

Introduced by: Mayor at request of Road  
Service Area Board  
Date: 02/19/08  
Hearings: 03/11/08 & 04/01/08  
Action:  
Vote:

**KENAI PENINSULA BOROUGH**

**ORDINANCE 2008- 25**

**AN ORDINANCE AMENDING KPB CHAPTER 14.06, ROAD STANDARDS, AND  
KPB CHAPTER 21.44, ZONING AND UPDATING SECTION REFERENCES IN TITLE  
14 AND CHAPTER 21.44 TO REVISE CERTIFICATE FOR MAINTENANCE  
PROCEDURES, AND DESIGN AND CONSTRUCTION STANDARDS, INCLUDING A  
WARRANTY REQUIREMENT**

**WHEREAS,** the Kenai Peninsula Borough Road Service Area (RSA) board certifies roads for maintenance and has continuing responsibility for maintenance; and

**WHEREAS,** the RSA has utilized the existing road standards for several years to determine which roads are accepted into the road maintenance system; and

**WHEREAS,** the administration of these standards by the RSA staff has identified specific areas to be amended which will improve the quality of roads accepted into the road maintenance system; and

**WHEREAS,** requiring higher quality road standards will result in the RSA spending less money on road maintenance; and

**WHEREAS,** roads constructed pursuant to these proposed amendments will increase safety and provide better access in subdivisions for residents; and

**WHEREAS,** some housekeeping amendments are made to correct references to KPB 14.06 sections in other parts of the code; and

**WHEREAS,** the RSA board held an advertised public hearing on the proposed changes to the road standards at its January 15, 2008, meeting; and

**WHEREAS,** at its regularly scheduled meeting of March 4, 2008, the RSA board recommended \_\_\_\_\_;

**NOW, THEREFORE, BE IT RESOLVED BY THE ASSEMBLY OF THE KENAI PENINSULA BOROUGH:**

**SECTION 1.** KPB Chapter 14.06 is hereby amended as follows:

## CHAPTER 14.06. ROAD STANDARDS

### **14.06.010. Road construction standards—Introduction.**

A. Overview. The criteria set forth in KPB 14.06.080-.250 for the construction of local roads within the Kenai Peninsula Borough represent a minimum standard of construction. Roads shall be built to the highest standard practicable within economical constraints.

B. A right-of-way construction permit pursuant to KPB 14.40.040 is required prior to beginning construction within a dedicated right-of-way.

### **14.06.[010]020. Standards applicable.**

Before a road is certified for the borough road maintenance program, it must meet or exceed the requirements set forth in this chapter. The Kenai Peninsula Borough Road Service Area (“RSA”) board, director, and staff will administer this chapter.

### **[14.06.020. SUBDIVISION STANDARDS.**

ALL ROADS WITHIN A SUBDIVISION MUST MEET OR EXCEED THE DESIGN REQUIREMENTS OF KPB TITLE 20 IN EFFECT AT THE TIME OF APPLICATION FOR MAINTENANCE IN ORDER TO BE CERTIFIED FOR ROAD MAINTENANCE AND IN ORDER TO REMAIN IN THE ROAD MAINTENANCE PROGRAM, UNLESS AN EXCEPTION IS GRANTED UNDER KPB 14.06.130.]

### **14.06.030. [LOCAL R] Road construction standards.**

The borough adopts the standards for construction of service area roads contained in this chapter. Should there be a conflict between the road construction standards in KPB 14.06 and those contained in the subdivision ordinance or other chapters of the borough code, the KPB 14.06 standards shall control.

### **14.06.040. Subdivision standards.**

All roads within a subdivision must meet or exceed the design requirements of KPB Title 20, Subdivisions, in effect at the time of application for maintenance in order to be certified for road maintenance unless an exception is granted under KPB 14.06.230.

### **14.06.[040]050. Application for maintenance.**

A. Any person or entity may apply for maintenance for an existing or planned road which lies within the borough road service area. The [KENAI PENINSULA BOROUGH ROAD SERVICE AREA] RSA board shall adopt procedures for making applications for road maintenance consistent with the provisions of this chapter.

B. Applications for maintenance will only be accepted ~~between April 1 and until September 1 of each year for consideration for that calendar year.~~

C. An application for maintenance shall be submitted on a form approved by the RSA board.

~~D. Applications for maintenance of existing roads shall be subject to inspection by the RSA for road certification and may include test holes every 150 feet; engineering analysis of road geometry, drainage, and general adequacy for anticipated traffic; and an as-built~~

~~survey of the road scaled by a professional land surveyor registered in the State of Alaska under AS 8.48. Applicant shall be responsible for the costs associated with inspection.~~

**14.06.[050]060. Certification and Inspections.**

A. Only roads that meet the design and construction standards set forth in this chapter may be certified by the [ROAD SERVICE AREA] RSA board for inclusion in the [ROAD SERVICE AREA] RSA maintenance program.

B. Prior to certification, [AN] inspections shall be performed by the [KENAI PENINSULA BOROUGH ROAD SERVICE AREA] RSA director or [HIS DESIGNEE] staff to [DETERMINE] ensure that [THESE] applicable standards have been met. The applicant for maintenance is responsible for all costs, other than RSA staff time, associated with inspections for certification. All work on the project must be completed by October 1 of each year to allow for a final inspection.

C. Applications for maintenance of existing roads shall be subject to inspection by the RSA for road certification and may include test holes every 150 feet; engineering analysis of road geometry, drainage, and general adequacy for anticipated traffic; and an as-built survey of the road scaled by a professional land surveyor registered in the State of Alaska under AS 8.48.

D. The RSA Director or staff shall make a [A] written recommendation to the [ROAD SERVICE AREA] RSA board [MUST BE MADE] prior to the board's certification of the road for the maintenance program. The level of maintenance is subject to available funding.

**14.06.[060]070. Other requirements not eliminated.**

This chapter only establishes the design and construction standards for certification of roads for the road maintenance program and does not eliminate any other requirements for eligibility for the road maintenance program or road construction that may be established by federal or state [STATUTES] law, borough ordinances, or other regulations adopted pursuant to these laws. It is the applicant's responsibility to comply with all federal, state, and local laws.

**[14.06.070. ROAD DECERTIFICATION.**

[A. *AUTHORITY.* ROADS MAY BE DECERTIFIED FOR MAINTENANCE BY THE BOROUGH AS PROVIDED IN THIS SECTION.

B. *PROCEDURE.* ANY ROAD DECERTIFICATION MUST COMPLY WITH THE FOLLOWING PROCEDURES:

1. STAFF RECOMMENDATION. THE ROADS DIRECTOR SHALL MAKE A WRITTEN RECOMMENDATION TO THE ROAD SERVICE AREA ("RSA") BOARD WITH FINDINGS BASED ON THE STANDARDS SET FORTH IN KPB 14.06.070(C).
2. NOTICE AND HEARING. A PUBLIC HEARING SHALL BE HELD BEFORE THE RSA BOARD REGARDING DECERTIFICATION. NOTICE OF THE HEARING SHALL BE PUBLISHED ONCE A WEEK FOR FOUR CONSECUTIVE WEEKS PRIOR TO HEARING WITH THE LAST PUBLICATION APPEARING WITHIN 14 DAYS BEFORE THE HEARING DATE. A NOTICE OF THE DECERTIFICATION HEARING SHALL ALSO BE POSTED AT THE BEGINNING AND ENDING

POINTS OF THE ROAD PROPOSED FOR DECERTIFICATION WHICH ARE DRIVABLE BY MOTOR VEHICLES AS DEFINED BY KPB 14.06.200 FOR A FOUR-WEEK PERIOD PRIOR TO THE DATE OF THE FIRST HEARING. BOTH POSTED AND WRITTEN NOTICES SHALL INVITE PUBLIC COMMENT, STATE THE NAME AND PHONE NUMBER OF A CONTACT PERSON REGARDING DECERTIFICATION INFORMATION, STATE THE DATE, PLACE, AND TIME OF THE PUBLIC HEARING, AND A DEADLINE FOR THE SUBMITTAL OF WRITTEN COMMENTS.

3. BOARD ACTION. IF THE RSA BOARD FINDS THAT THE PROPOSED ROAD MEETS THE DECERTIFICATION STANDARDS SET FORTH IN KPB 14.06.070(C), AND THERE HAS BEEN NO WRITTEN OBJECTION TO THE DECERTIFICATION, IT SHALL RECOMMEND DECERTIFICATION BY RESOLUTION TO THE ASSEMBLY. IF WRITTEN COMMENT IS RECEIVED OBJECTING TO DECERTIFICATION, THE RSA BOARD SHALL NOT RECOMMEND DECERTIFICATION AT THIS TIME, BUT SHALL REQUIRE THE RSA DIRECTOR TO EXPLORE OPTIONS TO BRING THE ROAD TO BOROUGH STANDARDS.
4. DECERTIFICATION ALTERNATIVES. THE RSA DIRECTOR OR HIS DESIGNEE MAY MEET WITH PROPERTY OWNERS TO DISCUSS THE NECESSARY UPGRADES TO AVOID DECERTIFICATION. A LOCAL IMPROVEMENT DISTRICT MAY BE CONSIDERED PURSUANT TO KPB 14.31. THE BOROUGH MAY ENGAGE IN COOPERATIVE EFFORTS TO THE EXTENT ALLOWED BY LAW WITH PROPERTY OWNERS TO UPGRADE ROADS WHERE PROPERTY OWNERS CONTRIBUTE MATERIAL, EQUIPMENT, PROFESSIONAL SERVICES, AND RIGHT-OF-WAY FOR THE PROJECT. THE RSA DIRECTOR SHALL REPORT AT A SUBSEQUENT MEETING OF THE RSA BOARD WHAT EFFORTS HAVE BEEN MET TO BRING THE ROAD TO RSA MAINTENANCE STANDARDS AND IF THERE ARE FEASIBLE ALTERNATIVES TO DECERTIFICATION. IF THE ROADS BOARD FINDS THAT THERE IS NO VIABLE OPTION PRESENTED FOR BRINGING THE ROAD TO BOROUGH STANDARDS, THE ROADS BOARD, BY RESOLUTION, SHALL RECOMMEND TO THE ASSEMBLY DECERTIFICATION OF THE ROAD.
5. DECERTIFICATION WITHDRAWAL. IF THE ROAD HAS BEEN BROUGHT TO BOROUGH STANDARDS OR THE RSA DIRECTOR DETERMINES THAT A VIABLE PLAN FOR BRINGING THE ROAD TO BOROUGH STANDARDS HAS BEEN PROPOSED PRIOR TO THE ASSEMBLY HEARING REGARDING DECERTIFICATION, THE RSA DIRECTOR MAY WITHDRAW THE PROPOSED DECERTIFICATION FROM ASSEMBLY CONSIDERATION.
6. ASSEMBLY—HEARING REQUIRED. A PUBLIC HEARING SHALL BE HELD BEFORE THE ASSEMBLY REGARDING DECERTIFICATION IN CONJUNCTION WITH CONSIDERATION OF A DECERTIFICATION RESOLUTION. NOTICE OF THE PUBLIC HEARING SHALL APPEAR ONCE A WEEK FOR TWO WEEKS PRIOR TO THE HEARING.
7. ASSEMBLY ACTION. IF THE ASSEMBLY FINDS THAT THE ROAD IS ELIGIBLE FOR DECERTIFICATION BASED ON KPB 14.06.070(C) AND (D), THE ASSEMBLY SHALL DECERTIFY THE ROAD. IF THE DECERTIFICATION RESOLUTION IS ADOPTED BY THE ASSEMBLY BETWEEN SEPTEMBER 15 AND MAY 15, THE DECERTIFICATION SHALL NOT BE EFFECTIVE UNTIL ON OR AFTER MAY 15, UNLESS THE ROAD HAS NOT RECEIVED MAINTENANCE WITHIN FIVE YEARS PRIOR TO ASSEMBLY DECERTIFICATION.
8. SIGNAGE. DECERTIFICATION SHALL NOT BE EFFECTIVE UNTIL SIGNAGE HAS BEEN PLACED REGARDING DISCONTINUED MAINTENANCE IF THE ROAD HAS RECEIVED MAINTENANCE WITHIN FIVE YEARS PRIOR TO THE ASSEMBLY RESOLUTION.

