# Utah Lake Distributing Company

## Design Standards and Standard Drawings

### Sheet Index



**Standard Drawings Disclaimer:**

The Drawings Provided in These Standards are Only Intended to Show the Type of Facilities That Will be Acceptable to ULDC. These Are Not Intended to be Used Directly in the Design of Facilities as Each Encroachment/Crossing Has its Own Unique Circumstance, Dimensions, Design Criteria, etc. It is the Responsibility of the Design Engineer, Who Will Stamp the Drawing, to Ensure that Each Crossing is Designed Properly.

By Using Any Details in These Drawings, You Acknowledge That You Have Verified the Standard Drawing Detail is Adequate for Incorporating into Your Design. Franson Civil Engineers Will Not be Held Liable for any Use of These Drawings. Contact Vince Hogge from Franson Civil Engineers for any Questions Regarding These Standard Drawings.

Utah Lake Distributing Company

DESIGNER: Vince Hogge
DRAFTSMAN: Matt Gunn
CHECKED:
REVIEWED:
PROJECT LEADER:
PRINT DATE: March 5, 2018

| NO. | DATE | INITS. | REVISIONS DESCRIPTION |
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| 1 | JUNE 2010 | EA | UPDATED |
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Utah Lake Distributing Company
Standard Drawings
Cover and Sheet Index

JOB NO.
01-ULDC Cover Sheet.dwg
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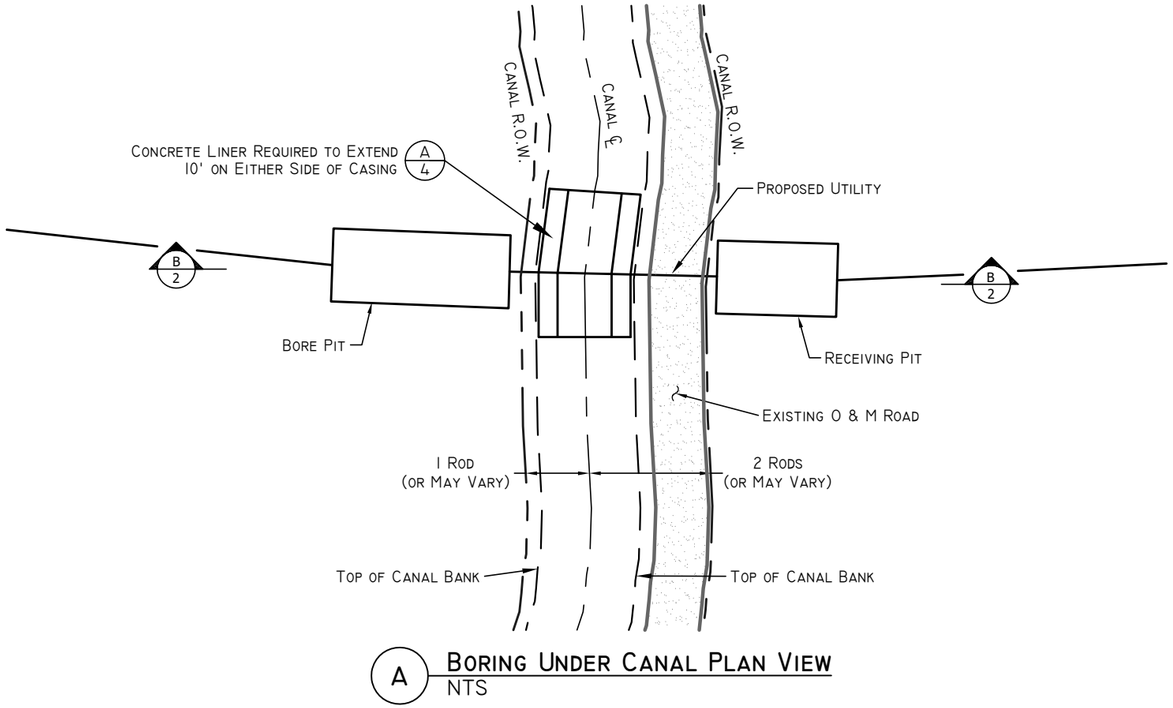
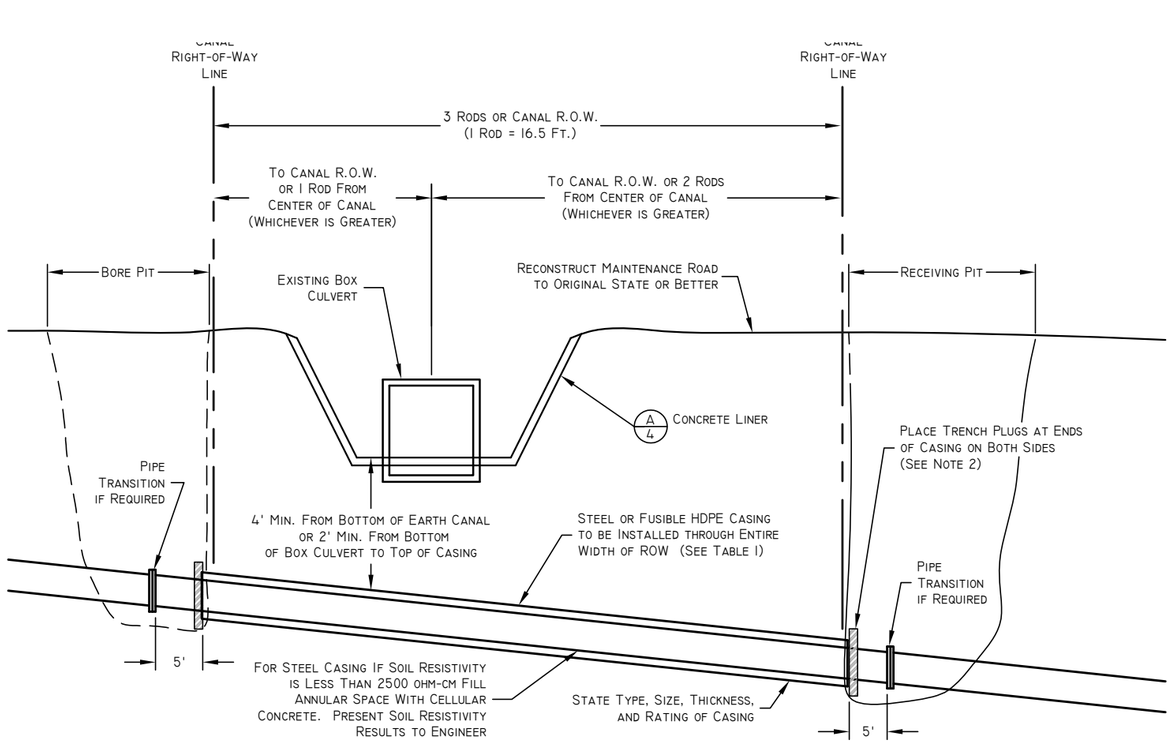
SHEET 1 OF 12




A **BORING UNDER CANAL PLAN VIEW**
NTS




B **BORE CASING CROSS SECTION**
NTS

NOTES:

1. BORE PIT COMPACTION TO BE 92% MODIFIED PROCTOR DENSITY.
2. TRENCH PLUGS ARE TO BE PLACED IN LOCATIONS SHOWN ON BOTH SIDES FOR WIDTH OF TRENCH AND 12 INCHES ABOVE AND BELOW CASING PIPES AND A MINIMUM THICKNESS OF 24 INCHES. PLUGS SHALL BE A 10% BENTONITE AND 90% CLAY MIXTURE, OR SHALL BE A FLOWABLE FILL CONCRETE.
3. STORMWATER RUNOFF ENTERS THE CANAL DURING STORM EVENTS OR AT OTHER UNEXPECTED TIMES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT THE WORK SITE.
4. WATERLINE PIPE INSIDE OF CASING SHALL HAVE RESTRAINING JOINTS.
5. THRUST BLOCKS ARE REQUIRED ON ALL BENDS AND TEES FOR DIP, PVC, OR PIP WATERLINES.
6. CASING MUST BE A MINIMUM OF 2 FEET BELOW THE BOTTOM OF THE EXISTING CANAL BOX CULVERT OR 4 FEET BELOW EARTHEN CANAL BOTTOM.
7. BORE PITS MUST BE COMPLETELY PLACED OUTSIDE OF THE CANAL RIGHT-OF-WAY. CANAL RIGHT-OF-WAY IS GENERALLY 1-ROD ON THE UPHILL SIDE AND 2-RODS ON THE DOWNHILL SIDE FROM THE CENTER OF THE CANAL. R.O.W. DIMENSIONS MAY BE GREATER IN SOME AREAS.
8. CARRIER PIPE SHALL HAVE ADEQUATE CASING SPACERS.

TABLE 1
STEEL CASING THICKNESS

| DIAMETER (INCHES) | MINIMUM WALL THICKNESS (INCHES) |
|---|---|
| 12" | 0.188" |
| 14" - 16" | 0.312" |
| 18" | 0.312" |
| 20" - 22" | 0.375" |
| 24" - 26" | 0.438" |
| 28" - 32" | 0.500" |
| 34" - 36" | 0.562" |
| 38" - 42" | 0.562" |

UTAH LAKE DISTRIBUTING COMPANY

# STANDARD DRAWINGS
# CANAL BORING DETAILS

JOB NO.

02-ULDC Boring Details.dwg
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DESIGNED: VINCE HOGGE
DRAFTSMAN: MATT GUPR
CHECKED:
REVIEWED:

| NO. | DATE | INITS. | |
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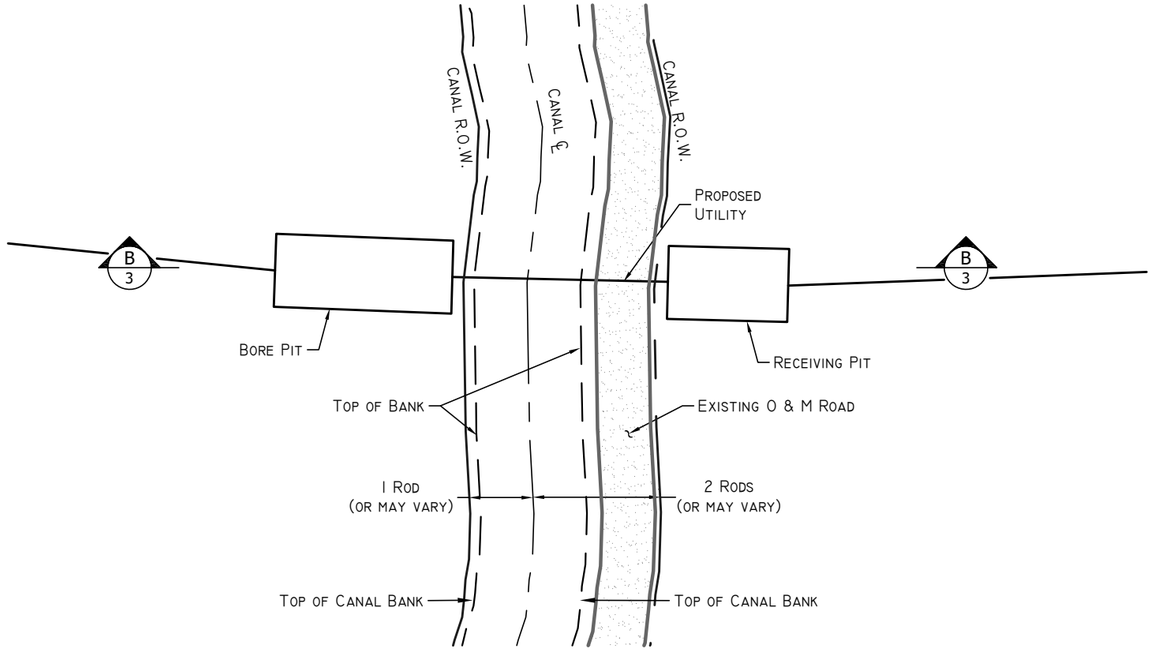
| 1 | JUNE 2010 | EA | UPDATED |
| 2 | JANUARY 2018 | MG, VH | UPDATED |

