	727-2.11								CRSP	

**626 SANITARY SEWER SYSTEM**

<u>PVC Pipe</u>										
PVC Pipe, 4 inch	626-1.03									
PVC Fittings	626-1.03									
Rubber Gaskets for PVC Pipe	626-1.03									
Bonding Adhesive	626-1.03									
Joints for PVC Pipe	626-1.03									
Insulation	626-1.03									
<u>Holding Tank</u>										
Holding Tank Risers	626-1.03									
Joint Sealer	626-1.03									
Protective Coatings	626-1.03									
Bedding Material	703-2.1									
Detectable Warning Tape	712-2.25									
Alarm System	741-2.02									
Manhole Risers	741-2.04									
Drain Hatch	741-2.05									

**626 SANITARY SEWER SYSTEM**

<u>Pipe</u>										
HDPE Pipe	706-2.08									

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Materials Item	Specification	Construction		Design			Statewide Materials		Manufacturer/ Remarks	Certificate Location e.g. Binder #
	2020 or Std. Mod./Special Provisions, 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		
Ductile Iron Pipe	707-2.05									
Copper Pipe	707-2.06									
Fittings	627-1.03									
Valves and Appurtenances	627-1.03									
Detectable Warning Tape	712-2.25									
Coatings	627-1.03									
Bedding Material	703.17									
<b>628 WATER WELL</b>										
Drop Pipe	628-1.03									
Fittings	628-1.03									
Valves	628-1.03									
Submersible Pump	628-1.03									
Pump	628-1.03									
Motor	628-1.03									
Wiring	628-1.03									
Control box	628-1.03									
Coatings	628-1.03									
<b>633 SILT FENCE</b>										
Geotextile, Erosion Control	729-2.01.4									
Silt Fence	729-2.02									
<b>634 GEOGRID SOIL REINFORCEMENT</b>										
Geogrid, Stabilization, Class _	729-2.04.1									
Geogrid, Reinforcement, Class _	729-2.04.2									
<b>641 EROSION, SEDIMENT AND POLLUTION CONTROL</b>										
Materials	641-2.05								Stabilization Materials identified and documented in SWPPP and approved	
<b>642 CONSTRUCTION SURVEYING AND MONUMENTS</b>										

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Materials Item	Specification	Construction		Design			Statewide Materials		Manufacturer/ Remarks	Certificate Location e.g. Binder #
	2020 or Std. Mod./Special Provisions, 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		
Monument Cases	642-2.01								CRSP	
Primary Monument	642-2.01								CRSP	
Secondary Monument	642-2.01								CRSP	
<b>643 TRAFFIC MAINTENANCE</b>										
Traffic Control Devices	643-3.04								approved on project with TCP conforming to Alaska Traffic Manual	
<b>670 TRAFFIC MARKINGS</b>										
Traffic Paint, Glass Beads	708-2.03, 712- 2.08									
Methyl Methacrylate Pavement Markings, Beads, Anti-Skid Combined Cert.	712-2.17, 712- 2.18								CRSP	
<b>680 SHOWERHOUSE IMPROVEMENTS</b>										
Plumbing	680-1.02									
Piping	680-1.02									
Insulation	680-1.02									
Jackets	680-1.02									
Water Softener	680-1.02									
Brine Tank	680-1.02									
Arsenic Treatment System	680-1.02									
Pressure Tank	680-1.02									
Double Check Valve Assembly	680-1.02									
<b>691 CONCRETE RAMP PLANKS, APRON, AND ABUTMENT</b>										
Concrete Mix Design	691-2.01									
Reinforcing Steel	691-2.01									
Timber Sleepers	691-2.01									
Rubber Pad	691-2.01									
Pea Gravel	691-2.01									
<b>692 FLOATING DOCK</b>										

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Materials Item	Specification	Construction		Design			Statewide Materials		Manufacturer/ Remarks	Certificate Location e.g. Binder #
	2020 or Std. Mod./Special Provisions, 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		
Mill Certificates	692-2.02									
<b>693 VAULTED TOILET</b>										
Vault Liner	693-1.04									
Bedding Material	693-1.04									
Leveling Course	693-1.04									
Doors & Frames	693-1.04									
Toilet Accessories	693-1.04									
Manholes & Manhole Risers	693-1.04									
Sealants	693-1.04									
<b>695 ELECTRICAL IMPROVEMENTS</b>										
<u>Grounding and Bonding</u>	695-1.01 & Plans									
Ground Rods	695-1.01 & Plans									
<u>Low-Voltage Electrical Service Entrance</u>	695-1.01 & Plans									
Meter	695-1.01 & Plans									
Main	695-1.01 & Plans									
<u>Panelboards</u>	695-1.01 & Plans									
Breakers	695-1.01 & Plans									
<u>Wiring Devices</u>	695-1.01 & Plans									
Receptacles	695-1.01 & Plans									
Wall Plates	695-1.01 & Plans									
<u>Structured Cabling</u>	695-1.01 & Plans									
Wall Enclosure	695-1.01 & Plans									
UTP Telecommunication Cable & Jack	695-1.01 & Plans									
8-Port PoE Switch	695-1.01 & Plans									
<u>Video Surveillance</u>	695-1.01 & Plans									

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Materials Item	Specification	Construction		Design			Statewide Materials		Manufacturer/ Remarks	Certificate Location e.g. Binder #
	2020 or Std. Mod./Special Provisions, 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		
Video Appliance	695-1.01 & Plans									
Exterior IP Camera	695-1.01 & Plans									
Exterior IP Camera (4-Camera Cluster)	695-1.01 & Plans									
Hardware & Mounts	695-1.01 & Plans									
Video Field Cable	695-1.01 & Plans									
Wire and Cable	695-1.01 & Plans									
UTP Components	695-1.01 & Plans									
<b>Additional Materials</b>										

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