APPENDIX C

Typical Right-of-Way Configurations

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APPENDIX C-1

Typical Right-of-Way Configurations

Mountain Valley Project

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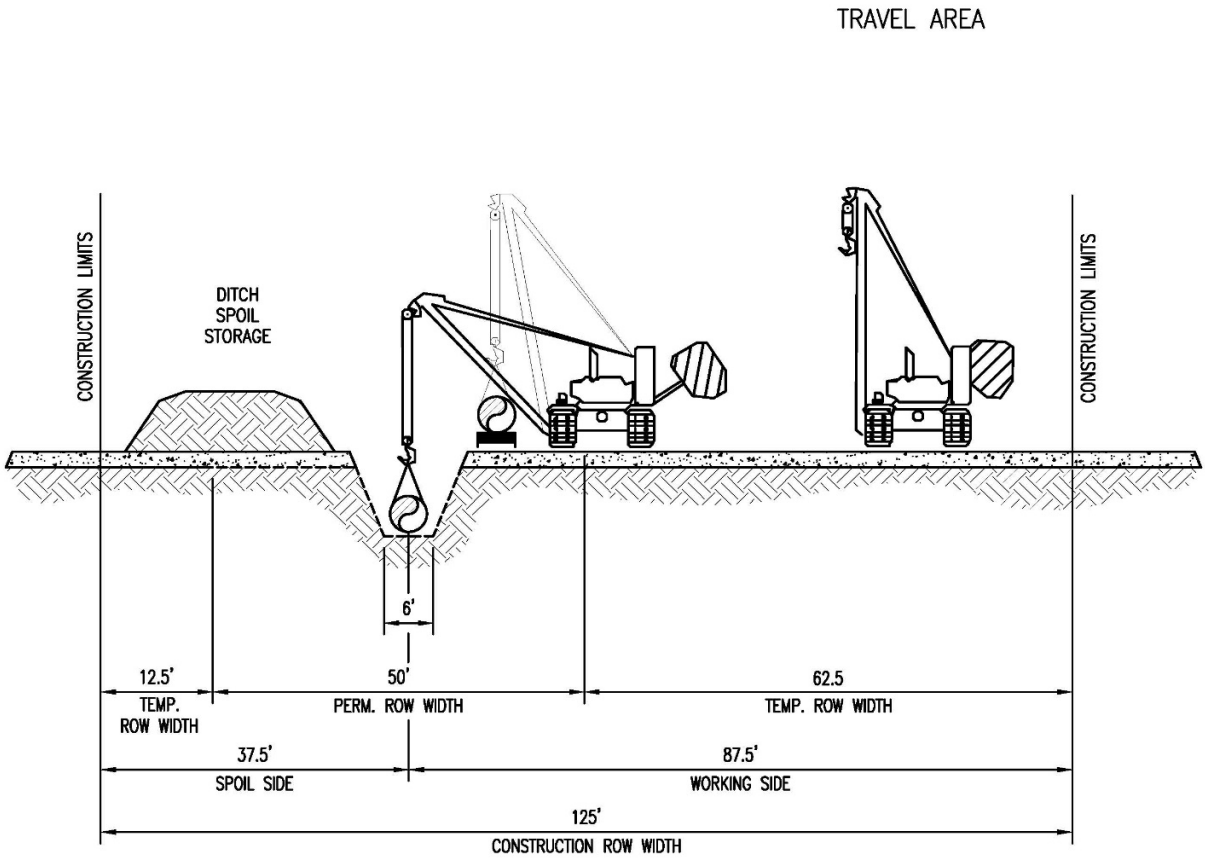
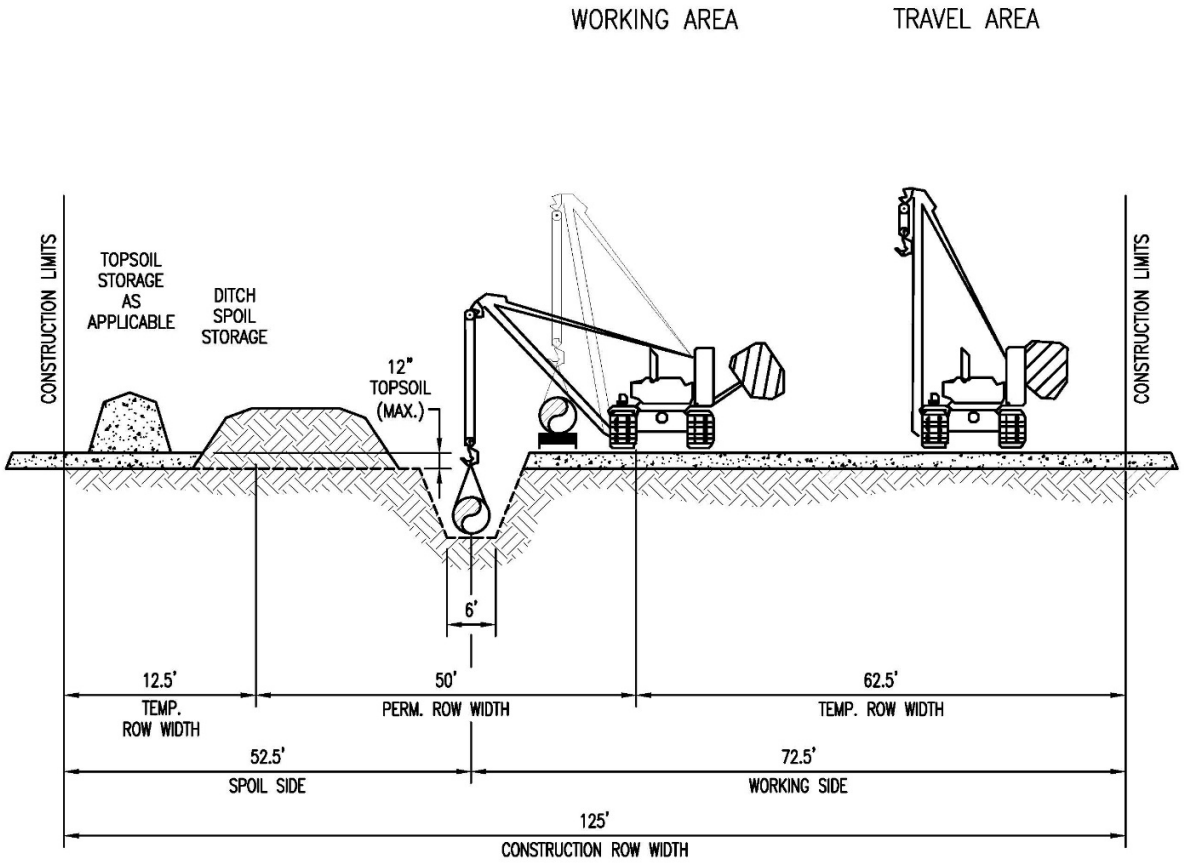


THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "B" SOIL

Source: Mountain Valley's FERC Application

C1-1
Mountain Valley Project
Non-Parallel Construction
No Topsoil Segregation



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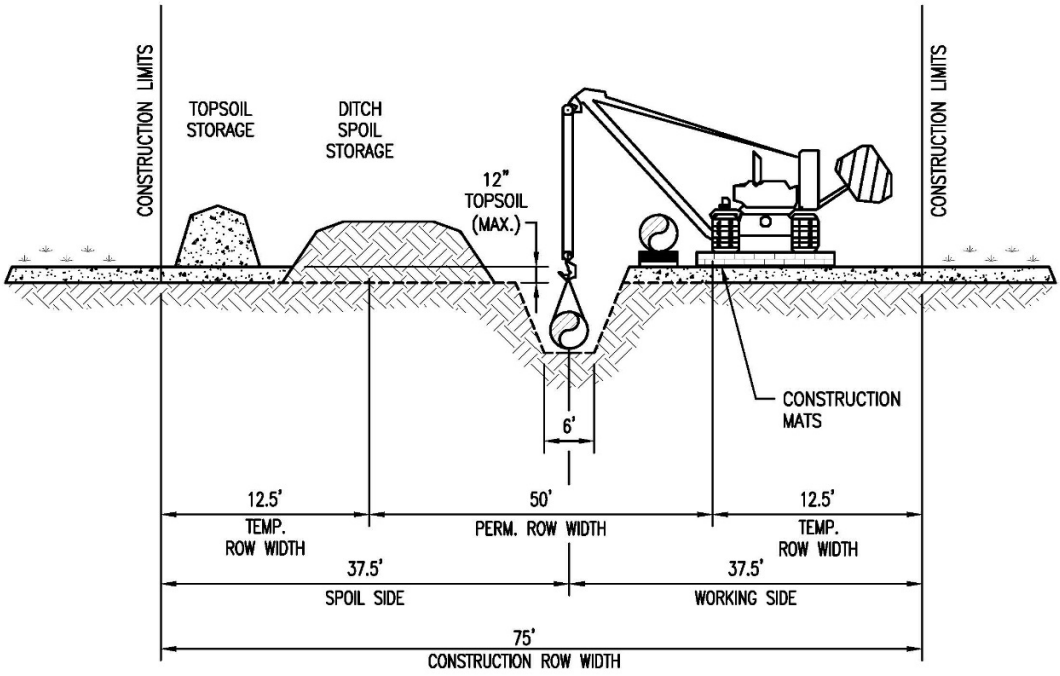
DRAWING ASSUMES TYPE "B" SOIL

Source: Mountain Valley's FERC Application

C1-2
Mountain Valley Project
Non-Parallel Construction
With Topsoil Segregation



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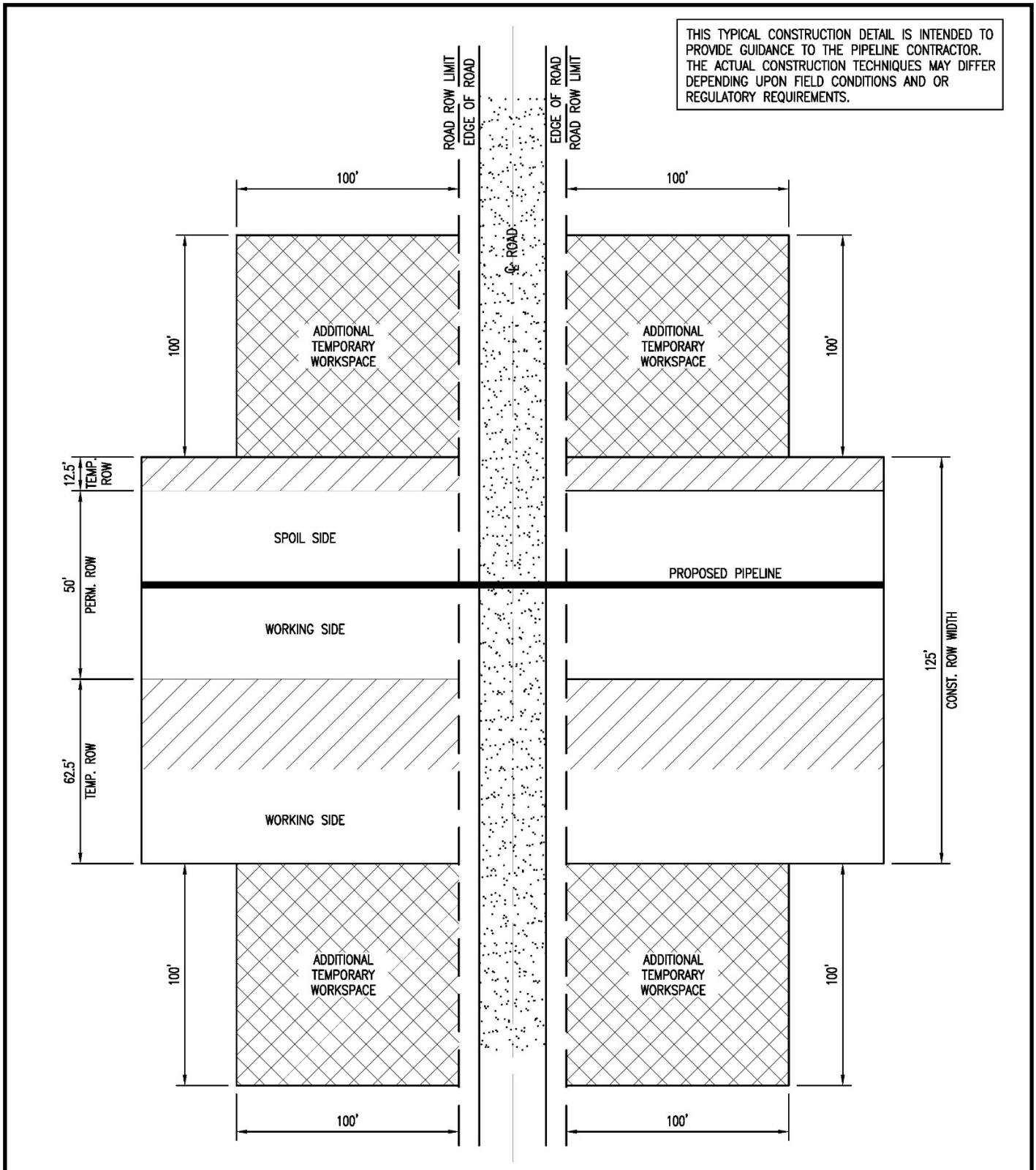
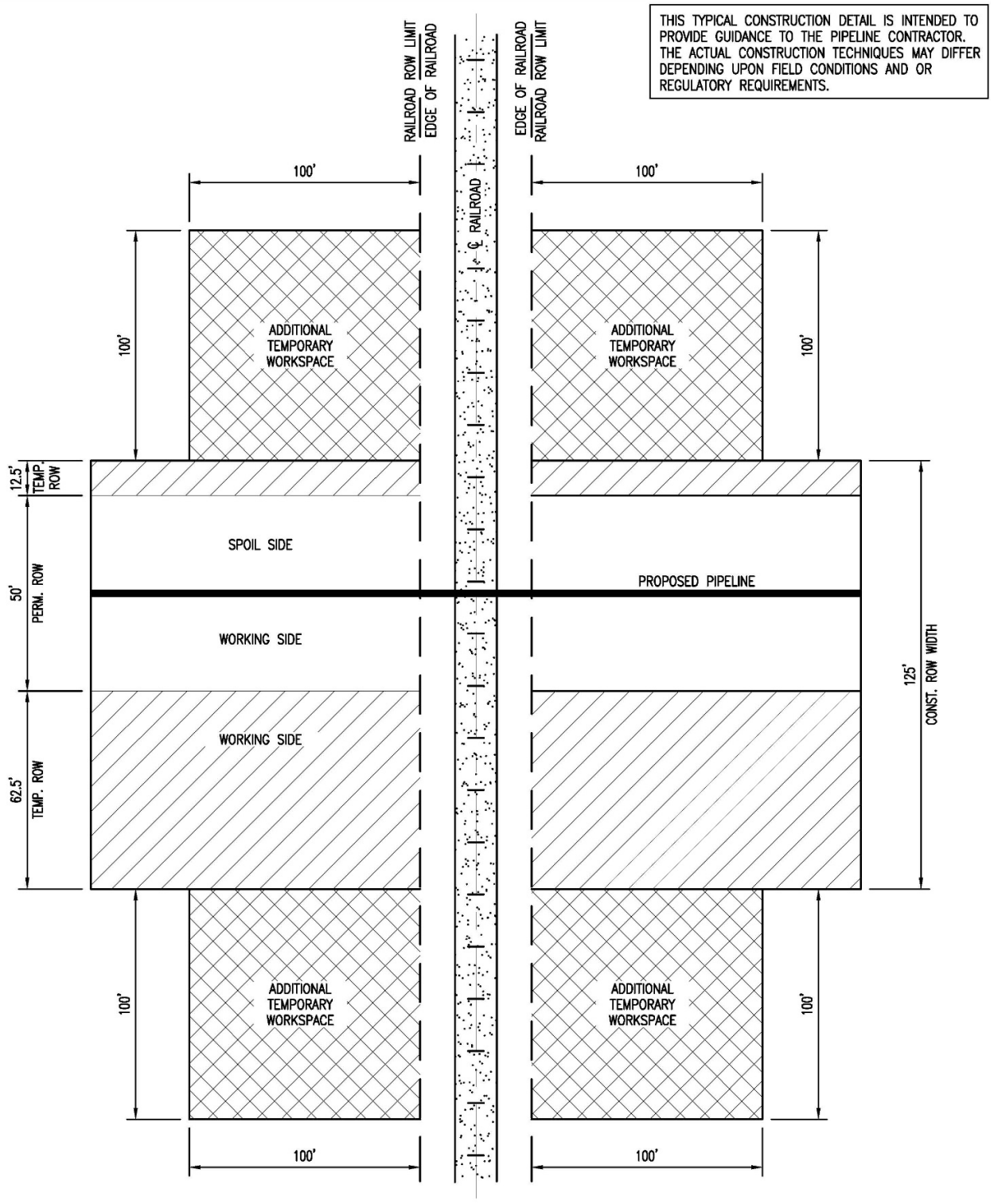
Source: Mountain Valley's FERC Application

C1-3
Mountain Valley Project
Non-Parallel Construction
Working Area Non-Saturated Wetland



Source: Mountain Valley's FERC Application

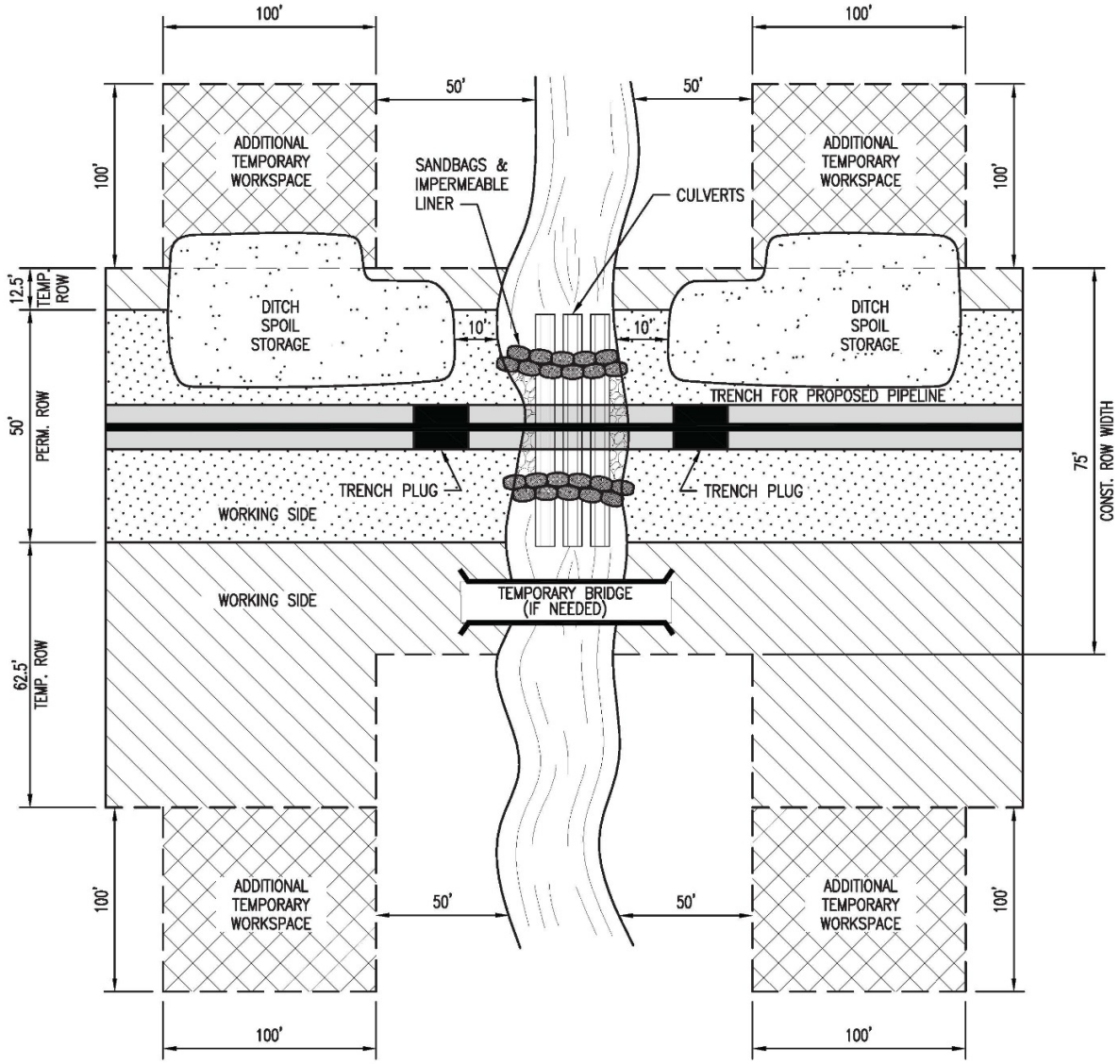
C1-4
Mountain Valley Project
Road Crossing Bored
Typical



Source: Mountain Valley's FERC Application

C1-5
Mountain Valley Project
Railroad Crossing Bored

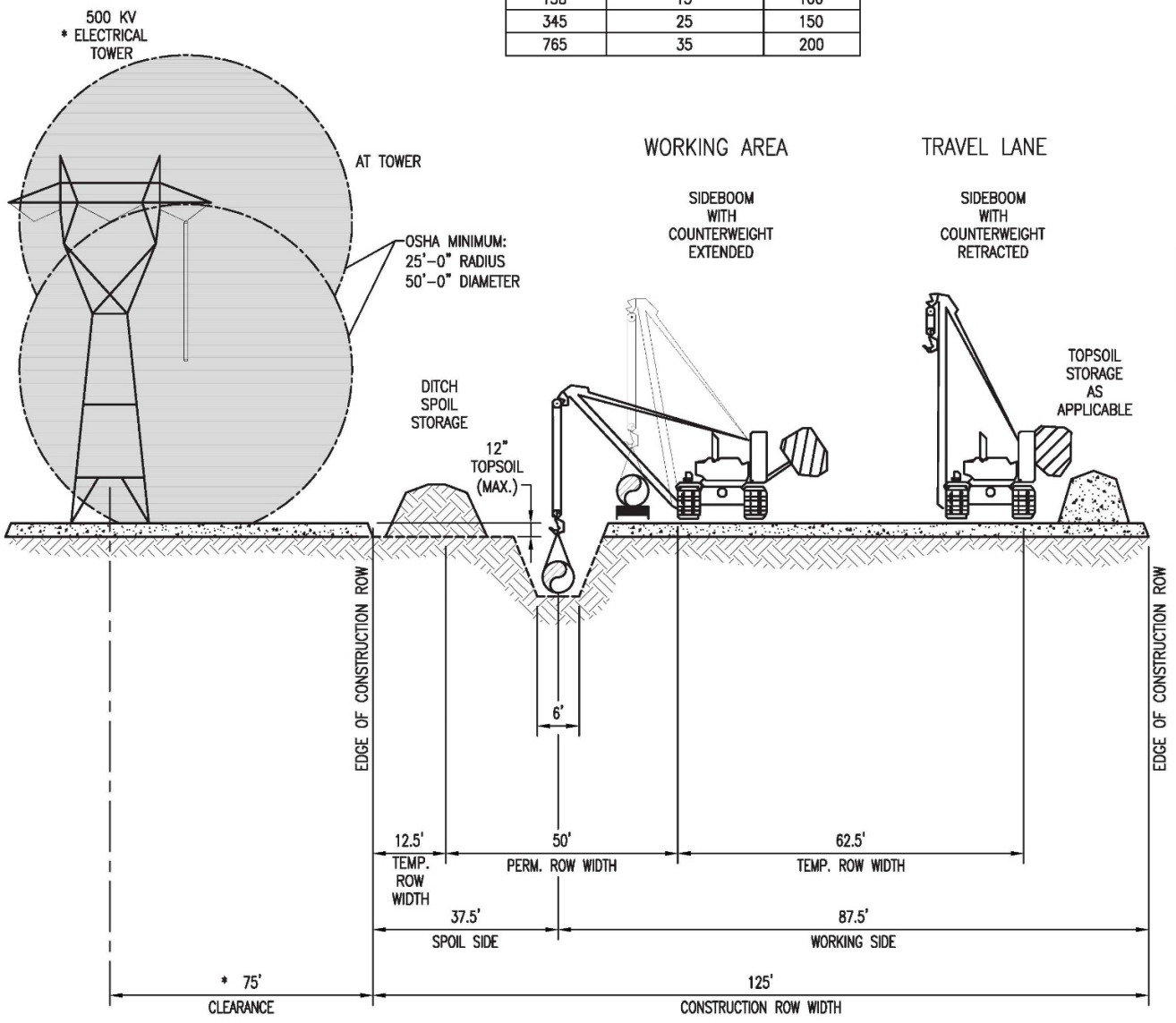
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.



Source: Mountain Valley's FERC Application

C1-6
Mountain Valley Project
Waterbody Crossing
Open Cut - Flume

POWER LINE VOLTAGE KV	MINIMUM ALLOWABLE APPROACH DISTANCE FEET	TYPICAL ROW WIDTH FEET
34	10	50
69	12	70
138	15	100
345	25	150
765	35	200



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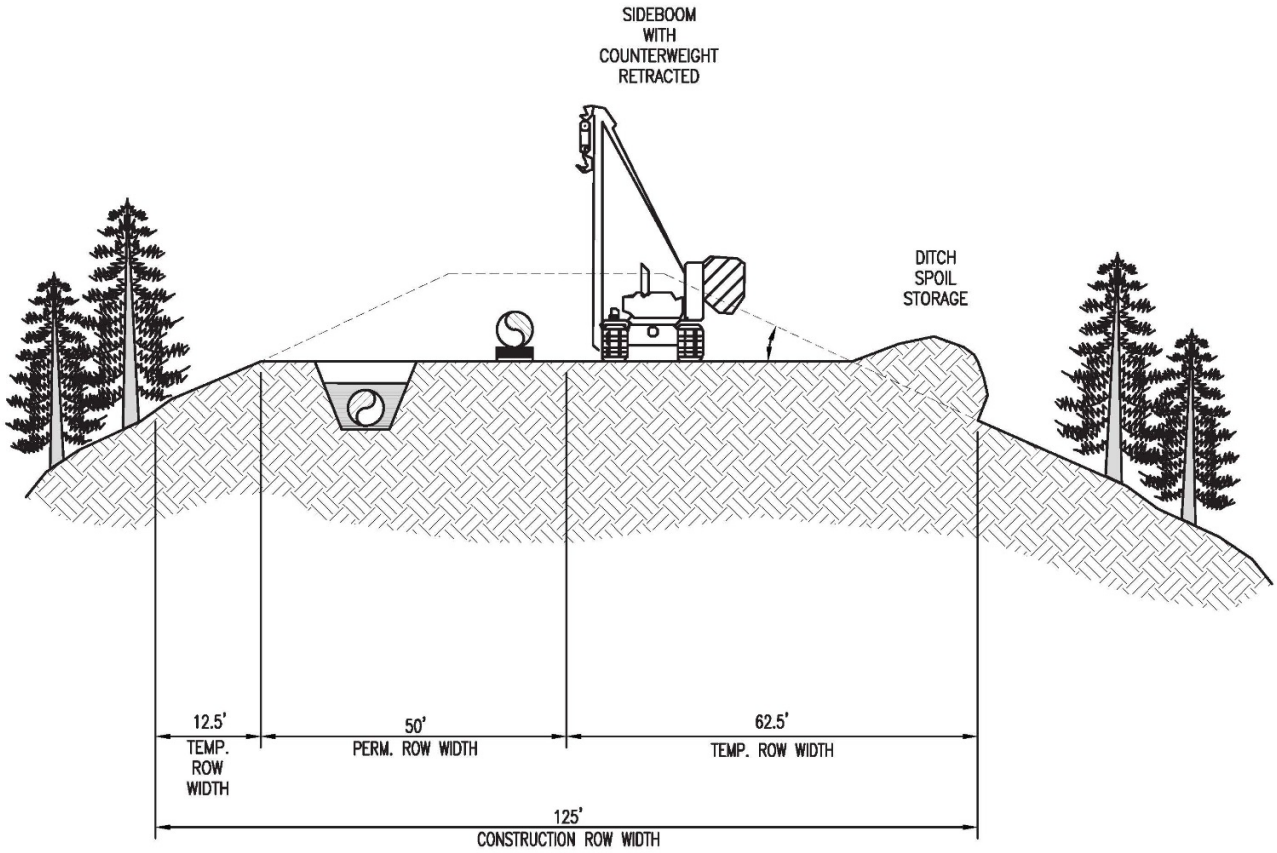
* SEE TABLE AT TOP OF PAGE

DRAWING ASSUMES TYPE "B" SOIL

Source: Mountain Valley's FERC Application

C1-7
Mountain Valley Project
Parallel to Power Lines
Right-of-Way



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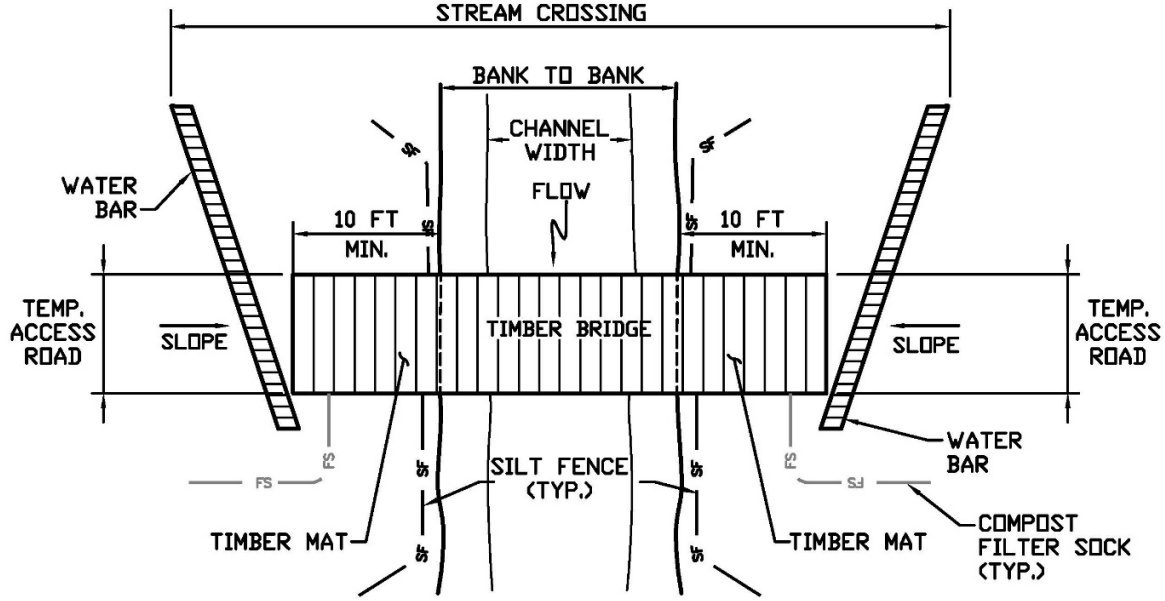
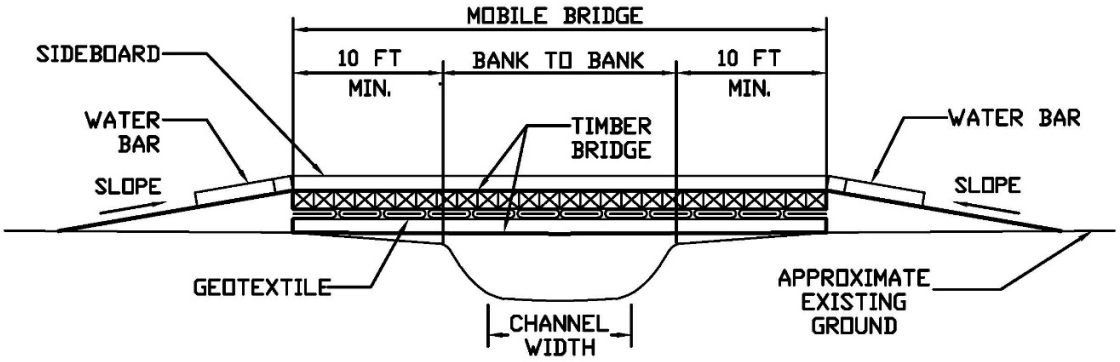
DRAWING ASSUMES TYPE "B" SOIL

Source: Mountain Valley's FERC Application

C1-8
Mountain Valley Project
Typical Cross Section
For Large Diameter Pipe
Ridge



PLAN VIEW



CROSS SECTION - MOBILE BRIDGE

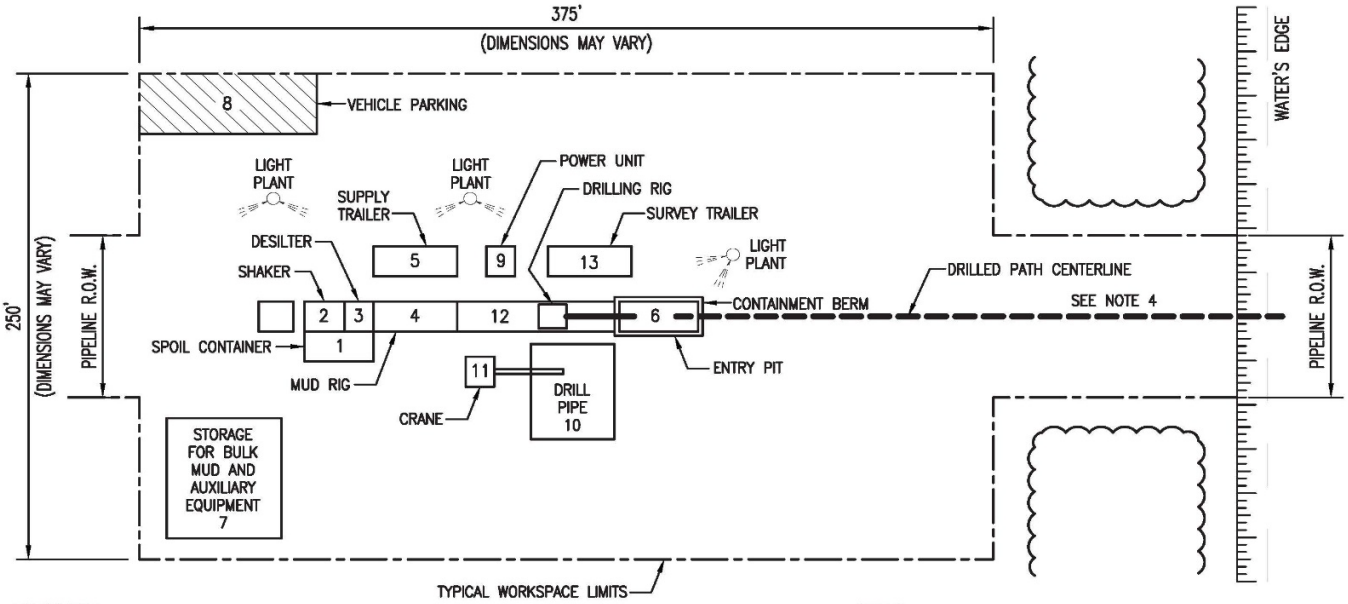
NOTES:

1. INSTALL WATER BARS OR SILT FENCE AT APPROACHES TO STREAM CROSSING AND COMPOST FILTER SOCKS ALONG STREAM BANKS. INSTALL COMPOST FILTER SOCK AT OUTLET OF WATER BARS.
2. MAINTAIN SURFACE OF TEMPORARY EQUIPMENT CROSSING TO PREVENT SOIL DISCHARGES TO STREAM.
3. APPROACHES TO CROSSINGS ARE NOT TO EXCEED A DEPTH OF 6 INCHES ABOVE ORIGINAL GRADE.
4. GEOTEXTILE LINER TO COME UP ON THE SIDES OF THE BRIDGE A MINIMUM OF 18".
5. SIDEBOARDS TO BE ATTACHED TO THE UPPER DECK. GEOTEXTILE TO BE WRAPPED AROUND SIDEBOARDS PRIOR TO FASTENING.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20170330-5339

C1-9
Mountain Valley Project
Mobile Bridge



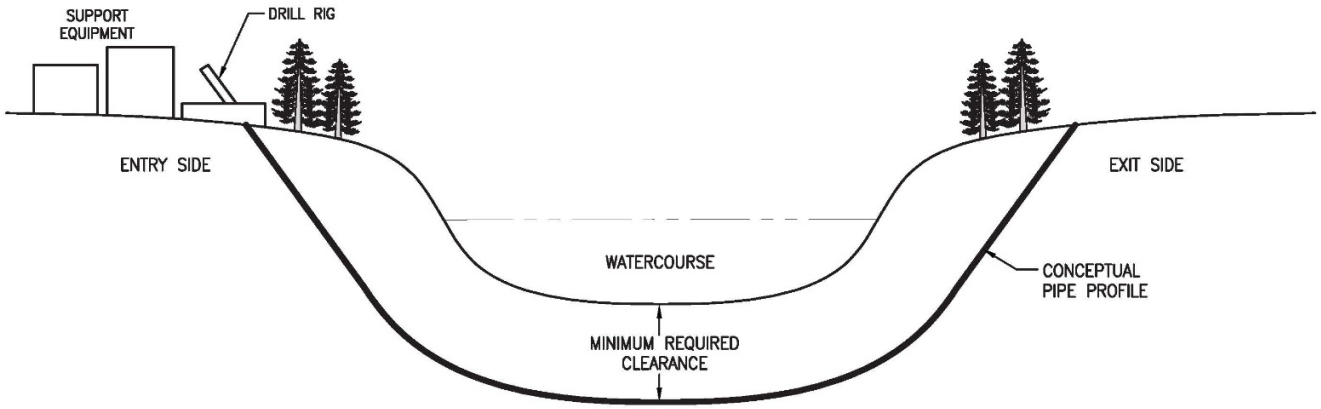
EQUIPMENT:

1. SPOIL CONTAINER: 8' X 20'
2. SHAKER: 8' X 12'
3. DESILTER: 8' X 8'
4. MUD RIG: 8' X 25'
5. SUPPLY TRAILER: 8' X 25'
6. ENTRY PIT: 8' X 20'
7. STORAGE: 30' X 30'
8. VEHICLE PARKING: 15' X 50'
9. POWER UNIT: 8' X 10'
10. DRILL PIPE: 30' X 30'
11. CRANE: 8' X 8'
12. DRILLING RIG: 8' X 45'
13. SURVEY TRAILER: 8' X 25'

NOTES:

1. EQUIPMENT ORIENTATION MAY VARY DEPENDING ON CONTRACTOR OR SITE CONDITIONS.
2. EQUIPMENT TO BE SUPPORTED ON THE GROUND SURFACE OR TIMBER MATS AS CONDITIONS DICTATE.
3. SILT FENCE, BERMS AND/OR STRAW BALE BARRIER TO BE USED AS REQUIRED TO PREVENT IMPACTS FROM OCCURRING OUTSIDE OF PROJECT LIMITS.
4. HAND CLEARED ACCESS PATH WILL BE USED TO OBTAIN WATER FROM SOURCE WHERE PERMITTED.

ENTRY SITE PLAN
SCALE: N.T.S.



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PROFILE
SCALE: N.T.S.

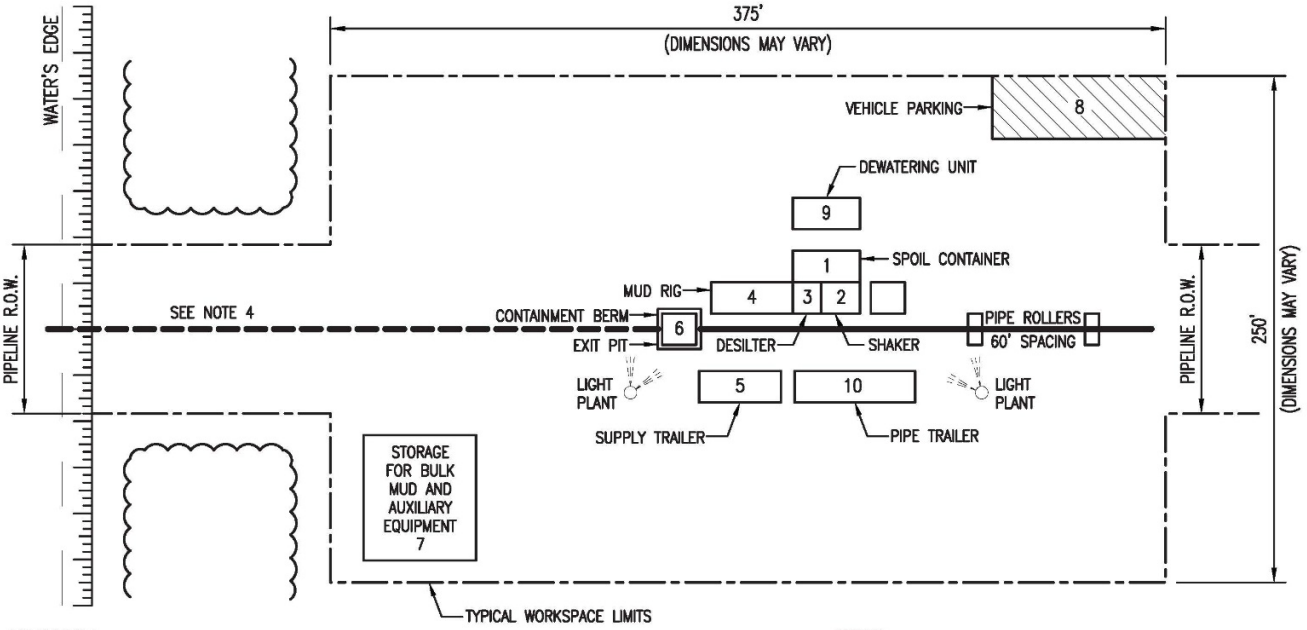
GENERAL NOTES:

1. PIPE DEPTHS MAY VARY.

DRAWING ASSUMES TYPE "B" SOIL

Source: Mountain Valley's FERC Application

C1-10
Mountain Valley Project
Typical Directional Drill
Entry Site Plan & Profile



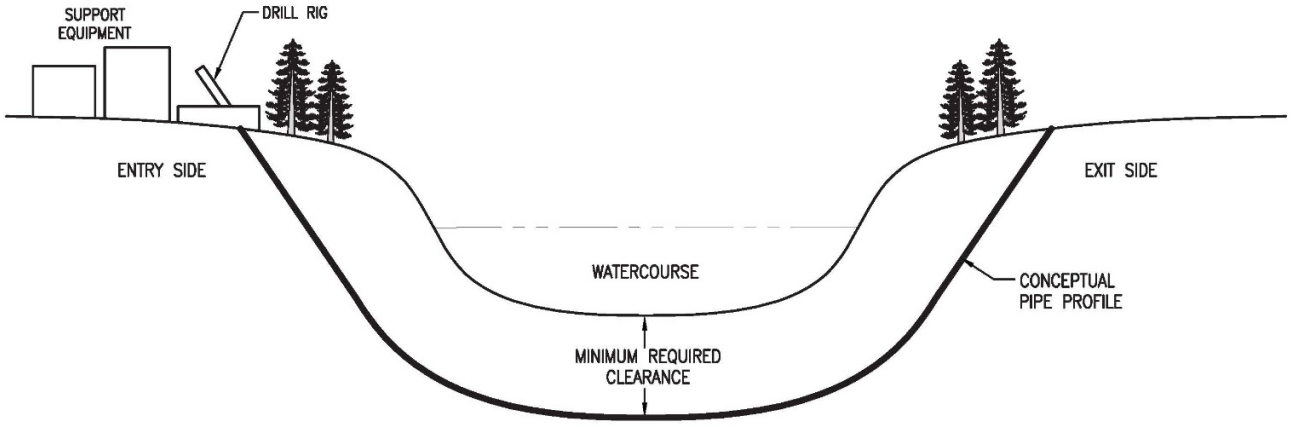
EQUIPMENT:

1. SPOIL CONTAINER: 8' X 20'
2. SHAKER: 8' X 12'
3. DESILTER: 8' X 8'
4. MUD RIG: 8' X 25'
5. SUPPLY TRAILER: 8' X 25'
6. EXIT PIT: 8' X 10'
7. STORAGE: 30' X 30'
8. VEHICLE PARKING: 15' X 50'
9. DEWATERING UNIT: 8' X 20'
10. PIPE TRAILER: 8' X 40'

NOTES:

1. EQUIPMENT ORIENTATION MAY VARY DEPENDING ON CONTRACTOR OR SITE CONDITIONS.
2. EQUIPMENT TO BE SUPPORTED ON THE GROUND SURFACE OR TIMBER MATS AS CONDITIONS DICTATE.
3. SILT FENCE, BERMS AND/OR STRAW BALE BARRIER TO BE USED AS REQUIRED TO PREVENT IMPACTS FROM OCCURRING OUTSIDE OF PROJECT LIMITS.
4. HAND CLEARED ACCESS PATH WILL BE USED TO OBTAIN WATER FROM SOURCE WHERE PERMITTED.

EXIT SITE PLAN
SCALE: N.T.S.



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PROFILE
SCALE: N.T.S.

GENERAL NOTES:

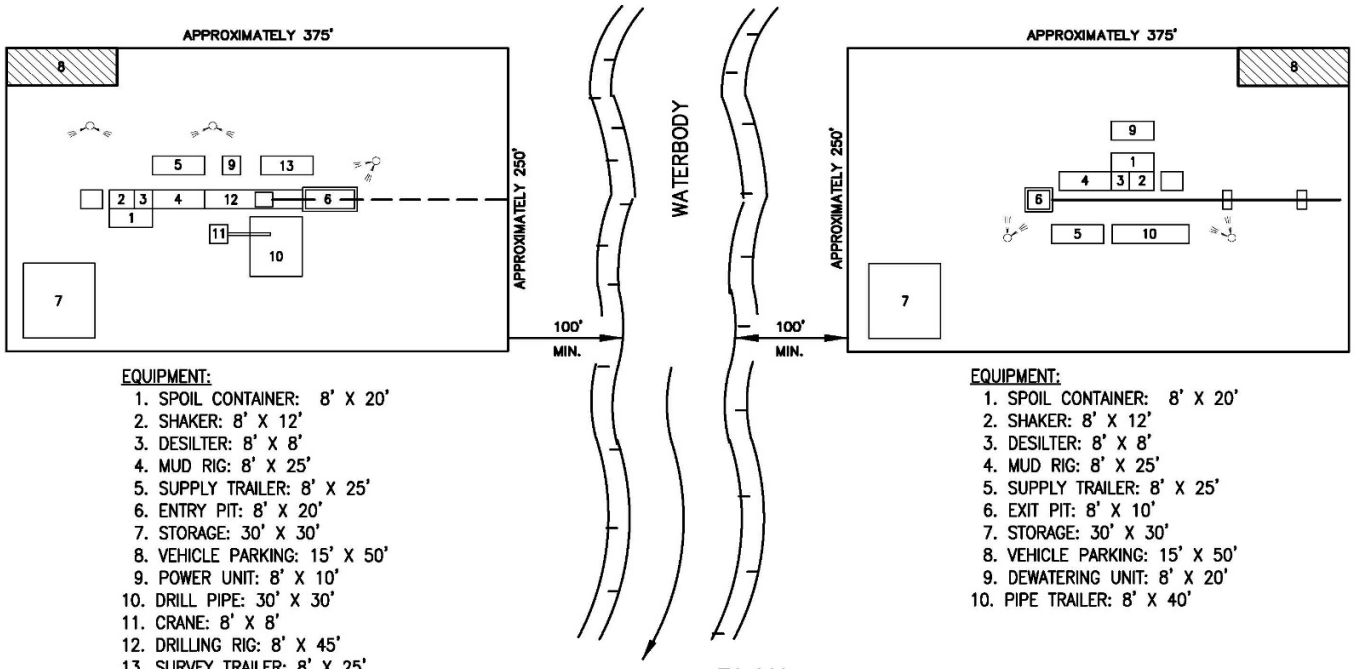
1. PIPE DEPTHS MAY VARY.