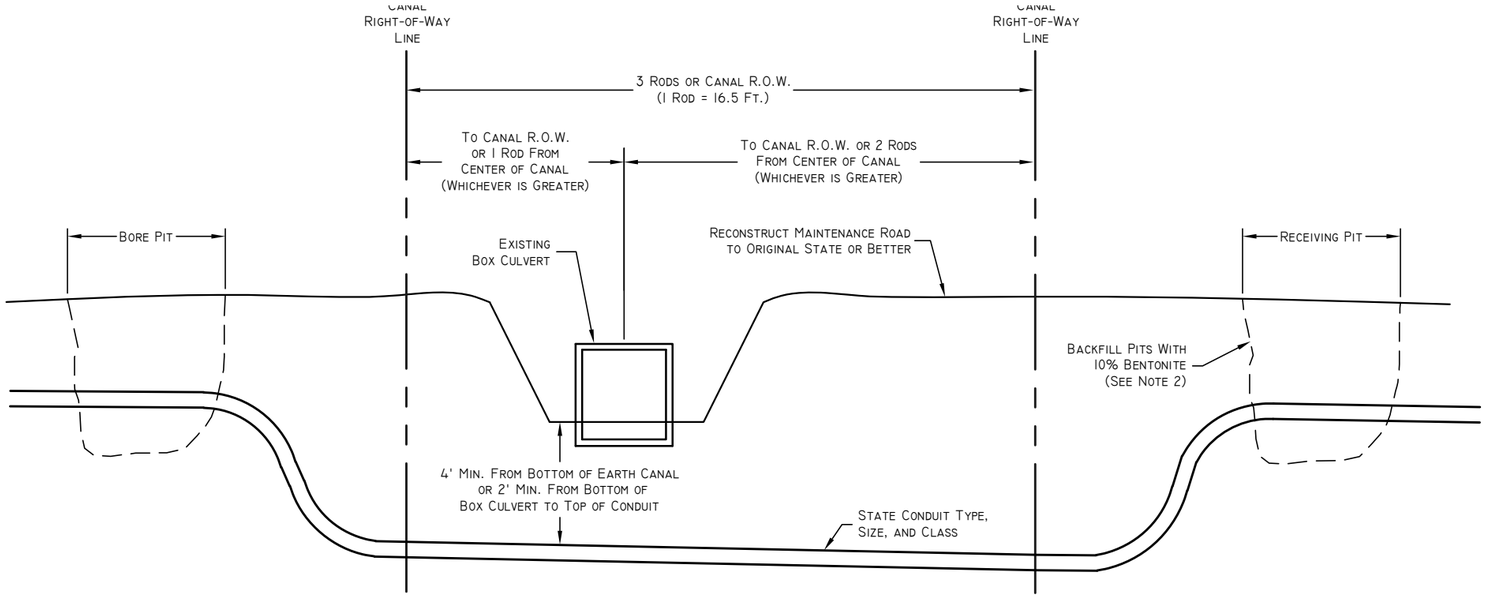
REVISIONS
DESCRIPTION

PROJECT LEADER
PROJECT LEADER:
PRINT DATE: MARCH 5, 2018

SHEET 2 OF 12




A DIRECTIONAL DRILL UNDER CANAL
NTS




B DIRECTIONAL DRILL CROSS SECTION
NTS

## NOTES:

1. BORE PIT COMPACTION TO BE 92% MODIFIED PROCTOR DENSITY.
2. FILL BORE PITS WITH A MIXTURE OF NATIVE MATERIAL AND 10% BENTONITE POWDER TO CREATE A SEAL THAT WILL PREVENT WATER FROM FOLLOWING THE NEW CONDUIT.
3. STORMWATER RUNOFF ENTERS THE CANAL DURING STORM EVENTS OR AT OTHER UNEXPECTED TIMES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT THE WORK SITE.
4. CONDUIT MUST BE A MINIMUM OF 2 FEET BELOW THE BOTTOM OF THE EXISTING CANAL BOX CULVERT OR 4 FEET BELOW EARTHEN CANAL BOTTOM.
5. BORE PITS MUST BE COMPLETELY PLACED OUTSIDE OF THE CANAL RIGHT-OF-WAY. CANAL RIGHT-OF-WAY IS GENERALLY 1 ROD ON THE UPHILL SIDE AND 2 RODS ON THE DOWNHILL SIDE FROM THE CENTER OF THE CANAL. ROW DIMENSIONS MAY BE GREATER IN SOME AREAS.

UTAH LAKE
DISTRIBUTING COMPANY

| DESIGNED: | VINCE HOGGE | CHECKED: | PROJECT LEADER: | PROJECT LEADER |
|---|---|---|---|---|
| DRAFTSMAN: | MATT GUPR | REVIEWED: | PRINT DATE: | MARCH 5, 2018 |

| NO. | DATE | INITS. | REVISIONS |
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| 1 | JANUARY 2018 | MG, VH | UPDATED |

DESCRIPTION

UTAH LAKE DISTRIBUTING COMPANY
STANDARD DRAWINGS
DIRECTIONAL DRILLING DETAILS

JOB NO.
03-ULDC Directional Drilling.dwg
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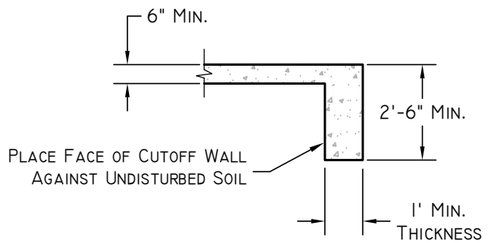
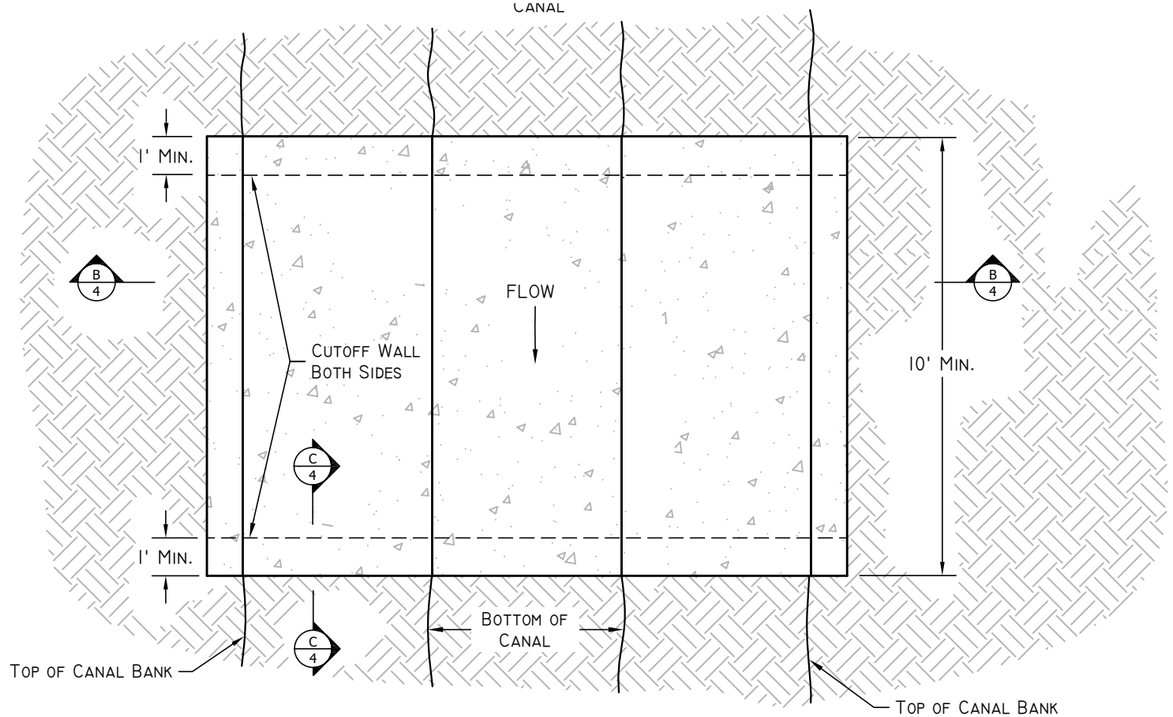
SHEET
3 OF 12

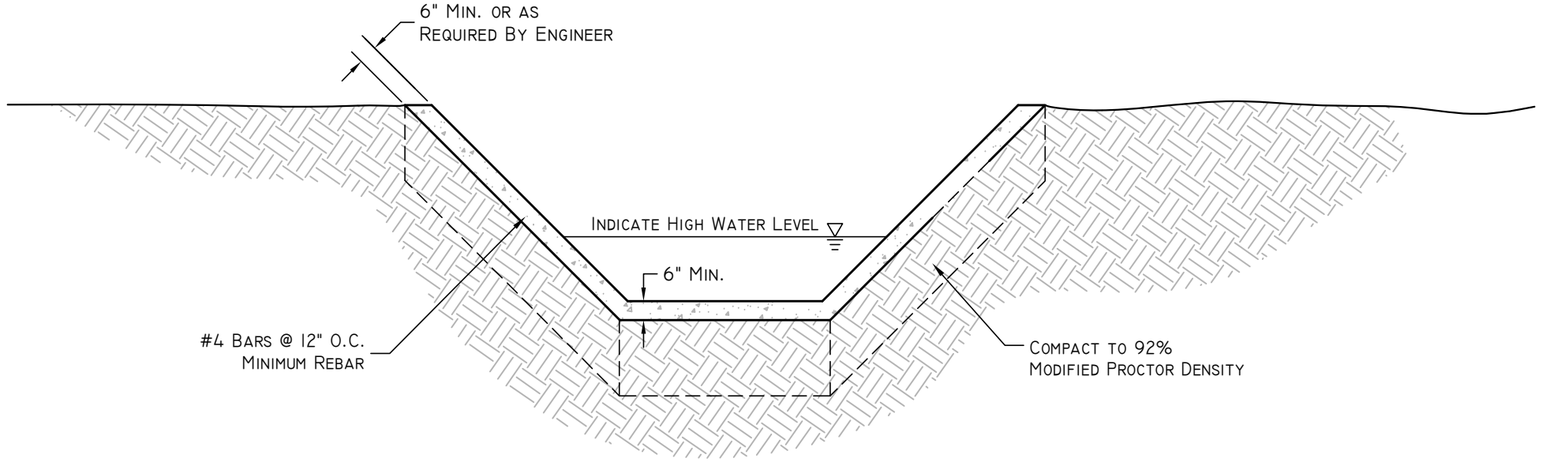



NOTE:
ENGINEER TO DETERMINE REBAR SIZE
AND SPACING IN CUTOFF WALL.

C CUTOFF WALL CROSS SECTION
NTS




A CONCRETE LINER PLAN
NTS




B CONCRETE LINER CROSS SECTION
NTS

UTAH LAKE
DISTRIBUTING COMPANY

| DESIGNER: | VINCE HOGGE |
|---|---|
| DRAFTSMAN: | MATT GUHR |
| CHECKED: | CHECKED |
| REVIEWED: | REVIEWED |
| PROJECT LEADER: | PROJECT LEADER |
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UTAH LAKE DISTRIBUTING COMPANY
STANDARD DRAWINGS
CONCRETE LINER

JOB NO.

