

Introduced	Mayor @ request of Road Svc Area Bd
Date:	3/04/97
Hearing:	4/08/97
Action:	Enacted as Amended
Vote:	Unanimous

**KENAI PENINSULA BOROUGH
ORDINANCE 97-18**

**AN ORDINANCE APPROVING THE REVISED ROAD STANDARDS FOR
ROADS TO BE ACCEPTED INTO KENAI PENINSULA BOROUGH
ROAD MAINTENANCE SYSTEM**

WHEREAS, there have been a great number roads which are difficult to maintain accepted into the road maintenance system because of lack of standards; and

WHEREAS, it is desirable to have roads meet minimal road standards before acceptance into the borough road maintenance system; and

WHEREAS, it is desirable to have uniform borough-wide road standards administered by the road service area board;

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

SECTION 1. That the KPB Code of Ordinances, Title 14.06, is hereby amended as follows:

14.06.010 Standards applicable.

Before a road is accepted into any borough road maintenance system or program [OF THE BOROUGH OR ANY OF ITS ROAD MAINTENANCE SERVICE AREAS], it must meet or exceed the requirements set forth in this chapter.

14.06.020 Subdivision standards.

All roads within a subdivision must meet or exceed the design requirements of KPB 20.20.010-20.20.260 that pertain to roads or the subdivision standards that were in effect at the time the subdivision plat was given final approval.

14.06.030 Local Road Construction Standards.

The borough hereby adopts the standards for construction of local roads contained in the publication "Kenai Peninsula Borough Road Construction Standards" (KPB Standards) dated [MARCH 18, 1986] February 11, 1997, [AND ATTACHED HERETO AS APPENDIX A] available to the public from the Kenai Peninsula Road Service Area at no more than cost. Should there be a conflict

between the KPB standards and those contained in the subdivision ordinance standards the subdivision ordinance standards shall control.

14.06.040 Application for maintenance.

Any person may request or apply for an existing or newly constructed road to be placed in the maintenance program where such road lies within [AN] the borough road service area [THAT HAS A ROAD MAINTENANCE PROGRAM]. The Kenai Peninsula Borough Road [MAINTENANCE] Service Area board[S] shall establish procedures for making [SUCH REQUESTS OR] applications for road maintenance.

14.06.050 Acceptance.

Only roads that meet the design and construction standards set forth in this chapter may be included in [ANY BOROUGH OR BOROUGH] the road service area maintenance program. Prior to acceptance an inspection shall be performed by the Kenai Peninsula Borough Road Service Area board or its designated agent to determine that these standards have been met.


14.06.060 Other requirements not eliminated.

This chapter only establishes the design and construction standards for roads prior to acceptance into the road maintenance program and does not eliminate any other requirements for eligibility for the road maintenance program that may be established by federal or state statutes, borough ordinances or any other regulations adopted pursuant to them. Roads accepted for maintenance prior to enactment of this ordinance shall not be disallowed because of their failure to meet requirements of this ordinance.

SECTION 2. The "Kenai Peninsula Borough Road Construction Standards" are attached to this ordinance as Appendix A.

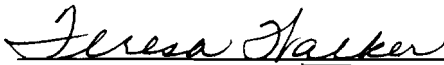
SECTION 3. That this ordinance shall take effect immediately upon its enactment.

ENACTED BY THE ASSEMBLY OF THE KENAI PENINSULA BOROUGH THIS 8th DAY OF APRIL, 1997.



Jack Brown, Assembly President

ATTEST:



Teresa Harker
Borough Clerk Deputy

ROAD CONSTRUCTION STANDARDS

I. Introduction

The following criteria (standards) for the construction of local roads within the Kenai Peninsula Borough represent a minimum level of service expected in construction of these roads. The developer, engineer or contractor is encouraged to build the roads to highest standard possible within the economical constraints of the project.

II. Definitions

Roads should be constructed for specific traffic volumes and levels of service appropriate for functional classification. Four distinct classifications or categories of roads were developed for these standards. Individual roads are to be constructed in accordance with the standard of the category of road to be constructed.

Category I: A Cul-de-sac road or other minor road, both of which serve less than 15 lots.

Category II: A road which serves between 15 and 40 lots.

Category III: A road which serves between 41 and 100 lots.

Category IV: A road that serves greater than 100 lots.