DRAWING ASSUMES TYPE "B" SOIL

Source: Mountain Valley's FERC Application

C1-11
Mountain Valley Project
Typical Directional Drill
Exit Site Plan & Profile

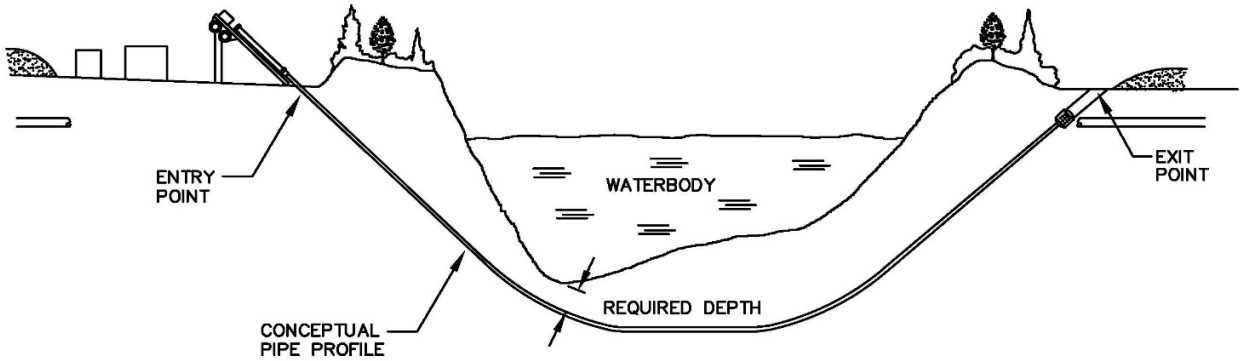
HORIZONTAL DIRECTIONAL DRILL METHOD 7



EQUIPMENT:
1. SPOIL CONTAINER: 8' X 20'
2. SHAKER: 8' X 12'
3. DESILTER: 8' X 8'
4. MUD RIG: 8' X 25'
5. SUPPLY TRAILER: 8' X 25'
6. ENTRY PIT: 8' X 20'
7. STORAGE: 30' X 30'
8. VEHICLE PARKING: 15' X 50'
9. POWER UNIT: 8' X 10'
10. DRILL PIPE: 30' X 30'
11. CRANE: 8' X 8'
12. DRILLING RIG: 8' X 45'
13. SURVEY TRAILER: 8' X 25'

EQUIPMENT:
1. SPOIL CONTAINER: 8' X 20'
2. SHAKER: 8' X 12'
3. DESILTER: 8' X 8'
4. MUD RIG: 8' X 25'
5. SUPPLY TRAILER: 8' X 25'
6. EXIT PIT: 8' X 10'
7. STORAGE: 30' X 30'
8. VEHICLE PARKING: 15' X 50'
9. DEWATERING UNIT: 8' X 20'
10. PIPE TRAILER: 8' X 40'

PLAN



PROFILE

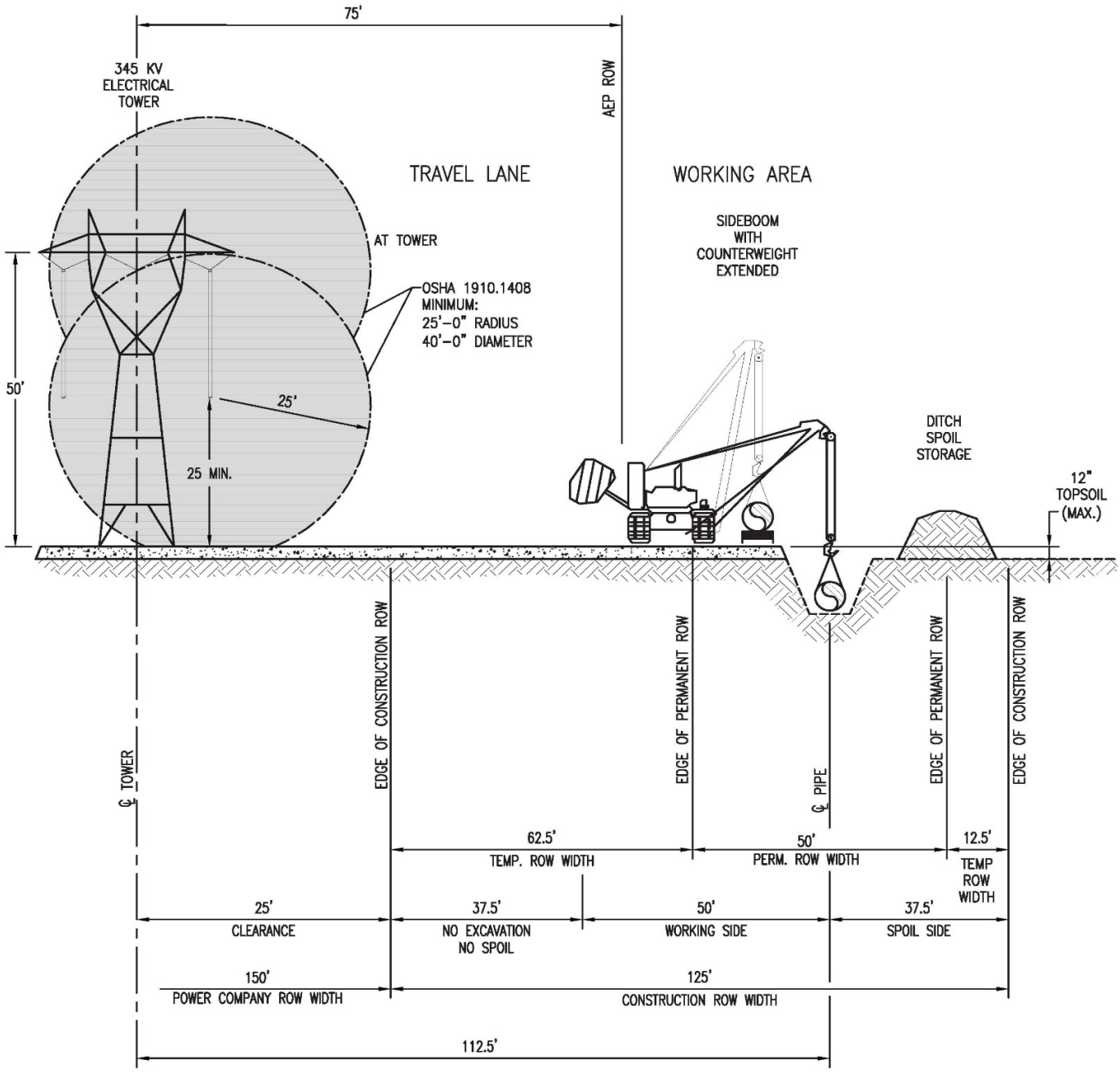
NOTES:

1. SET UP DRILLING EQUIPMENT A MINIMUM OF 100 FEET FROM THE EDGE OF THE WATERCOURSE. DO NOT CLEAR OR GRADE WITHIN THE 100 FOOT ZONE.
2. ENSURE THAT ONLY BENTONITE BASED DRILLING MUD IS USED. DO NOT ALLOW THE USE OF ANY ADDITIVES TO THE DRILLING MUD WITHOUT THE APPROVAL OF COMPANY INSPECTOR.
3. INSTALL SUITABLE DRILLING MUD TANKS OR SUMPS TO PREVENT CONTAMINATION OF WATERCOURSE.
4. INSTALL BERMS DOWNSLOPE FROM THE DRILL ENTRY AND ANTICIPATED EXIT POINTS TO CONTAIN ANY RELEASE OF DRILLING MUD.
5. DISPOSE OF DRILLING MUD IN ACCORDANCE WITH THE APPROPRIATE REGULATORY AUTHORITY REQUIREMENTS.
6. A SEDIMENT BARRIER SHALL BE PLACED ON THE DOWN SLOPE SIDE OF RIGHT-OF-WAY, PER THE PROJECT NARRATIVE.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

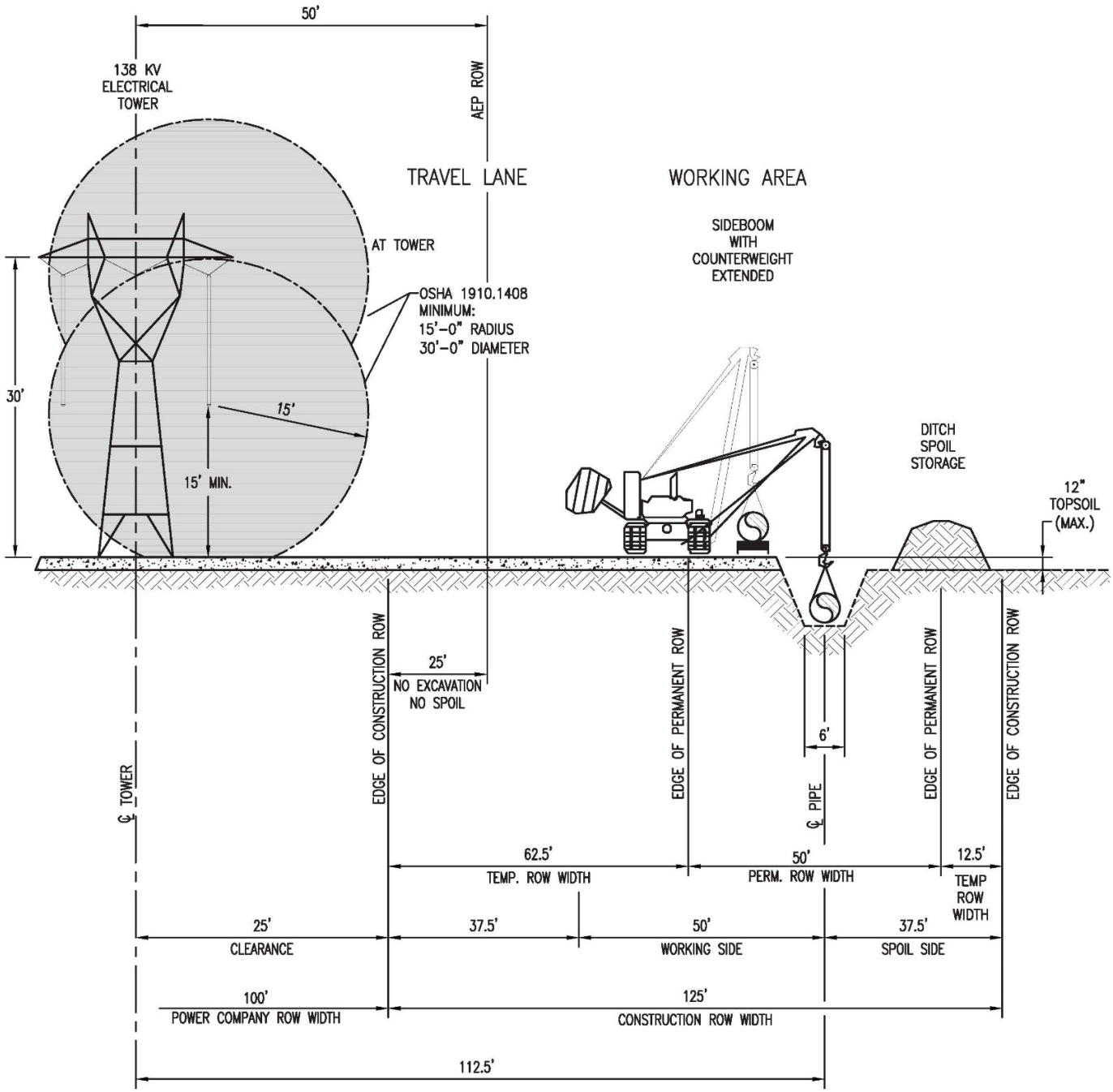
Source: Mountain Valley's FERC Application

C1-12
Mountain Valley Project
Horizontal Directional Drill (HDD)



Source: Mountain Valley's FERC Application

C1-13
Mountain Valley Project
Parallel to Power lines – 345kV



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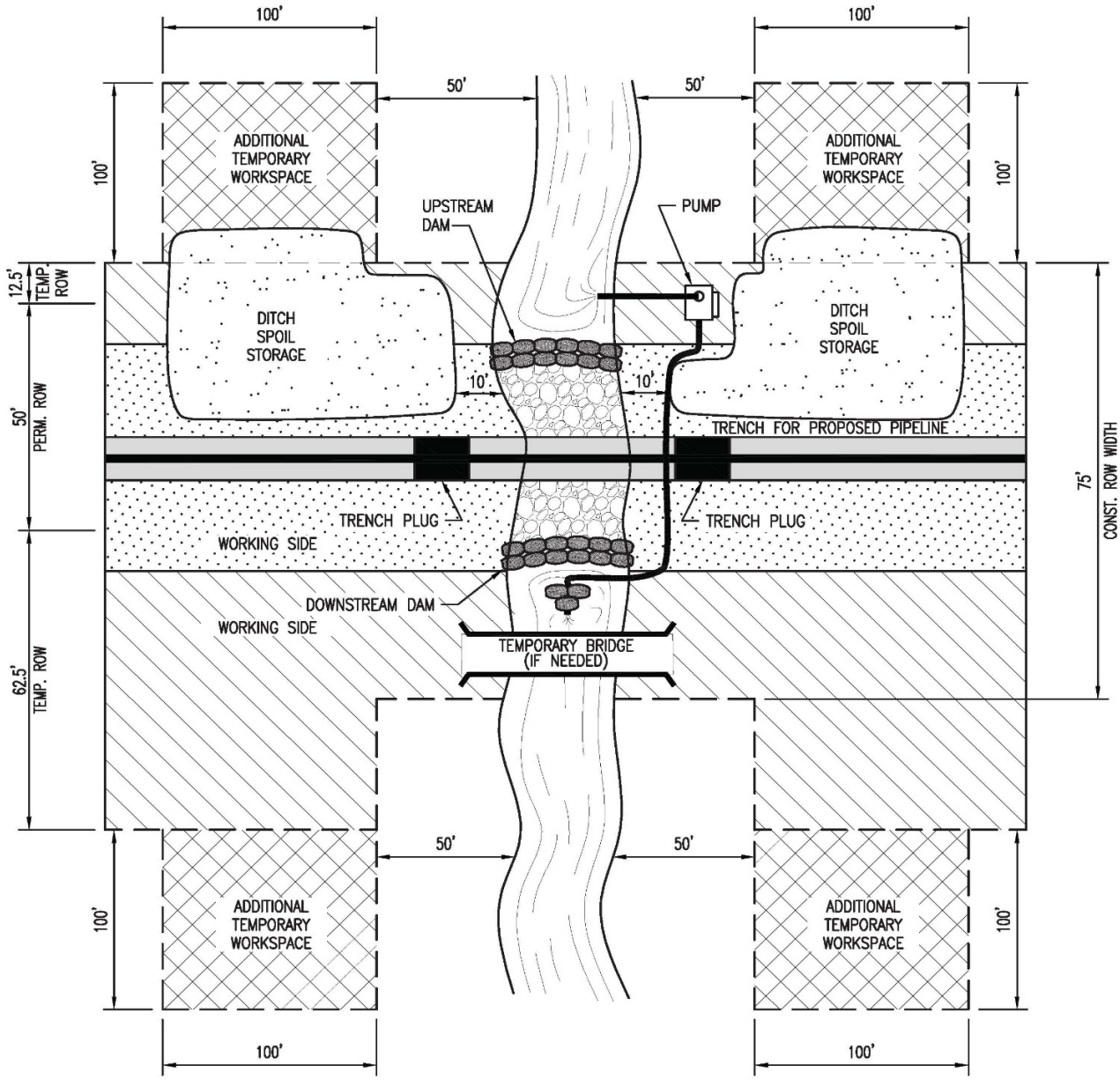
Source: Mountain Valley's FERC Application

C1-14
Mountain Valley Project
Parallel to Power lines – 138kV



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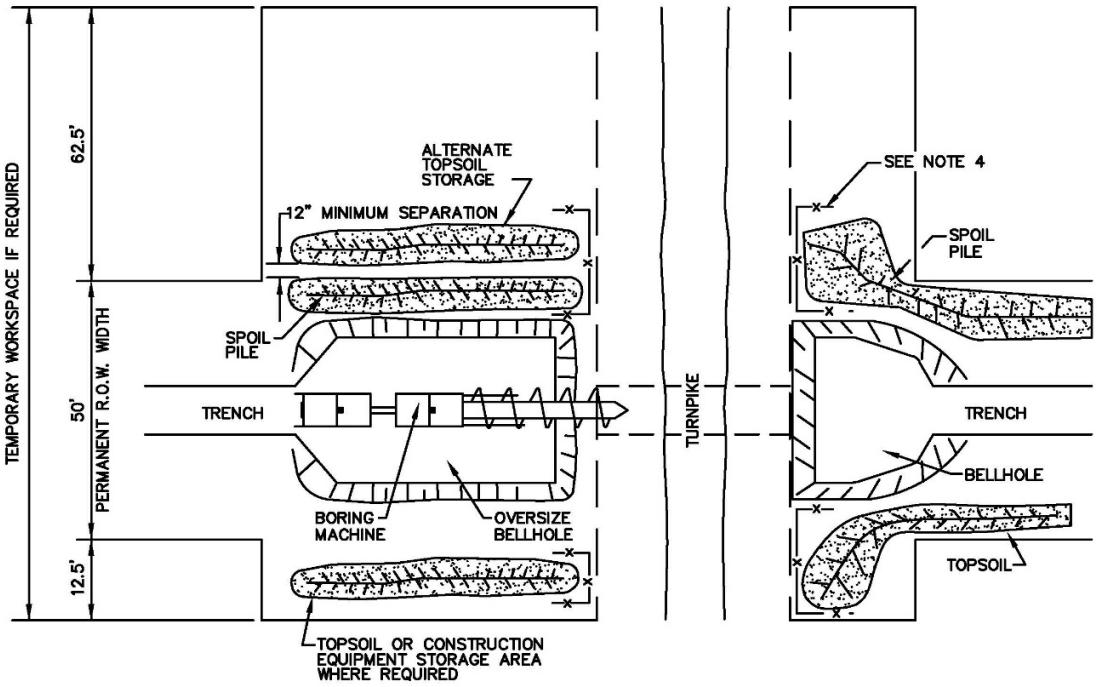
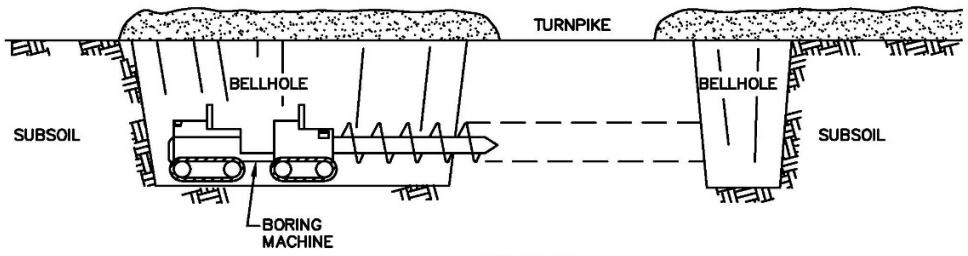
Source: Mountain Valley's FERC Application

C1-15
Mountain Valley Project
Waterbody Crossing
Open Cut – Dry/Dam and Pump



PLAN VIEW



PROFILE

NOTES:

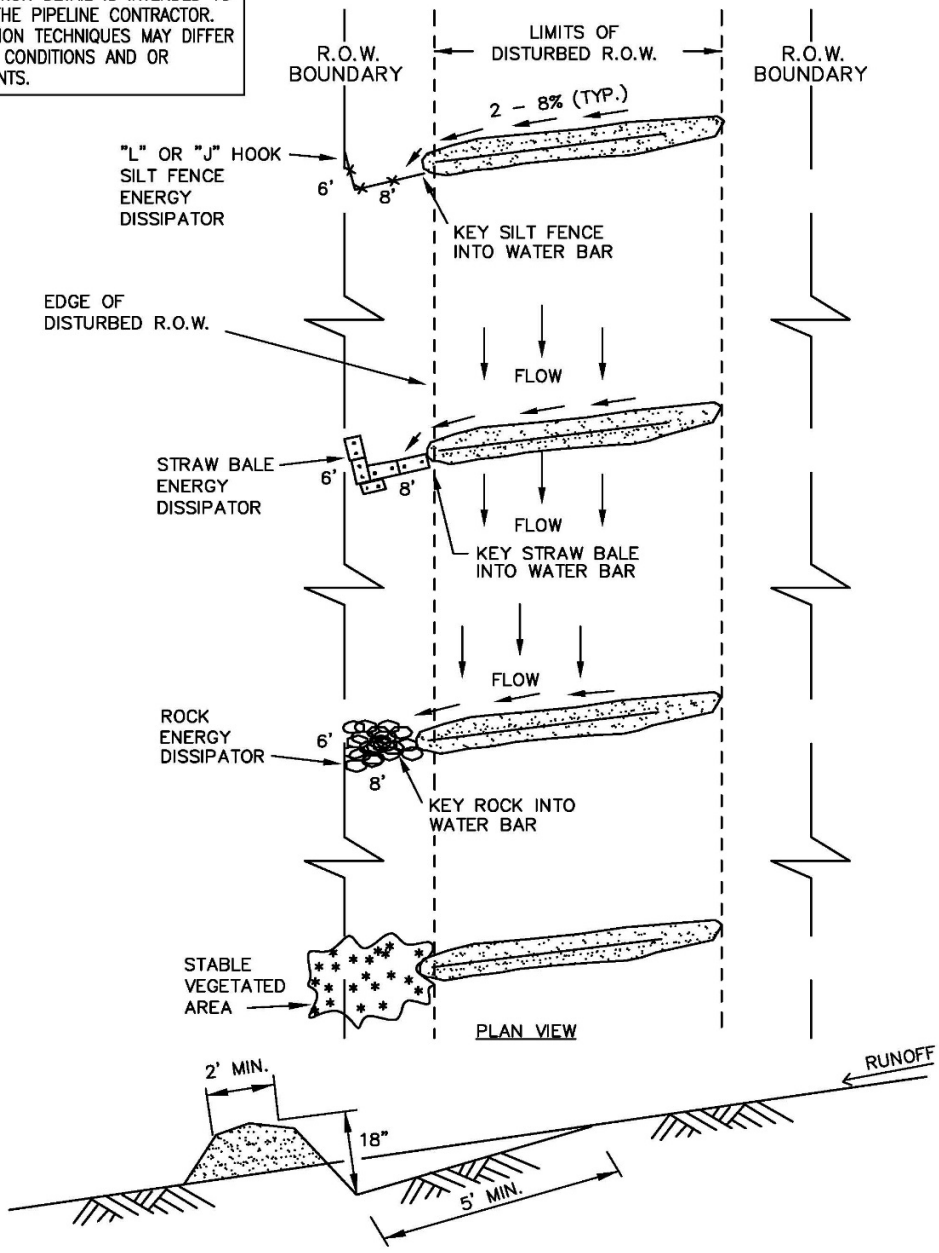
1. STRIP TOPSOIL FROM THE BELLHOLE AREA IN UNMANAGED WOODLAND. STRIP TOPSOIL FROM THE BELLHOLE AND SPOIL STORAGE AREA ON AGRICULTURAL LAND.
2. EXCAVATE BELLHOLE, STORING SPOIL ON OPPOSITE SIDE OF R.O.W. FROM TOPSOIL OR ADJACENT TO TOPSOIL MAINTAINING A MINIMUM 12 INCHES OF SEPARATION TO AVOID MIXING TOPSOIL AND SPOIL.
3. THE SIDES OF THE BORE PITS SHALL BE SLOPED BACK TO STABLE CONFIGURATION UNLESS SUPPORTED BY SHEET PILING OR OTHER SHORING MEANS. INSTALL SAFETY FENCE AROUND BORE PITS AS NECESSARY.
4. INSTALL TEMPORARY EROSION CONTROL PROCEDURES AS SPECIFIED IN THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. DEWATER BORE PIT TO CONTROL SEEPAGE WATER FLOW. DEWATER INTO AN APPROPRIATE DEWATERING STRUCTURE.
6. UPON COMPLETION OF PIPE INSTALLATION AND TIE-INS, BACKFILL PIT SPOIL. MINIMIZE POST CONSTRUCTION SETTLEMENT BY COMPACTING BACKFILL USING STANDARD PIPELINE CONSTRUCTION EQUIPMENT AVAILABLE AT SITE. LEAVE A CROWN TO ALLOW FOR SUBSIDENCE OF THE BACKFILL. RESPREAD SALVAGED TOPSOIL AND COMPACT.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley's FERC Application

C1-16
Mountain Valley Project
Conventional Bore

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.



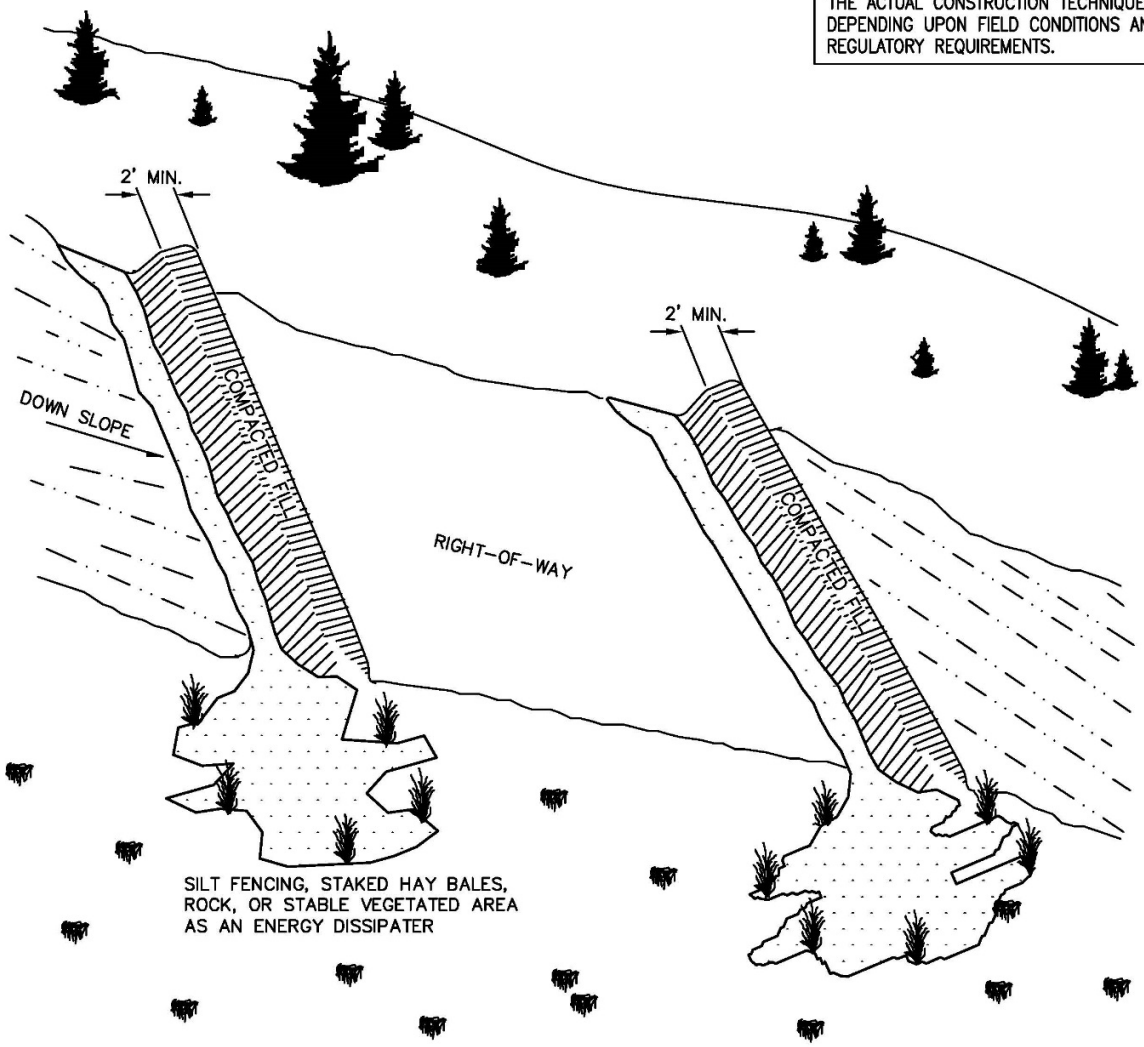
NOTES:

1. SLOPE BREAKERS SHALL BE CONSTRUCTED OF COMPACTED NATIVE SOIL AND INSTALLED AT LOCATIONS AS SHOWN ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE COMPANY'S INSPECTOR.
2. SLOPE BREAKERS SHALL BE ORIENTED AS SHOWN OR OTHER PATTERN AS DIRECTED BY THE COMPANY'S INSPECTOR TO DIRECT THE WATER OFF THE R.O.W.
3. SLOPE BREAKERS SHALL BE CONSTRUCTED AT A 2–8% GRADIENT ACROSS THE SLOPE.
4. THE SLOPE BREAKERS SHALL BE 18" DEEP (AS MEASURED FROM THE TROUGH TO THE TOP OF THE SLOPE BREAKER). THE TROUGH WILL BE A MINIMUM OF 5' WIDE ACROSS THE WIDTH OF THE RIGHT–OF–WAY.

Source: Mountain Valley's FERC Application

C1-17
Mountain Valley Project
Water Bar
Typical Slope Breaker
(SB)

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.



NOTES: (CONTINUED)

5. THE OUTLET OF THE SLOPE BREAKER MUST FREELY DISCHARGE ALL RUNOFF OFF THE DISTURBED RIGHT-OF-WAY INTO A STABLE, WELL VEGETATED AREA OR INTO AN ENERGY DISSIPATOR.

6. WHERE SLOPE BREAKERS EXTEND BEYOND THE EDGE OF THE CONSTRUCTION R.O.W. TO DIRECT RUNOFF INTO STABLE, WELL VEGETATED AREAS, THESE LOCATIONS MUST BE APPROVED BY THE COMPANY'S INSPECTOR.

FLOW ENERGY DISSIPATOR NOTES:

1. THE OUTLET SHALL CONTAIN AN ENERGY DISSIPATOR IF THE COMPANY'S INSPECTOR DETERMINES EXISTING VEGETATION IS NOT SUFFICIENTLY STABLE TO PREVENT EROSION. THE ENERGY DISSIPATOR SHALL BE CONSTRUCTED AS FOLLOWS:

   - OUTFALL END OF DISSIPATOR SHOULD BE LOWER THAN SLOPE BREAKER END.
   - SILT FENCE, STRAW BALE OR ROCK DISSIPATORS SHOULD BE KEYED INTO THE END OF THE SLOPE BREAKER.
   - PROVIDE ENOUGH AREA INSIDE "L" TO CAPTURE AND HOLD SEDIMENT.

Source: Mountain Valley's FERC Application

C1-18
Mountain Valley Project
Water Bar
Typical Slope Breaker
(SB)

STRAW MULCH

1. STRAW MULCH SHALL BE INSTALLED AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION DRAWING AND/OR AS DIRECTED BY THE COMPANY'S INSPECTOR TO PROTECT SOIL FROM EROSION. AREAS TARGETED FOR STRAW MULCH INCLUDE THE FOLLOWING:
   - 10–40% SLOPES WITH LESS THAN 40% SURFACE COVER.
   - 0–10% SLOPES WITH SOILS RATED BY APPLICABLE COUNTY AS HIGH IN WIND ERODIBILITY AND LESS THAN 40% SURFACE COVER AND IF DIRECTED BY COMPANY'S INSPECTOR.

2. WHEAT, OAT, BARLEY, RYE OR FLAX STRAW WILL BE USED, WHERE APPROPRIATE, DEPENDING UPON AVAILABILITY.

3. ONLY CERTIFIED "NOXIOUS WEED–FREE" STRAW MULCH SHALL BE APPLIED AT A RATE OF:
   - 1,780 TO 2,225 LB/AC WHEAT, OAT, BARLEY OR RYE STRAW
   - 2,670 TO 3,560 LB/AC FLAX STRAW

4. AREAS WHERE RESPREAD TOPSOIL EXHIBITS AN ADEQUATE COVER FROM RESPREAD OF PLANT DEBRIS AND COARSE FRAGMENTS, MULCH RATES MAY BE REDUCED OR ELIMINATED BY THE COMPANY'S INSPECTOR.

STRAW CRIMPING

1. STRAW CRIMPING WILL BE UTILIZED ON NONCULTIVATED, WIND EROSION PRONE SOILS, AND ON CULTIVATED, WATER EROSION PRONE SOILS AS IDENTIFIED ON THE ALIGNMENT SHEETS, UNLESS OTHERWISE DIRECTED BY THE COMPANY'S INSPECTOR. STRAW CRIMPING AT ADDITIONAL LOCATIONS IDENTIFIED BY THE COMPANY'S INSPECTOR MAY BE REQUIRED.

2. EQUIPMENT SPECIFICALLY DESIGNED TO CRIMP STRAW (SUCH AS A STRAW MULCH CRIMPER MANUFACTURED BY FINN CORPORATION OR AN APPROVED EQUIVALENT) SHALL BE USED TO CRIMP STRAW FIBERS TO A DEPTH OF TWO TO THREE INCHES. STEEP SLOPES INACCESSIBLE WITH A CRIMPER SHALL BE CRIMPED BY TRACKING WITH A CRAWLER RUNNING PERPENDICULAR TO THE SLOPE. DISCS SHALL NOT BE ALLOWED FOR CRIMPING EXCEPT AS STATED IN NOTE 3.

3. WHERE EXCESSIVE STONINESS IS ENCOUNTERED TO THE EXTENT THAT THE SPECIALIZED CRIMPING EQUIPMENT IS NOT USEABLE, ATTEMPT TO ANCHOR THE STRAW BY INCORPORATION WITH AN AGRICULTURAL DISC OR CULTIVATOR. WHERE FROZEN GROUND CONDITIONS ARE ENCOUNTERED TO THE EXTENT THAT THE CRIMPING OPERATION IS NOT FEASIBLE, SPREAD STRAW AT DOUBLE THE NORMAL RATE.

4. CRIMP OR ANCHOR STRAW INTO THE SOIL TO AN APPROXIMATE DEPTH OF 2". STRAW SHOULD STAND VERTICALLY 2" TO 8" OUT OF THE GROUND IN ROWS SPACED APPROXIMATELY 6" APART.

5. IN HIGHLY ERODIBLE SANDY LOCATIONS, WHERE DIRECTED BY THE COMPANY'S INSPECTOR, DOUBLE THE STRAW APPLICATION RATE AND MAKE TWO PASSES TO ANCHOR THE STRAW, ONE PASS PERPENDICULAR TO THE OTHER OR CRISS–CROSSED.

6. STRAW FOR CRIMPING WILL BE APPROVED BY COMPANY AND THE LANDOWNERS AND OCCUPANTS OR APPROPRIATE REGULATORY AUTHORITIES WHERE APPLICABLE. CRITERIA FOR THE SELECTION OF STRAW IS AS FOLLOWS:
   - FOR EACH LOT OF BALES, TO THE EXTENT FEASIBLE, THE FIELD WHERE THE BALES WERE OBTAINED WILL BE INSPECTED BEFORE IT IS HARVESTED, OR THE STUBBLE WILL BE INSPECTED IMMEDIATELY AFTER HARVEST AND A SAMPLE OF GRAIN WILL BE INSPECTED FOR WEED SEEDS.
   - THE STRAW MUST HAVE BEEN HARVESTED WITH A CONVENTIONAL COMBINE, NOT A ROTARY COMBINE.
   - THE STRAW MUST HAVE A MINIMUM FIBRE LENGTH OF 8", 12" IS PREFERRED.
   - THE STRAW MUST BE FREE OF NOXIOUS OR RESTRICTED WEEDS AND UNDESIRABLE SPECIES WHICH WOULD HAMPER RECLAMATION EFFORTS.
   - TO THE EXTENT FEASIBLE, BALES OBTAINED FROM LOW LYING WEEDY AREAS WILL BE IDENTIFIED AND AVOIDED.

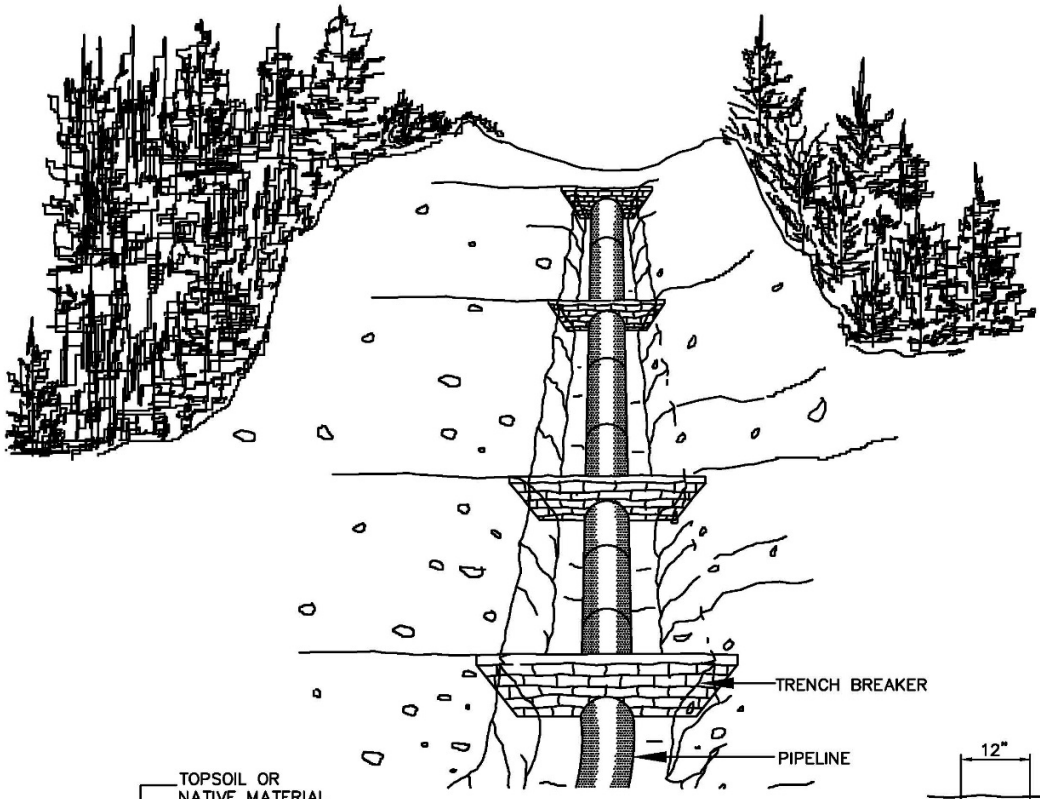
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

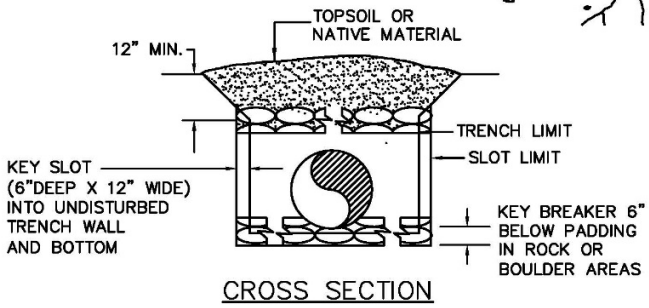
Source: Mountain Valley's FERC Application

C1-19
Mountain Valley Project
Erosion Control
Straw Mulch
(STM)

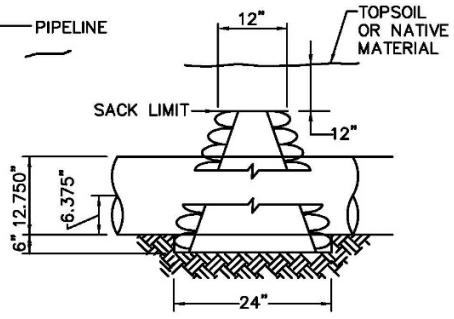
SLOPE %	SPACING
0% – 5%	NOT REQUIRED EXCEPT AT STREAM OR WATER BODY CROSSINGS
5% – 15%	300 FT
> 15% – 30%	200 FT
>30%	100 FT

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.





CROSS SECTION



SIDE VIEW

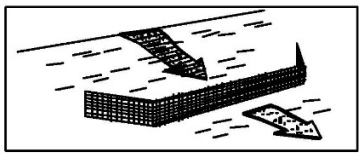
NOTES

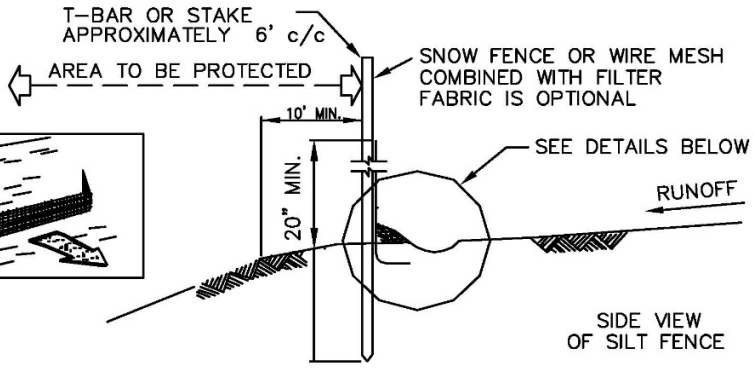
1. TRENCH BREAKERS SHALL BE INSTALLED:
   - ON SLOPES ALONG THE TRENCH LINE WHERE THE NATURAL DRAINAGE PATTERN, PROFILE, AND TYPE OF BACKFILL MATERIAL MAY RESULT IN LOSS OF BACKFILL MATERIAL OR ALTERATION OF THE NATURAL PATTERN;
   - AT THE BASE OF SLOPES ADJACENT TO WATERBODIES AND WETLANDS;
   - WHERE NEEDED TO AVOID DRAINING A WETLAND;
   - ON UPLAND SLOPES, AT THE SAME SPACING AS SLOPE BREAKERS AND UP SLOPE OF SLOPE BREAKERS;
   - IN CULTIVATED LAND AND RESIDENTIAL AREAS WHERE PERMANENT SLOPE BREAKERS ARE NOT TYPICALLY INSTALLED, AT THE SAME SPACING AS IF PERMANENT SLOPE BREAKERS WHERE REQUIRED.
2. OPEN WEAVE HEMP OR JUTE SACKS SHALL BE FILLED WITH A MINIMUM OF 55lbs. MIXTURE OF 1 PART CEMENT TO 6 PARTS SAND OR SUBSOIL SO THAT NATURAL GROUND WATER WILL PERMIT MIXTURE TO EXUDE AND BOND SACKS TOGETHER.
3. BREAKER SPACING AND CONFIGURATION MAY BE CHANGED AS DIRECTED BY COMPANY. DEPTH OF DITCH MAY VARY WITH SITE CONDITIONS.
4. ALL MATERIALS SHALL BE SUPPLIED BY CONTRACTOR.

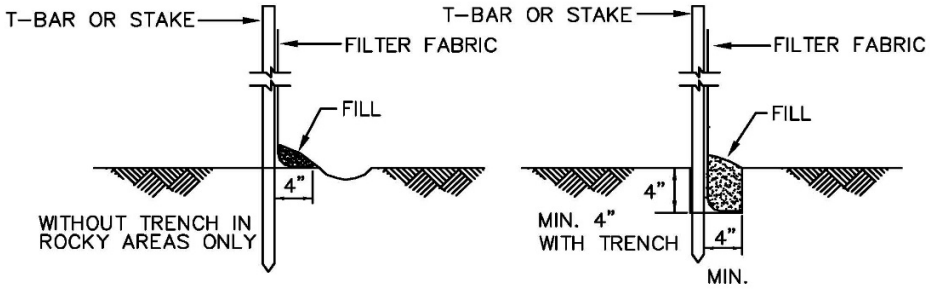
Source: Mountain Valley's FERC Application

C1-20
Mountain Valley Project
Typical: Trench Breaker
Requirements

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.







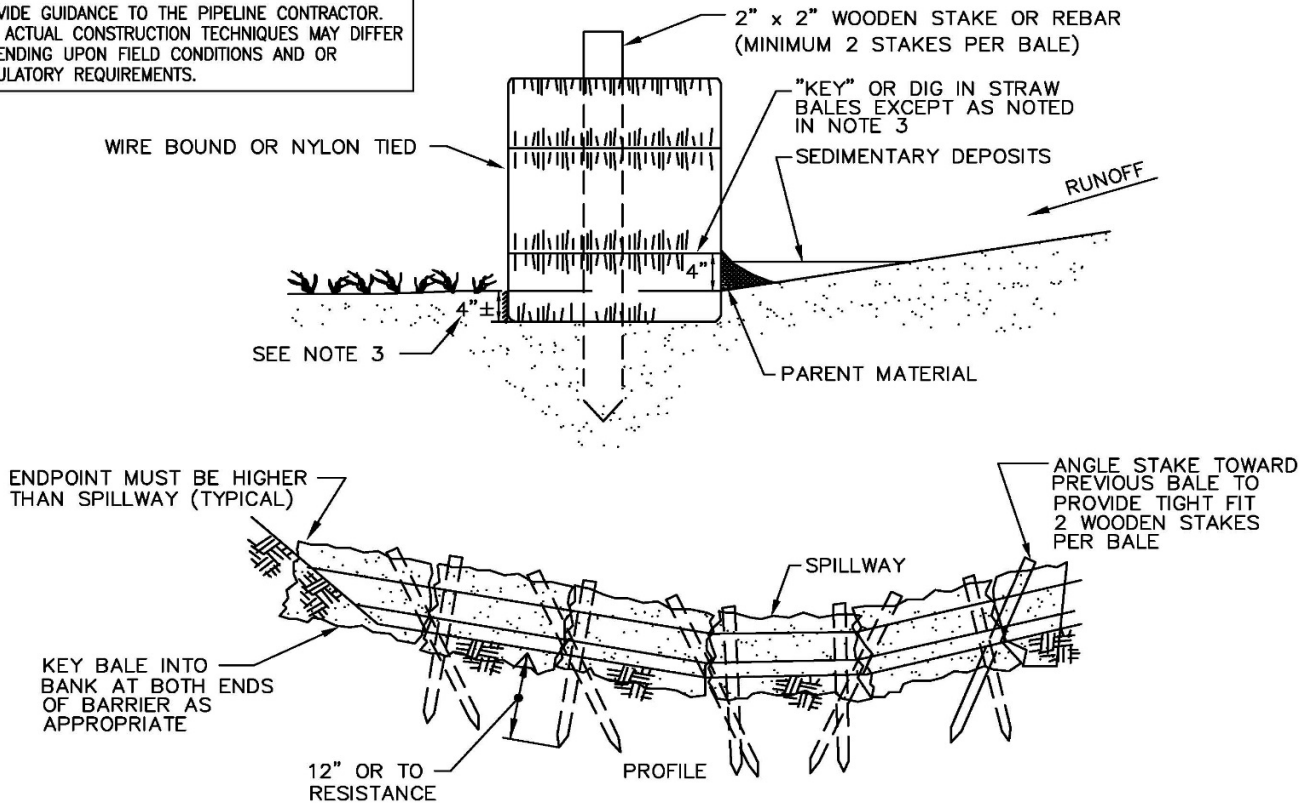
NOTE:

1. GENERALLY WHEN A LONG SEDIMENT BARRIER IS REQUIRED, SILT FENCE WILL BE UTILIZED RATHER THAN STRAW BALES AT:
   - THE BASE OF ALL SLOPES ABOVE ROADS, SPRINGS, WETLANDS, IMPOUNDMENTS AND PERENNIAL AND INTERMITTENT STREAMS.
   - THE DOWN SLOPE RIGHT–OF–WAY EDGE WHERE ANY OF THE ABOVE MENTIONED LOCATIONS ARE ADJACENT TO THE RIGHT–OF–WAY.
   - BETWEEN TOPSOIL/SPOIL STOCKPILES AND PERENNIAL OR INTERMITTENT STREAMS OR WETLANDS WHERE BUFFER ZONE REQUIREMENTS CANNOT BE MET.
   - ALONG R.O.W. BOUNDARIES OF WETLAND CONSTRUCTION.
   - AS SPECIFIED IN THE SPILL PREVENTION, CONTAINMENT, AND COUNTERMEASURE PLAN.
   - AS DIRECTED BY THE COMPANY'S INSPECTOR.
2. THE SILT FENCE SHALL BE CONSTRUCTED AS FOLLOWS:
   - FABRIC USED FOR THE SILT FENCE SHALL BE A "STANDARD STRENGTH" GEOTEXTILE, SUCH AS MIRAFI 100X OR AN APPROVED EQUIVALENT.
   - THE FABRIC SHALL BE CUT FROM A CONTINUOUS FABRIC ROLL.
   - THE HEIGHT OF THE FENCE SHALL NOT EXCEED 24".
   - SPLICES SHALL ONLY BE DONE AT POSTS AND SHALL CONSIST OF A MINIMUM OF 6" OF OVERLAP WITH BOTH ENDS SECURED TO THE POST.
   - POSTS SHALL BE POSITIONED A MAXIMUM OF 6' APART.
   - POSTS SHALL CONSIST OF 2"X2" WOODEN STAKES OF SUFFICIENT LENGTH TO EXTEND A MINIMUM OF 12" INTO THE GROUND.
   - FABRIC SHALL BE STAPLED OR WIRED TO POSTS A MAXIMUM OF EVERY 9".
3. THE SILT FENCE SHALL BE INSTALLED AS SPECIFIED BY THE MANUFACTURER OR AS FOLLOWS:
   - A TRENCH, 4" WIDE AND 4" DEEP, SHALL BE EXCAVATED ALONG THE CONTOUR. THE POST SHALL BE DRIVEN INTO THE BOTTOM OF THE TRENCH ON THE DOWNSTREAM SIDE OF THE FILTER FABRIC. THE TRENCH SHALL BE BACK FILLED AND COMPACTED, ENSURING 4" OF FENCE IS BURIED WITHIN THE TRENCH.
   - IN AREAS WHERE THE TERRAIN IS TOO ROCKY FOR TRENCHING, A 4" GROUND FLAP WITH ROCK FILL TO HOLD IT IN PLACE SHALL BE USED.

Source: Mountain Valley's FERC Application

C1-21
Mountain Valley Project
Erosion Control
Silt Fence Sediment Barrier
(SFB)

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

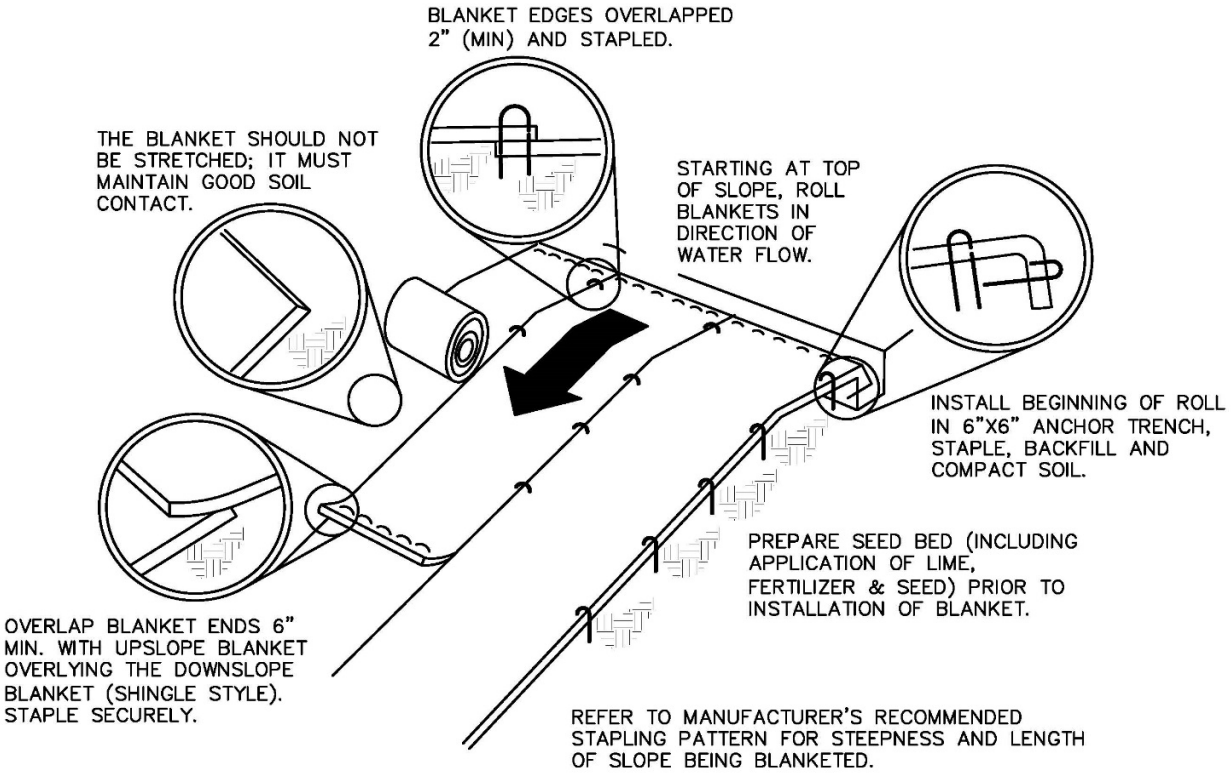


NOTES:

1. STRAW BALE SEDIMENT BARRIERS SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:
   - THE BASE OF ALL SLOPES ABOVE ROADS, SPRINGS, WETLANDS, IMPOUNDMENTS AND FLOWING STREAMS.
   - THE DOWNSLOPE RIGHT-OF-WAY EDGE WHERE ANY OF THE ABOVE-MENTIONED LOCATIONS ARE ADJACENT TO THE RIGHT-OF-WAY.
   - BETWEEN TOPSOIL/SPOIL STOCKPILES AND STREAMS OR WETLANDS AS NEEDED.
   - ALONG R.O.W. BOUNDARIES IN WETLAND CONSTRUCTION.
   - AS SPECIFIED IN THE SPILL PREVENTION, CONTAINMENT, AND COUNTERMEASURE PLAN.
   - AS DIRECTED BY THE COMPANY'S INSPECTOR.
2. STRAW BALE SEDIMENT BARRIERS SHALL CONSIST OF A ROW OF STRAW BALES, PLACED ON THE FIBER-CUT EDGE (TIES NOT IN CONTACT WITH THE GROUND). BALES SHALL BE TIGHTLY ABUTTED TO ONE ANOTHER. THE BARRIER SHALL BE ONE BALE HIGH. ONLY CERTIFIED "NOXIOUS WEED-FREE" STRAW SHALL BE USED WHENEVER POSSIBLE.
3. ENTRENCH ("KEY") STRAW BALES INTO THE GROUND TO A DEPTH OF 4" EXCEPT IN FROZEN, SATURATED, OR EXTREMELY ROCKY SOILS. PLACE PARENT MATERIAL ON UPSTREAM SIDE OF STRAW BALES TO PREVENT UNDERMINING.
4. WALK ON STRAW BALES TO INSURE ADEQUATE BALE-TO-SOIL CONTACT.
5. ANCHOR STRAW BALES SECURELY IN PLACE WITH TWO WOODEN OR STEEL REBAR STAKES DRIVEN THROUGH THE TOPS OF THE BALES. THE STAKES SHALL PENETRATE THE GROUND A DISTANCE OF 12" UNLESS ROCK OR AN IMPERMEABLE LAYER IS ENCOUNTERED:
   - THE FIRST, CENTER AND END BALES OF THE BARRIER SHALL HAVE STAKES DRIVEN VERTICALLY THROUGH THE BALE.
   - BALES, OTHER THAN THOSE LOCATED AT THE ENDS OR CENTER OF THE BARRIER, SHALL HAVE THE FIRST STAKE DRIVEN THROUGH THE TOP OF THE BALE AT AN ANGLE SO THAT THE STAKE PASSES THROUGH THE PREVIOUSLY PLACED BALE, IN ORDER TO PROVIDE TIGHT CONTACT BETWEEN BALES. THE SECOND STAKE SHALL BE DRIVEN VERTICALLY THROUGH THE TOP OF THE BALE.

Source: Mountain Valley's FERC Application

C1-22
Mountain Valley Project
Erosion Control
Straw Bale Sediment Barrier
(SBB)



SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AT THE TOP OF SLOPE.

SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS.

