

TABLE OF CONTENTS

TABLE OF CONTENTS

SECTION C - CONCRETE STRUCTURES

C-01	Masonry Retaining Wall Type 1 Level Backfill With 2-in Heel
C-02	Masonry Retaining Wall Type 2 (Live Load Surcharge or Sloping Backfill)
C-03	Masonry Retaining Wall Type 3 (Level Backfill)
C-04	Masonry Retaining Wall Type 4 (Live Load Surcharge or Sloping Backfill)
C-05	Masonry Retaining Wall Type 5 (Level Backfill)
C-06	Masonry Retaining Wall Type 6 (Live Load Surcharge or Sloping Backfill)
C-07	General Notes for Masonry Retaining Walls
C-08	Details for Masonry Retaining Wall
C-09	Gravity Retaining Walls
C-10	General Notes and Details for Gravity Retaining Walls
C-11A	Reinforced Concrete Retaining Wall Type 1 Elevation
C-11B	Reinforced Concrete Retaining Wall Type 1 Spread Footing
C-11C	Reinforced Concrete Retaining Wall Type 1 Pile Footing
C-11D	Reinforced Concrete Retaining Wall Type 1 Dimensions and Steel Table
C-12A	Reinforced Concrete Retaining Wall Type 1A
C-12B	Reinforced Concrete Retaining Wall Type 1A
C-13A	Reinforced Concrete Retaining Wall Details No. 1
C-13B	Reinforced Concrete Retaining Wall Details No. 1
C-13C	Reinforced Concrete Retaining Wall Details No. 1
C-13D	Reinforced Concrete Retaining Wall Details No. 1

C-14	Reinforced Concrete Retaining Wall Details No. 2
C-15	Reinforced Concrete Retaining Wall Details No. 3

SECTION D - DRAINAGE SYSTEMS

D-01	Curb Inlet - Type A
D-02	Curb Inlet - Type B
D-03A	Curb Inlet - Type C
D-03B	Concrete Apron for Type C Curb Inlet
D-07	Catch Basin - Type F
D-08	Catch Basin - Type G
D-09	Storm Drain Cleanout - Type A
D-10	Storm Drain Cleanout - Type B
D-11A	Inlets and Cleanouts - Notes and Details
D-11B	Inlets and Cleanouts - Notes and Details
D-12	Curb Inlet Opening
D-13	Welded Steel Grate Frame
D-15	Drainage Structure Grate
D-16	Corrugated Steel Pipe Inlets Types A & B
D-17A	Corrugated Steel Pipe Inlets, Details
D-17B	Corrugated Steel Pipe Inlets, Details
D-18	Slotted Corrugated Steel Pipe Drains 12" through 24"
D-19	Slotted Drain Connections to Standard Inlets
D-22	Asphalt Concrete Spillway
D-23	Tapered Inlet and Downdrain Flume
D-25A	Curb Outlet - Type A

TABLE OF CONTENTS

D-25B	Modified Curb Outlet – Type A	D-44B	Pipe Culvert - Headwalls, Endwalls and Warped Wingwalls
D-27	Sidewalk Underdrain Pipe	D-44C	Pipe Culvert - Headwalls, Endwalls and Warped Wingwalls
D-29	Catch Basin - Type 1	D-44D	Pipe Culvert - Headwalls, Endwalls and Warped Wingwalls
D-30	Straight Headwall - Type A (Circular Pipe)	D-45	Median Curb Inlet – Type J
D-31	Straight Headwall - Type A (C.S.P. - Arch)	D-60	Pipe Bedding and Trench Backfill for Storm Drains
D-32	Straight Headwall - Type B (Circular Pipe)	D-61	Rounded Pipe Ends in Drainage Structures
D-33	Straight Headwall - Type B (C.S.P. - Arch)	D-62	Pipe Collar
D-34	Wing and U Type Headwalls for 18" to 36" Pipes	D-63	Concrete Lug
D-35A	Wing and U Type Headwalls for 42" to 84" Pipes	D-70	Minor Drainage Channel
D-35B	Wing and U Type Headwalls for 42" to 84" Pipes	D-71	Major Drainage Channel
D-36	L Type Headwalls - Circular Pipes	D-72	Cutoff Wall for Drainage Channel
D-37	L Type Headwalls - CSP Arch Pipes	D-73	Pipe to Channel Connection
D-38	Curtain Wall	D-74	Graded Earth Channel
D-39	Inlet Apron for Culverts Up to 42" Diameter	D-75	Drainage Ditches
D-40	Rip Rap Energy Dissipater	D-76A	Single Box Culvert, Details No. 1
D-41A	Concrete Energy Dissipater	D-76B	Single Box Culvert, Details No. 1
D-41B	Concrete Energy Dissipater	D-76C	Single Box Culvert, Details No. 1
D-42	Concrete Energy Dissipater (Reinforcement) 18" to 30" Diameter Pipe	D-76D	Single Box Culvert, Details No. 1
D-43A	Concrete Energy Dissipater (Reinforcement) 36" to 72" Diameter Pipe	D-76E	Single Box Culvert, Details No. 1
D-43B	Concrete Energy Dissipater (Reinforcement) 36" to 72" Diameter Pipe	D-76F	Single Box Culvert, Details No. 1
D-43C	Concrete Energy Dissipater (Reinforcement) 36" to 72" Diameter Pipe	D-76G	Single Box Culvert, Details No. 2
D-44A	Pipe Culvert - Headwalls, Endwalls and Warped Wingwalls	D-77A	Double Box Culvert, Details No. 1
		D-77B	Double Box Culvert, Details No. 1
		D-77C	Double Box Culvert, Details No. 1

