ENGINEERING

STANDARDS & DRAWINGS

2025 Edition

Planning Commission Recommendation: May 21, 2025

Town Council Approval/Adoption: June 10, 2025

GREATER SALT LAKE
Municipal Services District

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GENERAL PROVISIONS

Town of Brighton automatically adopts the latest revision of AASHTO "A Policy on Geometric Design of Highways and Streets" (Green Book), the Utah Manual on Uniform Traffic Control Devices (MUTCD), and APWA Manual of Standard Plans and Manual of Standard Specifications, with exceptions noted in this document.

The city engineer may approve exceptions to engineering standards and drawings where appropriate.

Consistent with Brighton Master Planning & Visioning Statements, the standards do not include curb and gutter, streetlights or sidewalks.

EXCEPTIONS TO APWA STANDARDS

APWA Plan No./ Specification Section	Exception
215, 216, 221.1, 221.2, 225, 229.1 & 229.2	APWA Plan No's. 221.1 and 221.2 are acceptable for use. APWA Plan No's. 215, 216, 225, 229.1, and 229.2 are not acceptable for use unless otherwise authorized by the MSD Engineer.
221.1, 221.2	When adverse slopes, right-of-way limitations, or existing obstructions occur, MSD Engineering may authorize deviations from the APWA apron/slope geometry.
251	Bituminous Concrete (asphalt) T-Patch thickness is 6" minimum for both residential and non-residential streets.
255	Bituminous Concrete (asphalt) T-Patch thickness is 6" minimum for both residential and non-residential streets. Mill and overlay not required whenever there is an upcoming city project that will mill and overlay or reconstruct the road within two (2) years. Full-width mill and overlay on roads newer than three (3) years. APWA Mill and overlay required if street cut is longer than 300 feet long and pavement is 3-7 years old. Mill and overlay not required if pavement is greater than 7 years old.
292	Steel tube is to be 12' x 2" x 2". Standard Plan 140 in this book applies in locations where sign is installed in concrete.
315.1, 315.2 & 316	Where APWA inlet plans refer to frame and grate per APWA Plan No. 308, contractor shall use Standard Plan 201 in this book, unless otherwise authorized by the MSD Engineer.
332	The use of pre-cast "knock-out" boxes in storm drain facilities may be authorized by the MSD Engineer, upon written request and provided the following conditions are met: a) All other requirements of APWA Plan 332 - Precast Box, are still met. b) Boxes shall have engineered design for AASHTO's HL-93 live load and shall be designed for lateral soil loads appropriate for the burial depth and conditions. c) The thickness of concrete collars where the pipe enters box at the knockout face shall extend 6" to 9" from the exterior face of the box and shall cover the entire side of the structure with no less than 12" concrete all the way around the pipe. Collars shall have a minimum of four (4) #4 dowels tying the collar to the precast box and include a #4 rebar ring or square tie around the pipe. d) Inspection and certification required on all precast boxes.
381	(Note 2A) - Use granular backfill borrow for common fill.
382	(Note 2B) - Use granular backfill borrow for common fill. (Note 3A) - Minimum trench width is to be Pipe O.D. + 24" or (Pipe O.D. x 1.25)+12", whichever is greater.
33 05 02	Public storm drain pipes and culverts shall be 15" dia.or greater RCP unless otherwise authorized by the MSD Engineer. Installation must follow manufacturer's direction. Provide a minimum amount of 1' cover over top of concrete pipes and 2' cover over the top of pipes of other materials unless approved otherwise by manufacturer and MSD Engineer. Corrugated metal pipe and vitrified clay pipe are not allowed.

STANDARD DETAILS TABLE OF CONTENTS

SECTION 1 – ROADWAYS

SECTION 2 - STORM DRAIN FACILITIES

SYMBOL LEGEND

DESCRIPTION	EXIST.	PROP.
SANITARY SEWER		
CLEANOUT		
SS MANHOLE		
SS VALVE		
SS METER		
SEWER STUB		
STORM DRAIN		
CATCH BASIN		
DRY WELL		
SD CLEAN OUT BOX		
FLARE END		
COMMUNICATION		
TELE. MANHOLE		
TELE. PEDESTAL		
TELE. POLE		
TV PEDESTAL		
CABLE TV		
DOMESTIC WATER		
FIRE HYDRANT		
SPIGOT		
WATER MANHOLE		
WATER METER		
WATER VALVE		
YARD HYDRANT		
ELECTRIC		
ELEC. MANHOLE		
ELEC. METER		
ELEC. TRANS.		
JUNCTION BOX		
GUY WIRE		
POWER STUB		
POWER/UTILITY POLE		
STREET LIGHT		
STREET LIGHT WITH ARM		
TRAFFIC SIGNAL POLE		

