

TABLE OF CONTENTS

The City Standard Manual was revised in 2010. Please see dates in the revised column for details that have been modified after 2010.

PART 1 - DESIGN STANDARDS

Section 1.0	ENGINEERING PLAN REVIEW PROCESS	Page #	Revised
			11/2020
1.1	Pre-design Meeting	1-1	
1.2	Plan Review Fees	1-1	
1.3	Plan Checklists	1-1	
1.4	Plan Approval	1-1	
1.5	Engineer's Registration Stamp	1-2	
1.6	Right-of-Way Dedication	1-2	
1.7	Alternative Methods or Construction Materials Request	1-2	
1.8	Plan Review Sequence, Expiration of applications/permits	1-2	
Section 2.0	GENERAL PLAN REQUIREMENTS		05/2011
2.1	General Information on Plans	2-1	
2.2	Plan / Profile Sheets	2-2	
2.3	Project Record Drawing Requirements	2-2	
2.4	General Plan Notes	2-5	
Section 100	ROADWAY DESIGN		01/2016
101	General Roadway Design Criteria	100-1	
102	Street Lighting Specifications	100-8	
103	Roadway Plan Requirements	100-12	
104	Roadway Plan Notes	100-14	
105	Illumination General Notes	100-15	
	Table 100-1 Roadway Width Design Criteria	100-17	
	Table 100-2 Geometric Design Criteria	100-18	
Section 200	STORMWATER MANAGEMENT		10/2019
200	General Stormwater Requirements	200-1	
201	Stormwater Management Requirements	200-3	
202 & 203	These pages left intentionally blank	200-4	
204	Conveyance Systems	200-5	
205	Stormwater Maintenance & Operation Requirements	200-13	
206	Public Easements and Tracts	200-15	
207	Stormwater Plan Notes	200-16	

Section 300 WATER SYSTEM REQUIREMENTS 11/2020

301	Water System Design Criteria	300-1
302	Water Quality Requirements	300-4
303	Water System Plan Requirements	300-6
304	Water System Plan Notes	300-7

Section 400 SANITARY SEWER SYSTEM 10/2019

401	Sanitary Sewer System Design Criteria	400-1
402	Wastewater Quality Requirements	400-3
403	Design Criteria Specific to Short Plats	400-6
404	Sanitary Sewer Plan Requirements	400-6
405	Sanitary Sewer Plan Notes	400-7
406	Testing Requirements	400-8

Section 500 GRADING, EROSION AND SEDIMENTATION CONTROL 06/2012

501	Erosion and Sedimentation Control Plan	500-1
502	Grading Design Requirements	500-2
503	Grading, Erosion & Sedimentation Control Plan Requirements	500-3
504	Construction Dewatering and Bypass Pumping Standard	500-4
505	Grading, Erosion and Sedimentation Control Plan Notes	500-5

PART 2 - STANDARD DETAILS

100 ROADWAY

01.01 - CROSS SECTIONS, UTILITY LOCATION AND IMPROVEMENTS **Revised**

<u>Detail #</u>	<u>Name / Description</u>	
01.01.01	28' Public Roadway Cross Section	
01.01.02	34' Public Roadway Cross Section	
01.01.02A	Public Roadway Cross Section Local Access (Permeable)	03/2017
01.01.03	36' Public Roadway Neighborhood Collector Cross Section	
01.01.04	36' Public Roadway Commercial Collector Cross Section	
01.01.04A	36' Public Roadway Commercial Collector Cross Section (Permeable)	03/2017
01.01.05	Public Roadway Principal Arterial Cross Section	
01.01.05A	Public Roadway Cross Section Major Arterial (Permeable)	03/2017
01.01.06	Public Roadway Minor Arterial Cross Section	
01.01.06A	Public Roadway Cross Section Minor Arterial (Permeable)	03/2017
01.01.07	Private Roadway 3-4 Lots Cross Section	
01.01.07A	Private Roadway 3-4 Lots Cross Section (Permeable)	03/2017
01.01.08	Private Tract 1-2 Lots Cross Section	06/2017
01.01.08A	20' Private Tract 1-2 Lots Cross Section (Permeable)	03/2017
01.01.09	20' Private Alley Cross Section	
01.01.10	Alley Cross Section	06/2017
01.01.10A	Alley Cross Section (Permeable)	06/2017
01.01.11	Approach Sight Distance	
01.01.12	Standard Utility Locations 24' Wide Road	03/2011
01.01.13	Standard Utility Locations 28' Wide Road	03/2011
01.01.14	Standard Utility Locations 34' Wide Road	03/2011
01.01.15	Residential Cul-De-Sac Option 1	03/2011
01.01.16	Residential Cul-De-Sac Option 2	03/2011
01.01.17	Monument	
01.01.18	Roadway Widening	
01.01.19	Half Street Improvement	
01.01.20	Street Patch	03/2018
01.01.21	Type III Barricade for Future Extended Roadways	
01.01.24	Geomembrane Liner Transverse Installation	02/2017