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT AND UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

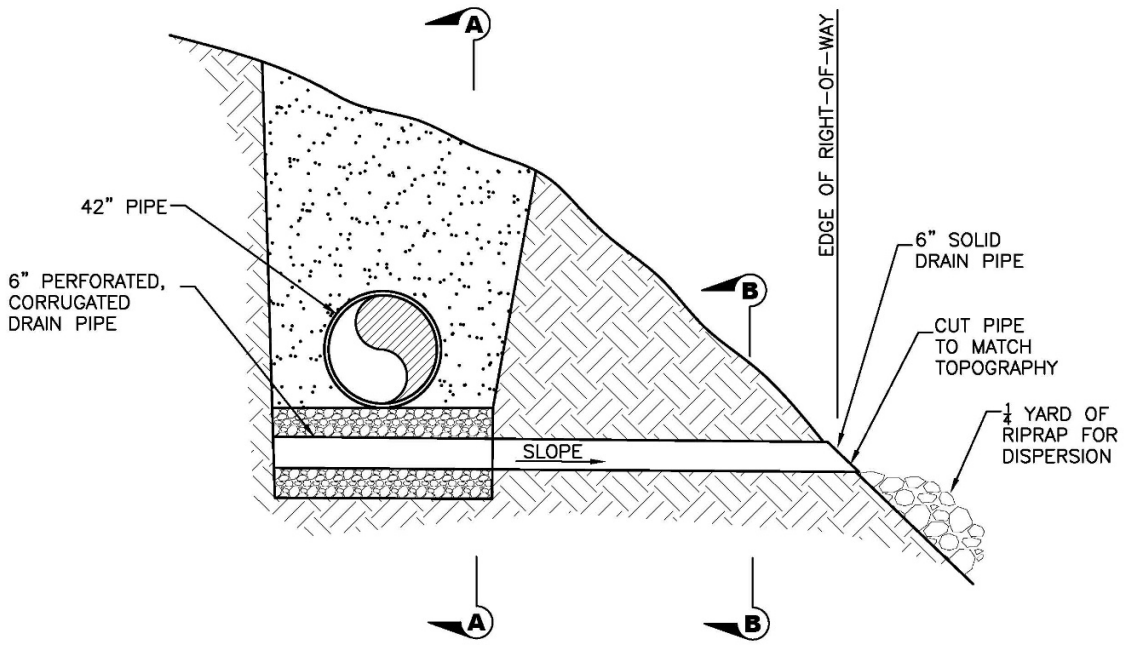
BLANKET SHALL BE STAPLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

BLANKET AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGTATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

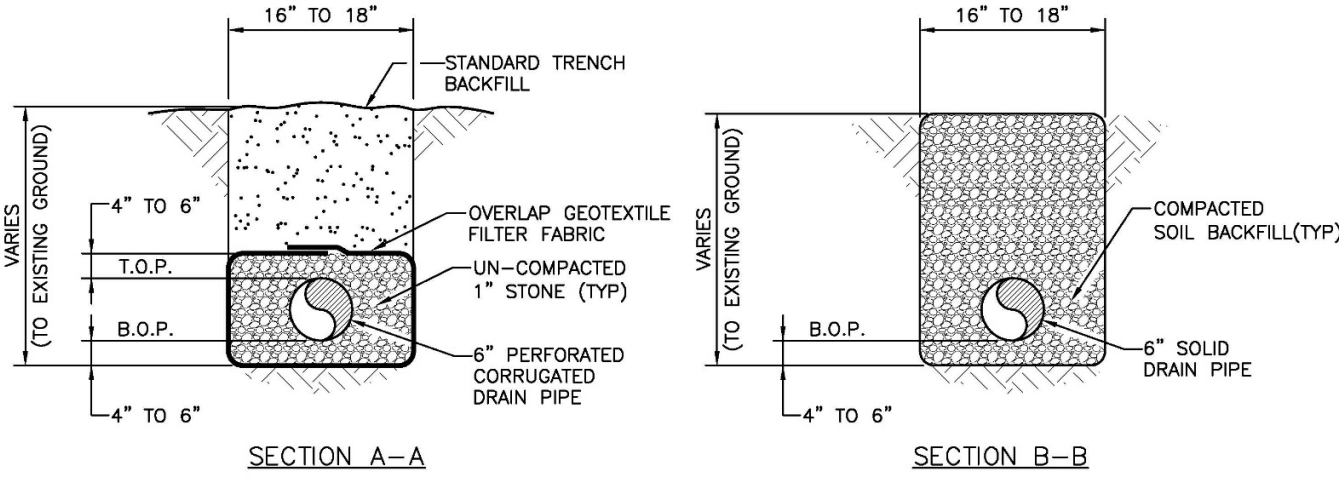
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley's FERC Application

C1-23
Mountain Valley Project
Slope Installation



MAINLINE CROSS SECTION



SECTION A–A

SECTION B–B

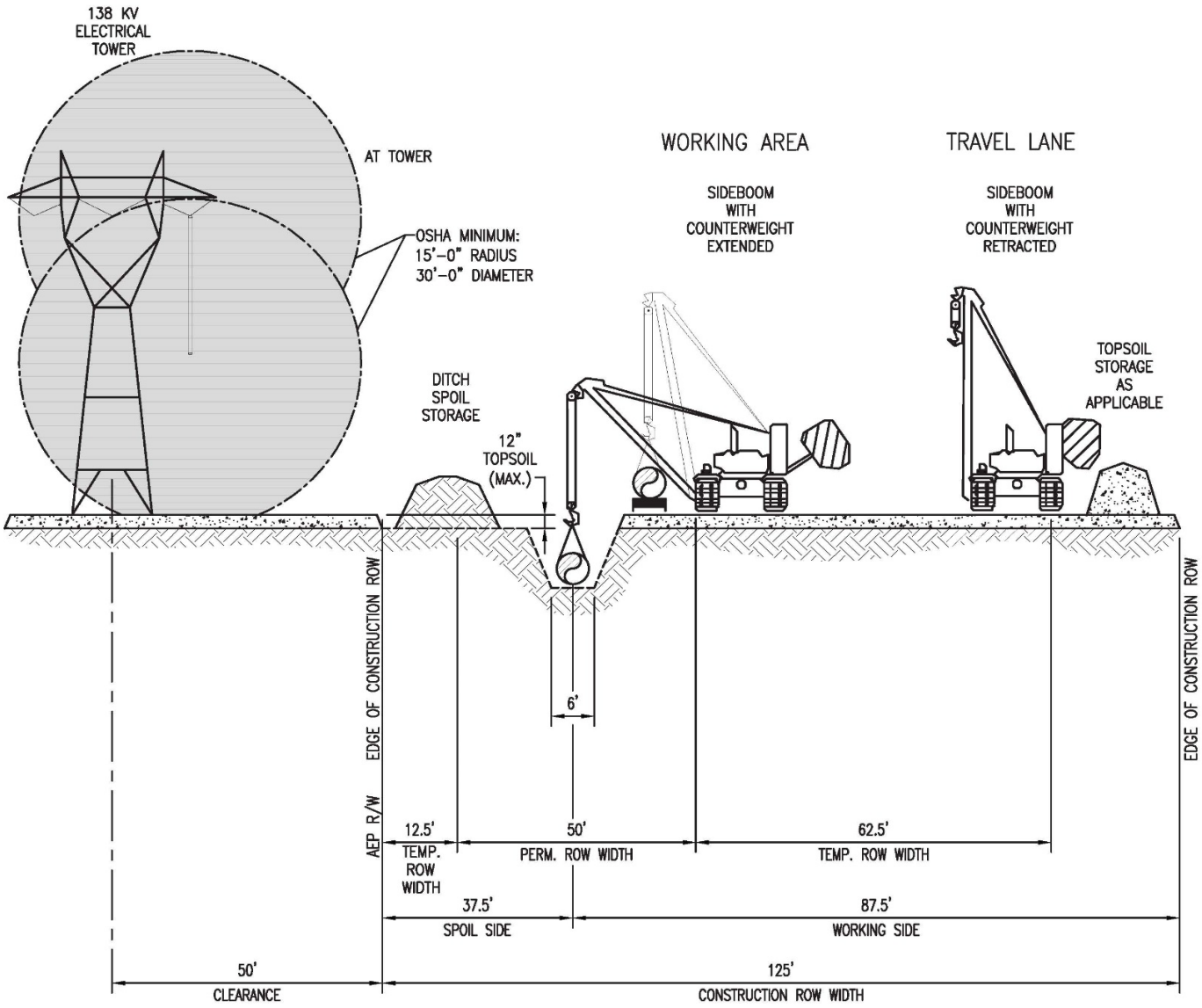
NOTES

1. LOW POINT DITCH DRAINS SHALL BE INSTALLED AT LOCATIONS SPECIFIED IN THE APPROVED EROSION & SEDIMENTATION CONTROL PLAN, AND AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
2. FILL STONE SHOULD BE 1" AGGREGATE WITHOUT FINES, CRUSHER RUN WITHOUT FINES, OR EQUIVALENT.
3. DRAIN PIPE TO BE CONNECTED USING STANDARD PIPE COLLARS.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-24
Mountain Valley Project
Sidehill Low-Point Drain
Typical

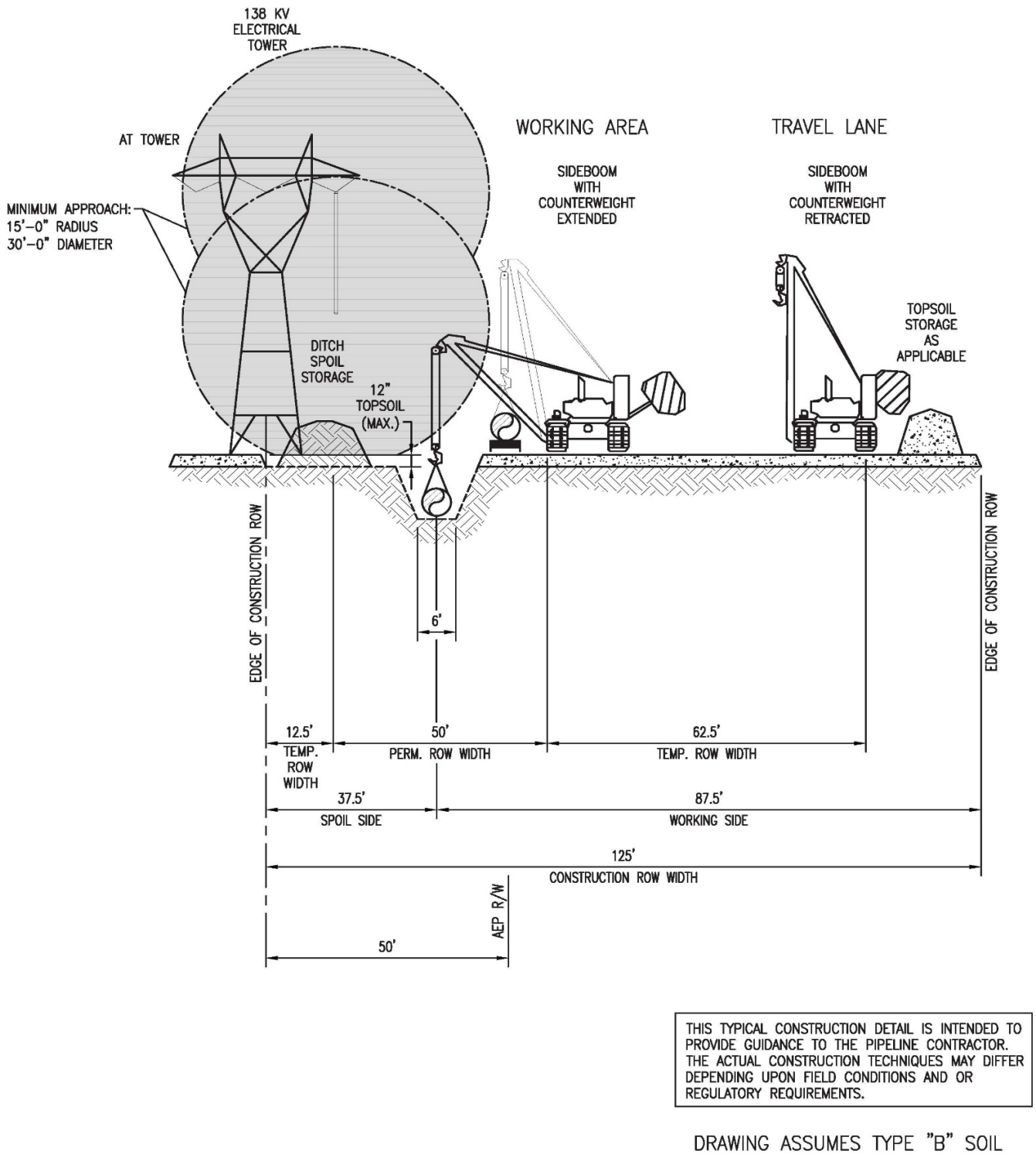


THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "B" SOIL

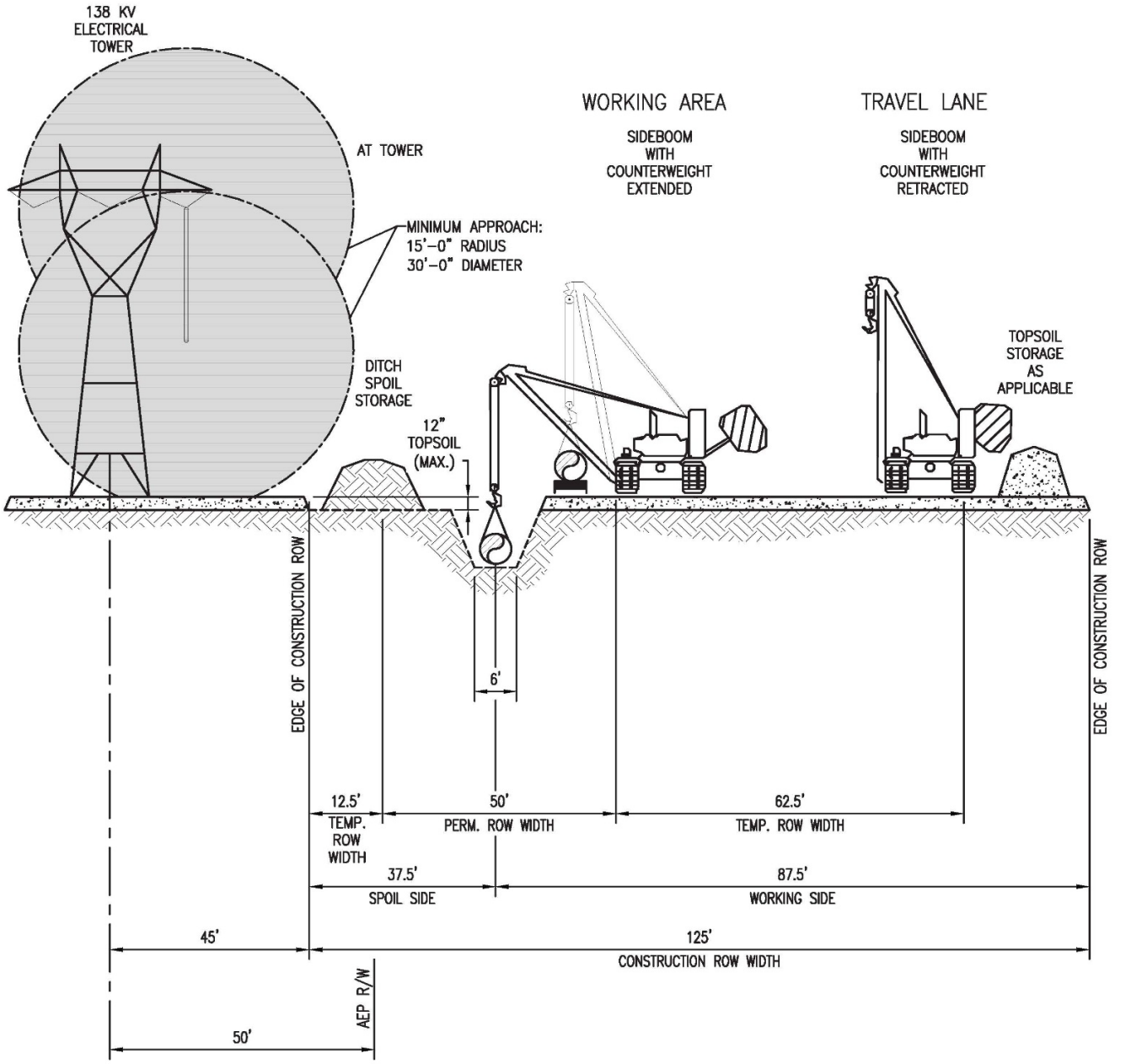
Source: Mountain Valley's FERC Application

C1-25
Mountain Valley Project
Parallel to Power Lines



Source: Mountain Valley's FERC Application

C1-26
Mountain Valley Project
Parallel to Power Lines



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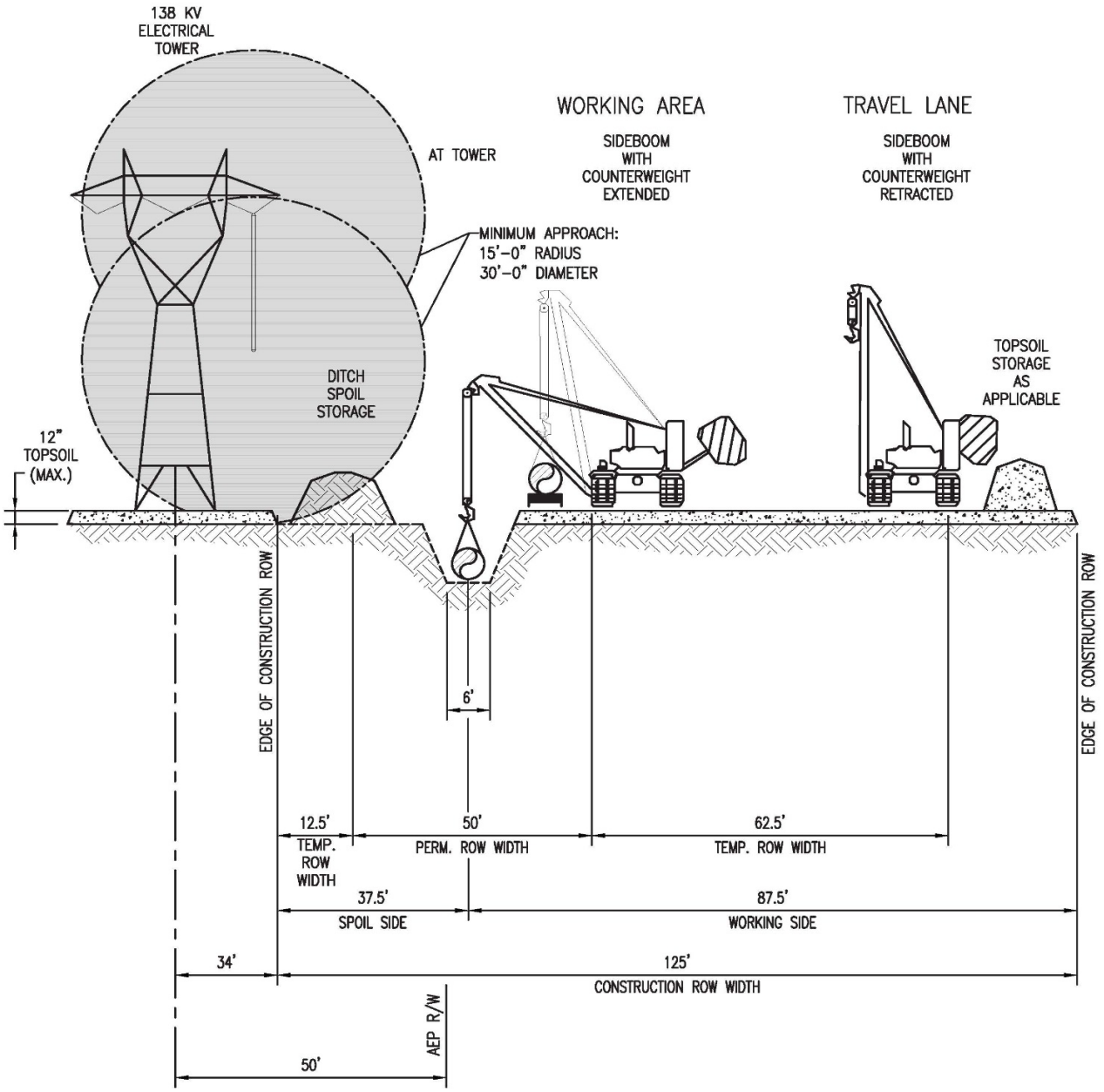
DRAWING ASSUMES TYPE "B" SOIL

Source: Mountain Valley's FERC Application

C1-27
Mountain Valley Project
Parallel to Power Lines

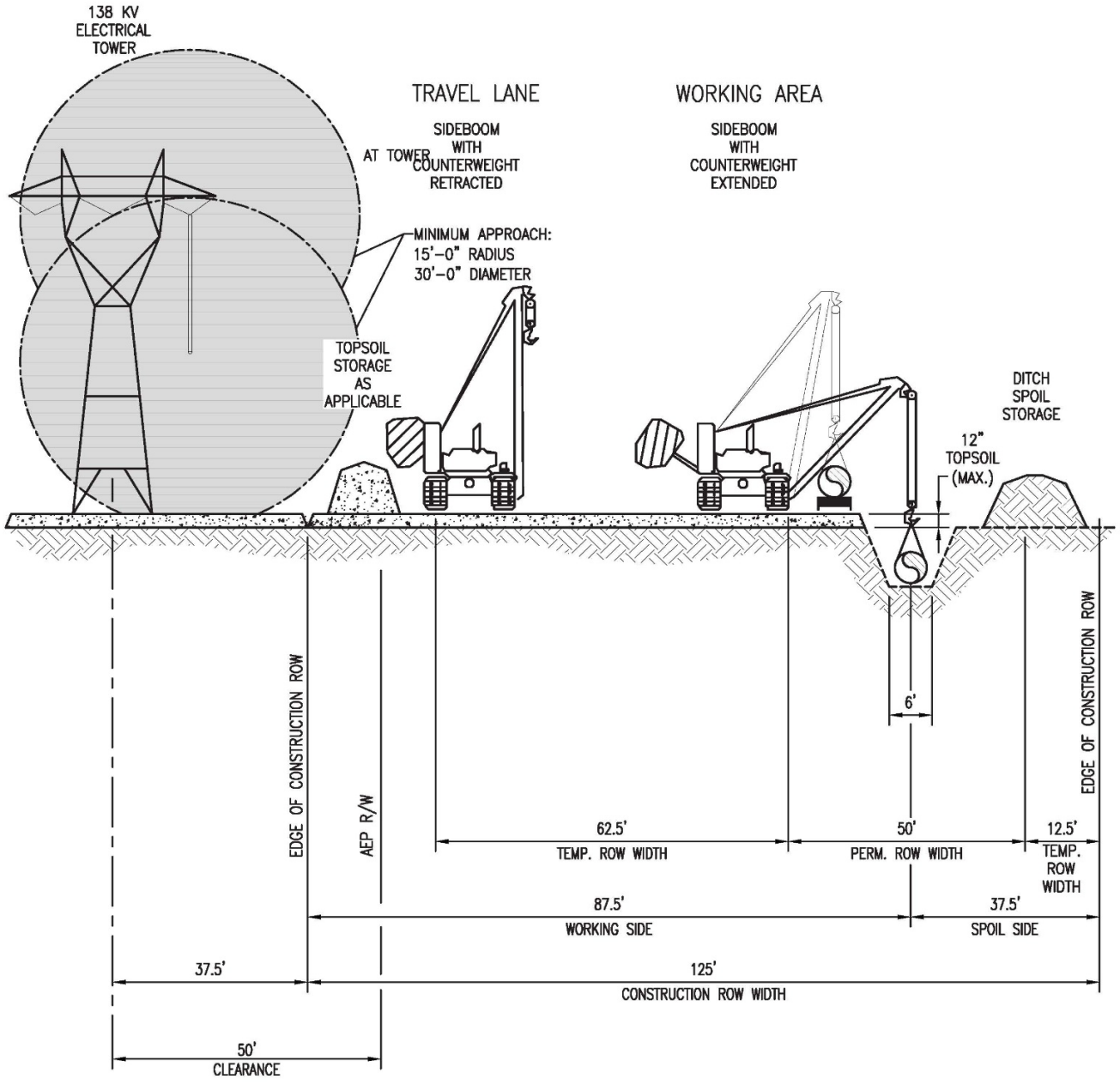


THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "B" SOIL

Source: Mountain Valley's FERC Application

C1-28
Mountain Valley Project
Parallel to Power Lines

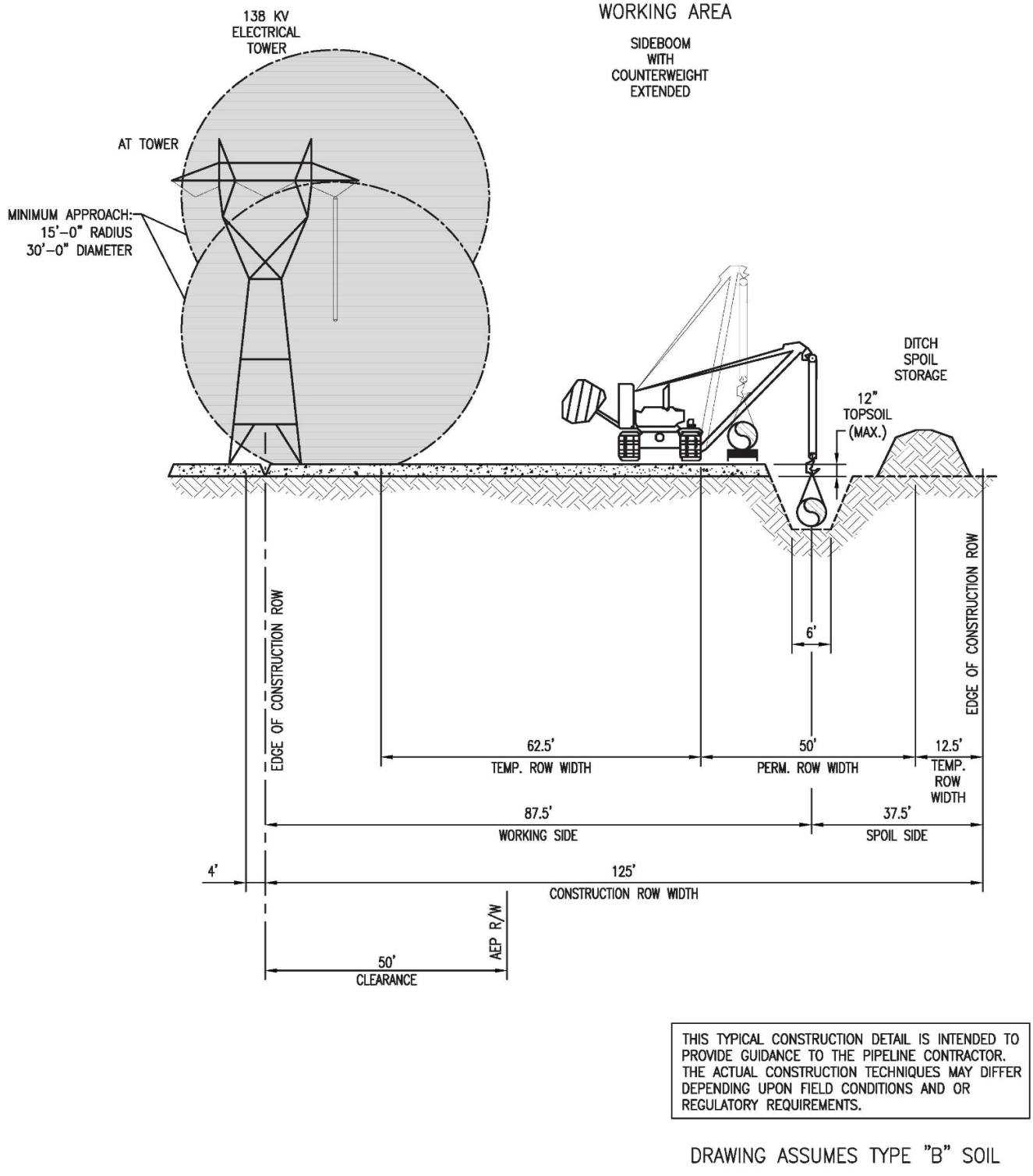


THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "B" SOIL

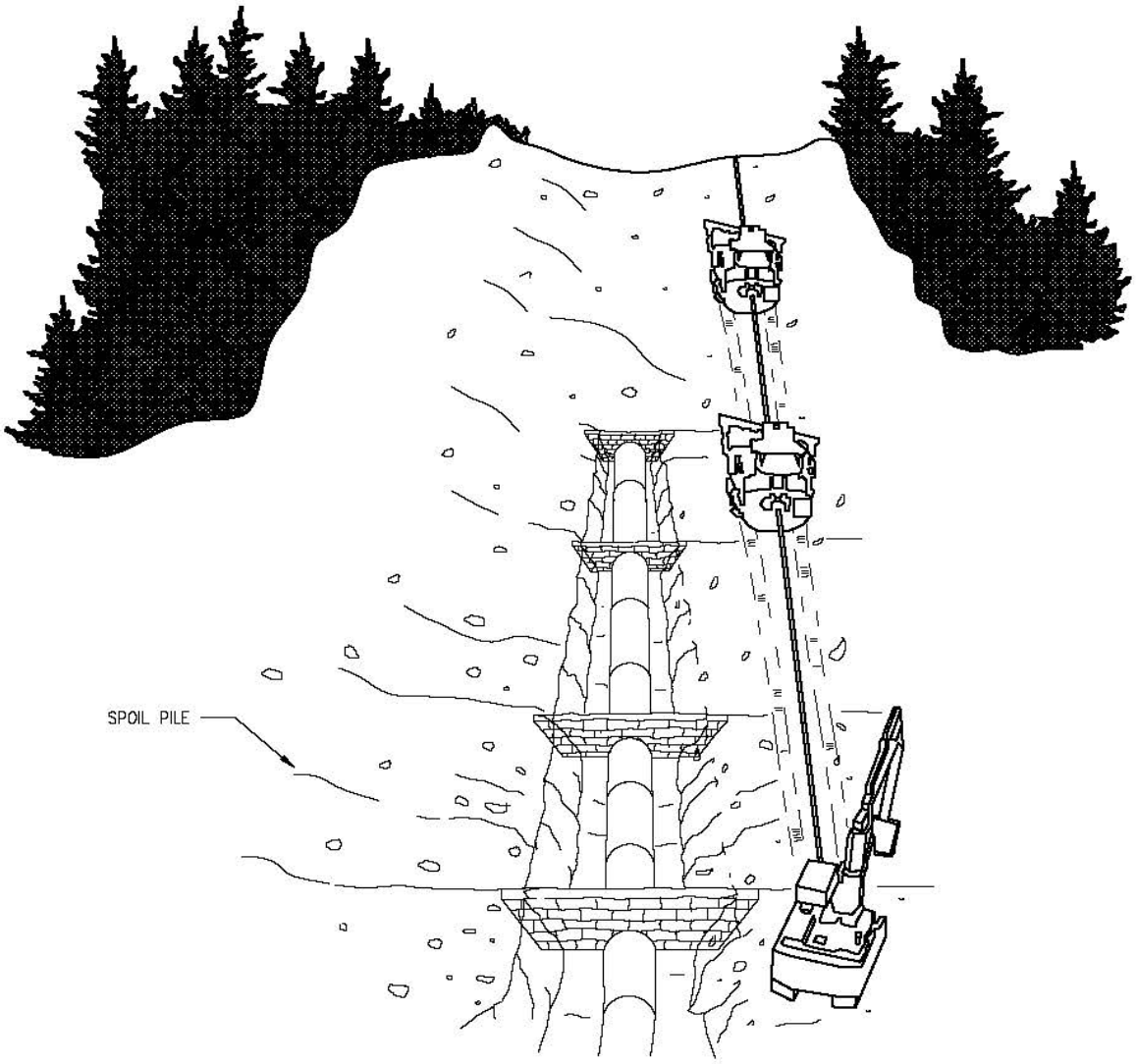
Source: Mountain Valley's FERC Application

C1-29
Mountain Valley Project
Parallel to Power Lines



Source: Mountain Valley's FERC Application

C1-30
Mountain Valley Project
Parallel to Power Lines



NOTES:

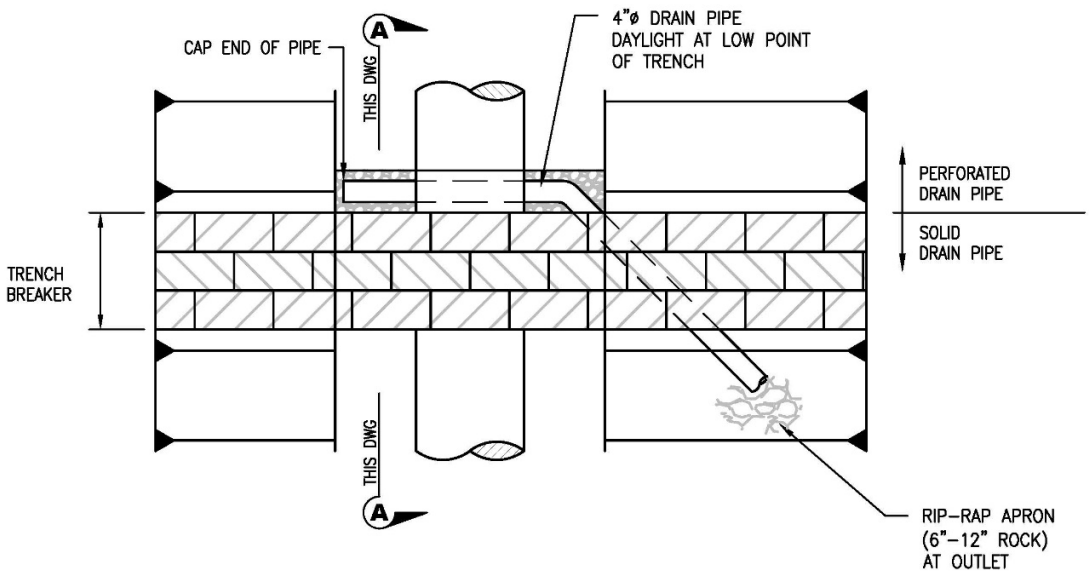
1. WINCHES MAY BE REQUIRED FOR MOVING EQUIPMENT AND MATERIAL, AND DURING CONSTRUCTION ON STEEP LONGITUDINAL SLOPES.
2. WINCHES WILL EITHER BE FIXED WINCHES OR TRACKED EQUIPMENT WITH WINCHES.
3. WINCHES WILL TYPICALLY BE REQUIRED FOR SLOPES OF 30% (17°) AND UP.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

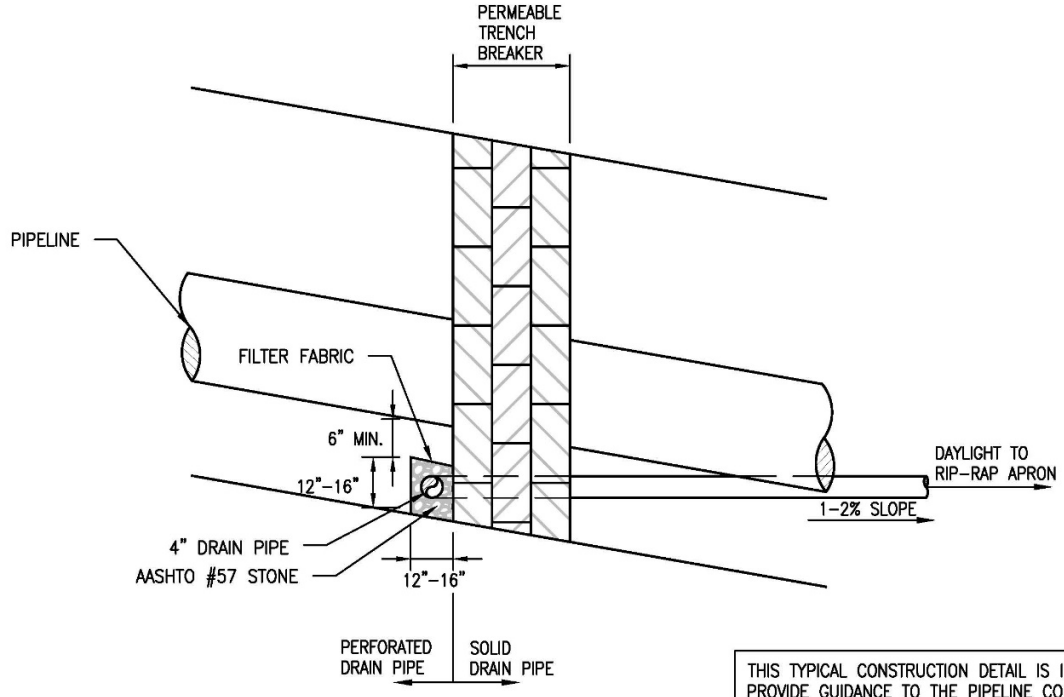
DRAWING ASSUMES TYPE "B" SOIL

Source: Mountain Valley's FERC Application

C1-31
Mountain Valley Project
Steep Hill Parallel Construction
No Topsoil Segregation



PLAN
SCALE: NOT TO SCALE

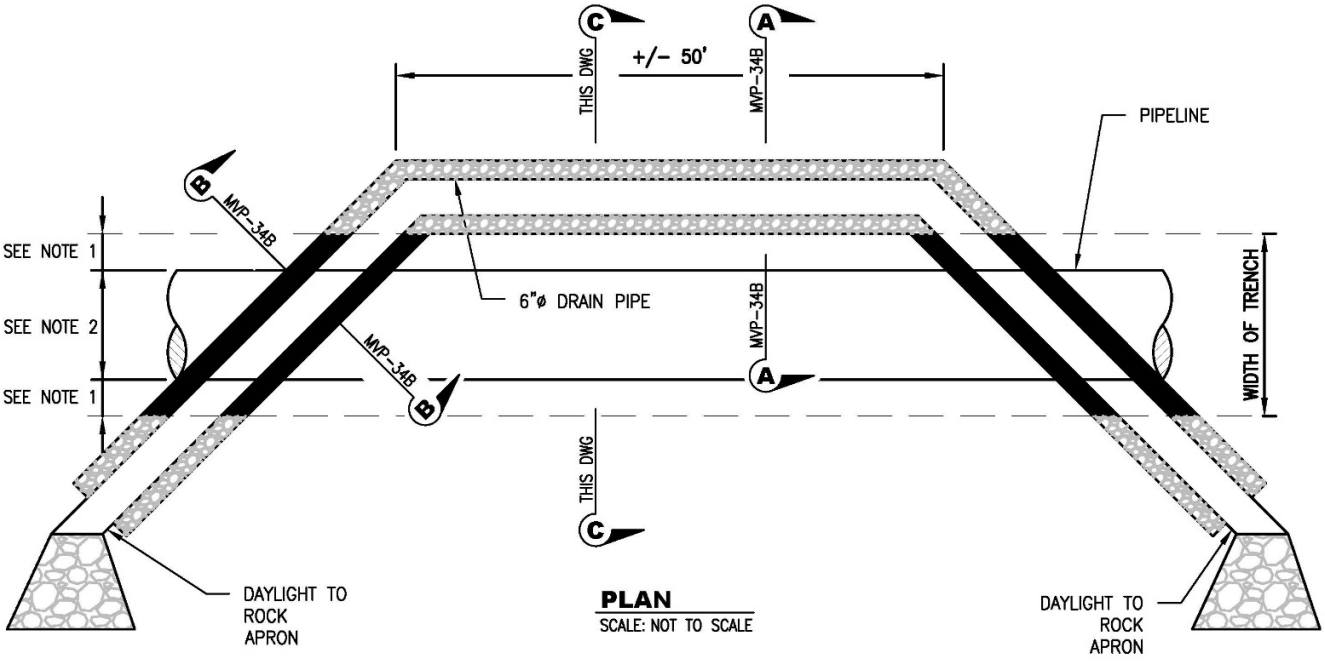


SECTION A-A
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-32
Mountain Valley Project
Trench Breaker Daylight Drain



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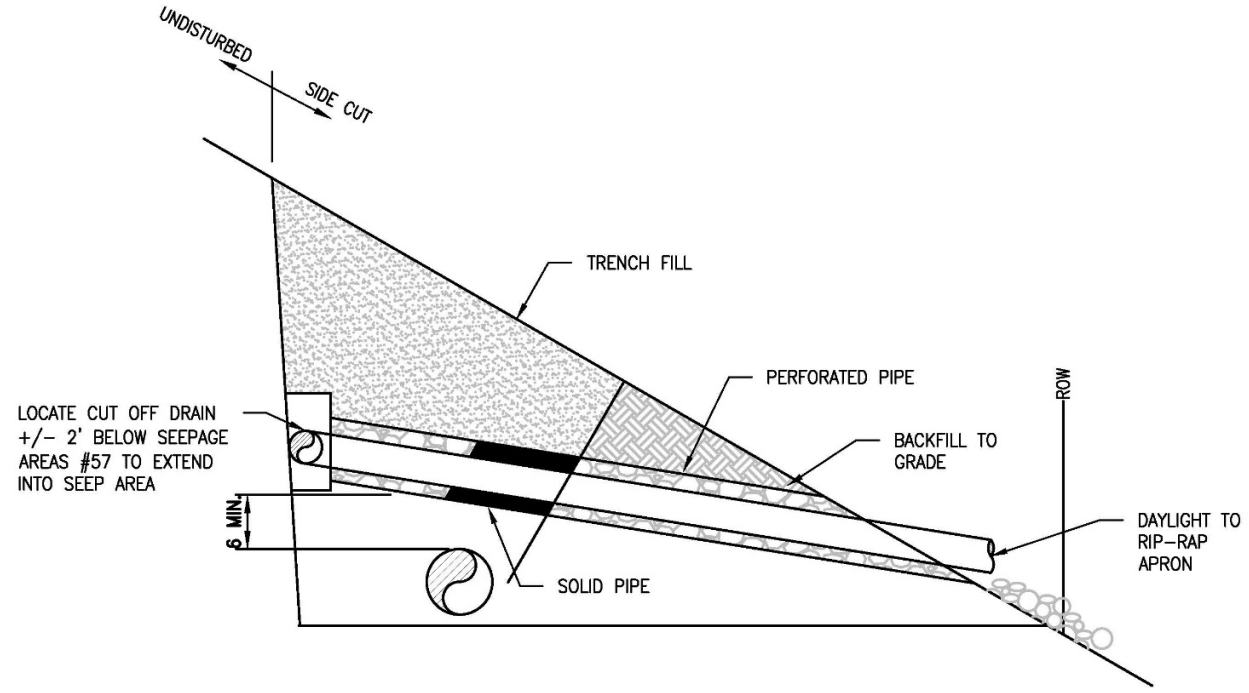


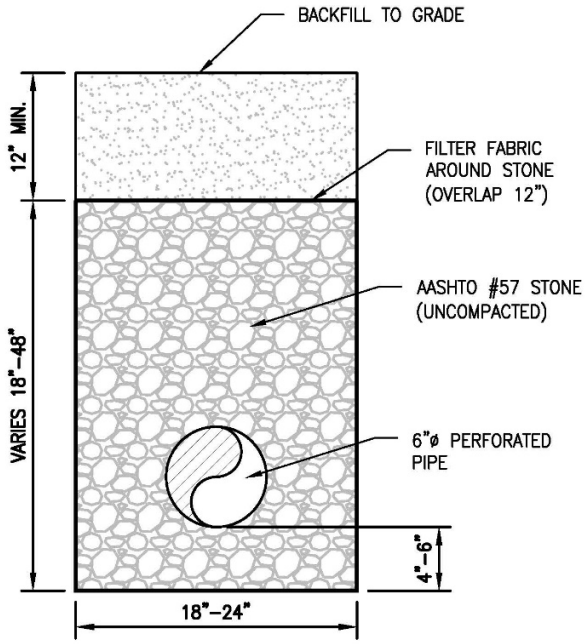
SECTION C-C
SCALE: NOT TO SCALE

NOTES:
1. PERFORATED PIPE SURROUNDED BY #57 STONE.
2. SOLID PIPE (IN TRENCH) SURROUNDED BY TRENCH BACKFILL.

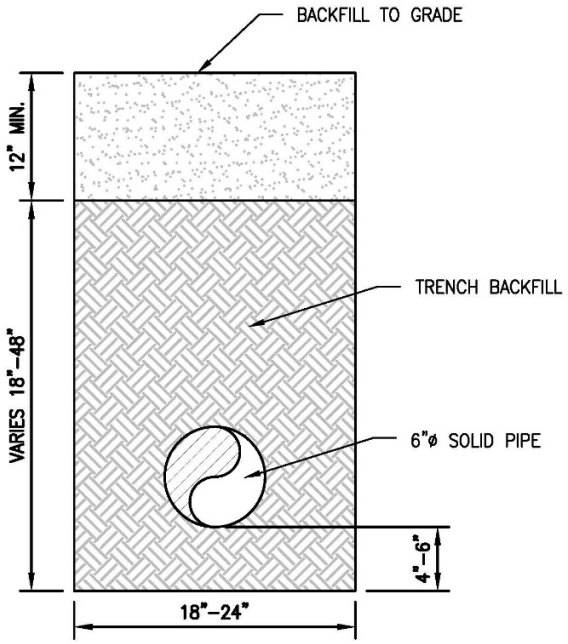
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-33A
Mountain Valley Project
Cutff Drain-Sidehill



SECTION A-A
SCALE: NOT TO SCALE
FROM MVP–34A

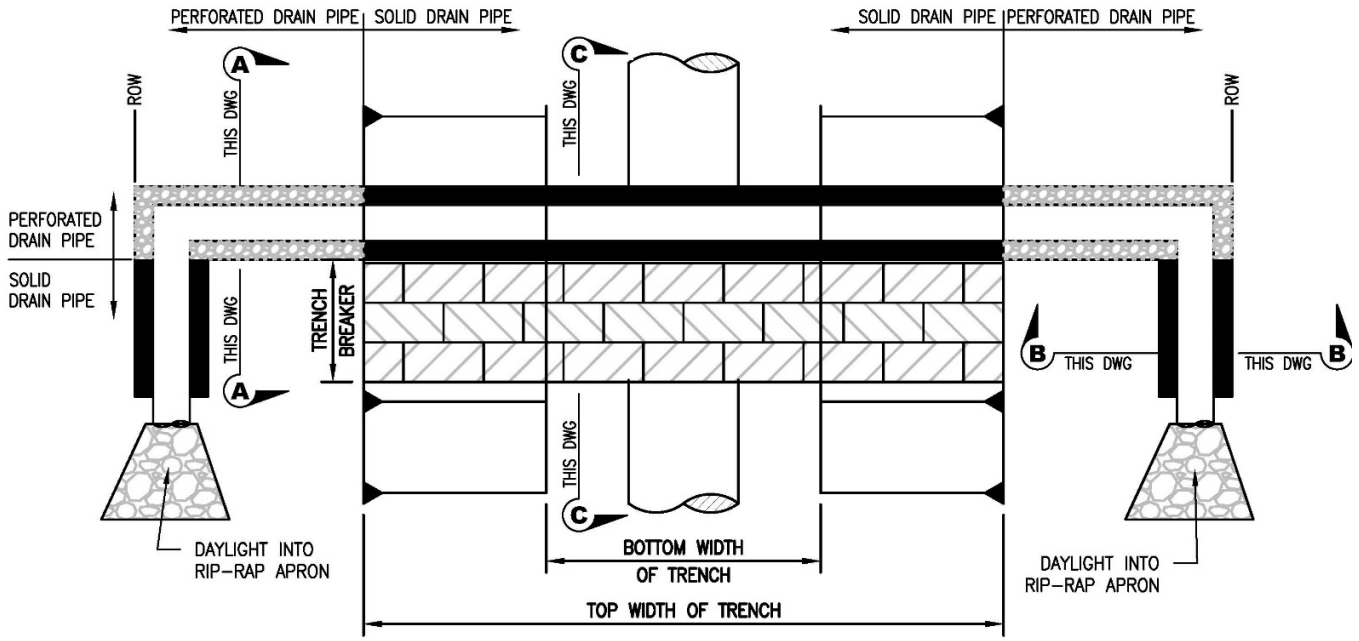


SECTION B-B
SCALE: NOT TO SCALE
FROM MVP–34A

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-33B
Mountain Valley Project
Cutff Drain-Sidehill



PLAN
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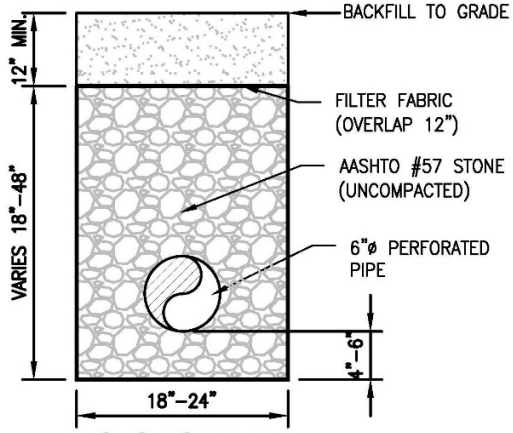
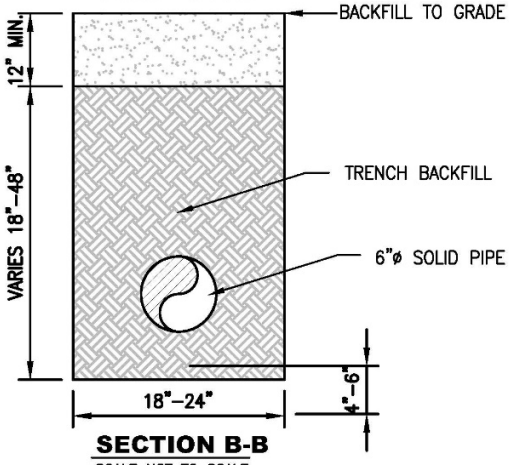
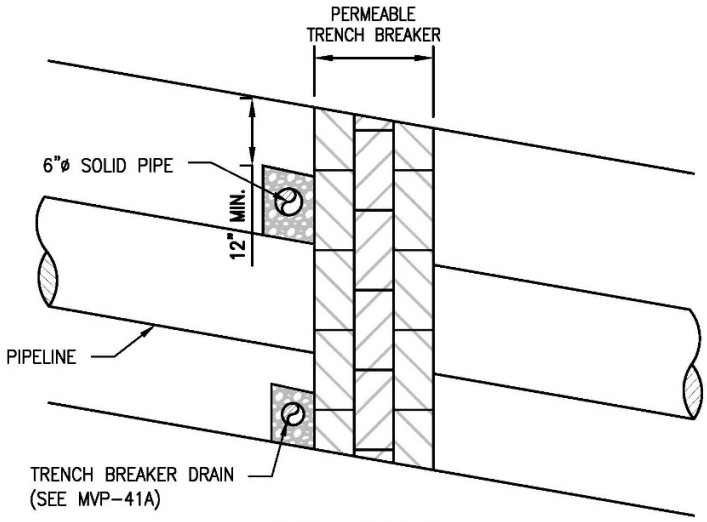


SECTION A-A
SCALE: NOT TO SCALE



SECTION B-B

NOTES:
1. EACH CUTOFF DRAIN SHALL UTILIZE A TRENCH BREAKER DRAIN (SEE DETAIL 1) TO DRAIN THE TRENCH.

