

3. Policy

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3.1. Introduction

3.1.1 Purpose

Drainage is one of the most important aspects of highway design and construction. This chapter outlines policies that guide and determine the many variables that influence drainage design.

3.1.2 Policy vs. Criteria

Policy and criteria statements are frequently closely related. Criteria are the Alaska Department of Transportation and Public Facilities' numerical or specific guidance that are based on broad policy statements. This manual uses the following definitions of policy and criteria.

Policy: Policy is a definite course or method of action, selected to guide present and future decisions.

Design Criteria: Design criteria are the standards by which a policy is carried out.

Thus, design criteria are necessary for design, while policy statements are not. Following is an example of a policy statement:

“The designer will size the drainage structure to accommodate a flood compatible with the projected traffic volumes.”

The design criteria for designing the structure might be:

“For projected traffic volumes less than or equal to 750 vehicles per day, design drainage structures for a 10-year flood (exceedence probability of 10 percent). For projected traffic volumes greater than 750 vehicles per day, design a drainage structure for a 25-year flood (exceedence probability of 4 percent).”

3.1.3 Design Criteria

Design criteria for hydraulic structures are included in the appropriate chapter in this manual.

3.1.4 Design Criteria Waivers

Follow the procedures outlined in the *Alaska Highway Preconstruction Manual* Section 1100.3.2 Waivers of Standards for Controlling Criteria for waivers from Flood Frequency Design criteria included in Chapter 7 Appendix A. For all other design criteria waivers, follow the procedures outlined in the *Alaska Highway Preconstruction Manual* Section 1100.3.3 Procedures for Variations from Standards Other Than Controlling.

3.2. General Hydraulic Design Policies

3.2.1 Introduction

An adequate drainage structure meets the following policies:

- The design meets or exceeds the Department's standards.
- The design of the structure meets or exceeds standard engineering practice.
- The design is consistent with what a reasonably competent and prudent designer would do under similar circumstances.
- The design provides for the passage of fish in fish-bearing waters.

The studies listed below are commonly conducted as a part of the design of most highway drainage structures and serve as a means of achieving an adequate drainage design:

- Hydrologic analysis
- Hydraulic analysis
- Engineering evaluation of selected alternatives

The following sections further discuss these studies.

3.2.2 Hydrologic Analysis

Present state-of-practice formulas and models for estimating flood flows are based on statistical analyses of rainfall and runoff records. The recommended practice is for you, the hydraulic designer, to select appropriate hydrologic estimating procedures and obtain runoff data where available for evaluation, calibration, and determination of the predicted value of the desired flood frequencies. The predicted value of the flood flows represents your best estimate with

varying degrees of error. The expected magnitude of this variation can be determined for some formulas or models as a part of the hydrologic design procedure.

3.2.3 *Hydraulic Analysis*

During hydraulic analysis, select preliminary designs that are judged to meet the site conditions and to accommodate the flood flows selected for analysis. The hydraulic analysis uses appropriate formulas, physical models, or computer programs for defining, calibrating, and checking the performance of these preliminary designs over a range of flows.

3.2.4 *Engineering Evaluation*

In the final step of the design process, the hydraulic designer evaluates the preliminary designs and coordinates with the regional or statewide hydraulics engineer for the selected final design. This process involves the consideration and balancing of a number of factors including:

- Legal considerations
- Flood hazards to highway users and neighboring property owners
- Hydraulic efficiencies
- Costs
- Environmental concerns, including fish passage
- Social concerns
- Other site concerns

Once the final design has been selected, finalize the hydraulic design to incorporate any design modifications.

3.2.5 *General Policies*

Hydrologic analysis and hydraulic analysis represent present “standard engineering practice.” Engineering evaluation outlines the approach to be followed by a “reasonably competent and prudent designer” in evaluating, selecting, and approving a final design. The following policies are part of this design process.

- It is your responsibility to provide an adequate drainage structure to meet the appropriate design criteria for the facility. You are not required to provide a structure that will handle all conceivable flood flows under all possible site conditions.