01.02 - SIDEWALK, CURB, AND APPROACHES **Revised**

<u>Detail #</u>	<u>Name / Description</u>	
01.02.01	Sidewalk without Planting Strip	03/2011
01.02.02	Sidewalk with Planting Strip	03/2011
01.02.03	Root Barrier Detail	08/2015
01.02.04	Street Tree Planter Blockouts for Sidewalks	03/2011
01.02.05	Ground Cover Planting Detail	

01.02.06	Rooted Cutting/Offset/Seedling Detail	
01.02.07	Street Tree Planting in Planting Strip	08/2015
01.02.08	Ball and Burlap Planting Detail	
01.02.08a	Soil Amendment and Depth	08/2015
01.02.09	Curb and Gutter	05/2012
01.02.10	Curb Cut	
01.02.11	Minimum Grade Street Cross Gutter	
01.02.12	Standard Residential Driveway	03/2011
01.02.13	Residential Driveway Alternate 1	03/2011
01.02.14	Residential Driveway Alternate 2	
01.02.15	Residential Driveway with Culvert	
01.02.16	Standard Commercial Approach	02/2014
01.02.17	Urban Commercial Approach Alternate 1	
01.02.18	Urban Commercial Approach Alternate 2	03/2011
01.02.19	Sidewalk Ramp with Commercial Approaches	08/2012
01.02.20	Type III Barricade for Future Extended Sidewalks	09/2013

01.03 - TRAFFIC CALMING, CHANNELIZATIONS, AND PAVE. MARKINGS **Revised**

<u>Detail #</u>	<u>Name / Description</u>	
01.03.01	Traffic Circle	03/2011
01.03.02	Mid-Block Chokers	
01.03.03	Traffic Bulb with Curb Ramp Type A	03/2011
01.03.04	Traffic Bulb with Curb Ramp Type B	03/2011
01.03.05	Traffic Bulb with Curb Ramp Type C	03/2011
01.03.06	Left/Right Turn Pocket Arrow and Only Layout	09/2013
01.03.07	Two-Way Left Turn Channelization	
01.03.08	Two-Way Left Turn Channelization (cont.)	
01.03.09	Left Turn Pockets	
01.03.10	Pavement Marking Details	
01.03.11	Crosswalk Detail	09/2013
01.03.12	RR Crossing Symbol Details	
01.03.13	Taper Marking Layouts	
01.03.14	Pavement Arrows	09/2013
01.03.15	Pavement Marker "ONLY"	09/2013
01.03.16	Speed Table	06/2012

01.04 - SIGNS

<u>Detail #</u>	<u>Name / Description</u>	Revised
01.04.01	Street Sign Detail	
01.04.02	Stop Sign Detail	
01.04.03	Street Sign Name Plate Detail	11/2014
01.04.04	Street Sign Name Plate Notes	11/2014
01.04.05	Standard Location of Restricted Parking Signs	
01.04.06	Banner Detail Guidelines	

01.05 - STREET LIGHTING

<u>Detail #</u>	<u>Name / Description</u>	Revised
01.05.01	Street Light Specifications	02/2015
01.05.02	Street Light Specifications (cont.)	02/2015
01.05.03	Typical Street Light Installation	02/2015
01.05.04	Street Light	04/2013
01.05.05	Street Light Service Meter Cabinet Foundation	
01.05.06	Concrete Streetlight Foundation Typical	
01.05.07	Street Light Pole and Bracket Wire Support at Arm End	
01.05.08	Decorative Street Light	
01.05.09	Decorative Street Light 2	
01.05.10	Remote Photocell	01/2015

01.06 - TRAFFIC SIGNALS

<u>Detail #</u>	<u>Name / Description</u>	Revised
01.06.01	Junction Box	11/2014
01.06.02	Terminal Compartment and Miscellaneous Pole Details	
01.06.03	Pedestrian Pushbutton Assembly 1	
01.06.04	Pedestrian Pushbutton Assembly 2	
01.06.05	Meter Cabinet (Street Lighting Control and Traffic Control)	04/2017
01.06.06	Traffic Signal, Meter Cabinet, and Battery Backup System Cab. Found.	
01.06.07	Video Camera Detection	05/2012

01.07 - SOLAR POWERED SIGNS & BEACONS

<u>Detail #</u>	<u>Name / Description</u>
01.07.01	Solar Powered Active Speed Display Sign Notes
01.07.02	Solar Powered Active Speed Display Sign Notes (2)
01.07.03	Solar Powered School Zone Flashing Beacon Notes
01.07.04	Solar Powered School Zone Flashing Beacon Notes (2)
01.07.05	Solar Powered School Zone Flashing Beacon Notes (3)