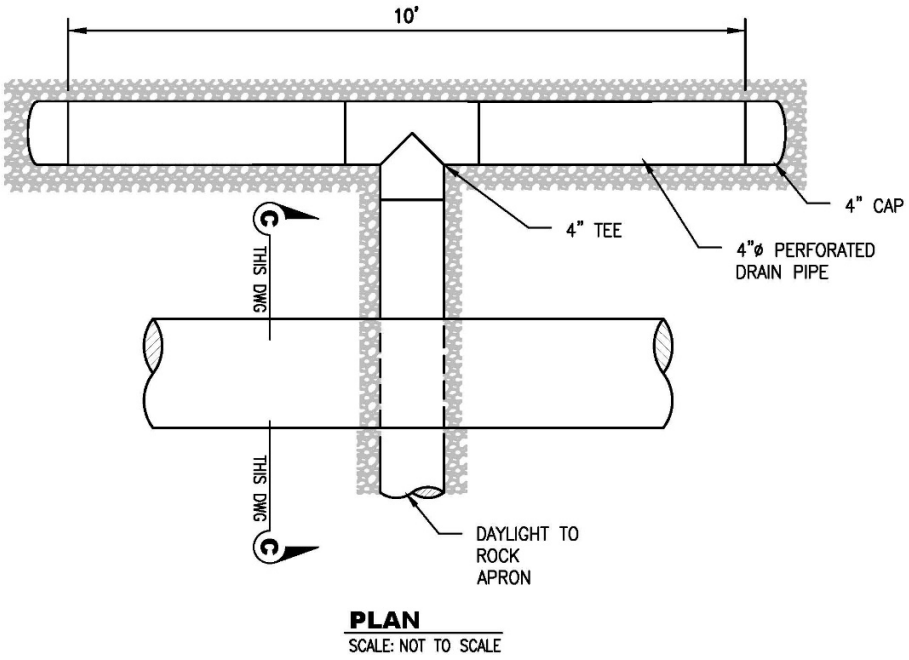


SECTION C-C
SCALE: NOT TO SCALE

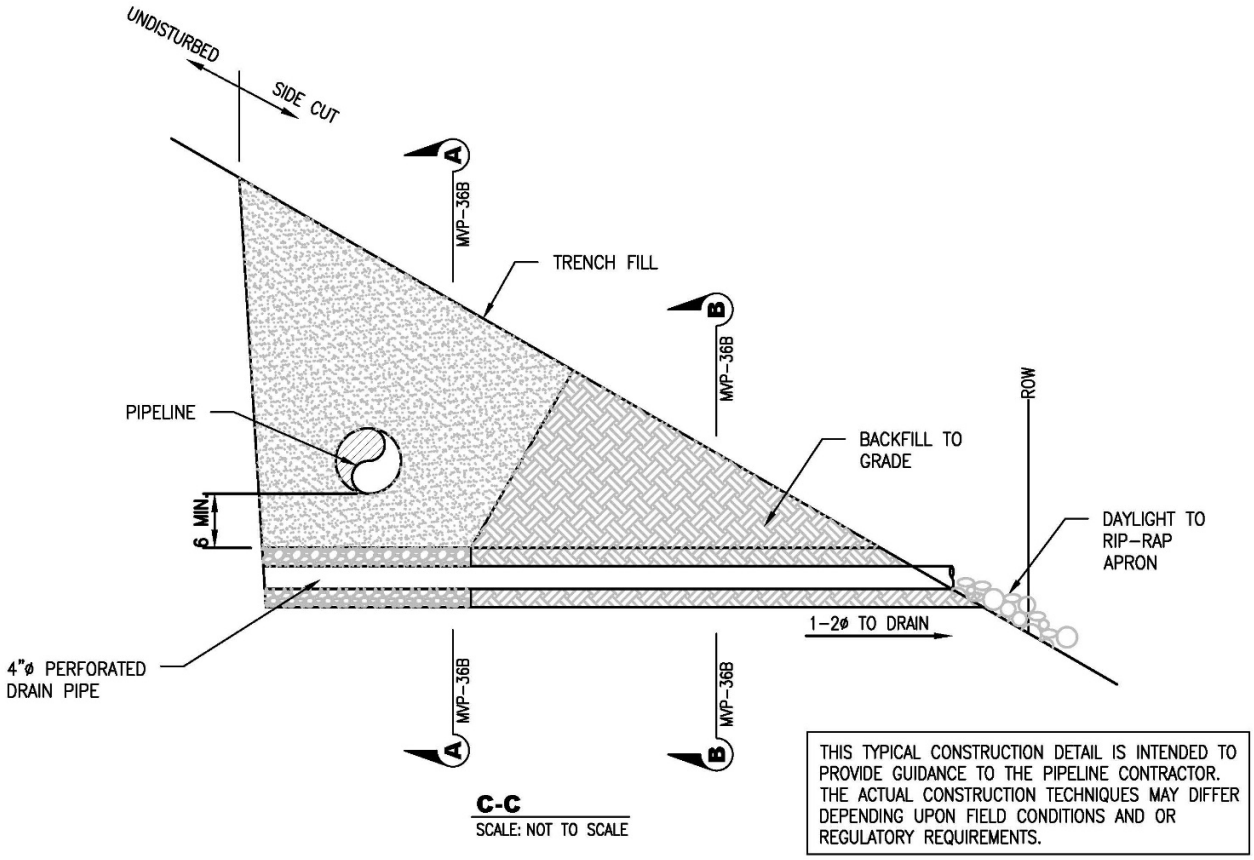
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-34
Mountain Valley Project
Cutff Drain-Planar



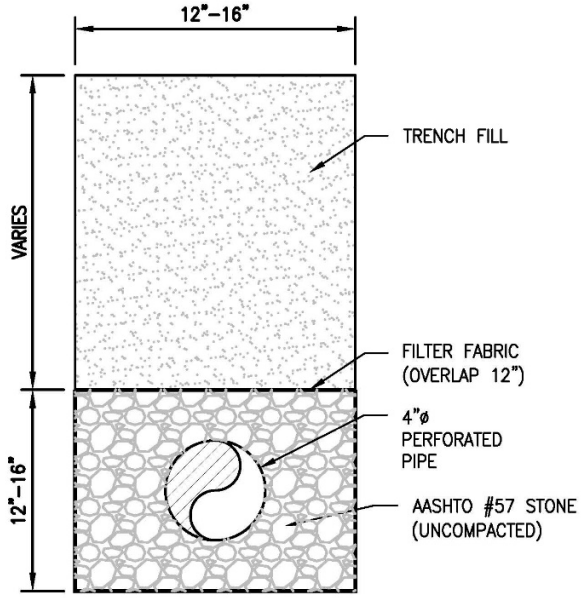
PLAN
SCALE: NOT TO SCALE



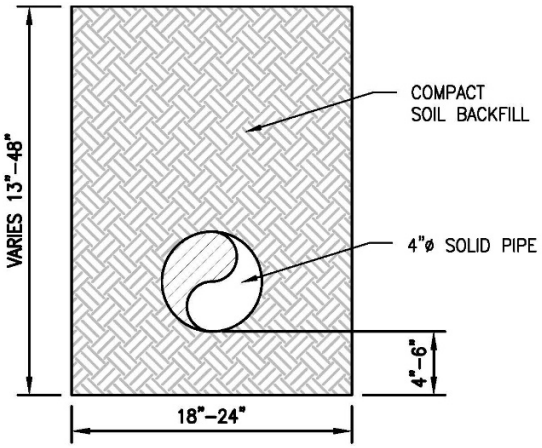
C-C
SCALE: NOT TO SCALE

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-35A
Mountain Valley Project
Transverse Trench Drain



SECTION A-A
SCALE: NOT TO SCALE
FROM MVP–36A

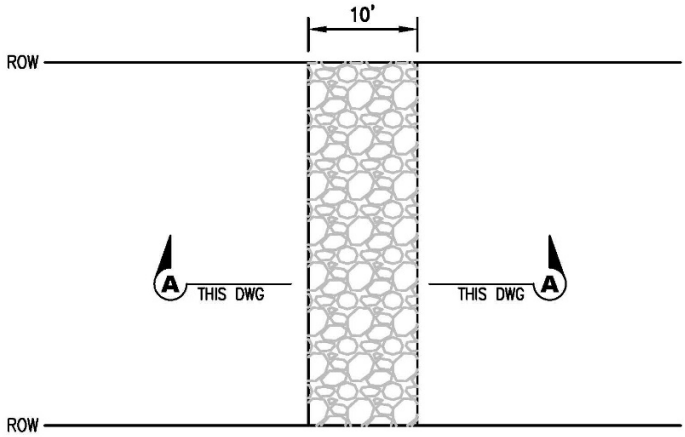


SECTION B-B
SCALE: NOT TO SCALE
FROM MVP–36A

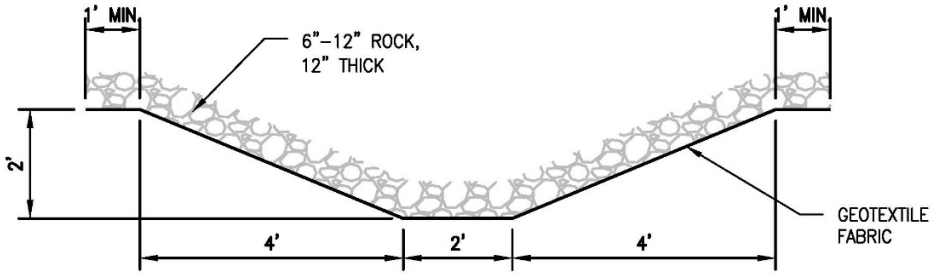
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-35B
Mountain Valley Project
Transverse Trench Drain



PLAN
SCALE: NOT TO SCALE

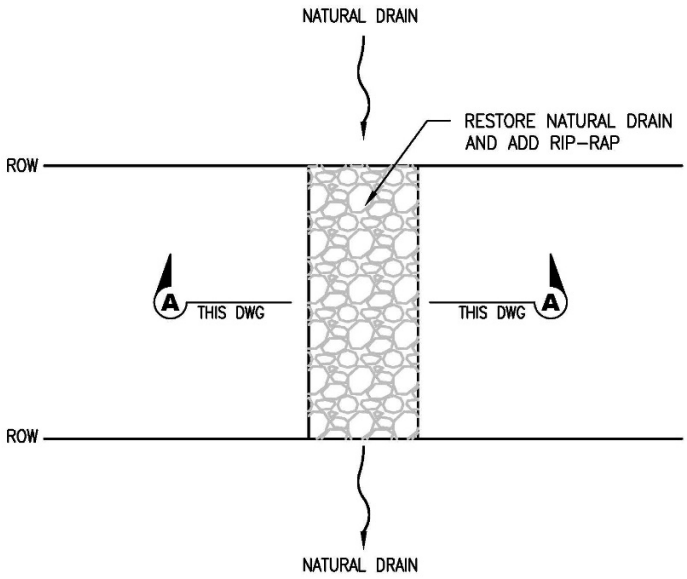


SECTION A-A
SCALE: NOT TO SCALE

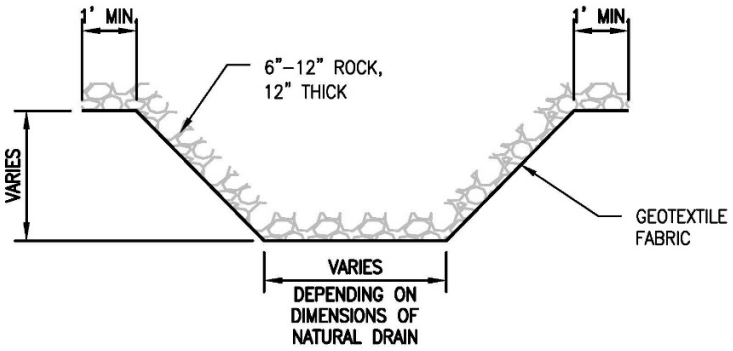
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-36
Mountain Valley Project
Rock Lined Swale



PLAN
SCALE: NOT TO SCALE

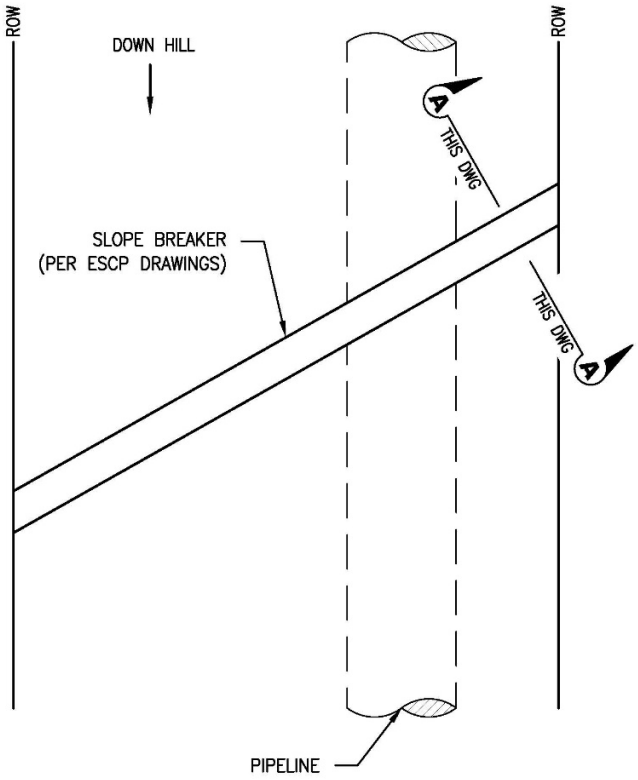


SECTION A-A
SCALE: NOT TO SCALE

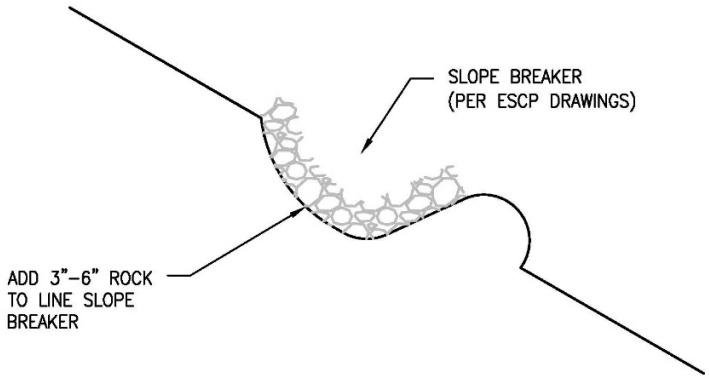
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-37
Mountain Valley Project
Rip-Rap Natural Drain



PLAN
SCALE: NOT TO SCALE

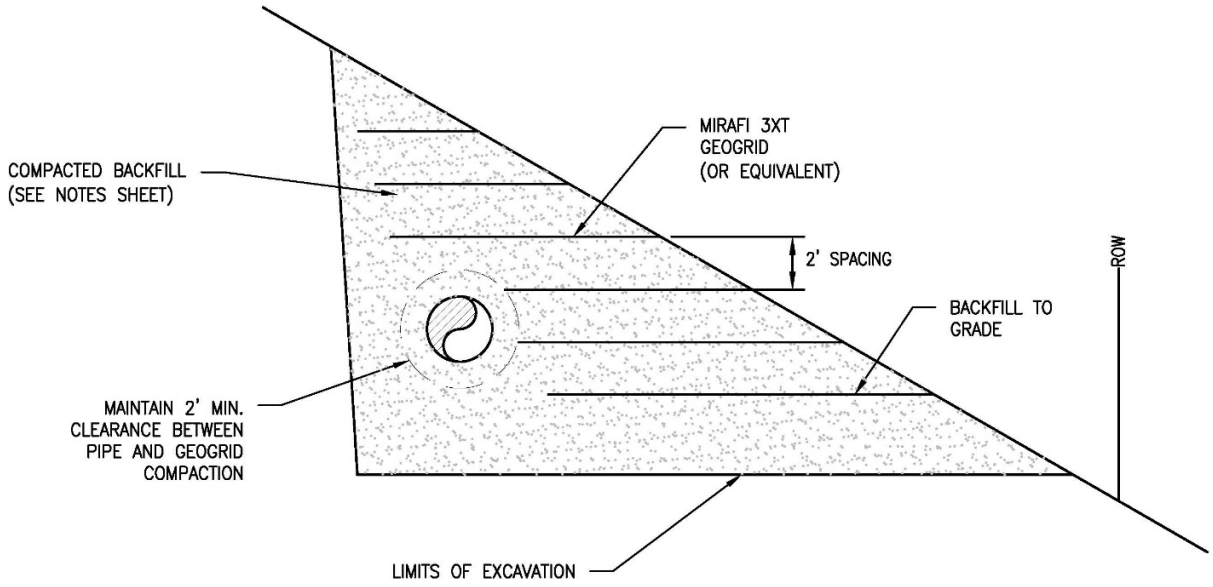


SECTION A-A
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

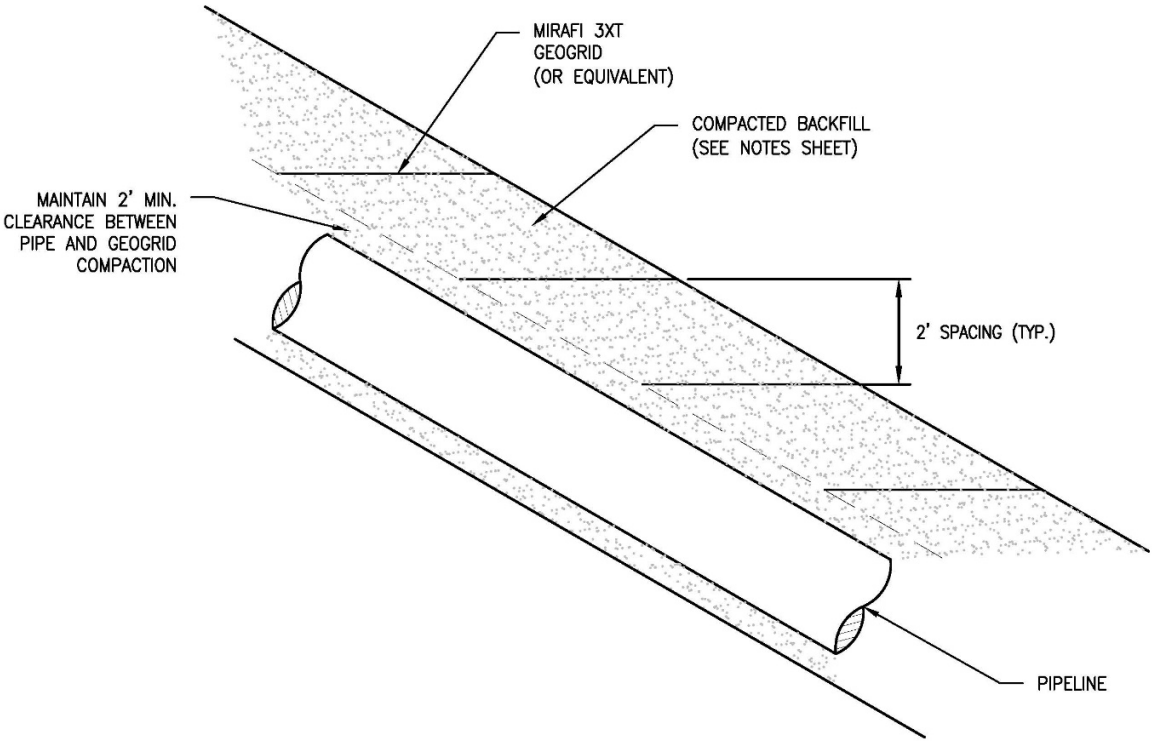
C1-38
Mountain Valley Project
Rip-Rap Slope Breakers



THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-39A
Mountain Valley Project
Geogrid-Sidehill



SECTION VIEW
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-39B
Mountain Valley Project
Geogrid-Planar

COMPACTION NOTES

1) ALL ROCKS LARGER THAN 6 INCHES IN SIZE, AND MORE THANK 10 PERCENT BY VOLUME SHOULD BE REMOVED AND PROPERLY DISPOSED FROM THE BACKFILL MATERIAL.
2) THE SUBGRADE AT THE BASE OF THE EXCAVATION SHOULD BE PROOFROLLED WITH A PNEUMATIC TIRED ROLLER OR VEHICLE.
3) THE EXCAVATED AREA SHALL BE BACKFILLED WITH THE CLEANED EXCAVATED SOIL MATERIAL AND COMPACTED IN PLACE.
4) BACKFILL OPERATIONS SHALL BE PERFORMED WHEN SOIL IS SUITABLE FOR COMPACTION (I.E., NOT IMMEDIATELY FOLLOWING A LARGE RAIN, SNOW, OR ICE EVENT). FROZEN FILL SHALL NOT BE USED.
5) THE BACKFILL SHALL BE PLACED IN COMPACTED LIFTS NO GREATER THAN 12 INCHES.
6) MAINTAIN A MINIMUM 2FT CLEARANCE BETWEEN COMPACTION ACTIVITY AND THE GAS PIPELINE.

GRAVEL DRAIN NOTES

1) GEOTEXTILE FABRIC SHALL BE TENCATE MIRAFI 140N OR APPROVED EQUIVALENT.
2) THE GEOTEXTILE FABRIC SHALL BE STORED UNDAMAGED PURSUANT TO MANUFACTURERS RECOMMENDATIONS.
3) DO NOT OPERATE CONSTRUCTION EQUIPMENT DIRECTLY ON THE GEOTEXTILE FABRIC.
4) DRAINAGE AGGREGATE SHALL MEET THE REQUIREMENTS OF AASHTO NO. 57 STONE.
5) DRAINAGE AGGREGATE SHALL NOT BE COMPACTED.

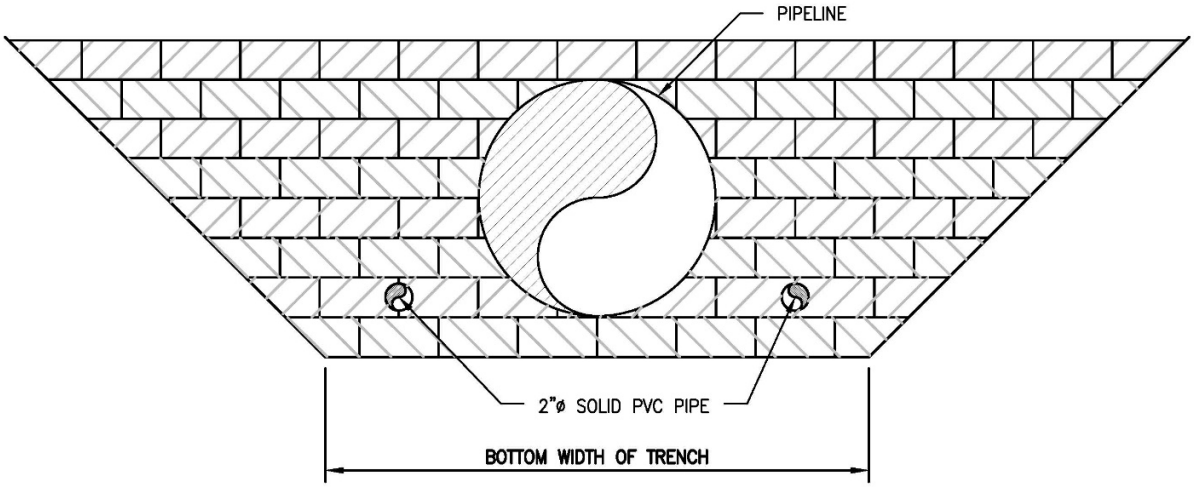
GEOGRID NOTES

1) GEOGRID REINFORCEMENT SHALL BE TENCATE MIRAFI 3XT OR APPROVED EQUIVALENT.
2) THE GEOGRID MATERIAL SHALL BE STORED UNDAMAGED PURSUANT TO MANUFACTURERS RECOMMENDATIONS.
3) GEOGRID SHALL BE PLACED HORIZONTALLY ON THE BACKFILL WITH THE PRINCIPAL STRENGTH DIRECTION PERPENDICULAR TO THE FACE OF THE SLOPE. ADJACENT PIECES OF PRIMARY GEOGRID SHALL NOT OVERLAP BUT ARE TO BE BUTTED SIDE TO SIDE.
4) REMOVE ALL SLACK IN THE GEOGRID MATERIAL AND ANCHOR AS NECESSARY WITH PINS, OR BAGS TO PREVENT SLACK FROM DEVELOPMENT DURING FILL PLACEMENT AND COMPACTION.
5) FILL IS TO BE PLACED AND SPREAD DIRECTLY ON THE GEOGRID MATERIAL WITH RUBBER TIRED EQUIPMENT ONLY. SPEEDS ARE TO BE KEPT SLOW WITH AS FEW STOPS AND TURNS AS PRACTICAL.
6) DO NOT OPERATE TRACKED EQUIPMENT DIRECTLY ON THE GEOGRID MATERIAL.
7) MAINTAIN A MINIMUM 2FT CLEARANCE BETWEEN GEOGRID MATERIAL AND THE GAS PIPELINE.

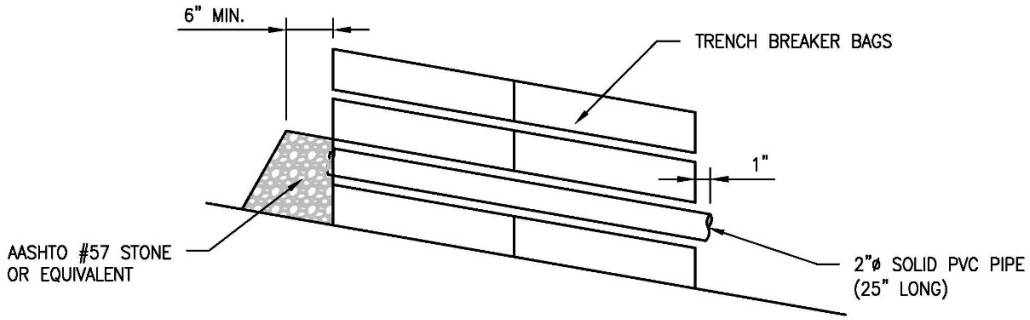
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-39C
Mountain Valley Project
Geogrid Notes



FRONT VIEW
SCALE: NOT TO SCALE



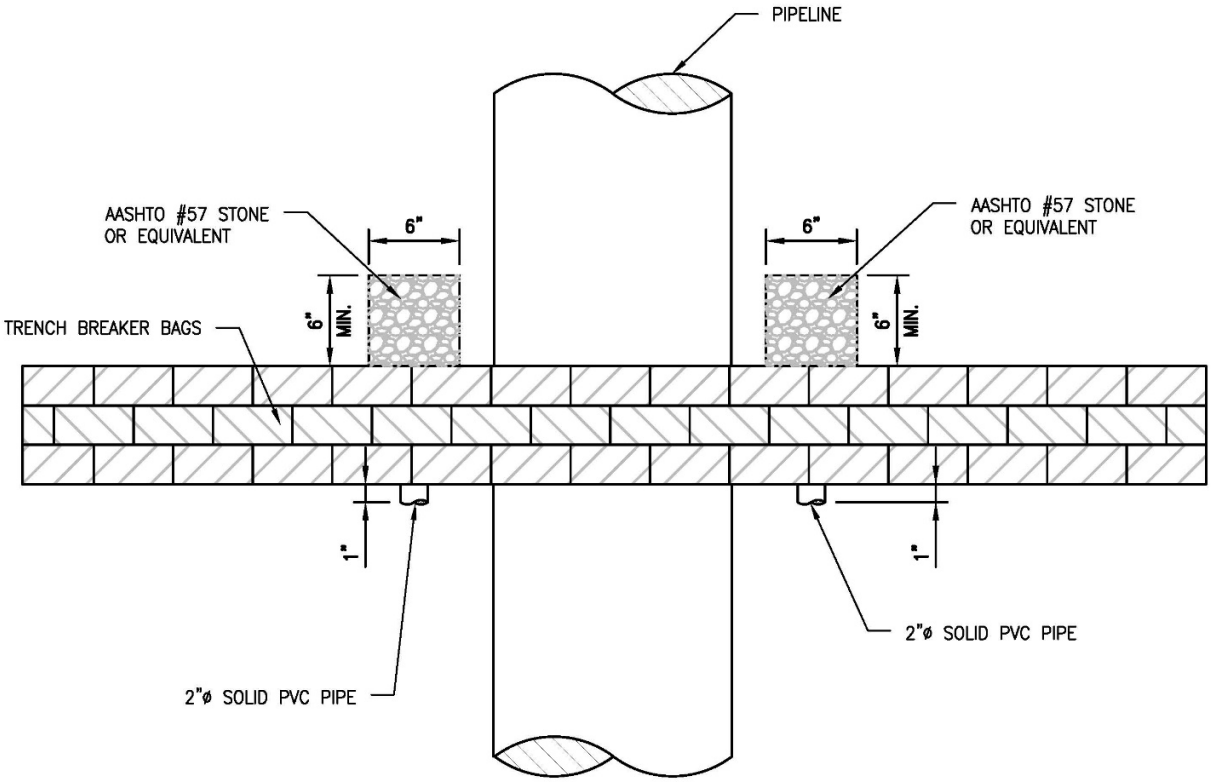
SECTION VIEW
SCALE: NOT TO SCALE

NOTES:
1. PLACE PVC DRAIN PIPE ON FIRST LAYER OF TRENCH BREAKER BAGS.
2. PLACE PVC DRAIN PIPE EQUADISTANT FROM THE OUTSIDE EDGE OF THE 30" GAS PIPE AND THE BOTTOM LIMITS OF THE TRENCH.
3. EXTEND PVC PIPE THROUGH ENTIRE TRENCH BREAKER AND EXTEND APPROX. 1" PAST END OF BREAKER.
4. AASHTO#57 STONE SHALL BE PLACED TO A MINIMUM 6" THICKNESS UPSLOPE OF THE DRAIN PIPE.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-40A
Mountain Valley Project
Pass-Through Drain

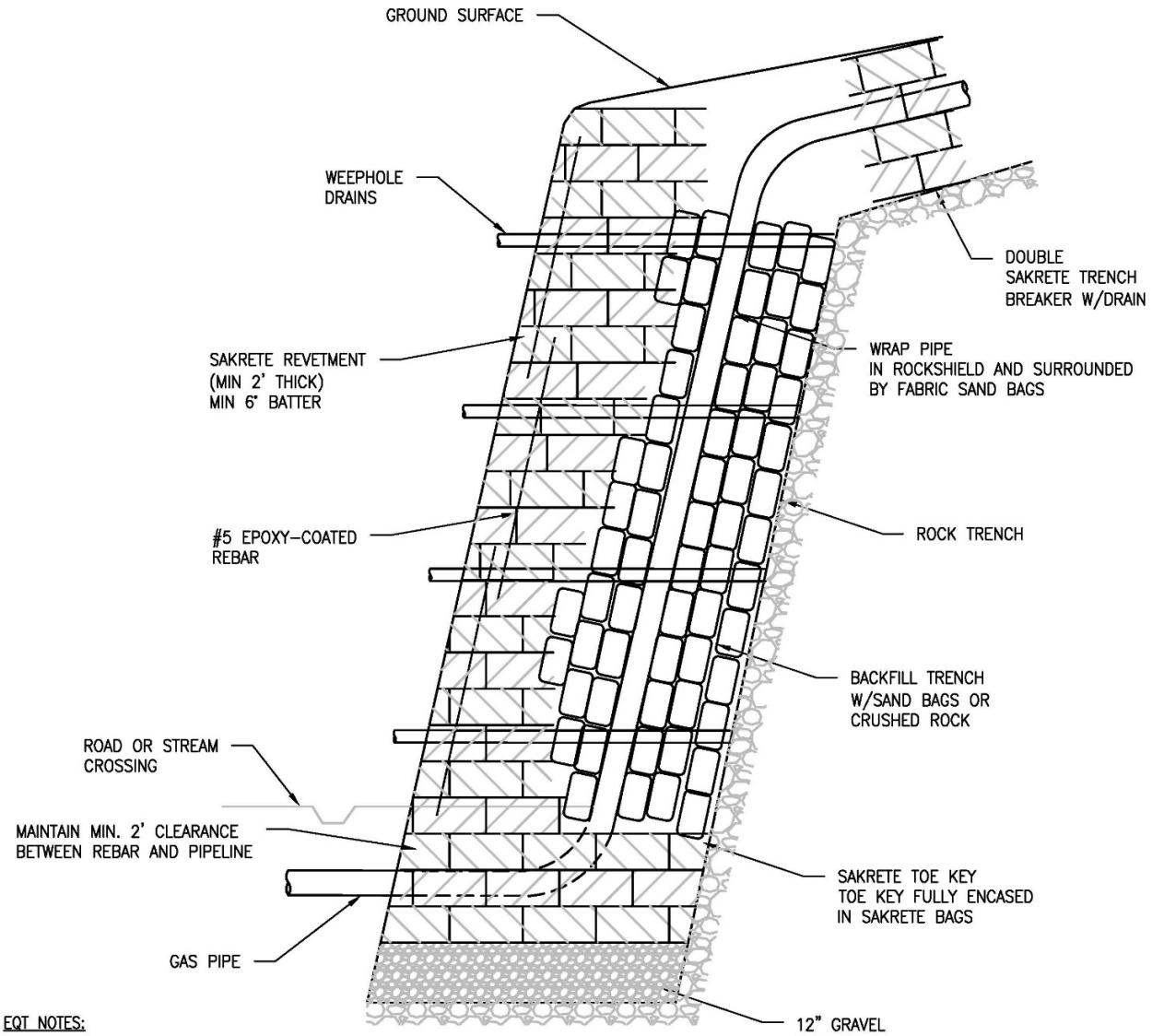


PLAN VIEW
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-40B
Mountain Valley Project
Trench Breaker
Pass-Through Drain



EQT NOTES:

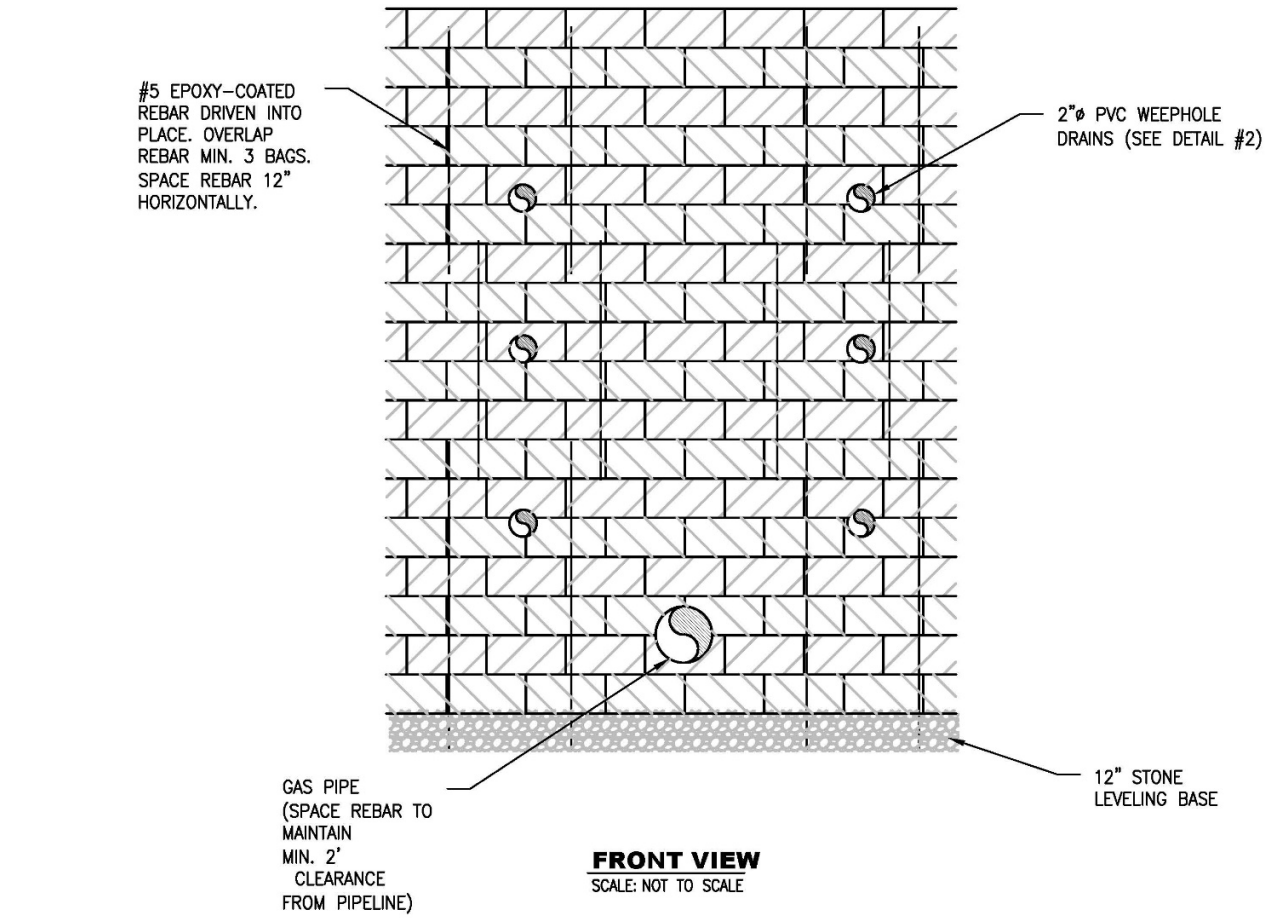
1. SAKRETE BAGS SHOULD EXTEND 4 BAGS DEEP PIPE SHOULD BE COMPLETELY SURROUNDED BY SAND BAGS, OR CRUSHED ROCK (MAX 6").
2. SAKRETE BAGS SHOULD BE STAGGERED IN A MASONRY FASHION. THE FACE OF THE WELL SHALL BE INCLINED 6°–10° FROM VERTICAL.
3. #5 REBAR SHOULD BE DRIVEN THROUGH THE SAKRETE BAGS (SEE DETAIL 1).
4. 2"ø PVC WEEPHOLE DRAINS SHALL BE INSTALLED EVERY 15 FT.

SIDE VIEW
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

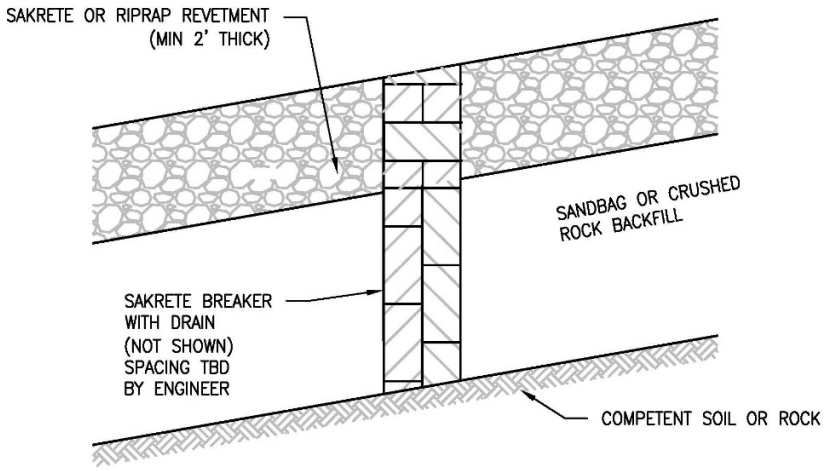
Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-41A
Mountain Valley Project
Highwall Revetment
Side View



Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-41B
Mountain Valley Project
Highwall Revetment
Front View and Drain Detail

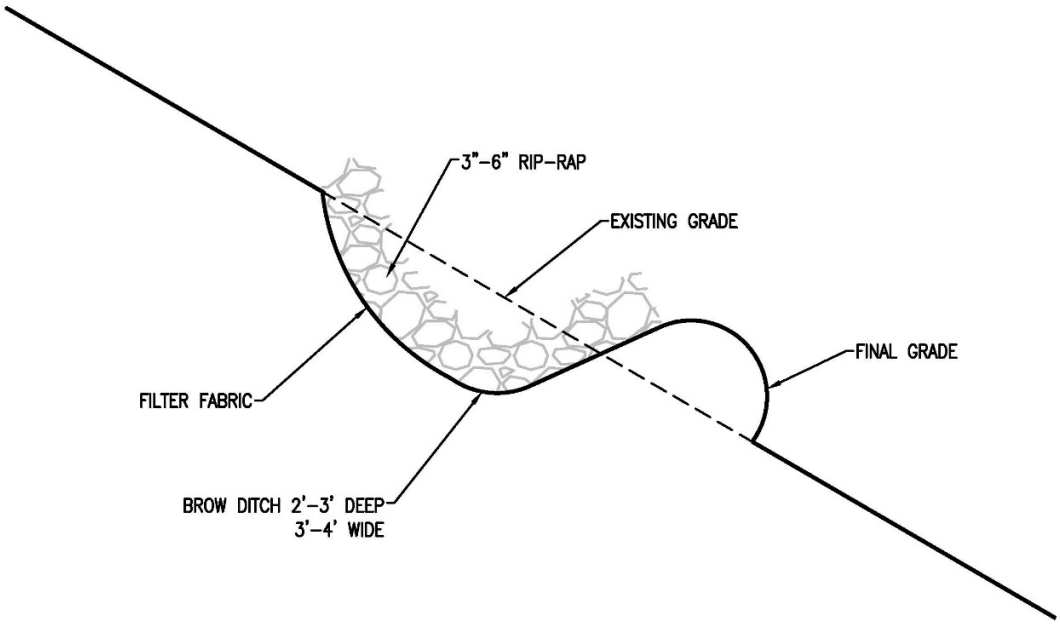


SIDE VIEW
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

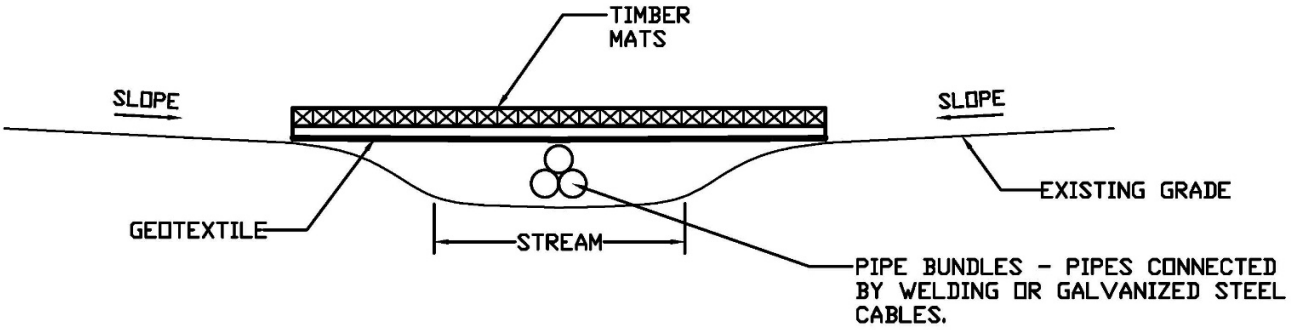
C1-42
Mountain Valley Project
Steep Slope Revetment



THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20161014-5022)

C1-43
Mountain Valley Project
Brow Ditch Detail



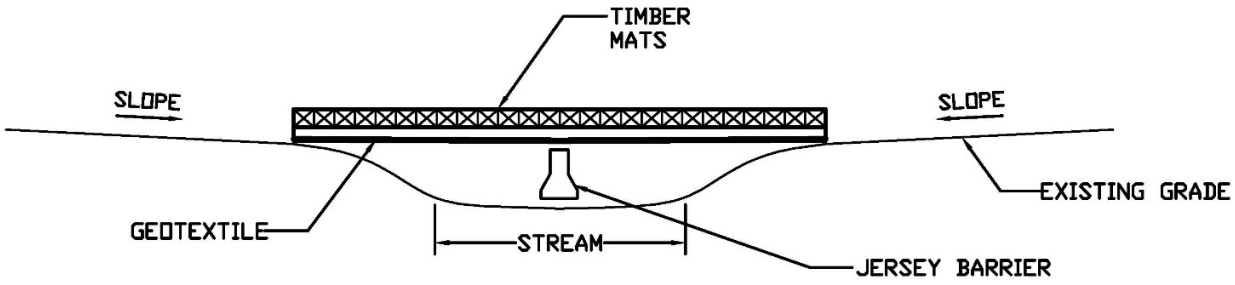
NOTE:

CFS TO BE INSTALLED AT THE END OF EACH WORKING DAY.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20170330-5339

C1-44
Mountain Valley Project
Timber mat and Pipe Bundle
Temporary Stream Crossing



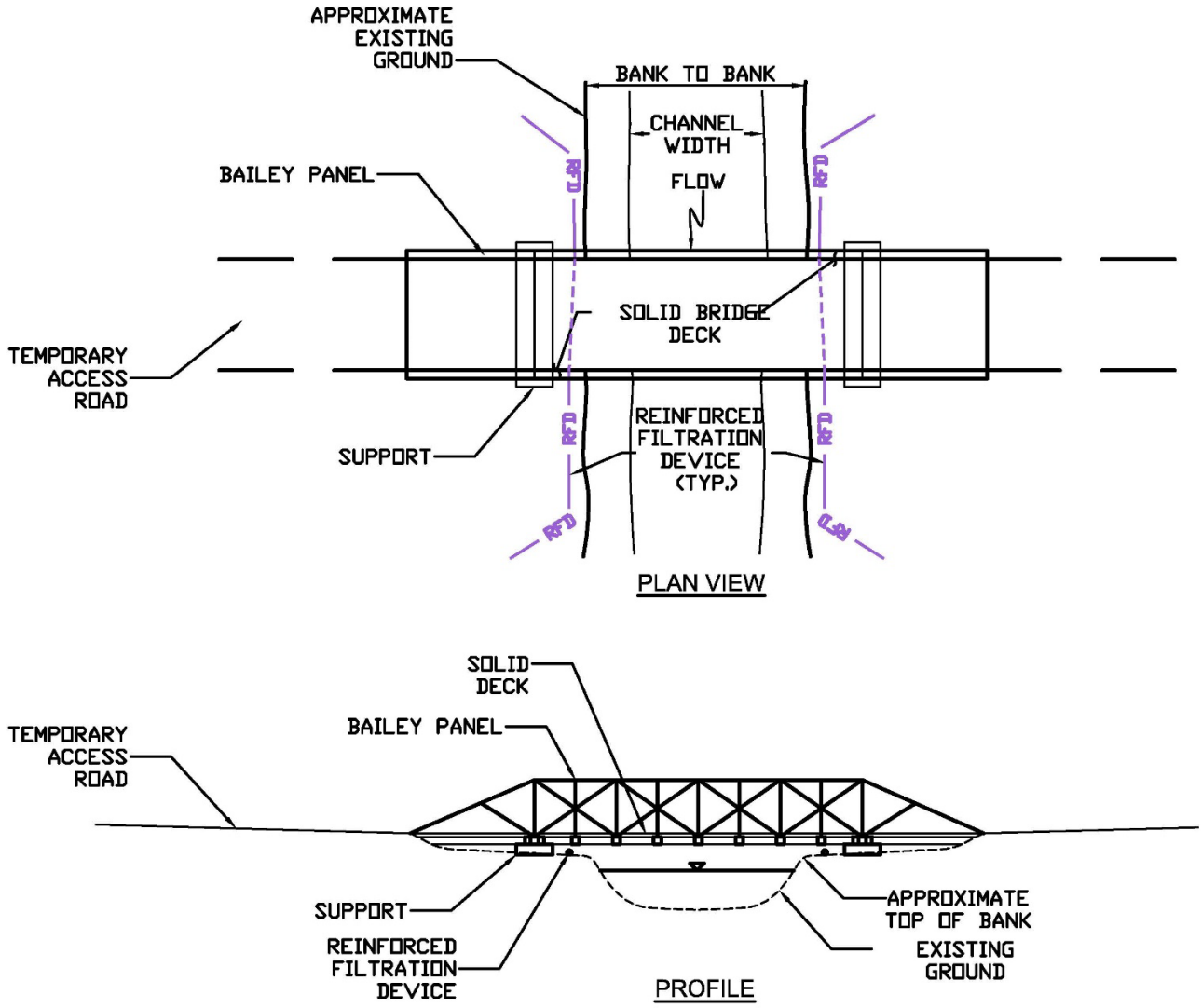
NOTE:

CFS TO BE INSTALLED AT THE END OF EACH WORKING DAY.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20170330-5339

C1-45
Mountain Valley Project
Timber Mat and Jersey Barrier
Temporary Stream Crossing



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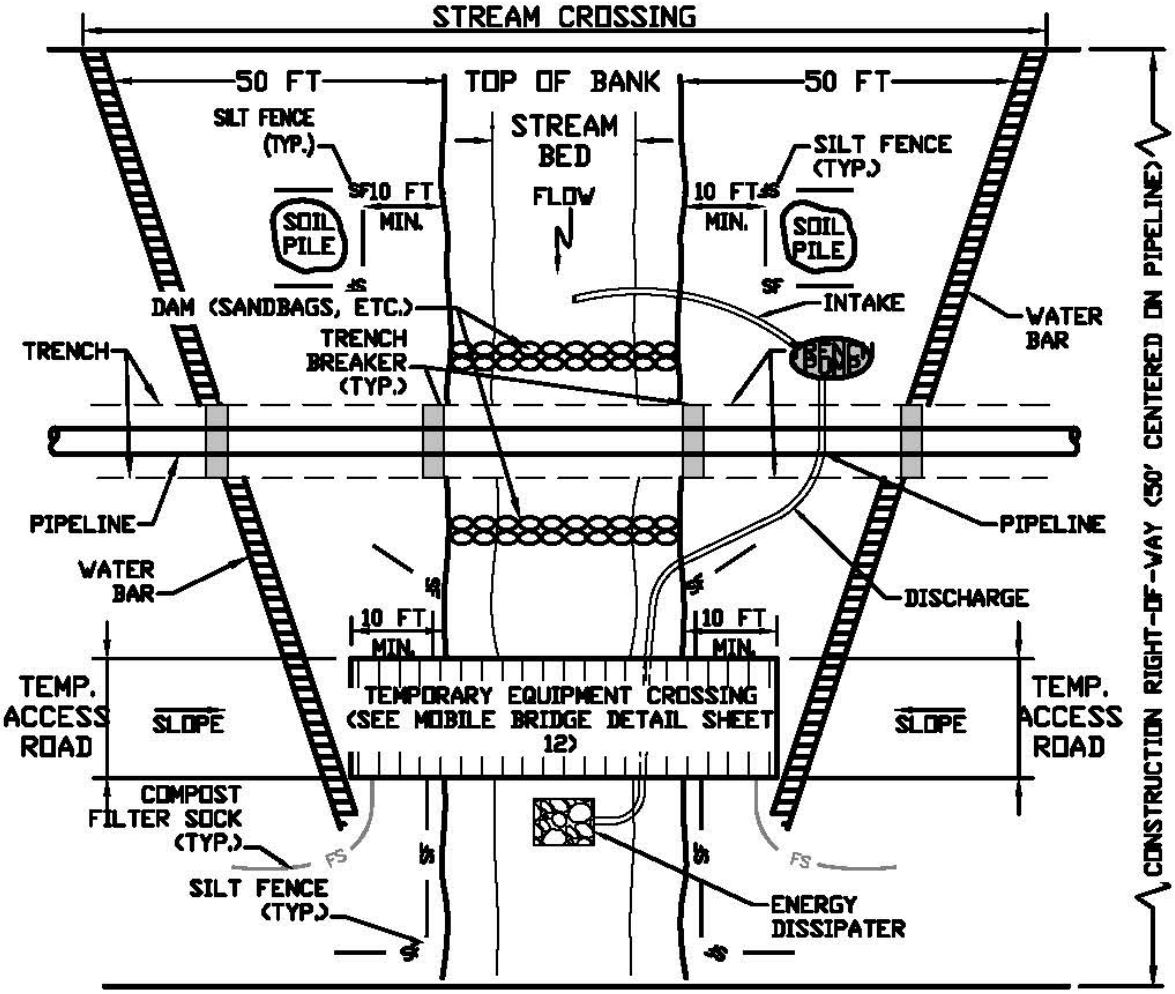
Source: Mountain Valley Submittal (Accession number 20170330-5339

C1-46
Mountain Valley Project
Modular Temporary
Bailey Bridge



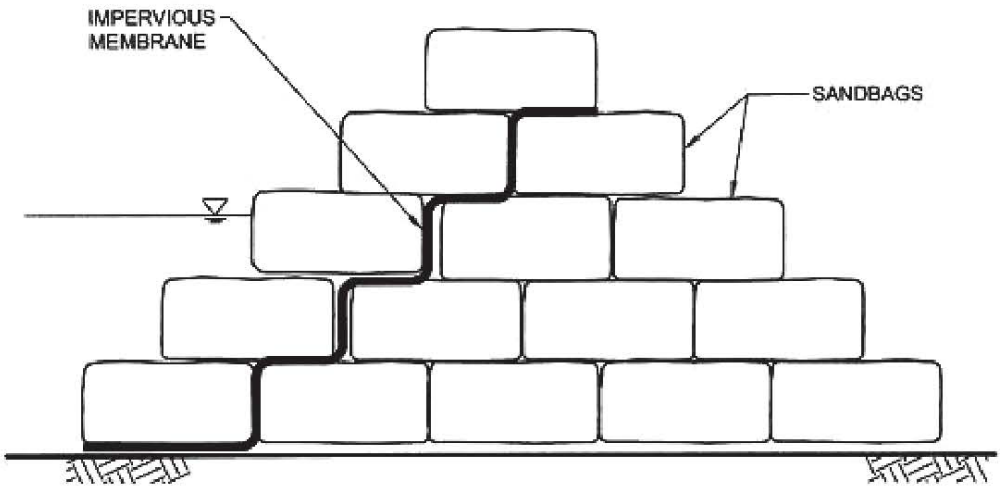
PLAN VIEW

NOTES:

1. INSTALL COMPOST FILTER SOCKS, TRENCH BREAKERS, PUMP, ENERGY DISSIPATER, AND DAMS BEFORE TRENCHING STREAM.
2. PUMP MUST BE OF SUFFICIENT CAPACITY TO CONVEY NORMAL AND/OR EXISTING STREAM FLOW OVER TRENCH. A BACK-UP PUMP OF EQUAL CAPACITY MUST BE AVAILABLE ON-SITE DURING CONSTRUCTION OF THE PIPELINE CROSSING.
3. PLACE SOIL PILES A MINIMUM OF 10 FEET FROM TOP OF BANK.
4. INSTALL WATER BARS AT APPROACHES TO STREAM CROSSING AND COMPOST FILTER SOCKS, SILT FENCE, OR SUPER SILT FENCE (AS INDICATED ON PLAN SHEETS).
5. MAINTAIN SURFACE OF TEMPORARY EQUIPMENT CROSSING TO PREVENT SOIL DISCHARGES TO STREAM.
6. APPROACHES TO CROSSINGS ARE NOT TO EXCEED A DEPTH OF 6 INCHES ABOVE ORIGINAL GRADE.
7. RESTORE AREA TO APPOXIMATE ORIGINAL CONTOURS.

Source: Mountain Valley Submittal (Accession number 20170330-5339)

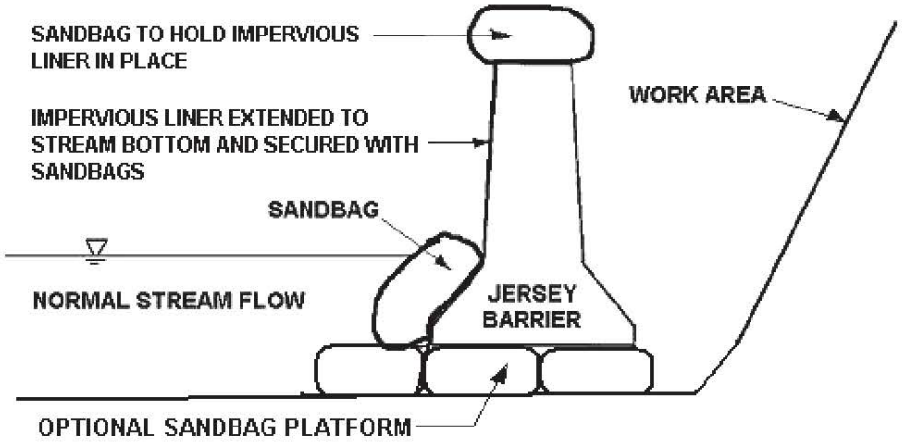
C1-47
Mountain Valley Project
Stream Crossing
Pump Station



PA DEP

2 BAG MINIMUM HEIGHT ABOVE NORMAL BASE FLOW

FIGURE 3.13
Jersey Barrier Cofferdam – End View



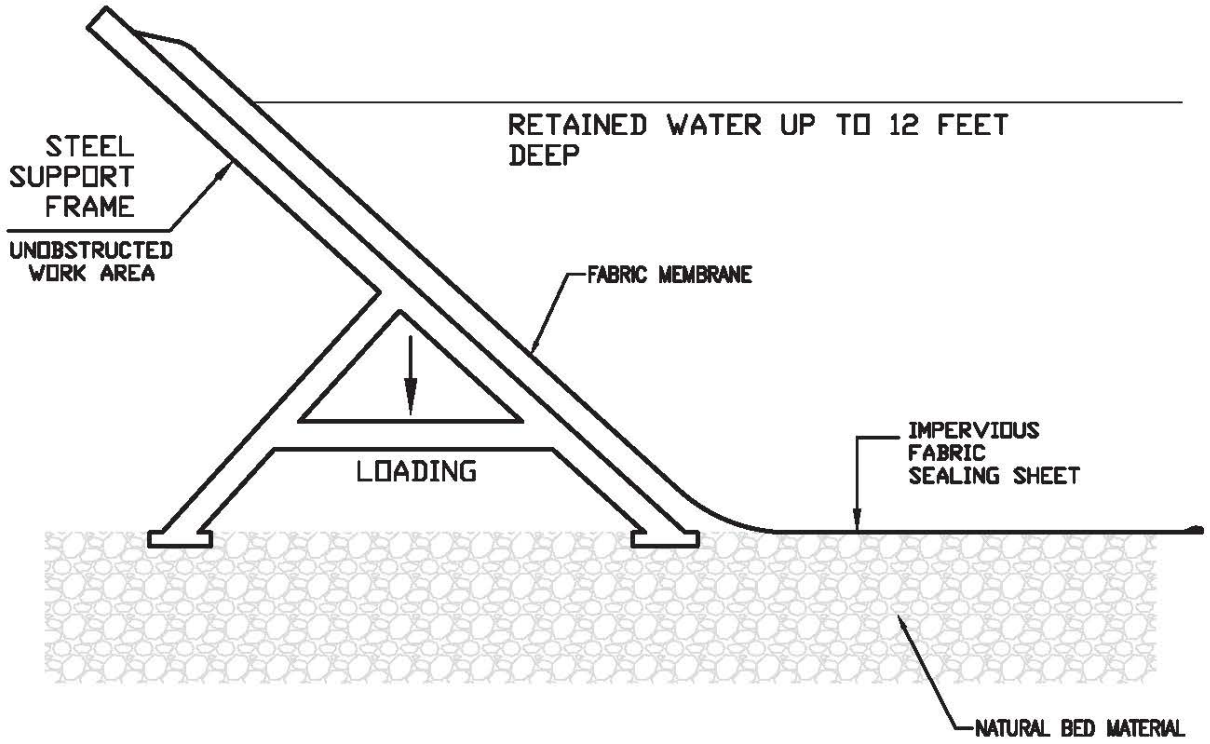
PA DEP

NOTES: AT NO TIME, SHOULD MORE THE 60% OF THE STREAM CHANNEL WIDTH BE DIVERTED DURING PIPELINE INSTALLATION.

GRUBBING SHALL NOT TAKE PLACE WITHIN 50 FEET OF TOP-OF-BANK UNTIL ALL MATERIALS REQUIRED TO COMPLETE CROSSING ARE ON SITE AND PIPE IS READY FOR INSTALLATION. TRENCH BREAKERS SHALL BE INSTALLED WITHIN THE TRENCH ON BOTH SIDES OF THE STREAM CHANNEL (MVP TYPICAL DETAIL MVP-20). WATER ACCUMULATING WITHIN THE WORK AREA SHALL BE PUMPED TO A PUMPED WATER FILTER BAG OR SEDIMENT TRAP PRIOR TO DISCHARGING INTO ANY RECEIVING SURFACE WATER.
HAZARDOUS OR POLLUTANT MATERIAL STORAGE AREAS SHALL BE LOCATED AT LEAST 100 FEET BACK FROM THE TOP OF STREAMBANK. ALL EXCESS EXCAVATED MATERIAL SHALL BE IMMEDIATELY REMOVED FROM THE STREAM CROSSING AREA.
ALL DISTURBED AREAS WITHIN 50 FEET OF TOP-OF-BANK SHALL BE BLANKETED OR MATTED WITHIN 24 HOURS OF INITIAL DISTURBANCE FOR MINOR STREAMS OR 48 HOURS OF INITIAL DISTURBANCE FOR MAJOR STREAMS UNLESS OTHERWISE AUTHORIZED.