DESCRIPTION	EXIST.	PROP.
IRRIGATION		
IRRIGATION SHUT-OFF VALVE	IRR	IRR
IRRIGATION CONTROL VALVE BOX		
IRRIGATION GATE		
NATURAL GAS		
GAS METER		
GAS VALVE		
GAS MANHOLE		
SITE		
BOLLARD		
BOULDER		
DRINKING FOUNTAIN	DF	DF
FLAGPOLE		
GATE		
MAIL BOX		
PEDESTRIAN SIGNAL		
SCHOOL SIGN		
SIGN		
SPOT ELEVATION		
TREE (SHRUB)		
TREE		
TEST HOLE	TH	TH
WELL	W	W
WELL (MONITORING)	M	M
CONCRETE FLATWORK		
ASPHALTIC CONCRETE		
SURVEY		
CAP		
CTRL PT		

LINE LEGEND

DESCRIPTION	EXISTING	PROPOSED
STORM DRAIN	SD	SD
SANITARY SEWER	SS	SS
WATER	W	W
IRRIGATION	IRR	IRR
NATURAL GAS	G	G
OVERHEAD POWER	OHE	OHE
UNDERGROUND POWER	E	E
OVERHEAD TELEPHONE	OHT	OHT
UNDERGROUND TELEPHONE	T	T
FIBER OPTIC	FO	FO
CABLE TELEVISION	CTV	CTV
FENCE		
MAJOR CONTOUR	4520	4520
MINOR CONTOUR		
TOP OF BANK	TOB	TOB
TOE OF SLOPE	TOE	TOE
PROPERTY LINE		
PROPERTY LINE (OPTIONAL)	P/L	P/L
RIGHT OF WAY	R/W	R/W
TEMPORARY EASEMENT	T/E	T/E
PERMANENT EASEMENT	P/E	P/E
ROAD CENTERLINE		
ROAD ASPHALT		
ROAD GRAVEL	EG	EG
CURB AND GUTTER		
ATMS	ATMS	ATMS
SAWCUT	SAW	SAW
GRADING FILL LIMIT	FILL	FILL
GRADING CUT LIMIT	CUT	CUT
DITCH/SWALE FLOWLINE		

LEGEND AND SYMBOLS

STANDARD PLAN
100
SHEET 1 OF 1

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ABBREVIATIONS

ABBREV.	TERM
ALUM	ALUMINUM
APPROX.	APPROXIMATELY
ASSY	ASSEMBLY
∠	ANGLE
@	AT (MEASUREMENTS)
BC	BEGINNING OF CURVE
BFS	BEGIN FULL SUPER
BLDG	BUILDING
B.M.	BENCH MARK
BNC	BEGIN NORMAL CROWN
BNS	BEGIN NORMAL SHOULDER
BOA	BEGINNING OF ALIGNMENT
BP	BEGINNING OF PROFILE
BSC	BITUMINOUS SURFACE COURSE
BSW	BACK OF SIDEWALK
BVC	BEGIN VERTICAL CURVE
BVCE	BVC ELEVATION
BVCS	BVC STATION
B.W.	BOTH WAYS
C	CHANNEL (STRUCTURAL)
CJ	CONTROL JOINT
℄ or CL	CENTER LINE
CLR	CLEARANCE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
CONT	CONTINUOUS
CPLG	COUPLING
CTR	CENTER
CU FT	CUBIC FEET
CU YD	CUBIC YARD
DEG OR °	DEGREE
DET	DETAIL
DIA OR Ø	DIAMETER
D.I.P.	DUCTILE IRON PIPE
DIST	DISTRIBUTION
DWG	DRAWING
EA	EACH
EC	END OF CURVE
EFS	END FULL SUPER
ELB	ELBOW
ELEV OR EL.	ELEVATION
ENC	END NORMAL CROWN
ENS	END NORMAL SHOULDER
EOA	END OF ALIGNMENT
EP	END OF ALIGNMENT
E.W.	EACH WAY
EXIST	EXISTING
EVC	END VERTICAL CURVE
EVCE	EVC ELEVATION
EVCS	EVC STATION