TABLE OF CONTENTS

D-77D	Double Box Culvert, Details No. 1
D-77E	Double Box Culvert, Details No. 1
D-77F	Double Box Culvert, Details No. 1
D-77G	Double Box Culvert, Details No. 2
D-78A	Triple Box Culvert, Details No. 1
D-78B	Triple Box Culvert, Details No. 1
D-78C	Triple Box Culvert, Details No. 1
D-78D	Triple Box Culvert, Details No. 1
D-78E	Triple Box Culvert, Details No. 1
D-78F	Triple Box Culvert, Details No. 1
D-78G	Triple Box Culvert, Details No. 2
D-79A	Box Culvert Wingwall Types A, B and C, Details No. 1
D-79B	Box Culvert Wingwall Types A, B and C, Details No. 2
D-79C	Box Culvert Wingwall Types A, B and C, Details No. 3
D-79D	Box Culvert Wingwall Types A, B and C, Details No. 4
D-79E	Box Culvert Wingwall Types A, B and C, Details No. 5
D-79F	Box Culvert Wingwall Types A, B and C, Details No. 6
D-80A	Box Culvert Warped Wingwall, Details No. 1
D-80B	Box Culvert Warped Wingwall, Details No. 2
D-80C	Box Culvert Warped Wingwall, Details No. 3
D-81A	Box Culvert, Miscellaneous Details No. 1
D-81B	Box Culvert, Miscellaneous Details No. 2
D-82	Debris Fence

SECTION E - ELECTRICAL SYSTEMS

E-01	Street Lighting Standard
E-02	Grounding of Concrete Lighting Standards
E-03	Pedestal for Electrical Equipment

SECTION G - GENERAL SURFACE IMPROVEMENTS

G-01	Curbs and Gutter-Separate
G-02	Curb and Gutters - Combined
G-03	Monolithic Curb, Gutter and Sidewalk
G-04A	Curb and Gutter – Rolled
G-04B	Curb and Gutter to Rolled Curb Transition
G-05	Dikes - Asphalt Concrete
G-06	Curbs and Gutter - Medians
G-07	Sidewalk - Typical Sections
G-09	Sidewalk Joint Locations
G-10	Concrete Joint Details
G-11	Concrete Curb, Gutter, Sidewalk & Pavement Removal and Replacement
G-12	Cross Gutter
G-13	Mid-Block Cross Gutter
G-14A	Concrete Driveway (Contiguous Sidewalk)
G-14B	Concrete Driveway (Non-contiguous Sidewalk)
G-14C	Residential Concrete Driveway (Parkway less than 10' in depth)
G-14D	Concrete Driveway (for Confined Right-of-Way)
G-14E	Concrete Driveway (Alley Type)

