SheppardMullin

Sheppard, Mullin, Richter & Hampton LLP
Four Embarcadero Center, 17th Floor
San Francisco, California 94111-4109
415.434.9100 main
415.434.3947 fax
www.sheppardmullin.com

July 30, 2025

Ms. Debbie-Anne A. Reese, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

RE: OEP/DG2E/Gas Branch 3
Mountain Valley Pipeline, LLC
Docket No. CP25-60-000
§ 375.308(x)
Response to Environmental Information Request 3

Dear Secretary Reese:

On February 3, 2025, Mountain Valley Pipeline, LLC filed an application in the above-captioned docket to amend its Certificate of Public Convenience and Necessity for the Southgate Project. On July 25, 2025, the Commission issued Environmental Information Request 3. Mountain Valley is submitting herewith its responses to the request.

If you have any questions, please do not hesitate to contact me at (415) 774-3104 or jbrough@sheppardmullin.com. Thank you.

Respectfully submitted,

/s/ Jennifer Brough
Jennifer Brough
Counsel to Mountain Valley Pipeline, LLC

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

Request:

General

Question 1

In comments filed on Transcontinental Gas Pipe Line Company, LLC's (Transco) Southeast Supply Enhancement Project (CP25-10) (Accession No. 20250626-5176), Mountain Valley Pipeline, LLC (MVP) states "both Transco's June 20, 2025 letter in the Southgate Amendment Project docket and its June 24, 2025 supplemental filing in the instant docket give the incorrect impression that Mountain Valley has agreed to the alignments proposed by Transco for the Eden Loop" and that it will "exercise its rights…to the fullest extent of the law to ensure that the safety and operational considerations of its assets are protected." Clarify the nature of outstanding collocation issues, as well as MVP's specific concerns regarding modifications to the Eden Loop described in Transco's June 24, 2025 supplemental filing, particularly as related to safety and operational considerations.

Response:

As indicated in Mountain Valley's July 15, 2025 Environmental Information Request response (Accession No. 20250715-5108), as a result of continued discussion with Transco, Mountain Valley has incorporated shifted alignments for the H-650 Pipeline in certain identified areas. Attachment 1-2 of the Environmental Information Request response included detailed mapping of these changes. The shifted alignments for the Eden Loop and the H-650 Pipeline addressed the safety and operational considerations described in Mountain Valley's June 26, 2025 comment letter.

Table 1 provides the location of the shifted alignment as a result of the Eden Loop.

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

Table 1			
Recent Changes to the Amendment Project Route for Transco Collocation			
Start MP	**End MP**	**Right-of-Way ("ROW") Width of Amendment Project Route Changes**	**Justification**
0.7	1.3	50	Centerline and workspaces shifted to the north/northwest approximately 25 feet to avoid conflicts with the proposed Eden Loop. Workspaces were not expanded.
19.8	20.3	50	Centerline and workspaces shifted to the north/northwest approximately 25 feet to avoid conflicts with the proposed Eden Loop. Workspaces were not expanded.
22.7	22.9	50	Centerline and workspaces shifted to the south/southeast approximately 25 feet to avoid conflicts with the proposed Eden Loop. Workspaces were not expanded.
23.5	25.5	50	Centerline and workspaces shifted to the south/southeast approximately 45 feet to avoid conflicts with the proposed Eden Loop. Workspaces were not expanded.

Respondent: James Sabol
Position: Project Manager
Phone Number: 412.510.5831
Date: July 30, 2025

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

Request:

General

Question 2

Provide a response to comment letter 20250723-0002 filed July 23, 2025. In addition, clarify if the impacts on the parcels in question have changed due to the Amendment Project (i.e., is Mountain Valley proposing changes to certificated workspace including pipeline right-of-way, access roads, extra temporary workspaces, etc. for the Amendment Project). Clarify if Mountain Valley has reached an agreement with this landowner and if any changes to that agreement are proposed or under discussion with the landowner(s).

Response:

The July 23, 2025 comment letter is from a landowner near the proposed Sandy River crossing. As the landowner correctly identifies, Mountain Valley has revised the pipeline alignment for this area as compared to the Original Certificated Project. The Original Certificated Project design included a conventional bore crossing of the Sandy River, located approximately 585 feet from the existing Transco pipeline corridor. As part of the Amendment Project, Mountain Valley has proposed to straighten the pipeline alignment in this area and implement a horizontal directional drill ("HDD") to cross the Sandy River.