ABBREVIATIONS

ABBREV.	TERM
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FLG	FLANGE
FT OR '	FEET
FTG	FOOTING
GALV	GALVANIZED
GB	GRADE BREAK
GV	GATE VALVE
HORIZ	HORIZONTAL
HP	HIGH POINT
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN. OR "	INCH
INV.	INVERT
K	CURVE COEFFICIENT
L	LEFT
LB	LINE BEGINNING
LB OR #	POUND
LF	LINEAL FEET
LN	LINEAL
LP	LOW POINT
MAX	MAXIMUM
MIN	MINIMUM
NO. OR #	NUMBER
O.C.	ON CENTER
OVERALL HP	OVERALL HIGH POINT
OVERALL LP	OVERALL LOW POINT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PE	POLYETHYLENE
PI	TANGENT-TANGENT INTERSECT
PL OR ℄	PLATE OR PROPERTY LINE
PRC	POINT OF REVERSE CURVATURE
PT	END OF CURVE
PVC	POLYVINYL-CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS OR RIGHT
R&R	REMOVE & REPLACE
RC	REVERSE CROWN
RCP	REINFORCED CONCRETE PIPE
REM	REMOVE
REQ'D	REQUIRED
REV	REVISION
R/W OR ROW	RIGHT-OF-WAY
S	SLOPE

ABBREVIATIONS

ABBREV.	TERM
SBO	SHOULDER BREAKOVER
SPEC	SPECIFICATION
STA	STATION
STD	STANDARD
STL	STEEL
ST STL	STAINLESS STEEL
TBC	TOP BACK OF CURB
TFC	TOP FACE OF CONCRETE
TOB	TOP OF BANK
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOP	TOP OF PIPE
TOW	TOP OF WALL
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VCC	VERTICAL COMPOUND CURVE
VCCE	VCC ELEVATION
VCCS	VCC STATION
VRC	VERTICAL REVERSE CURVE
VRCE	VRC ELEVATION
VRCS	VRC STATION
W/	WITH
W/O	WITHOUT
W/REQ'D	WHERE REQUIRED

BRIGHTON TOWN UTAH 2025

ABBREVIATIONS

STANDARD PLAN

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SHEET 1 OF 1

REV. 2025-0

NOTES:

Materials, construction, and workmanship shall be in accordance with the current edition of "APWA Manual of Standard Specifications" addendums, and modifications thereto; and as directed by the MSD Public Works Engineer. Reference to specific sections of APWA does not limit requirements to that section.

SUBGRADE: See APWA Section 32 05 10 (Backfilling Roadways) for preparation and proof rolling of roadway, curb and gutter, and sidewalk.

UNTREATED BASE COURSE: Shall be Grade 1 as per APWA Section 32 11 23 (Aggregate Base Course). Place fill in no greater than 6 inch lifts after compaction as per APWA Section 32 05 10 (Backfilling Roadways). Compact to no less than 95% relative density based on the Modified Proctor Density as per APWA Section 31 23 26 (Compaction).

PRIME COAT: Prime coat, as directed by the engineer, on untreated base course before placing asphalt. See APWA Section 32 12 13.19 (Prime Coat).

TACK COAT: Grade SS-1, CSS-1, or CSS-1h emulsified asphalt shall be applied to existing asphalt concrete or portland cement concrete surfaces prior to placing asphalt concrete pavement as per APWA Section 32 12 13.13 (Tack Coat).

ASPHALT CONCRETE: Unless otherwise approved in writing by the MSD Public Works Engineer or their designated representative, all roads shall be considered Road Class III and the bituminous concrete mix designator used shall correspond to the table on Sheet 2. Minimum allowed roadway section – 3 inches asphalt concrete on 8 inches untreated base course. Thicker sections required for collectors, minor arterials, and roadways with heavy truck traffic. Construct road mix bituminous surface course only when air temperature in the shade and road bed temperature are greater than 50 degrees.

	ROADWAY SECTION	STANDARD PLAN 110 SHEET 1 OF 2

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BITUMINOUS CONCRETE MIX DESIGNATOR BY ROADWAY CLASSIFICATION	
ROADWAY CLASSIFICATIONS*	BITUMINOUS CONCRETE MIX DESIGN**
Local/Private – Collector (60')	PG58–28, DM–1/2, 50 Blow
Collector (80') – Arterial (106')	PG64–34, DM–1/2, 50 Blow
Canyon Roads Cat. 2–6	PG58–28, DM–1/2, 50 Blow
Canyon Roads Cat. 1	PG64–34, DM–1/2, 50 Blow

* See Section 14.12.100 of the municipal code for details.
** See APWA 32 12 05.

NOTES:

Materials, construction, and workmanship shall be in accordance with the current edition of "APWA Manual of Standard Specifications" addendums, and modifications thereto; and as directed by the MSD Engineer.

Cast Iron to conform to ASTM A-48, Class 35B H-20 wheel loading.