04-Concrete Liner.dwg
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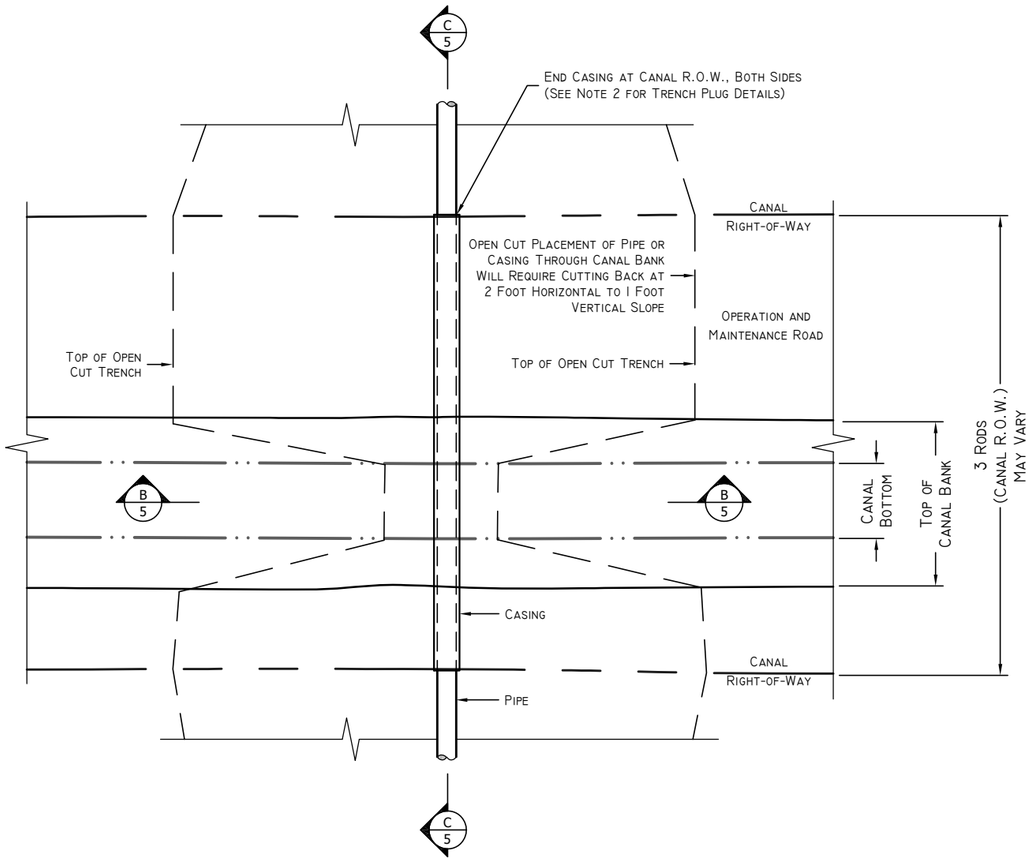
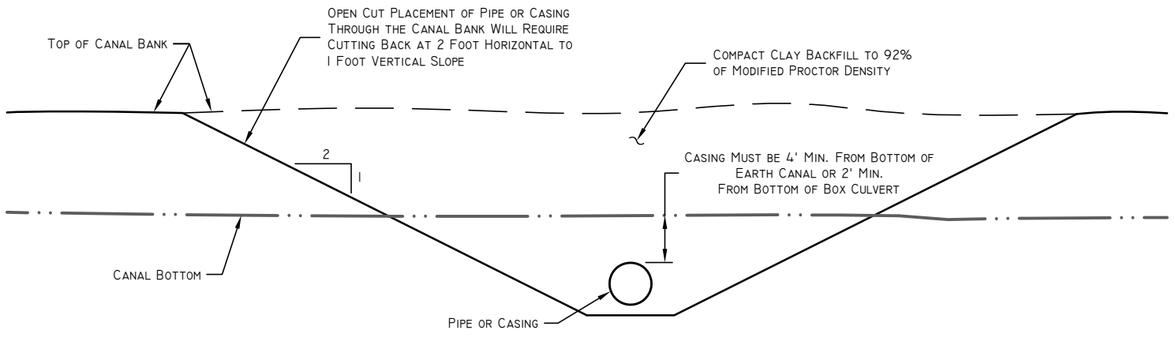
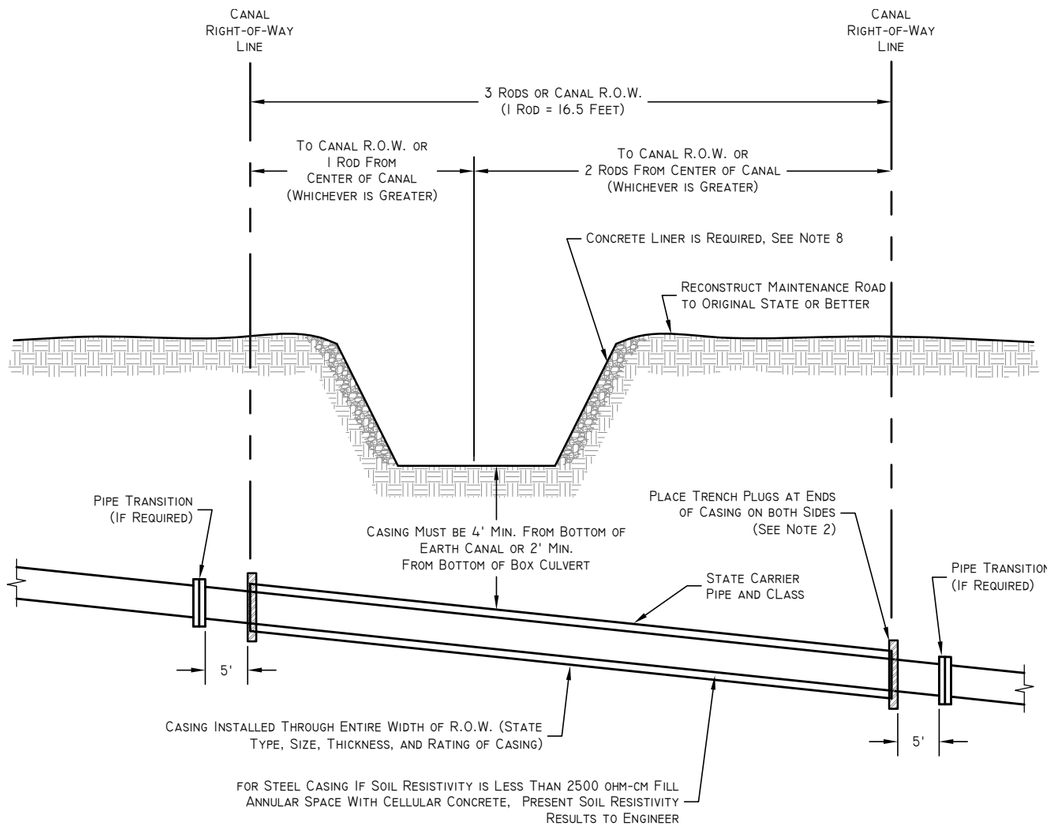
SHEET
4 OF 12




## A Open Cut Plan View
NTS




## B Open Cut Canal Crossing Cross Section
NTS




## C Open Cut Canal Crossing Profile
NTS

### Table 1
### Steel Casing Thickness

| Diameter (Inches) | Minimum Wall Thickness (Inches) |
|---|---|
| 12" | 0.188" |
| 14" - 16" | 0.312" |
| 18" | 0.312" |
| 20" - 22" | 0.375" |
| 24" - 26" | 0.438" |
| 28" - 32" | 0.500" |
| 34" - 36" | 0.562" |
| 38" - 42" | 0.562" |

Notes:

1. Removal and Replacement of Canal Floor and Banks Will Require Testing and Proctors By a Licensed Soils Lab. Compaction to Be 92% Modified Proctor Density.
2. Trench Plugs are to Be Placed in Locations Shown on Both Sides For Width of Trench and 12 Inches Above and Below Casing Pipes and a Minimum Thickness of 24 Inches. Plugs Shall Be a 10% Bentonite and 90% Clay Mixture, or Shall be A Flowable Fill Concrete.
3. Storm Water Runoff Enters the Canal During Storm Events or at Other Unexpected Times. It is the Responsibility of the Contractor to Protect the Work Site.
4. Waterline Pipe Inside of Casing Shall Have Restraining Joints.
5. Thrust Blocks are Required on All Bends and Tees For DIP, PVC, or PIP Waterlines.
6. Casing Must be 4' Min. From Bottom of Earth Canal or 2' Min. From Bottom of Box Culvert.
7. Canal Right-of-Way is Generally 1-Rod on the Uphill Side and 2-Rods on the Downhill Side From the Center of the Canal. R.O.W. Dimensions May Be Greater in Some Areas.
8. Concrete Liner is to be Installed in the Canal Extending 5 Feet Past the Extents of Canal Disturbance see Detail. (A / 4)
9. Carrier Pipe Shall Have Adequate Casing Spacers.

Utah Lake
Distributing Company

| | |
|---|---|
| Designer: | Vince Hogge |
| Draftsman: | Matt Gurr |
| Checked: | |
| Reviewed: | |
| Project Leader | |
| Project Leader: | |
| Print Date: | March 5, 2018 |

| No. | Date | Init. | Description |
|---|---|---|---|
| 1 | June 2010 | EA | Updated |
| 2 | January 2018 | MG, VH | Updated |

Revisions

Utah Lake Distributing Company
Standard Drawings
Open Cut Details

Job No.

05-ULDC Open Cut Details.dwg
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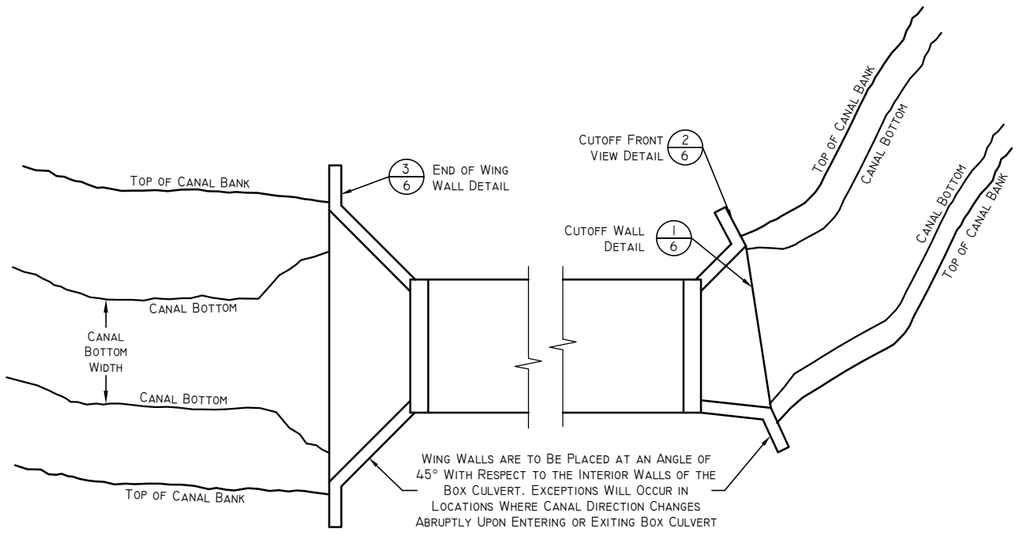
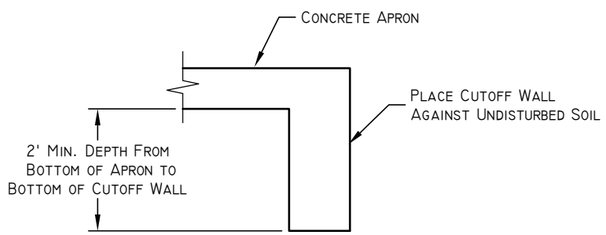
Sheet
5 of 12