This updated design is reflected in the alignment sheets filed as Attachment 1-2 to Mountain Valley's July 15, 2025 Environmental Information Request response (Accession No. 20250715-5108).

This change in alignment allows for the HDD beneath the river and ultimately minimizes surface disturbance to the Sandy Oaks property when compared to the certificated route. Mountain Valley has reached agreement with this landowner and has scheduled a field meeting for the week of August 4, 2025 to further review the pipeline alignment and respond to any landowner questions or concerns.

Respondent: James Sabol
Position: Project Manager
Phone Number: 412.510.5831
Date: July 30, 2025

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

Request:

Resource Report 1 – General Project Description

Question 1

> Regarding Mountain Valley's response to question RR1 No. 10, clarify if the 0.19 acre of upland forest at CY-037 is current, or if it has been removed or altered per the statement it "was previously disturbed during use for construction of the Mountain Valley Pipeline." Also, clarify/justify the need to clear upland forests for both contractor yards. In addition, Mountain Valley's response states existing land use conditions as provided in table 8.2-2 includes 0.19 acre of upland forest/woodland in Pittsylvania County, VA and 0.72 acre in Rockingham County, North Carolina. However, the version of table 8.2-2 provided on March 28, 2025 shows 0.0 acre of upland forest/woodland for contractor yards in Rockingham County, North Carolina. Resolve the apparent discrepancy.

Response:

> Mountain Valley will provide revised land use tables as part of its supplemental response to Environmental Information Request #2. However, to clarify, there are three contractor yards (CY-05, CY-01, and CY-36) which have identified upland forested areas within the overall parcel boundary. Land use cover for each yard was identified based on the boundaries of the full parcel which exceeds the actual area that will be used for construction of the Amendment Project. The contractor yards are previously disturbed and will not require tree clearing to be conducted within the portion of the yards that will be utilized. These yards will be footnotes as such within the revised applicable tables.

Respondent: James Sabol
Position: Project Manager
Phone Number: 412.510.5831
Date: July 30, 2025

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

Request:

Resource Report 1 – General Project Description

Question 2

> Regarding Mountain Valley's response to question RR1 No. 12, confirm that the easement identified as parcel VA-PI-005.000 has been acquired but the landowner did not grant waterbody and wetland survey permission.

Response:

> Mountain Valley acquired an easement on VA-PI-005 in 2020 but, as a result of changes to the pipeline alignment as reflected in Mountain Valley's July 15, 2025 Environmental Information Request response (Accession No. 20250715-5108), the agreement will need to be modified. Mountain Valley confirms that the landowner denied waterbody and wetland survey permission when contacted in the third quarter of 2024. Mountain Valley will contact the landowner in an effort to obtain survey permission and complete the survey prior to the end of 2025.

Respondent: James Sabol
Position: Project Manager
Phone Number: 412.510.5831
Date: July 30, 2025

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

Request:

Resource Report 1 – General Project Description

Question 3

Provide an assessment of the expected environmental and sediment and erosion control outcomes if waterbars across the permanent right-of-way width only would be used, and an update on the status of coordination with state agencies regarding this topic.

Response:

Mountain Valley has proposed to the state agencies installing waterbars across the construction ROW to provide better stormwater control during the post-construction restoration period (usually one to two years). Extending the waterbars across the construction ROW prevents stormwater from negatively impacting freshly restored soils and discharging it in undisturbed vegetated areas off ROW. Mature vegetative cover is the most effective erosion and sediment control, the incrementally added benefit of extending waterbars across the construction ROW decreases over time as vegetation matures.

Mountain Valley was invited by the Virginia Department of Environmental Quality ("VADEQ") in August 2024, to be part of a diverse stakeholder Advisory Committee for the development of new waterbar construction typical details for the Virginia Stormwater Management Handbook ("VSMH") (https://online.encodeplus.com/regs/deq-va/index.aspx). Based on the consensus decision of the Advisory Committee and VADEQ, a new waterbar construction typical detail is expected to be incorporated into the VSMH this year that allows for full-length permanent waterbars to be installed. Mountain Valley will include a similar detail with the North Carolina erosion and sediment control plan submittal for review and approval by the North Carolina Department of Environmental Quality. Thesedesign specifications will be incorporated as part of the erosion and sediment control plan design for Virginia and North Carolina.