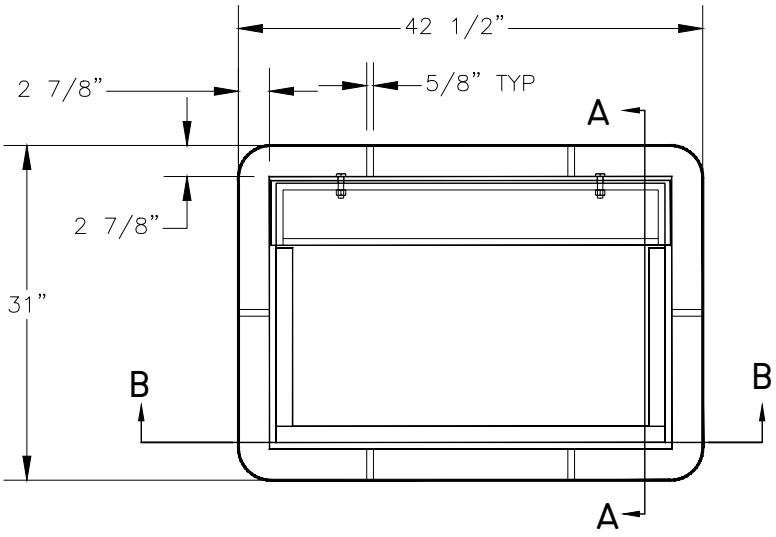
Use D&L Supply Co. I-3517 or approved equivalent.

All connecting hardware to be stainless steel.

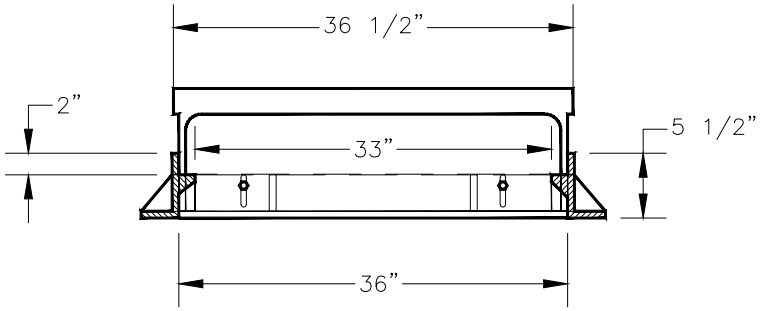
CURB OPENING FRAME AND GRATE

STANDARD PLAN
201
SHEET 1 OF 2

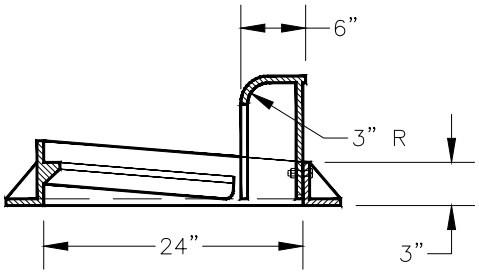
REV. 2025-0



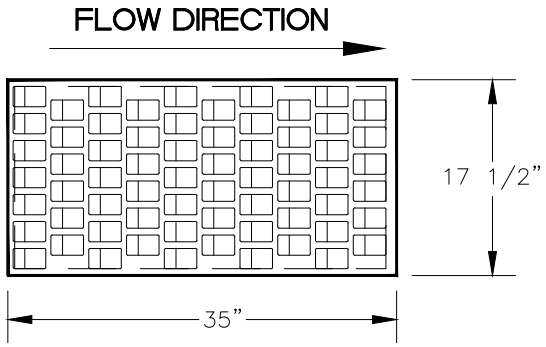
FRAME PLAN



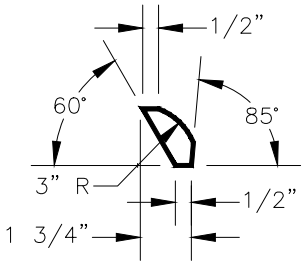
SECTION B-B



SECTION A-A



GRATE PLAN



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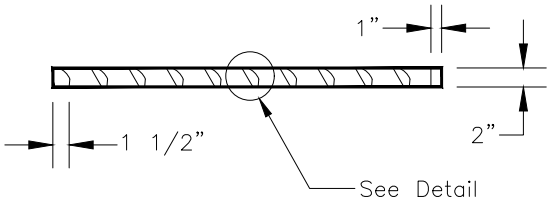


CURB OPENING FRAME AND GRATE

STANDARD PLAN
201
SHEET 2 OF 2

REV. 2025-0

NOTES:

Materials, construction, and workmanship shall be in accordance with the current edition of "APWA Manual of Standard Specifications" addendums, and modifications thereto; and as directed by the MSD Engineer.

Ladder Rungs: Provide rungs in boxes over 4 feet deep, spaced 12" O.C. When measured from the floor of the box, place bottom rung 16" maximum above box floor. Place top rung within 3 feet of finish grade.

Follow all current OSHA requirements.

Align rungs with lid opening.

Rungs not required in boxes with concentric access.