TABLE OF CONTENTS

G-14F	Concrete Driveway Type B (Contiguous Sidewalk)	G-33	Narrow Trenches Trenching & Backfilling
G-14G	Asphalt Concrete Driveway	G-36	Slurry Backfill
G-15	Driveway Location – Adjacent to Curb Returns and Street Lines	G-37	Temporary Turnaround at Dead End Street
G-16	Driveway Location and Width Requirements	G-38	Parking Bay
G-17	Alley Apron		
G-18	Concrete Pavement, Width 40' or Less	<u>SECTION I - SPRINKLER IRRIGATION SYSTEMS</u>	
G-19	Concrete Pavement, Width 42' to 62'	I-01	Shrub Spray Head, on Fixed Riser
G-20	Concrete Pavement, Alley Section, Width 52' to 72'	I-02	Rotor or Impact Head on Fixed Riser
G-21	Concrete Pavement, Alley Section, Width 40' or Less	I-03	Rotor, Spray or Bubbler Pop-Up Head
G-22	Cutoff Wall at End of Pavement	I-04	Deep Root Tree Bubbler
G-23	Cutoff Wall at End of Alley Pavement	I-05	Quick Coupling Valve
G-24A	Trench Resurfacing Asphalt Concrete Streets	I-09	Flow Sensor
G-24B	Trench Resurfacing Notes and Details	I-10	Irrigation Master Valve
G-25	Trench Resurfacing PCC Surfaced Streets	I-11	Isolation Ball Valve - 2" and Smaller
G-26	Concrete Driveway Commercial Alternate	I-12	Isolation Globe/Gate Valve – 2 ½" and Larger
G-27A	Curb Ramp - Types A and B (New Construction)	I-13	Isolation Globe Valve (2" and Smaller)
G-27B	Dual Ramp – Type C	I-14	Remote Control Valve
G-28	Curb Ramp - Types A-1 and B-1 (For Existing Sidewalk)	I-15	Electrical Pull Box for Direct Burial Control Wires and Splicing Notes
G-29	Curb Ramp - Type C (For Existing Sidewalk)	I-16	Control Wire Installation
G-30	Truncated Domes	I-17	Automatic Irrigation Controller Pedestal Mounted
G-31	Curb Ramp - Type D	I-18	Automatic Irrigation Controller Indoor Wall Mounted
G-32A	General Notes for Curb Ramps	I-19	Solar Irrigation Controller
G-32B	Notes for Curb Ramps (no longer in use)	I-20	On-Grade Pipe Stabilization – Temporary Installation
		I-23	Swing Joint and Pipe Installation on Slopes above Ground
		I-24	Double Swing Joint- Above Ground Pipe Installations

TABLE OF CONTENTS

I-25	Irrigation Trench PVC or Copper Pipe	M-08	Narrow Trenches - Trenching & Backfilling - Shallow Conduit Depth
I-26	Irrigation Trench Detail 4" and Larger P.V.C. Mainline	M-09	Guard Post and Barricade
I-32	Remote Control Valve Manifold Assembly with PVC Pipe (Temporary Systems)	M-10A	Street Survey Monument
I-33	Remote Control Valve Manifold Assembly with Brass Pipe	M-10B	Street Survey Monument – Overlay Adjustment
I-35	Remote Control Valve Drip Irrigation	M-10C	Street Survey Monument - Notes
I-36	Air/Vacuum Relief Valve	M-11	Bench Mark - Brass Plug
I-37	Drip Irrigation Flush Valve (Automatic)	M-12	Datums
<u>SECTION L - LANDSCAPING</u>		M-13	Survey Monuments
L-01	Tree Planting & Staking	M-14	Metric Equivalents
L-02	Shrub Planting	M-15	Joint Trench Location
L-03	Concrete Mowing Strip	M-16	Demountable Post
L-04	Tree Grate	M-17	Tennis Court Fence Chain Link
L-05	Light Pole Pad in Turf Areas	M-18	Drinking Fountain
L-06	Root Control Barrier	M-19	Fire Hydrant Markers
L-07	Palm Tree Planting	M-20	Chain Link Fence, Details
<u>SECTION M - MISCELLANEOUS</u>		M-21	Underground Typical Location, Conversion/Replacement/Upgrade
M-01	24" Manhole Frame and Cover, Heavy Duty	M-22	Utility Locations, Local and Major Streets
M-02	24" Manhole Frame and Cover, Light Duty	M-23	Utility Locations Prime Arterials and Expressways
M-03A	36" Manhole Frame and Two Concentric Covers, Heavy Duty	M-24	Pedestrian Protective Railing, Details No. 1
M-03B	36" Manhole Frame Light Weight-Heavy Duty	M-25	Pedestrian Protective Railing, Details No. 2
M-04	Manhole Cover Locking Device	M-26	Concrete Steps
M-05	Chain Link Gate	M-27A	Disabled Parking Stall(s)
M-06	Chain Link Fence	M-27B	Diagonal Disabled Parking Stall(s)
M-07	Narrow Trenches - Trenching & Backfilling	M-28A	Disabled Parking Sign
M-07A	Narrow Trenches - Trenching & Backfilling		

