

PROJECT DESIGN CRITERIA

ROADWAY CRITERIA*

Project Name: Spenard Road Reconstruction

Project No.: PM&E Project 03-21

DESIGN ELEMENT	CRITERION		SOURCE
DESIGN FUNCTIONAL CLASSIFICATION	Minor Arterial Class II		MOA OSHP, DCM 1.6 B, P 1-12
DESIGN YEAR	2036		Design Designation
DESIGN PERIOD (YEARS)	20		Design Designation
PRESENT 2013 AADT (VPD)	30 th to Benson	11,734	DOT&PF Annual Traffic Volume Report
	Benson to NLB	11,851	
	NLB to Fireweed	12,102	
	Fireweed to Hillcrest	4,906	
DESIGN YEAR 2036 AADT (VPD)	30 th to Benson	14,752	Design Designations – Traffic Projections
	Benson to NLB	14,899	
	NLB to Fireweed	15,214	
	Fireweed to Hillcrest	6,168	
DESIGN VEHICLE	WB-50 City-Bus (RIGHT TURN)		DCM 6.4 B, P 6-11
DESIGN SPEED (MPH)	45		DCM 1.6 B, P 1-19, Table 1-3
POSTED SPEED (MPH)	35		DCM 1.6 B, P 1-19, Table 1-3
STOPPING SIGHT DISTANCE (FT)	360		PGDHS, P 3-4, Table 3-1
ALLOWABLE GRADE (%)	MAXIMUM	6	DCM 1.9 D, P 1-45
	MINIMUM	0.5	
MAX GRADE THROUGH INTERSECTION (%)	5		DCM 1.9 D, P 1-46
MINIMUM K-VALUE (FT) (VERTICAL CURVE)	CREST	61	DCM 1.9 D, P 1-49, Figure 1-16
	SAG	79	DCM 1.9 D, P 1-50, Figure 1-17
ALGEBRAIC DIFFERENCE BETWEEN SLOPES (VERTICAL CURVES)	≤ 1%	Grade Break	DCM 1.9 D, p 1-48
	> 1%	Curve	
MINIMUM HORIZONTAL CURVE RADIUS (FT)	643		PGDHS, P 3-45, Table 3-9
NUMBER OF LANES	3		Design Designation
LANE WIDTH (FT)	THROUGH	11	DCM 1.6 B, P 1-19, Table 1-3
	CTWLTL	14	DCM 1.6 B, P 1-19, Table 1-3
WIDTH OF SHOULDERS (FT)	N/A		DCM 1.6 B, P 1-19, Table 1-3
CROSS SLOPE GRADE (%)	Crown	+/- 2	DCM 1.9 D, P 1-47
	Superelev	+/- 6	
CURB USAGE AND TYPE	Roadway	Barrier	DCM 1.9 F, P 1-56
	Median	Mountable	
MEDIAN TREATMENT	CTWLTL & raised median at specific locations		Design Designation
INTERSECTIONS	At Grade		DCM 1.6 B, P 1-19, Table 1-3
MINIMUM CURB RETURN GRADE (%)	0.5		DCM 1.9 D, P 1-46
MINIMUM CURB RETURN RADIUS (FT)	40		DCM 1.9 F, P 1-58, Figure 1-22
PARKING	Limited		Design Designation
MAXIMUM SIDE SLOPE RATIOS	FORESLOPE	2H:1V	DCM 1.9 D, P 1-48
	BACKSLOPE	2H:1V	
VERTICAL CLEAR ZONE AT INTERSECTIONS	Region Between 2-8 ft		DCM 1.9 E, P 1-52, Fig 1-18
CLEAR ZONE BEYOND FACE OF CURB(FT)	1.5		DCM 1.9 E P 1-55
INTERSECTION DEPARTURE SIGHT DIST. (FT)	b	500	DCM 1.9 E, P 1-53, Fig 1-19
LANE REDUCTION TAPER	Speed : 1		PGDHS, P 3-134
AUXILIARY LANE TAPER	8:1 to 15:1		PGDHS, P 9-127
MINIMUM LEFT-TURN LANE LENGTH (FT)	150		DCM 6.4 C, P 6-11
MAXIMUM LEFT-TURN LANE LENGTH (FT)	400		DCM 6.4 C, P 6-11

*Based on MOA Design Criteria Manual (2007)

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DRAINAGE CRITERIA*

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DESIGN ELEMENT	CRITERION		SOURCE
RAINFALL INTENSITY INFORMATION	Ted Steven's Int'l Airport		DCM 2.5 B, P 2-13
RUNOFF ANALYSIS METHOD			Drainage Design Guidelines
DESIGN STORM	10 year, 24 hour		Drainage Design Guidelines, Table 6-2
WATER QUALITY DESIGN STORM	2 year, 6 hour		Drainage Design Guidelines, Table 6-3
RAINFALL INTENSITY MULTIPLIER	1.0		DCM 2.5 B, P 2-16, Fig 2-2
MIN. STORM DRAIN PIPE DIAMETER (IN)	12		DCM 2.7 B, P 2-20
MIN. CATCH BASIN LEAD DIAMETER (IN)	MOA	10	DCM 2.7 B, P 2-20
	ADOT ROW	12	
MINIMUM PIPE SLOPE (%)	0.30		DCM 2.7 B, P 2-20
PIPE FLOW VELOCITY (FT/SEC)	MINIMUM	2	DCM 2.7 B, P 2-20
	MAXIMUM	13	
MIN. DRIVEWAY CULVERT DIAMETER (IN)	18		DCM 2.7 C, P 2-22
MIN. CROSS CULVERT DIAMETER (IN)	MOA	18	DCM 2.7 C, P 2-22
	ADOT ROW	24	HDM 9.3.4, P 9-10
MIN. CULVERT COVER (IN)	12		DCM 2.7 C, P 2-22
MAX. MANHOLE SPACING (FT)	300		DCM 2.7 D, P 2-23
DROP ACROSS MANHOLE (FT)	0.05		DCM 2.7 D, P 2-23
MIN. INSIDE MANHOLE DIAMETER (FT)	4		DCM 2.7 D, P 2-23
MIN. MANHOLE TRAP DEPTH (IN)	18		DCM 2.7 D, P 2-23
MIN. COVER OVER STORM DRAIN PIPE (FT)	4		DCM 2.7 J, P 2-28
MAX. INLET SPACING (FT)	1,100		DCM 2.8 C, P 2-31
MIN. VALLEY GUTTER GRADE (%)	PCC	0.4	DCM 2.8 D, P 2-32
	ACP	1.0	

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