Respondent: James Sabol
Position: Project Manager
Phone Number: 412.510.5831
Date: July 30, 2025

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

Request:

Resource Report 3 – Fish, Wildlife, and Vegetation

Question 1

> Regarding Mountain Valley's response to question RR3 No. 14, clarify whether bigeye jumprock and notched rainbow occur in waterbodies, other than the Dan River and Cascade Creek, that would be crossed by the Project. If so, provide impact analyses and mitigation measures.

Response:

> Based on Mountain Valley's project-specific data and the best publicly-available information, Bigeye Jumprock (*Moxostoma ariommum*) is known to occur in both the Dan River and Cascade Creek, while Notched Rainbow (*Villosa constricta*) is known only from the Dan River. The Amendment Project does not traverse any additional streams in Virginia or North Carolina known to support either species.
>
> Both waterbodies will be crossed through the utilization of trenchless crossing methods. Because no other known occupied habitats for these species will be affected by the Amendment Project, no additional impact analysis or mitigation measures are necessary for Bigeye Jumprock or Notched Rainbow beyond those already developed for the Dan River and Cascade Creek crossings.

Respondent: James Sabol
Position: Project Manager
Phone Number: 412.510.5831
Date: July 30, 2025

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

Request:

Resource Report 3 – Fish, Wildlife, and Vegetation

Question 2

> Regarding Mountain Valley's response to question RR3 No. 16, provide Mountain Valley's proposed impact avoidance, minimization, and mitigation measures for each state-listed species regardless of any measures discussed in the Biological Assessment.

Response:

Green Floater (*Lasmigona subviridis*) is a North Carolina state endangered, Virginia state threatened, and federally proposed threatened species. Based on Mountain Valley's project-specific mussel survey data, Project-specific communications with North Carolina Natural Heritage Program ("NCNHP") (dated April 18, 2025), and the publicly-available information, Green Floater is not known to occur in waterbodies crossed by the Amendment Project in Virginia or North Carolina aside from the Dan River and Cascade Creek.

Yellow Lampmussel (*Lampsilis cariosa*) is North Carolina state endangered and Virginia state threatened. Based on Mountain Valley's project-specific mussel survey data, Project-specific communications with NCNHP (dated April 18, 2025), and the publicly-available information, Yellow Lampmussel is not known to occur in any waterbodies crossed by the Amendment Project aside from the Dan River.

Notched Rainbow (*Villosa constricta*) is North Carolina state threatened and a species of greatest conservation need (Tier III) in Virginia. Based on Mountain Valley's project-specific mussel survey data, Project-specific communications with NCNHP (dated April 18, 2025), and the publicly-available information, Notched Rainbow is not known to occur in any waterbodies crossed by the Amendment Project aside from the Dan River.

Bigeye Jumprock (*Moxostoma ariommum*) is North Carolina state threatened and a species of greatest conservation need (Tier III) in Virginia. Based on Mountain Valley's project-specific data, communications with NCNHP (dated April 18, 2025), and the publicly-available information, Bigeye Jumprock is not known to occur in any waterbodies crossed by the Project aside from the Dan River and Cascade Creek.

Roanoke Logperch (*Percina rex*) is a North Carolina state endangered and Virginia state endangered species. Presently, the species is federally endangered; however, the USFWS has removed the Roanoke Logperch from the federal list of endangered and threatened

wildlife -effective on August 21, 2025. The species remains listed at the state levels. Based on Mountain Valley's project-specific data, communications with the U.S. Fish and Wildlife and with NCNHP (dated April 18, 2025), and the publicly-available information, Roanoke Logperch is not known to occur in waterbodies crossed by the Amendment Project in Virginia or North Carolina aside from the Dan River and Cascade Creek.

Orangefin madtom (*Noturus gilberti*) is a North Carolina state endangered and Virginia state threatened species. The species is known to occur within the Dan River watershed; however, based on the best publicly-available information, occurrence records are limited to tributaries within Stokes County, North Carolina. Project -specific communications with NCNHP (dated April 18, 2025) did not identify any occurrences within 1 mile of the Limits of Disturbance in North Carolina. Orangefin madtom is not known to occur in waterbodies crossed by the Amendment Project in Virginia or North Carolina.