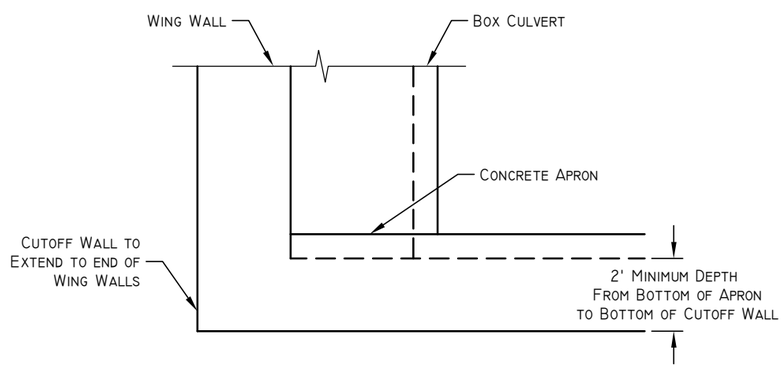

A **Plan View of Box Culvert**
NTS

## Notes:

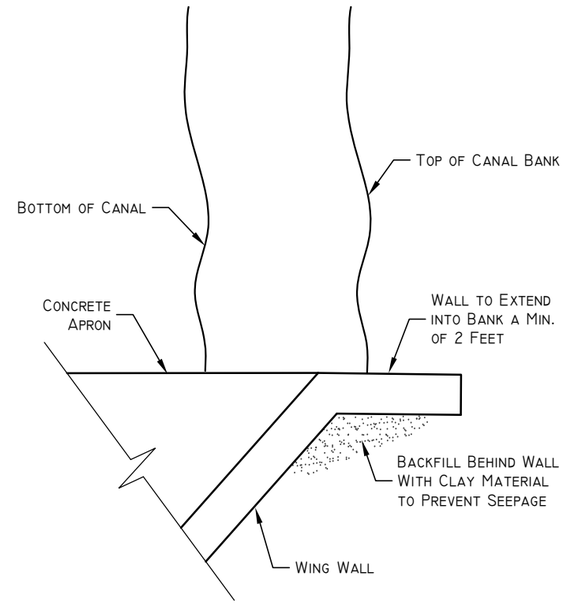
1. Box Culverts to Have a Minimum Height of 6 Feet.
2. Width of Box Culvert is to Match Existing Channel Bottom.
3. No Riprap Allowed in the Canal.
4. Access to Canal Operation and Maintenance Road Shall be Installed with Curb Cuts at Drive Approaches and Thickened Concrete at Sidewalks.
5. Cutoff Walls and Aprons Between Wing Walls are Required.
6. End of Wing Wall Shall Not Interfere with Operation and Maintenance Road.
7. 6 Foot Chain Link Fence or 4 Foot Parapet Wall is Required on All Box Culverts that Carry Pedestrian Traffic. Exceptions may Occur Where Local Ordinances Note Otherwise and Upon Approval by Canal Company.
8. Drawings Submitted for Review are to Show Plan and Profile Views, Note Slope, Include Detail Indicating Rebar Size and Spacing, and State Traffic Loading.
9. Casings Must Have a Minimum of 2 Feet Between Top of Casing and Bottom of Box Culvert.
10. All Concrete Used in Construction Shall Have a Minimum Compressive Strength of 4,000 psi. The Concrete Mix Shall Include Between 5% and 7% air Entrainment.




1 **Cutoff Wall Detail**
NTS




2 **Cutoff Front View Detail**
NTS




3 **End of Wing Wall Detail**
NTS

Utah Lake Distributing Company

| NO. | DATE | INITS. | DESCRIPTION |
|---|---|---|---|
| 1 | JUNE 2010 | EA | UPDATED |
| 2 | JANUARY 2018 | MG, VH | UPDATED |

DESIGNER: Vince Hogge
DRAFTSMAN: Matt Gurr
CHECKED: Checked
REVIEWED: Reviewed
PROJECT LEADER: Project Leader
PRINT DATE: March 5, 2018

Utah Lake Distributing Company
# Standard Drawings
## Box Culvert Details

JOB NO.
06-ULDC Box Culvert Details.dwg
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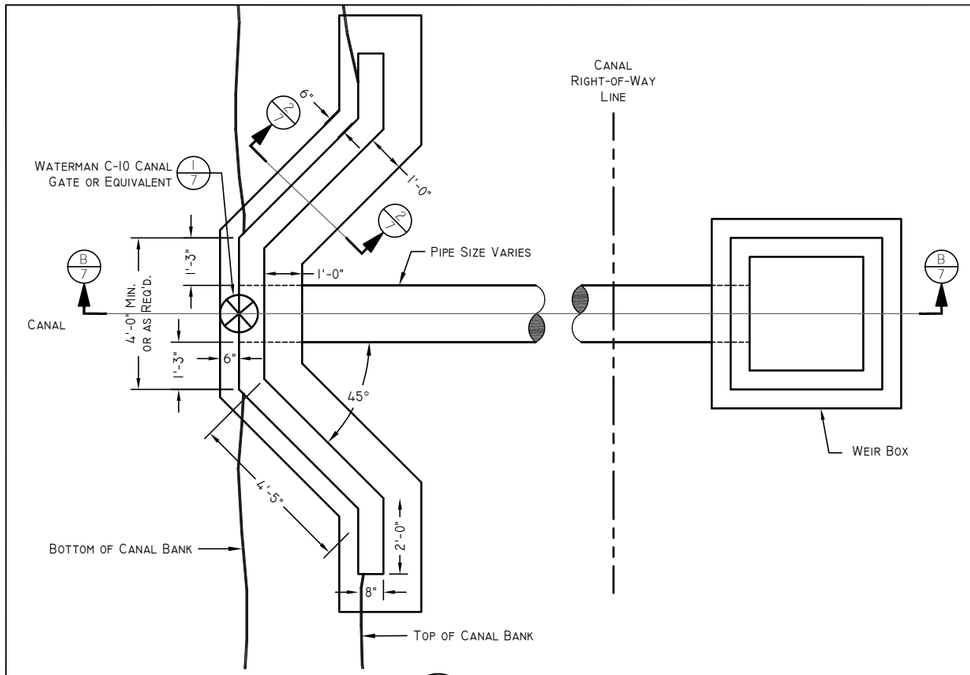
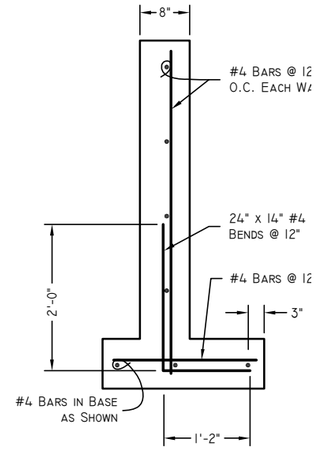
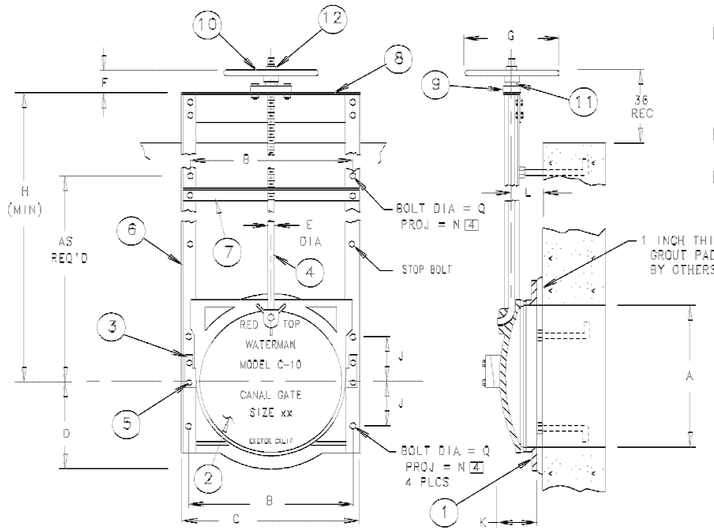
SHEET
6 OF 12



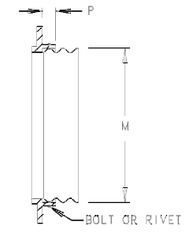

A **WEIR PLAN**
NTS




2 **MINIMUM REBAR DETAIL**
NTS

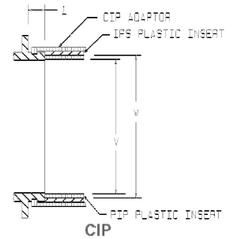


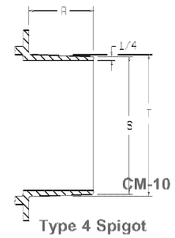

NOTES
1. TYPE 2 lubricated ball bearing lift used on 48" and larger gates.
2. Applies to spigotback gate only. Optional spigot, shown in separate detail.
3. All dimensions are also applicable for model CL-10 & CM-10 gates.
4. Add grout pad thickness to anchor bolt projection.
5. Type 3E 2:1 lift used, mounted to dual headrail.




**Corrugated Pipe Attached to Spigot Back Frame**

| PARTS LIST | | |
|---|---|---|
| No. | Name | Qty. |
| 1 | Frame | 1 |
| 2 | Cover | 1 |
| 3 | Wedge (Right & Left) | 1 ea. |
| 4 | Stem | 1 |
| 5 | Wedge Bolts | 4 |
| 6 | Guide Rail | 2 |
| 7 | Stem Support | A/R |
| 8 | Head Rail | 1 |
| 9 | Lift Collar | 1 |
| 10 | Handwheel | 1 |
| 11 | Lift Nut | 1 |
| 12 | Limit Nut | 1 |