Source: Mountain Valley Submittal (Accession number 20170330-5339

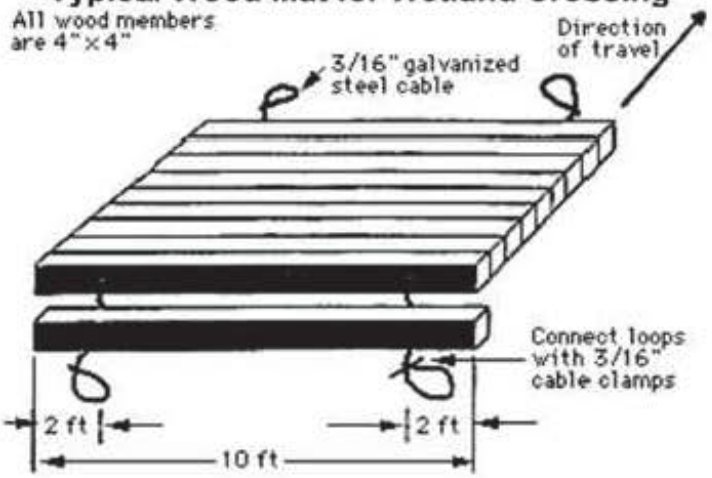
C1-48
Mountain Valley Project
Cofferdam Stream
Crossing Method



Source: Mountain Valley Submittal (Accession number 20170330-5339

C1-49
Mountain Valley Project
Portadam Detail

Typical Wood Mat for Wetland Crossing



University of Minnesota FS 07009

A geotextile underlayment shall be used under the wood mat.

Source: PaDEP, E&S Pollution Control Manual, March 2012

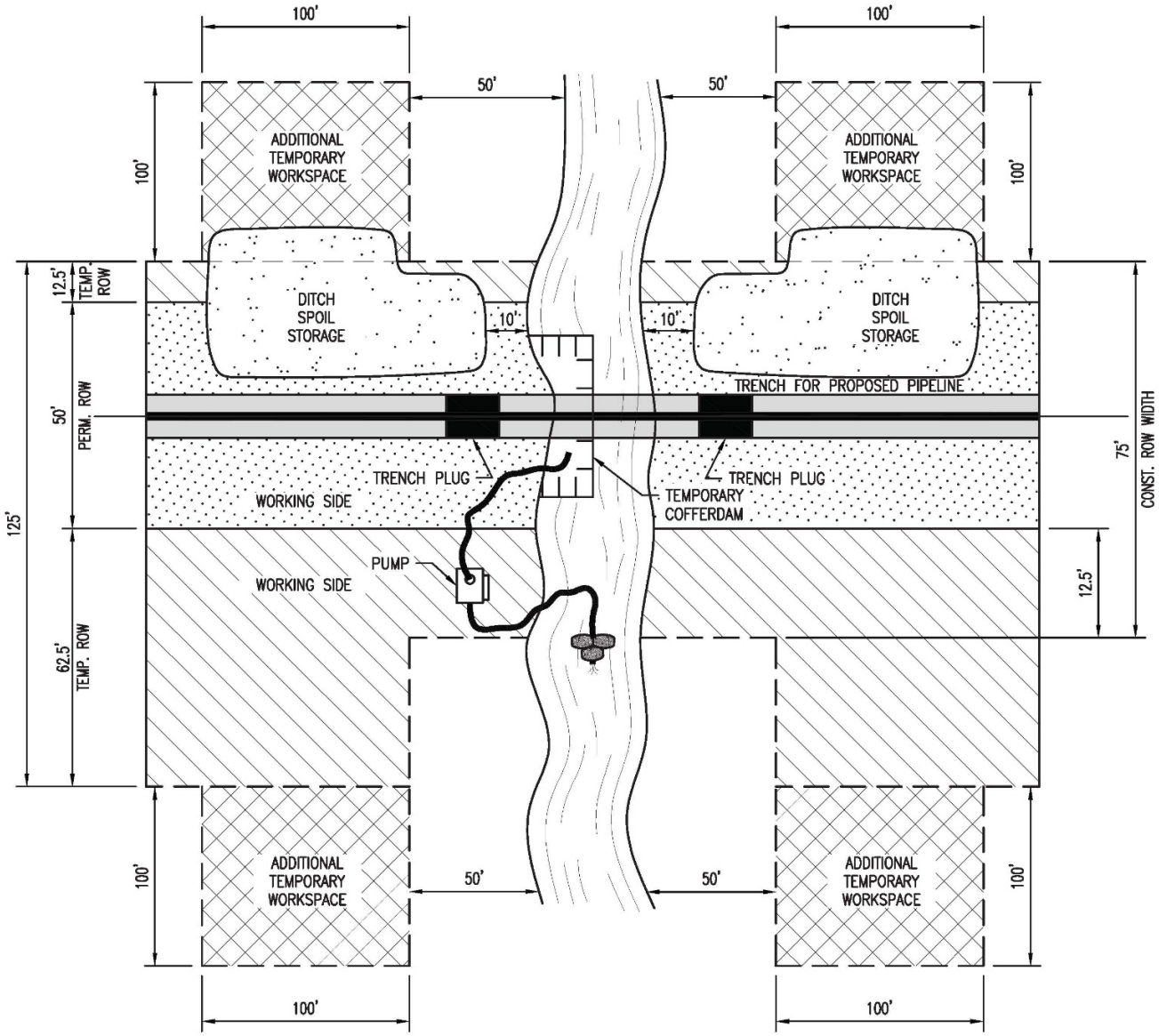
NOTE:
CULVERTS MAY BE SUBSTITUTED WHEN
REQUIRED BY FIELD VERIFIED CONDITIONS.

TIMBER MATS WILL BE USED ON ALL WETLANDS WITHIN THE LOD.

Source: Mountain Valley Submittal (Accession number 20170330-5339

C1-50
Mountain Valley Project
Timber Mat/Wetland Crossing

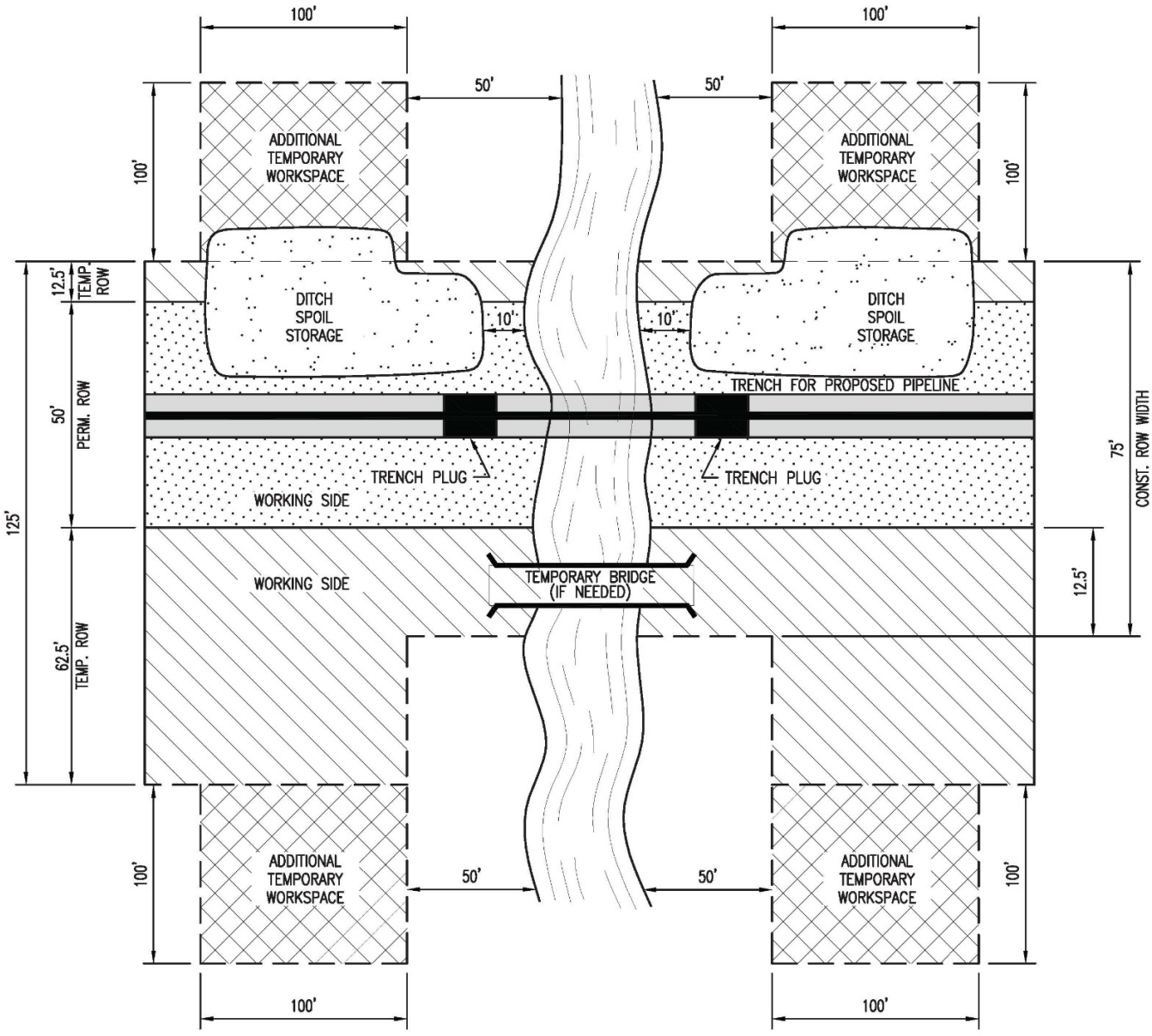
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.



Source: Mountain Valley Submittal (Accession number 20170330-5339

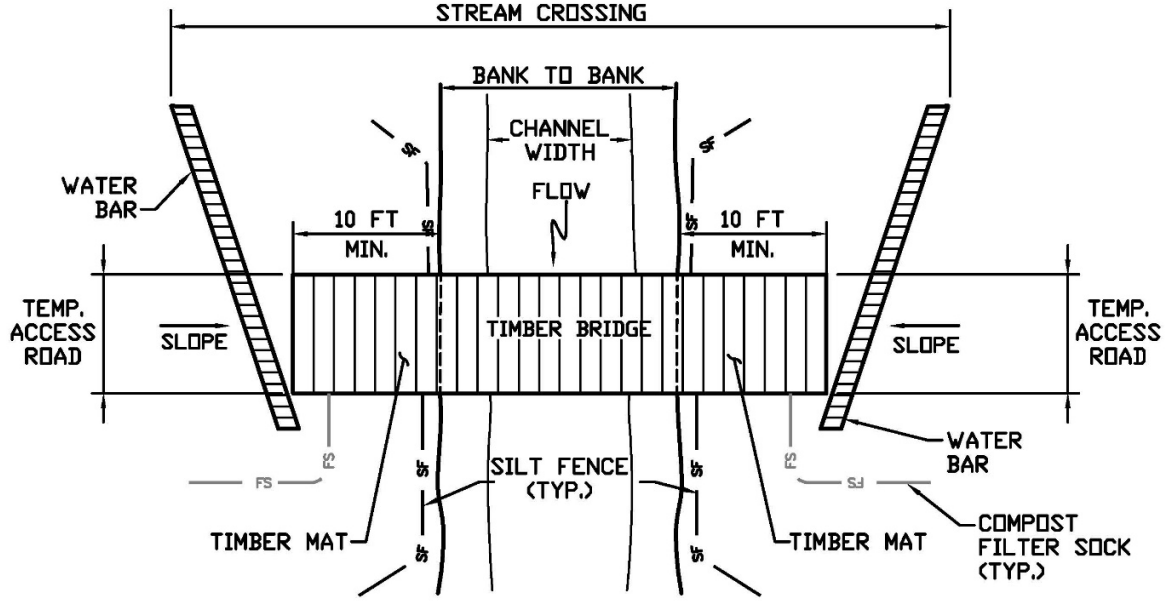
C1-51
Mountain Valley Project
Waterbody Crossing
Open Cut – Diverted Dry-Ditch

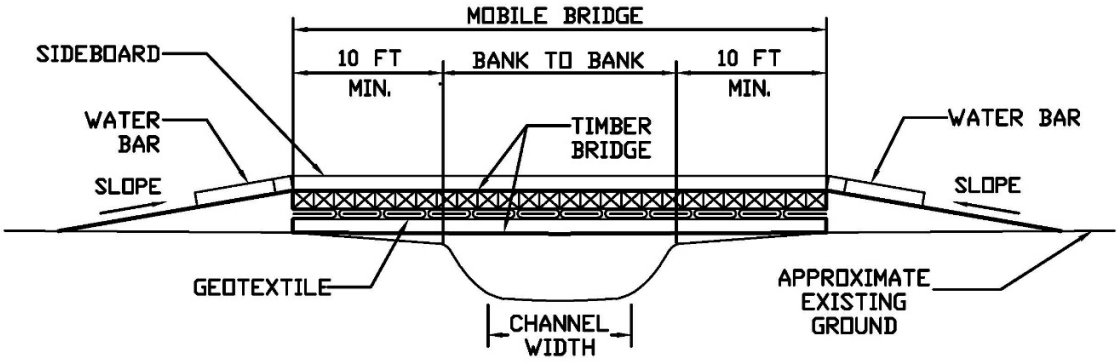
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.



Source: Mountain Valley's FERC Application

C1-52
Mountain Valley Project
Waterbody Crossing
Open Cut – Wet Ditch





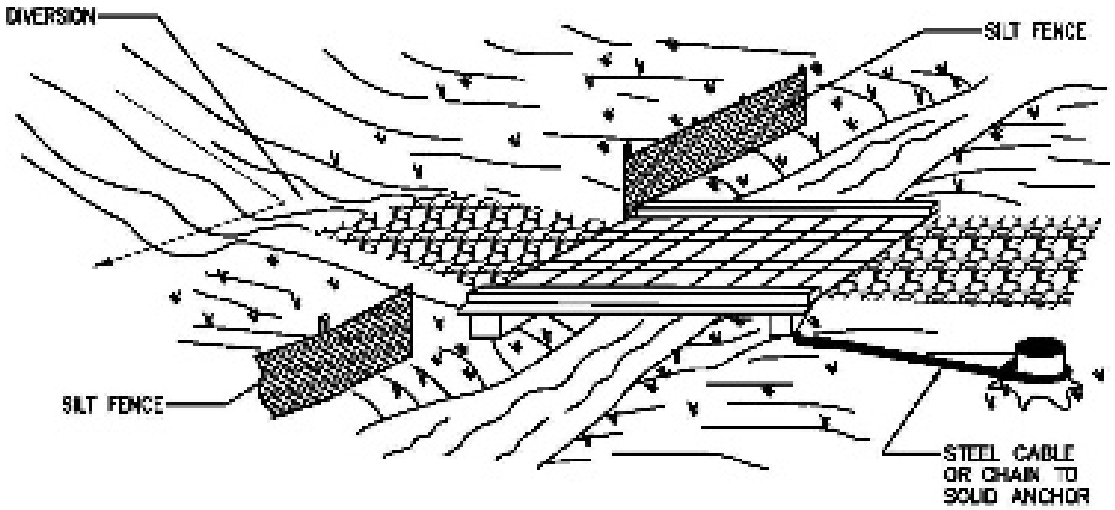
NOTES:

1. INSTALL WATER BARS OR SILT FENCE AT APPROACHES TO STREAM CROSSING AND COMPOST FILTER SOCKS ALONG STREAM BANKS. INSTALL COMPOST FILTER SOCK AT OUTLET OF WATER BARS.
2. MAINTAIN SURFACE OF TEMPORARY EQUIPMENT CROSSING TO PREVENT SOIL DISCHARGES TO STREAM.
3. APPROACHES TO CROSSINGS ARE NOT TO EXCEED A DEPTH OF 6 INCHES ABOVE ORIGINAL GRADE.
4. GEOTEXTILE LINER TO COME UP ON THE SIDES OF THE BRIDGE A MINIMUM OF 18".
5. SIDEBOARDS TO BE ATTACHED TO THE UPPER DECK. GEOTEXTILE TO BE WRAPPED AROUND SIDEBOARDS PRIOR TO FASTENING.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Source: Mountain Valley Submittal (Accession number 20170330-5339

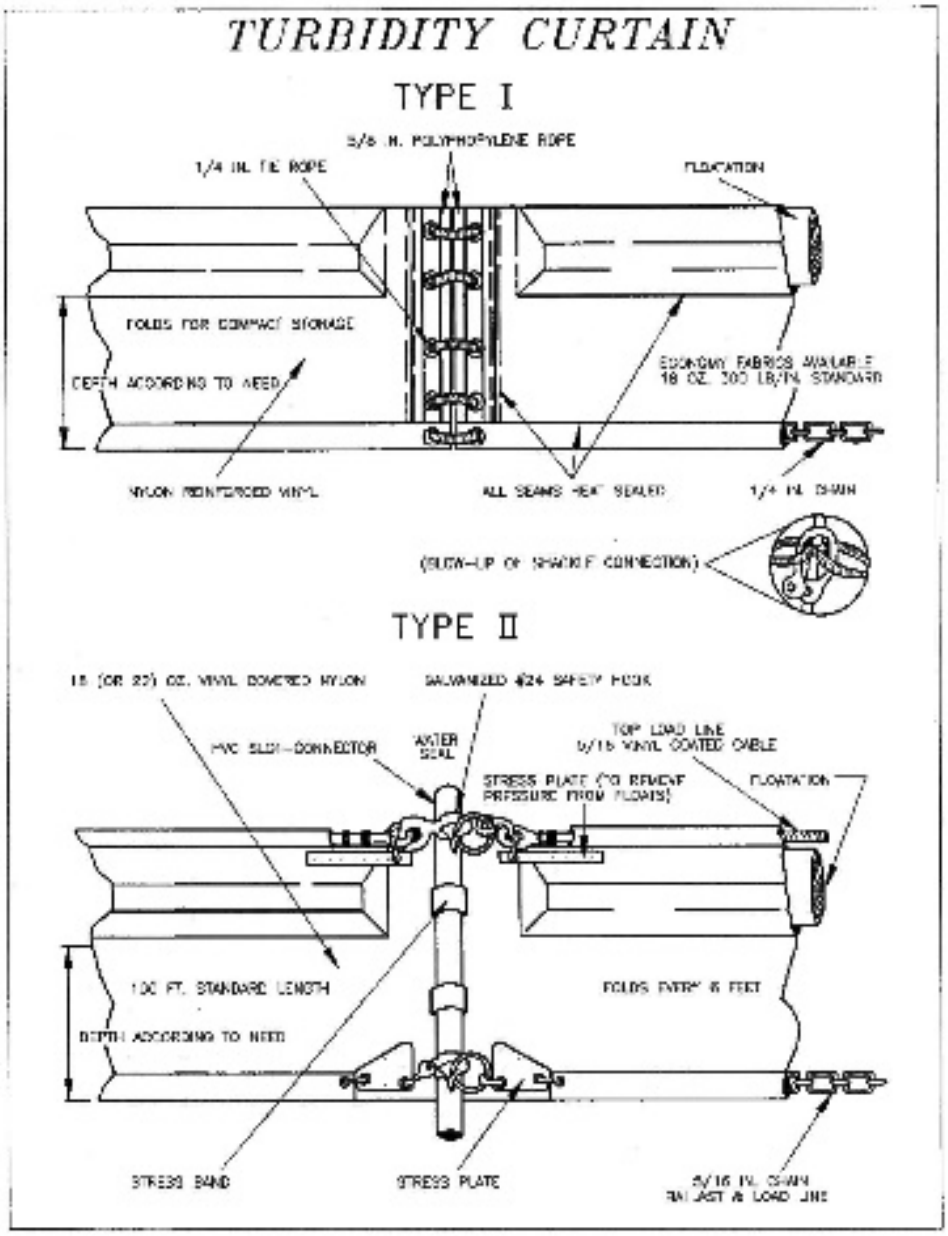
C1-53
Mountain Valley Project
Mobile Bridge



TEMPORARY BRIDGE STREAM CROSSING DETAIL

Source: Mountain Valley's Submittal (Accession number 20170209-5249)

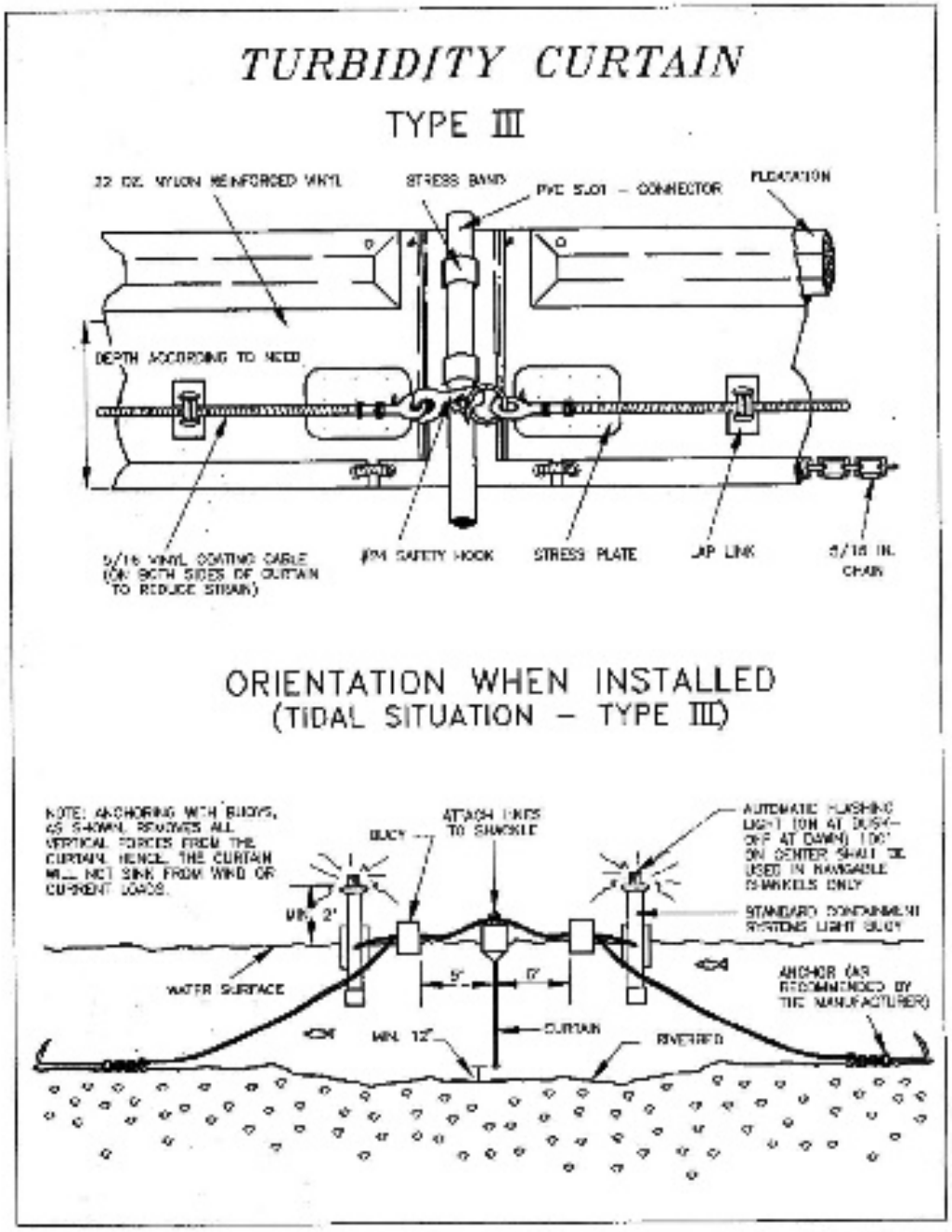
C1-54
Mountain Valley Project
Waterbody Crossing
Temporary Bridge Stream Crossing



Source: American Boom and Barrier Corp. product literature Plate 3.27-1

Source: Mountain Valley's Submittal (Accession number 20170209-5249)

C1-55
Mountain Valley Project
Waterbody Crossing
Turbidity Curtain Detail

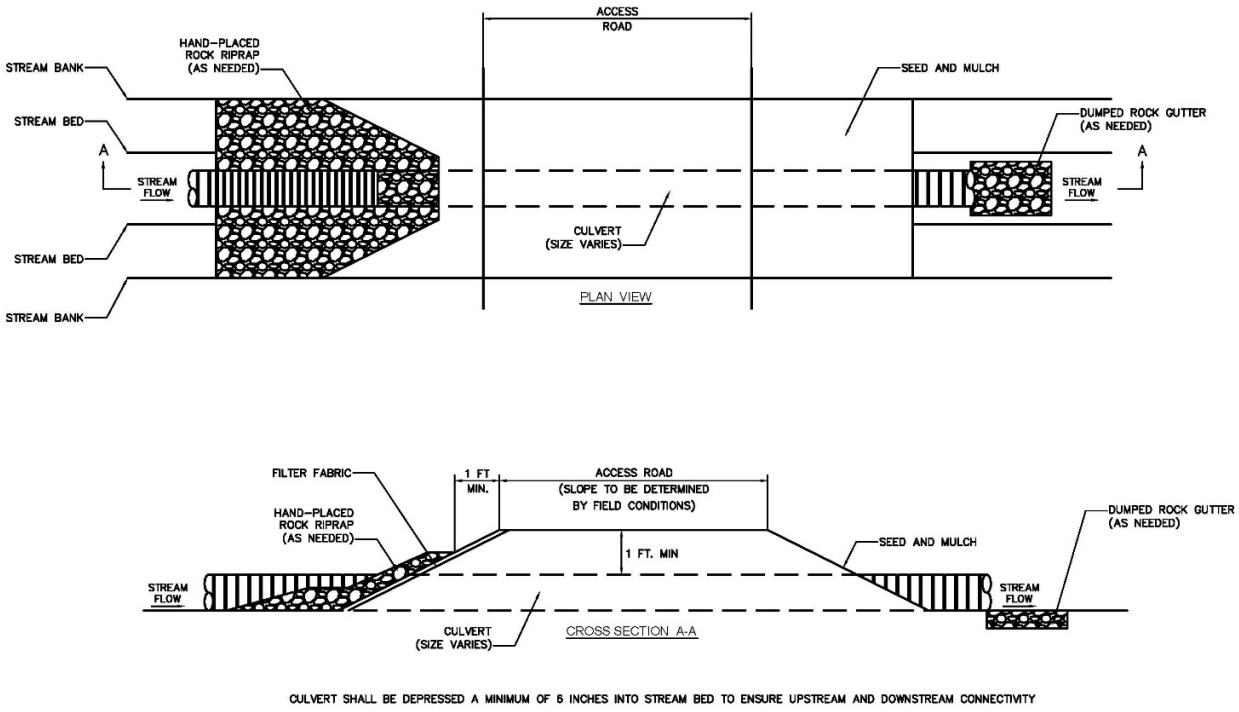


Source: Adapted from American Boom and Barrier Corp. and VDOT Standard Sheets

Plate 3.27-2

Source: Mountain Valley's Submittal (Accession number 20170209-5249)

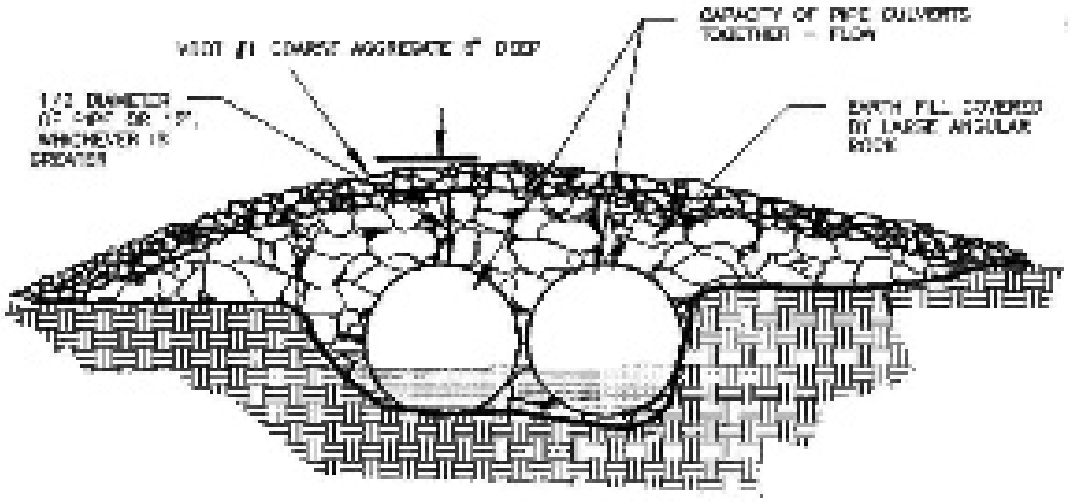
C1-56
Mountain Valley Project
Waterbody Crossing
Turbidity Curtain Detail



TYPICAL ROAD CROSS-SECTION
AT STREAM CROSSING

Source: Mountain Valley's Submittal (Accession number 20170209-5249)

C1-57
Mountain Valley Project
Typical Road Cross-Section at Stream Crossing

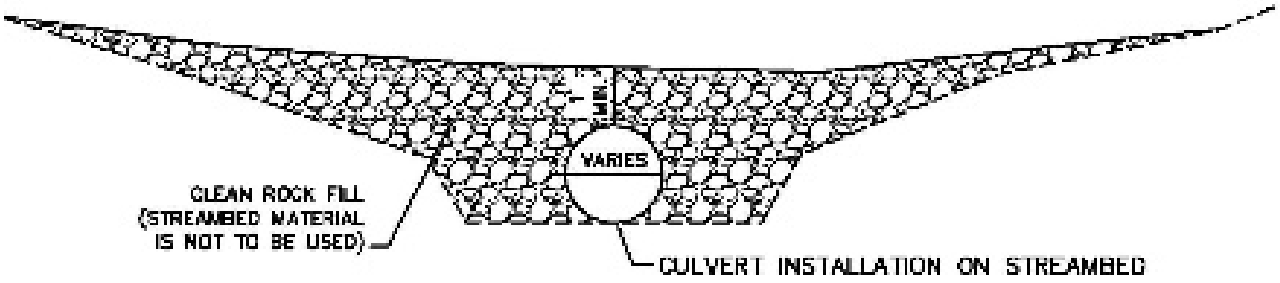


TEMPORARY CULVERT CROSSING

TAKEN FROM VADEQ 1992 MANUAL

Source: Mountain Valley's Submittal (Accession number 20170209-5249)

C1-58
Mountain Valley Project
Waterbody Crossing
Temporary Culvert Crossing



TYPICAL STREAM CROSSING PROFILE – SINGLE CULVERT

TAKEN FROM WVDEP MANUAL

Source: Mountain Valley's Submittal (Accession number 20170209-5249)

C1-59
Mountain Valley Project
Waterbody Crossing
Typical Stream Crossing Profile – Single Culvert

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APPENDIX C-2

Typical Right-of-Way Configurations

Equitrans Expansion Project

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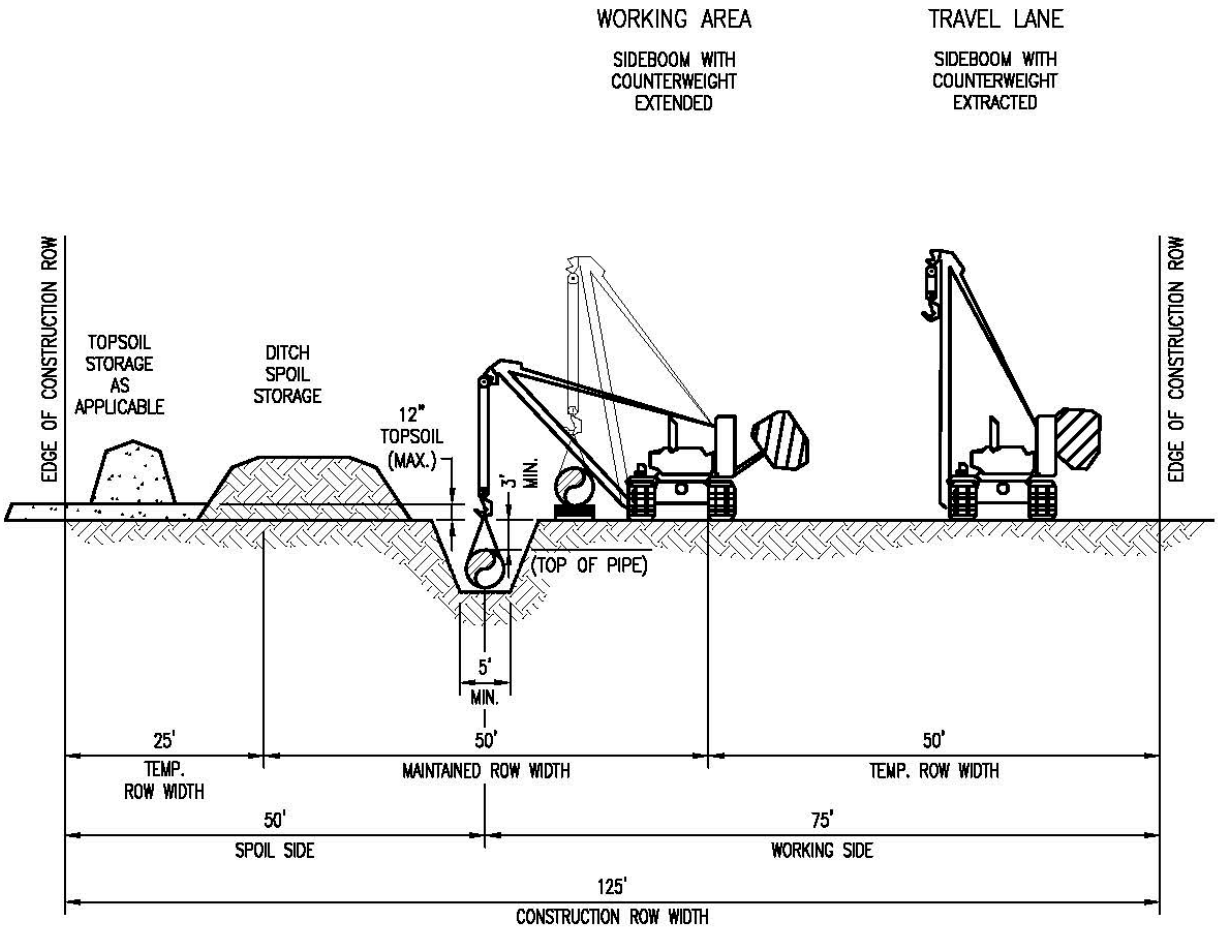
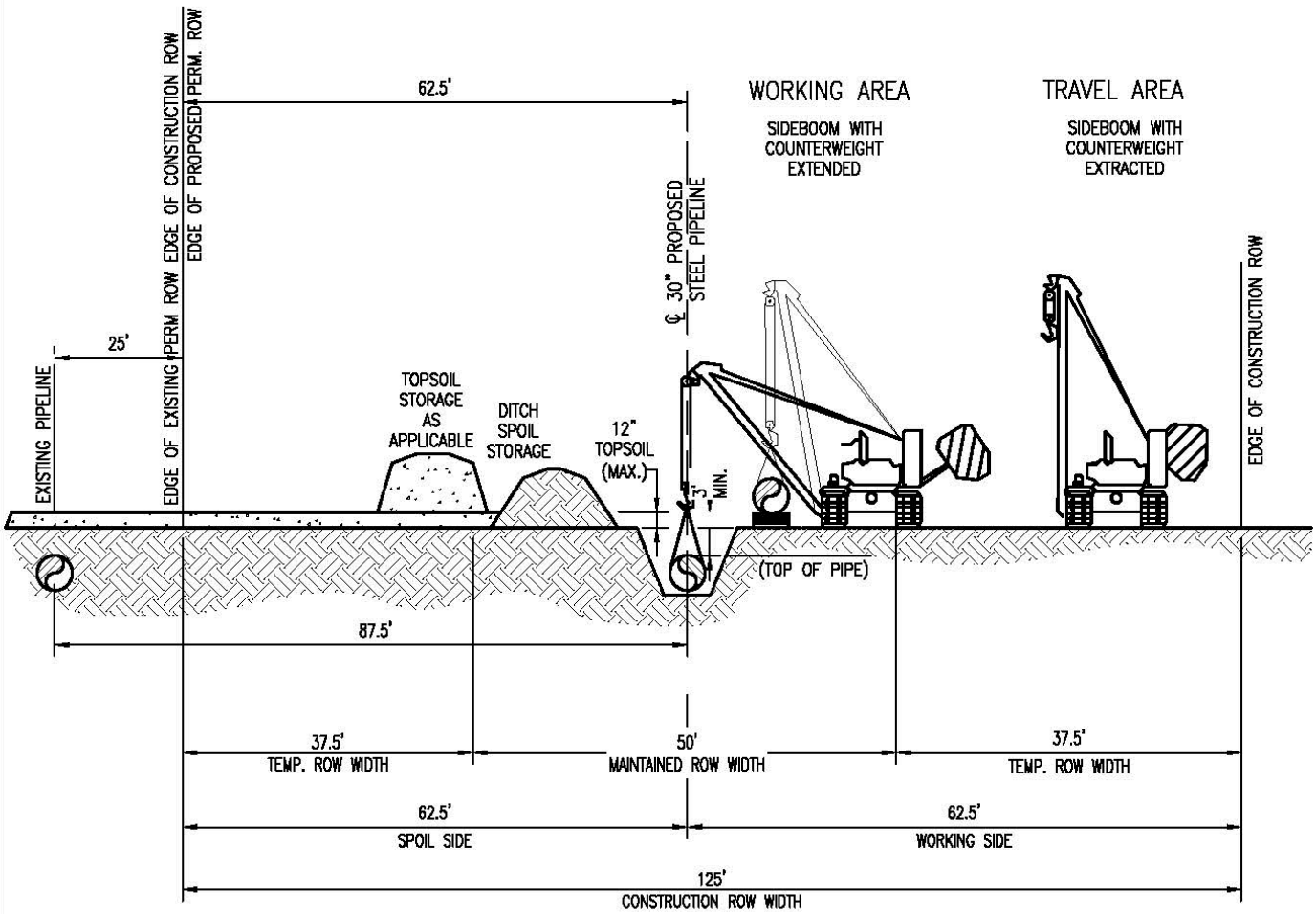


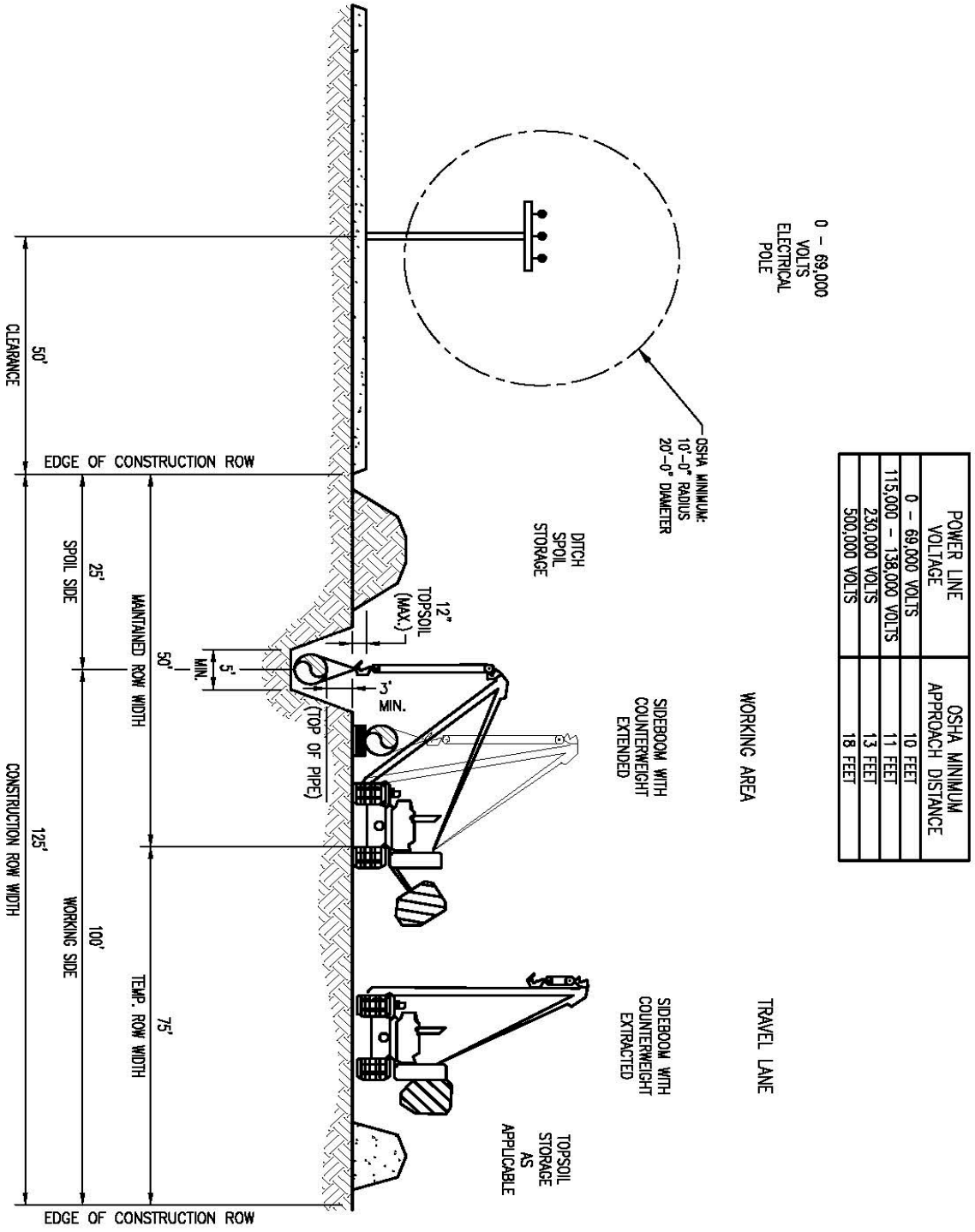
Source: Equitrans' FERC Application

C2-1
Equitrans Expansion Project
30" H-316 Non-Parallel Construction
With Topsoil Segregation
Right-of-Way



Source: Equitrans' FERC Application

C2-2
Equitrans Expansion Project
30" H-316
Parallel Construction
Right-of-Way



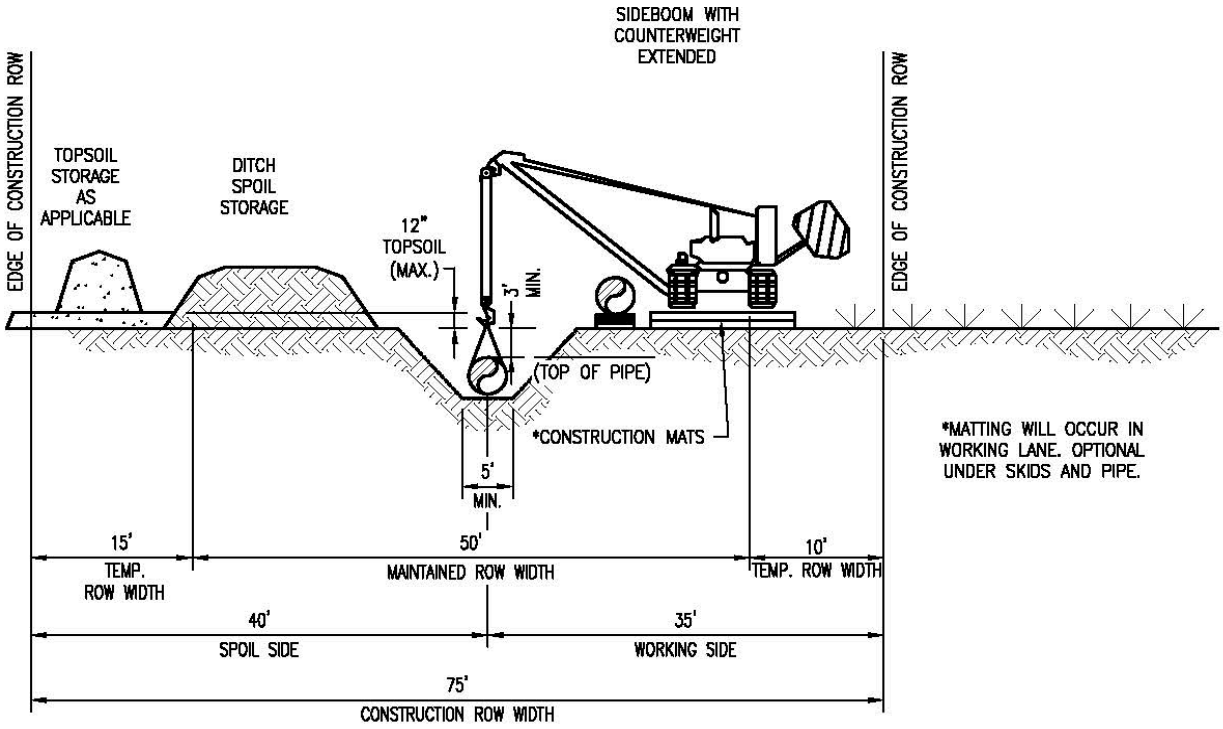
POWER LINE VOLTAGE	OSHA MINIMUM APPROACH DISTANCE
0 – 69,000 VOLTS	10 FEET
115,000 – 138,000 VOLTS	11 FEET
230,000 VOLTS	13 FEET
500,000 VOLTS	18 FEET

GENERAL NOTES:

1. DRAWING ASSUMES TYPE "B" SOIL

Source: Equitrans' FERC Application

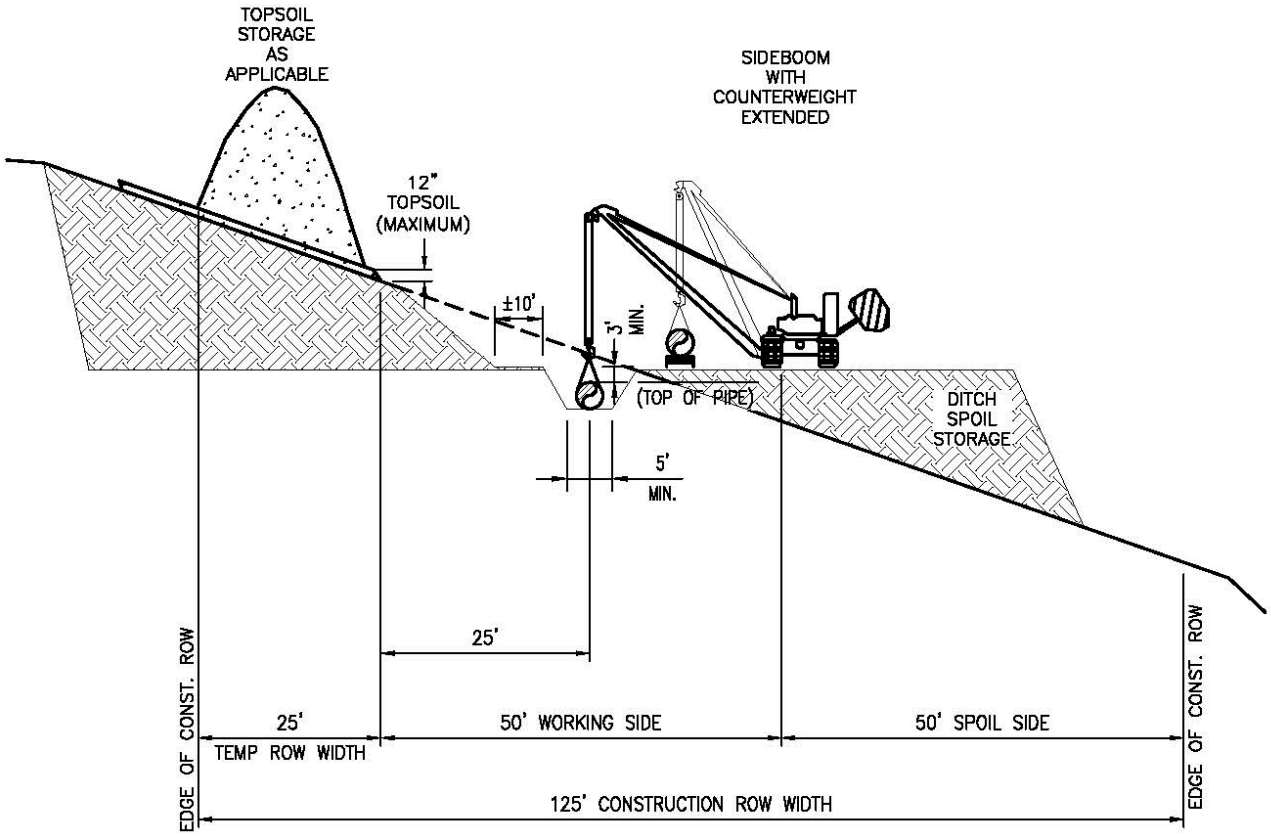
C2-3
Equitrans Expansion Project
30" H-316
Parallel to Power Lines
Right-of-Way



GENERAL NOTES:
1. EXTRA DEPTH MAY BE REQUIRED FOR CONCRETE COATED PIPE OR WEIGHTS.

