

Appendix A  
Design Criteria

## PROJECT DESIGN CRITERIA – ROADWAY

Dimond Boulevard Upgrade, Phase 1: Westpark Drive to Sand Lake Road  
Municipality of Anchorage Project No. 05-05

ELEMENT	VALUE	SOURCE
Functional Classification	Collector, Class I	MOA OSHP
Design Year	2035	Kinney Engineering Traffic, Safety and Alternatives Analysis, 2013
Present Year AADT (2013)	2,415	Kinney Engineering Traffic Counts, August 2013
Mid-Period AADT (2025)	4,383	Kinney Engineering Traffic, Safety and Alternatives Analysis, 2013, Table 4
Design Year AADT (2035)	5,627	Kinney Engineering Traffic, Safety and Alternatives Analysis, 2013, Table 4
Design Hourly Volume (DHV)	563 (10% Design Year AADT)	Kinney Engineering Traffic, Safety and Alternatives Analysis, 2013, Table 5
Design Vehicle	MOA ROW	AASHTO WB-50
	DOT&PF ROW	AASHTO WB-67
Design Speed	45 mph	DCM, Section 6.4B
Posted Speed	35 mph	Agency comment
Stopping Sight Distance	45 mph	DCM, Table 1-4
Passing Sight Distance	35 mph	DCM, Table 1-4
Maximum Grade	305 ft	DCM, Figure 1-16
Minimum Grade	No passing zones	
Minimum Radius of Curvature	6%	DCM, Section 1.9D
Maximum Superelevation ( $e_{max}$ )	0.5%	
Minimum K-Value for Vertical Curves	600 feet	DCM, Table 1-9
Lane Width	6%	DCM, Section 1.9E
Width of Outside Shoulder	Crest: 44 Sag: 64	AASHTO Green Book 2011, Table 3-34 AASHTO Green Book 2011, Table 3-36
Surfacing, Lanes & Shoulders	11 ft.	DCM, Table 1-4
Illumination	5 ft.	DCM, Table 1-4
Curb & Gutter	Asphalt Concrete Pavement	
Pedestrian Provisions	Av Luminance: 0.6 cd/m <sup>2</sup> Uniformity: 3.5 ave/min Uniformity: 6.0 max/min Veiling Luminance: 0.4	DCM, Table 5-2
Bicycle Provisions	Type 1	DCM, Figure 1-11
Multi-Use Pathway Buffer	Multi-Use Pathway (8-10 ft.)	DCM, Section 4.2.I
Transit Provisions	Multi-Use Pathway (8-10 ft.) and bike lane / shoulder	DCM, Table 1-4
Clear Zone	7	DCM, Table 1-4
	N/A	
	14 ft.	AASHTO Roadside Design Guide 2011, Table 3-1

Proposed By:

\_\_\_\_\_  
Design Project Manager

\_\_\_\_\_  
Date

Recommended By:

\_\_\_\_\_  
MOA Project Manager

\_\_\_\_\_  
Date

**PROJECT DESIGN CRITERIA – MULTI-USE PATHWAY**  
 Dimond Boulevard Upgrade, Phase 1: Westpark Drive to Sand Lake Road  
 Municipality of Anchorage Project No. 05-05

<b>ELEMENT</b>	<b>VALUE</b>	<b>SOURCE</b>
Functional Classification	Multi-Use Paved Trail	DCM, Section 4.1B
Design Year	2035	Kinney Engineering Traffic, Safety and Alternatives Analysis, 2013
Surfacing, Lane Surfacing, Shoulder	Asphalt Concrete Pavement Gravel	DCM, Section 4.2A
Design Speed	20 mph for grades <4% 30 mph for grades >4%	DCM, Section 4.2 B
Stopping Sight Distance	125 feet (flat surfaces)	DCM, Section 4.2C
Maximum Grade	5% desirable	DCM, Section 4.2E
Cross Slope	1% Desirable 2% Maximum	DCM, Section 4.2F
Shoulder Width	2 foot minimum 5 foot minimum if side slopes exceed 1:3	DCM, Section 4.2G
Shoulder Grade	3-5%	
Clear Zone	3 feet from edge of travel way.	DCM, Section 4.2G
Minimum Radius of Curvature	100 feet 225 feet on grades > 4%	DCM, Table 4-1
Catch Slopes	1:3 Preferred 1:2 Maximum with 5 foot shoulders	DCM, Section 4.2G
Road Separation	7 foot Minimum	DCM, Section 4.2 H
Width	8-10 feet	DCM, Section 4.2.I
Illumination	Direction from Facility Maintenance and the Parks Department	DCM, Section 4.2K

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 Design Project Manager

\_\_\_\_\_  
 Date

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 MOA Project Manager

\_\_\_\_\_  
 Date

## PROJECT DESIGN CRITERIA – DRAINAGE

Dimond Boulevard Upgrade, Phase 1: Westpark Drive to Sand Lake Road  
Municipality of Anchorage Project No. 05-05

ELEMENT	VALUE	SOURCE
Base Design Storm, Conveyance Design	10-Year, 24-Hour	MOA Drainage Design Guidelines 2007, Table 6-2
Orographic Factor	1.0	DCM, Figure 2-2
Inlet Spacing	≤ 1,100 Feet	DCM, Section 2.8C
Minimum Diameter, Storm Drain	12 Inches	DCM, Section 2.7B
Minimum Diameter, Culvert	18-Inches	DCM, Section 2.7C
Minimum Cover, Culvert	1-Foot	DCM, Section 2.7C
Maximum Spacing, Manhole	300 Feet	DCM, Section 2.7D

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