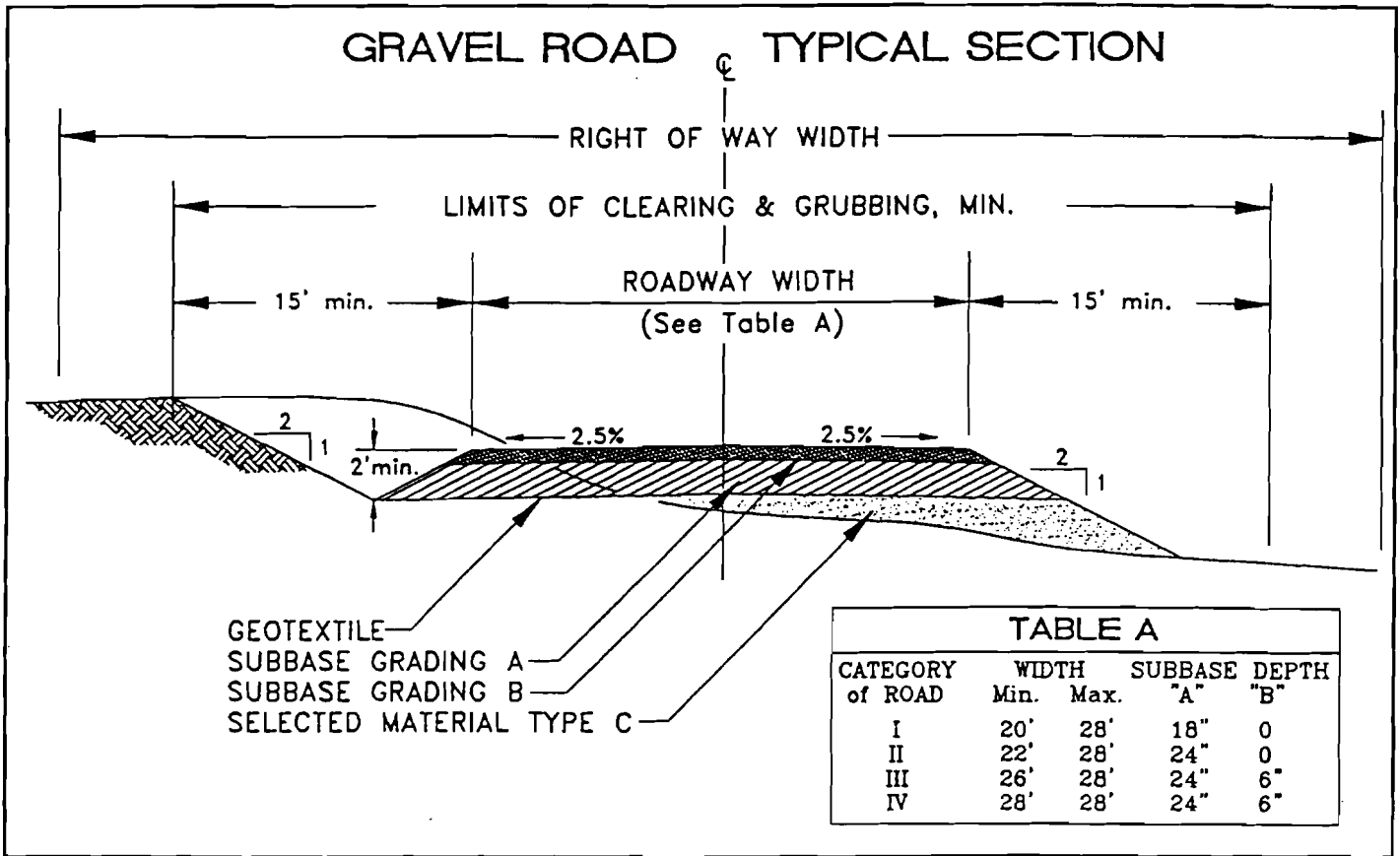
III. Road Widths

Category of Road	Minimum Width (Feet)*	Maximum Width (Feet)*
I	20	28
II	22	28
III	26	28
IV	28	28

