

ROAD DESIGN MANUAL

INDEX

-A-

	PAGE
Abbreviations.....	1B-1 , 1B-19
Acceleration Lanes.....	F-91
Access Control Policy.....	F-10
Access, Limited.....	2E-47
Access Management Concepts.....	F-7
Accessible Parking Spaces.....	A(1)-89
Accessible Routes.....	A(1)-91
Accident Records.....	A4-4
Accommodating Pedestrians and Bicyclists.....	F-61
Activity Center Amenities Summary.....	B(2)-18
Additional Data-Requesting.....	2A-5
Additional Survey Data.....	2E-81
Administration Approval.....	2A-3
Advertisement.....	2G-31
Aggregate Base Material.....	2G-17
Agritourism Entrance Standards.....	F-126
Airport Clearance Requirements.....	2A-12
Alternative Intersection and Interchange Policies.....	A3-1
Approval of Noise Study.....	C-3
Approval of Project Plans.....	2F-10 , 2G-29
Approved Plans to Scheduling & Contract Division for (final) Submission.....	2G-29
Approval Process for Roundabouts.....	A3-21
Areas for Entrance Gutter - Standard CG-9D.....	D-34
Areas and Quantities.....	2D-13
Arranging Field Review (On-Site).....	2A-8
"As-Built" Plans.....	2G-36
Assembling Additional Available Data.....	2A-6
Assembling Photographs and Mapping.....	2A-7
Availability of Plans.....	2B-12

-B-

Barrier Type Selection.....	J-20
Baseline Stationing.....	2C-6
Bearings.....	2C-6
Bench Marks and Permanent Turning Points.....	2C-10
Bicycle Facility Guidelines.....	2E-30 , A(1)-3
Bid Proposal.....	2G-29
Biddability Review.....	2G-30
Boarding and Alighting Areas.....	A(1)-108
Borrow Material.....	2E-1
Box Culvert "D" Numbers.....	2E-61
Bridge Design.....	2D-20 , 2E-80
Bridge Identification Numbers.....	2E-61
Bridge Only Contract.....	2G-28
Buffer Strips.....	A(1)-70
Building Data Report.....	2F-2
Bulb-Outs.....	B(1)-60 , B(2)-13
Bus Turnouts Design.....	A(1)-103
Bus Stops, Shelters and Boarding and Alighting Areas.....	A(1)-108

-C-

	PAGE
Cable Guardrail	J-4
Capacity Analyses	2B-6 , 2C-12 , 2D-8 , B(1)-2
Capital Outlay Code	2E-58
Cattle Passes	2E-36
Certification Acceptance	2A-2
Check for Accuracy and Completeness	2F-1 , 2G-23
Checklist-Quality Control	1E-2
Checklist For Site Plan Completeness	C-34
Chord Points (TC-5.01)	See Road and Bridge Standards
Clear Zone	A2-1
Clear Zone Guidelines	A2-1
Clear Zone Cost-Effectiveness Analysis	A2-7
Clearing and Grubbing	2G-10
Coal Tar Pitch Emulsion	2G-17
Collector & Arterial Roadways	B(1)-5
Commercial Entrances	F-101
Commercial Entrance Channelization Island Options	F-109
Commercial Entrance Designs along Highways with Shoulders	F-119
Commercial Entrance Designs along Highways with Curb and Gutter	F-120
Commercial Entrance Designs along Local Streets with Curb and Gutter or Shoulders	F-121
Commercial Entrance Designs along Highways with Shoulders at Intersection	F-122
Commercial Entrance Designs along Highways with Curb and Gutter at Intersection	F-123
Commercial Entrance Designs to Serve A Private Subdivision Road / Street	F-118
Commercial Entrance Designs to Serve Drive-In Type Businesses	F-124
Commercial Entrance Separation from an Intersection	F-106
Commercial Entrance Sight Distance	F-105
Commercial Entrance Spacing	F-109
Compliance with Federal Regulations	2F-4
Complete Surveys	2B-2
Computation and Summarization of Earthwork Quantities	2G-8
Conducting the Public Hearing	2D-22
Constructability	2B-11 , A8-18
Constructability Quality Review	2B-11 , 2D-21 , 2E-75 , 2G-25 , E-1
Construction Areas	1C-1
Construction Cost Estimate	2E-74 , 2G-24
Construction Easements	2E-42
Construction Limits	2D-19
Construction Plan Revision	2G-33
Construction Plans	2G-1
Construction Quantities	2F-7
Construction Type Codes	2E-65
Contact with Construction Personnel	2G-32
Contacting Local Government and/or Agencies	2A-10
Contents of Information Brochures	2D-2
Continuous Left-Turn Lanes	F-81
Coordinating Time Schedules	2C-2
Coordination with Environmental Division	2B-3
Coordination with Landscape Architect	2B-3
Coordination with Other Divisions and Agencies	2B-8
Coordination with Other State Agencies	2B-3
Corner Clearance Downstream on a Minor Side Street	F-109
Correspondence Files	2G-35
Cost Estimate	2B-10 , 2E-74 , 2F-8 , 2G-24
Counties and Municipalities	1C-1
Crest and Sag Vertical Curves	A4-11 , 2D-10
Criteria for Placement of Right Of Way Monuments	C-6
Cross Sections and Earthwork Quantities	2D-12
Crossover Grades	F-55
Crossover Spacing	F-27
Crusher Run Aggregate	2G-17