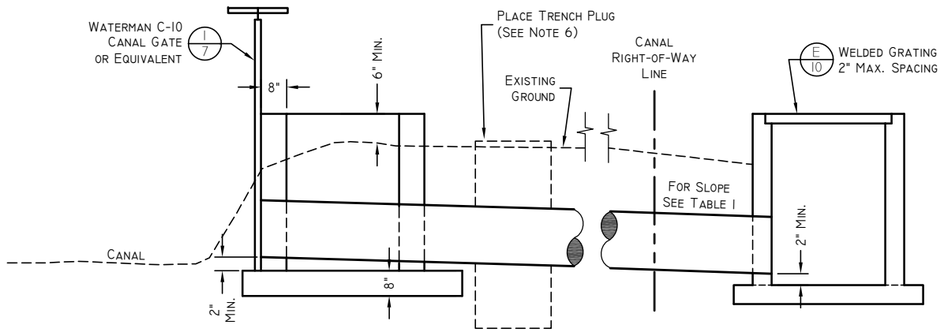




| A | B | C | D | E | F | G | H | J | K | L | M [2] | N | P [2] | Q | R | S | T | V | W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 8 | 9⅞ | 4 | ⅞ | 2⅛ | 10 | 24 | 3 | 3½ | 2⅝ | 7 | 3½ | 2¼ | ½ | - | - | - | 6.160 | 6.645 |
| 8 | 10 | 12 | 4⅞ | ⅞ | 2⅛ | 10 | 24 | 3 | 3¾ | 2½ | 9 | 3½ | 2¼ | ½ | 4 | 7 13/16 | 8 | 8.180 | 8.645 |
| 10 | 12 | 13⅞ | 6 | ⅞ | 2⅛ | 10 | 24 | 3½ | 3¾ | 2½ | 11 | 3½ | 2¼ | ½ | 3⅛ | 9⅞ | 10 | 10.220 | 10.770 |
| 12 | 14 | 15⅞ | 7 | ⅞ | 2⅛ | 10 | 24 | 4 | 3½ | 3 | 13 | 4 | 2¼ | ½ | 4 | 11⅞ | 12 | 12.270 | 12.780 |
| 14 | 16 | 17⅞ | 8 | ⅞ | 2⅛ | 10 | 27 | 4¾ | 3¾ | 3¼ | 15 | 4 | 2¼ | ½ | - | - | - | - | - |
| 15 | 17 | 18⅞ | 8⅞ | ⅞ | 2⅛ | 10 | 30 | 5 | 4½ | 3½ | 16 | 4 | 2⅛ | ½ | 4 | 14⅞ | 15 | - | - |
| 16 | 18¾ | 20⅝ | 9⅞ | ⅞ | 2⅛ | 10 | 32 | 5½ | 4½ | 3½ | 17 | 4½ | 2¼ | ⅝ | - | - | - | - | - |
| 18 | 21 | 22⅞ | 10½ | 1 | 3⅛ | 12 | 34 | 6 | 4½ | 4¼ | 19 | 4½ | 2¼ | ⅝ | 4 | 17 13/16 | 18 | - | - |
| 20 | 23¼ | 25⅛ | 11¾ | 1 | 3⅛ | 12 | 38 | 7 | 4¾ | 4 | 21 | 4½ | 2¼ | ⅝ | - | - | - | - | - |
| 21 | 24 | 25⅞ | 12 5/16 | 1 | 3⅛ | 12 | 40 | 7 | 4¾ | 4 | 22 | 4½ | 2¼ | ⅝ | - | - | - | - | - |
| 24 | 27¼ | 29⅛ | 13⅞ | 1 | 3⅛ | 12 | 44 | 8 | 5¾ | 4⅛ | 25 | 4½ | 2¼ | ⅝ | - | - | - | - | - |
| 30 | 33¾ | 36⅛ | 17⅜ | 1⅛ | 4 | 15 | 54 | 10 | 6 | 4½ | 31 | 6 | 2¼ | ¾ | - | - | - | - | - |
| 36 | 39¾ | 42⅛ | 20½ | 1⅛ | 4 | 15 | 62 | 12 | 6¼ | 5⅜ | 37 | 6 | 2⅛ | ¾ | - | - | - | - | - |
| 42 | 45¾ | 48⅜ | 23⅝ | 1½ | 5 | 18 | 84 | 14 | 7 | 6 | 43 | 6 | 2½ | ¾ | - | - | - | - | - |
| 48 | 51¾ | 54⅜ | 26¾ | 1½ | 6 | 24 [1] | 90 | 16 | 7⅜ | 6⅛ | 49⅛ | 6 | 2½ | ¾ | - | - | - | - | - |
| 54 | 58½ | 61½ | 30 | 2 | 6 | 30 [1] | 100 | 18 | 7⅞ | 6½ | 55⅛ | 7 | 3 | 1 | - | - | - | - | - |
| 60 | 65 | 68 | 34 | 2 | 6 | 30 [1] | 102 | 20 | 8⅛ | 7⅛ | 61⅛ | 8 | 3¼ | 1 | - | - | - | - | - |
| 72 | 77½ | 80¼ | 41 | 2 | 13 | [5] | 121 | 25½ | 10⅝ | 8¾ | 73¼ | 8 | 3⅜ | 1 | - | - | - | - | - |

GATE DIMENSIONS IN INCHES

I **WATERMAN C-10 CANAL GATE**
NTS

NOTE: DETAIL I INFORMATION TAKEN FROM WATERMAN USA WEBSITE.




B **WEIR SECTION**
NTS

## TABLE 1

| MINIMUM PIPE SLOPES | | |
|---|---|---|
| PIPE SIZE | MIN. SLOPE, FT/FT | MIN. SLOPE, % |
| 12" | 0.002 | .2% |
| 15" | 0.0015 | .15% |
| 18" | 0.0012 | .12% |
| 24" | 0.0008 | .08% |
| 30" | 0.00058 | .058% |

## NOTES:

1. LID DETAILS FOR BOX SHOWN ON SHEET E/10
2. BOX NOT TO BE PLACED IN DRIVEWAYS, ROADS, OR OTHER TRAFFIC AREAS.
3. ALL PIPES IN BOXES SHALL BE GROUTED AND WATERTIGHT.
4. BOX WALL THICKNESS AND REINFORCEMENT ARE DEPENDENT ON SITE CONDITIONS AND DEPTH. MINIMUM SIZE AS SHOWN.
5. DIMENSIONS SHOWN ON WALLS AND BOXES ARE MINIMUM SIZE. SPECIFIC SITE CONDITIONS OF BOXES AND WALLS MAY REQUIRE ADDITIONAL THICKNESS OR WIDTH.
6. TRENCH PLUG TO BE PLACED IN LOCATION SHOWN FOR WIDTH OF TRENCH AND 12 INCHES ABOVE AND BELOW PIPE AND A THICKNESS OF 24 INCHES. PLUGS SHALL BE A 10% BENTONITE AND 90% CLAY MIXTURE, OR A FLOWABLE FILL CONCRETE.
7. ALL NEW TURNOUTS TO INCLUDE A CHECK STRUCTURE, SEE SHEET A/11
8. THE INVERT OF THE TURNOUT PIPE SHALL MATCH THE BOTTOM OF THE CANAL AND NOT THE CURRENT SILT LAYER.

UTAH LAKE DISTRIBUTING COMPANY

| NO. | DATE | INITS. | REVISIONS DESCRIPTION |
|---|---|---|---|
| 1 | JUNE 2010 | EA | UPDATED |
| 2 | JANUARY 2018 | MG, VH | UPDATED |

DESIGNER: VINCE HOGGE
DRAFTSMAN: MATT GUPR
CHECKED: CHECKED
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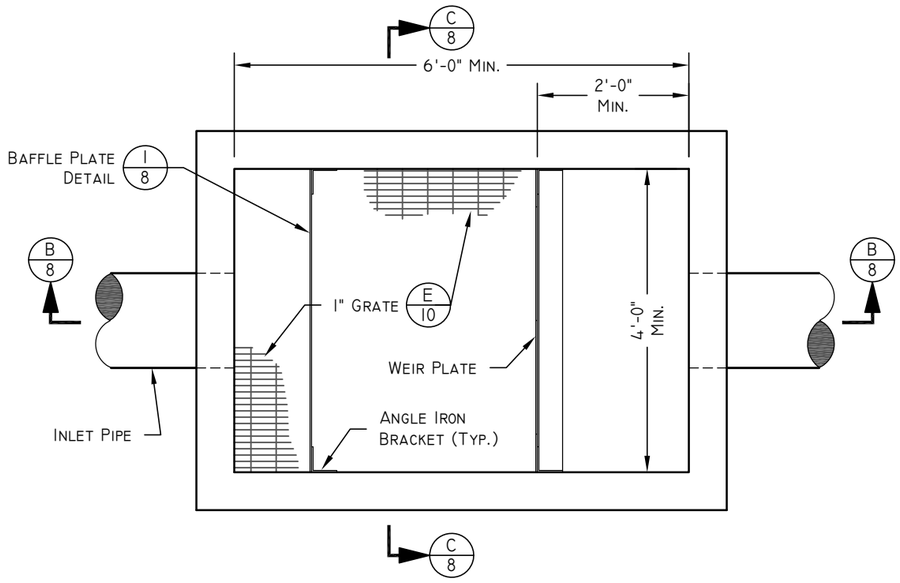
PROJECT LEADER: PROJECT LEADER
PROJECT LEADER: PRINT DATE: MARCH 5, 2018

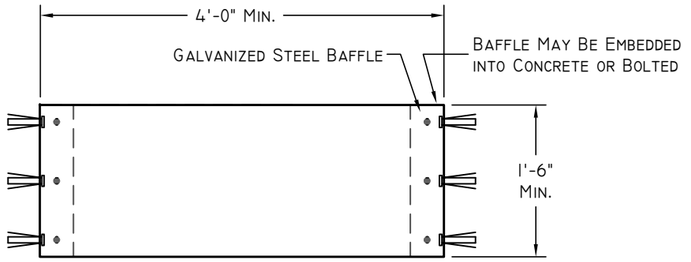
# STANDARD DRAWINGS
# WEIR TURNOUT GATE

JOB NO. 07-ULDC Weir Turnout Gate.dwg
P:\UT\Central\ULDC\Drawings\Standard Dwgs

SHEET 7 OF 12




A **PLAN VIEW**
NTS

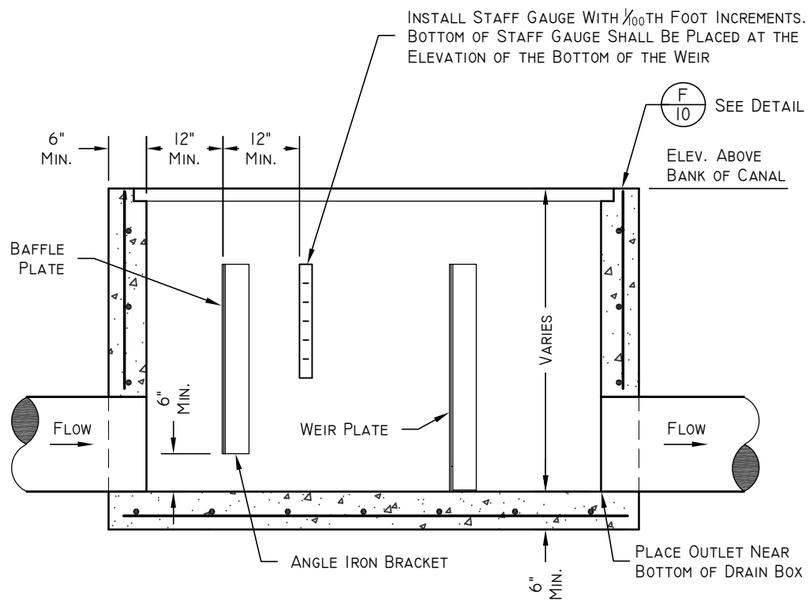



I **BAFFLE PLATE DETAIL**
NTS

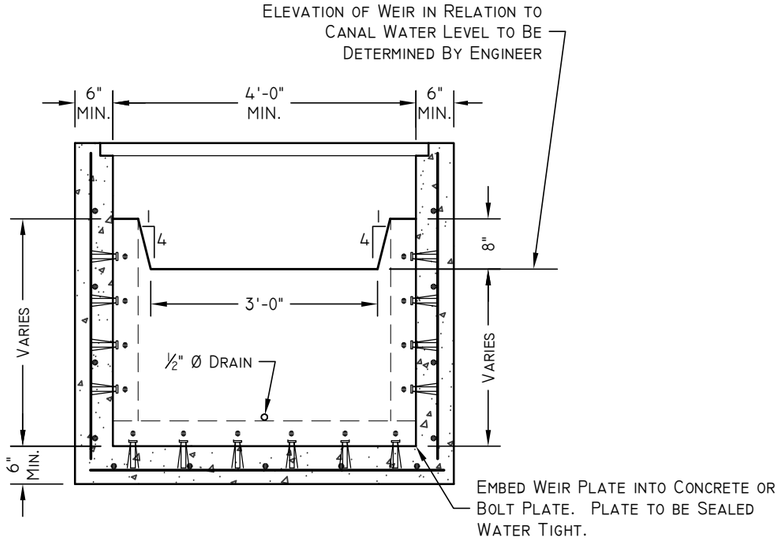
**TABLE I**
$Q=3.367\ LH^{3/2}$ @ L=3

| H (FT.) | Q (CFS) |
|---|---|
| 0.2 | 0.90 |
| 0.3 | 1.66 |
| 0.4 | 2.56 |
| 0.5 | 3.57 |
| 0.6 | 4.69 |
| 0.66 | 5.42 |

NOTE: THIS WEIR IS SHOWN AS AN EXAMPLE. THE EXACT WEIR DIMENSIONS & FLOW TABLE TO BE DETERMINED BY APPLICANTS ENGINEER.