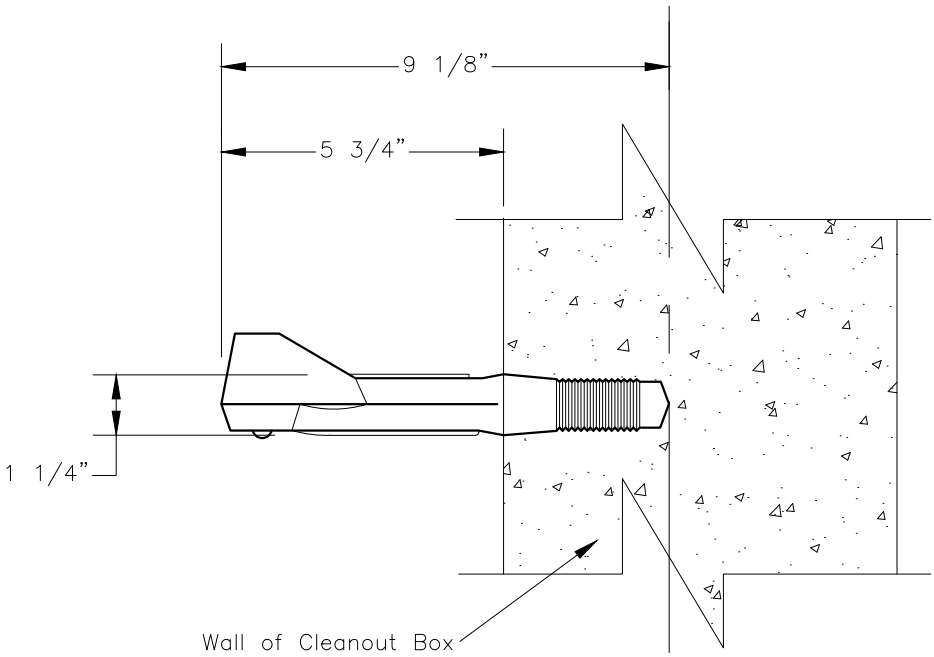
Ladder rungs shall be copolymer polypropylene plastic coating over a $\frac{1}{2}$ inch steel bar.

Steel bar shall conform to ASTM 615 Grade 60.

Use M.A. Industries PS1–PF 10" Manhole Single Face Step or approved product with similar materials and ratings with MSD Engineer approval.

	LADDER RUNG	STANDARD PLAN 208 SHEET 1 OF 2

REV. 2025-0



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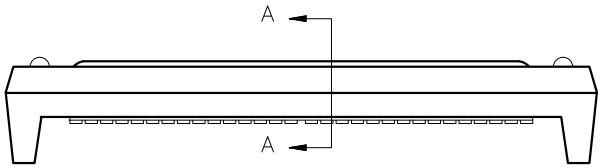
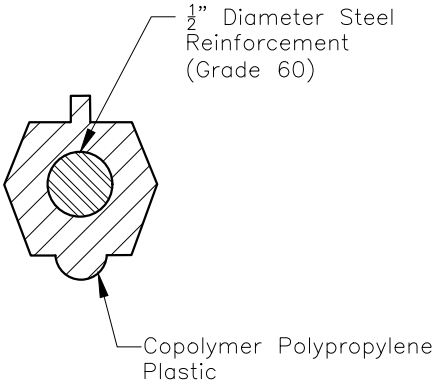
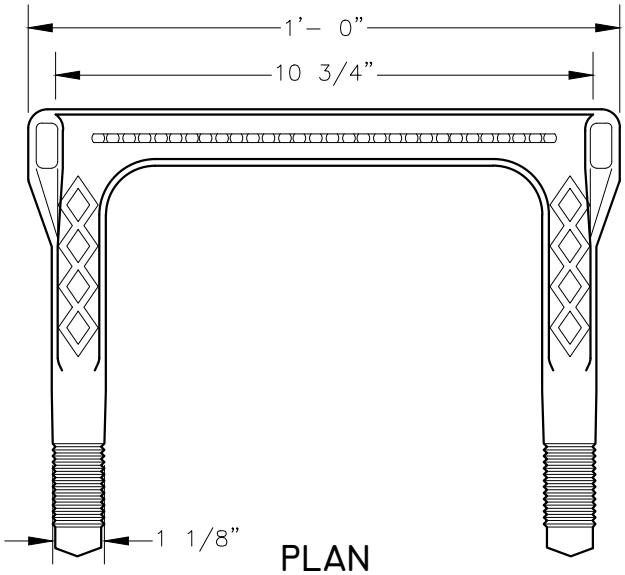


ELEVATION



SECTION A-A



PLAN

	LADDER RUNG	STANDARD PLAN 208 SHEET 2 OF 2

REV. 2025-0

NOTES:

GENERAL DETENTION BASIN REQUIREMENTS:

1. Side slopes shall be a maximum of 3:1.
2. Sides and bottom of basin shall be rock lined. In special circumstances such as when the basin contains a park or playing field, the basin may be lined with grass, with approval of the MSD Engineer. For rock lining, use 2" rock with a minimum depth of 5" over separation fabric. If grass lined, the area must be adequately irrigated with a permanent pressurized irrigation system.
3. 1 foot of freeboard above the 10-year 24-hour storm event level or capacity for the 100-year 24-hour storm.
4. Concrete low flow pipe or channel preferred.