	PAGE
Cul – De – Sacs and Turnarounds	B(1)-24
Curb and Gutter	2E-8 , 2E-35 , B(1)-26
Curb	2E-9 , 2E-35
Curb Extensions	B(1)-51 , B(2)-14
Curb Ramp and Pedestrian Access Route Goals and Objectives	A(1)-50
Curb Ramp Application Details	A(1)-57
Curb Ramp Elements and Types	A(1)-53
Curb Cut Ramps (CG-12)	A(1)-51
Curve Data	2C-6

-D-

Data For Environmental Document	2B-9
Data Required For Plan Coordination Review	2G-28
Data Required From Project Manager (Ground surveys & R/W Authorization)	2B-2 , 2F-9
Data To Be Submitted (Environmental Evaluation)	2B-9
Deceleration Lanes	F-91
Definitions of Highway Terms	1B-6
Demolition of Buildings and Clearing of Parcels	2G-20
Demolition of Pavement - Obscuring Old Road	2E-31
Depicting Bridges on Plans	2E-38
Depicting Horizontal Alignment on Plans	2D-8
Depicting Limited Access Right of Way	2E-52
Depicting Tentative Design on Plans	2C-11
Depicting Vertical Alignment on Plans	2D-9
Description (Project From and To)	2E-60
Design Approval	2D-25
Design-Build Preliminary Engineering Guide	H-1
Design Exceptions	2D-11 , A1-11
Design Features Note	2E-73
Design or Combined Location and Design Public Hearing	2D-2
Design Requirements – Subdivision Street Design Guide	B(1)-2
Design Speed	A1-5 , A4-6
Design Vehicle	A1-10
Design Waivers	2D-11 , A1-10
Design Traffic Volumes	A4-6
Detailed Drainage Design	2E-7
Determination of Roadway Design	2B-6
Determining Approximate Length of Bridge	2E-38
Determining Approximate Width of Bridge	2E-38
Determining Areas and Quantities	2D-13
Determining Clear Zone Width	A2-1
Determining Construction Quantities	2B-10 , 2F-7
Determining Permanent Easements	2E-41
Determining Preliminary Engineering and Construction Cost	2B-10
Determining Project Limits	2D-15
Determining Right of Way and Utility Limits	2D-18 , 2E-43
Determining Slope Easements	2E-40
Determining Surplus Right of Way	2E-55
Determining Width of Pavement	2D-13
Distribution of Copies of Permit Applications	C-20
Distribution of Prints	2D-25 , 2E-76 , 2F-10
Districts and Residencies	1C-1
Diverging Diamond Interchange	A3-23
Diversions	2G-21
Double (Dual) Left Turn Lanes	F-81
Draft EIS	C-2