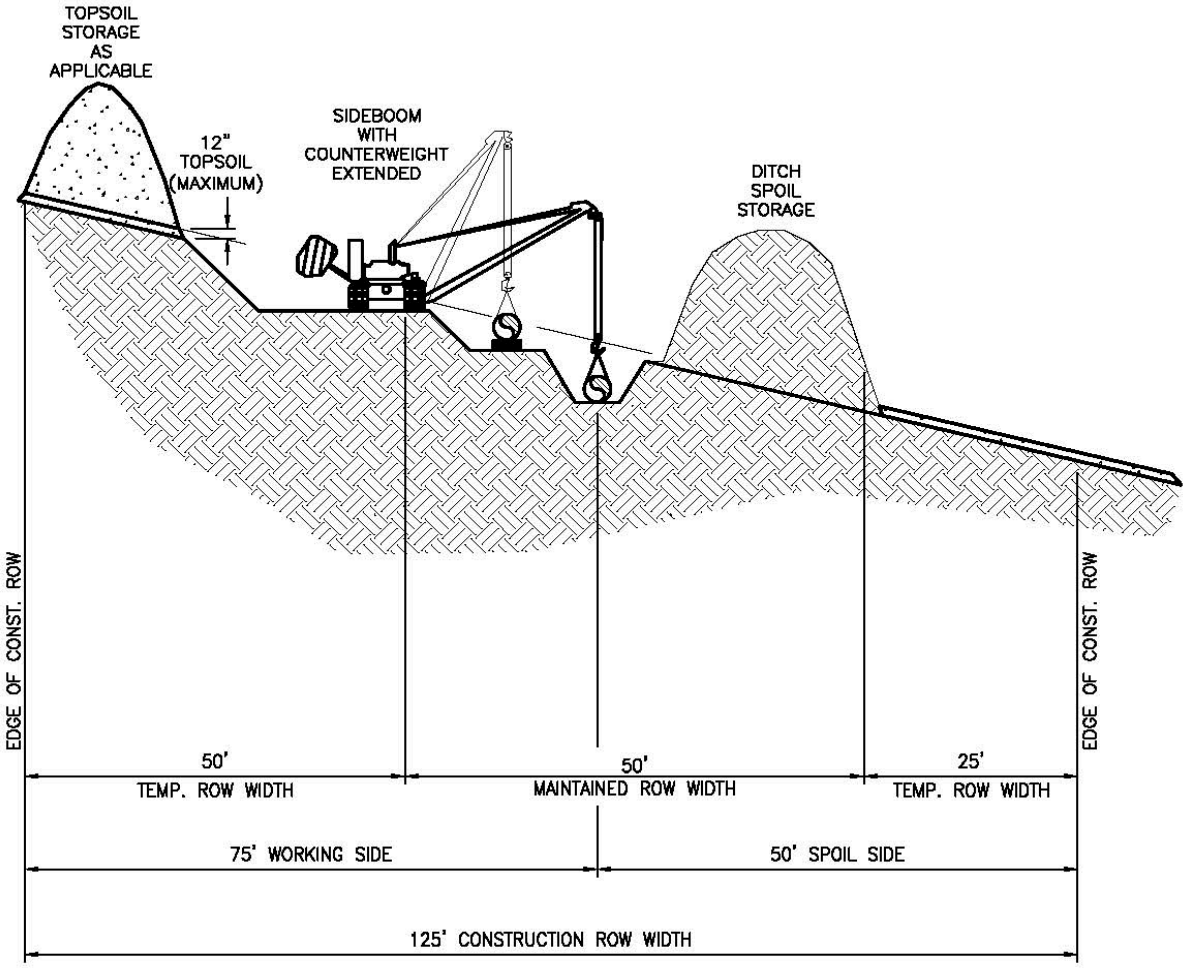
Source: Equitrans' FERC Application

C2-4
Equitrans Expansion Project
30" H-316 Wetland Construction
Working Area Non-Saturated
Right-of-Way



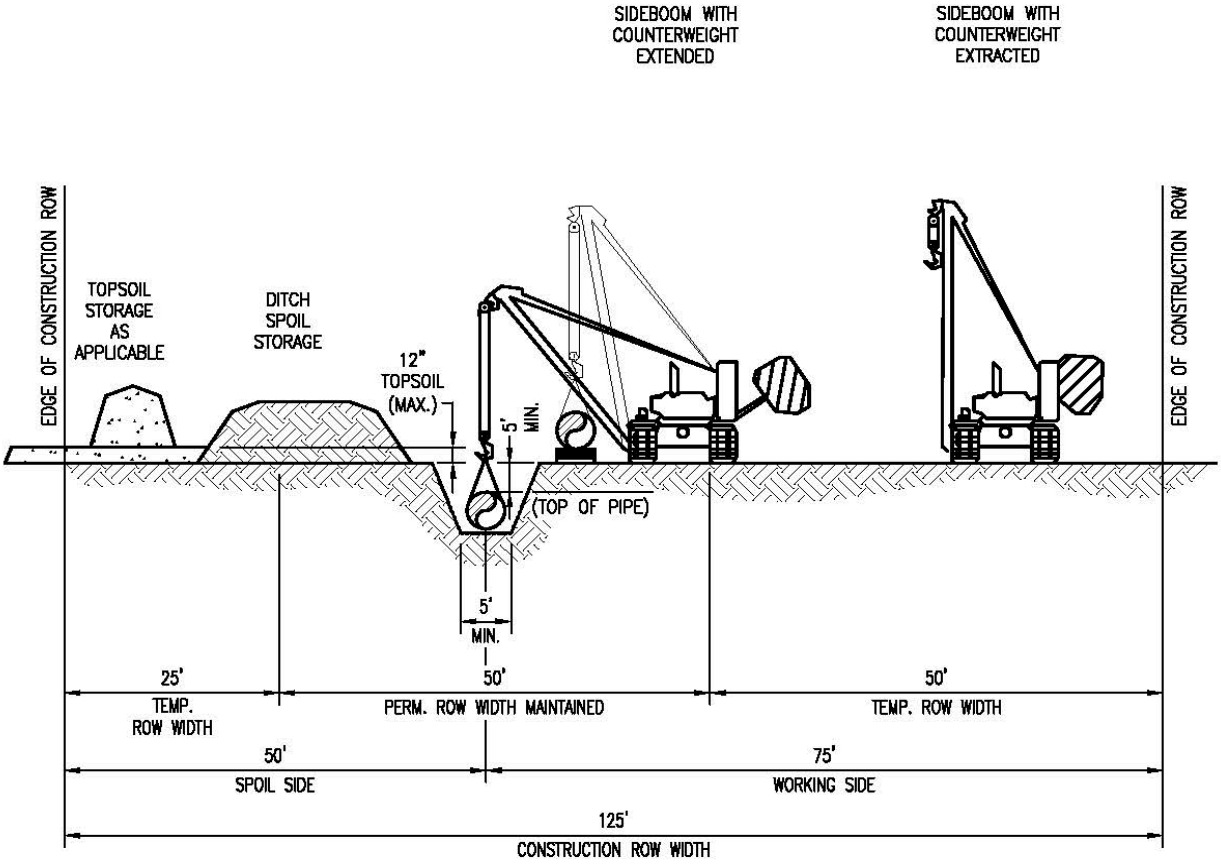
Source: Equitrans' FERC Application

C2-5
Equitrans Expansion Project
30" H-316
Side Hill Construction
Right-of-Way



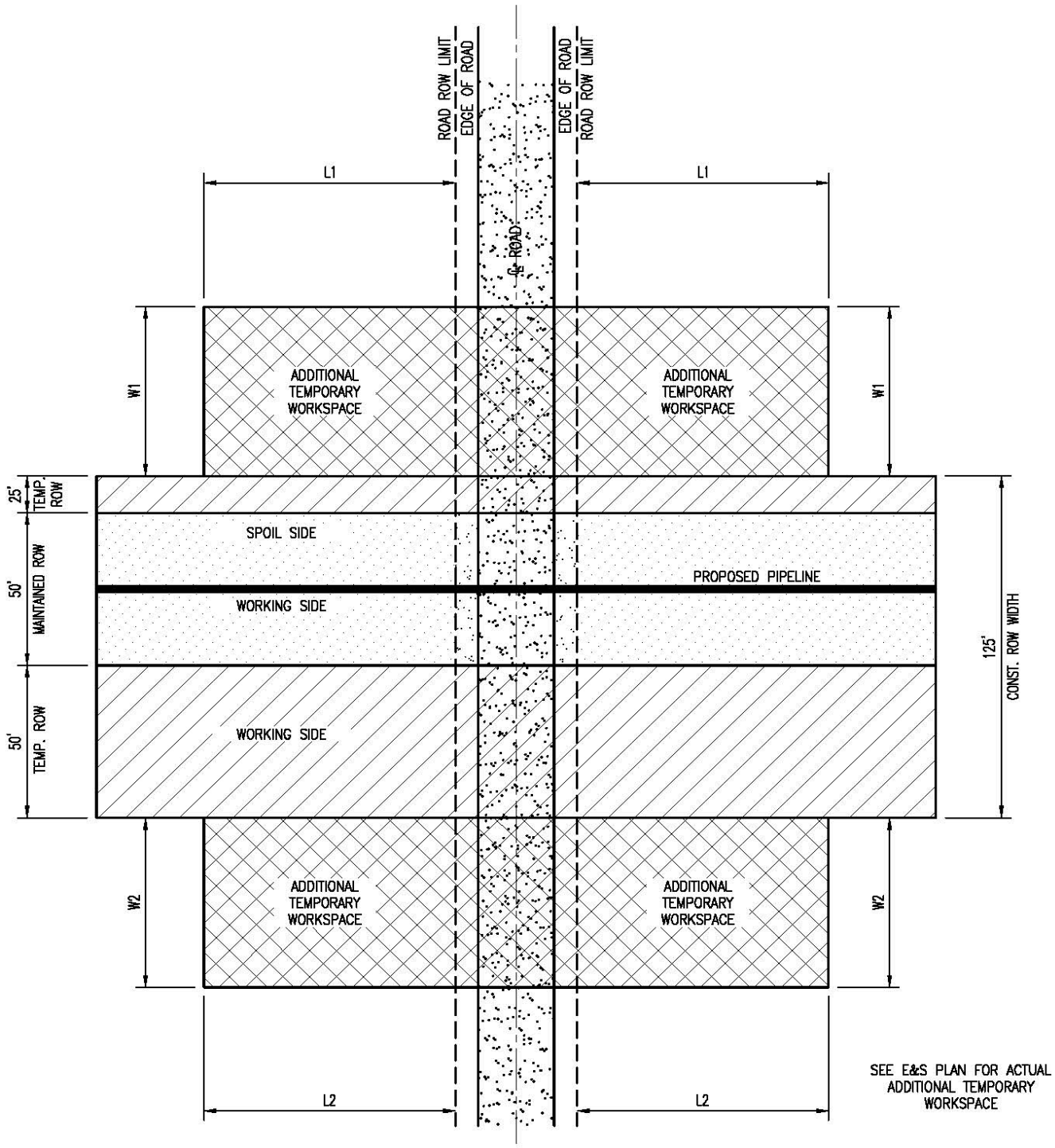
Source: Equitrans' FERC Application

C2-6
Equitrans Expansion Project
30" H-316
Two Tone Method
Right-of-Way



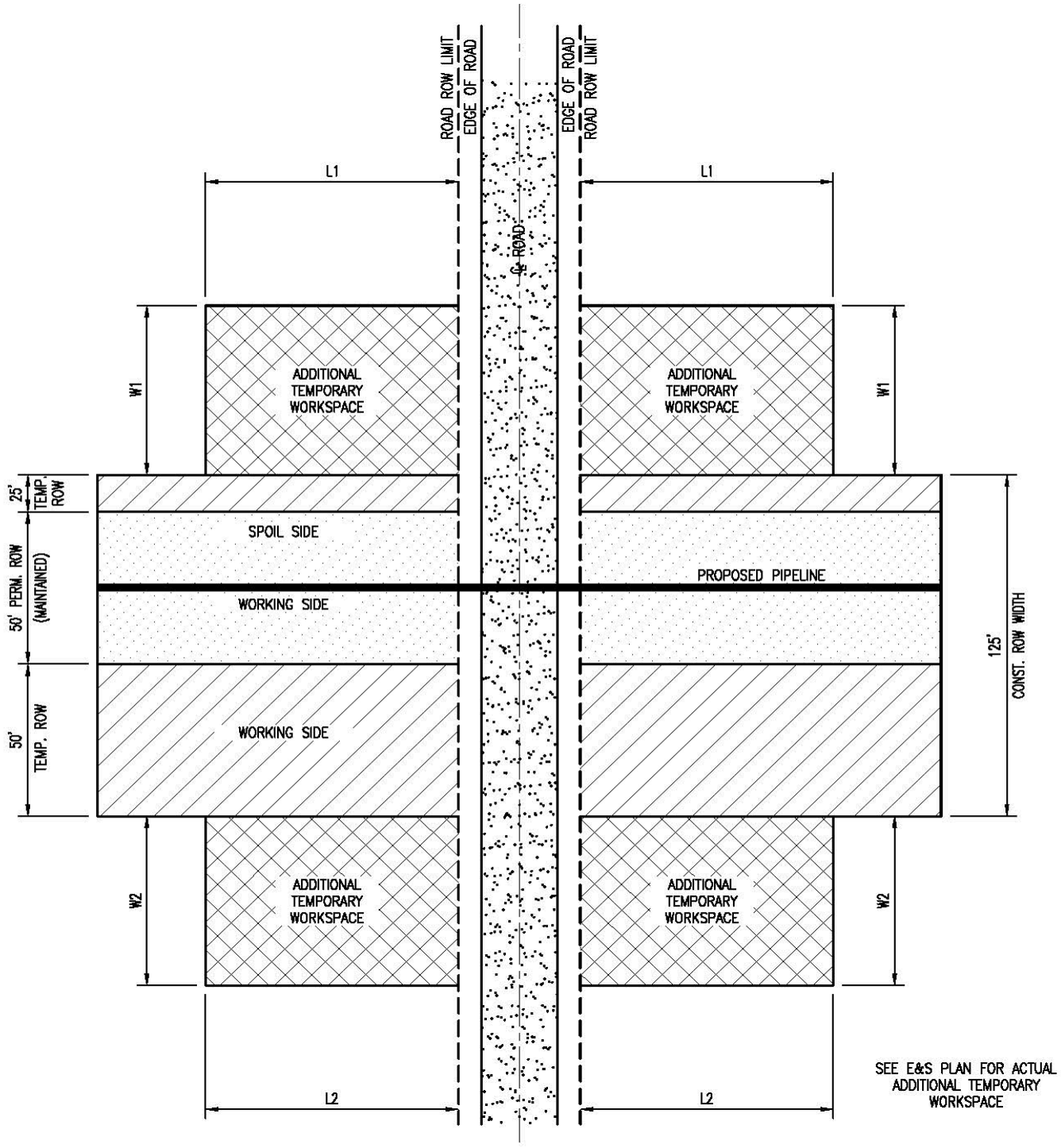
Source: Equitrans' FERC Application

C2-7
Equitrans Expansion Project
30" H-316 Non-Parallel Construction
Extra Depth Ditch (5' Cover)
Right-of-Way



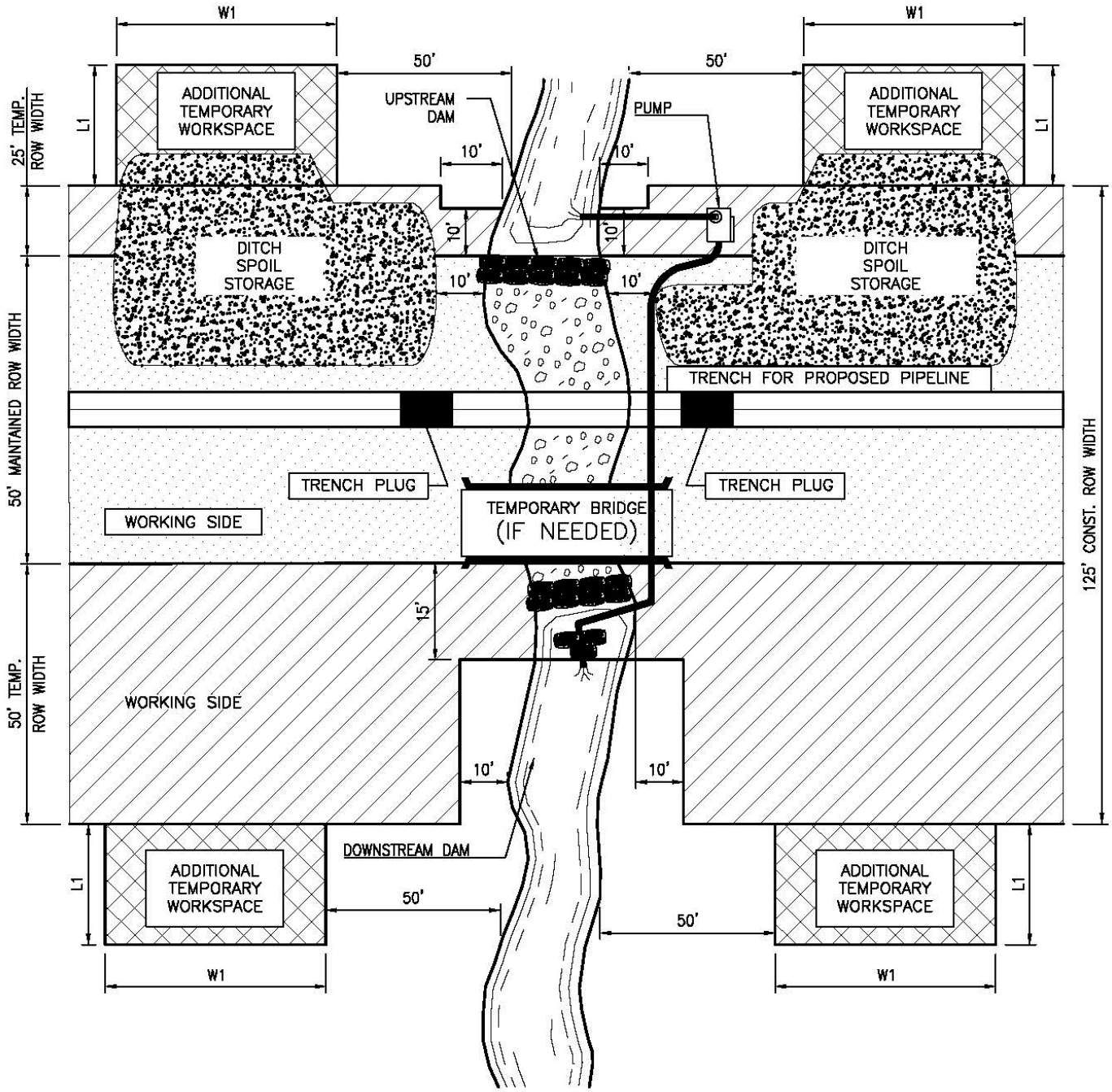
Source: Equitrans' FERC Application

C2-8
Equitrans Expansion Project
30" H-316
Open Cut Road Crossing
Right-of-Way



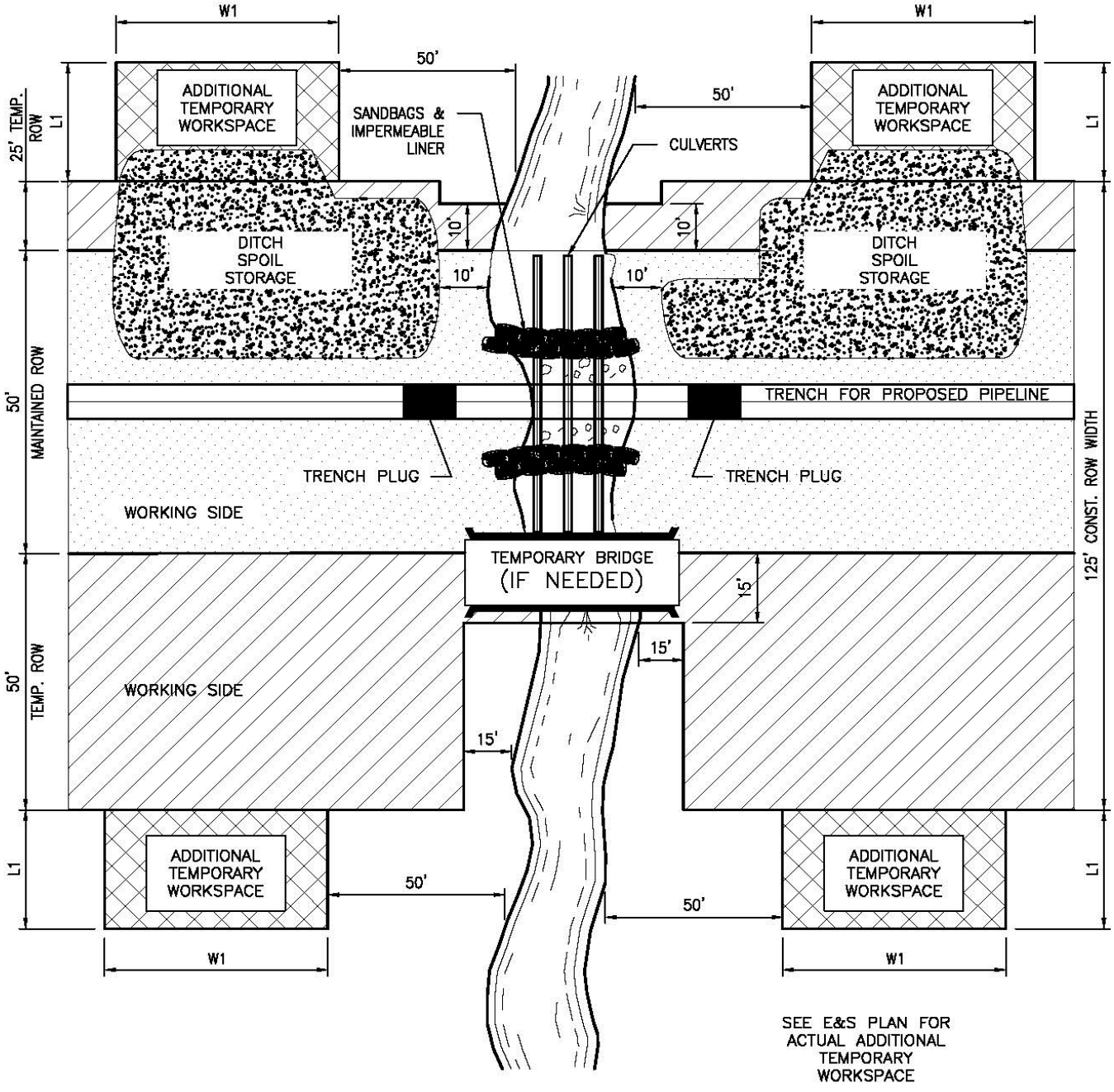
Source: Equitrans' FERC Application

C2-9
Equitrans Expansion Project
30" H-316
Bored Road Crossing
Right-of-Way



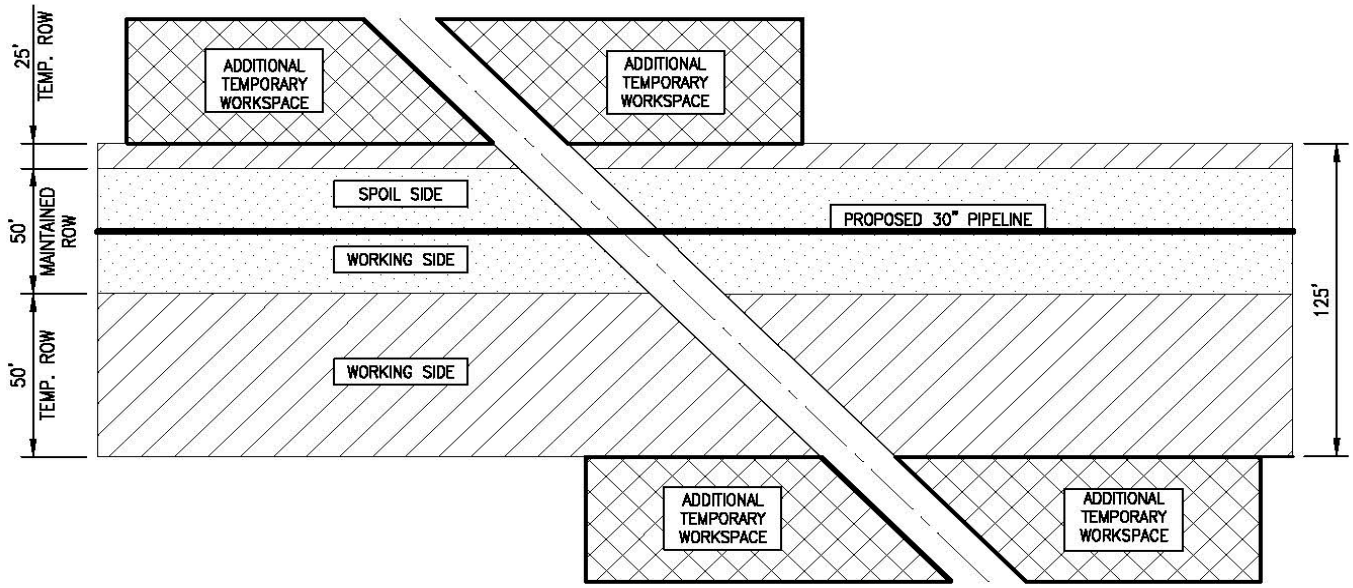
Source: Equitrans' FERC Application

C2-10A
Equitrans Expansion Project
30" H-316
Open Cut – Dam and Pump
Right-of-Way



Source: Equitrans' FERC Application

C2-10B
Equitrans Expansion Project
30" H-316
Open Cut – Flume
Right-of-Way

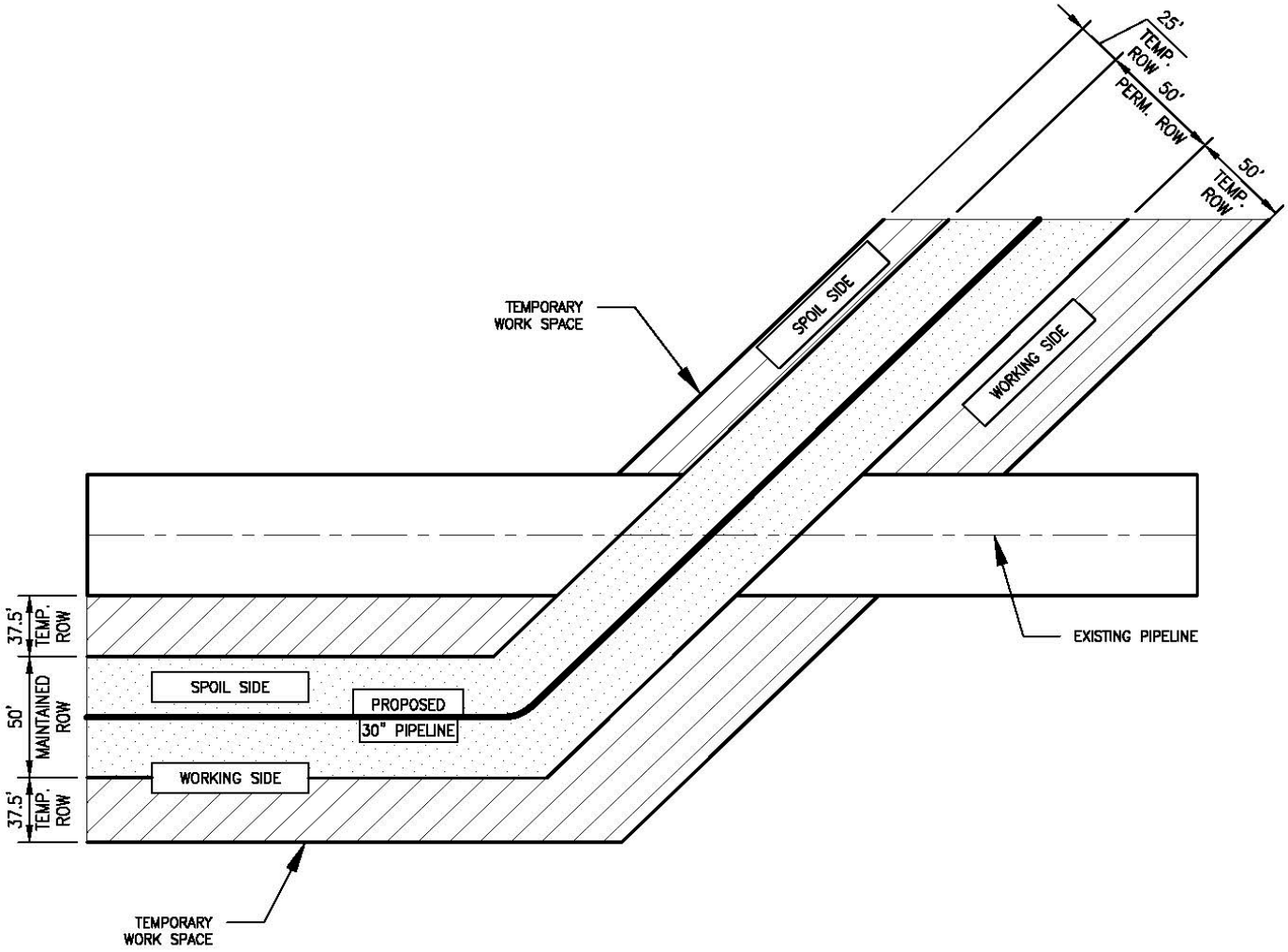


NOTE:

1. DIMENSIONS DEPENDENT ON PROPOSED AND EXISTING PIPELINE DIAMETERS, BURIAL DEPTHS AND LOCAL SITE SPECIFIC CONDITIONS.
2. TRAVEL LANE ON WORKING SIDE TO BE MATTED AS REQUIRED BY EXISTING PIPELINE COMPANY REQUIREMENTS AND LOCAL CONDITIONS.
3. SEE E&S PLAN FOR ACTUAL ADDITIONAL TEMPORARY WORKSPACE.

Source: Equitrans' FERC Application

C2-11
Equitrans Expansion Project
30" H-316
Pipeline Crossing
Right-of-Way

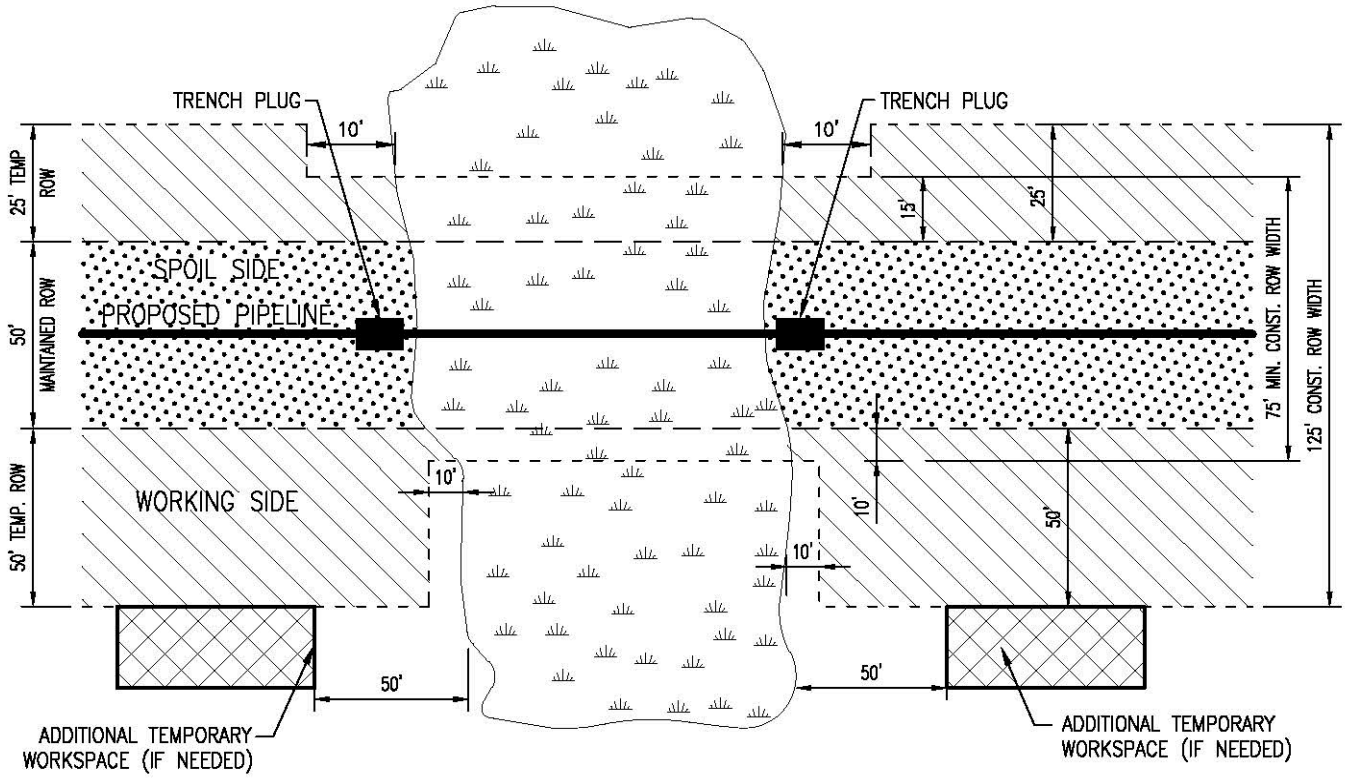


GENERAL NOTES:

1. IF ATWS IS EXTENDED ONTO EXISTING R.O.W. OR WHERE EQUIPMENT IS TO CROSS, MATTING MAY BE REQUIRED.

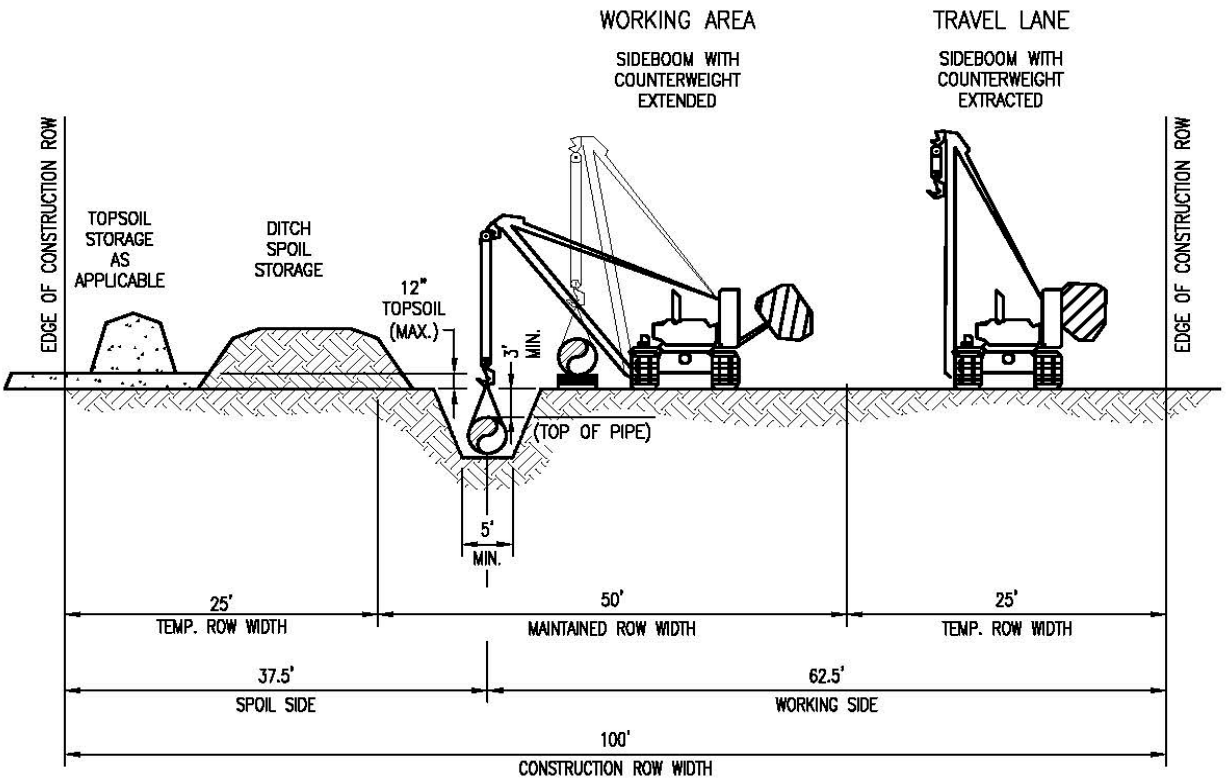
Source: Equitrans' FERC Application

C2-12
Equitrans Expansion Project
30" H-316
Pipeline Crossing From Parallel
Right-of-Way



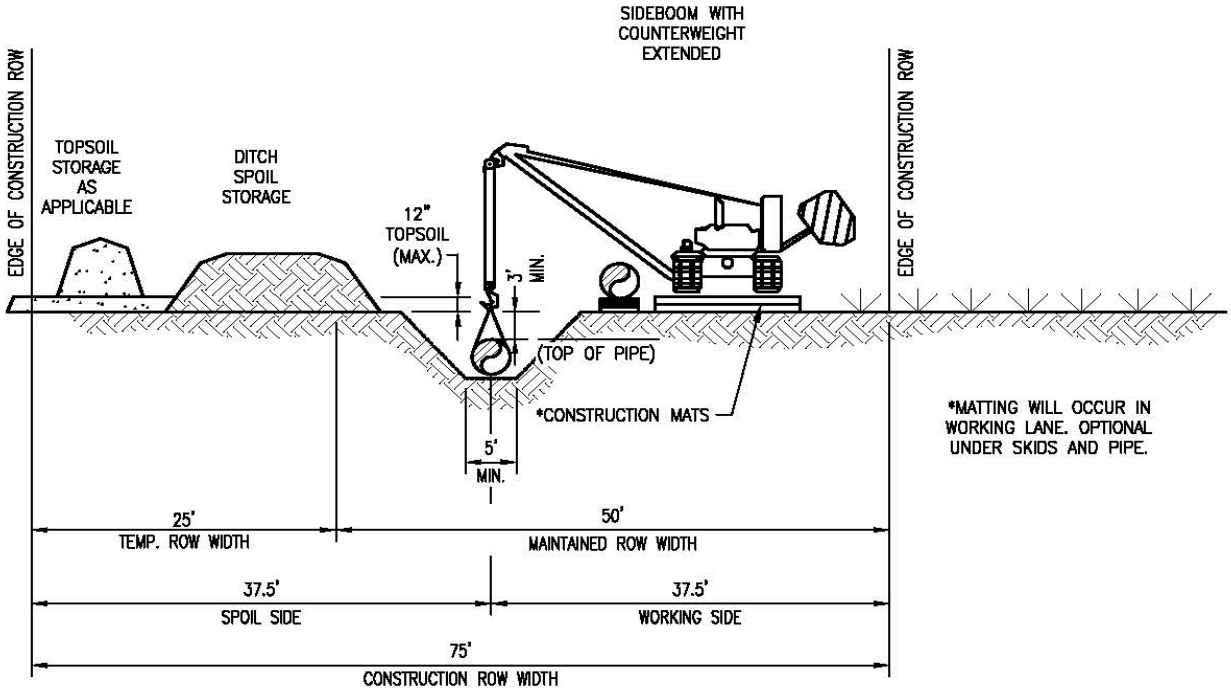
Source: Equitrans' FERC Application

C2-13
Equitrans Expansion Project
30" H-316
Wetland Crossing
Right-of-Way



Source: Equitrans' FERC Application

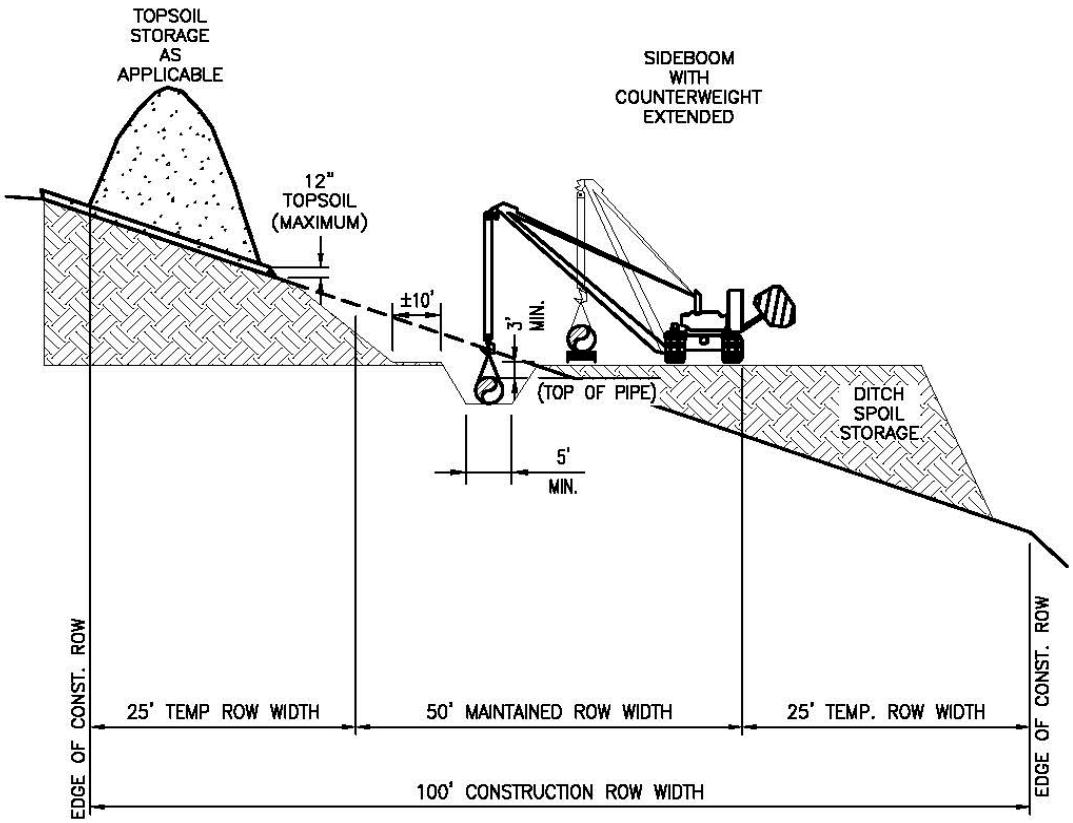
C2-14
Equitrans Expansion Project
20" H-318 Non-Parallel Construction
With Topsoil Segregation
Right-of-Way



GENERAL NOTES:
1. EXTRA DEPTH MAY BE REQUIRED FOR CONCRETE COATED PIPE OR WEIGHTS.

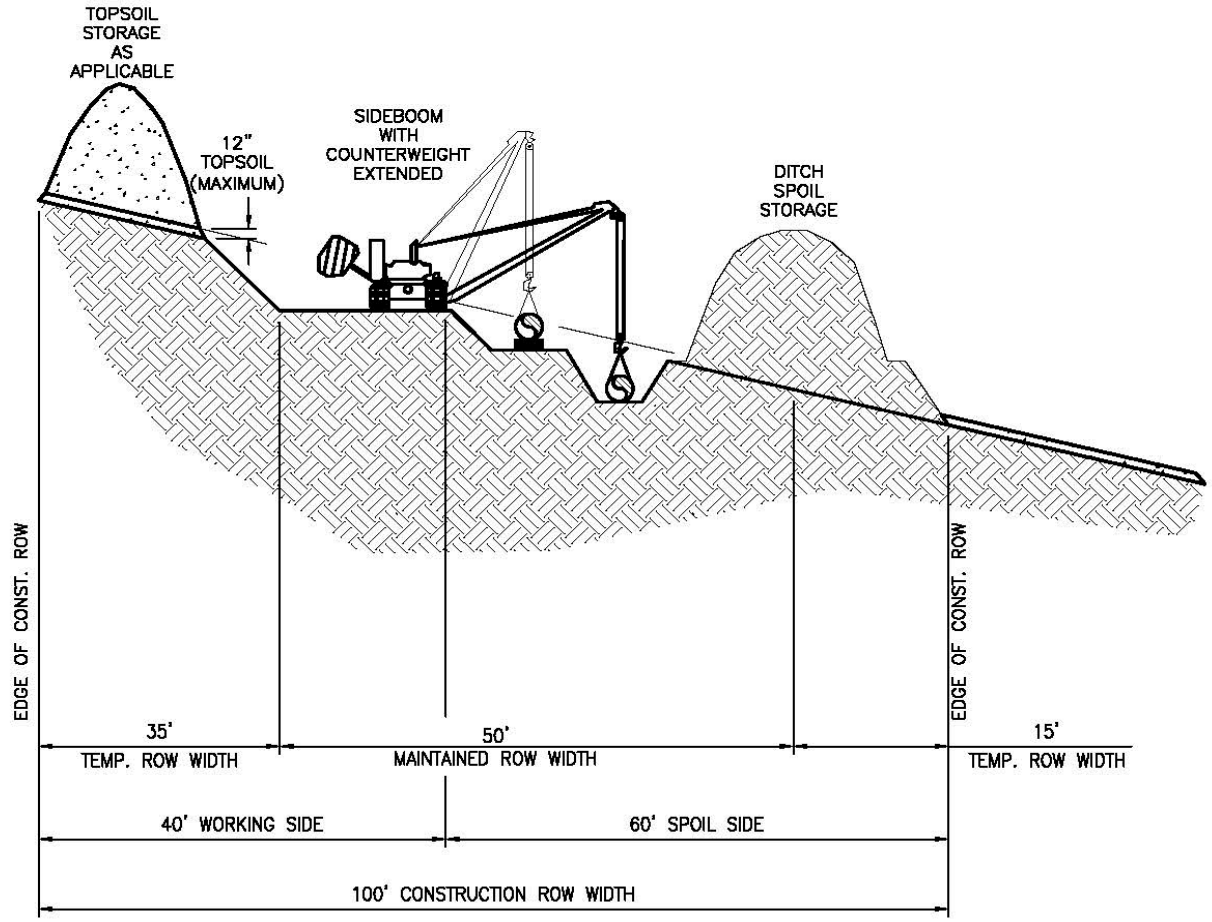
Source: Equitrans' FERC Application

C2-15
Equitrans Expansion Project
20" H-318 Non-Parallel Construction
Working Area Non-Saturated
Right-of-Way



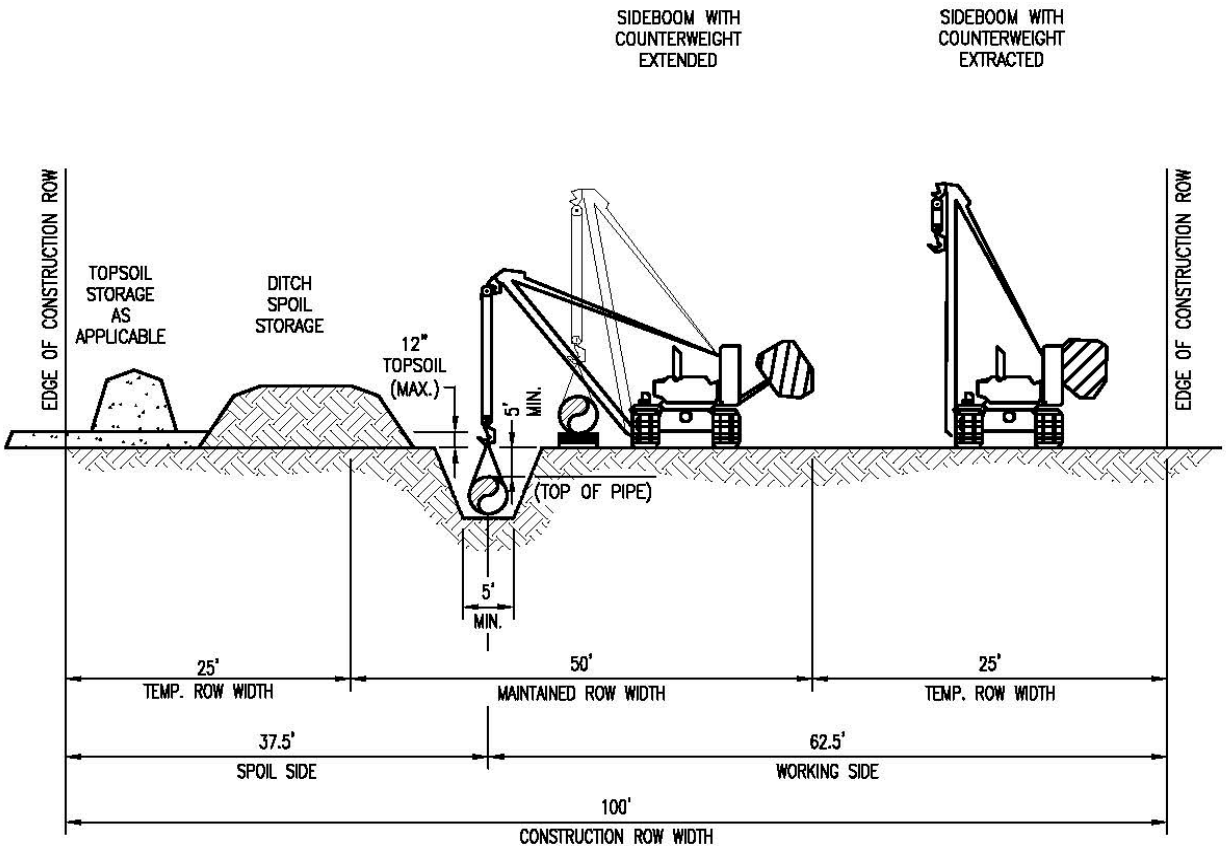
Source: Equitrans' FERC Application

C2-16
Equitrans Expansion Project
20" H-318
Side Hill Construction
Right-of-Way



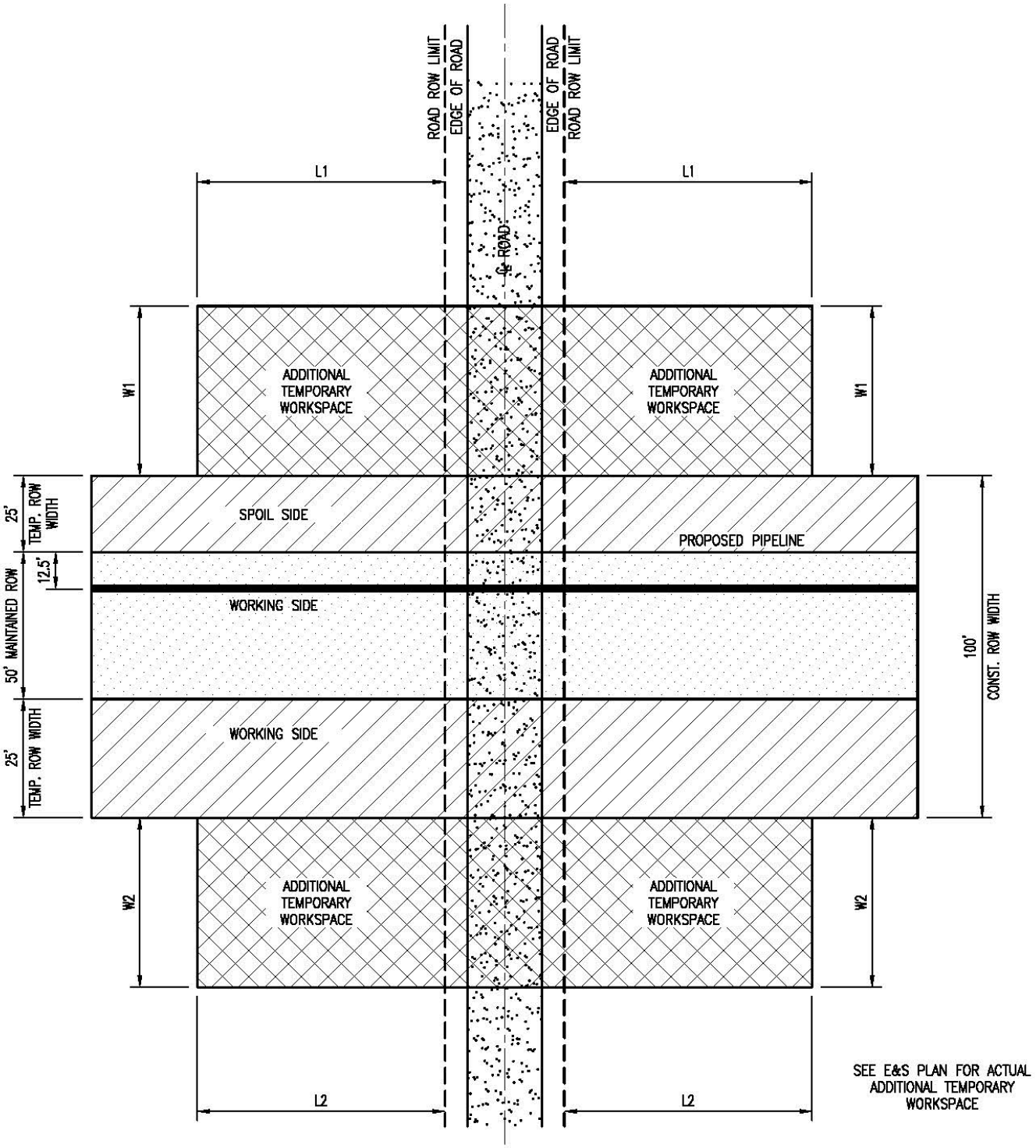
Source: Equitrans' FERC Application

C2-17
Equitrans Expansion Project
20" H-318 Side Hill
Two Tone Method
Right-of-Way



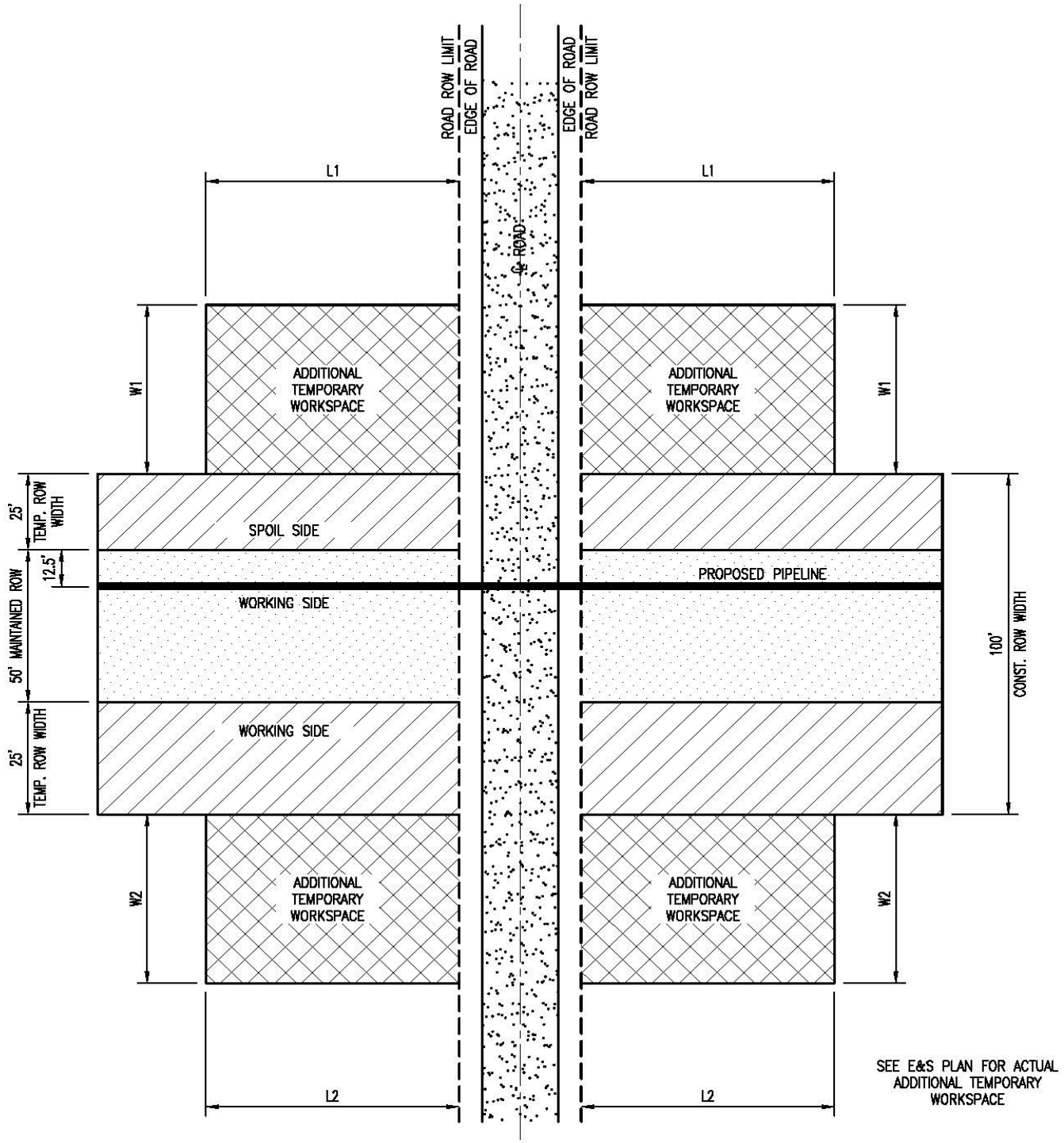
Source: Equitrans' FERC Application

C2-18
Equitrans Expansion Project
20" H-318 Non-Parallel Construction
Extra Depth Ditch (5' Cover)
Right-of-Way