- The detail of design studies should be commensurate with the risk associated with the encroachment and with other economic, engineering, social, or environmental concerns.
- The overtopping and/or design flood may serve as criteria for evaluating the adequacy of a proposed design. The “overtopping flood” is the smallest recurrence interval flood that will result in flow over the highway or other watershed boundary. The “design flood” is the recurrence interval flood for which the drainage structure is sized, to ensure that no traffic interruption or significant damage will result. The overtopping flood and the design flood may vary widely depending on the grade, alignment and classification of the road and the characteristics of the watercourse and floodplain.
- The predicted value of the 100-year or base flood serves as the present engineering standard for evaluating flood hazards and as the basis for regulating floodplains under the National Flood Insurance Program. Make a professional judgment as to the degree of risk that is tolerable for the base flood on a case-by-case basis.
- The developed hydraulic performance curve of a drainage structure depicts the relationship between floodwater stage (or elevation) and flood flow magnitudes and frequencies. The performance curve should include the 100-year flood. With the performance curve, you can evaluate the adequacy of the design for a range of flows and consider errors of estimate in the hydrologic estimating procedure. It is standard engineering practice to use the predicated value of the 100-year flood as the basis for evaluating flood hazards; however, you may consider flows larger than this value for complex, high risk, or unusual cases that require special studies or risk analyses.

3.3. *Federal Policies*

3.3.1 *Introduction*

The following subsections list the federal legislation that might affect drainage design and construction. These subsections give the legislative reference, regulations reference, purpose, applicability, general procedures, and agency for coordination and consultation. For more detailed information about specific federal policies, consult the applicable legislation. Note: Acronyms and abbreviations are

defined in Section 3.6.

3.3.2 Environmental

1. National Environmental Policy Act: 42 USC 4321-4335. Reference 23 CFR 771-772, 40 CFR 1500-1508, CEQ Regulations, Executive Order 11514 as amended by Executive Order 11991 on NEPA responsibilities.

Purpose: To consider environmental factors through systematic interdisciplinary approach before committing to a course of action.

Applicability: All FHWA actions.

General Procedures: Procedures set forth in 40 CFR 1500-1508 and 23 CFR 771.

Coordination: Appropriate federal, state, and local agencies

2. Section 4(f) of the Department of Transportation Act: 23 USC 138, 49 USC 303, 23 CFR 771.135.

Purpose: To preserve publicly owned public parklands, waterfowl and wildlife refuges, and significant historic and archeological sites.

Applicability: Significant publicly owned parklands, recreation areas, wildlife and waterfowl refuges, and all significant historic sites used for a highway project.

General Procedures: Specific finding required: Selected alternative (1) must avoid protected areas, unless not feasible or prudent; and (2) includes all possible planning to minimize harm.

Coordination: DOI, DOA, HUD, state, or local agencies having jurisdiction, and state historic preservation officer (for historic and archeological sites)

3. Economic, Social, and Environmental Effects: 23 USC 109(h), 23 USC 128, 23 CFR 771-772.

Purpose: To ensure that possible adverse, economic, social, and environmental effects of proposed highway projects and project locations are fully considered and that final decisions on highway projects are made in the best overall public interest.

Applicability: To the planning and development of proposed projects on any federal-aid system for which FHWA approves the plans, specifications,

and estimates, or has the responsibility for approving a program.

General Procedures: Identification of social, economic, and environmental effects; consideration of alternative courses of action; involvement of other agencies and the public; systematic interdisciplinary approach. The report required by 23 USC 128, on the consideration given to the social, economic and environmental impacts of the project, may be part of the NEPA compliance document.

Coordination: Appropriate federal, state, and local agencies

4. Uniform Relocation Assistance and Real Property Acquisition Act of 1970: 42 USC 4601 et seq., as Amended by the Uniform Relocation Act Amendments of 1987, 49 CFR 24.

Purpose: To implement the Uniform Act as amended in an efficient manner; to ensure that property owners of real property acquired for people displaced by federal-aid projects are treated fairly, consistently and equitably; and to ensure that they will not suffer disproportionate injury.

Applicability: All projects using federal-aid funds.

General Procedures: Procedures set forth in 49 CFR 24.

Coordination: USDOT/FHWA (lead responsibility); appropriate federal, state, and local agencies

5. Title VI of the Civil Rights Act of 1964: 42 USC 2000d et seq., 23 USC 324; 42 USC 12101 Americans with Disabilities Act, 49 CFR 21 and 23 CFR 200.