Based on the aforementioned discussions regarding state-listed aquatic taxa, occurrences are exclusively known from the Dan River and Cascade Creek in Rockingham, County, North Carolina. No other streams traversed by the Amendment Project are known to support populations of state-listed aquatic taxa. Several Avoidance and Minimization Measures ("AMMs") will be implemented and applicable to the Dan River and Cascade Creek crossings that include:

- Avoid direct impacts from instream construction:
    - Dan River is being crossed by HDD techniques
    - Cascade Creek is being crossed by conventional bore techniques

- Implement the following measures during the use of the Dan River as a water source for hydrostatic testing and dust suppression:

    - Use of a temporary and floating intake structure
    - Suspension of the intake well above functional substrates, preferably placed in an area >5 feet water depth that is unsuitable for the occupation of federally listed and state listed aquatic species (e.g., unconsolidated and shifting sand substrates)
    - Adherence to time-of-year restrictions to protect sensitive fish and mussels in the Dan River from March 15 – July 31.
    - Use of holding tanks to facilitate withdrawing water over a longer period
    - Maintain minimum pass-by flows (>10% of instantaneous riverflow).
    - Achieve a through-screen approach velocity less than 0.25 foot per second with a 1.0 mm mesh screen.
    - No permanent instream infrastructure will be installed

  - Remove only the minimum riparian vegetation (i.e., understory) to facilitate deployment of the hose and intake.
  - Hydrotest will be released in a well-vegetated upland location.

- Additional avoidance and minimization measures within Dan River and Cascade Creek watersheds:

  - Mountain Valley will apply temporary seed/mulch to topsoil piles at the end of each day.
  - Disturbed ROW areas will be temporarily mulched/seeded if the areas are to remain undisturbed for more than four days. This includes following installation of the pipeline and backfill to rough grade. Once it is returned to rough grade, if the area is to remain undisturbed for more than four days, Mountain Valley will apply temporary seed/mulch to stabilize the area until full restoration is complete.
  - Backfilled areas of the trench will be mulched within four days.
  - Temporary sediment control measures will remain in place for one year after seeding.
  - To the extent feasible, utilize an eight-week timeframe between ROW stabilization (e.g., backfill, mulching) and restoration.
  - Riparian timber and vegetation will remain within 15.2 meters (50 ft) from each streambank and clearing activities will occur immediately prior to instream construction.

  According to recent communication with state agencies in Virginia (Aug. 8, 2024) and North Carolina (June 26, 2024) one state-listed terrestrial species, tricolored bat[1], occurs within the Amendment Project Limits of Disturbance in Virginia and within 1 mile of the Limits of Disturbance in North Carolina. Northern long-eared bats are state listed in Virginia and North Carolina but are not mentioned in this agency communication and are only known to occur within the Amendment Project milepost 5.7 - 7.8 in Virginia. The FEIS determined that the Amendment Project would not likely significantly impact state-listed bat species in Virginia or North Carolina.

- Several AMMs will be implemented minimize potential impacts to state-listed bat species and are as follows:

  - Clearly mark the Amendment Project construction right-of-way to prevent accidental removal of more trees than anticipated.