B **INLET AND OUTLET CROSS SECTION**
NTS




C **WEIR SECTION**
NTS

## NOTES:

1. IF BOX IS CAST IN PLACE REBAR TO BE PLACED AT 12 INCHES O.C. E.W. MINIMUM.
2. DETAILS FOR CAST IN PLACE BOX SEE C/10.
3. ALL PIPES IN BOX SHALL BE GROUTED AND WATERTIGHT.
4. SUBMIT TO CANAL COMPANY ENGINEER FOR REVIEW ON FINAL DIMENSIONS ON REBAR REINFORCEMENT AND CONCRETE COMPONENTS.
5. GRATE TO BE GALVANIZED.

UTAH LAKE DISTRIBUTING COMPANY

# STANDARD DRAWINGS
# 3-FT CIPOLLETTI WEIR

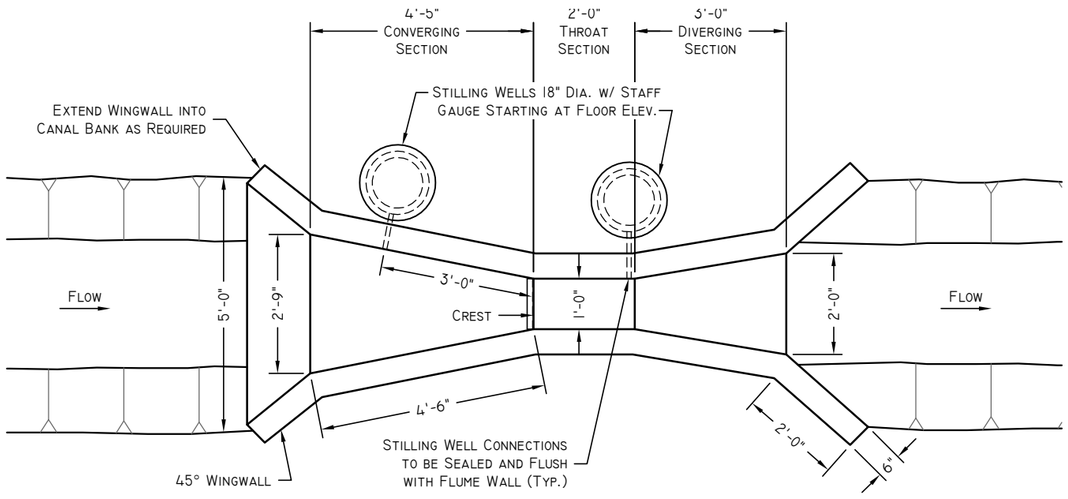
JOB NO. 08-ULDC 3-Ft Cipolletti Weir.dwg
P:\UT\Central\ULDC\Drawings\Standard Dwgs
LAYOUT: Details

SHEET 8 OF 12

UTAH LAKE DISTRIBUTING COMPANY

DESIGNER: VINCE HOGGE
DRAFTSMAN: MATT GUMP
CHECKED: CHECKED
REVIEWED: REVIEWED
PROJECT LEADER: PROJECT LEADER
PRINT DATE: MARCH 5, 2018

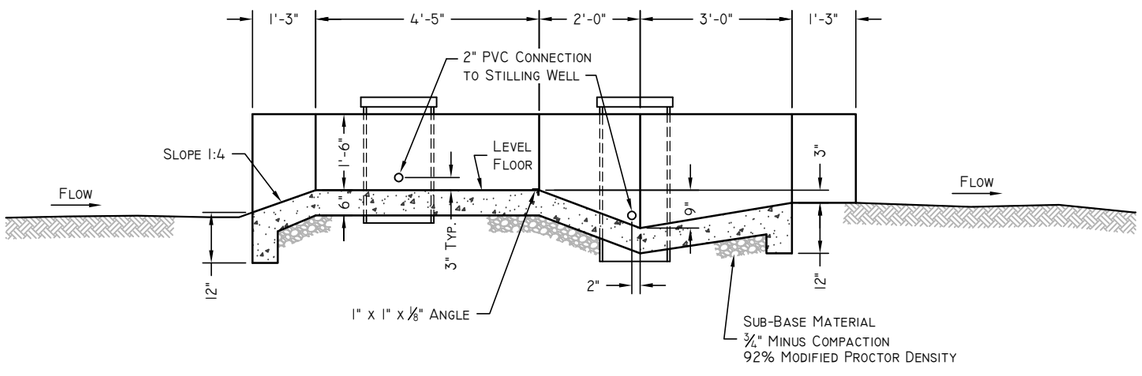
| NO. | DATE | INITS. | REVISIONS DESCRIPTION |
|---|---|---|---|
| 1 | JUNE 2010 | EA | UPDATED |
| 2 | JANUARY 2018 | MG, VH | UPDATED |




A **FLUME PLAN VIEW**
NTS

## NOTES:

1. REINFORCING TO BE MINIMUM OF #4 REBAR @ 12 INCHES ON CENTER, EACH WAY WITH 20 INCH MINIMUM SPLICE LENGTH.
2. APPLICANT TO SUBMIT ACTUAL PLANS AND MATERIAL OF FLUME PRIOR TO CONSTRUCTION.




B **FLUME PROFILE VIEW**
NTS

## TABLE 1

HEAD-FLOW RELATIONSHIP FOR CONCRETE FLUME

| HEAD $H_a$ (FEET) | FLOW Q (CFS) | HEAD $H_a$ (FEET) | FLOW Q (CFS) | HEAD $H_a$ (FEET) | FLOW Q (CFS) | HEAD $H_a$ (FEET) | FLOW Q (CFS) | HEAD $H_a$ (FEET) | FLOW Q (CFS) | HEAD $H_a$ (FEET) | FLOW Q (CFS) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.20 | 0.35 | 0.42 | 1.07 | 0.64 | 2.03 | 0.86 | 3.18 | 1.08 | 4.50 | 1.30 | 5.96 |
| 0.21 | 0.37 | 0.43 | 1.11 | 0.65 | 2.08 | 0.87 | 3.24 | 1.09 | 4.56 | 1.31 | 6.03 |
| 0.22 | 0.40 | 0.44 | 1.15 | 0.66 | 2.13 | 0.88 | 3.29 | 1.10 | 4.62 | 1.32 | 6.10 |
| 0.23 | 0.43 | 0.45 | 1.19 | 0.67 | 2.18 | 0.89 | 3.35 | 1.11 | 4.68 | 1.33 | 6.18 |
| 0.24 | 0.46 | 0.46 | 1.23 | 0.68 | 2.23 | 0.90 | 3.41 | 1.12 | 4.75 | 1.34 | 6.25 |
| 0.25 | 0.49 | 0.47 | 1.27 | 0.69 | 2.28 | 0.91 | 3.46 | 1.13 | 4.82 | 1.35 | 6.32 |
| 0.26 | 0.51 | 0.48 | 1.31 | 0.70 | 2.33 | 0.92 | 3.52 | 1.14 | 4.88 | 1.36 | 6.39 |
| 0.27 | 0.54 | 0.49 | 1.35 | 0.71 | 2.38 | 0.93 | 3.58 | 1.15 | 4.94 | 1.37 | 6.46 |
| 0.28 | 0.58 | 0.50 | 1.39 | 0.72 | 2.43 | 0.94 | 3.64 | 1.16 | 5.01 | 1.38 | 6.53 |
| 0.29 | 0.61 | 0.51 | 1.44 | 0.73 | 2.48 | 0.95 | 3.70 | 1.17 | 5.08 | 1.39 | 6.60 |
| 0.30 | 0.64 | 0.52 | 1.48 | 0.74 | 2.53 | 0.96 | 3.76 | 1.18 | 5.15 | 1.40 | 6.68 |
| 0.31 | 0.68 | 0.53 | 1.52 | 0.75 | 2.58 | 0.97 | 3.82 | 1.19 | 5.21 | 1.41 | 6.75 |
| 0.32 | 0.71 | 0.54 | 1.57 | 0.76 | 2.63 | 0.98 | 3.88 | 1.20 | 5.28 | 1.42 | 6.82 |
| 0.33 | 0.74 | 0.55 | 1.62 | 0.77 | 2.68 | 0.99 | 3.94 | 1.21 | 5.34 | 1.43 | 6.89 |
| 0.34 | 0.77 | 0.56 | 1.66 | 0.78 | 2.74 | 1.00 | 4.00 | 1.22 | 5.41 | 1.44 | 6.97 |
| 0.35 | 0.80 | 0.57 | 1.70 | 0.79 | 2.80 | 1.01 | 4.06 | 1.23 | 5.48 | 1.45 | 7.04 |
| 0.36 | 0.84 | 0.58 | 1.75 | 0.80 | 2.85 | 1.02 | 4.12 | 1.24 | 5.55 | 1.46 | 7.12 |
| 0.37 | 0.88 | 0.59 | 1.80 | 0.81 | 2.90 | 1.03 | 4.18 | 1.25 | 5.62 | 1.47 | 7.19 |
| 0.38 | 0.92 | 0.60 | 1.84 | 0.82 | 2.96 | 1.04 | 4.25 | 1.26 | 5.69 | 1.48 | 7.26 |
| 0.39 | 0.95 | 0.61 | 1.88 | 0.83 | 3.02 | 1.05 | 4.31 | 1.27 | 5.76 | 1.49 | 7.34 |
| 0.40 | 0.99 | 0.62 | 1.93 | 0.80 | 3.07 | 1.06 | 4.37 | 1.28 | 5.82 | 1.50 | 7.41 |
| 0.41 | 1.03 | 0.63 | 1.98 | 0.85 | 3.12 | 1.07 | 4.43 | 1.29 | 5.89 | | |

NOTE: THIS FLUME IS SHOWN AS AN EXAMPLE. THE EXACT FLUME DIMENSIONS & FLOW TABLE TO BE DETERMINED BY APPLICANTS ENGINEER.