C. *DWELLINGS STANDARDS.* NO ROAD SHALL BE DECERTIFIED WHICH PROVIDES THE ONLY VEHICULAR ACCESS TO DWELLINGS. DWELLINGS ARE STRUCTURES CURRENTLY HABITABLE BY HUMAN BEINGS, EITHER FOR RESIDENTIAL OR RECREATIONAL PURPOSES. "HABITABLE" FOR PURPOSES OF THIS CHAPTER MEANS ADEQUATE PERMANENT SHELTER FROM THE ELEMENTS SUCH AS RAIN, WIND, SNOW, AND SUN.

D. *ADDITIONAL STANDARDS.* THE FOLLOWING STANDARDS SUPPORT, BUT EACH ALONE DOES NOT REQUIRE DECERTIFICATION:

1. SAFETY. THE RSA WILL REVIEW WHETHER MAINTENANCE CAN PROVIDE ADEQUATE GRADE, WIDTH FOR TRAVEL, ROOM FOR SNOW REMOVAL, ADEQUATE SIGHT DISTANCES AND CLEAR ZONE, AND PREVENT ACCUMULATION OF WATER AND SNOW IN THE TRAVELED RIGHT-OF-WAY. THE POTENTIAL FOR ACCIDENTS BECAUSE OF INADEQUATE ROAD DESIGN OR INABILITY TO MAINTAIN THE ROAD TO A SAFE STANDARD ON A REGULAR BASIS SHALL BE CONSIDERED IN A DECERTIFICATION DETERMINATION.
2. ROAD CONDITION. WHETHER THE TYPES OF ROAD MATERIAL, SOILS, TERRAIN, ROAD SURFACE AND WIDTH OF RIGHT-OF-WAY DO NOT MEET BOROUGH ROAD STANDARDS SHALL BE CONSIDERED IN A DECERTIFICATION DETERMINATION.
3. DRAINAGE PROBLEMS. WHETHER A ROAD HAS INADEQUATE DITCHING, CULVERTS, AND DRAINAGE CAUSING WATER TO ACCUMULATE ON THE ROAD SURFACE OR WHICH UNDERMINES THE ROAD BED SHALL BE CONSIDERED IN A DECERTIFICATION DETERMINATION.
4. ACCESS. WHETHER ROADS ARE OUTSIDE A DEDICATED RIGHT-OF-WAY AND WHETHER SUBSTANDARD ROADS ON THE MAINTENANCE SYSTEM ARE ACCESSED BY A STATE OR BOROUGH MAINTAINED ROAD SHALL BE CONSIDERED IN A DECERTIFICATION DETERMINATION.
5. SNOW STORAGE. WHETHER SNOW EASEMENTS OR PLACES TO STORE SNOW ARE INADEQUATE TO MAINTAIN SUFFICIENT TRAVEL WIDTH AND VISION SHALL BE CONSIDERED IN A DECERTIFICATION DETERMINATION.
6. FUNDING. EXCESSIVE COST OF MAINTAINING A PARTICULAR SUBSTANDARD ROAD SHALL BE CONSIDERED IN A DECERTIFICATION DETERMINATION.
7. PRIOR MAINTENANCE. WHETHER THE ROAD IS NOT NOW NOR HAS IN THE PAST RECEIVED EITHER SUMMER OR WINTER MAINTENANCE SHALL BE CONSIDERED IN A DECERTIFICATION DETERMINATION.

E. *VACATIONS.* NOTWITHSTANDING KPB 14.06.070(B), A ROAD THAT IS VACATED THROUGH THE PROCESS SET FORTH IN KPB 20.28 SHALL BE DECERTIFIED FOR MAINTENANCE BY RESOLUTION OF THE RSA BOARD.

F. *ALTERNATE ROUTE.* NOTWITHSTANDING KPB 14.06.070(B), ANY PORTION OF A ROAD THAT HAS BEEN MAINTAINED OUTSIDE OF DEDICATED RIGHT-OF-WAY MAY BE DECERTIFIED FOR MAINTENANCE BY RESOLUTION OF THE RSA BOARD WHERE THE TRAVEL SURFACE HAS BEEN MOVED INTO THE RIGHT-OF-WAY AND THE NEW TRAVEL SURFACE IS CERTIFIED FOR MAINTENANCE BY THE BOROUGH. EVERY DECERTIFICATION APPROVED BY THE RSA BOARD UNDER THIS SUBSECTION SHALL BE SUBMITTED TO THE ASSEMBLY FOR CONSIDERATION. THE ASSEMBLY SHALL

HAVE 45 DAYS FROM THE DATE OF THE RSA BOARD DECERTIFICATION RESOLUTION TO VETO DECERTIFICATION OF A ROAD UNDER THIS SUBSECTION.]

**[14.06.080. ROAD CONSTRUCTION STANDARDS—INTRODUCTION**

A. *OVERVIEW.* THE CRITERIA SET FORTH IN KPB 14.06.080-200 FOR THE CONSTRUCTION OF LOCAL ROADS WITHIN THE KENAI PENINSULA BOROUGH REPRESENT A MINIMUM STANDARD OF CONSTRUCTION. ROADS SHALL BE BUILT TO THE HIGHEST STANDARD PRACTICABLE WITHIN ECONOMICAL CONSTRAINTS. A RIGHT-OF-WAY CONSTRUCTION PERMIT PRIOR TO CONSTRUCTION IS REQUIRED. NO ROADS WILL BE CERTIFIED FOR MAINTENANCE BEFORE JUNE 1 OR AFTER OCTOBER 15 OF EACH YEAR.

B. *APPLICATION.* AN APPLICATION FOR MAINTENANCE SHALL BE SUBMITTED ON A FORM APPROVED BY THE ROAD SERVICE AREA (RSA). APPLICATIONS FOR ROAD MAINTENANCE MUST BE MADE PURSUANT TO POLICIES ADOPTED BY THE RSA BOARD. APPLICATIONS FOR MAINTENANCE OF EXISTING ROADS SHALL BE SUBJECT TO INSPECTION BY THE RSA. SUCH INSPECTION MAY INCLUDE TEST HOLES EVERY 150 FEET; ENGINEERING ANALYSIS OF ROAD GEOMETRY, DRAINAGE, AND GENERAL ADEQUACY FOR ANTICIPATED TRAFFIC; AND AS-BUILT SURVEY OF THE ROAD SCALED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF ALASKA UNDER AS 8.48. APPLICANT SHALL BE RESPONSIBLE FOR THE COSTS ASSOCIATED WITH INSPECTION.]

**14.06.[090]080. Road construction standards—Construction categories.**

A. The RSA director or his designee will determine the category of road required based on the standards set forth in this section. Applicants may request a review by the RSA board of the RSA director’s road categorization.

B. Any request for an exception to the appropriate category must be approved by the RSA board pursuant to KPB 14.06.230.

C. *Internal subdivision roads.* The standard to which a road ~~subject to a maintenance application~~ is constructed ~~in order to be certified for maintenance~~ shall be based on [THE CATEGORIES] number of lots served as set forth below and the other factors set out in this subparagraph. The category shall also be determined by lots indirectly served where the road ~~subject to a maintenance application~~ is a collector or subcollector and provides necessary access to lots not otherwise served by a borough- or state-maintained collector or subcollector

1. *Category I:* A cul-de-sac road or other minor road, both of which serve less than 10 lots.
2. *Category II:* A road that serves between 10 and 20 lots.
3. *Category III:* A road that serves between 21 and 50 lots.
4. *Category IV:* A road that serves greater than 50 lots.

[B. *EXISTING COLLECTOR ROADS.* EXISTING COLLECTOR ROADS SHALL BE CONSTRUCTED TO A CATEGORY III OR IV BASED ON CURRENT AND PROJECTED TRAFFIC. THE CATEGORY APPLICABLE TO AN EXISTING COLLECTOR ROAD SHOULD, TO THE EXTENT PRACTICAL, BE CONSISTENT WITH

WIDTHS SET FORTH IN ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HIGHWAY PRECONSTRUCTION MANUAL.

C. THE RSA DIRECTOR OR HIS DESIGNEE WILL DETERMINE THE CATEGORY OF ROAD BASED ON THE STANDARDS SET FORTH IN THIS SECTION. IF THE APPLICANT FOR MAINTENANCE DISAGREES WITH THE CATEGORY THE APPLICANT MAY REQUEST A REVIEW BY THE RSA BOARD. ANY REQUEST FOR AN EXCEPTION TO THE APPROPRIATE CATEGORY MUST BE APPROVED BY THE BOARD PURSUANT TO KPB 14.06.130.]