200 STORMWATER

02.01 - MANHOLES AND CATCH BASINS

<u>Detail #</u>	<u>Name / Description</u>	Revised
02.01.01	Storm Sewer Manhole	09/2012
02.01.02	Catch Basin Type I (Area Drain)	
02.01.03	Catch Basin Type I (Gutter Drain)	
02.01.04	Catch Basin Type II	
02.01.05	Catch Basin Frame and Grate	03/2011

02.01.06	Flow Control Manhole with Cone Section
02.01.07	Flow Control Manhole with Flat Top
02.01.08	Flow Control Manhole Notes

02.02 - CULVERTS AND DITCHES

Revised

<u>Detail #</u>	<u>Name / Description</u>
02.02.01	Daylight Culvert Open Ditch
02.02.02	Daylight Culvert Detention Channel
02.02.03	Trash Rack
02.02.04	Stormwater Facility Sign

03/2014

02.03 - EMERGENCY OVERFLOW, SILTATION FENCE AND BARRIERS

<u>Detail #</u>	<u>Name / Description</u>
02.03.01	Detention Pond Emergency Overflow
02.03.02	Siltation Fence
02.03.03	Straw Bale Barrier for Inlet
02.03.04	Barrier with Gravel Outlet
02.03.05	Storm Drain Barriers
02.03.06	Storm Drain Barriers (Notes)

02.04 - VAULTS

<u>Detail #</u>	<u>Name / Description</u>
02.04.01	Stormwater Vault

Revised

08/2012

02.05 - RESIDENTIAL INFILTRATION

<u>Detail #</u>	<u>Name / Description</u>
02.05.01	Individual Roof Downspout System
02.05.02	Residential Infiltration Trench Sump Structure
02.05.03	Individual Roof Downspout System (Notes)

Revised

02/2014

02.06 – RAIN GARDENS

<u>Detail #</u>	<u>Name / Description</u>
02.06.01	Rain Garden Section
02.06.02	Rain Garden Planting Zones
02.06.05	Rain Garden Rocked Overflow
02.06.06	Rain Garden Sign

Revised

03/2017

03/2017

03/2017

03/2017

02.07 – BIORETENTION

<u>Detail #</u>	<u>Name / Description</u>
02.07.01	Bioretention Section

Revised

03/2017

02.07.03	Bioretention Overflow Outlet Structure	03/2017
02.07.05	Bioretention Planting Zones	03/2017

300 WATER SYSTEM

03.01 - VALVES

<u>Detail #</u>	<u>Name / Description</u>	Revised
03.01.01	Valve	02/2018
03.01.02	Valve Marker Post	02/2018
03.01.03-1	Water Main Crossing Other Utilities	02/2018
03.01.03-2	Water Main Crossing Other Utilities Notes	02/2018

03.02 - BLOCKING

<u>Detail #</u>	<u>Name / Description</u>	Revised
03.02.01-1	Horizontal Thrust Blocking	02/2018
03.02.01-2	Vertical Thrust Blocking	02/2018
03.02.01-3	Thrust Blocking Table	02/2018

03.03 - SERVICES

<u>Detail #</u>	<u>Name / Description</u>	Revised
03.03.01	¾" or 1" Water Service Connection	02/2018
03.03.02	1 ½" or 2" Water Service Connection	10/2019
03.03.03	3" – 4" – 6" Water Service Connection	10/2019
03.03.04	Private Water Service Connection	02/2018

03.04 - BACKFLOW INSTALLATION

<u>Detail #</u>	<u>Name / Description</u>	Revised
03.04.01	2" and Smaller DCVA Installation	02/2018
03.04.02	2" and Smaller RPBA Installation	02/2018
03.04.03	3" and Above RPBA Installation	02/2018

03.05 - FIRE HYDRANT

<u>Detail #</u>	<u>Name / Description</u>	Revised
03.05.01	Fire Hydrant Assembly	11/2020

03.06 - BLOW-OFF

<u>Detail #</u>	<u>Name / Description</u>	Revised
03.06.01	2” Blow-Off Assembly	02/2018

03.07 - AIR-VACUUM VALVE

<u>Detail #</u>	<u>Name / Description</u>	Revised
03.07.01	Air-Vacuum Valve	10/2019

03.08 - SAMPLING STATION

<u>Detail #</u>	<u>Name / Description</u>	Revised
03.08.01	Sampling Station	02/2018

03.09 - PRESSURE REDUCING STATION

<u>Detail #</u>	<u>Name / Description</u>	Revised
03.09.01	Pressure Reducing Station	11/2020