SECTION A. INLET AND OUTLET STRUCTURE REQUIREMENTS:

5. Outflow must be restricted per the code requirements.
6. Must include a concrete flared end section and locking grate, unless underground low-flow conveyance is utilized.
7. Pre-treatment required prior to outflow to approved facility, outlet structure must conform to Standard Detail 301 in this document or approved outlet structure.

SECTION B. REQUIREMENTS FOR ACCESSES TO ALL INLET/OUTLET STRUCTURES:

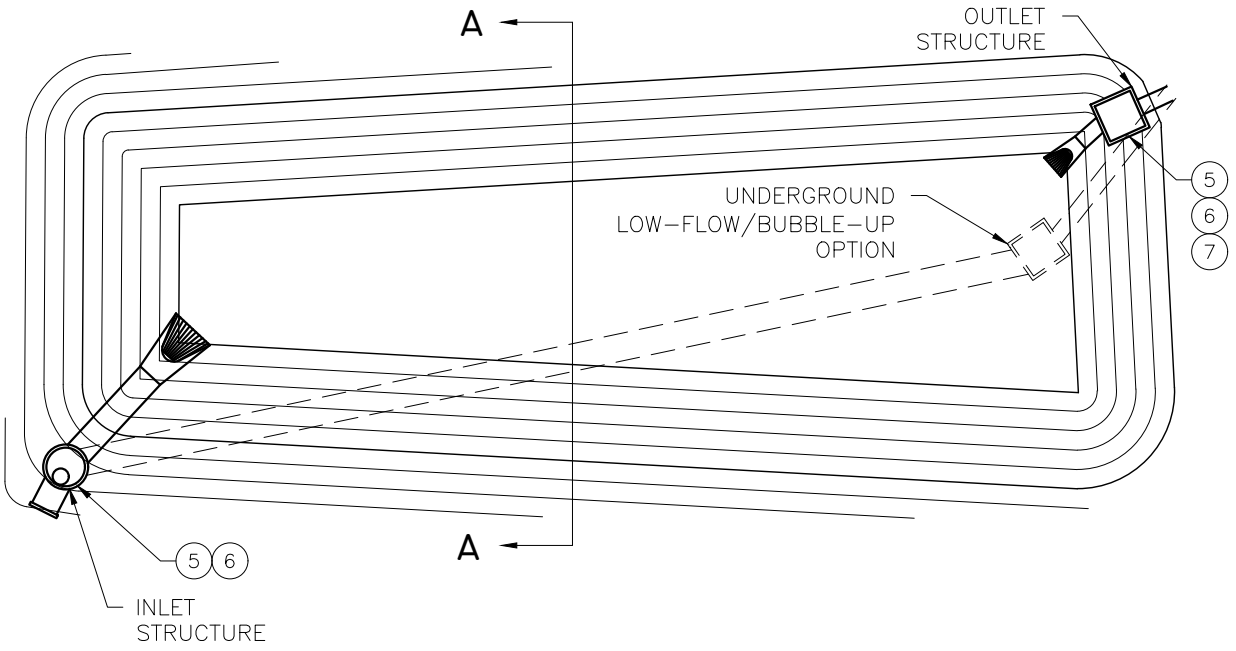
8. Must fall within the area of the arc (shown in the Accessible Road/Pad Detail), which is representative of the maintenance vehicles' reach.
9. No increase in elevation greater than 5' from surface of accessible road or pad.
10. No decrease in elevation greater than 35' from surface of accessible road or pad.
11. Must be a minimum of 45 feet in length from traveled way of connecting roadway if a detention pond specific access road or pad is utilized.