- Avoid tree clearing within the 1.5-mi inner-tier buffer (MP 5.7-7.8) around the northern long-eared bat acoustic detection between April 1-September 30 which includes the pup season (May 15 to July 31) barring an unforeseen emergency. Should an emergency arise, Mountain Valley will coordinate with USFWS and FERC.
- Avoid blasting and/or HDD within the 1.5-mile inner-tier buffer (MP 5.7-7.8) during the pup season (May 15-July 31). Develop site-specific blasting plans if blasting is necessary within the 1.5-mile inner-tier buffer during the pup season.
- Avoid building/structure removal/modification during migration season (April 1-May 14, August 1-November 14). If building removal/modification is necessary during migration season, Mountain Valley will conduct emergence surveys 1 night prior to planned removal/modification according to current USFWS survey guidelines. If bats are found during emergence surveys, Mountain Valley will install exclusion devices on the building/structure. Exclusion devices will be left in place for 7 days prior to building/structure removal/modification.
- Minimize the potential for lighting impacts on bats by . limiting construction to daylight hours except as mandated by safety standards, and activities that require 24-hour construction such as trenchless crossings, hydrostatic testing, pig runs, and tie-in welds.
- Utilize fully shielded, "full cut-off" type lighting fixtures.
- Avoid burning within the 1.5-mile inner-tier buffer plus 0.5-mile (i.e., MP 5.2-8.3) from May 15-July 31.
- Adhere to measures specified in the Amendment Project-specific Spill Prevention, Control, and Countermeasure ("SPCC") Plan and the Erosion and Sediment Control Plan to manage the risk of a potential spill or release of oil or hazardous material during construction which is a measure also beneficial to aquatic species.
- Site equipment servicing and maintenance areas at least 100 ft away from streams which is a measure also beneficial to aquatic species.
- Use water trucks to dampen the area and control fugitive dust
- Conduct routine maintenance activities that involve tree cutting, limb trimming, or pruning between October 1 and March 31 within the 1.5-mile inner-tier buffer (MP 5.7-7.8) except in emergency circumstances.
- Avoid the use of herbicides and pesticides unless requested by a landowner or land management agency.

[1] Tricolored bat is also proposed endangered under the Federal ESA

Respondent: James Sabol
Position: Project Manager
Phone Number: 412.510.5831
Date: July 30, 2025

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

Request:

Resource Report 8 – Land Use, Recreation, and Aesthetics

Question 1

> Regarding Mountain Valley's response to question RR8 No. 1, provide a table of the "minor updates to the pipeline alignment and limits of disturbance to reflect refinements made as a result of discussion with Transco."

Response:

> A table of the locations of the minor route updates that have been incorporated into the Amendment Project route is provided in Question 1 of this Environmental Information Request response. Updated tables incorporating these changes will be provided in Mountain Valley's supplemental response to Environmental Information Request #2, anticipated in August 2025.

Respondent: James Sabol
Position: Project Manager
Phone Number: 412.510.5831
Date: July 30, 2025

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

Request:

Attachment 1-1 – Construction Plan (Appendix 1-G) Redlines

Question 1

Some of the redline plans are missing appendices. Provide updated redline plans that include the appendices for:

a. Landslide Mitigation Report is missing Appendix B;

b. Nighttime Construction Noise Management Plan is missing Appendix A; and

c. Public, Stakeholder, and Agency Participation Plan is missing Appendix B.

Response:

a. Appendix B to the Landslide Mitigation Report (Slide Mitigation Details) has been added to the redline copy. The typical construction details are consistent with those from the version filed for the Original Certificated Project. The revised plan is provided as Attachment 1 of this Environmental Information Request response.

b. Appendix A to the Nighttime Construction Noise Management Plan (Horizontal Directional Drilling Nighttime Construction Noise Evaluation, was originally filed as Appendix 9D to Resource Report 9 in Mountain Valley's February 3, 2025 Application). These were new evaluations which were completed specifically for the Amendment Project. These are included to the redline copy of the Nighttime Construction Noise Management Plan and is provided as Attachment 2 of this Environmental Information Request response.

c. Appendix B of the Public, Stakeholder and Agency Participation Plan consists of Mountain Valley's stakeholder mailings (i.e., newsletters). These are now included to the redline copy of the Public, Stakeholder, and Agency Participation Plan provided as Attachment 3 of this Environmental Information Request response.

Respondent: James Sabol
Position: Project Manager
Phone Number: 412.510.5831
Date: July 30, 2025

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

Request:

Attachment 1-1 – Construction Plan (Appendix 1-G) Redlines

Question 2

> Regarding Mountain Valley's Emergency Response Plan, clarify if Appendix E should include a note "to be populated prior to construction."

Response:

> Mountain Valley clarifies that Appendix E to the Emergency Response Plan should include the following note: "This Section to be Populated Prior to Construction." A revised redline copy of the Emergency Response Plan is included as Attachment 4 of this Environmental Information Request response.

Respondent: James Sabol
Position: Project Manager
Phone Number: 412.510.5831
Date: July 30, 2025

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

Request:

Attachment 1-1 – Construction Plan (Appendix 1-G) Redlines

Question 3

> Regarding Mountain Valley's Landslide Mitigation Report, Appendix A, clarify if the entire appendix (all entries) is completely new or revised from the previously approved version of the plan.