	PAGE
Drainage-Box Culvert Numbers.....	2E-62
Drainage Summary.....	2H-18
Drawing Requirements for Permits.....	C-12

-E-

Earthwork.....	2D-12
Easements.....	2E-40
Effective Turning Radius.....	B(1)-23
Elements of Typical Section – Subdivision Street Design Guide.....	B(1)-21
Embankment Slopes.....	A2-8
Engineering Commentary.....	2D-7
Entrances.....	2D-15 , B(1)-28 , F-97 , J-34
Entrances Affected By Highway Construction Project.....	F-116
Entrance Connections on Opposite Sides of a Roadway.....	F-112
Entrance Consolidation (Shared Use Entrances).....	F-113
Entrance Definitions.....	F-97
Entrance Design Principles.....	F-97
Environmental Consideration.....	2B-3 , 2B-8 , A4-4 , C-2
Establishing Priorities (Coordinating Time Schedules).....	2C-2
Estimating Quantities - Preparation of Estimate.....	2E-74
Evaluating Alternatives.....	2A-9
Evaluation - Post Construction Review.....	2G-38
Exceptions.....	A1-11 , F-42
Expansion Joints (Rigid Pavement).....	C-78

-F-

Federal Regulations.....	2F-4
Fence.....	2E-15
FHWA Approval.....	2D-25
Field Inspection.....	2E-78
Field Inspection Prints.....	2E-82
Field Review.....	2A-8
Field Reconnaissance.....	2C-4
Final Environmental Document.....	2D-25
Final Environmental Impact Statement (EIS).....	C-2
Final Estimate.....	2G-24
Final Notebook.....	2G-36
Final Preparation of Plans For Construction.....	2G-28
Final Right of Way Data Sheet.....	2F-1
Final Scoping.....	2A-11
Final Scoping Certification.....	2D-26
Final Submission.....	2G-31
Finalizing Plans.....	2G-1
Fixed Objects.....	J-17
Flexibility in Design.....	A1-1
Formal Construction Revisions.....	2G-33
Formal Plan Revisions.....	2F-11
Frontage Road (Service Road).....	2C-11 , F-115
Functional Classification.....	2E-63 , A1-11 , B(1)-2 , F-8
Future Construction (Project Termini).....	2D-18

-G-

	PAGE
General Construction Notes and Erosion and Siltation Control Narrative	C-20
General Intersection and Entrance Spacing Criteria	F-26
Geometric Design Standards	A1-1
Gore Details	C-73
Government Stream Gauging Stations	2G-28
Grading Contours	2E-36
Grading Diagram & Summary	2G-13 , 2H-25
Greenways	2E-30
Ground Surveys	2B-1
Guardrail	J-2
Guidelines For Curb Ramp Location	A(1)-51
Guidelines For RRR Projects	A4-1

-H-

Hand Rail Requirements	A(1)-64
Hazardous Material/Waste Sites	2F-3
Highway Capital Outlay Code	2E-58
Highway Terms	1B-6
Historical Marker Relocation	2E-37
Holding the Field Inspection	2E-78
Horizontal Alignment	2A-9 , 2B-7
Horizontal Traverse	2C-10
Hydraulic Commentary For Permit Applications	C-19
Hydraulics (Preliminary)	2B-3
Hydrologic Data Sheet	2E-72 , 2H-7

