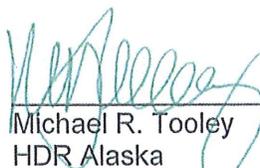
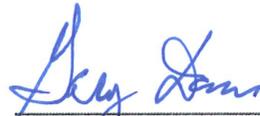


Appendix A
Revised Design Criteria

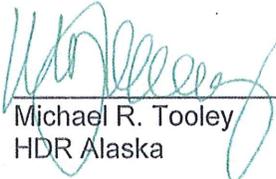
PROJECT RURAL DESIGN CRITERIA

Project: Ketchikan, Gravina Island Access	
New Construction / Reconstruction <input checked="" type="checkbox"/>	Rehabilitation (3R) <input type="checkbox"/> Other:
Design Functional Classification:	NHS - Rural Minor Arterial (GB, pages 9 and 447)
Terrain:	Mountainous
Level-of-Service:	"C", stable flow (GB, pages 85 and 448)
Design Year:	2030
Present Year ADT:	0; expect 275 after opening
Design Year ADT:	9,300
DHV (10%):	930
Directional Split (D, 45/55%):	420/510
Trucks (PTT, 2%):	20
Pavement Design Year (Construction + n):	n = 10 years (number of years of expected pavement design life)
Design Vehicle:	WB-67, Tractor-Trailer (Doerflinger 6-1-00 email)
Design Speed:	50mph desirable, 25mph minimum* (GB, pages 448 and 72)
Stopping Sight Distance:	425 feet desirable, 155 feet minimum* (GB, Exhibit 7-1)
Passing Sight Distance:	1835 feet desirable, 900 feet minimum* (GB, Exhibit 7-1)
Maximum Allowable Grade:	7 percent desirable, 8 percent maximum (GB, Exhibit 7-2)
Minimum Allowable Grade:	0.3 percent (PCM, Table 1120-1)
Minimum Radius of Curvature:	835 feet desirable, 185 feet minimum* (GB, Exhibit 3-22)
Minimum K-value for Vertical Curves:	Sag (GB, Exhibit 3-79)
	Crest (GB, Exhibit 3-76)
	96 desirable, 26 minimum* 84 desirable, 12 minimum*
Width of Traveled Way:	12 feet (GB, Exhibit 7-3)
Width of Shoulders:	8 feet (GB, Exhibit 7-3)
Surface Treatment:	Traveled Way
	Shoulders
	Pavement Pavement
Side Slope Ratios:	Foreslopes
	Backslopes
	4:1 (28' clear zone) 3:1 (PCM Table 1130-8)
Degree of Access Control:	Controlled-access (GB, page 9)
Illumination:	Intersection illumination
Curb Usage and Type:	Mountable, intersection channelization
Pedestrian Provisions:	8 feet on the main bridges (GB, page 362)
Bicycle Provisions:	on the shoulders
Miscellaneous Criteria:	*25mph, approaching an intersection stop (GB, page 72). The Revilla Island side, from the East Channel bridge to the base of a long decent down to a stopped condition at the intersection, is considered an urban setting.

PROPOSED:  31 July, 2009 ACCEPTED:  8-27-10
 Michael R. Tooley Date Gary Davis Date
 HDR Alaska Regional Director