Purpose: To ensure that no person shall, on the grounds of race, color, national origin, age, sex, or disability, be subjected to discrimination under any program or activity receiving federal financial assistance.

Applicability: All federal programs and projects.

General Procedures: Procedures set forth in 49 CFR 21 and 23 CFR 200.

Coordination: FHWA headquarters and field offices

6. Executive Order 12898: Environmental Justice: 59 CFR 7629, 62 CFR 18377, 60 CFR 33896.

Purpose: To avoid federal actions that cause disproportionately high and adverse impacts on minority and low-income populations with respect to human health and the environment.

Applicability: All federal programs and projects.

General Procedures: Procedures set forth in USDOT Final Environmental Justice Strategy and USDOT Order dated April 15, 1997.

Coordination: FHWA headquarters and field offices

7. Public Hearings: 23 USC 128, 23 CFR 771.111(h).

Purpose: To ensure adequate opportunity for public hearing(s) on the effects of alternative project locations and major design features, and the consistency of the project with local planning goals and objectives.

Applicability: Public hearings or hearing opportunities are required for projects described in each state's FHWA-approved public involvement procedures.

General Procedures: Public hearings or opportunities for public hearings during the consideration of highway location and design proposals are conducted as described in the state's FHWA-approved public involvement procedures. States must certify to FHWA that such hearings have been held or the opportunity for hearings made available, and must submit a hearing transcript to FHWA. Detailed information regarding public involvement is available in the Department's *Alaska Highway Preconstruction Manual*, Chapter 5.

Coordination: Appropriate federal, state, and local agencies

8. Surface Transportation and Uniform Relocation Assistance Act of 1987: Section 123(f) Historic Bridges 23 USC 144(o).

Purpose: To complete an inventory of on-and-off

system bridges to determine their historic significance; to encourage the rehabilitation, reuse, and preservation of historic bridges.

Applicability: Any bridge that is listed on, or eligible for listing on, the National Register of Historic Places.

General Procedures: (1) Identify historic bridges on and off system, (2) seek to preserve or reduce impact to historic bridges, and (3) seek to donate bridge to public or a responsible private entity prior to demolition.

Coordination: State historic preservation officer and Advisory Council on Historic Preservation

9. Wildflowers: 23 USC 319(b), 23 CFR 752.

Purpose: To encourage the use of native wildflowers in highway landscaping.

Applicability: Plant wildflowers on any landscaping project undertaken on the federal-aid highway system.

General Procedures: At least 1/4 of 1 percent of funds expended on a landscaping project must be used to plant wildflowers on that project.

Coordination: Appropriate federal and state agencies

10. Highway Beautification Act of 1965: 23 USC 131, 23 USC 136, 23 USC 319, 23 CFR 750-752.

Purpose: To provide effective control of outdoor advertising and junkyards, to protect public investment, to promote the safety and recreational value of public travel and preserve natural beauty, and to provide landscapes and roadside development reasonably necessary to accommodate the traveling public.

Applicability: Interstate and primary systems (as primary system existed on June 1, 1991) and NHS.

General Procedure: Procedures set forth in 23 CFR 750-752.

Coordination: USDOT/FHWA, state and local agencies

3.3.3 Health

1. Safe Drinking Water Act: 42 USC 300f - 300j-26, 23 CFR 650, 40 CFR 141, 40 CFR 149.

Purpose: To ensure public health and welfare through safe drinking water.

Applicability: (1) All public drinking water systems and reservoirs (including rest area facilities), (2) actions that may have a significant impact on an aquifer or wellhead protection area that is the sole or principal drinking water source.

General Procedures: (1) Compliance with national primary drinking water regulations, (2) compliance with state wellhead protection plans, and (3) compliance with MOAs between USEPA and FHWA covering specific sole-source aquifers.

Coordination: USEPA and ADEC

2. Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976: 42 USC 6901, et seq., 40 CFR 239-282.

Purpose: To provide for the recovery, recycling, and environmentally safe disposal of solid wastes.

Applicability: All projects that necessitate the disposal of solid wastes.

General Procedures: Solid wastes will be disposed of according to the rules for specific waste involved.

Coordination: USEPA and ADEC

3. Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA): 7 USC 136-136y, 40 CFR 152-171.

Purpose: To control the application of pesticides to provide greater protection to humans and the environment.