D. Collector roads. Collector roads shall be constructed to Category IV road standards.

**14.06.[100]090. Road construction standards—Road widths.**

Roads certified for maintenance must comply with the minimum and maximum widths in the following table:

<i>Category of Road</i>	<i>Minimum Width (Feet)*</i>	<i>Maximum Width (Feet)*</i>
I	20	28
II	22	28
III	24	28
IV	26	28

(\*Shoulder to shoulder)

**[14.06.110. ROAD CONSTRUCTION STANDARDS—STRUCTURES/BRIDGES.**

BRIDGES, BOTTOMLESS CULVERTS, WALLS AND OTHER STRUCTURES ON ROADS CERTIFIED FOR BOROUGH MAINTENANCE SHALL BE IN ACCORDANCE WITH THE CURRENT “STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES” (16TH EDITION) AND IN ACCORDANCE WITH THE “POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS” (1994). PLANS, PREPARED AND STAMPED BY A LICENSED PROFESSIONAL CIVIL ENGINEER, SHALL BE SUBMITTED TO THE RSA BOARD PRIOR TO ACCEPTANCE OF THE ROAD FOR MAINTENANCE.]

**14.06.[120]100. Road construction[s] standards—Construction standards for maintenance certification.**

A. *Typical section.* Gravel roads shall be constructed in accordance with the Gravel Road Typical Section drawing and associated [TABLE A] tables. Additional requirements are:

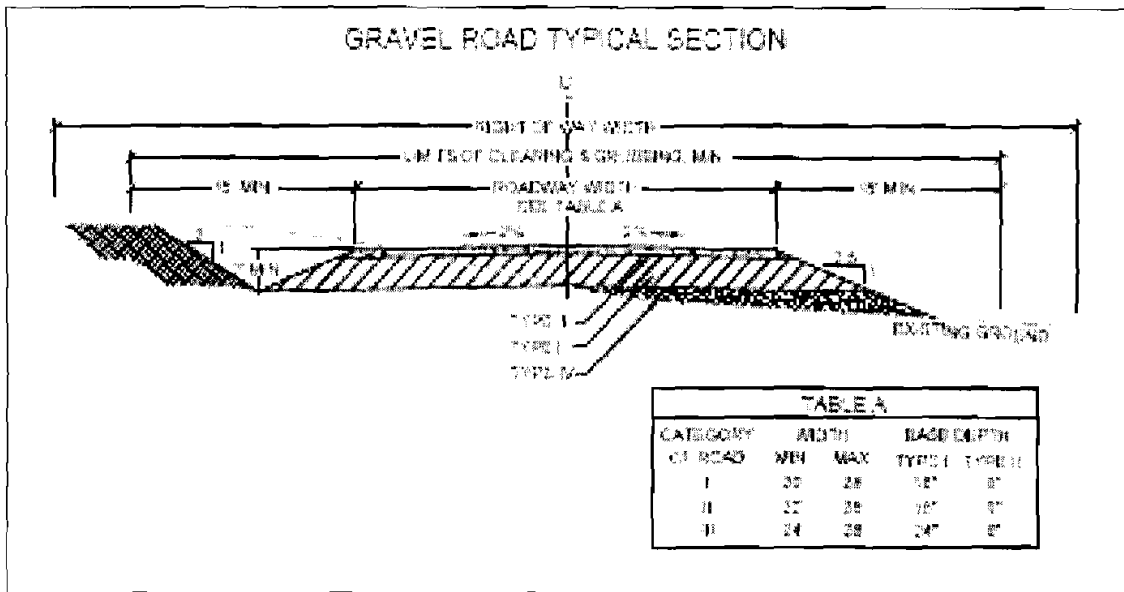
1. Roads must be contiguous with [THE] an existing road system maintained by the borough [AND THE STATE] or other governmental agency. All roads must be on a dedicated right-of-way or a section-line easement and must be built along the right-of-way centerline. Minimum right-of-way width shall be 60 feet[, ENABLING UTILITIES TO BE INSTALLED OUTSIDE THE EDGE OF ROADSIDE DITCHES. MINIMUM WIDTH FOR CULS-DE-SAC SERVING NO MORE THAN SIX LOTS WHICH CANNOT BE FURTHER SUBDIVIDED IS 50 FEET].

2. All organic material shall be stripped and removed to a minimum depth of four feet below finished grade. If geotextile is utilized over organics, then the depth of [SUBBASE] embankment must be [THREE] two feet minimum or greater as required for [STABLE EMBANKMENT] stability for Category I and II roads, and thirty inches or greater for Category III roads.
3. Extraction of material between the ditch lines for any purpose other than excavation to subgrade is prohibited.
4. Geotextile shall be placed over all subgrade soils consisting of silts or clays with a frost classification of F4 (U.S. Corps of Engineers). Geotextile shall be provided to cover maximum width of embankment.
5. The roadway embankment shall be placed in lifts of 12 inches or less and compacted to not less than 90 92 percent of maximum density. Maximum density shall be determined by AASHTO T 180, Method D.
6. In place usable excavation material within the outside 15 12 feet of the 60-foot or greater rights-of-way meeting the specifications of the required embankment material may be utilized in lieu of borrow. Backfill must be compacted placed in lifts and equipment tracked. No organic debris may be buried within the right of way.
7. The RSA requires a 2.5:1 fore slope in ditchlines. Fill areas over 6 feet must be an engineered design, preapproved by the RSA director.
8. Roads constructed in level terrain susceptible to ponding require the applicant to submit to the RSA director for approval drainage designs which may include approved drainage galleries or elevated road sections.

B. Roads must pass a proof roll test at the RSA director's discretion if expected or intended traffic volume or use of the road has not materialized prior to release of the applicant's security as provided in KPB 14.06.140. The RSA director or his staff shall make written findings stating the reason(s) a proof roll test is required. The applicant must provide the means to conduct a proof roll test during the final inspection. The proof roll test will consist of a fully loaded 12-cubic-yard end dump truck loaded to legal capacity traversing the road as directed by the RSA director or designee. The minimum proof rolling is full length of the road, on both lanes. If excessive rutting, greater than three-inch-depth tracks, occurs, remedial work will be required. The RSA director or designee will designate the defective areas in a written report.

C. Roads constructed across wetlands, including peat bogs, must be designed and certified by a licensed civil engineer preapproved by the RSA director.





**Requirements for Embankment Material**  
**Percent Passing by Weight**  
**Category I, II, & III Roads Table**

<u>Sieve Designation</u>	<u>Type I</u>	<u>Type II</u>	<u>Type III*</u>
<u>4 Inch</u>	<u>95-100</u>	<u>--</u>	<u>--</u>
<u>2 Inch</u>	<u>85-100</u>	<u>100</u>	<u>100</u>
<u>1 Inch</u>	<u>--</u>	<u>--</u>	<u>95-100</u>
<u>No. 4</u>	<u>30-60</u>	<u>30-65</u>	<u>40-75</u>
<u>No. 16</u>	<u>--</u>	<u>--</u>	<u>20-43</u>
<u>No. 200</u>	<u>3-60</u>	<u>6-10</u>	<u>4-10</u>

\* Type III relates to Category IV Gravel Roads; Typical Section

[B. *PROJECT SPECIFIC DESIGN.*

1. A PROJECT SPECIFIC DESIGN MAY BE SUBMITTED IF PREPARED AND SEALED BY A LICENSED PROFESSIONAL CIVIL ENGINEER. THE DESIGN SHALL INCLUDE TYPICAL SECTIONS(S), CENTERLINE PLAN AND PROFILE. THE DESIGN SHALL PROVIDE FOR ADEQUATE DRAINAGE. THE DESIGN SHALL BE BASED ON A SOILS INVESTIGATION WITH TEST HOLES AT LEAST EVERY 500 LINEAR FEET. A REPORT SHALL BE SUBMITTED WITH TEST HOLE LOGS AND SOIL ANALYSES. PROJECT SPECIFIC DESIGNS ARE SUBJECT TO APPROVAL BY THE RSA BOARD PRIOR TO CONSTRUCTION. THE RSA BOARD MAY REQUIRE A PROJECT-SPECIFIC AS-BUILT, ENGINEERING ANALYSIS AND DESIGN TO ADDRESS EXISTING OR PROPOSED ROADS.
2. CATEGORY IV ROADS REQUIRE A PROJECT SPECIFIC DESIGN PREPARED AND SEALED BY A LICENSED PROFESSIONAL CIVIL ENGINEER IN ACCORDANCE WITH THE CATEGORY IV

GRAVEL ROAD TYPICAL SECTION DRAWING AND ASSOCIATED TABLE A. THE DESIGN SHALL BE APPROVED BY THE RSA DIRECTOR BEFORE CONSTRUCTION BEGINS. ONCE THE PROJECT IS COMPLETE, AS-BUILT PLANS, PREPARED AND SEALED BY A LICENSED PROFESSIONAL CIVIL ENGINEER, SHALL BE SUBMITTED TO THE RSA. THE AS-BUILT SHALL ILLUSTRATE CONSTRUCTED HORIZONTAL ALIGNMENT, FINISH GRADE PROFILE, TYPICAL SECTION OF THE ROADBED, AND MATERIAL SPECIFICATIONS. THE AS-BUILT PLANS ARE REQUIRED PRIOR TO ACCEPTANCE BY THE RSA BOARD OF THE ROAD FOR TEMPORARY MAINTENANCE.]

**14.06.110. Category I and II roads—Alternate design method.**

[C]A. [*ALTERNATE CONSTRUCTION METHOD.*] Alternate construction methods may be utilized for Category I and [CATEGORY] II roads if approved by the RSA board prior to construction based on conditions outlined in subsection C. [WHERE SOIL, ECONOMIC AND OTHER CONDITIONS ARE SUCH THAT THE STANDARD TYPICAL SECTION IS NOT PRACTICAL. IT IS THE DEVELOPER'S RESPONSIBILITY TO CONSTRUCT A FUNCTIONAL ROAD THAT WILL BE SUITABLE FOR TRAFFIC AND MAINTENANCE OPERATIONS. FINAL ACCEPTANCE BY THE RSA WILL BE BASED ON INSPECTION AND PERFORMANCE TESTING. ROADS CONSTRUCTED UNDER THIS ALTERNATE METHOD MUST MEET THE FOLLOWING REQUIREMENTS:

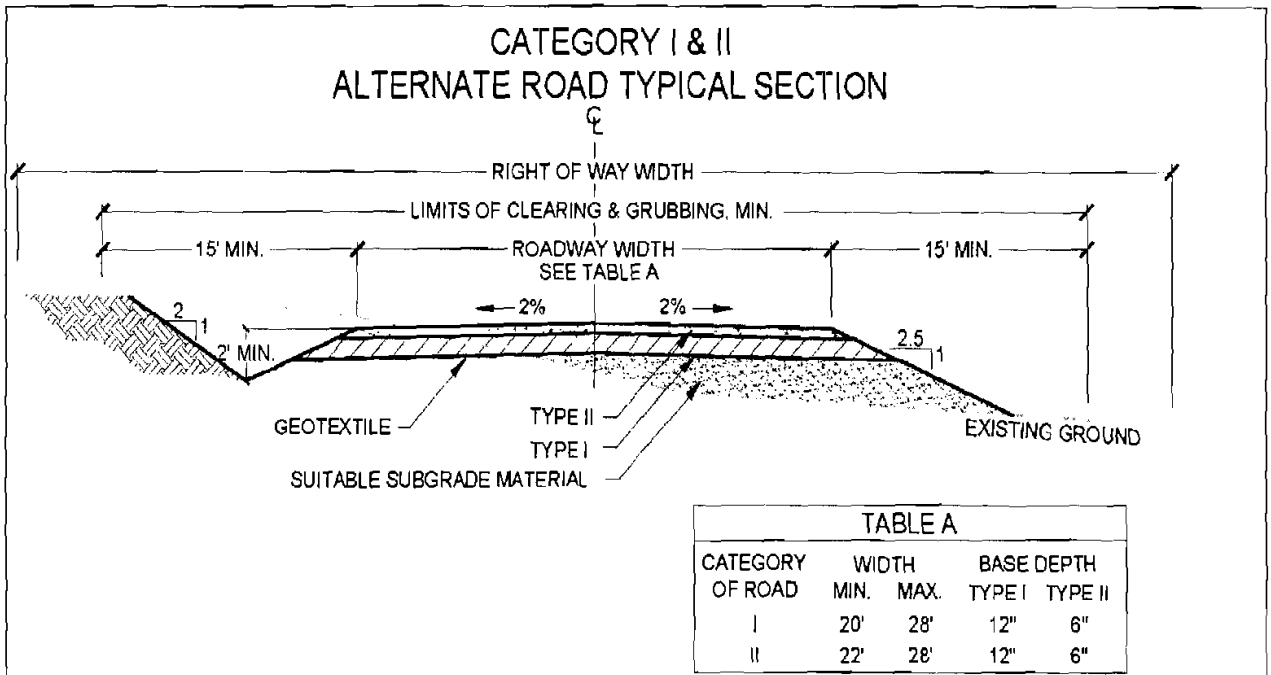
1. A RSA APPLICATION MUST BE FILED PRIOR TO START OF CONSTRUCTION.
2. THE ROAD MUST MEET THE MINIMUM REQUIREMENTS SHOWN ON THE ALTERNATE TYPICAL SECTION DRAWING AND ASSOCIATED TABLE A.
3. THREE INSPECTIONS ARE REQUIRED BY THE RSA, CONSISTING OF INITIAL, MIDWAY AND FINAL INSPECTIONS. THE FINAL INSPECTION WILL BE CONDUCTED ONE YEAR AFTER THE INITIAL APPLICATION, DURING THE SUMMER SEASON WHEN THE SUBGRADE AND ROADBED ARE FROST FREE. PHOTOGRAPHIC DOCUMENTATION WILL BE DONE BY THE RSA REPRESENTATIVE.
4. THE APPLICANT MUST PROVIDE THE MEANS TO CONDUCT A PROOF ROLL TEST DURING THE FINAL INSPECTION. THE PROOF ROLL TEST WILL CONSIST OF A FULLY LOADED 12 CUBIC YARD END DUMP TRUCK TRAVERSING THE ROAD AS DIRECTED BY THE INSPECTOR. THE MINIMUM PROOF ROLLING IS FULL LENGTH OF THE ROAD, ON BOTH LANES. IF EXCESSIVE RUTTING, GREATER THAN THREE INCH DEPTH TRACKS, OCCURS, REMEDIAL WORK WILL BE REQUIRED. THE RSA REPRESENTATIVE WILL DESIGNATE THE DEFECTIVE AREAS IN A WRITTEN REPORT.
5. WINTER MAINTENANCE ONLY WILL BE PROVIDED DURING THE INTERIM PERIOD FOR ONE YEAR.]

B. An RSA application for an alternate design shall be filed and approved by the RSA board prior to the start of construction of a new road or upgrade of an existing road. Failure to get approval of the RSA board prior to construction shall result in the denial of the road maintenance application. If an application is denied due to the failure to apply prior to construction, the applicant may reapply after one year.

C. Applicant shall provide the RSA board documentation that shows soil, economic, terrain, or other conditions are such that the standard typical section is not practical.

D. Alternate design methods shall meet the minimum requirements shown on the Alternate Typical Section drawing and associated Category I & II Alternate Road Tables.

E. A minimum of three RSA staff inspections will take place, consisting of initial, midway, and final inspections. The applicant must provide the means to conduct a proof roll test during the final inspection. The proof roll test will consist of a **fully loaded** 12-cubic-yard end dump truck **loaded to legal capacity** traversing the road as directed by the RSA director or designee. The minimum proof rolling is full length of the road, on both lanes. If excessive rutting, greater than three-inch-depth tracks, occurs, remedial work will be required. The RSA director or designee will designate the defective areas in a written report.



**Requirements for Embankment Material**  
**Percent Passing by Weight**  
**Category I & II Alternate Roads Table**

<u>Sieve Designation</u>	<u>Type I</u>	<u>Type II</u>	<u>Type III*</u>
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<u>2 Inch</u>	<u>85-100</u>	<u>100</u>	<u>100</u>
<u>1 Inch</u>	<u>--</u>	<u>--</u>	<u>95-100</u>
<u>No. 4</u>	<u>30-60</u>	<u>30-65</u>	<u>40-75</u>
<u>No. 16</u>	<u>--</u>	<u>--</u>	<u>20-43</u>
<u>No. 200</u>	<u>3-60</u>	<u>6-10</u>	<u>4-10</u>

\* Type III relates to Category IV Gravel Roads: Typical Section

**14.06.120. Category I, II, and III roads—Engineering required for project designs other than typical or alternate.**

A. An engineered design may be submitted for Category I, II, and III roads if prepared and sealed by a licensed civil engineer. The design shall include typical section(s), centerline plan, and profile. The design shall provide for adequate drainage. The design shall be based on a soils investigation with test holes at least every 250 500 linear feet or less at the RSA director's discretion pursuant to written findings regarding topography, material used, design, and opportunity for inspections during the construction stages along with other relevant considerations. A report shall be submitted with test hole logs and soil analyses.

B. Engineered designs must be pre-approved by the RSA board prior to construction.

C. Once the project is complete, as-built drawings or a detailed report certifying that the road has been constructed to RSA standards, prepared and sealed by a licensed civil engineer, shall be submitted to and approved by the RSA director. A report in lieu of as-built drawings must include photos, sieve analysis of materials used, field inspection reports, compaction test results, and other inclusions the RSA may request. The as-built drawings or report are required prior to acceptance by the RSA board of the road for certification for maintenance.

**14.06.[125]130. Category IV roads—Engineering required[—TEMPORARY MAINTENANCE AND FINANCIAL GUARANTEE].**

A. [FOR CATEGORY IV ROADS CONSTRUCTED UNDER KPB 14.06.120(A) AND (B), CERTIFICATION FOR PERMANENT MAINTENANCE WILL BE DEFERRED FOR TWO YEARS TO ENSURE THE STABILITY OF THE ROAD. IF THE ROAD NO LONGER MEETS CATEGORY IV STANDARDS WITHIN TWO YEARS AFTER BEING PLACED ON TEMPORARY MAINTENANCE, THE ROAD SERVICE AREA BOARD SHALL NOT CERTIFY THE ROAD FOR PERMANENT MAINTENANCE UNTIL THE ROAD MEETS CATEGORY IV STANDARDS. THE ROAD SERVICE AREA SHALL INSPECT THE ROAD BEFORE THE TWO-YEAR ANNIVERSARY AND PROVIDE THE APPLICANT WRITTEN DIRECTION FOR REQUIRED IMPROVEMENTS IF ANY ARE NECESSARY. STAFF SHALL MAKE A WRITTEN RECOMMENDATION TO THE ROAD SERVICE AREA BOARD REGARDING CERTIFICATION FOR PERMANENT MAINTENANCE. IF THE APPLICANT DISAGREES WITH THE REQUIRED IMPROVEMENTS, IF ANY, THE APPLICANT MAY REQUEST A REVIEW BY THE ROAD SERVICE AREA BOARD.] Category IV roads are required to be designed and engineered by a licensed civil engineer. Drawings of the detailed plans must be submitted and approved by the RSA board prior to construction. Design shall meet the minimum standards as designated in the Category IV Gravel Road Typical Section drawing as indicated in the Category IV Road Table.

[B. CATEGORY IV ROADS REQUIRE THE SUBMITTAL OF A FINANCIAL GUARANTEE WITH THE APPLICATION FOR MAINTENANCE THAT MEETS THE FOLLOWING REQUIREMENTS:

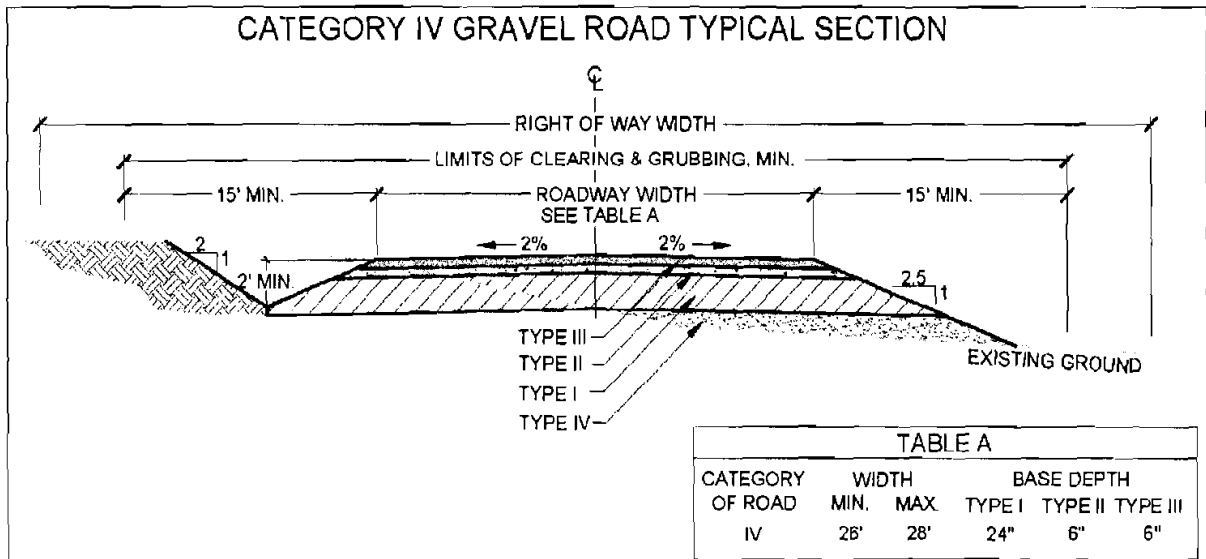
1. ON A FORM PROVIDED BY THE ROAD SERVICE AREA, THE APPLICANT SHALL SUBMIT A DESIGN FOR THE BONDED IMPROVEMENTS AND AN ESTIMATE OF THE COST OF REQUIRED ROAD CONSTRUCTION. THE SUBDIVISION IMPROVEMENT COST ESTIMATE SHALL BE CERTIFIED BY A LICENSED PROFESSIONAL CIVIL ENGINEER.
2. UPON ACCEPTANCE OF THE COST ESTIMATE BY THE ROAD SERVICE AREA BOARD, THE APPLICANT SHALL SUBMIT TO THE ROAD SERVICE AREA BOARD A BOND ISSUED BY A QUALIFIED CORPORATE SURETY LICENSED TO DO BUSINESS IN ALASKA GUARANTEEING

PAYMENT TO THE BOROUGH OF ONE HUNDRED TWENTY PERCENT OF THE CERTIFIED SUBDIVISION IMPROVEMENT COST.