TABLE OF CONTENTS

- M-28B Van Accessible Sign for Disabled Parking Space
- M-29 Pavement Symbol, Disabled Parking
- M-30 Guard Rail Reference Note
- M-45 Break-Away Sign Post

SECTION S - SEWERAGE SYSTEMS

- SC-01 Sewer Cleanout
- SM-01 48" Diameter Precast Manhole Installation
- SM-02 60" Diameter Precast Manhole Installation
- SM-03 Sewer Manhole Base
- SM-04 Manhole Pipe Connectors
- SM-05 Manhole Miscellaneous Details
- SM-07 Manhole Coating and Lining System
- SM-08 Existing Manhole Abandonment
- SP-01 Warning/Identification Tape Installation
- SP-02 Pipe Bedding and Trench Backfill for Sewer Facilities
- SP-03 Concrete Protection for Sewer Pipe
- SP-05 Slope Protection Installations
- SP-07 Cut-Off Wall Installation in Traveled Areas
- SP-09 Pipe Support for Undercut Sewer Mains or Sewer Laterals
- SS-01 4" and 6" Sewer Lateral Installation
- SS-02 4" and 6" Deep-Cut Sewer Lateral Installation
- SS-03 Sewer Lateral Notes and Detail

- SS-04 4" and 6" Sewer Cut-In Wye Connections

SECTION W - WATER SYSTEMS

- WA-01 2" Manual Air Valve
- WA-02 2" Automatic Combination Air Release and Air/Vacuum Valve Installations
- WA-04 4" and 6" Automatic Combination Air Release and Air/Vacuum Valve Installations
- WA-06 Air and Vacuum Valve Enclosure Locations
- WB-01 2" Blow-Off Installation
- WB-02 4" and 6" Blow-Off Installation – Type A
- WB-03 4" and 6" Blow-Off Assemblies in Street Type B
- WB-04 Blow-Off Installation from end of Mains and from Steel Mains
- WB-05 Temporary 2" Blow-Off Installation
- WF-01 6" Fire Hydrant Installation
- WF-02 6" Fire Hydrant Installation with Break-Off Check Valve
- WF-04 Fire Hydrant Locations and Port Orientation
- WF-05 4" and Larger Fire Service Installation
- WM-04 Protection Post Installation
- WP-01 Warning/Identification Tape and Tracer Wire Installations
- WP-02 Pipe Bedding and Trench Backfill for Potable and Recycled Water Mains
- WP-03 Cutting and Plugging Abandoned Water, Recycled Water and Sewer Main
- WP-05 Slope Protection Installations
- WP-07 Cut-Off Wall Installation in Traveled Areas
- WP-09 Pipe Support for Undercut Sewer Mains or Sewer Laterals

TABLE OF CONTENTS

- WR-01 Reduced Pressure Backflow Prevention Device ($\frac{3}{4}$ " Thru 2")
- WR-02 3" and Larger Reduced Pressure Backflow Prevention Device
- WS-01 1" Water Service Installation
- WS-02 2" Water Service Installation
- WS-03 Meter Box Locations for Water and Recycled Water Appurtenances
- WS-04 4" or 6" Fireline/Master Meter Installation
- WT-01 Concrete Thrust and Anchor Block Installations
- WV-01 Gate Well Cap Installation for Valves 4" and Larger
- WV-02 Gate Well Cap & Can Installation for Valves 4" and Larger
- WV-03 Gate Well Identification
- WV-04 Steel Valve Stem Extension for Valves 4" and Larger
- WV-05 Steel Valve Stem Extension for Valves 2" and Smaller

APPENDIX A - TRAFFIC CONTROL PLANS