UTAH LAKE DISTRIBUTING COMPANY

DESIGNED: VINCE HOGGE
DRAFTSMAN: MATT GUBR
CHECKED:
REVIEWED:
PROJECT LEADER
PROJECT LEADER:
PRINT DATE: MARCH 5, 2018

| NO. | DATE | INITS. | REVISIONS DESCRIPTION |
|---|---|---|---|
| 1 | JUNE 2010 | EA | UPDATED |
| 2 | JANUARY 2018 | MG, VH | UPDATED |

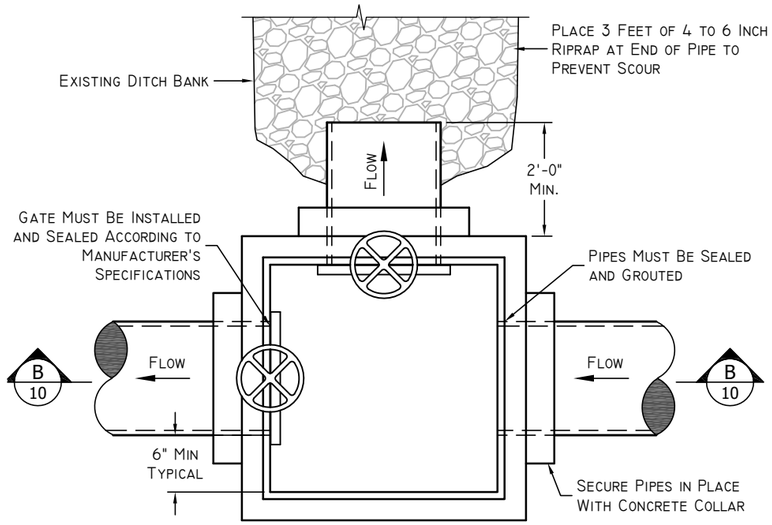
UTAH LAKE DISTRIBUTING COMPANY

# STANDARD DRAWINGS
# 1-FT PARSHALL FLUME

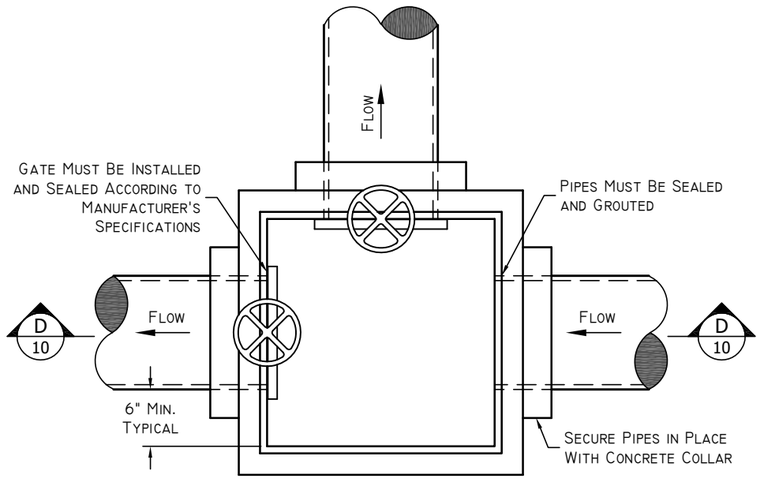
JOB NO.

09-ULDC 1-Ft Parshall Flume.dwg
P:\UTCommUtLDC\Drawings\Standard Dwgs

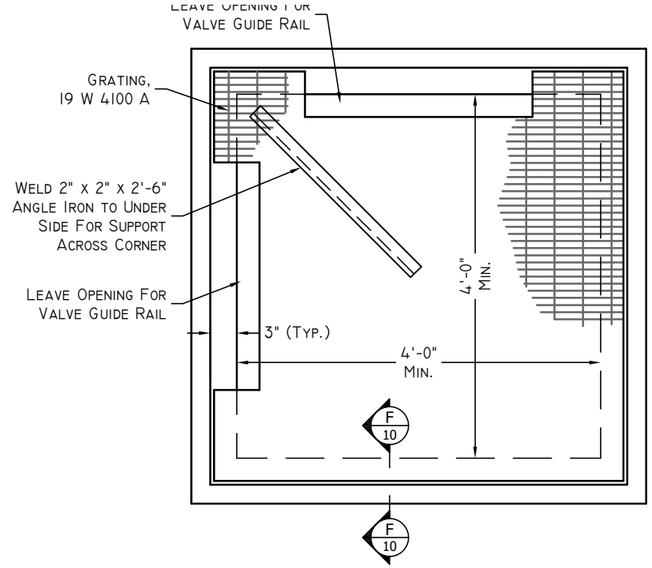
SHEET 9 OF 12



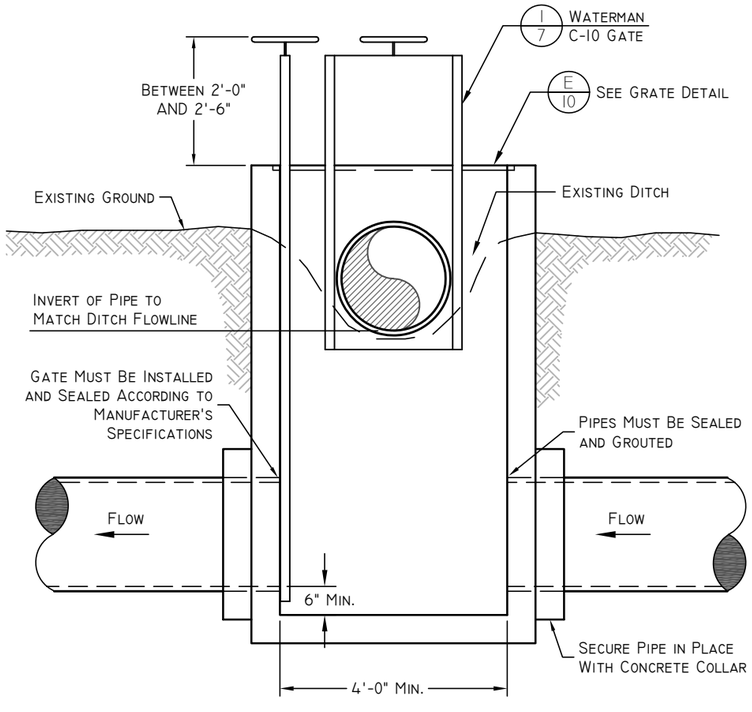

A **Turnout Box Plan**
NTS



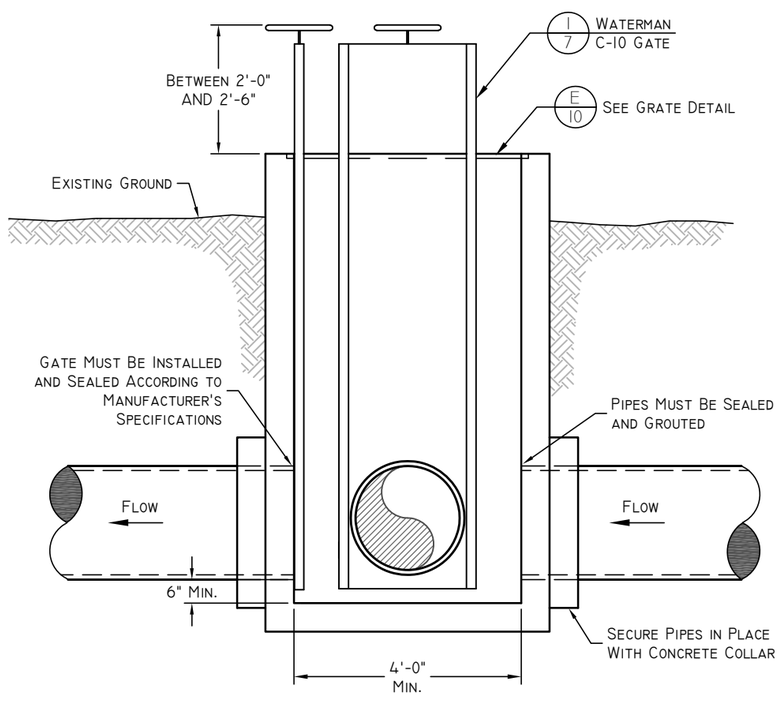

C **Diversion Box**
NTS



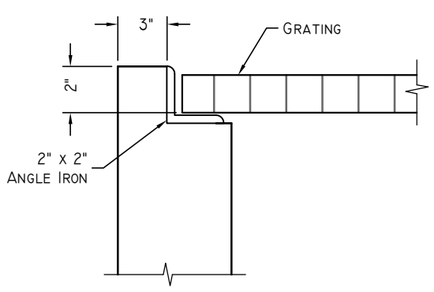

E **Grate Detail - Top View**
NTS




B **Turnout Box Section**
NTS




D **Diversion Box Section**
NTS




F **Grating Lip Section**
NTS

## Notes:

1. All Pipes into Box Shall Be Grouted and Watertight With Concrete Collar.
2. Boxes May Be Precast or Cast in Place. Boxes Shall Have a Minimum Interior Width and Length of 4' With Minimum of #4 Rebar @ 12" O.C. Boxes Must Be Submitted For Review.
3. Turnout and Diversion Boxes Shall Not Be Placed In Roadway.
4. Grate to be Galvanized.

Utah Lake Distributing Company

| DESIGNED: | Vince Hogge | PROJECT LEADER |
|---|---|---|
| DRAFTSMAN: | Matt Gurr | PROJECT LEADER: |
| CHECKED: | | PRINT DATE: March 5, 2018 |
| REVIEWED: | | |

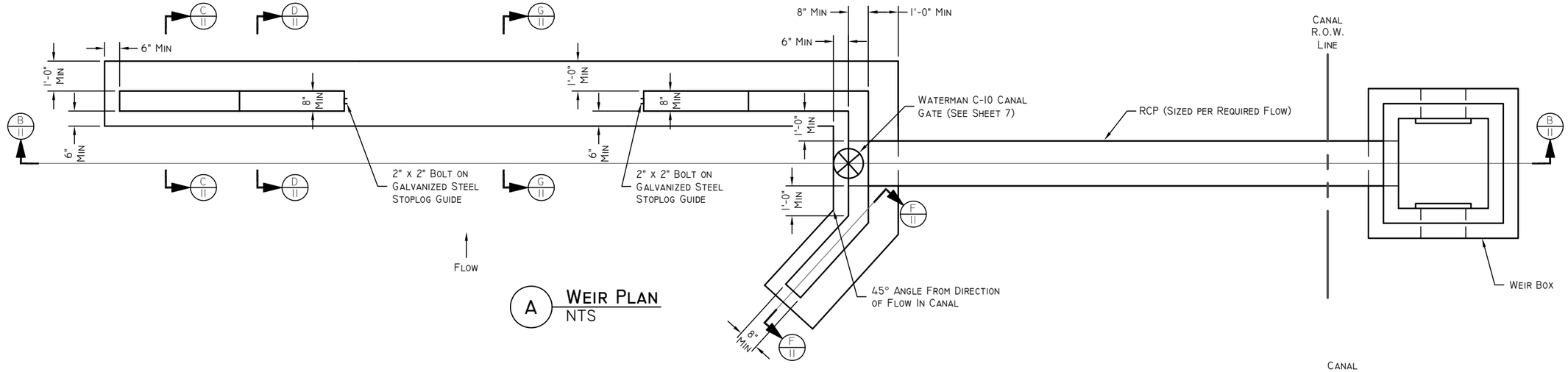
| NO. | DATE | INITS. | REVISIONS DESCRIPTION |
|---|---|---|---|
| 1 | June 2010 | EA | Updated |
| 2 | January 2018 | MG, VH | Updated |

Utah Lake Distributing Company

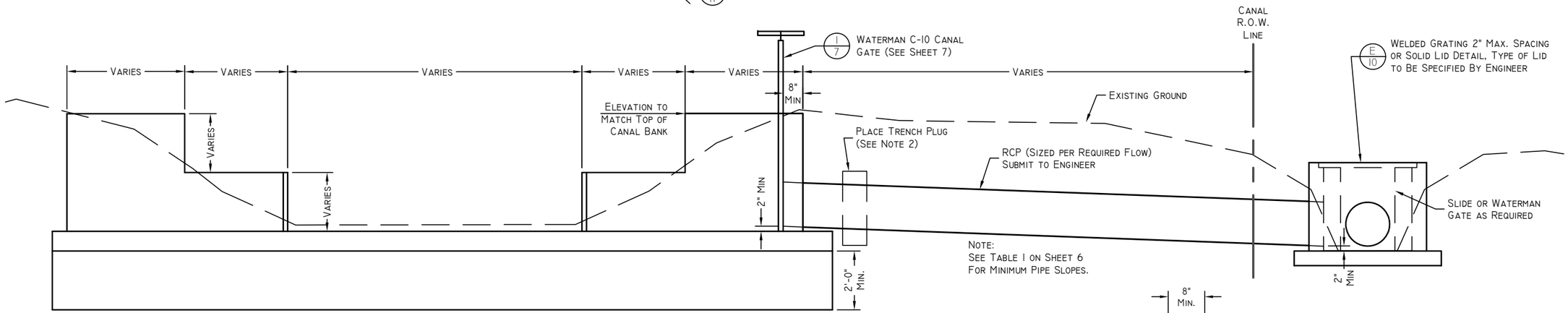
# Standard Drawings
# Irrigation Turnout and Diversion Box

JOB NO. 10-ULDC Irrig Turnout Diversion Box.dwg
P:\UT\Cedar\ULDC\Drawings\Standard Dwgs

SHEET 10 OF 12

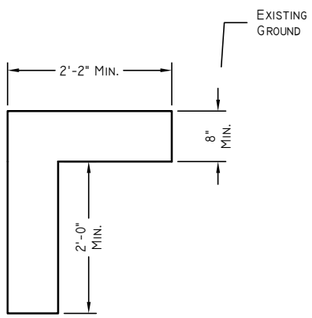



## A Weir Plan
NTS

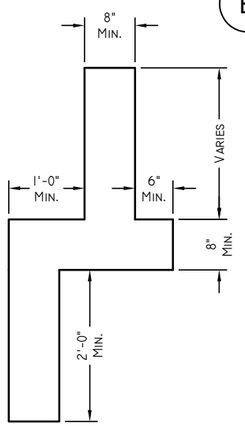



Note:
See Table 1 on Sheet 6
For Minimum Pipe Slopes.