-I-

Identification (Plan & Profile Sheets, Items)	2C-5 , 2C-9 , 2D-8 , 2E-58
Illustration of Directional Median Opening for Left Turns and U-Turns	F-86
Impact Attenuators (Crash Cushions)	J-12
Incidental Items	2E-8
Incidental Items (Labeling)	2E-35
Incidental Summary	2G-18 , 2H-26
Incorporating Changes into Plans	2B-13
Incorporating Comments into Design	2C-13
Index of Sheets	2E-66 , 2H-4
Informational Brochure and Data for Environmental Document	2D-2
Informal Revisions – Plan Changes	2F-13
Initial Design	2C-11
Innovative Design Proposals – Subdivision Street Design Guide	B(1)-61
Innovative Intersections & Interchanges	A3-1 , F-59
Integrated Project Manager	2F-7 , 2G-1 , 2G-23
Interchange Design	2B-7
Interparcel Vehicular Connections	F-113
Intersecting Cross Road Grades	F-58
Intersection Design	A3-1 , F-14
Intersection Design Objectives	F-14
Intersection Design Principles	F-15
Intersection Sight Distances	A1-33 , B(1)-19 , F-50
Interstate Survey	2B-1
Interstate and Primary Projects	2A-2
Interstate, Primary, Urban and Secondary Projects	2D-3
Items Not in Contract	2F-4

-L-

	PAGE
Labeling Incidental Items	2E-35
Landscape Consideration	B(1)-45
Layout	2C-5 , 2E-59
Lane Transitions	A1-14
Left and Right Turn Lane Criteria	F-65
Limited Access Establishment and Change Guidelines	2E-47
Limited Access Fencing	2E-51
Limited Access Lines	2E-51
Limits of Maintenance Responsibility for Private and Commercial Entrances	F-106
Local Roadways	A1-28 , B(1)-5
Location Map	2E-68 , 2H-3
Location Public Hearing	C-3
Location Corridor Study	2A-1

-M-

Mail Box and Cluster Box Units	B(1)-56
Match lines	2C-6
Median Barriers	J-15
Medians	2E-9 , A1-29 , F-84
Median Crossover Location Approval Process	F-44
Median Crossover Grades	F-55
Mini-Roundabouts	A3-13
Median Openings/Crossovers	F-55
Metes and Bounds	2C-8
Minimum Angle of Intersections	F-21
Minimum Plan Projects	A7-8
Minor Structure Excavation (Ratio)	D-17
Moderate Volume Commercial Entrance Design Along Highways with Shoulders	F-125
Mountable Curb	2E-35
Multimodal Design Standards for Mixed-Use Urban Centers	B(2)-1

-N-

No Plan Projects	A7-1 , A7-6
Noise Abatement	C-2
Nomenclature	1B-1
Non-Recoverable Parallel Slopes	A2-12
North Arrow	2C-7
Notes	2E-64
Notice of Willingness to Hold Public Hearing	2D-5
Numbers - Parcels and Buildings	2F-1
Numbering (Plan & Profile Sheets)	2C-5 , 2C-9

-O-

Obtaining Project Approval	2D-25
Obscuring Old Roadway	2E-31
Occupiable Space / Building on Roadway Projects	2B-4
Operating Speed	A1-9
Operational Analysis	2B-6 , 2C-12 , 2D-8 , B(1)-2
Original Right Of Way Plans	2F-10
Other Design Considerations – Subdivision Street Design Guide	B(1)-41
Outdoor Advertising Signs on Plans	2F-3