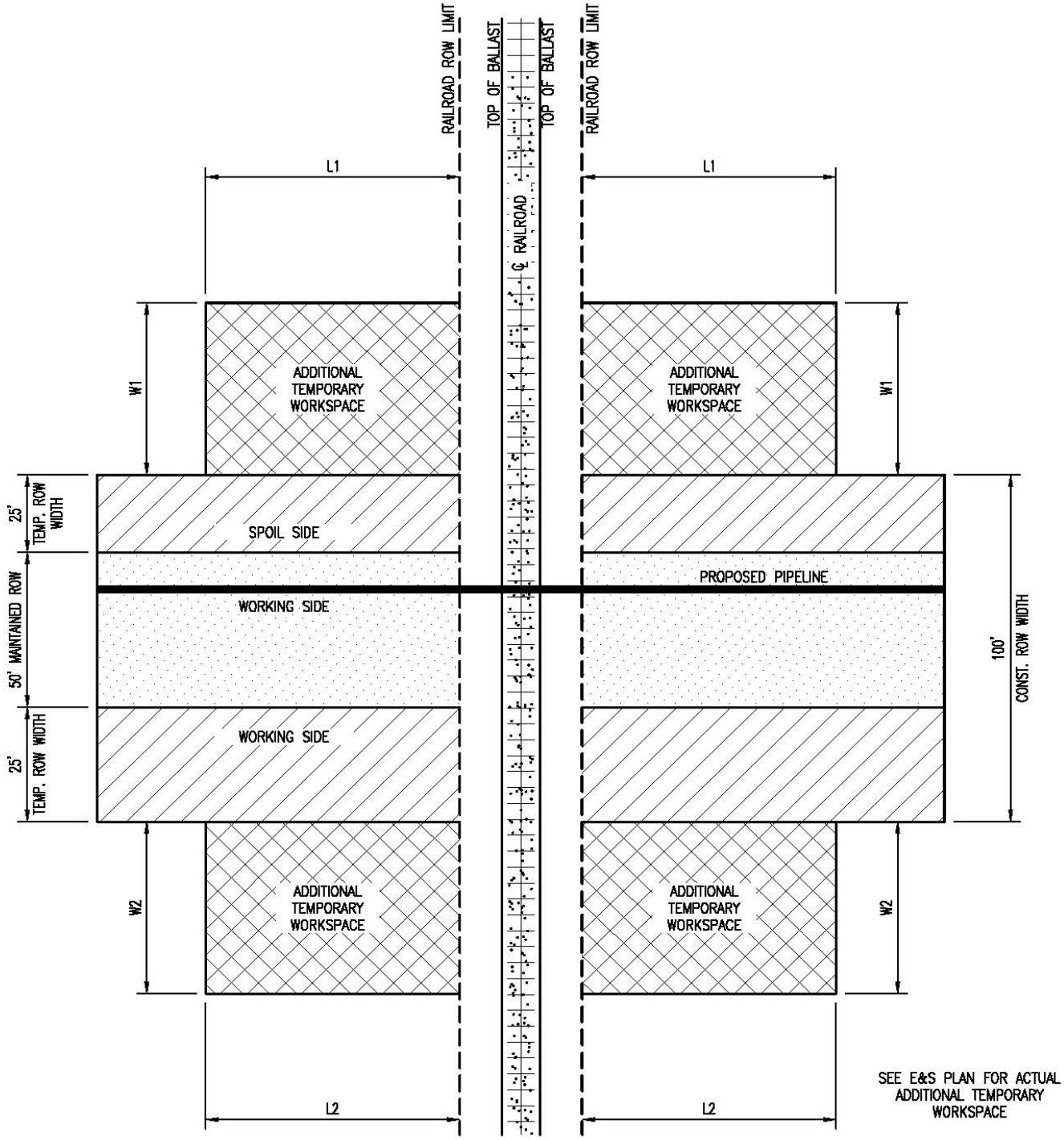
Source: Equitrans' FERC Application

C2-19
Equitrans Expansion Project
20" H-318
Open Cut Road Crossing
Right-of-Way



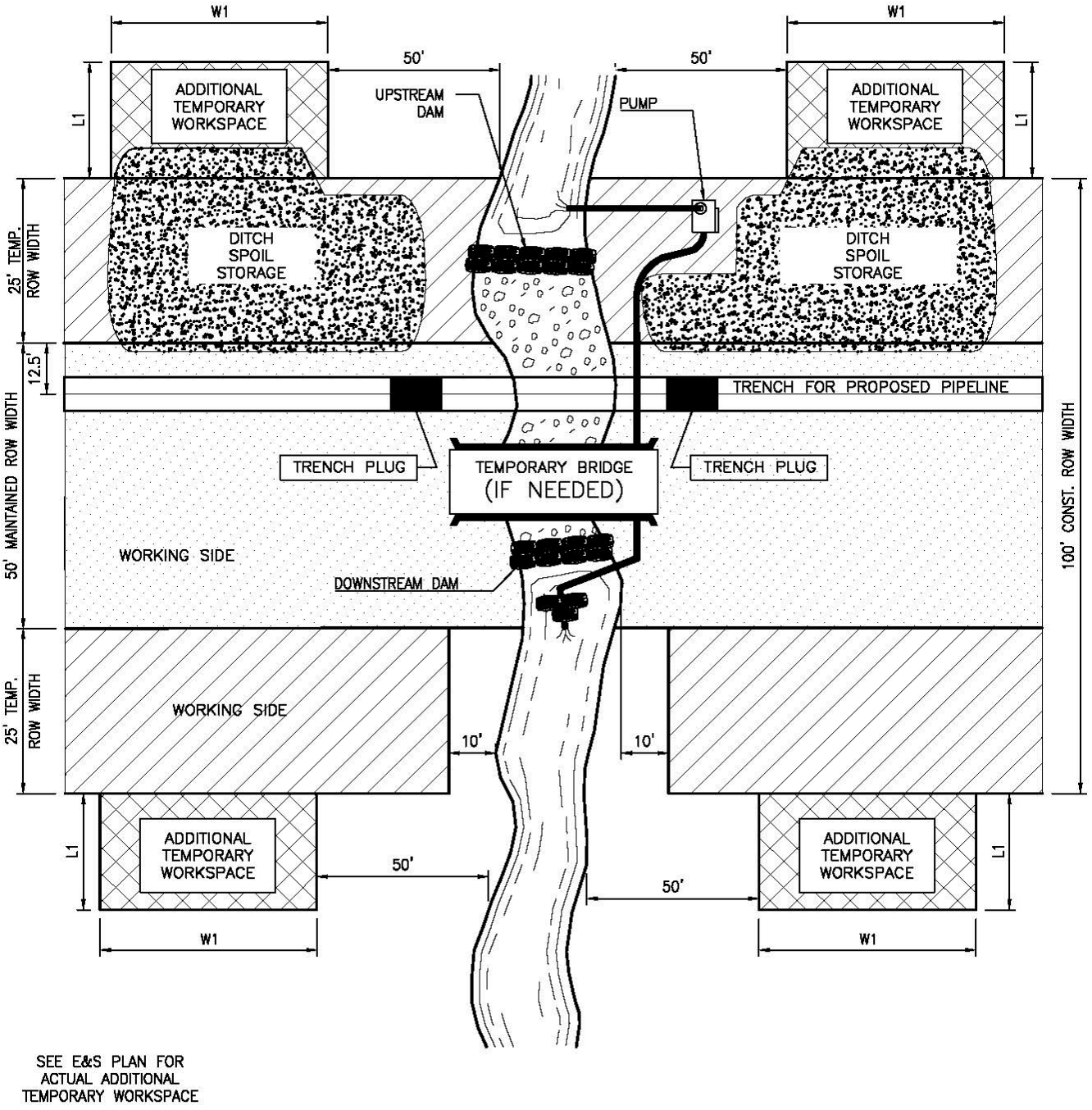
Source: Equitrans' FERC Application

C2-20
Equitrans Expansion Project
20" H-318
Bored Road Crossing
Right-of-Way



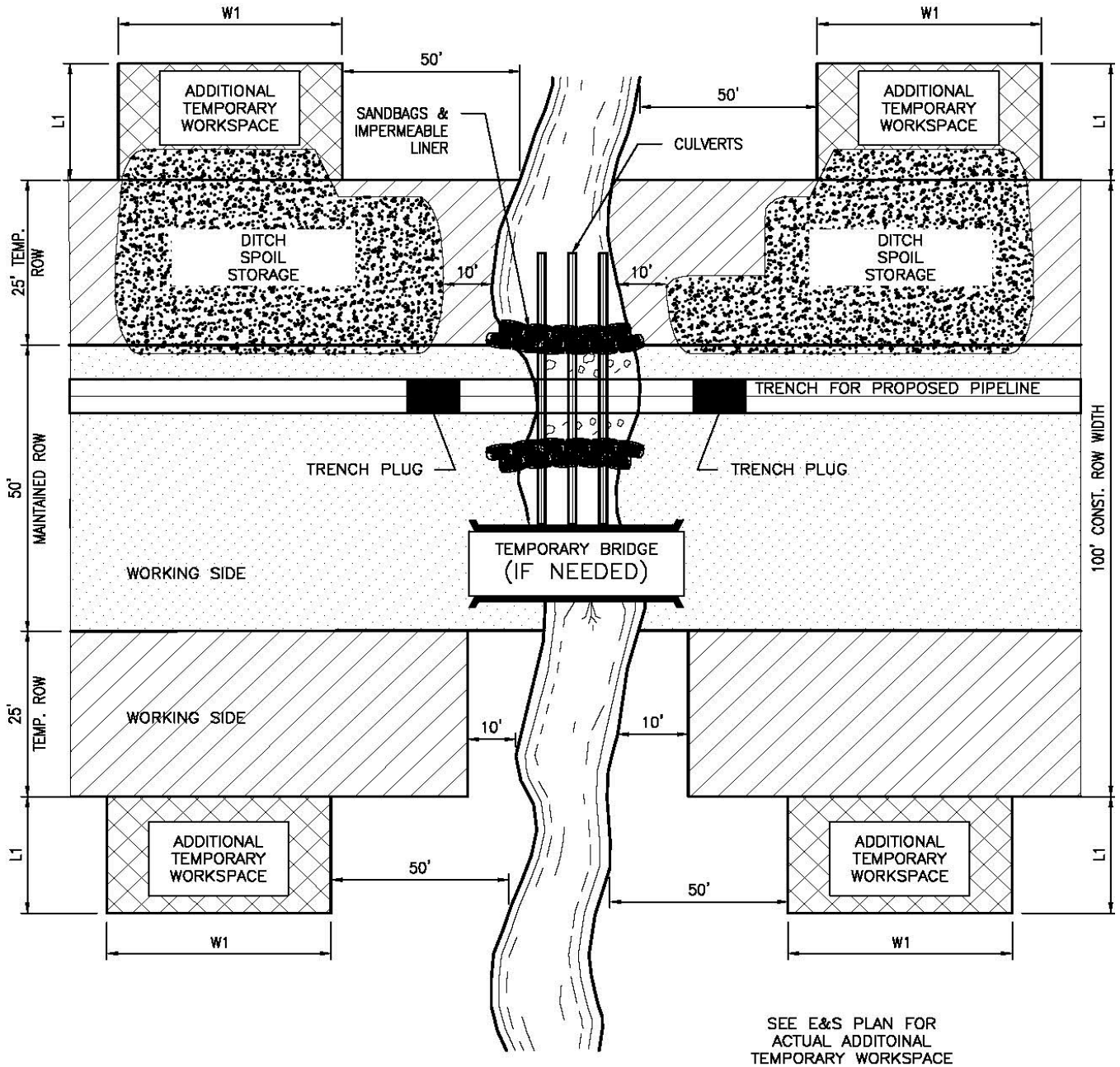
Source: Equitrans' FERC Application

C2-21
Equitrans Expansion Project
20" H-318
Bored Rail Road Crossing
Right-of-Way



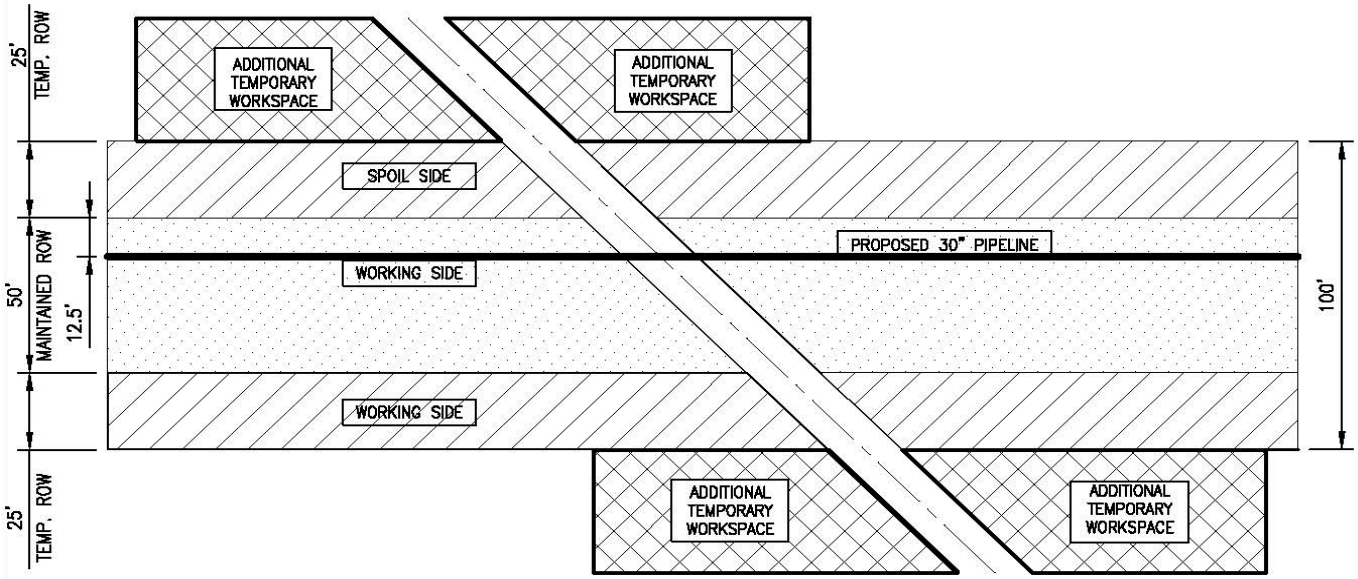
Source: Equitrans' FERC Application

C2-22A
Equitrans Expansion Project
20" H-318
Open Cut – Dam and Pump
Right-of-Way



Source: Equitrans' FERC Application

C2-22B
Equitrans Expansion Project
20" H-318
Open Cut – Flume
Right-of-Way

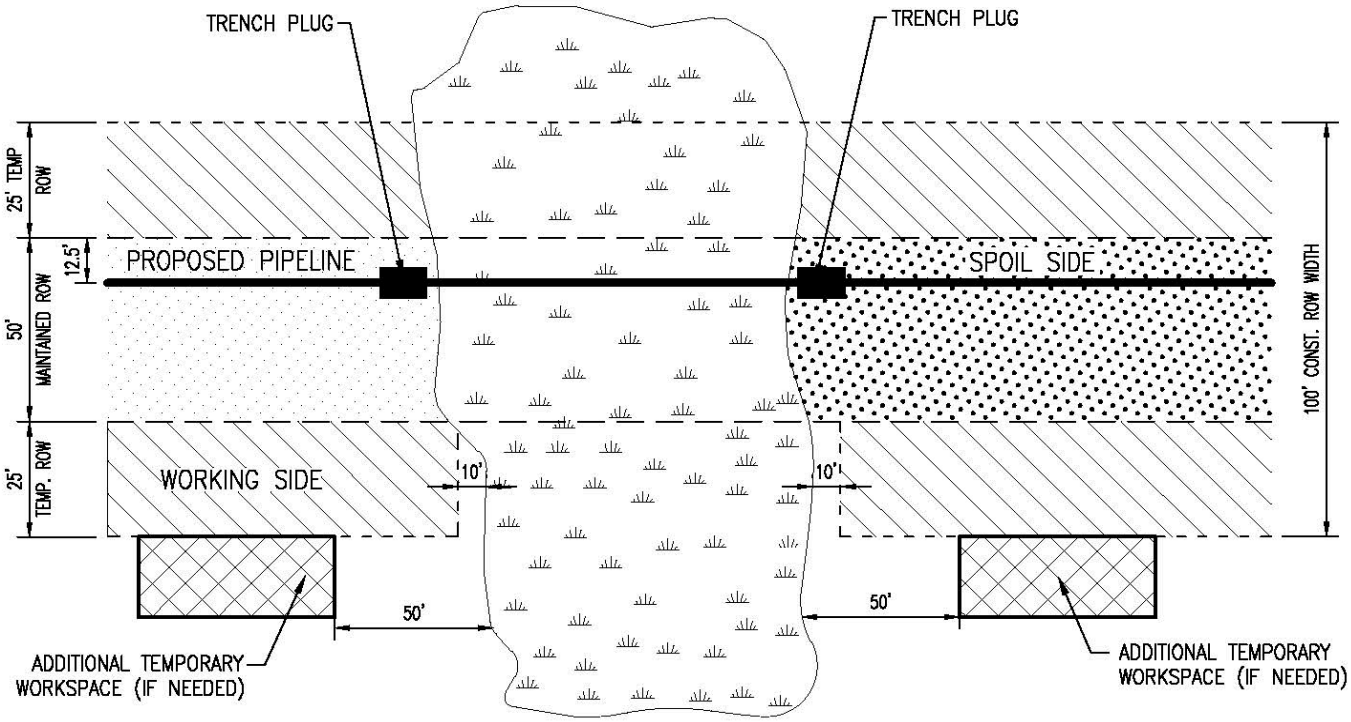


NOTE:

1. DIMENSIONS DEPENDENT ON PROPOSED AND EXISTING PIPELINE DIAMETERS, BURIAL DEPTHS AND LOCAL SITE SPECIFIC CONDITIONS.
2. TRAVEL LANE ON WORKING SIDE TO BE MATTED AS REQUIRED BY EXISTING PIPELINE COMPANY REQUIREMENTS AND LOCAL CONDITIONS.
3. SEE E&S PLAN FOR ACTUAL ADDITIONAL TEMPORARY WORKSPACE.

Source: Equitrans' FERC Application

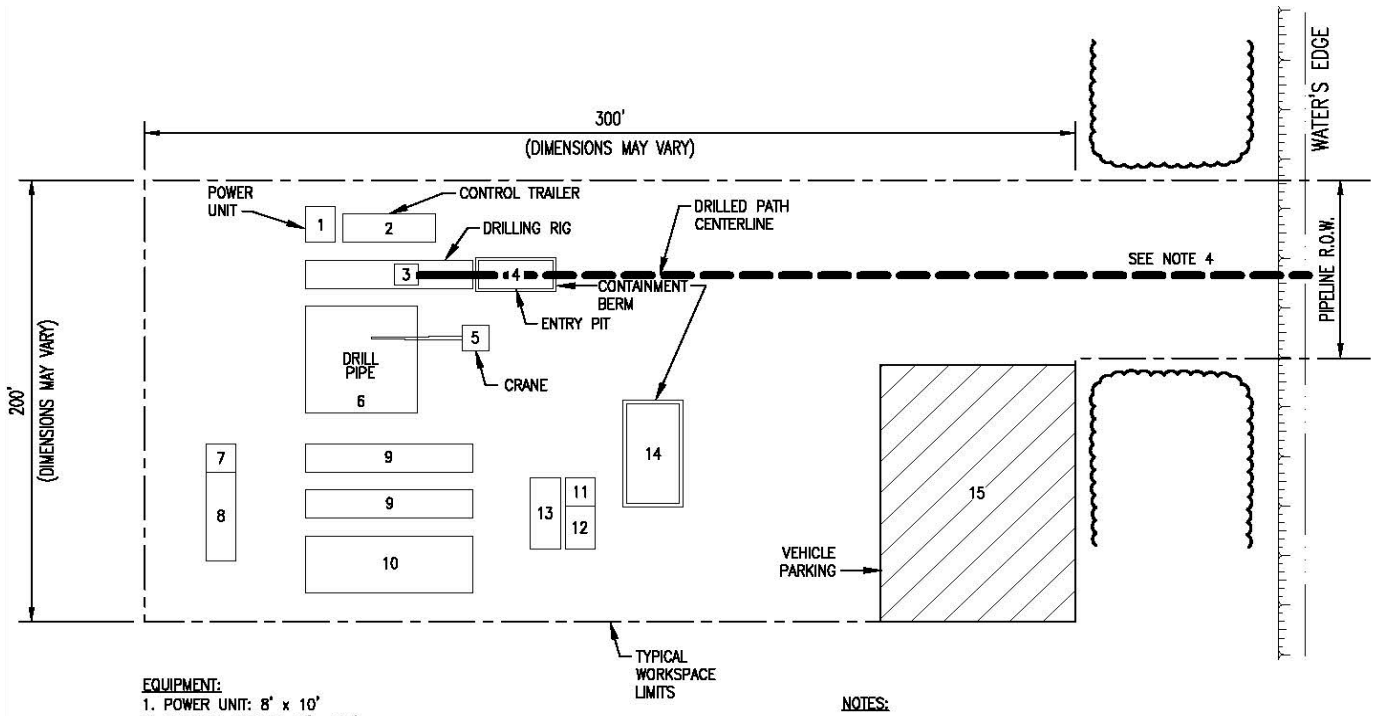
C2-23
Equitrans Expansion Project
20" H-318
Pipeline Crossing
Right-of-Way



SEE E&S PLAN FOR ACTUAL ADDITIONAL TEMPORARY WORKSPACE.

Source: Equitrans' FERC Application

C2-24
Equitrans Expansion Project
20" H-318
Wetland Crossing
Right-of-Way

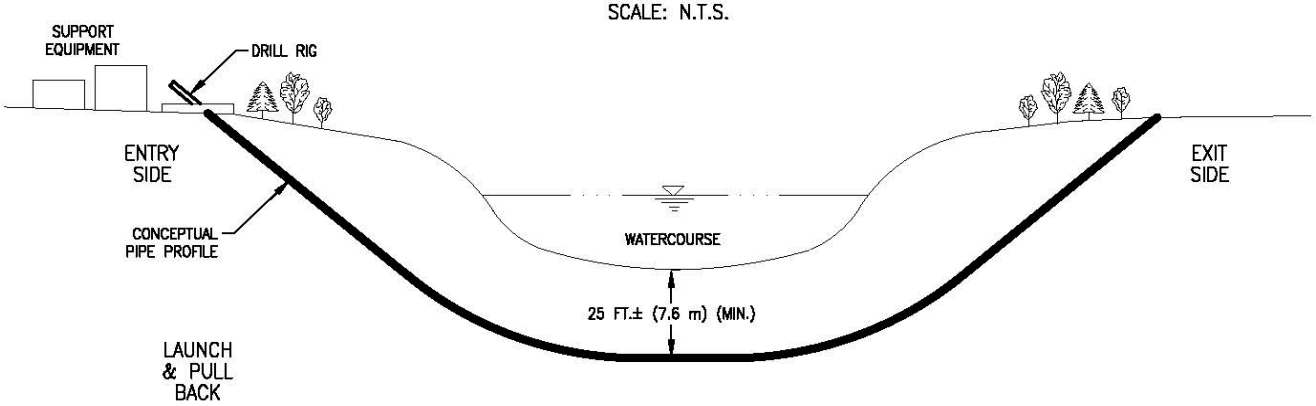


EQUIPMENT:
1. POWER UNIT: 8' x 10'
2. CONTROL TRAILER: 8' x 25'
3. DRILL RIG: 8' x 45'
4. SLURRY PIT W/BERM: 8' x 20'
5. CRANE: 8' x 8'
6. DRILL PIPE: 30' x 30'
7. SLURRY PUMP: 8' x 10'
8. SLURRY MIXING TANK: 8' x 20'
9. FRAC TANK(S): 8' x 45'
10. BENTONITE STORAGE: 20' x 45'
11. DESTILTER: 8' x 8'
12. SHAKER: 8' x 12'
13. SPOILS CONTAINER: 8' x 20'
14. CUTTINGS SETTLEMENT PIT: 10' x 25'
15. PARKING & STORAGE: 50' X 100'

NOTES:

1. EQUIPMENT ORIENTATION MAY VARY DEPENDING ON CONTRACTOR OR SITE CONDITIONS.
2. EQUIPMENT TO BE SUPPORTED ON THE GROUND SURFACE OR TIMBER MATS AS CONDITIONS DICTATE
3. SILT FENCE, BERMS AND/OR STRAW BALE BARRIER TO BE USED AS REQUIRED TO PREVENT IMPACTS FROM OCCURRING OUTSIDE OF PROJECT LIMITS.
4. HAND CLEARED ACCESS PATH WILL BE USED TO OBTAIN WATER FROM SOURCE WHERE PERMITTED.

ENTRY SITE PLAN
SCALE: N.T.S.



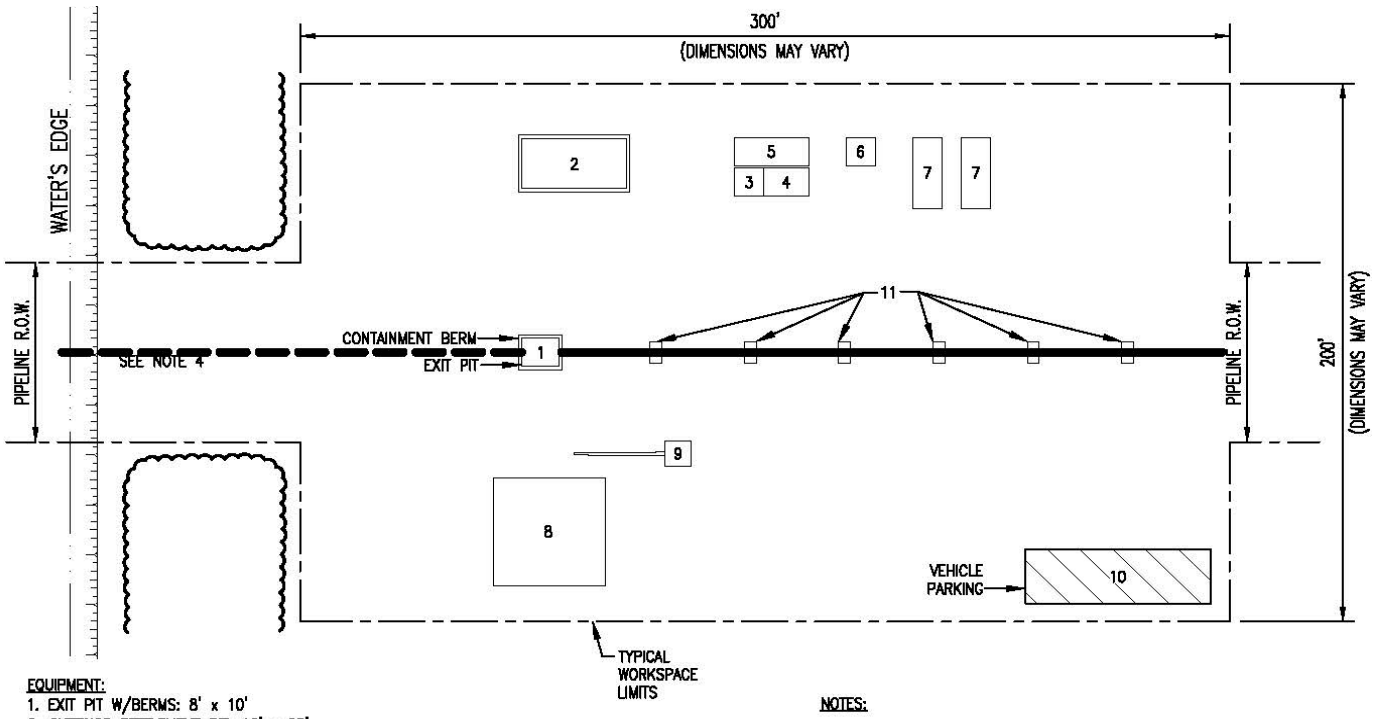
PROFILE
SCALE: N.T.S.

GENERAL NOTES:

1. PIPE DEPTHS MAY VARY

Source: Equitrans' FERC Application

C2-25
Equitrans Expansion Project
30" H-316 / 20" H-318
Typical Directional Drill
Entry Site Plan & Profile

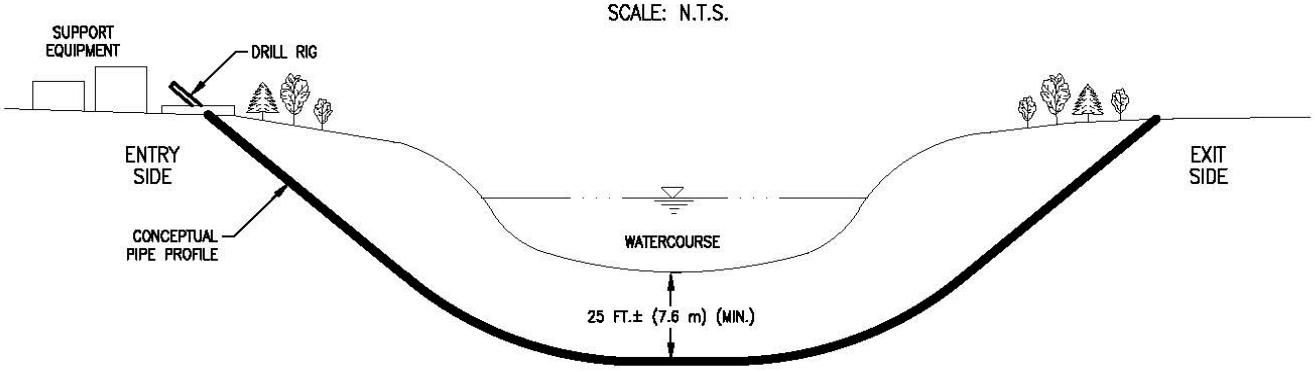


EQUIPMENT:
1. EXIT PIT W/BERMS: 8' x 10'
2. CUTTINGS SETTLEMENT PIT: 10' x 25'
3. DESILTER: 8' x 8'
4. SHAKER: 8' x 12'
5. SPOILS CONTAINER: 8' x 20'
6. POWER UNIT: 8' x 10'
7. FRAC TANK(S): 8' x 45'
8. DRILL PIPE: 30' x 30'
9. CONSTRUCTION EQUIPMENT: 8' x 8'
10. PARKING & STORAGE: 15' x 50'
11. PIPE ROLLERS

NOTES:

1. EQUIPMENT ORIENTATION MAY VARY DEPENDING ON CONTRACTOR OR SITE CONDITIONS.
2. EQUIPMENT TO BE SUPPORTED ON THE GROUND SURFACE OR TIMBER MATS AS CONDITIONS DICTATE
3. SILT FENCE, BERMS AND/OR STRAW BALE BARRIER TO BE USED AS REQUIRED TO PREVENT IMPACTS FROM OCCURRING OUTSIDE OF PROJECT LIMITS.
4. HAND CLEARED ACCESS PATH WILL BE USED TO OBTAIN WATER FROM SOURCE WHERE PERMITTED.

EXIT SITE PLAN
SCALE: N.T.S.



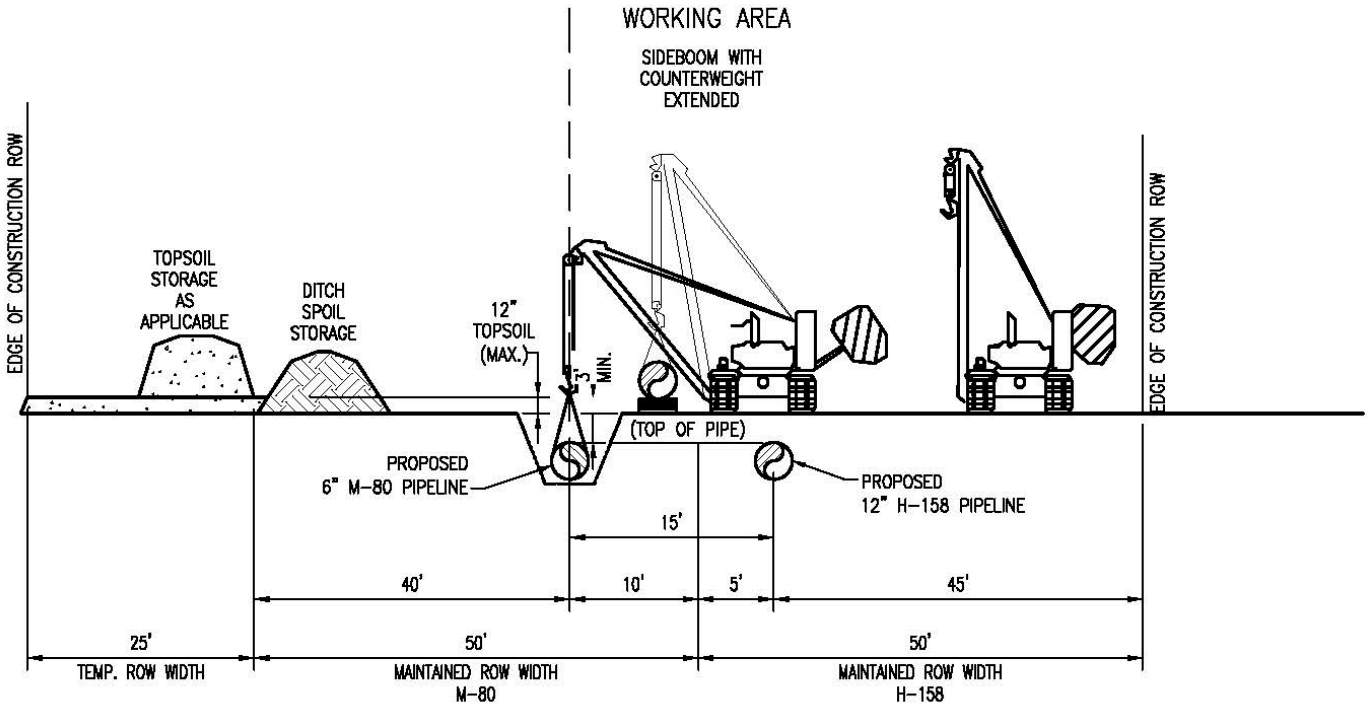
PROFILE
SCALE: N.T.S.

GENERAL NOTES:

1. PIPE DEPTHS MAY VARY

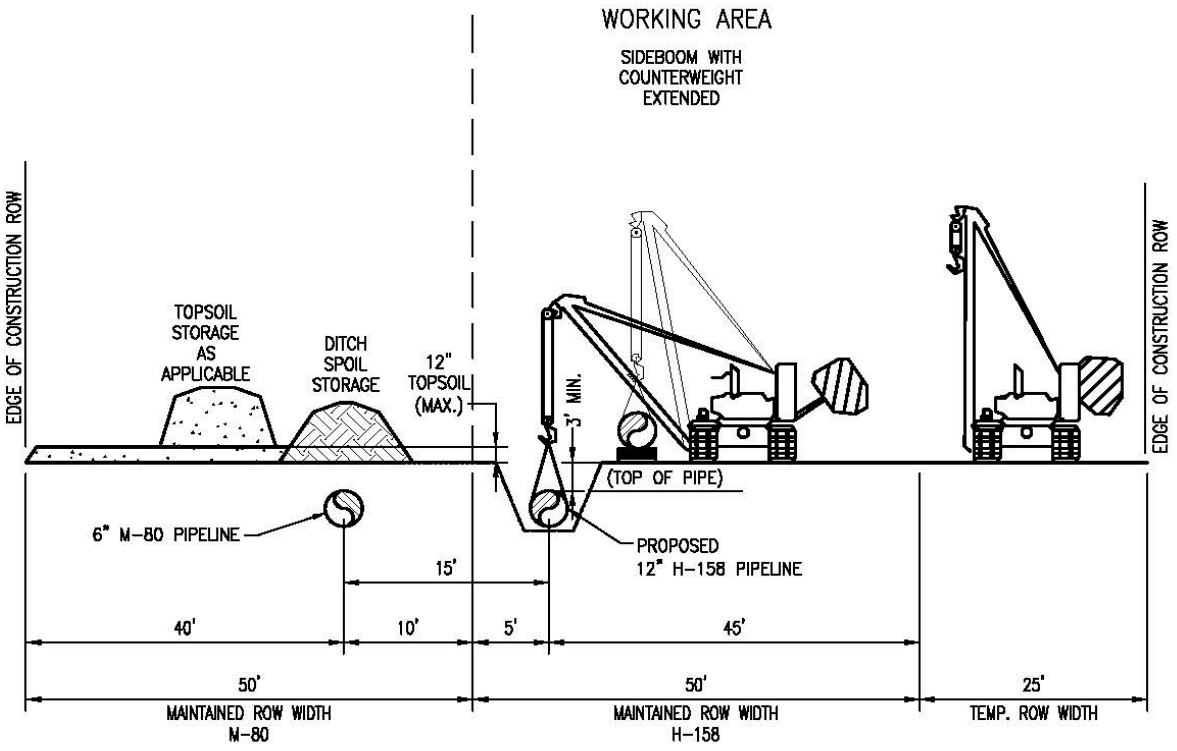
Source: Equitrans' FERC Application

C2-26
Equitrans Expansion Project
30" H-316 / 20" H-318
Typical Directional Drill
Exit Site Plan & Profile



Source: Equitrans' FERC Application

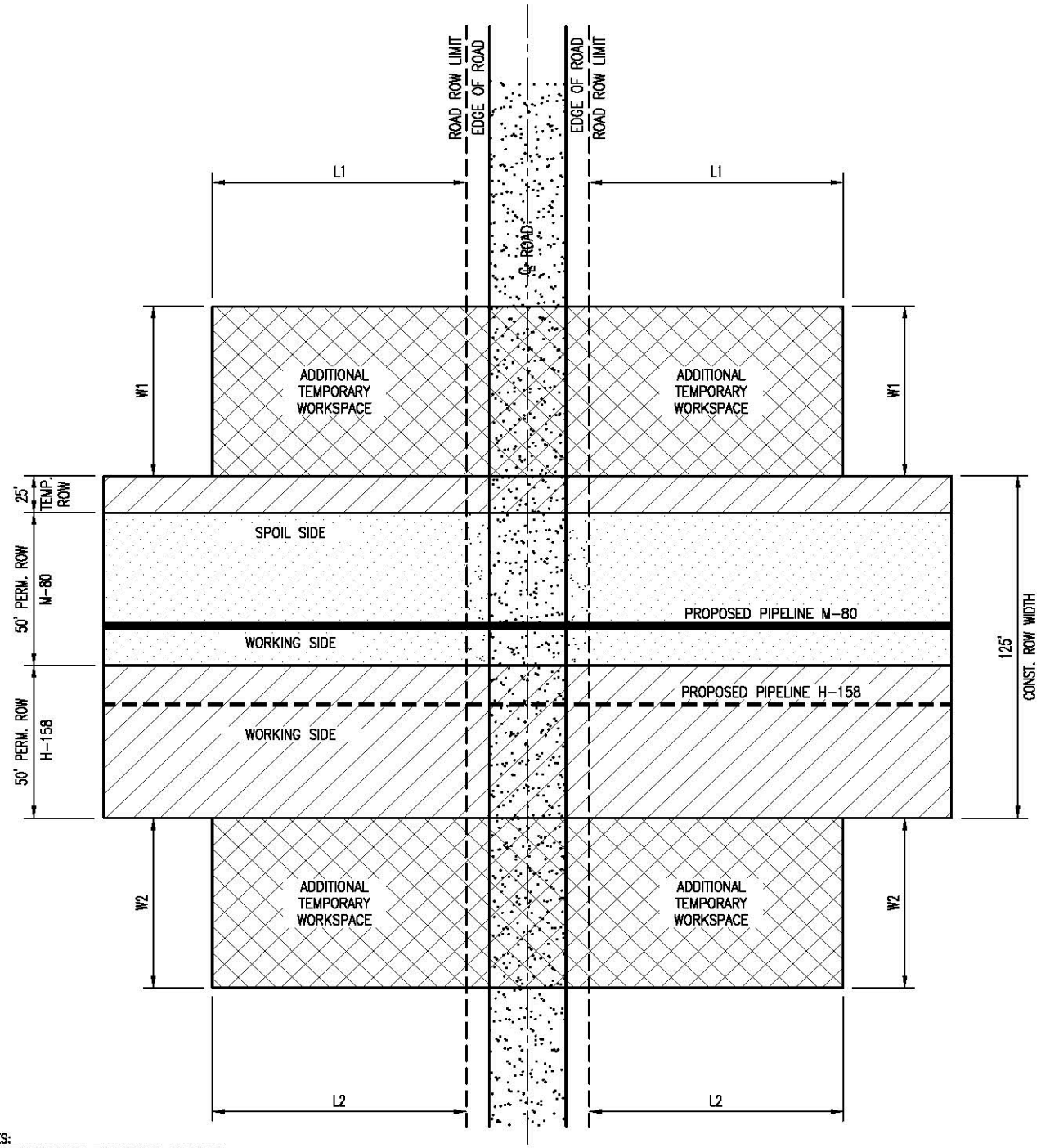
C2-27
Equitrans Expansion Project
6" M-80
Parallel Construction
Right-of-Way



NOTES:
1. PROPOSED PIPELINE M-80 TO BE CONSTRUCTED FIRST WITH H-158 FOLLOWING IN SUCCESSION.

Source: Equitrans' FERC Application

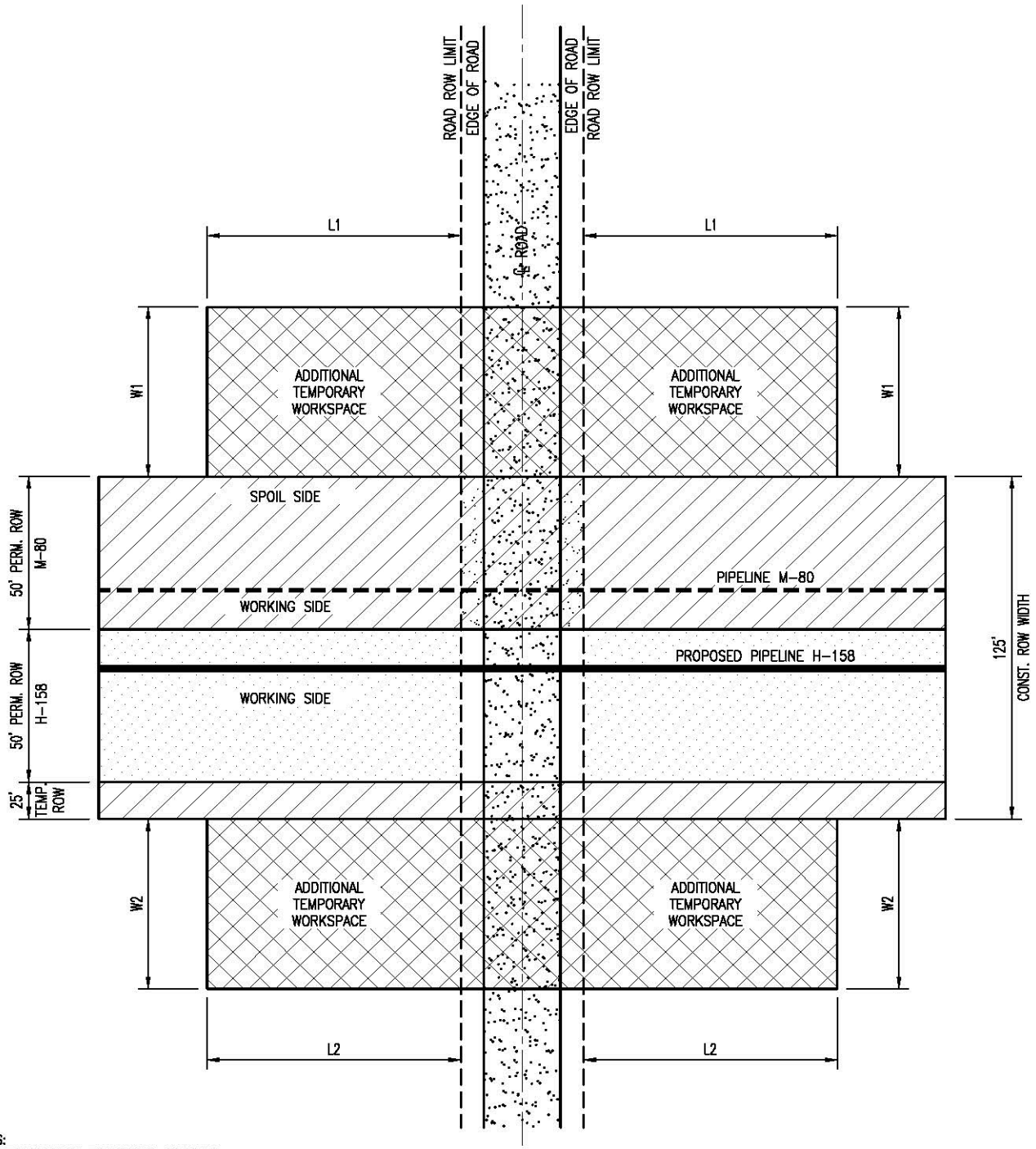
C2-28
Equitrans Expansion Project
12" H-158
Parallel Construction
Right-of-Way



NOTES:
1. SEE E&S PLAN FOR ACTUAL ADDITIONAL TEMPORARY WORKSPACE.
2. PROPOSED PIPELINE M-80 TO BE CONSTRUCTED FIRST WITH H-158 FOLLOWING IN SUCCESSION.

Source: Equitrans' FERC Application

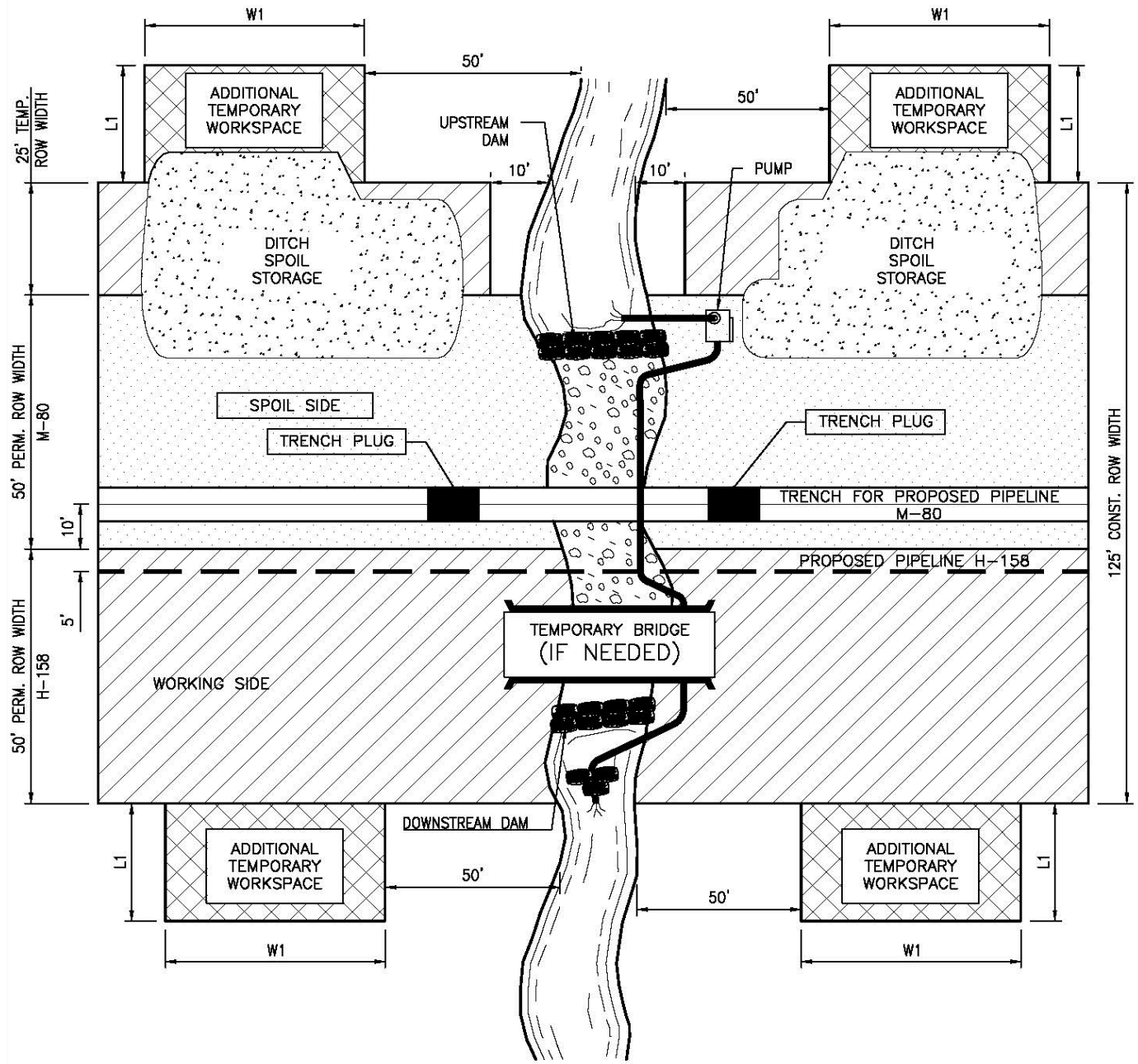
C2-29
Equitrans Expansion Project
6" M-80
Open Cut Road Crossing
Right-of-Way



NOTES:
1. SEE E&S PLAN FOR ACTUAL ADDITIONAL TEMPORARY WORKSPACE.
2. PROPOSED PIPELINE M-80 TO BE CONSTRUCTED FIRST WITH H-158 FOLLOWING IN SUCCESSION.

Source: Equitrans' FERC Application

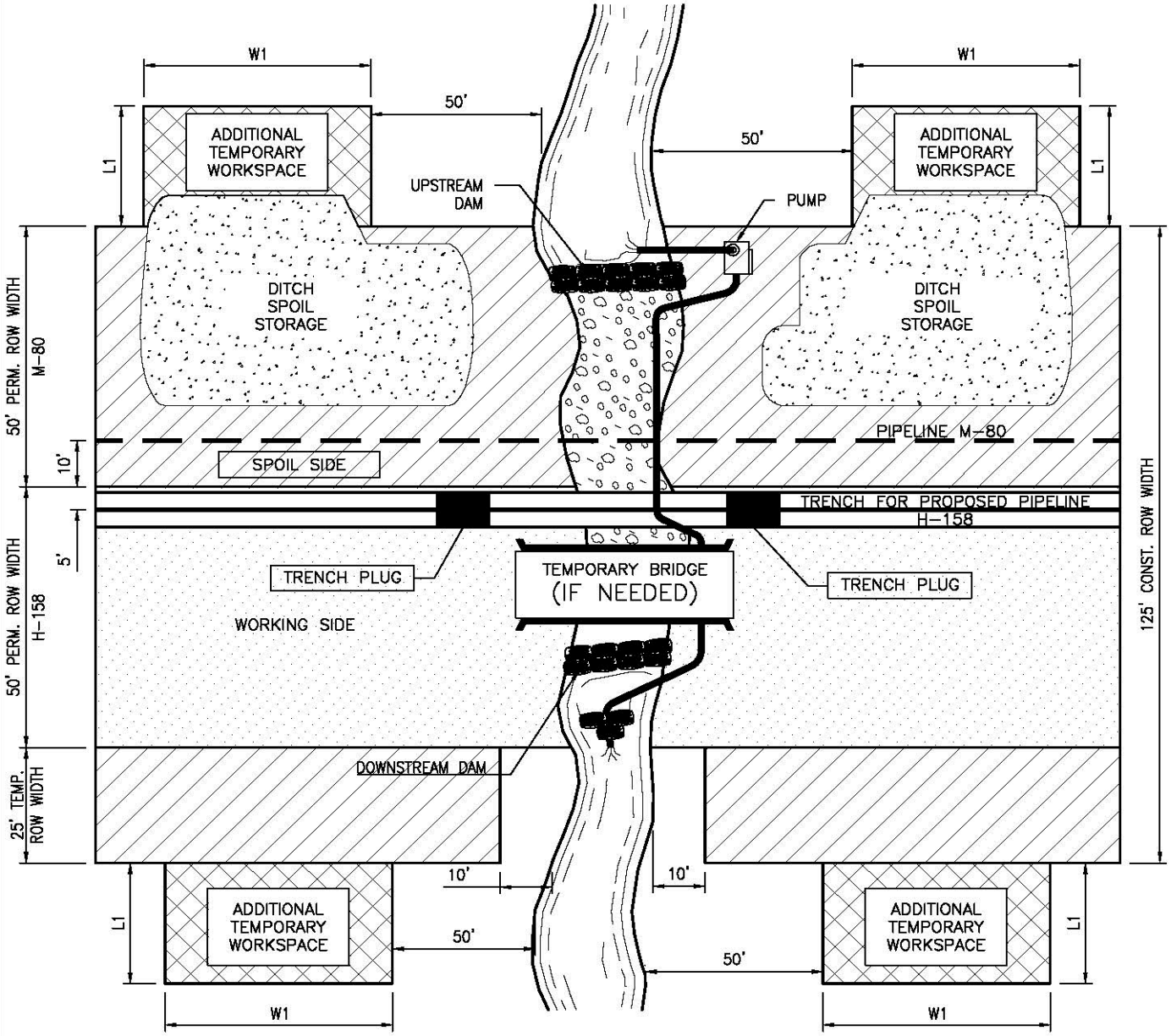
C2-30
Equitrans Expansion Project
12" H-158
Open Cut Road Crossing
Right-of-Way



NOTES:
1. SEE E&S PLAN FOR ACTUAL ADDITIONAL TEMPORARY WORKSPACE.
2. PROPOSED PIPELINE M-80 TO BE CONSTRUCTED FIRST WITH H-158 FOLLOWING IN SUCCESSION.
3. DAM AND PUMP TO REMAIN IN OPERATION UNTIL COMPLETION OF BOTH PIPELINES.

Source: Equitrans' FERC Application

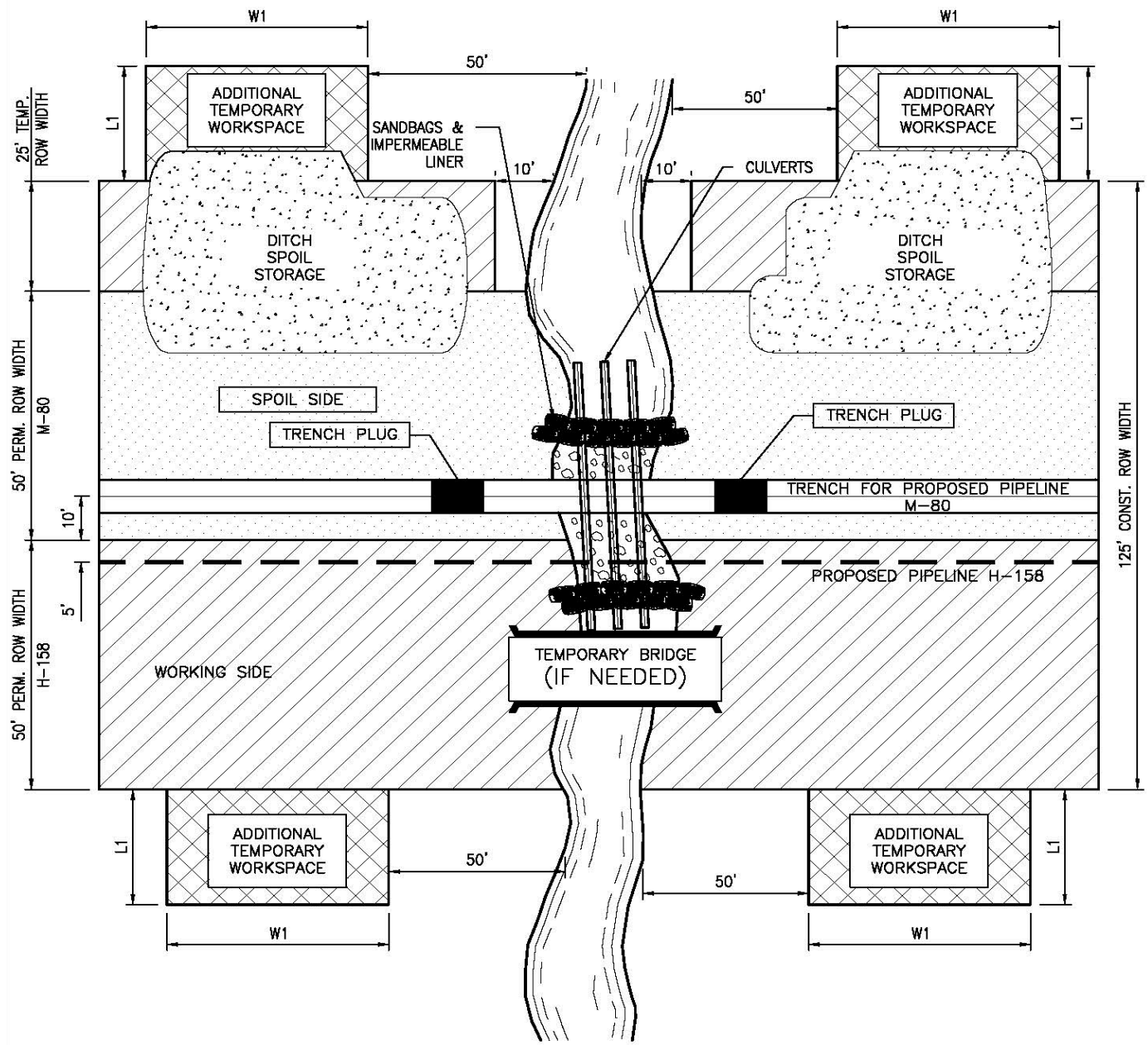
C2-31
Equitrans Expansion Project
6" M-80
Open Cut – Dam and Pump
Right-of-Way



NOTES:
1. SEE E&S PLAN FOR ACTUAL ADDITIONAL TEMPORARY WORKSPACE.
2. PROPOSED PIPELINE M-80 TO BE CONSTRUCTED FIRST WITH H-158 FOLLOWING IN SUCCESSION.
3. DAM AND PUMP TO REMAIN IN OPERATION UNTIL COMPLETION OF BOTH PIPELINES.