3. IN THE EVENT THE APPLICANT FAILS TO CORRECT DEFICIENCIES NOTED BY THE RSA, THE BOROUGH SHALL REDEEM THE SURETY FOR CONSTRUCTION OF THE REQUIRED IMPROVEMENTS.
4. SURETY SHALL BE RETURNED BY THE ROAD SERVICE AREA UPON COMPLETION BY THE APPLICANT AND APPROVAL OF REQUIRED IMPROVEMENTS.]

B. The project engineer must provide a certified as-built drawing or a detailed report certifying that the road has been constructed to RSA standards before certification for road maintenance will be granted. This report must include photos, sieve analysis of materials used, field inspection reports, compaction test results, and other inclusions the RSA may request.

[C. THE ROAD SERVICE AREA BOARD MAY BY RESOLUTION ADOPT PROCEDURES TO IMPLEMENT THESE PROVISIONS.]



**Requirements for Embankment Material**  
**Percent Passing by Weight**  
**Category IV Roads Table**

<u>Sieve Designation</u>	<u>Type I</u>	<u>Type II</u>	<u>Type III*</u>
<u>4 Inch</u>	<u>95-100</u>	<u>--</u>	<u>--</u>
<u>2 Inch</u>	<u>85-100</u>	<u>100</u>	<u>100</u>
<u>1 Inch</u>	<u>--</u>	<u>--</u>	<u>95-100</u>
<u>No. 4</u>	<u>30-60</u>	<u>30-65</u>	<u>40-75</u>
<u>No. 16</u>	<u>--</u>	<u>--</u>	<u>20-43</u>
<u>No. 200</u>	<u>3-60</u>	<u>6-10</u>	<u>4-10</u>

\*Materials furnished by the Contractor for use as Type III classified fill and/or backfill shall be crushed aggregate material with at least 50 percent of the coarse aggregate having at least one fresh mechanically fractured face and graded within the limits of Category IV Road Table.

**[14.06.130. ROAD CONSTRUCTION STANDARDS--EXCEPTIONS.**

A. *STANDARDS.* THE RSA BOARD MAY MAKE AN EXCEPTION TO THE STANDARD REQUIREMENTS UNDER THE FOLLOWING CONDITIONS:

1. COMPLIANCE WITH THE STANDARD IS NOT ECONOMICALLY FEASIBLE CONSIDERING TOPOGRAPHY, LOCATION, AND WIDTH OF RIGHT-OF-WAY; TRAFFIC VOLUME; TRAFFIC FLOW; OR OTHER PHYSICAL CHARACTERISTICS;
2. THE APPLICANT DID NOT CAUSE THE CONDITION UPON WHICH THE REQUEST FOR THE EXCEPTION IS BASED;
3. SUBSTANTIAL COMPLIANCE WITH THE STANDARDS IS THE MOST PRACTICAL MEANS OF MEETING THE OBJECTIVES OF KPB 14.06, AND STRICT COMPLIANCE WOULD RESULT IN REJECTION OF THE ROAD FOR BOROUGH MAINTENANCE; AND
4. ALTERNATE TREATMENTS OR CONDITIONS, IF REQUIRED BY THE RSA BOARD, WILL BRING THE ROAD INTO SUBSTANTIAL COMPLIANCE WITH THESE STANDARDS.

B. *BOARD ACTION.* THE BURDEN IS ON THE APPLICANT TO MEET THE ABOVE FACTORS AND DEMONSTRATE TO THE RSA BOARD THAT GRANTING THE EXCEPTION WILL NOT UNDERMINE THE OBJECTIVES OF THE STANDARDS. THE BOARD MAY DENY, MODIFY, OR GRANT THE REQUESTED EXCEPTION.]

**[14.06.140. ROAD CONSTRUCTION STANDARDS—ALIGNMENT.**

A. *VERTICAL ALIGNMENT.* ROADS SHALL BE CONSTRUCTED IN A MANNER SUCH THAT GRADES SHALL NOT EXCEED 6 PERCENT ON ARTERIAL ROADS AND 10 PERCENT ON ALL OTHER ROADS, NOR 4 PERCENT WITHIN 100 FEET OF ANY INTERSECTION.

B. *HORIZONTAL ALIGNMENT.* HORIZONTAL ALIGNMENT SHALL MEET THE REQUIREMENTS OF KPB 20.20.120, 20.20.130 AND 20.20.140. ROADS SHALL BE CONSTRUCTED ALONG THE CENTERLINE OF THE RIGHT-OF-WAY AND SHALL HAVE CURVES MEETING THE MINIMUM RADIUS REQUIREMENTS OF NOT LESS THAN 300 FEET FOR RIGHT-OF-WAYS 100 FEET IN WIDTH OR MORE, AND NOT LESS THAN 200 FEET ON ALL OTHER ROADS.

C. *CLEAR ZONE.* THERE SHALL BE A ROADSIDE CLEAR OF HAZARDOUS OBJECTS OR CONDITIONS FOR A DISTANCE CONSISTENT WITH THE SPEED, TRAFFIC VOLUME, AND GEOMETRIC CONDITIONS OF THE SITE. ROADS SHALL BE CONSTRUCTED WITH A MINIMUM CLEAR ZONE OF 6.5 FEET. WHERE HAZARDOUS PHYSICAL FEATURES EXIST WHICH CANNOT BE LOCATED OUTSIDE THE CLEAR ZONE, ALTERNATIVE TREATMENTS SUCH AS GUARDRAILS MAY BE REQUIRED.

D. *TURNAROUNDS.* ROADS DESIGNED TO HAVE ONE END CLOSED, EITHER PERMANENTLY OR TEMPORARILY, SHALL BE CONSTRUCTED WITH A SUITABLE TURNAROUND WITH A MINIMUM RADIUS OF 25 FEET. DEDICATED CUL-DE-SACS SHALL BE CONSTRUCTED WITH A MINIMUM RADIUS OF 30 FEET. THE TURNAROUND SHALL BE CONSTRUCTED TO A 4 PERCENT GRADE OR LESS.

E. INTERSECTIONS. STREET INTERSECTIONS SHALL BE CONSTRUCTED AS NEARLY AT RIGHT ANGLES AS POSSIBLE. A MINIMUM UNOBSTRUCTED SIGHT DISTANCE OF 150 FEET SHALL BE PROVIDED UNLESS A DEFINITE FINDING BY THE BOARD THAT A LESSER DISTANCE IS APPROPRIATE DUE TO TOPOGRAPHY, TRAFFIC FLOW OR OTHER PHYSICAL CHARACTERISTICS. APPROPRIATE WARNING SIGNS MAY BE REQUIRED BY THE BOARD IF AN EXCEPTION TO SIGHT DISTANCE IS GRANTED.

ROAD INTERSECTIONS SHALL BE CONSTRUCTED WITH A MINIMUM RETURN RADIUS OF 20 FEET. WHERE ACUTE INTERSECTIONS ARE PROVIDED, RETURN RADII SHALL BE INCREASED APPROPRIATELY.]

**14.06.140. Warranty and Security Requirements.**

A. Warranty. An applicant for maintenance must warrant and guarantee that the road(s) submitted for certification were constructed consistent with RSA Road Standards and/or any plans or agreements approved by the RSA director or designee and that the road(s) shall remain in reasonably good condition and continue to meet all applicable road standards and/or approved plans or agreements for one year. The warranty shall include defects in design, workmanship, materials, and any damage caused to the road by the applicant or the applicant's agents.

B. Construction Cost Statement. The applicant for maintenance certification shall complete an RSA Maintenance Application Form that includes a statement of costs of road construction. The statement of costs must be supported by invoices or be estimated and certified by a licensed civil engineer and approved as reasonable by the RSA director based on historical costs within the geographic location.

1. The applicant may appeal any disagreement between the applicant's submitted cost estimate and the RSA director's determination of reasonable construction costs to the RSA board by filing a notice of appeal with the RSA director within 30 days of the date of notice of the RSA director's denial of the applicant's submitted cost.

C. Financial Security for Warranty. Applicants for maintenance of roads preliminarily approved for maintenance must provide the RSA with security to guarantee the payment of any repair or reconstruction costs undertaken by the RSA or its agents due to any road failures, defects, or deficiencies that occur during the warranty period. Once acceptable security is received, the road will be certified for maintenance.

1. The RSA will notify the applicant in writing of preliminary approval of the applicant's road(s) for maintenance at the applicant's last known address. Within thirty (30) days after notification of approval for maintenance is sent, the applicant must furnish the RSA with acceptable security for the warranty to remain in effect for one year.
2. If acceptable security is not furnished within the applicable time frame, the road will not be certified for maintenance, and the applicant cannot reapply for maintenance certification for the same road(s) until the following calendar year.
3. Security covering 10 percent of the construction costs for the project shall be accepted in any one of the following forms:
  - a. A bond in the required security amount issued by a qualified corporate surety licensed to do business in Alaska. The bond shall be payable to the borough in the

event that any reconstruction or repairs are required for road failures, defects, or deficiencies that occur during the warranty period.

- b. A cashier's check or certified check in the required security amount. The funds shall be held in trust and returned after the expiration of the warranty period less any costs necessary for reconstruction or repair of any road failures, defects, or deficiencies that occur during the warranty period.
- c. A deposit of a cash sum in the required security amount into an escrow account with a responsible financial institution authorized to do such business in Alaska. The applicant shall provide an escrow agreement to the borough that includes the following terms: the funds shall be held in trust until released by the borough; the funds may not be used or pledged as other security; and the funds shall be available to the borough for any costs incurred for reconstruction or repair of any road failures, defects, or deficiencies that occur during the warranty period.
- d. A letter of credit in the required security amount from a bank or other responsible financial institution authorized to do such business in Alaska and acceptable to the borough finance director that is irrevocable until the borough authorizes the revocation and guarantees the creditor shall pay to the borough immediately and without further action the funds necessary for reconstruction or repair of any road failures, defects, or deficiencies that occurred during the warranty period.