-P-**PAGE**

Parcel Numbers and Building Demolition Numbers	2F-1
Parking Spaces	A(1)-79
Pavement Cross Slopes	2E-69 , A4-13
Pavement Recommendations	2D-20
Pavement Summary	2G-16 , 2H-24
Pavement Termination	2D-18
Pavement Transitions	A1-14 , F-80
Pedestrian Access Routes	A(1)-50
Pedestrian Ramps	2E-35
Permanent Easements	2E-41
Permit Application Procedure	C-8
Permit Assembly	2F-7
Permit Determination	2B-8
Permit Sketches and Procedure	C-8
Plan Abbreviations and Symbols	1B-17
Plan Assembly (Field Inspection)	2E-76
Plan Changes	2F-13
Plan Operation - Post Construction Review	2G-38
Plan Process – Partial Take Parcel	2F-4
Plan Quantities – Determination of Plan Quantities	2G-14
Plan Revisions	2E-57 , 2F-11 , 2G-33
Plans Prepared by Other Divisions	2G-5
Plotting Construction Limits	2D-19
Plotting Cross Sections	2D-12
Plotting Edges of Pavement	2D-15
Plotting Entrances and Median Crossovers	2D-15
Plotting of Profile Sheets	2C-8
Policy - Final Scoping	2A-11
Post-Certification Plan Changes	2G-28
Post Construction Review	2G-38
Posted Speed	A1-9
Pre-advertisement Meeting	2G-27
Predetermined Design	2C-11
Pre-Public Hearing Meeting	2D-4
Preliminary Design	2C-1
Preliminary Engineering (Authorization)	2A-1
Preliminary Field Inspection	2B-12
Preliminary Plan Development	2A-5
Preparation of Construction Cost Estimate	2G-24
Preparation and Processing of Public Hearing Data	2D-3
Preparation of Engineering Commentary	2D-7
Preparation of Final Estimate	2G-37
Preparation of Inspection Reports	2B-13
Preparation of Plan Assembly For Construction	2G-28
Preparation of Plan and Profile Sheets	2C-5
Preparation of Project Cost Estimate and Report	2B-13 , 2F-8
Preparation of Report	2A-10
Preparation of Informational Brochures	2D-2
Pre-Public Hearing Meeting	2D-4
Principal Abbreviations	1B-1
Private Entrance Detail	B(1)-28 , F-98
Private Entrances (Existing State Highways)	B(1)-28 , F-98
Procedures For An Informal (Open Forum) Public Hearing	2D-23
Procedures For Determining The Location and Design of Curb Ramps	A(1)-53
Procedures For A Formal Public Hearing	2D-22
Processing Formal Plan Revisions	2F-12
Profiles	2C-9 , 2D-9
Project Approval	2D-25 , 2F-10 , 2G-29
Project Assignment and Field Reconnaissance	2C-4

	PAGE
Project Development.....	2A-1 , A4-5
Project Development Process	1D-1
Project Final Scoping Certification	2D-26
Project Initiation	2A-1
Project Length Tabulation Block.....	2E-60
Project Limits	2D-17
Project Location Map	2E-68 , 2H-3
Project Management.....	2C-4
Project Managers Responsibilities	2D-3
Project Numbers	2C-5 , 2E-64
Project Review	2C-1 , 2D-1
Project Section Number	2E-64
Project Scoping	2A-11
Project Termini	2D-17
Projected Traffic	B(1)-2
Projecting Horizontal Alignment.....	2A-9
Projecting Vertical Alignment.....	2A-9
Proposed Conveyances of Residue Parcels.....	2F-13
Proposed Right Of Way and Limited Access	2E-39
Public Hearing Data	2D-20
Public Involvement Program.....	2A-10
Publishing Notice of the Public Hearing	2D-6
Pug Mill Mix Aggregates	2G-16
Purpose and Scope - Post Construction Review	2G-38

-Q-

Quantity Totals	2E-74
Quality Control (Review).....	1E-1
Quality Control Checking Procedure	2G-26
Quality Control Checklist.....	1E-2

-R-

Rails With Trails	A(1)-48
Railroad Force Account – Railway Flagging and Watchman	2G-4
Railroads-Highway Construction Adjacent to Railway Tracks	2E-28
Railroads in Virginia	1B-23
Ramp Design.....	A1-25
Ramp Terminal and Speed Change Lane Design	C-70
Ratios for Minor Structure Excavation	D-17
Recommendation for Approval	2F-10
Recommending a Solution.....	2D-24
Record Retention	2G-35 , 2G-36 , 2G-45
Recreational Access Road	A1-21
Reference Block	2C-7
Reference Points.....	2C-7
Refining Horizontal Alignment	2B-7 , 2D-8
Refining Vertical Alignment.....	2B-8 , 2D-9
Reinforced Soil Slopes.....	2E-21
Reports - Post Construction Review.....	2G-38
Request for Additional Survey Data	2E-81
Request for Appropriate Environmental Document	2B-9
Request for Approval of Major Design Features	2D-26
Request for Cost Estimates	2B-10 , 2F-8
Request for Environmental Evaluation	2B-9
Request for Hydraulic Evaluation	2B-3
Request for Public Hearing.....	2D-5
Request for Right Of Way Authorization from FHWA	2F-9