Applicability: All activities that necessitate use of restricted pesticides.

General Procedures: Using or supervising restricted-use pesticides will require certification.

Coordination: USEPA and ADEC

3.3.4 Historic and Archeological Preservation

1. Section 106 of the National Historic Preservation Act, as amended: 16 USC 470f, 16 USC 470s,

Executive Order 11593, 23 CFR 771, 36 CFR 60, 36 CFR 63, 36 CFR 800.

Purpose: To protect, rehabilitate, restore, and reuse districts, sites buildings, structures, and objects significant in American architecture, archeology, engineering, and culture.

Applicability: All properties on or eligible for inclusion on the National Register of Historic Places.

General Procedures: (1) Identify and determine the effects of project on subject properties, (2) afford advisory council and affected public an early opportunity to comment, in accordance with 36 CFR 800, and (3) avoid or mitigate damages to greatest possible extent.

Coordination: State historic preservation officer, Advisory Council on Historic Preservation, DOI (NPS), public

2. Section 110 of the National Historic Preservation Act, as amended: 16 USC 470h-2, 36 CFR 65, 36 CFR 78.

Purpose: To protect national historic landmarks and record historic properties prior to demolition.

Applicability: All properties designated as National Historic Landmarks, and all properties on or eligible for inclusion on the National Register of Historic Places, especially National Historic Landmarks.

General Procedures: (1) Identify and determine the effects of a project on subject properties, and (2) afford Advisory Council an early opportunity to comment, in accordance with 36 CFR 800.

Coordination: State historic preservation officer, Advisory Council on Historic Preservation, DOI (NPS)

3. Archeological and Historic Preservation Act: of 1974: 16 USC 469-469c (Moss-Bennett Act).

Purpose: To preserve significant historical and archeological data threatened by dam construction or alterations of terrain.

Applicability: Any archeological resources discovered as a result of a federal construction project or federally licensed activity or program.

General Procedures: 1) Notify DOI (NPS) when a federal project may result in the loss or destruction of a historic or archeological property, and (2) DOI and/or the federal agency may undertake survey or data recovery.

Coordination: DOI (NPS) departmental consulting archeologist and state historic preservation officer

4. Act for the Preservation of American Antiquities: 16 USC 431-433, 36 CFR 251.50-.64, 43 CFR 3. Archeological Resources Protection Act: 16 USC. 470aa-mm, 36 CFR 79.

Purpose: To preserve and protect paleontological resources, historic monuments, memorials, and antiquities from loss or destruction.

Applicability: Archeological resources on federally owned or Indian-owned property.

General Procedures: (1) Ensure contractor obtains permit and identifies and evaluates resource, (2) mitigate or avoid resource in consultation with appropriate officials in the state, and (3) if necessary, apply for permission to examine, remove, or excavate such objects.

Coordination: Department or agency having jurisdiction over land on which resources may be situated (BIA, BLM, DOA, DOD, NPS, TVA, USFS), state historic preservation officer, recognized Indian tribe, if appropriate

5. American Indian Religious Freedom Act: 42 USC 1996, Executive Order No. 13007.

Purpose: To protect places of religious importance to American Indians, Alaska Natives, and Native Hawaiians.

Applicability: All projects that affect places of religious importance to Native Americans.

General Procedures: Consult with knowledgeable sources to identify and determine any effects on places of religious importance. Comply with Section 106 procedures if the property is historic.

Coordination: BIA, State Historic Preservation Officer, state Indian liaison, Advisory Council on Historic Preservation, if appropriate

6. Native American Grave Protection and Repatriation Act: 25 USC 3001 et seq., 43 CFR 10.

Purpose: Protect human remains and cultural material of Native American and Hawaiian groups.

Applicability: Federal lands and tribal lands.

General Procedures: Consult with Native American group.

Coordination: DOI (NPS), BIA, federally recognized tribe, state historic preservation officer

3.3.5 Land and Water Usage

1. Wilderness Act: 16 USC 1131-1136, 36 CFR 251, 36 CFR 293, 43 CFR 19, 50 CFR 35.

Purpose: To preserve and protect wilderness areas in their natural condition for use and enjoyment by present and future generations.

Applicability: All lands designated as part of the wilderness system by Congress.