* Shoulder to shoulder

IV. Structures/Bridges

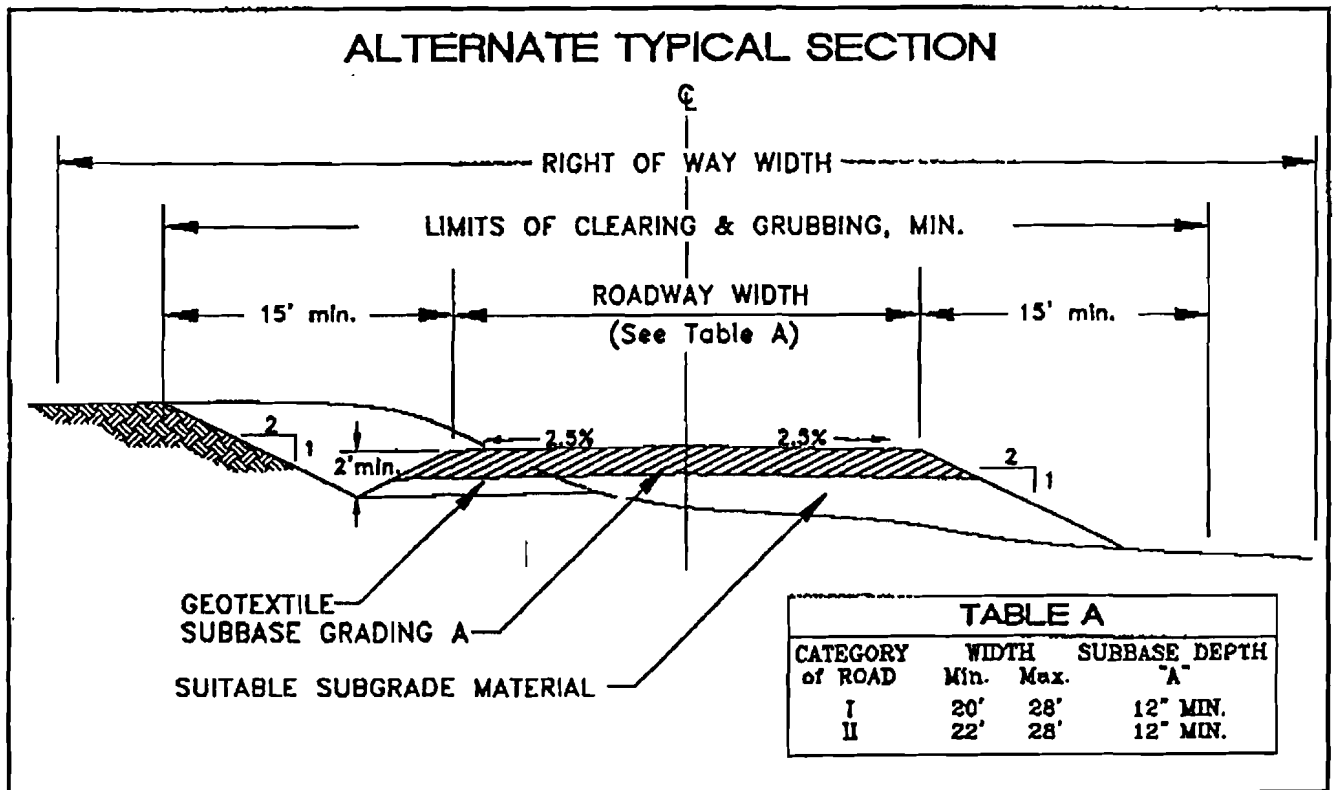
The design of bridges, bottomless culverts, walls and other structures should be in accordance with the current "Standard Specifications" for Highway Bridges and in accordance with the "Policy on Geometric Design of Highways and Streets, 1984." Plans, prepared and stamped by a licensed professional engineer, shall be submitted to the Road Service Area Board for approval, prior to construction.



V. Construction Standards

- A. Gravel roads shall be constructed in accordance with the Typical Section and Table A. Additional requirements are:
1. All roads must be on a dedicated right-of-way and must be built along the right-of-way centerline. Minimum right-of-way width is to be 50 to 60 feet, enabling utilities to be installed outside the edge of roadside ditches.
 2. All organic material shall be stripped and removed to a minimum depth of four (4) feet below finished grade. If geotextile is utilized over organics, then the depth of subbase must be three (3) feet minimum or greater as required for stable embankment.

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 F-4 (U.S. Corps of Engineers.)
 5. The roadway embankment shall be placed in lifts and compacted to not less than 90% of maximum density. Maximum density shall be determined by AASHTO T 180, Method D.
 6. In place or useable excavation material meeting the specifications of the required embankment material may be utilized in lieu of borrow.
- B. An alternate design may be submitted if prepared and sealed by a licensed professional engineer. The design shall include typical section(s), centerline plan and profile and drainage. The design shall be based on a soils investigation with test holes at least every 500 linear feet and report with test hole logs and soil analyses. Alternate designs are subject to approval by the Road Service Area Board prior to construction.



C. Alternate construction methods may be utilized for Category I and Category II roads where soil, economic and other conditions are such that the standard typical section is not practical. It is the developers responsibility to construct a functional road that will be suitable for traffic and maintenance operations. Final acceptance by the Road Service Area (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.
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 (3) 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.

VI. 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 K.P.B. 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. 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.

D. 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 shall be required by the board.

Road intersections shall be constructed with a minimum return radius of 20 feet. Where acute intersections are provided, return radii shall be increased appropriately.

VII. 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. A roadway cross culvert shall be minimum diameter of 18 inches and driveway culverts shall be a minimum of 15 inches. All culverts, coupling bands and special sections shall be corrugated steel pipe, with a minimum of 16 gauge.

Depressed roadway sections are to be avoided.

VIII. Typical Section Materials

A. Subbase

Subbase 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.

**Requirements for Grading for Subbase
Percent Passing by Weight**

<u>Sieve Designation</u>	<u>Grading</u>	
	<u>A</u>	<u>B</u>
4 inch	100	-
2 inch	85-100	100
No. 4	30-70	30-70
No. 200	10 Max	0-6

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.

<u>Geotextile Property</u>	<u>Test Method</u>	<u>Required Minimum</u>
Grab Tensile Strength	ASTM D 1682	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 manufacture's recommendations. If multiple sections of fabric are required, the fabric shall be joined by overlapping adjacent sections a minimum of 3 feet.

XI. The Road Service Area Board may establish a fee schedule to recover costs related to road standard implementation or inspection.