PAGE

Request for Soils Data (Preliminary)	2B-3
Request for Sound Wall Design.....	2E-80
Request for Special Design Plans	2E-79
Request for Supplemental Data.....	2D-20
Request for Traffic Data	2A-6
Requesting Photographic Coverage/Topographic Mapping.....	2A-7
Resolution of Borrow/Surplus and Unsuitable Material.....	2E-1
Resolution of Pending Construction Details	2G-1
Resolution of Public Hearing Questions.....	2D-24
Responsibility of the Project Manager & the District Public Affairs Section	2D-3
Rest Areas.....	A(1)-97
Restricted Vertical Clearances	A1-31
Restricting Left Turn Movements and Commercial Entrances	F-108
Retaining Structure	2E-21
Retaining Walls	2E-17
Retaining Wall Excavation	2E-18
Retention of Design Files.....	2G-35
Review of Correspondence	2C-3
Review of Data-Setting Up Files.....	2C-3
Review of Draft Environmental Document	2D-2
Review of Plans.....	2F-1 , 2G-23
Review of Public Hearing Transcript and Post-Hearing Correspondence	2D-24
Review of Work Load (Coordinating Time Schedules).....	2A-4 , 2C-2
Review Process - Post Construction Review	2G-38
Reviewing and Setting Up Route File (Electronic)	2C-3
Reviewing Reports	2G-1
Reviewing The Proposed Method of Development	2B-13
Reviewing Work Load and Assembling Data	2A-4 , 2C-2
Revision Data Sheet (Construction)	2G-44 , 2H-6
Revision Data Sheet (Right of Way).....	2G-42
Revisions (Construction).....	2G-33
Right Of Way	2C-8 , C-5
Right Of Way Data Sheet.....	2E-68 , 2F-1 , 2H-5
Right Of Way Monuments.....	C-5
Right Of Way Note on Title Sheet	2G-23
Right Of Way Plans.....	2F-1
Right Of Way Revisions	2F-11
Right Turn Lanes.....	F-86
Road and Street Names	2C-8
Roadside Development.....	2G-18 , 2H-19
Roadway Geometric Design Criteria – Subdivision Street Design Guide	B(1)-5 , B(2)-9
Roundabouts	2H-27 , A3-10 , B(1)-52 , F-58
Route Files	2C-3 , 2G-35
RRR Projects.....	A4-1
Rural Roadway Design	A1-2 , A1-13

-S-

Safety Analysis.....	2B-6
Safety Items and Sequence of Construction	2E-78
Safety Projects	J-35
Safety Rest Areas	A(1)-97
Sag Vertical Curve	2A-9 , 2B-8 , 2D-10 , A4-11
Scale.....	2C-7
Scheduling Preliminary Field Inspection.....	2B-12
Scheduling Project with Work Load.....	2A-4
Scheduling the Public Hearing.....	2D-6
Secondary Projects	2B-2 , A1-4
Secondary Roads (Arterial-Collector-Local Roads).....	2B-2
Security of Estimates	2E-74