General Procedures: Apply for modification or adjustment of wilderness boundary by either Secretary of the Interior or Agriculture, as appropriate.

Coordination: Agriculture (USFS), DOI (USFWS, NPS, BLM), and ADNR

2. Wild and Scenic Rivers Act: 16 USC 1271-1287, 36 CFR 297.

Purpose: To preserve and protect wild and scenic rivers and immediate environments for benefit of present and future generations.

Applicability: All projects that affect designated and potential wild, scenic, and recreational rivers, and/or immediate environments.

General Procedures: Submit project plans and reports to appropriate federal agency.

Coordination: DOI (NPS/BLM) and/or agriculture (USFS), state agencies

3. Section 6(f) of the Land and Water Conservation Fund Act of 1965: 16 USC 4601-4 to -11.

Purpose: To preserve, develop, and ensure the quality and quantity of outdoor recreation

resources for present and future generations.

Applicability: All projects that affect recreational lands purchased or improved with land and water conservation funds.

General Procedures: The Secretary of the Interior must approve any conversion of property acquired or developed with assistance under this act to other than public, outdoor recreation use.

Coordination: DOI and ADNR

4. Executive Order 11990, Protection of Wetlands, USDOT Order 5660.1A, 23 CFR 777.

Purpose: To avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

Applicability: Federally undertaken, financed, or assisted construction, and improvements in or with significant impacts on wetlands.

General Procedures: Evaluate and mitigate impacts on wetlands. A specific finding is required in the final environmental document.

Coordination: DOI (USFWS), EPA, USACE, NMFS, NRCS, and state agencies

5. Wetlands Mitigation Banks: 23 USC 103, 23 USC 133(b)(11), 23 CFR 771, 777.

Purpose: To mitigate wetlands impacts directly associated with projects funded through NHS and STP, by participating in wetland mitigation banks, restoration, enhancement, and creation of wetlands authorized under the Water Resources Development Act, and through contributions to statewide and regional efforts.

Applicability: Federally undertaken, financed, or assisted construction and improvements, or projects with impacts on wetlands.

General Procedures: Evaluate and mitigate impacts on wetlands. A specific finding is required in the final environmental document.

Coordination: DOI (USFWS), USEPA, USACE, NMFS, NRCS, state agencies

6. Emergency Wetlands Resources Act of 1986: 16 USC 3901-3932.

Purpose: To promote the conservation of wetlands in the U.S. in order to maintain their public benefits.

Applicability: All projects that may affect wetlands.

General Procedures: (1) Preparation of a National Wetlands Priority Conservation Plan which provides priority with respect to federal and state acquisition, and (2) providing direction for the National Wetlands Inventory Project.

Coordination: USFWS

7. National Trails Systems Act: 16 USC 1241-1251, 36 CFR 251, 43 CFR 8350.

Purpose: To provide for outdoor recreation needs and encourage outdoor recreation.

Applicability: Projects affecting national recreational, historic, scenic, or side trails designated by Congress and lands through which such trails pass.

General Procedures: (1) Apply for right-of-way easement from the Secretary of Interior or Agriculture, as appropriate, and (2) ensure that potential trail properties are made available for use as recreational and scenic trails.

Coordination: DOI (NPS) or Agriculture (USFS)

8. Recreational Trails Program: 23 USC 206.

Purpose: To establish a program to allocate funds to the states to provide and maintain recreational trail and trail-related projects.

Applicability: Trails and trail-related projects that are identified in, or which further a specific goal of, a trail plan included or referenced in a statewide comprehensive outdoor recreation plan, as required by the Land and Water Conservation Fund Act.

General Procedures: Project sponsor applies to the state and FHWA approves spending for project. The state may be a project sponsor. Ensured access to funds is given for motorized, non-motorized, and discretionary recreation uses. States shall give preference to projects with diversified uses.

Coordination: FHWA

9. Rivers and Harbors Act of 1899: 33 USC 401, et seq., as amended and supplemented, 23 CFR part 650, Subparts D & H, 33 CFR 114-115.

Purpose: To protect navigable waters in the U.S.

Applicability: Any construction affecting navigable waters and any obstruction, excavation, or filling.

General Procedures: Obtain approval of plans for construction, dumping, and dredging permits (Section 10), and bridge permits (Section 9).