Response:

> Mountain Valley updated Appendix A (Site-Specific Mitigation Controls) in full to reflect new mileposts and updated information for the Amendment Project. A revised redline copy of the Landslide Mitigation Plan is included as Attachment 1 of this Environmental Information Request response.

Respondent: James Sabol
Position: Project Manager
Phone Number: 412.510.5831
Date: July 30, 2025

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

ATTACHMENT 1- LANDSLIDE MITIGATION REPORT

MVP Southgate ~~– H-605 and H-650 Pipelines~~Amendment Project

~~Revision: 4 08/21/2020~~

Landslide Mitigation Report

Ben Ferguson, P.E., Manager/ Principal Engineer, EQT

Joshua Nasrallah, P.G., Senior Engineer, EQT

Revised March 2025

TABLE OF CONTENTS

APPENDICES

1.0 EXECUTIVE SUMMARY

~~This report addresses potential post-construction landslide hazards for the pipeline listed below.~~ Mountain Valley Pipeline, LLC ("Mountain Valley") prepared this *Landslide Mitigation Report* to address potential post-construction landslide hazards for MVP Southgate Amendment Project ("Amendment Project"). The pipeline route was analyzed to determine if mitigation controls installed during construction are necessary to avoid potential landslide issues following construction. Potential landslide sites were identified by a desktop analysis that considered previous landslide activity, slope steepness, and sidehill construction. ~~MVP~~ Mountain Valley Design Engineering ("Design Engineering") has determined that the areas that are listed in **Appendix A** require additional controls to maintain slope stability. A summary of the required mitigation controls can be found in **Section 4.0**. These controls may be added, edited, or removed based on changing construction practices through the design of the pipeline and/or field conditions at the time of construction. A plan depicting the extent of the controls for each site can be found in **Appendix A**, and details for the controls are provided in **Appendix B**.

Name of System:

Mountain Valley Pipeline, LLC

Name of Pipeline:

MVP Southgate - H-650 Pipelines

Length of Pipeline:

1.3 Miles

~~**Name of pipeline:** MVP Southgate - H-605 and H-650 Pipelines~~
~~**Length of pipeline:** 75.1 miles~~

~~1.0~~2.0 DESKTOP ANALYSIS

A desktop analysis was performed for the entire length of the pipeline route to identify areas most susceptible to landslide issues. The analysis considered three critical factors:

- Previous landslide activity: ~~LIDAR and field verification were used to determine if there is evidence of movement on slopes crossed by the project.~~ The United States Geological Survey ("USGS") Landslide Potential Maps (USGS 2024), as well as publicly available LIDAR data, was used to determine if there is evidence of movement and/or a high probability of landslide hazards on slopes crossed by the Amendment Project.
- Steepness of Slope: Portions of the pipeline that traverse slopes with an angle of inclination of ~~18~~16 degrees or greater are considered to be in a steep slope area. A slope of ~~18~~ 16 degrees is marginally stable with a typical low-strength in-situ soil and is therefore used as the threshold for this analysis. Slopes were measured using LIDAR flown for the original MVP Southgate Project, as approved June 18, 2020. The steepness of the slope is measured without regard for the orientation of the pipeline (i.e., perpendicular to the contour lines even if the pipeline is sidehill).

- Sidehill construction: If the orientation of a segment of the pipeline is parallel or near parallel to the contour lines of a slope, then the segment is considered an area of sidehill construction.

3.0 FIELD REVIEW

Prior to construction, Mountain Valley's geotechnical engineer will field review the areas where potential stability issues were identified, as detailed in Appendix A, to verify the mitigation measures required. If updates are required, a supplement to this report will be created.

~~2.0~~4.0 PROPOSED MITIGATION CONTROLS

The following section provides a description of proposed mitigation controls. One or a combination of controls may be utilized and shall be based on the actual field conditions encountered. The comments column in Appendix A provides suggested controls based on the desktop analysis.

In addition to the mitigation controls specified in Appendix A, drains should be installed in any seep or spring identified during construction, and transverse trench drains will be installed throughout the length of every sidehill. All drains shall be installed to collect and control the release of water to a stable and well-vegetated location outside of existing streams or environmentally sensitive areas.