Source: Equitrans' FERC Application

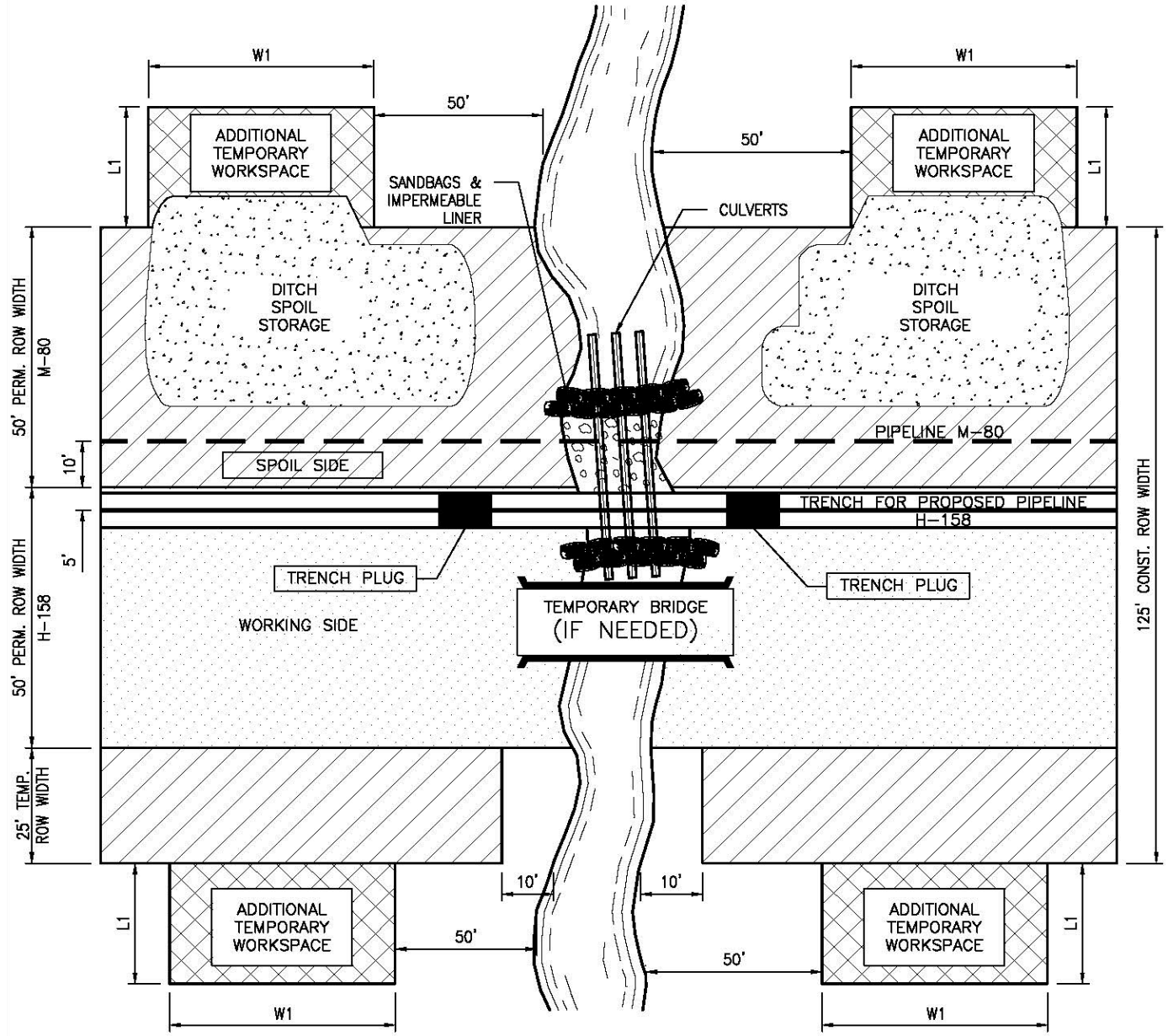
C2-32
Equitrans Expansion Project
12" H-158
Open Cut – Dam and Pump
Right-of-Way



NOTES:
1. SEE E&S PLAN FOR ACTUAL ADDITIONAL TEMPORARY WORKSPACE.
2. PROPOSED PIPELINE M-80 TO BE CONSTRUCTED FIRST WITH H-158 FOLLOWING IN SUCCESSION.
3. FLUMES TO REMAIN IN OPERATION UNTIL COMPLETION OF BOTH PIPELINES

Source: Equitrans' FERC Application

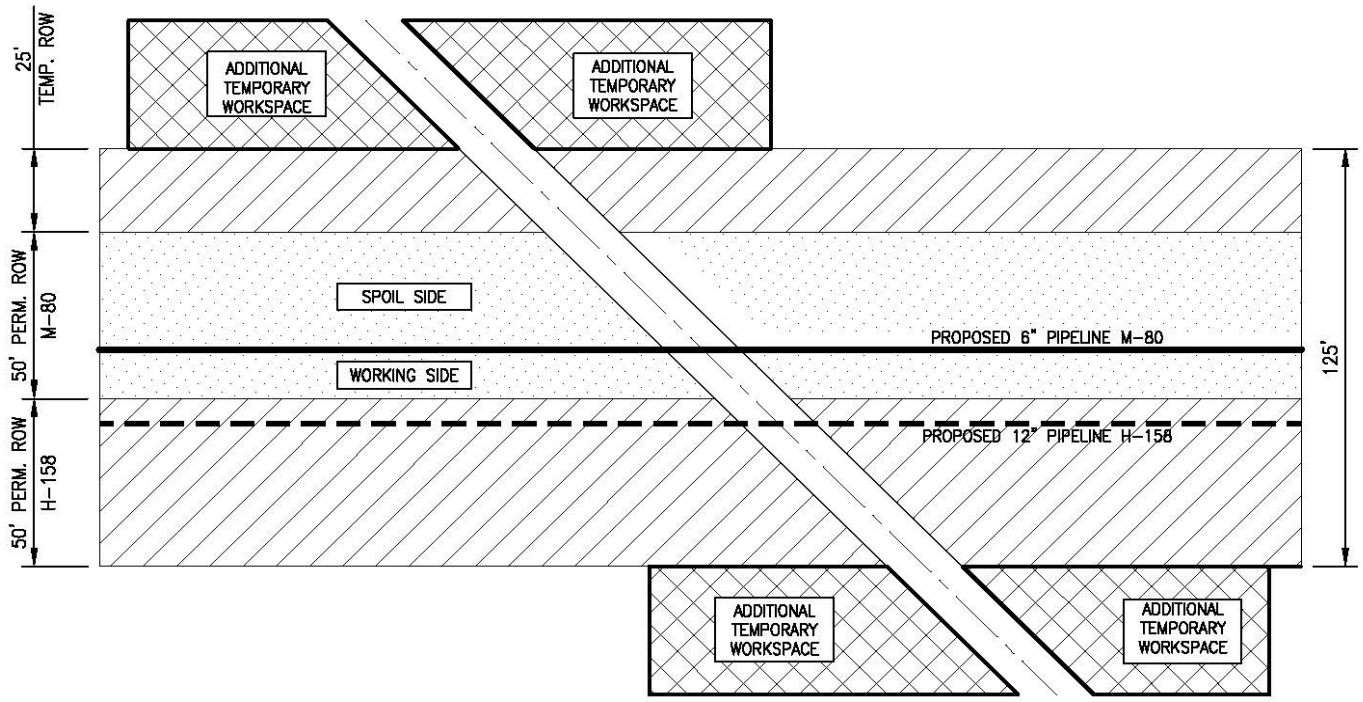
C2-33
Equitrans Expansion Project
6" M-80
Open Cut – Flume
Right-of-Way



NOTES:
1. SEE E&S PLAN FOR ACTUAL ADDITIONAL TEMPORARY WORKSPACE.
2. PROPOSED PIPELINE M-80 TO BE CONSTRUCTED FIRST WITH H-158 FOLLOWING IN SUCCESSION.
3. FLUMES TO REMAIN IN OPERATION UNTIL COMPLETION OF BOTH PIPELINES.

Source: Equitrans' FERC Application

C2-34
Equitrans Expansion Project
12" H-158
Open Cut – Flume
Right-of-Way

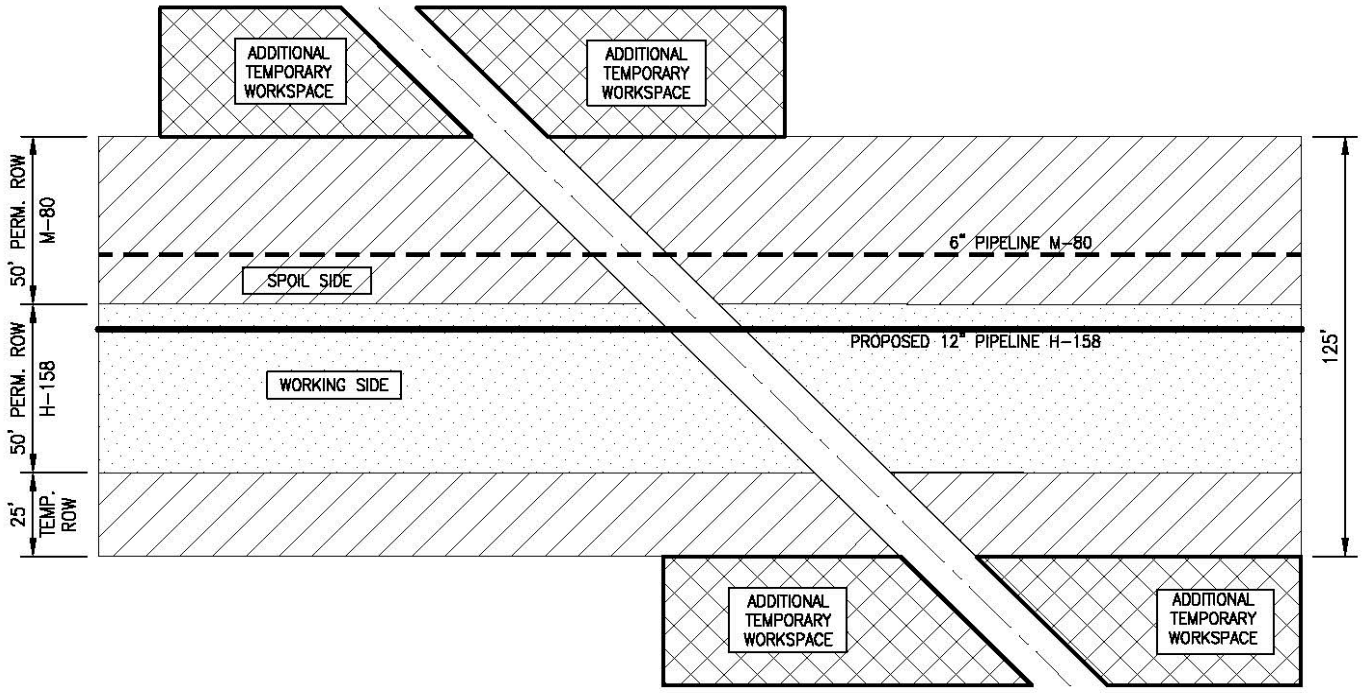


NOTE:

1. DIMENSIONS DEPENDENT ON PROPOSED AND EXISTING PIPELINE DIAMETERS, BURIAL DEPTHS AND LOCAL SITE SPECIFIC CONDITIONS.
2. TRAVEL LANE ON WORKING SIDE TO BE MATTED AS REQUIRED BY EXISTING PIPELINE COMPANY REQUIREMENTS AND LOCAL CONDITIONS.
3. SEE E&S PLAN FOR ACTUAL ADDITIONAL TEMPORARY WORKSPACE.
4. PROPOSED PIPELINE M-80 TO BE CONSTRUCTED FIRST WITH H-158 FOLLOWING IN SUCCESSION.

Source: Equitrans' FERC Application

C2-35
Equitrans Expansion Project
6" M-80
Pipeline Crossing
Right-of-Way

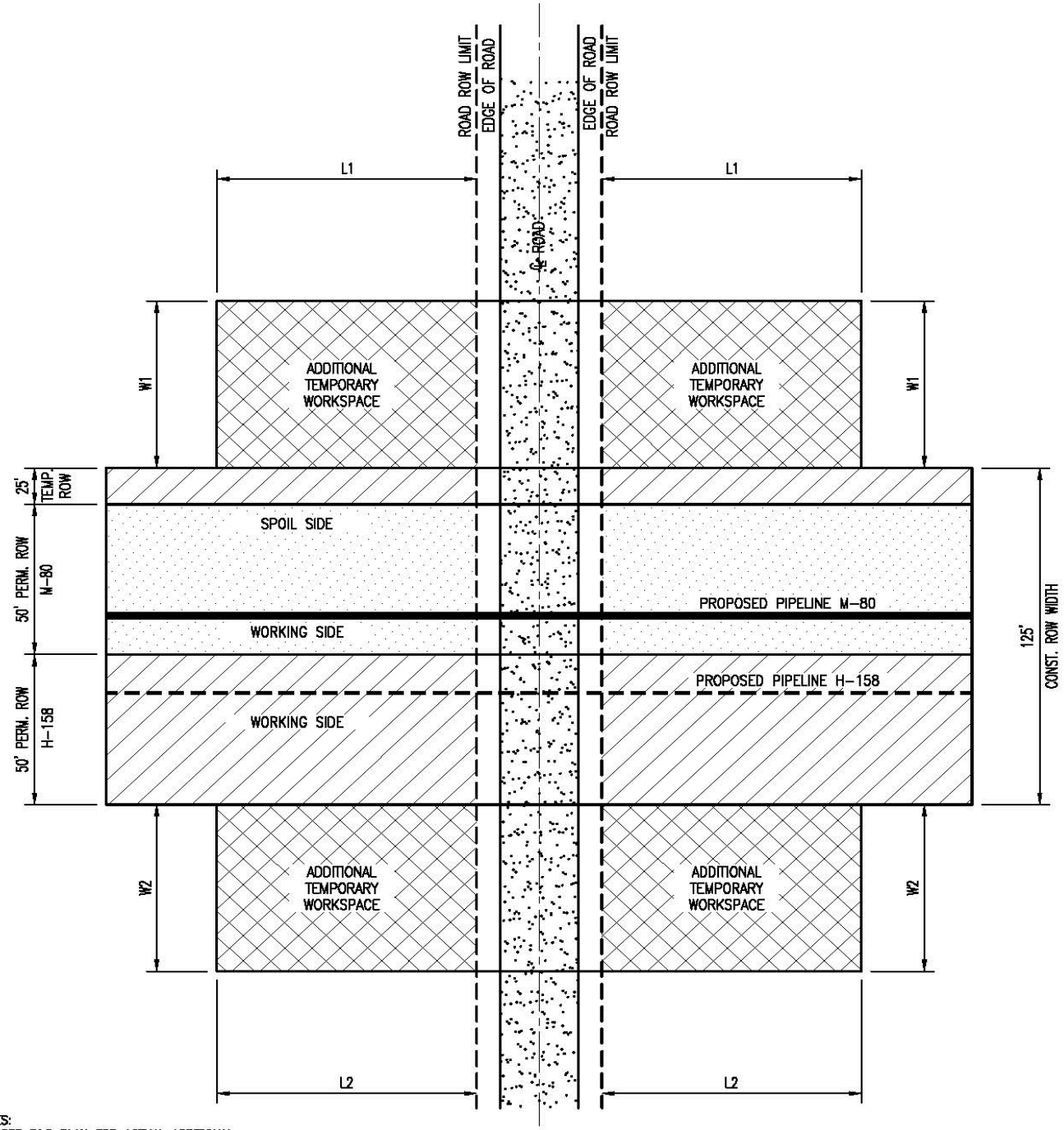


NOTE:

1. DIMENSIONS DEPENDENT ON PROPOSED AND EXISTING PIPELINE DIAMETERS, BURIAL DEPTHS AND LOCAL SITE SPECIFIC CONDITIONS.
2. TRAVEL LANE ON WORKING SIDE TO BE MATTED AS REQUIRED BY EXISTING PIPELINE COMPANY REQUIREMENTS AND LOCAL CONDITIONS.
3. SEE E&S PLAN FOR ACTUAL ADDITIONAL TEMPORARY WORKSPACE.
4. PROPOSED PIPELINE M-80 TO BE CONSTRUCTED FIRST WITH H-158 FOLLOWING IN SUCCESSION.

Source: Equitrans' FERC Application

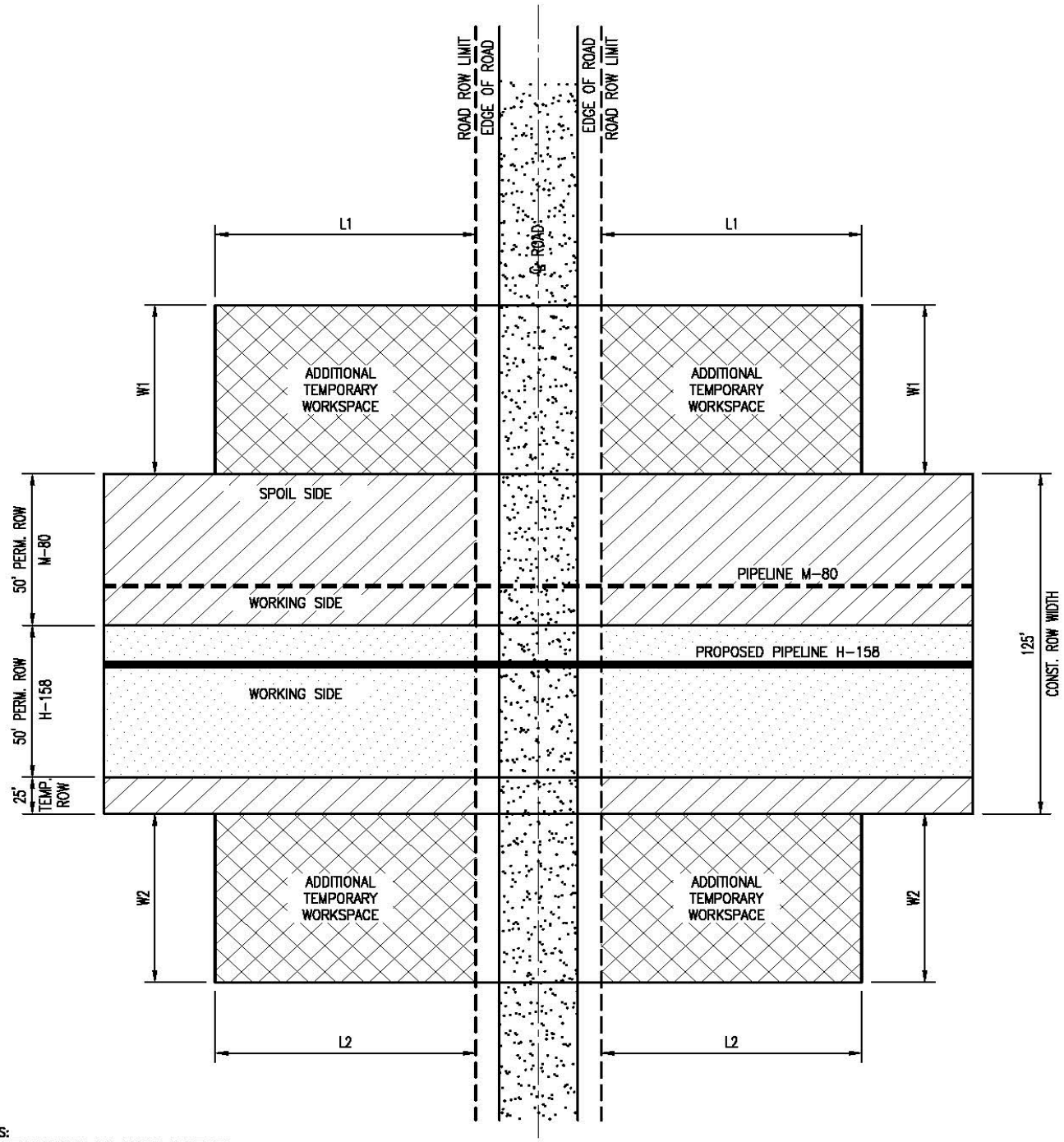
C2-36
Equitrans Expansion Project
12" H-158
Pipeline Crossing
Right-of-Way



NOTES:
1. SEE E&S PLAN FOR ACTUAL ADDITIONAL TEMPORARY WORKSPACE.
2. PROPOSED PIPELINE M-80 TO BE CONSTRUCTED FIRST WITH H-158 FOLLOWING IN SUCCESSION.

Source: Equitrans' FERC Application

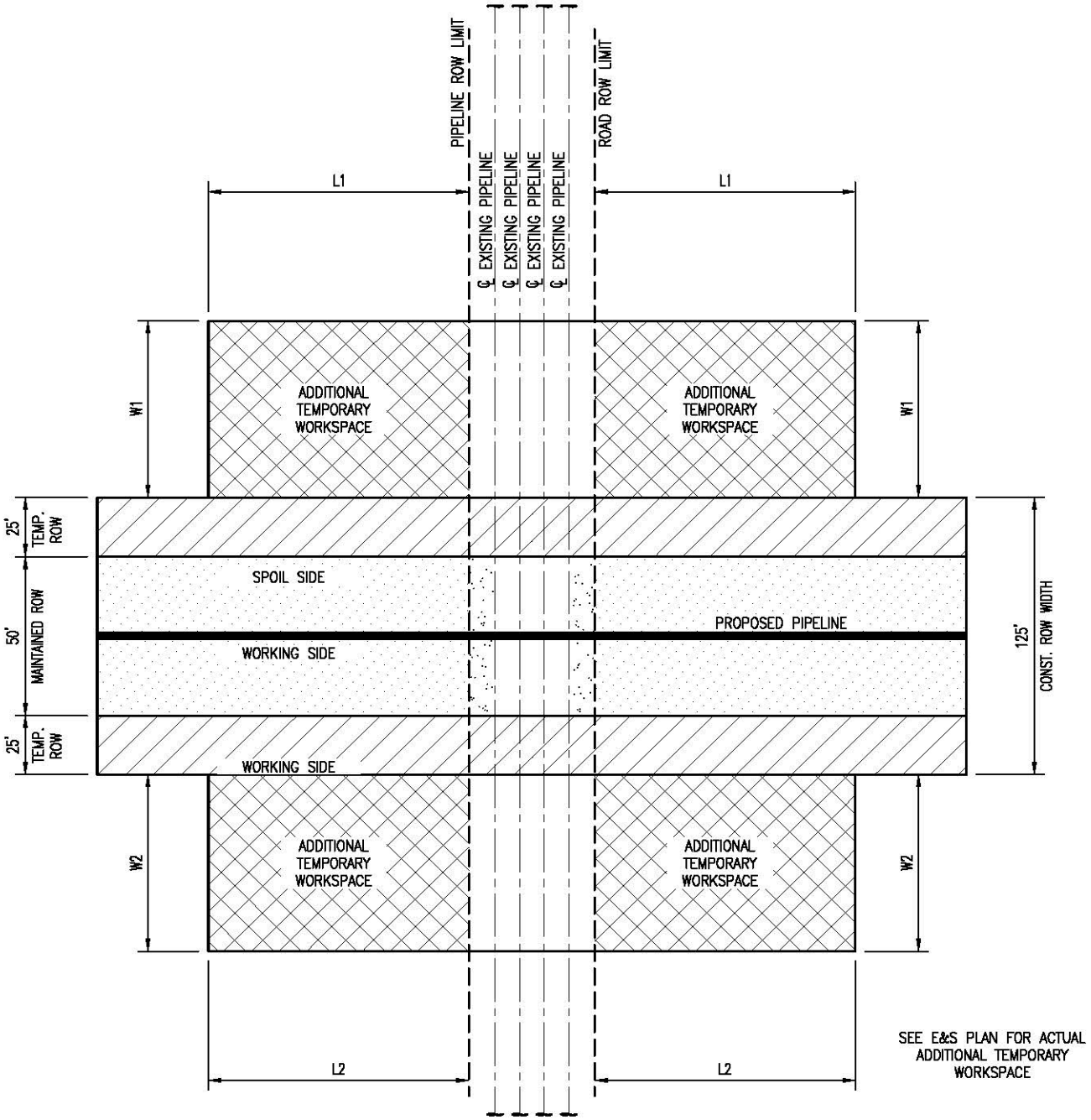
C2-37
Equitrans Expansion Project
6" M-80
Bored Road Crossing
Right-of-Way



NOTES:
1. SEE E&S PLAN FOR ACTUAL ADDITIONAL TEMPORARY WORKSPACE.
2. PROPOSED PIPELINE M-80 TO BE CONSTRUCTED FIRST WITH H-158 FOLLOWING IN SUCCESSION.

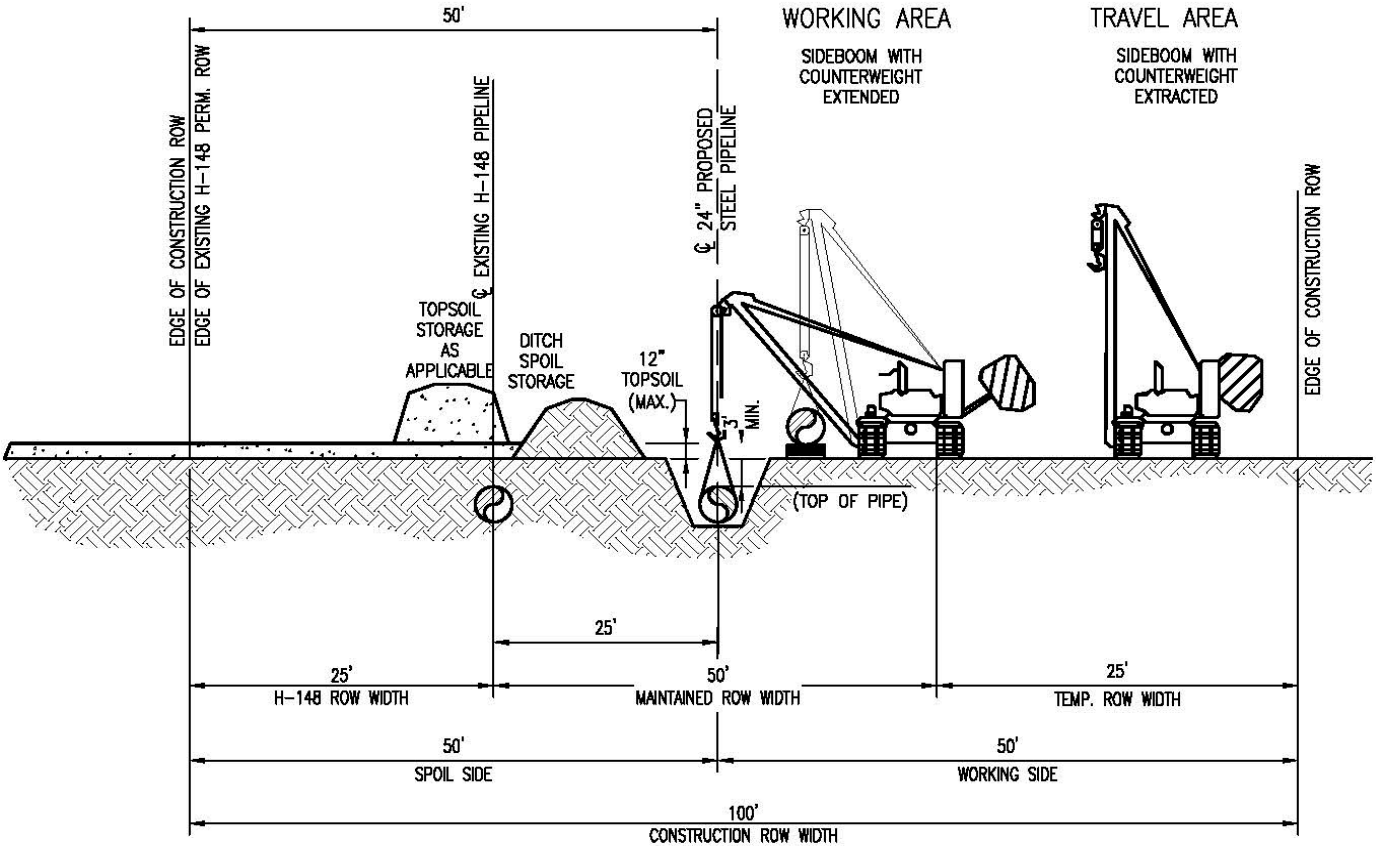
Source: Equitrans' FERC Application

C2-38
Equitrans Expansion Project
12" H-158
Bored Road Crossing
Right-of-Way



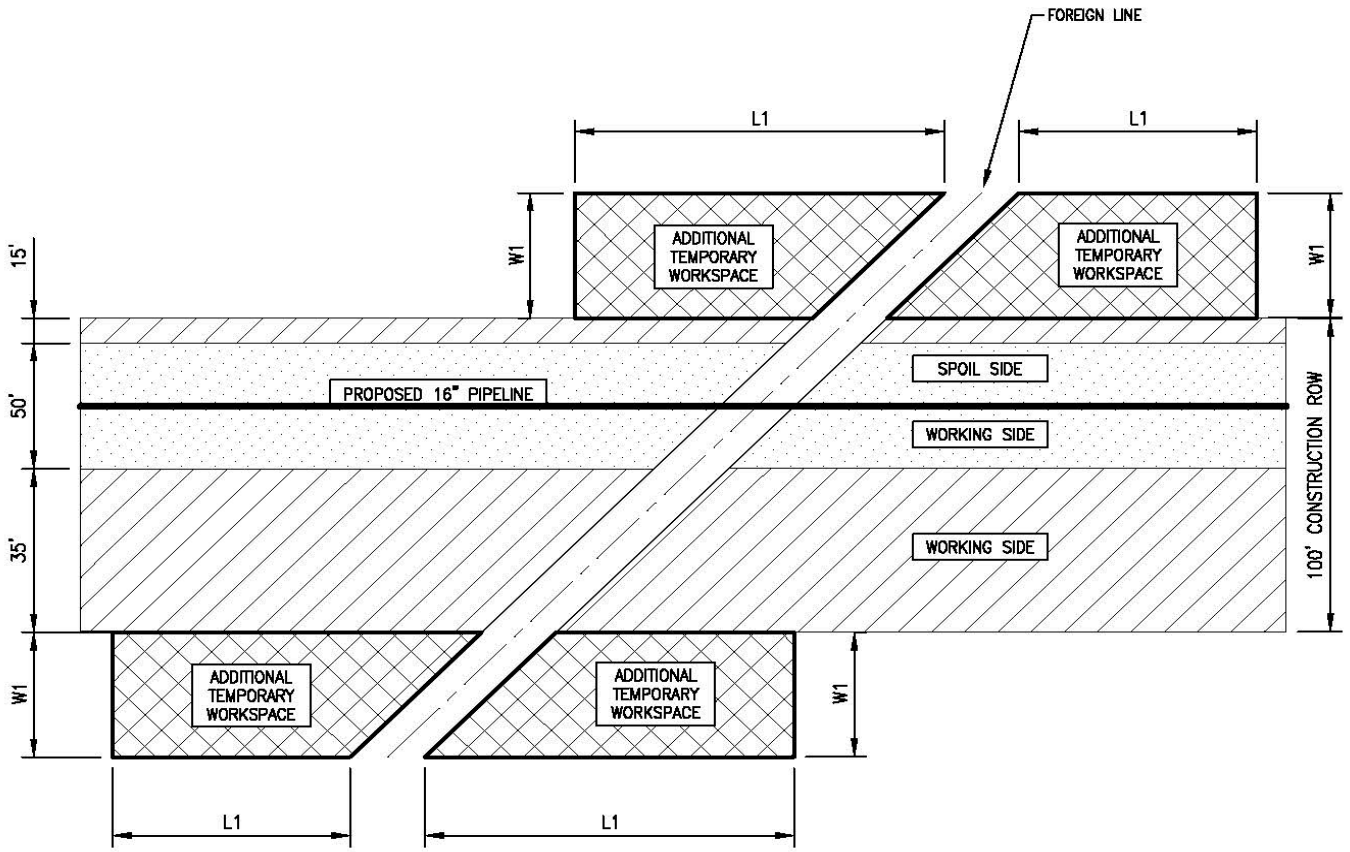
Source: Equitrans' FERC Application

C2-39
Equitrans Expansion Project
24" H-305
Open Cut Pipeline Crossing
Right-of-Way



Source: Equitrans' FERC Application

C2-40
Equitrans Expansion Project
24" H-305
Parallel Construction
Right-of-Way

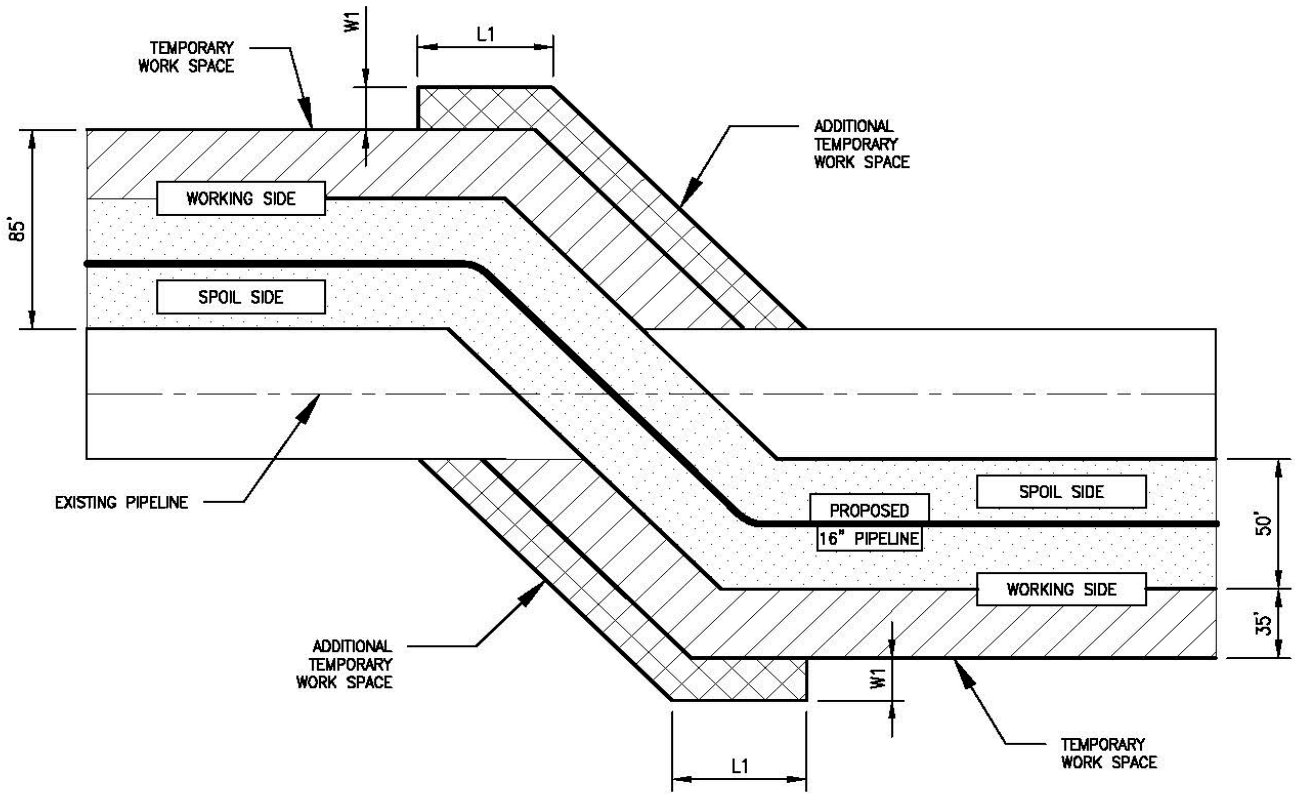


NOTE:

1. PROPOSED EQUITRANS 30" CONSTRUCTED AS CLOSE TO 90° TO FOREIGN LINE AS POSSIBLE

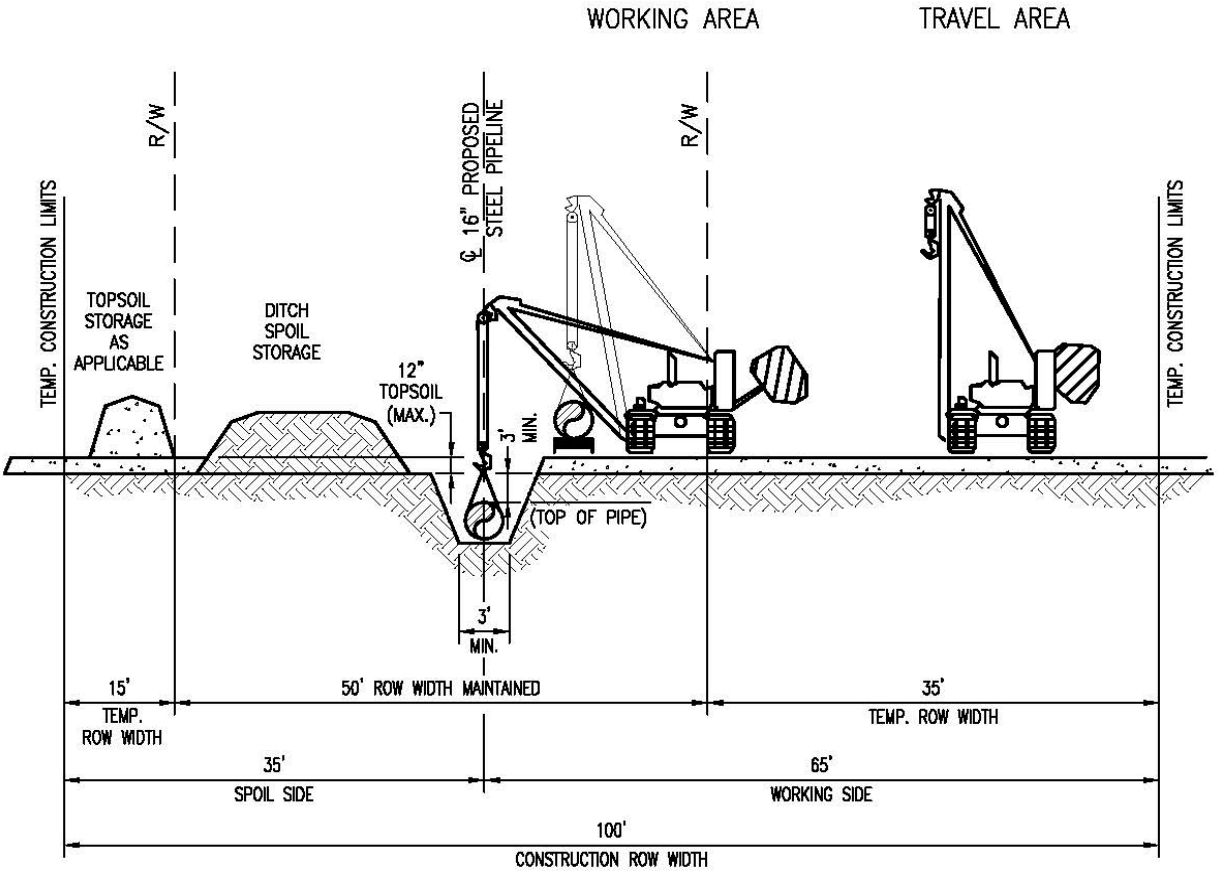
Source: Equitrans' FERC Application

C2-41A
Equitrans Expansion Project
16" H-319
Foreign Line Crossing



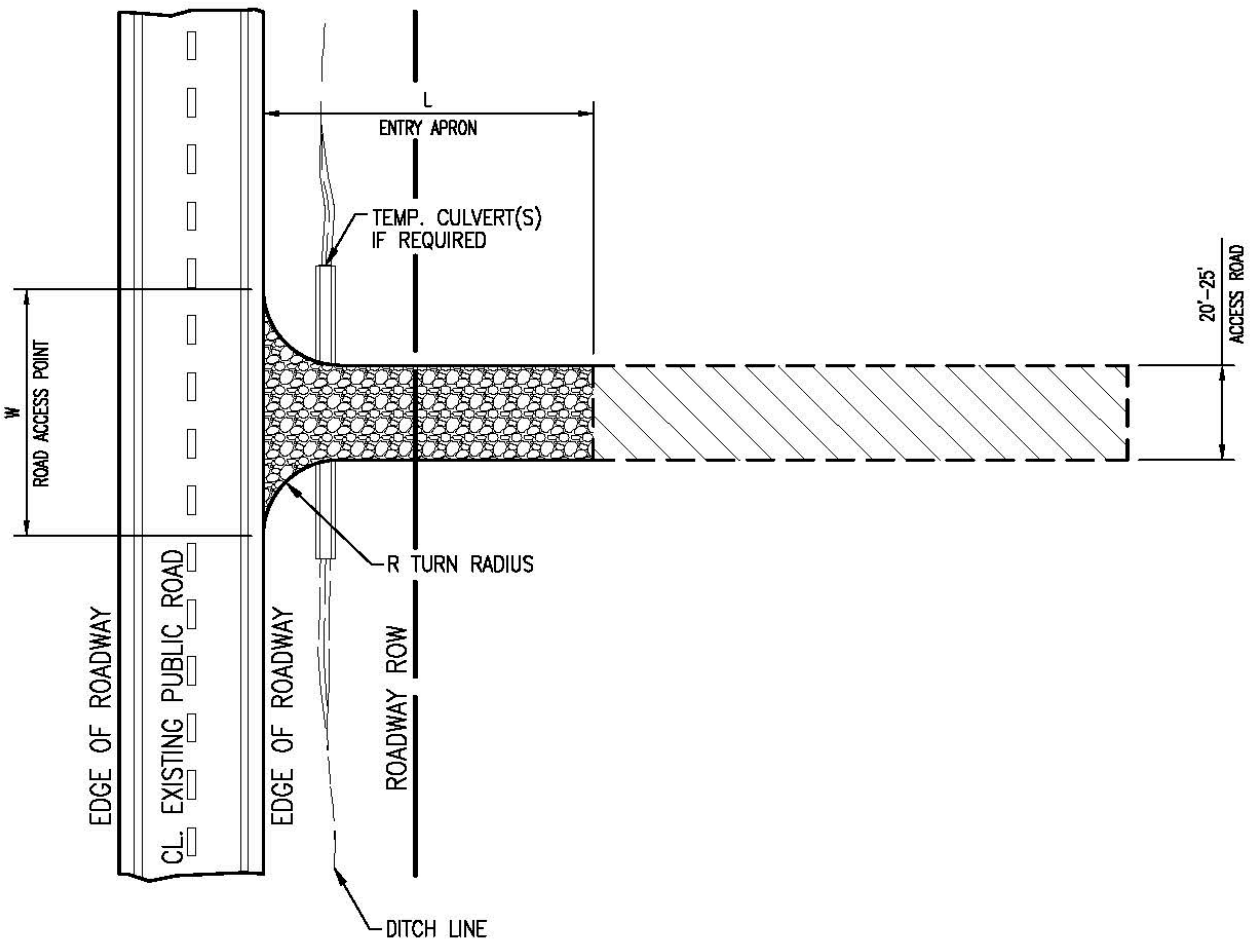
Source: Equitrans' FERC Application

C2-41B
Equitrans Expansion Project
16" H-319
Foreign Line Crossing



Source: Equitrans' FERC Application

C2-42
Equitrans Expansion Project
16" H-319
50 Foot R/W Limits
Typical 100' Const. R/W

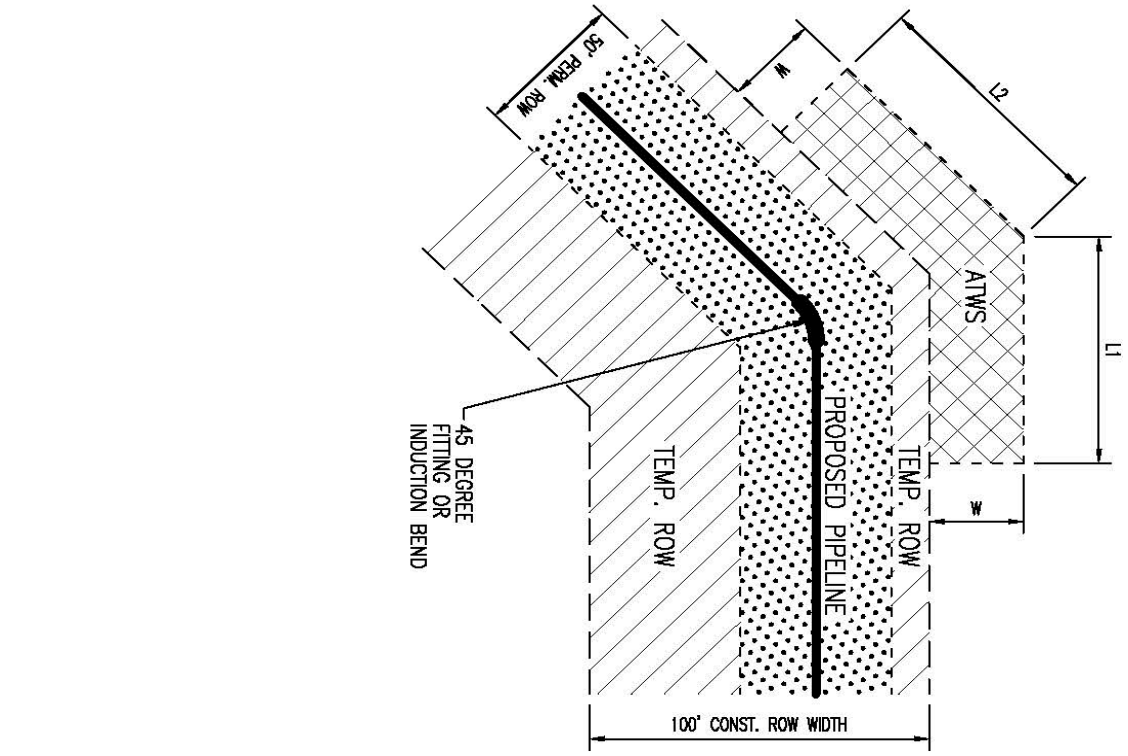


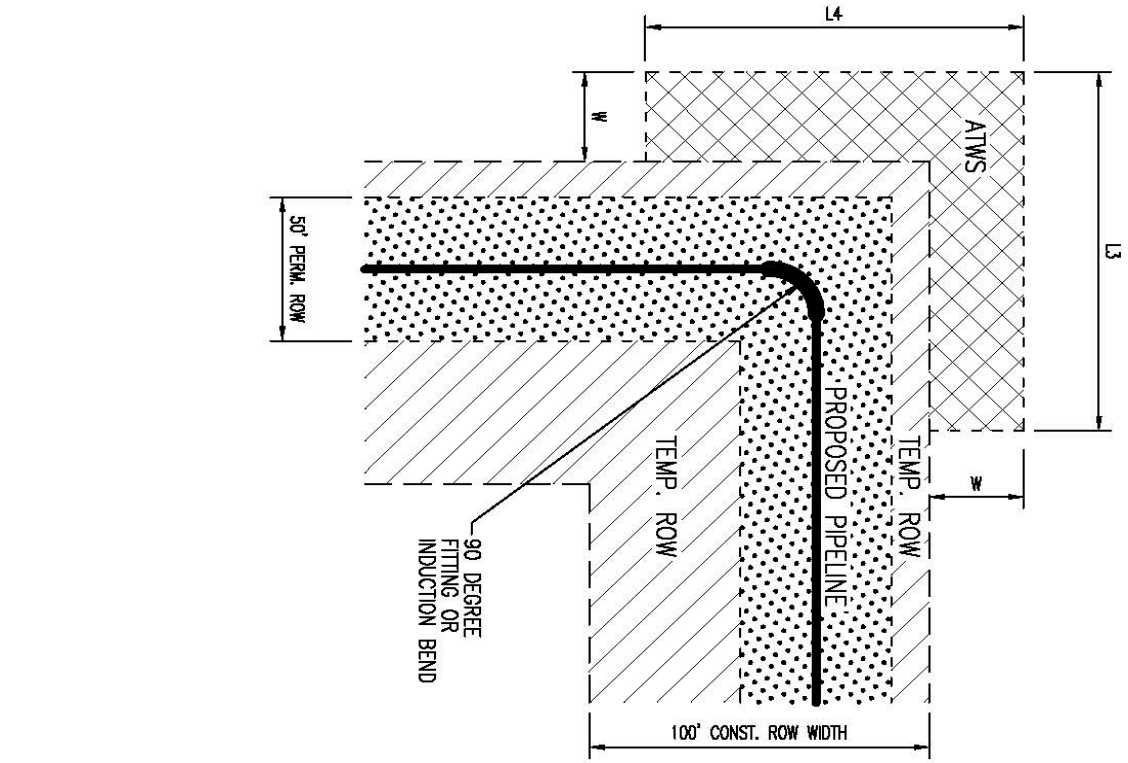
GENERAL NOTES:

1. DIMENSIONS FOR L, R AND W ARE AS REQUIRED BY LOCAL PERMITS

Source: Equitrans' FERC Application

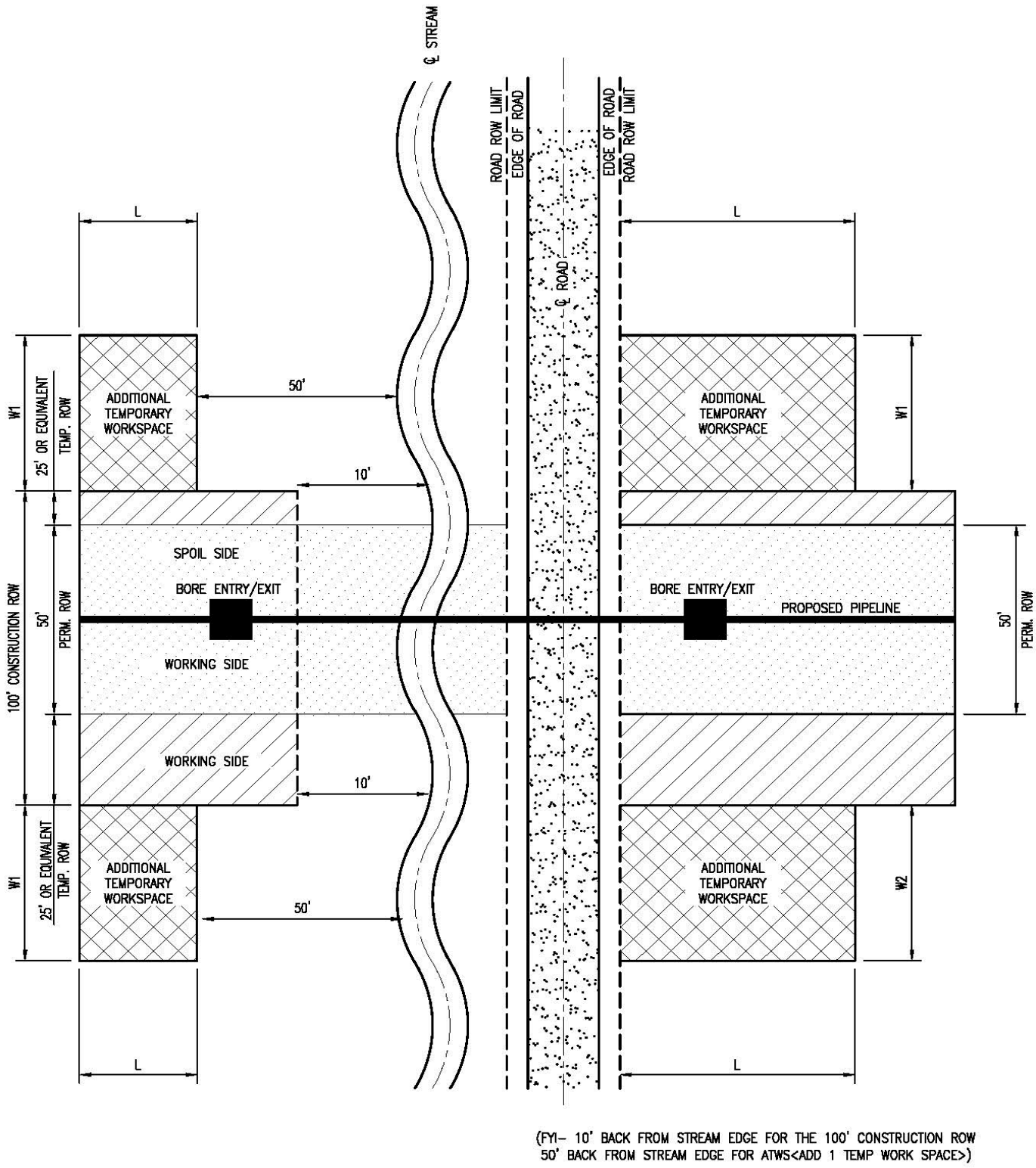
C2-43
Equitrans Expansion Project
16" H-319
16" Typical Access Road
Right-of-Way





Source: Equitrans' FERC Application

C2-44
Equitrans Expansion Project
16" H-319
16" Fitting or Induction Bends
Right-of-Way



Source: Equitrans' FERC Application

C2-45
Equitrans Expansion Project
16" H-319
16" Road Crossing & Stream Crossing – Bored
Right-of-Way