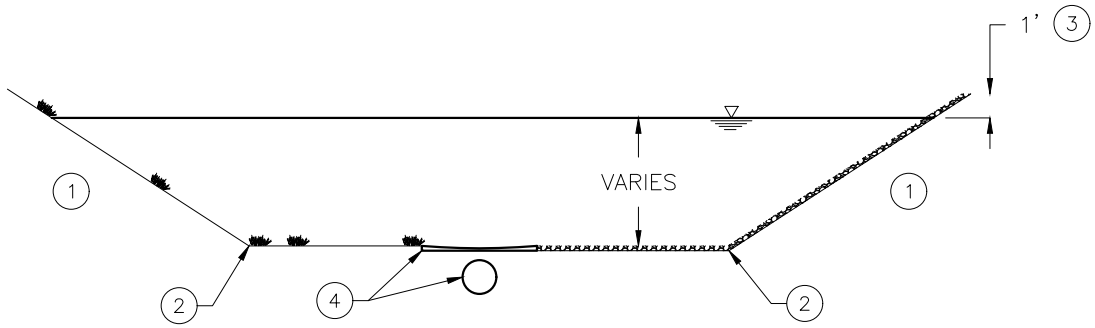
SECTION C. ACCESSIBLE ROAD/PAD REQUIREMENTS:

12. Must be easily accessible by maintenance vehicles.
13. Must not exceed a maximum longitudinal slope of 12%.
14. Must be at least 10' in width.
15. No cross-slope in excess of 2%.
16. Must be a minimum of 6" thick concrete.
17. Must have measures in place restricting public access (ex. bollards). If bollards are used, must be of stainless steel material.
18. Must comply with all other local, county, state, and federal requirements.

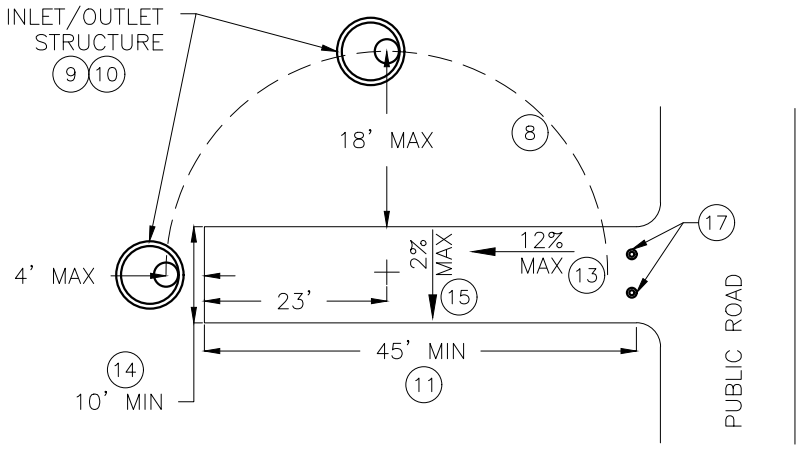
BRIGHTON TOWN UTAH 2025	DETENTION BASIN GUIDELINES	STANDARD PLAN 300 SHEET 1 OF 2

REV. 2025-0





SECTION A-A - TYPICAL BASIN SECTION



TYPICAL COUNTY ACCESSIBLE ROAD/PAD DETAIL

BRIGHTON TOWN UTAH 1909	DETENTION BASIN GUIDELINES	STANDARD PLAN 300 SHEET 2 OF 2

REV. 2025-0

NOTES:

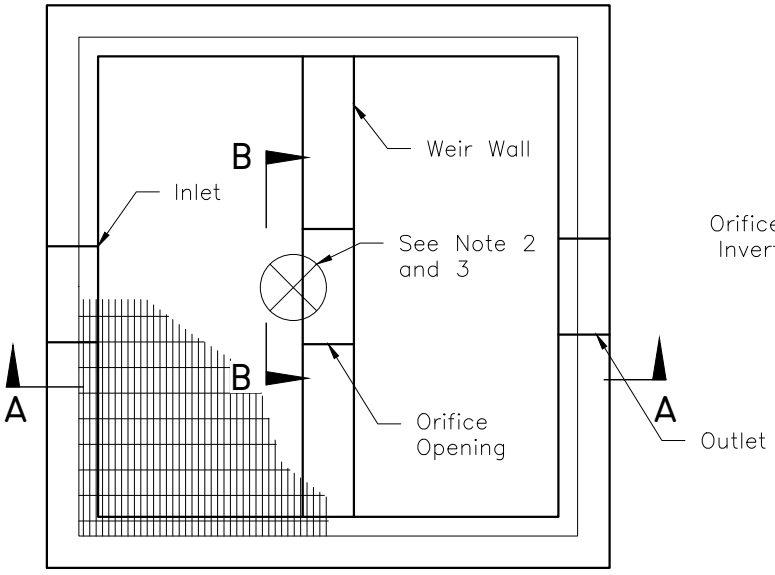
Materials, construction, and workmanship shall be in accordance with the current edition of "APWA Manual of Standard Specifications" addendums, and modifications thereto; and as directed by the MSD Engineer. Reference to specific sections of APWA does not limit requirements to that section.