~~2.1~~4.1 Surface and Subsurface Drainage Controls

- **Trench Breaker Daylight Drain (MVP-SG-35):** The trench breaker daylight drains will prevent saturation of the trench backfill by pulling groundwater moving along the trench to the surface. A 4" perforated pipe bedded in free-draining AASHTO #57 stone and wrapped in permeable geotextile filter fabric will be placed against the upslope face of a trench breaker (perpendicular to the pipeline) at the bottom of the trench underneath the pipeline. The perforated pipe will turn 90 degrees at the low point of the trench and daylight into a riprap apron to dissipate the flow of water.
- **Cutoff Drain (MVP-SG-36A/B and MVP-SG-37):** For sidehill construction, the cutoff drain works by catching or "cutting off" groundwater as it enters the right-of-way ("ROW"). The sidehill cutoff ~~drains~~drain is a subsurface drain constructed of a 6" perforated pipe bedded in AASHTO #57 stone and wrapped in geotextile filter fabric. The drain is placed upslope of and parallel to the pipe for the specified length before turning downslope and daylighting near the edge of the ROW into riprap to dissipate the flow of water. For downhill construction, the cutoff drain is intended to cut off groundwater flowing along the ROW at a specified location. The downhill cutoff drain will be identical to the sidehill cutoff drain, except that it will be oriented perpendicular to the pipelines. In both cases, the drain pipe will be solid and surrounded by typical trench backfill for the portion crossing the pipeline trench in order to prevent the migration of water from the drain pipe into the trench.
- **Transverse Trench Drain (MVP-SG-38A/B):** These drains are to be installed within the trench at specified intervals and/or at low points of sidehill construction. They are constructed by digging a small ditch extending from the pipeline trench to the edge of the ROW. The ditch will be lined with geotextile filter fabric and a 4" perforated pipe will be laid in the ditch and surrounded with AASHTO #57 stone. The remainder of the ditch will be filled with the same type of stonee to the top of the ditch and then covered with backfill as required for grading purposes. The drain should

form a 10 ft tee within the trench against the back (uphill side) of the trench. Where this drain crosses the pipeline trench, stone backfill in the drain will only extend to just below the bottom of the pipe, after which typical trench backfill will be used.

- **Rock Lined Swale (MVP-SG-39):** A small surface drainage ditch will be constructed to efficiently convey water across the pipeline ROW and into a wooded area off the ROW and prevent surface water from seeping into the ground ~~and~~, causing saturation of the ROW. The drainage ditch will be lined with geotextile filter fabric overlain by 6" to 12" rock (which can be sourced from excavated spoils).
- **Riprap Natural Drains (MVP-SG-40):** Where natural drains intersect the pipeline ROW, the drain shall be restored to its original dimensions and drainage path. The drain shall be lined with geotextile filter fabric overlain by 6" to 12" rock (which can be sourced from excavated spoils).
- **Riprap Slope Breakers (MVP-SG-41):** Slope breakers (water bars) that may experience more constant or higher peak flows may be lined with riprap to ensure their long-term integrity. Slope breakers receiving riprap treatment will be lined with 3" to 6" rock (which can be sourced from excavated spoils).
- **Trench Breaker Pass-through Drain (MVP-SG-43A/B):** The pass-through trench breaker drain is intended to prevent the buildup of water behind trench breakers, which could saturate the slope and cause a slide. These pass-through drains will be installed on the same slopes as the trench breaker daylight drains and will provide a way for groundwater to reach the daylight drains and ultimately be pulled to the surface. The trench breaker pass-through drains will allow water to pass through the trench breaker using two 2" PVC pipes, which will be placed near the bottom of the trench breaker.
- **Brow Ditch (MVP-SG-46):** The brow ditch is a rock-lined ditch intended to catch surface water runoff and divert it around a protected area of the ROW. These are typically installed in sidehill sections oriented parallel to the pipeline at the uphill edge of the ROW to catch the water flowing from upslope of the ROW. The brow ditch will eventually turn and cross the ROW to safely carry the water to an exit point at the downhill edge of the ROW.
- ~~**Other (Site-Specific) Drainage Controls:** Depending on the site, this may consist of either grading the area to drain surface water runoff a certain direction or relocation of existing drainage controls (e.g., culverts). Design Engineering will come up with site-specific details for these items if required.~~