PAGE

Sequence of Construction.....	A1-8
Service Roads	2C-11 , A1-24
Setting Project Termini.....	2D-18
Setting Up Correspondence Files (Electronic)	2C-3
Setting Up Route Files	2C-3
Shared Entrances and Internal Site Interconnection	F-113
Shared Roadways.....	A(1)-16
Shared Use Path.....	A(1)-24
Sheet Numbers	2E-66
Shoulder Design (GS-11).....	A1-27
Showing Bridge Limits	2E-38
Showing Project Termini on Plans.....	2D-17
Sidewalk	2E-28 , A(1)-72
Sidewalk Transition From Roadway onto Bridge	A(1)-78
Sight Distance	2D-9 , A4-12 , B(1)-19 , F-50
Signalized Intersection Spacing.....	F-24
Signs.....	2F-3
Sign Islands.....	2E-28
Site Plan Review	C-34
Site Plans	2C-8 , C-34
Slope Easement.....	2E-39
Slopes For Approach Barriers	J-24
Soil Data (Final).....	2E-1
Soil Data (Preliminary).....	2B-3
Soil Survey and Pavement Design	2E-1
Soliciting Comments Within Division and Completing Design.....	2C-13
Sound Barrier Wall Design Procedure	2E-24
Spacing Standards for Commercial Entrances, Intersections, & Median Crossovers.....	F-14
Spacing Standards for Commercial Entrances, Intersections Near Interchange Ramps.....	F-33
Special Design Bridges.....	2G-21
Special Design Drawings	2E-79 , 2G-2
Specialty Summaries	2G-18
Spline Grades.....	2D-10
Staking For Concrete Items	2E-11
Standard JB-1 Junction Box	D-16
Steps and Handrails.....	2E-27
Stippling.....	2D-17
Stone for Erosion Control.....	D-1
Stopping Sight Distance.....	2D-9 , A4-12 , B(1)-19 , F-52
Stormwater Management	2G-20 , 2H-20
Street Names	2C-8
Streetscape	B(1)-43
Studying Alternate Solutions.....	2A-9 , 2D-24
Subbase End Areas at Curb and Gutter Locations.....	D-33
Subdivision Street Design Guide.....	B(1)-1
Submission of Plan Assembly	2F-9 , 2G-31
Summary Sheets.....	2G-6
Supplemental Sheets.....	2E-58
Surplus Material	2E-1
Survey Authorization.....	2B-1
Systems Operations Regions	1C-8

-T-

Taper Lengths	F-80
Temporary Diversion.....	2G-21 , A1-26
Temporary Easement (Construction)	2E-42
Temporary Traffic Control Plans.....	A8-7
Terminals.....	J-33
Title Sheet	2E-58 , 2H-1 , 2H-2
Topographic Mapping	2A-7

	PAGE
Topography	2C-7
Tort Liability	A4-19
Traditional Neighborhood Design – Subdivision Street Design Guide	B(1)-58
Traffic Barriers	J-20
Traffic Calming – Subdivision Street Design Guide	B(1)-51
Traffic Data	2A-6
Trails and Trailheads	A(1)-45
Transit (Bus) Facilities Design Criteria	A(1)-103
Transit Signs, Benches, Stops and Shelters	A(1)-108
Transition Curves (TC-5.01)	See Road and Bridge Standards
Transitions and Turn Lanes	A1-14 , F-80
Transportation Facilities (Rail Platforms and Station Signs)	A(1)-114
Tree Walls and Tree Wells	2E-35
Turning Lanes	F-65
Type Codes	2E-65
Types of Permits	C-8
Typical Section Sheet	2E-69 , 2H-16 , 2H-17

-U-

Underdrains	2E-30
Underground Storage Tanks	2F-2
Unsignalized Intersection Spacing	F-27
Unsuitable Material	2E-1
Updating Plan Information	2D-8
Urban Roadway Design	A1-3 , A1-13
Urban Surveys	2B-1
Urban Projects	2A-1
Utilities	2C-7 , 2G-21
Utility Adjustments	2G-21
Utility Easements	2E-43
Utility Field Inspection	2E-83

-V-

Value Engineering	2B-14
Vertical Alignment	2A-9 , 2B-8 , 2D-9
Vertical Clearance	A1-31
Vertical Control Data	2C-10

-W-

Warrants for Left Turn Storage Lanes on Four-Lane Highways	F-67
Warrants for Left Turn Storage Lanes on Two-Lane Highways	F-68
Water Related Permits	C-8
Wells	2F-2
Weights of Asphalt Concrete	2G-17
Widths, Roadway and Travelway	A4-5