1. Developer shall install lock and chain on handwheel. Lock to be supplied by SLCO Operations Department.

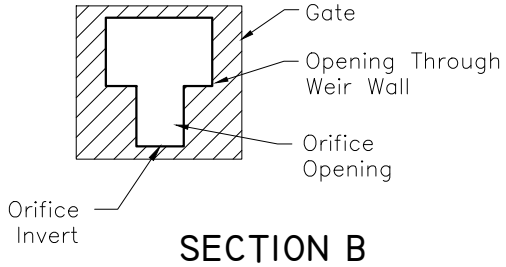
2. Provide gate with stop nut on stem to hold gate at 10" above invert of orifice or higher.

3. Golden Harvest slide gate with non-rising stem and handwheel, or approved equal. Cut grate as required for extension of frame.

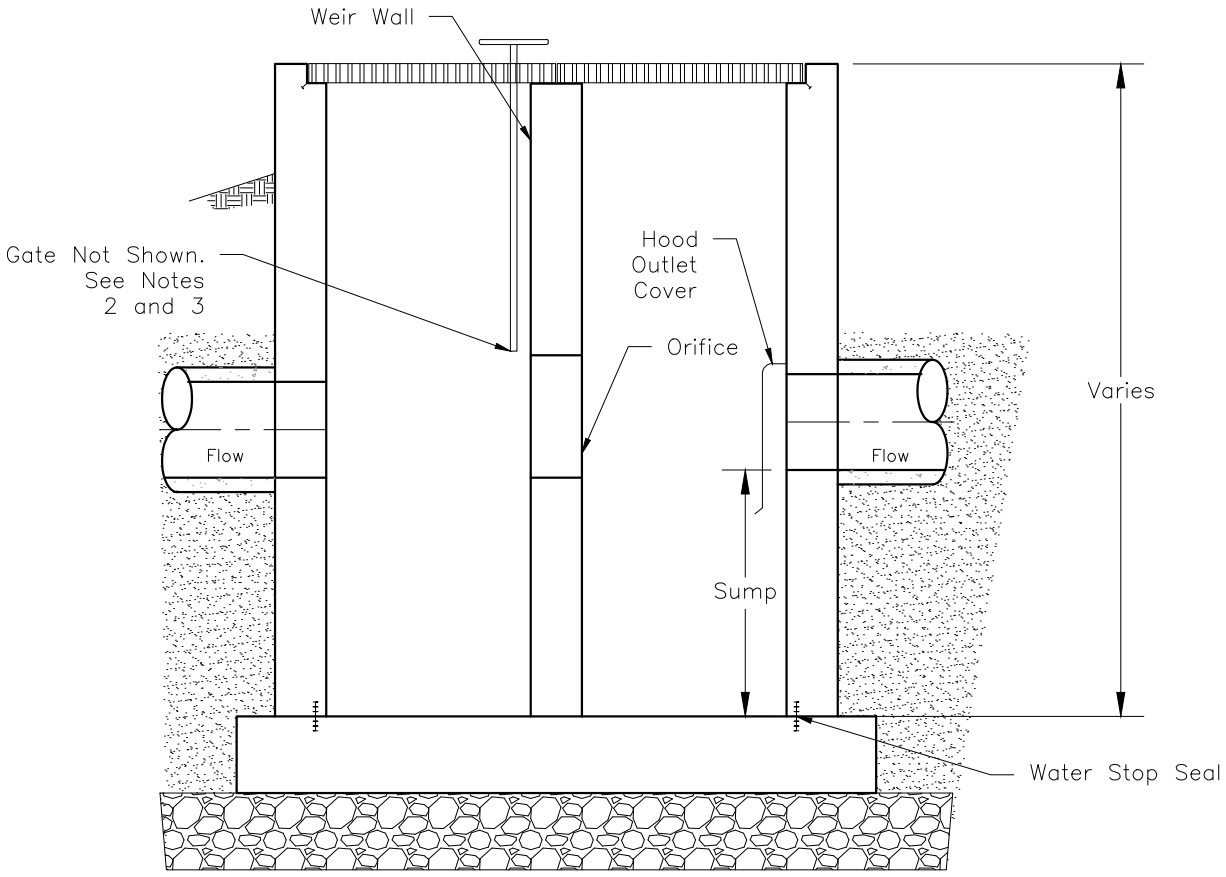
4. The drawing on Sheet 2 is intended to be general in nature, but shows the overall conceptual requirements for the outlet structure, including box with weir wall, orifice, gate, hood, and grated top. The specific size of the components shall be designed for the specific application.



PLAN



SECTION B



SECTION A

	OUTLET STRUCTURE GUIDELINES	STANDARD PLAN 301 SHEET 2 OF 2

REV. 2025-0

ENGINEERING

STANDARDS & DRAWINGS

GREATER SALT LAKE

Municipal Services District

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