D. *Warranty Period.* During the warranty period the applicant for road maintenance shall be responsible for all required road repairs, improvements, or reconstruction as long as the need for such repairs, improvements, or reconstruction was not caused solely by RSA maintenance activities. If the applicant for maintenance fails to make sufficient repairs, improvements, or reconstruction in a reasonable amount of time as determined by the RSA director, the RSA or its agent may do the required work at the applicant's expense and may bill the applicant or apply funds securing the warranty to pay for the work.

E. *End of Warranty Period.* The RSA shall inspect the applicant's road(s) at the end of the warranty period. All deficiencies except those caused solely by borough maintenance activities must be corrected prior to the release of any warranty security.

1. If the final inspection reveals the road is sufficient, the borough shall release any and all remaining securities to the applicant.
2. If the road is insufficient, the applicant shall be provided an opportunity to correct any and all deficiencies at the applicant's cost within a reasonable time as prescribed by the RSA director. If the applicant does not correct all deficiencies within the prescribed time, the RSA or its agent may do the required work and secure immediate payment from the security to pay for any repair, improvement, or reconstruction costs in addition to any other remedies that might be available to the borough for the applicant's breach of warranty.

F. *Other Remedies Not Excluded.* Nothing in this section shall preclude the borough from recovering additional costs to complete road improvements if the security is not sufficient.

G. *Implementation.* The road service area board may by resolution adopt policies and procedures to implement these provisions.



H. Road Improvement Assessment Districts (RIADs). RIADs are exempt from KPB 14.06.140 warranty and security requirements.

**[14.06.150. ROAD CONSTRUCTION STANDARDS—DRAINAGE AND CULVERT MATERIAL.**

ROADS SHALL BE CONSTRUCTED TO PREVENT PONDING OF RUNOFF WATERS IN ROADSIDE DITCHES. DRAINAGE DITCHES SHALL BE CONSTRUCTED SUCH THAT RUNOFF WATERS WILL BE CONVEYED TO NATURAL DRAINAGE COURSES, DITCHES OR WATERWAYS, OR OTHER MAN-MADE DRAINAGE COURSES. OUTFALLS SHALL BE CONSTRUCTED TO PREVENT EXCESSIVE SILTATION OF RIPARIAN HABITATS, CHANNEL EROSION OR OTHER DRAINAGE TO PUBLIC OR PRIVATE PROPERTY. THE RSA BOARD MAY REQUIRE ENGINEERING ANALYSIS AND DESIGN FOR LOCATIONS SUSCEPTIBLE TO FLOODING, EXCESSIVE SILTATION, OR OTHER NATURAL CONDITIONS POTENTIALLY DAMAGING TO THE RIGHT-OF-WAY, ADJACENT PROPERTY, OR WATER COURSES AND WATER BODIES. A ROADWAY CROSS CULVERT SHALL BE MINIMUM DIAMETER OF 18 INCHES AND DRIVEWAY CULVERTS SHALL BE A MINIMUM OF 12 INCHES. CULVERTS, COUPLING BANDS AND SPECIAL SECTIONS SHALL BE CORRUGATED STEEL PIPE, WITH A MINIMUM OF 16 GAUGE. PLASTIC CULVERTS ARE ACCEPTABLE IF THEY MEET AASHTO STANDARD SECTION 706-2.07 CORRUGATED POLYETHYLENE PIPE, AASHTO M 294, TYPE S.]

**14.06.[160]150. Road construction standards—Typical section materials.**

A. [SUBBASE.] Embankment Material. [SUBBASE] Embankment material shall contain no muck, frozen materials, roots, sod, or other deleterious matter. It shall have a liquid limit not greater than 25 and plasticity index not greater than 6 as determined by AASHTO T89 and T90. [CATEGORY IV ROADS REQUIRE A 6 INCH CAP OF SUBBASE GRADING C. SPECIFICATIONS FOR SUBBASE GRADING ARE AS FOLLOWS:

REQUIREMENTS FOR GRADING FOR SUBBASE  
PERCENT PASSING BY WEIGHT

SIEVE DESIGNATION	GRADING A	GRADING B	GRADING C
4 INCH	100	--	--
2 INCH	85--100	100	--
1 INCH	--	--	100
No. 4	30--70	30--70	40--75
No. 16	--	--	20--43
No. 200	10 MAX.	6--10	4--10 ]

B. [SUBBASE GRADING C] Type III shall [CONSIST OF CRUSHED MATERIAL, OF WHICH 50% BY WEIGHT OF THE PARTICLES RETAINED ON THE NO. 4 SIEVE SHALL HAVE AT LEAST ONE FRACTURED FACE AS DETERMINED BY ATM T-4.] be crushed aggregate material with at least 50 percent of the coarse aggregate having at least one fresh mechanically fractured face and graded within the limits of the Category IV Road Table.

[B. *SELECTED MATERIAL, TYPE C.* SELECTED MATERIAL, TYPE C, SHALL BE EARTH, SAND, GRAVEL, ROCK OR A COMBINATION THEREOF, AND SHALL CONTAIN NO MUCK, PEAT, FROZEN MATERIAL, ROOTS, SOD OR OTHER DELETERIOUS MATERIAL AND SHALL BE COMPACTIBLE.]

C. *Geotextile Fabric.* Geotextile fabric shall meet or exceed the following physical and mechanical requirements.

<i>Geotextile Property</i>	<i>Test Method</i>	<i>Required Minimum</i>
Grab Tensile Strength		190 lbs.
Grab Elongation	ASTM D 1682	30%
Burst Strength	ASTM D 751	290 psi
Trapezoidal Tear Strength	ASTM D 117	50 lbs.
Permeability	AASHTO M 288 K	(soil)

Geotextile shall be installed in accordance with manufacturer’s recommendations. If multiple sections of fabric are required, the fabric shall be joined by overlapping adjacent sections a minimum of 3 feet.

**14.06.160. Road construction standards—Alignment.**

A. *Vertical alignment.* Roads shall be constructed in a manner such that grades shall not exceed, at any point, 6 percent on arterial roads and 10 percent on all other roads, and no more than 4 percent within 100 feet of any intersection.

B. *Horizontal alignment.* Horizontal alignment shall meet the requirements of KPB 20.20.120, 20.20.130, and 20.20.140. Roads shall be constructed along the centerline of the right-of-way and shall have curves meeting the minimum radius requirements of not less than 300 feet for right-of-ways 100 feet in width or more, and not less than 200 feet on all other roads.

C. *Clear zone.* There shall be a roadside clear of hazardous objects or conditions for a distance consistent with the speed, traffic volume, and geometric conditions of the site. Roads shall be constructed with a minimum clear zone of 6.5 feet. Where hazardous physical features exist which cannot be located outside the clear zone, alternative treatments such as guardrails may be required.

D. *Turnarounds.* Roads designed to have one end closed, either permanently or temporarily, shall be constructed with a suitable turnaround with a minimum radius of 30 feet. Dedicated cul-de-sacs shall be constructed with a minimum radius of 35 feet. The turnaround shall be constructed to a 4 percent grade or less.

E. *Intersections.* Road intersections shall be constructed as nearly at right angles as possible. A minimum unobstructed sight distance of 150 feet shall be provided unless a finding is made by the RSA board, prior to construction, that a lesser distance is appropriate due to topography, traffic flow, or other physical characteristics. Appropriate warning signs may be

required by the RSA board if an exception to sight distance is granted. Road intersections shall be constructed with a minimum return radius of 20 feet. Where acute intersections are provided, return radii shall be increased appropriately.

F. Driveways. Driveways shall be spaced as far apart from other driveways and intersections as practical to avoid interference with ditch drainage.

**[14.06.170. ROAD CONSTRUCTION STANDARDS—PAVING SPECIFICATIONS.**

A. DESCRIPTION. THE WORK UNDER THIS SECTION CONSISTS OF THE PERFORMANCE OF ALL WORK REQUIRED FOR THE CONSTRUCTION OF ASPHALT CONCRETE PAVEMENT ON A PREPARED BASE (SEE PAVED ROAD TYPICAL SECTION DRAWING AND ASSOCIATED TABLE A). CURRENT EDITIONS OF “STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION,” AS ADOPTED BY THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES AND THE “STANDARD SPECIFICATIONS FOR STREETS, DRAINAGE, AND UTILITIES,” AS ADOPTED BY THE MUNICIPALITY OF ANCHORAGE WILL BE THE REFERENCES USED FOR ASPHALT PAVING.

B. MATERIAL AND TESTING.

1. ASPHALT. THE CONTRACTOR SHALL SUBMIT A CERTIFIED ANALYSIS OF THE ASPHALT TO THE RSA FOR REVIEW AND APPROVAL. THE RSA RESERVES THE RIGHT TO MAKE CHECK TESTS OF THE ASPHALT AT THE PROJECT SITE, AND IF THE ASPHALT IS NOT IN ACCORDANCE WITH THE CERTIFIED ANALYSIS HE MAY REJECT THE MATERIALS.