Coordination: USACE, USCG, USEPA, state agencies

10. Federal Water Pollution Control Act (1972), as amended by the Clean Water Act (1977 & 1987): 33 USC 1251-1376, USDOT Order 5660.1A, 23 CFR 650 Subpart B, 771, 33 CFR 209, 320-323, 325-328, 329, 40 CFR 121-125, 129-131, 133, 135-136, 230-233.

Purpose: To restore and maintain chemical, physical, and biological integrity of the nation's waters through prevention, reduction, and elimination of pollution.

Applicability: Any discharge of a pollutant into U.S. waters.

General Procedures: (1) Obtain permit for dredge or fill material from USACE or state agency, as appropriate (Section 404), (2) acquire NPDES permit and other discharge permits from USEPA or appropriate state agency (Section 402), (3) obtain required water quality certification from state water resource agency (Section 401), and (4) ensure all projects are consistent with the state non-point source pollution management program (Section 319).

Coordination: USACE, USEPA, and state agencies

11. Executive Order 11988, Floodplain Management, as amended by Executive Order 12148, USDOT Order 5650.2, 23 CFR 650, Subpart A, 23 CFR 771.

Purpose: To avoid the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to restore and preserve the natural and beneficial values served

by floodplains.

Applicability: All construction of federal or federally aided buildings, structures, roads, or facilities that encroach on or affect the base floodplain.

General Procedures: Assessment of flood hazards. A specific finding is required in the final environmental document.

12. National Flood Insurance Act: of 1968/Flood Disaster Protection Act: of 1973: 42 USC 4001-4128, USDOT Order 5650.2, 23 CFR 650, Subpart A, 23 CFR 771, 44 CFR Subchapter B.

Coordination: FEMA, state and local agencies National Flood Insurance Act: of 1968/Flood Disaster Protection Act: of 1973: 42 USC 4001-4128, USDOT Order 5650.2, 23 CFR 650, Subpart A, 23 CFR 771, 44 CFR Subchapter B.

Purpose: (1) Identify flood-prone areas and provide insurance, (2) require purchase of insurance for buildings in special flood-hazard areas.

Applicability: Any federally assisted acquisition of construction project in area identified as having special flood hazards.

General Procedures: Avoid construction in, or design to be consistent with, FEMA-identified flood-hazard areas.

Coordination: FEMA, state and local agencies

13. Marine Protection Research and Sanctuaries Act of 1972, as amended: 33 USC 1401-1445, 33 CFR 320, 330, 40 CFR Subchapter H.

Purpose: To regulate dumping of materials into U.S. ocean waters.

Applicability: Any transportation to and dumping into the open sea.

General Procedures: Apply for permit in accordance with existing procedures.

Coordination: USEPA, USACE (if dredge material)

14. Water Bank Act: 16 USC 1301-1311, 7 CFR 752.

Purpose: To preserve, restore, and improve the nation's wetlands.

Applicability: Any agreements with landowners and operators in important migratory waterfowl nesting and breeding areas.

General Procedures: Apply procedures established for implementing Executive Order 11990.

Coordination: Secretary of Agriculture, Secretary of Interior

15. Coastal Zone Management Act of 1972, as amended: 16 USC 1451 et seq., 15 CFR 923, 930, 23 CFR 771.

Purpose: To preserve, protect, develop, and (where possible) restore and enhance resources of the coastal zone.

Applicability: All projects significantly affecting areas under the control of the state coastal zone management agency for which a plan is approved by the Department of Commerce.

General Procedures: Ensure that projects comply with federal consistency regulations and the appropriate approved state plan for coastal zone management programs.

Coordination: ADNR-OPMP (ACMP), OCRM (NOAA), and USEPA

16. Coastal Zone Management Act, Reauthorization Amendments of 1990: 23 CFR 650.211.

Purpose: To manage non-point source pollution of activities located in coastal zones.

Applicability: All developmental activities located in coastal zone areas will be subject to non-point source control measures developed by the ACMP.

General Procedures: Ensure projects comply with ACMP for controlling non-point sources.

Coordination: ADNR-OPMP (ACMP), OCRM (NOAA), USEPA

17. Farmland Protection Policy Act of 1981: 7 USC 4201-4209, 7 CFR 658.

Purpose: To minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses and to maximize compatibility

with state and local farmland programs and policies.