03.10 - FIRE REQUIREMENTS

<u>Detail #</u>	<u>Name / Description</u>	Revised
03.10.01-1	DCVA Installation	10/2019
03.10.01-2	DDCVA Installation (Notes)	02/2018
03.10.02	Fire Department Connection	02/2018
03.10.03	Post Indicator Valve	02/2018

03.11 - VAULTS

<u>Detail #</u>	<u>Name / Description</u>	Revised
03.11.01	Water Vault Detail	10/2019

400 SANITARY SEWER

04.01 - MANHOLES

<u>Detail #</u>	<u>Name / Description</u>	Revised
04.01.01	Sanitary Sewer Manhole	05/2012
04.01.02	Inside Drop Sanitary Sewer Manhole	
04.01.03	Inside Drop Sanitary Sewer Manhole Notes	
04.01.04	Shallow Sanitary Sewer Manhole	

04.02 - SEWER MAIN

<u>Detail #</u>	<u>Name / Description</u>
------------------------	----------------------------------

04.02.01	Sewer Main Tap
----------	----------------

04.03 - SIDE SEWER

<u>Detail #</u>	<u>Name / Description</u>
------------------------	----------------------------------

Revised

04.03.01	Side Sewer Stub when Utility Easement Exists
04.03.02	Side Sewer Stub when Utility Easement does not Exist
04.03.03	Side Sewer Residential Connection
04.03.04	Commercial Side Sewer Connection with Sampling Connection
04.03.05	Side Sewer Clean Out When Placed in Driveway

02/2014

09/2012

03/2011

04.04 - FORCE MAIN

<u>Detail #</u>	<u>Name / Description</u>
------------------------	----------------------------------

04.04.01	Force Main Cleaning Station Pig Launcher Suggested Cluster
04.04.02	Force Main Cleaning Station Pig Launcher
04.04.03	Force Main Cleaning Station Pig Launcher Notes

04.05 - RESIDENTIAL PUMP SYSTEMS

<u>Detail #</u>	<u>Name / Description</u>
------------------------	----------------------------------

Revised

04.05.01	Pressure Line to Gravity Line Side Sewer Connection and Clean Out Type 1
04.05.02	Grinder Pump Installation Detail
04.05.03	Residential Grinder Pump Station Notes
04.05.04	E-One Model 2010 – 58” Grinder Pump Detail
04.05.05	E-One Model 2010 – 74” Grinder Pump Detail
04.05.06	E-One Model 2010 – 96” Grinder Pump Detail

02/2014

02/2014

02/2014

02/2014

04.06 - GREASE INTERCEPTOR

<u>Detail #</u>	<u>Name / Description</u>
------------------------	----------------------------------

Revised

04.06.01	Grease Interceptor
04.06.02	Grease Interceptor Notes

11/2016

11/2016

500 GRADING, SEDIMENTATION, AND EROSION

05.01 - TEMPORARY CONSTRUCTION ENTRANCE

<u>Detail #</u>	<u>Name / Description</u>
------------------------	----------------------------------

05.01.01	Temporary Construction Entrance
05.01.02	Temporary Construction Entrance (Residential Only)

05.02 - GRADING, EROSION, AND SEDIMENTATION

<u>Detail #</u>	<u>Name / Description</u>	Revised
05.02.01	Grading, Erosion, and Sedimentation Control Notes	11/2014

05.03 - ROCK WALLS

<u>Detail #</u>	<u>Name / Description</u>	Revised
05.03.01	Rock Retaining Wall	03/2011
05.03.02	Rock Retaining Wall Notes	
05.03.03	Rock Retaining Wall Notes (cont.)	
05.03.04	Rock Retaining Wall Notes (cont.)	
05.03.05	Rock Retaining Wall Notes (cont.)	

600 MISCELLANEOUS

<u>Detail #</u>	<u>Name / Description</u>	Revised
06.01.01	Pipe Trenching Bedding and Backfill	02/2017
06.01.02	Manhole Ring and Cover with Notes	02/2018
06.01.03	Manhole Step and Handhold	03/2017
06.01.04	Manhole Ladder	03/2017
06.01.06	Mailbox Cluster	08/2012
06.01.07	Removable Bollard	
06.01.08	Chain Link Fence Type 1 & Type 6	
06.01.09	Handrail Installation & Repair Detail	
06.01.09	Confined Space Sign	03/2017
06.01.10	Utility Trench Dam	03/2017

APPENDIX A Plan Checklists

APPENDIX B [Removed 6/2012](#)
(See Part 1 Design Standard Sections for Notes)

APPENDIX C Right of Way Deed; Easement; Alternative Methods Request (AMR);
Plan Change Request (PCR); Civil Construction Permit Application;
Cost Estimate

APPENDIX D Traffic Signal Design Manual & Specifications