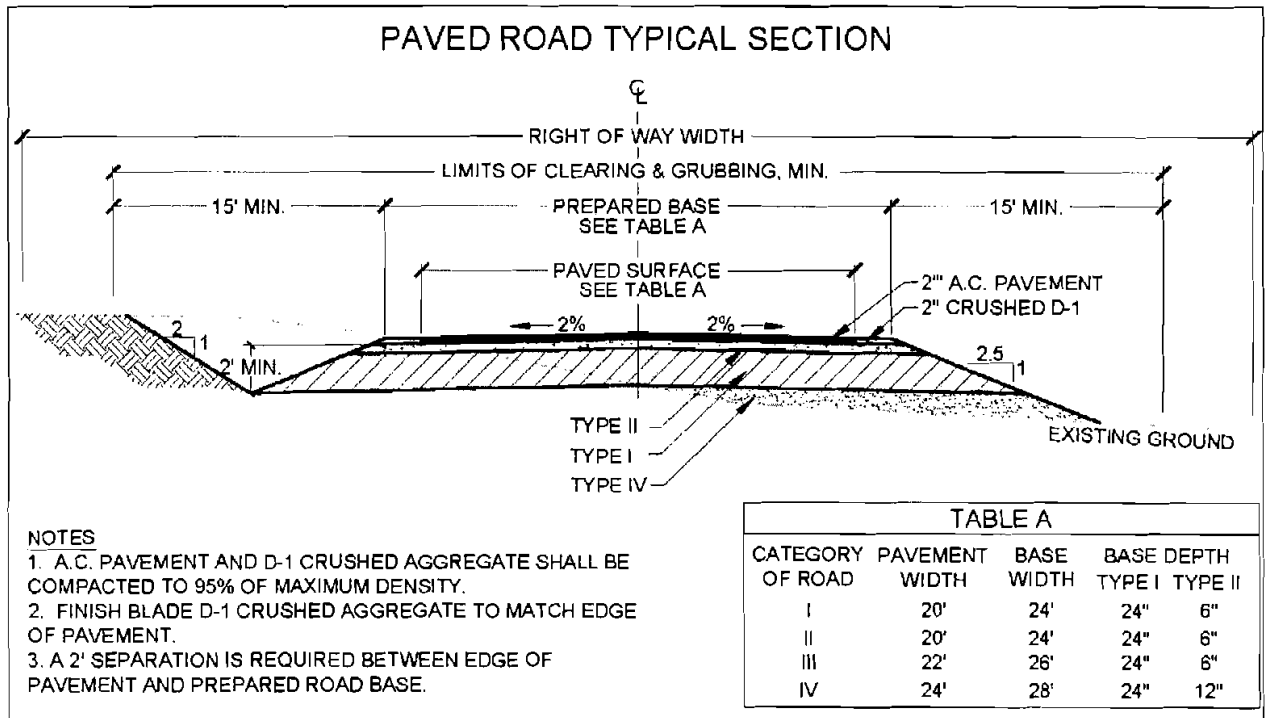
THE ASPHALT REQUIRED BY THESE SPECIFICATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE ASPHALT INSTITUTE FOR THE TYPE AND GRADE AND SHALL COMPLY WITH ADOT/PF SPECIFICATIONS USED IN THE AREA.

THE CONTRACTOR/DEVELOPER, AT THEIR OWN EXPENSE, WILL BE REQUIRED TO PERFORM FIELD TESTS MEASURING AGGREGATE GRADATION AND FRACTURE, ASPHALT CONTENT AND COMPACTION. TEST RESULTS SHALL BE IN CONFORMANCE WITH PAVEMENT MIX DESIGN REQUIREMENTS AND SHALL BE STAMPED BY AN ALASKA LICENSED PROFESSIONAL CIVIL ENGINEER.

THE PREPARED BASE SHALL MEET THE STANDARDS FOR A CATEGORY III ROAD. INSPECTION OF THE SUBBASE, BY A RSA APPROVED PARTY, IS REQUIRED PRIOR TO PAVING.

C. CERTIFICATION OF DESIGN. THE RSA REQUIRES THE ASPHALT PAVEMENT MIX DESIGN BE SUBMITTED AND STAMPED BY AN ALASKA LICENSED PROFESSIONAL CIVIL ENGINEER. PROCESS QUALITY CONTROL RECORDS FOR AGGREGATE SHALL BE SUBMITTED WITH THE ASPHALT PAVEMENT MIX DESIGN.

D. OTHER SPECIFICATIONS. THE RSA WILL USE THE SAME SPECIFICATIONS PREVIOUSLY CITED TO ADDRESS SEAL COAT, PRIME COAT, PAVING GEOTEXTILE AND RECYCLED ASPHALT PAVING.



Paved Road Typical Section]

**14.06.170. Road construction standards—Drainage and culvert material.**

Roads shall be constructed to prevent ponding of runoff waters in roadside ditches. Drainage ditches shall be constructed such that runoff waters will be conveyed to natural drainage courses, ditches or waterways, or other man-made drainage courses. Outfalls shall be constructed to prevent excessive siltation of riparian habitats, channel erosion, or other damage to public or private property. The RSA board may require, upon staff recommendation, an engineering analysis and design for locations susceptible to flooding, siltation, or other natural conditions potentially damaging to the right-of-way, adjacent property, or water courses and water bodies. A roadway cross culvert shall be a minimum diameter of 18 inches, and with at least a 1 percent drainage grade through the culvert, and driveway culverts shall be a minimum of 15 inches and 30 feet in length. Culverts, coupling bands and special sections shall be corrugated steel pipe of at least 16 gauge. Plastic culverts are acceptable for driveway culverts only, if they meet AASHTO Standard Section 706-2.07 corrugated polyethylene pipe, AASHTO M 294, Type S. AASHTO cross culvert markers must be installed.

**14.06.180. Road construction standards—Structures/bridges.**

A. Plans, prepared and stamped by a licensed civil engineer, shall be submitted to the RSA board prior to construction or acceptance of the road for maintenance if the road contains a bridge, **culvert**, bottomless culvert, guardrail, retaining wall, or other similar structure. An engineered report must also be submitted once the construction is complete. The engineered report must document or certify compliance with all relevant state and federal requirements.

B. Bridges, bottomless culverts, walls, and other structures on roads certified for borough maintenance shall be in accordance with the current "Standard Specifications for Highway Bridges" and in accordance with the "Policy on Geometric Design of Highways and Streets."

**14.06.190. Airparks.**

No roads within or directly adjacent to an airpark will be certified for maintenance where aircraft will utilize, or interfere with vehicular use of, the roadway.

**14.06.[180]200. Road construction standards—Signs.**

A. *General information.* Sign location, type of installation, and sign removal will be as designated by the [ROADS DIRECTOR] RSA director consistent with these standards and RSA board policy.

B. *Street name signs.* Street name signage shall be installed by developers of new roads, following the specifications set forth in the “Alaska Sign Design Specifications.”

C. *Speed signs.* Speed signage and parking signage shall comply with the requirements of KPB 12.02 and KPB 14.40, respectively, and RSA board policy.

D. *Unauthorized signage.* Unauthorized signs located in the Kenai Peninsula Borough right-of-way may be removed by the RSA.

E. *Vandalism.* The removal, defacing, and or destruction of RSA signs will be punished to the fullest extent of the law.

**14.06.210. Road construction standards—Paving specifications.**

A. *Description.* The RSA board will only certify roads containing asphalt concrete pavement on a prepared base if designed and stamped by a licensed civil engineer. The work under this section consists of the performance of all work required for the construction of asphalt concrete pavement on a prepared base (as shown in the Paved Road Typical Section drawing and associated Paved Road Table). Current editions of “Standard Specifications for Highway Construction,” as adopted by the Alaska Department of Transportation and Public Facilities and the “Standard Specifications for Streets, Drainage, and Utilities,” as adopted by the Municipality of Anchorage will be the references used for asphalt concrete paving.

B. *Material and testing.* The RSA requires the asphalt pavement mix design be submitted and stamped by an Alaska licensed civil engineer or prepared and approved by the Alaska Department of Transportation. Process quality control records for aggregate shall be submitted with the asphalt pavement mix design. The project engineer must provide a certified as-built drawing or a detailed report certifying that the road has been constructed to RSA standards. This report must include photos, sieve analysis of materials used, field inspection reports, compaction test results, and other inclusions the RSA may request. The asphalt required by these specifications shall conform to the requirements of The Asphalt Institute for the type and grade and shall comply with ADOT/PF specifications used in the area. Crushed aggregate based coarse, D-1, shall comply with ADOT/PF specifications.

C. Two-foot compacted shoulders are required.

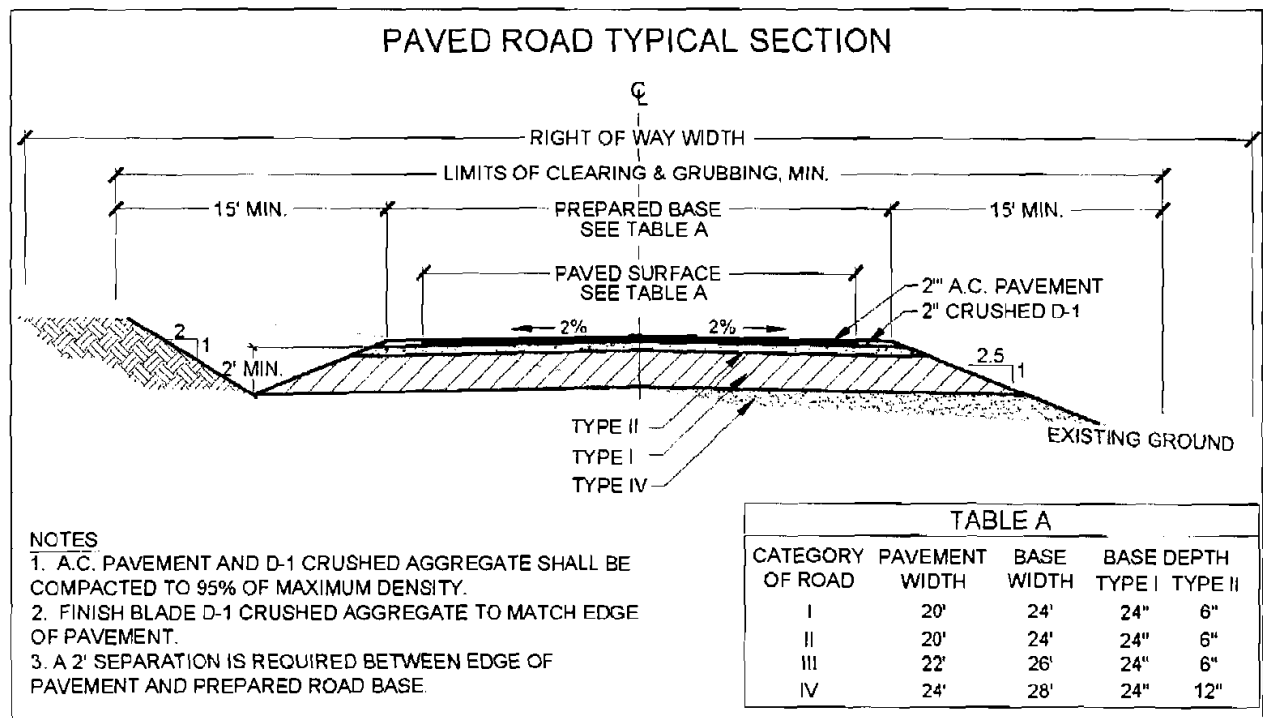
D. The prepared base shall, at a minimum, meet the standards for a Category III road. Inspection of the subgrade by the design engineer is required prior to paving.

E. The contractor shall submit a certified analysis of the asphalt to the RSA for review and approval by the RSA director. The RSA reserves the right to make check tests of the asphalt at

the project site, and, if the asphalt is not in accordance with the certified analysis, the road will be rejected for certification.