Applicability: All projects that take right-of-way in farmland.

General Procedures: (1) Early coordination with the NRCS, (2) land evaluation and site assessment, (3) determination on whether to proceed with farmland conversion based on severity of impacts and other environmental considerations.

Coordination: NRCS

18. Resource Conservation and Recovery Act of 1976 (RCRA), as amended: 42 USC 6901, et seq., 40 CFR 260-271.

Purpose: To protect human health and the environment; prohibit open dumping; manage solid wastes; and regulate treatment, storage, transportation, and disposal of hazardous waste.

Applicability: Any project that takes right-of-way containing a hazardous waste.

General Procedures: Coordinate with USEPA or state agency on remedial action.

Coordination: USEPA and ADEC

19. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended: 42 USC 9601 et seq., Superfund Amendments and Reauthorization Act of 1986: 40 CFR 300, 43 CFR 11.

Purpose: To provide for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous waste disposal sites.

Applicability: Any project that might take right-of-way containing a hazardous substance.

General Procedures: (1) Avoid hazardous waste sites, if possible; (2) check USEPA lists of hazardous waste sites; (3) check field surveys and reviews of past and present land use; (4) contact appropriate officials if uncertainty exists; (5) if hazardous waste is present or suspected, coordinate with appropriate officials; and (6) if hazardous waste is encountered during construction, stop project and develop remedial

action.

Coordination: USEPA and ADEC

20. Endangered Species Act of 1973, as amended: 16 USC 1531 et seq., 7 CFR 355, 50 CFR 17, 23, 81, 222-224, 226, 402, 424, 450-453.

Purpose: To conserve species of fish, wildlife and plants facing extinction.

Applicability: Any action that is likely to jeopardize continued existence of such endangered/threatened species or result in destruction or modification of critical habitat.

General Procedures: Consult with the Secretary of the Interior or Commerce, as appropriate.

Coordination: DOI (USFWS), Commerce (NMFS)

21. Fish and Wildlife Coordination Act: 16 USC 661-666c.

Purpose: To conserve, maintain, and manage wildlife resources.

Applicability: Any project that involves (1) impoundment (surface area of 10 acres or more), diversion, channel deepening, or other modification of a stream or other body of water; (2) transfer of property by federal agencies to state agencies for wildlife conservation.

General Procedures: Coordinate early in project development with FWS and state fish and wildlife agency.

Coordination: DOI (USFWS) and ADF&G

22. Migratory Bird Treaty Act of 1918: 16 USC 703-712.

Purpose: To protect birds during their migration.

Applicability: Makes it unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird.

General Procedures: The USFWS may review and comment on the effects of a proposal.

Coordination: DOI (USFWS) and ADF&G

23. Transportation Enhancement Activities: 23 USC 133(b)(8).

Purpose: To provide funds for transportation enhancement, such as landscaping and beautification, rehabilitation, and operation of historic transportation facilities.

Applicability: Funds are to be used in all areas except roads classified as local or rural minor collectors, unless such roads are on a federal-aid highway system.

General Procedures: Ten percent of STP funds annually apportioned to each state are for transportation enhancement activities.

Coordination: FHWA

24. Scenic Byways Program: 23 USC 162.

Purpose: To identify and develop special scenic byways that offer outstanding scenic, historic, natural, cultural, recreational, or archaeological value.

Applicability: Any public road or highway that meets the criteria for inclusion as a scenic byway or an All-American Road.

General Procedures: Nominations may originate from any local government, private group or individual, but must come through the states. The Secretary of Transportation makes final designations.

Coordination: FHWA

3.3.6 Noise

Standards: 23 USC 109(i), 23 CFR 772.

Purpose: To promulgate noise standards for highway traffic.

Applicability: All federally funded projects for the construction of a highway on a new location, or the physical alteration of an existing highway, which significantly changes the vertical or horizontal alignment or increases the number of through traffic lanes.

General Procedures: (1) Noise impact analysis, (2) analysis of mitigation measures, (3) incorporation of reasonable and feasible noise abatement measures or reduction/elimination of noise impact.

Coordination: FHWA

3.3.7 Air Quality

1. Clean Air Act (as amended), Transportation Conformity Rule: 23 USC 109(j), 42 USC 7521(a), 23 CFR 771, 40 CFR 50-51, 93.