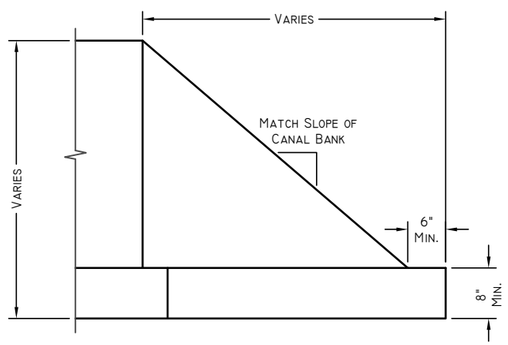
## B Weir Profile
NTS



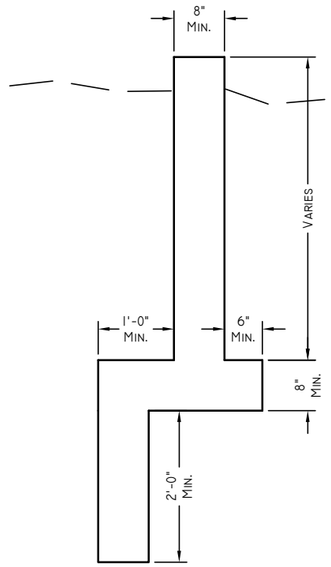

## G Footing Between Weir Walls - Detail
NTS




## D Short Weir Wall Section
NTS




## F Wingwall Detail
NTS




## C Tall Weir Wall Section
NTS

Notes:

1. Minimum of #4 Rebar @ 12 Inches O.C. E.W. in Box and Check Structure. Final Dimensions and Reinforcement Must Be Submitted and Reviewed By Company Engineer.
2. Trench Plug to Be Placed in Location Shown For Width of Trench and 12 Inches Above and Below Pipe and a thickness of 24 Inches. Plugs Shall Be a 10% Bentonite and 90% Clay Mixture. or a Flowable Fill Concrete.
3. All Backfill Material in Canal R.O.W. to be Compacted to 92% Modified Proctor Density.

Utah Lake
Distributing Company

| No. | Date | Init. | Description |
|---|---|---|---|
| 1 | June 2010 | EA | Updated |
| 2 | January 2018 | MG, VH | Updated |

Designer: Vince Hogge
Draftsman: Matt Gubb
Checked:
Reviewed:
Project Leader
Project Leader:
Print Date: March 5, 2018

Utah Lake Distributing Company
Standard Drawings
Check Structure and Turnout

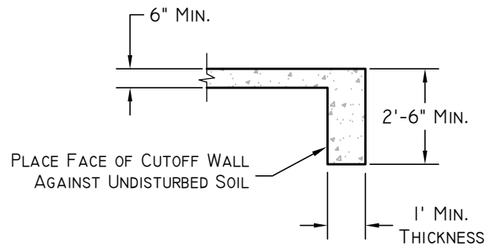
11-ULDC Check Structure & Turnout.dwg
P:\UTCentral\ULDC\Drawings\Standard Dwgs

Job No.

Sheet 11 of 12

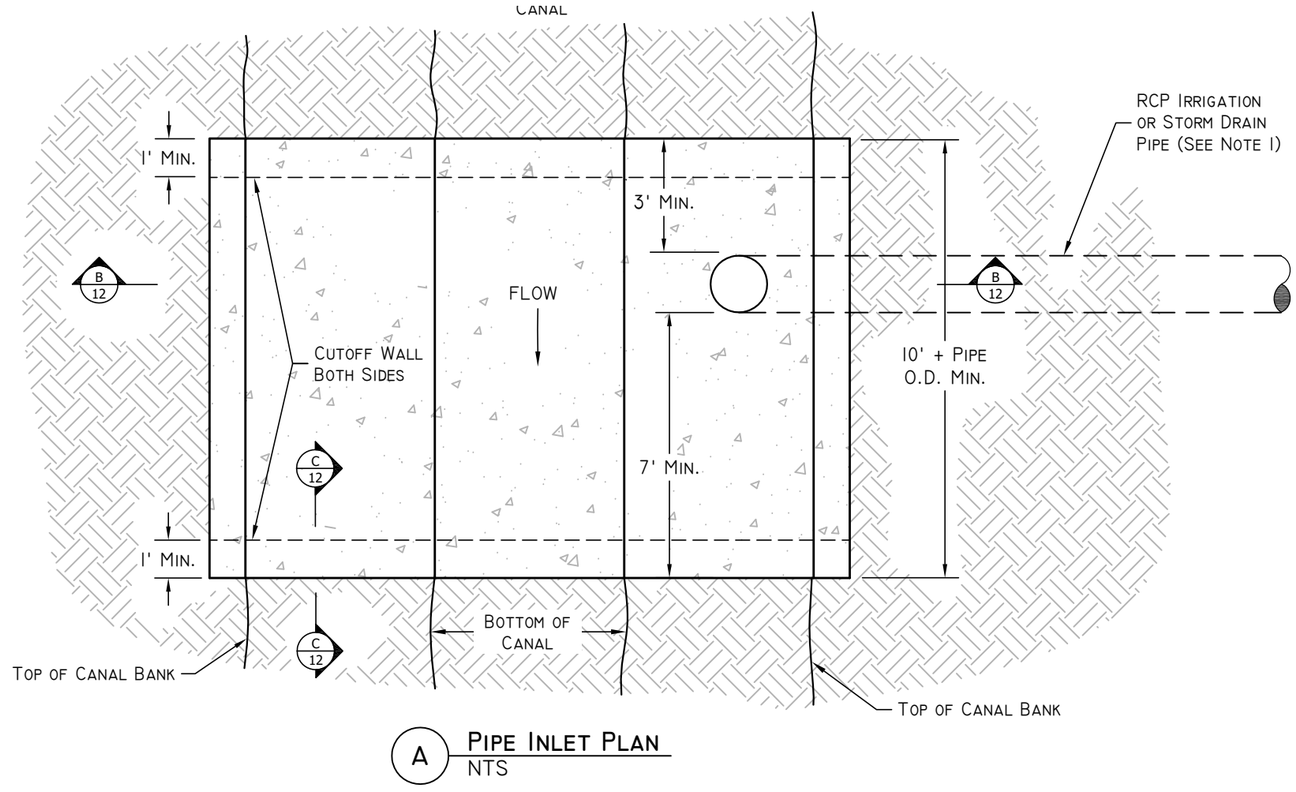
## Notes:

1. All Planned Storm Drain Discharges Must Be Pre-Approved and Have Signed Agreement With All Parties (Including Salt Lake County Flood Control if Applicable).
2. Pre-Treatment to Storm Drain Pipe Discharge is Required. Treatment and Discharge Rate to Be Determined By Applicants Engineer and Salt Lake County Flood Control.
3. All Storm Drain Pipes Shall Be RCP.
4. Drawing is For Pipe Entering Canal at 90°, Other Dimensions May Apply For Varying Angles.
5. The Length of Concrete in Channel is 10 Feet Plus the Outer Diameter of the Discharge Pipe.
6. Pipe to Be Cut Flush With Concrete.

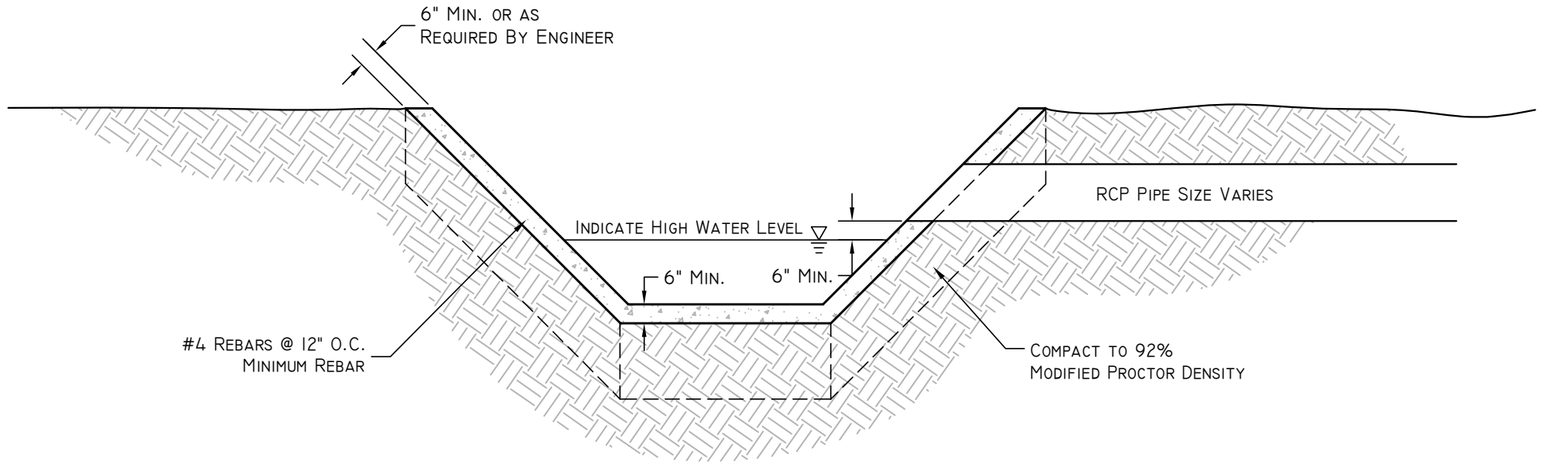



Note:
Engineer to Determine Rebar Size and Spacing in Cutoff Wall.

C Cutoff Wall Cross Section
NTS




A Pipe Inlet Plan
NTS




B Pipe Inlet Cross Section
NTS

Utah Lake Distributing Company

| Designer: | Vince Hogge |
|---|---|
| Draftsman: | Matt Guer |
| Checked: | |
| Reviewed: | |
| Project Leader: | |
| Print Date: | March 5, 2018 |

| No. | Date | Description |
|---|---|---|
| 1 | June 2010 | Initials: EA — Updated |
| 2 | January 2018 | Initials: MG, VH — Updated |

Utah Lake Distributing Company
Standard Drawings
Pipe Inlet into Canal

Job No.

12-ULDC Pipe Inlet into Canal.dwg
P:\UTCanal\ULDC\Drawings\Standard Dwgs

Sheet 12 of 12