PROJECT URBAN DESIGN CRITERIA

Project: Ketchikan, Gravina Island Access		
New Construction / Reconstruction <input checked="" type="checkbox"/>	Rehabilitation (3R) <input type="checkbox"/>	Other:
Design Functional Classification:	NHS - Urban Principal Arterial (GB, pages 10-11 and 473)	
Terrain:	Mountainous	
Level-of-Service:	"C" (stable flow) desirable, "D" min (GB, pages 84 and 474)	
Design Year:	2030	
Present Year ADT:	0; expect 275 after opening	
Design Year ADT:	7,300	
DHV (10%):	730	
Directional Split (D, 45/55%):	330/400	
Trucks (PTT, 2%):	15	
Pavement Design Year (Construction + n):	n = 10 years (number of years of expected pavement design life)	
Design Vehicle:	WB-67, Tractor-Trailer (Doerflinger 6-1-00 email)	
Design Speed:	30mph (GB, pages 72 and 474)	
Stopping Sight Distance:	200feet (GB, Exhibit 7-1)	
Passing Sight Distance:	1090 feet (GB, Exhibit 7-1)	
Maximum Allowable Grade:	8 percent desirable, 11 percent maximum (GB Exhibit 7-10)	
Minimum Allowable Grade:	0.3 percent (PCM, Table 1120-1)	
Minimum Radius of Curvature:	275 feet desirable (GB, Exhibit 3-22)	
Minimum K-value for Vertical Curves:	Sag (GB, Exhibit 3-79)	Crest (GB, Exhibit 3-76)
	37	424 desirable, 19 minimum
Width of Traveled Way:	12 feet (GB, page 476)	
Width of Shoulders:	8 feet des, 2 feet min w/C&G (GB pages 452 and 326)	
Surface Treatment:	Traveled Way	Shoulders
	Pavement	Pavement
Side Slope Ratios:	Foreslopes	Backslopes
	4:1 (28' clear zone)	3:1 (PCM Table 1130-8)
Degree of Access Control:	Controlled-access (GB, page 9)	
Illumination:	Intersection illumination	
Curb Usage and Type:	Mountable, intersection channelization	
Pedestrian Provisions:	8 feet on the main bridges (GB, page 362)	
Bicycle Provisions:	on the shoulders	
Miscellaneous Criteria:	Urban typical section should match previous rural typical section (40-feet) whenever possible.	

PROPOSED:  31 May, 2009 Date
 Michael R. Tooley
 HDR Alaska

APPROVED:  8-27-10 Date
 Gary Davis
 Regional Director

PROJECT FERRY DESIGN DESIGNATIONS

State Route Number: _____ Project Name: Ketchikan, Gravina Island Access

Project Limits: Ketchikan to Ketchikan International Airport and Airport reserve.

State Project Number: 67818 Federal Aid Number: ACHPRL-0003(123)

Project Description: Construction of improved road access from Ketchikan on Revilla Island to the Ketchikan International Airport on Gravina Island, and to the close-by Borough developable and recreational lands to the north and south of the Airport reserve. Depending on the alignment alternative, the design designations are different; these designations are for the three ferry alternatives from Lewis Point, Clump Cove and Charcoal Point (G2, G3 and G4, respectively) to the Airport passenger terminal.

Design Functional Classification: Urban Arterial Rural Arterial Major Collector
 Minor Collector Local

New Construction - Reconstruction Rehabilitation (3R) Other: _____

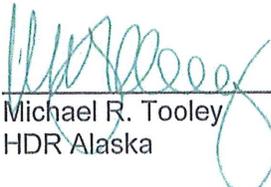
Project Design Life (years): 5 10 20 25 Other: _____

	<u>Existing Year</u>	<u>Construction Year</u>	<u>Mid-Life Year</u>	<u>Future Year</u>
	2009	2010	2020	2030
ADT:	0	275	1,100	1,300
DHV:	0			10 %
Direction Distribution:				45/55 %
Percent Recreational Vehicles:				
Percent Commercial Trucks:				2 %
Compound Growth Rate:				2 %
Pedestrians (Number/Day):				< 100
Bicyclists (Number/Day):				< 200

Design Vehicles for Turning: AASHTO WB-67, Tractor-Trailer

Design Vehicle Loading: HS15 HS20 HS25 Other: HL-93

Equivalent Axle Loads (EALs): _____

PROPOSED:  3/11/09 Date: _____
 Michael R. Tooley
 HDR Alaska

APPROVED:  8-27-10 Date: _____
 Gary Davis
 Regional Director