Purpose: To ensure that transportation plans, programs, and projects conform to the state's air quality implementation plans.

Applicability: Non-attainment and maintenance areas.

General Procedures: Transportation plans, programs, and projects must conform with State Implementation Plans that provide for attainment of the national ambient air quality standards.

Coordination: FTA, USEPA, MPOs, and ADEC

2. Clean Air Act (as Amended), Sanctions: 42 USC 7509, 40 CFR 52.

Purpose: To restrict federal funding and approvals for highway projects in states that fail to submit or implement an adequate State Implementation Plan (SIP).

Applicability: In non-attainment areas 24 months after USEPA has identified a SIP deficiency. May be applied statewide under separate rulemaking.

General Procedures: (1) An 18-month period begins after USEPA finds that a state failed to submit or implement a SIP or that the SIP is incomplete, or disapproves a SIP; and (2) unless deficiencies are corrected within 18 months, 2:1 offset sanctions are applied. Six months later, highway sanctions are applied.

Coordination: FTA, USEPA, MPOs, and ADEC

3. Congestion Mitigation and Air Quality Improvement Program (CMAQ): 23 USC 149.

Purpose: To assist non-attainment and maintenance areas in reducing transportation-related emissions.

Applicability: Transportation programs or projects in non-attainment areas and areas re-designated to maintenance that are likely to contribute to the attainment or maintenance of the NAAQS.

General Procedures: Project sponsor (transit operator, municipal office, etc.) (1) develops

formal proposal to improve air quality, (2) submits proposal to the MPO and the state for evaluation and approval, and (3) proposal is included in the SIP and approved as eligible by FTA and FHWA in consultation with USEPA.

Coordination: FTA, USEPA, MPOs, and ADEC

3.4. State Policies

Applicable State and Department policies on general and specific drainage issues, such as those regarding hydrologic methods, ditches and open channels, hydraulic design of bridges and culverts, are summarized in each appropriate chapter of this manual.

You, as the hydraulic designer, are responsible for compliance with applicable State and Department policies. Specific Department policies given in the *Alaska Highway Preconstruction Manual* supersede those discussed in this manual.

3.5. Municipal Policies

The hydraulic designer is responsible for becoming acquainted with municipal and borough policies, procedures, and standards. It is particularly important that you are familiar with local floodplain management policies and ordinances. Identify any conflicts with state or federal policies and reconcile them early in the design process. Municipal and borough policies and procedures vary throughout the state. A comprehensive listing them all is beyond the scope of this manual.

3.6. Acronyms and Abbreviations

Following are the acronyms and abbreviations used in the above descriptions of federal policies.

ACMP: Alaska Coastal Management Program

ADEC: Alaska Department of Environmental Conservation

ADF&G: Alaska Department of Fish & Game

ADNR: Alaska Department of Natural Resources

BIA: Bureau of Indian Affairs

BLM: Bureau of Land Management

CEQ: Council on Environmental Quality

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980

CFR: Code of Federal Regulations

DOA: Department of the Army

DOD: Department of Defense

DOI: Department of the Interior

FEMA: Federal Emergency Management Agency

FHWA: Federal Highway Administration

FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act

FTA: Federal Transit Administration

HUD: Housing and Urban Development

MOA: Memorandum of Agreement

MPO: Metropolitan Planning Organization

NAAQS: National Ambient Air Quality Standards

NMFS: National Marine Fisheries Service

NOAA: National Oceanic & Atmospheric Administration

NPDES: National Pollutant Discharge Elimination System

NPS: National Park Service

NRCS: National Resource Conservation Service

OCRM: Ocean and Coastal Resource Management

OPMP: Office of Project Management and Permitting

P.L.: Public Law

RCRA: Resource Conservation and Recovery Act of 1976

SARA: Superfund Amendments and Reauthorization Act of 1986

SIP: State Implementation Plan

Stat.: Statute

STP: Surface Transportation Program

USACE: U.S. Army Corps of Engineers

USC: United States Code

USCG: U.S. Coast Guard

USDOT: U.S. Department of Transportation

USEPA: U.S. Environmental Protection Agency

USFS: U.S. Forest Service

USFWS: U.S. Fish and Wildlife Service