F. The contractor or developer, at their own expense, will be required to perform field tests measuring aggregate gradation and fracture, asphalt content, and compaction. Test results shall be in conformance with pavement mix design requirements and shall be stamped by an Alaska licensed civil engineer.

G. Other specifications. The RSA will use the current editions of "Standard Specifications for Highway Construction," as adopted by the Alaska Department of Transportation and Public Facilities and the "Standard Specifications for Streets, Drainage, and Utilities," as adopted by the Municipality of Anchorage to address seal coat, prime coat, paving geotextile, recycled asphalt paving, and other specifications required to assure the RSA the road meets all quality control measures.



**Requirements for Embankment Material  
Percent Passing by Weight  
Paved Road Table**

Sieve Designation	Type I	Type II	Type III*
<b>4 Inch</b>	95-100	--	--
<b>2 Inch</b>	85-100	100	100
<b>1 Inch</b>	--	--	95-100
<b>No. 4</b>	30-60	30-65	40-75
<b>No. 16</b>	--	--	20-43

No. 200	<del>3-6 0</del>	6-10	4-10
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\* Type III relates to Category IV Gravel Roads: Typical Section

**14.06.[190]220. Road construction standards—Fee schedule.**

The RSA [B]board may establish a fee schedule to recover costs related to road standard implementation or inspection.

**14.06.230. Road construction standards—Exceptions.**

A. Standards. Prior to acceptance, the RSA board may make an exception to the standard requirements under any one of the following conditions:

1. Compliance with the standard is not economically feasible considering topography, location, and width of right-of-way; traffic volume; traffic flow; or other physical characteristics;
2. The applicant did not cause the condition upon which the request for the exception is based;
3. Substantial compliance with the standards is the most practical means of meeting the objectives of KPB 14.06, and strict compliance would result in rejection of the road for borough maintenance; or
4. Alternate treatments or conditions, if required by the RSA board, will bring the road into substantial compliance with these standards.

B. Board action. The burden is on the applicant to meet at least one of the above factors and demonstrate to the RSA board that granting the exception will not undermine the objectives of the standards. The board may deny, modify, or grant the requested exception.

**14.06.240. Road decertification.**

A. Authority. Roads may be decertified for maintenance by the borough as provided in this section.

B. Procedure. Any road decertification must comply with the following procedures:

1. Staff recommendation. The RSA director shall make a written recommendation to the RSA board with findings based on the standards set forth in KPB 14.06.240(C) and (D).
2. Notice and hearing. A public hearing shall be held before the RSA board regarding decertification. Notice of the hearing shall be published once a week for four consecutive weeks prior to hearing with the last publication appearing within 14 days before the hearing date. A notice of the decertification hearing shall also be posted for a four-week period prior to the date of the first hearing at the beginning and ending points of the road proposed for decertification. Both posted and written notices shall invite public comment, state the name and phone number of a contact person regarding decertification information, state the date, place, and time of the public hearing, and a deadline for the submittal of written comments.

3. Board action. If the RSA board finds that the proposed road meets the decertification standards set forth in KPB 14.06.240(C) and (D), and there has been no written objection to the decertification, it shall recommend decertification by resolution to the assembly. If written comment is received objecting to decertification, the RSA board shall not recommend decertification at this time, but shall require the RSA director to explore options to bring the road to borough standards.
4. Decertification alternatives. The RSA director or his designee may meet with property owners to discuss the necessary upgrades to avoid decertification. A special assessment district may be considered pursuant to KPB 14.31. The borough may engage in cooperative efforts to the extent allowed by law with property owners to upgrade roads where property owners contribute material, equipment, professional services, and right-of-way for the project. The RSA director shall report at a subsequent meeting of the RSA board what efforts have been made to bring the road to RSA maintenance standards and if there are feasible alternatives to decertification. If the RSA board finds that there is no viable option presented for bringing the road to borough standards, the RSA board, by resolution, shall recommend to the assembly decertification of the road.
5. Decertification withdrawal. If the road has been brought to borough standards or the RSA director determines that a viable plan for bringing the road to borough standards has been proposed prior to the assembly hearing regarding decertification, the RSA director may withdraw the proposed decertification recommendation from assembly consideration.
6. Assembly—Hearing required. A public hearing shall be held before the assembly regarding decertification in conjunction with consideration of a decertification resolution. Notice of the public hearing shall be published in a newspaper of general circulation once a week during each of the two calendar weeks prior to the hearing.
7. Assembly action. If the assembly finds that the road is eligible for decertification based on KPB 14.06.240(C) and (D), the assembly shall decertify the road. If the decertification resolution is adopted by the assembly between September 15 and May 15, the decertification shall not be effective until on or after May 15, unless the road has not received maintenance within five years prior to assembly decertification.
8. Signage. Decertification shall not be effective until signage has been placed regarding discontinued maintenance if the road has received maintenance within five years prior to the assembly resolution.

C. Dwellings standards. No road shall be decertified which provides the only vehicular access to dwellings. Dwellings are structures currently habitable by human beings, either for residential or recreational purposes.

D. Additional standards. The following standards support, but each alone does not require, decertification:

1. Safety. The RSA will review whether maintenance can provide adequate grade, width for travel, room for snow removal, adequate sight distances and clear zone, and prevent accumulation of water and snow in the traveled right-of-way. The potential for accidents because of inadequate road design or inability to maintain the road to a safe standard on a regular basis shall be considered in a decertification determination.



2. Road condition. Whether the types of road material, soils, terrain, road surface, and width of right-of-way do not meet borough road standards shall be considered in a decertification determination.
3. Drainage problems. Whether a road has inadequate ditching, culverts, and drainage causing water to accumulate on the road surface or which undermines the road bed shall be considered in a decertification determination.
4. Access. Whether roads are outside a dedicated right-of-way and whether substandard roads on the maintenance system are accessed by a state- or borough-maintained road shall be considered in a decertification determination.
5. Snow storage. Whether snow easements or places to store snow are inadequate to maintain sufficient travel width and vision shall be considered in a decertification determination.
6. Funding. Excessive cost of maintaining a particular substandard road shall be considered in a decertification determination.
7. Prior maintenance. Whether the road has ever received either summer or winter maintenance shall be considered in a decertification determination.

E. Vacations. Notwithstanding KPB 14.06.240(B), a road that is vacated through the process set forth in KPB 20.28 shall be decertified for maintenance by resolution of the RSA board.

F. Alternate route. Notwithstanding KPB 14.06.240(B), any portion of a road that has been maintained outside of dedicated right-of-way may be decertified for maintenance by resolution of the RSA board where the travel surface has been moved into the right-of-way and the new travel surface is certified for maintenance by the borough. Every decertification approved by the RSA board under this subsection shall be submitted to the assembly for consideration. The assembly shall have 45 days from the date of the RSA board decertification resolution to veto decertification of a road under this subsection.

#### **14.06.[200]250. Road construction standards—Definitions.**

For purposes of this chapter, the following definitions apply:

“AASHTO” means “American Association of State Highway and Transportation Officials.”

“Arterial road” means a road intended to carry traffic from local and subdivision roads to major highways. Such roads primarily accommodate relatively large volumes of traffic for relatively long distances at relatively high speeds.

[“BOARD” MEANS THE KENAI PENINSULA BOROUGH ROAD SERVICE AREA BOARD, UNLESS OTHERWISE SPECIFIED.]

“Collector road” means roads which provide both land access and carry traffic from local or subdivision roads to arterial or major highway systems.

“Construction” means physical activity by the applicant using labor, materials or equipment within the right-of-way beginning with clearing and grubbing and ending with certification for maintenance by RSA.

“F4 Classification” means (a) all silts including sandy silts; (b) very fine silty sands containing more than 15 percent finer than 0.02 mm. by weight; (c) clays with plasticity indexes of less than 12; (d) varved clays existing with nonuniform subgrade conditions.

“Habitable” means adequate permanent shelter from the elements such as rain, wind, snow, and sun, the condition of which must be free of serious defects that might harm health and safety.

“Level terrain” means when the topography adjacent to the right of way slopes less than 3 percent.

“Licensed Civil Engineer” means a Registered Professional Engineer, licensed to practice Civil Engineering by the State of Alaska, in accordance with AS 08.48 and 12 AAC 36.

“Local roads” means internal subdivision roads or a road designed and intended to serve local areas. Such roads primarily accommodate land access to abutting property. Local roads feed traffic into collector and arterial street systems.

“Motor vehicle” means a vehicle which is self-propelled except a vehicle manned by human or animal power.

“Road construction standards” or “road standards” means the minimal standards set forth in this chapter for the purposes of certification for RSA road maintenance.

“Subcollector road” means a local road which also provides through traffic service between local roads and collector, arterial, or major highway roads.

“Type IV material” is materials consisting of earth, sand, rock, or combinations thereof containing no muck, peat, frozen material, roots, sod, or other deleterious matter and is compactable.

**SECTION 2.** KPB 14.31.020 is hereby amended as follows:

**14.31.020. Authorized capital improvements.**

Special assessments may be levied under this chapter only for the improvement of existing roads in public rights-of-way to meet or exceed [LOCAL] road construction standards adopted in KPB 14.06.030 that are in effect at the time of the formation of the special assessment district in which the assessments are levied.

**SECTION 3.** KPB 14.140.040(A)(2) is hereby amended as follows:

**14.140.040. Right-of-way use permits.**

\* \* \*

2. Seasonal permits may be issued to someone holding a State of Alaska contractor's license. Such permits shall be valid from May 1 through November 15 of each year for all projects a contractor is constructing to the typical section under KPB [14.06.120(A)] 14.06.100(A). Projects within the right-of-way not constructed to the typical section require a project-specific permit or a driveway permit. In order for the seasonal permit to remain in effect, the contractor must hold a current contractor's license issued pursuant to title 8 of the Alaska Statutes, and must not be in arrears in any

financial obligations to the borough. A contractor must provide 48 hours' written notice to the borough prior to commencing construction on each individual road subject to the seasonal permit. Facsimile notice is acceptable. The contractor shall also provide a list of roads constructed under that year's seasonal permit no later than December 31 of the year in which the permit was granted.

**SECTION 4.** KPB 21.44.210(D)(12)(d)(x) is hereby amended as follows:

**21.44.210. Residential conservation district (R-C).**

\* \* \*

x. All roads must be constructed to Kenai Peninsula Borough road construction standards, KPB [14.06.080-200] 14.06.080-.250.

**SECTION 5.** That this ordinance takes effect immediately upon its enactment.

**ENACTED BY THE ASSEMBLY OF THE KENAI PENINSULA BOROUGH THIS \*  
DAY OF \* 2008.**

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Grace Merekes, Assembly President

ATTEST:

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Sherry Biggs, Borough Clerk