~~2.2~~ Stabilization Controls

- **Geogrid Reinforcement (MVP-SG-42A/B/C):** In areas where the existing grade of the slope is too steep to maintain long-term stability, layers of geogrid reinforcement may be placed during backfill operations to provide additional strength to the slope.
- **Highwall Revetment (MVP-SG-44A/B):** For near vertical slopes requiring additional trench stabilization measures, sakrete highwall revetment may be used. The revetment is essentially acting as a concrete retaining wall, and therefore a footing in the form of a toe key and rebar will be utilized to help stabilize the wall. The trench may be filled with sandbags or crushed rock. Design

Engineering shall determine or approve all materials used. Weephole drains should be installed at specified intervals to relieve water pressure from behind the revetment.

- **Steep Slope Revetment (MVP-SG-45):** For steep slopes requiring additional trench stabilization measures, sakrete trench breakers with a sakrete or riprap revetment may be used. The trench may be filled with sandbags or crushed rock, or in some cases, native material. Design Engineering shall determine or approve all materials used and the spacing of the sakrete trench breakers. All sakrete breakers shall have drains installed.

- **Other (Site-Specific) Stabilization:** Depending on the site, this may involve regrading the slope to a more stable angle or installing some sort of engineered retaining structure (soil nails, soldier pile wall, gabions, etc.). Design Engineering will produce site-specific details for these items if required.

~~2.3~~4.2 Additional Measures

In addition to these site-specific controls, the following practices should be applied to the entire length of the pipeline:

- **Compact Soil Backfill:** During construction, areas will be encountered that require placement on compacted soil backfill. Soil backfill shall be placed in successive horizontal layers of 12" in loose depth for the full width of the cross-sectional area and shall be compacted using equipment approved by the Engineer or Designee. Each lift shall be compacted to a minimum of no visual movement before the overlaying lift is placed. Moisture content of the backfill material shall be adjusted by wetting or aerating as necessary as determined by the Engineer or Designee. Depending on the site specifics additional compaction testing and specifications may be required.

- **Compact Slope Breakers:** All slope breakers (water bars) shall be compacted as specified in the ~~ESCP~~ Erosion and Sediment Control Plan drawings. Compaction can be achieved via bucket tamping with a hoe. This will help ensure that water bars maintain their intended drainage and are not deformed by freeze-thaw cycles.

- **Track-In Workspaces:** Tracking consists of using machinery to create a series of ridges and depressions that run perpendicular to the slope (on the contour). This can be accomplished with any appropriate implement that can be safely operated on the slope, and that will not cause undue compaction. All workspaces on a hillside that have had fill temporarily placed during construction and then removed for backfill operations shall be tracked in. For sidehill construction areas, special attention shall be paid to the area where the cut and fill portions of the slope meet, as this is the most likely area for cracks to form. If this area is not tracked in, water can seep into the crack and may eventually destabilize the hillside.

Note that the information contained in this report is based upon the results of the desktop analysis and field-reported areas of concern received to date. **If additional areas of concern are encountered during construction, the author of this report should be contacted for guidance**.

4.3 Construction Considerations

Design Engineering recommends that the contractor submit to ~~MVP~~Mountain Valley a description of the construction means and methods for the areas identified in this report. The purpose of this is to allow ~~MVP~~Mountain Valley to determine if temporary construction conditions could lead to a slide.

5.0 REFERENCES

United States Geological Survey. 2024. U.S. Landslide Inventory and Susceptibility Map. Available online at: https://www.usgs.gov/tools/us-landslide-inventory-and-susceptibility-map. Accessed September 2024.

Appendix A

Site-Specific Mitigation Controls

Geohazard Point	Approx. Station[1]		Approx. Coordinates[2]				Mitigation Controls (Appendix B)	Mitigation Controls[3, 4]	Geohazard Description
			Start		End				
	Start	End	Lat.	Long.	Lat.	Long.			
1	6+25	6+60	36.82908	-79.34453	36.82897	-79.34456	--	Water bar installed at tops of stream bank (6+25 and 6+60).	Stream crossing with moderately steep slopes on stream bank.
2	35+00	35+65	36.82298	-79.34746	36.82286	-79.34759	--	Water bar installed at tops of stream bank (35+00 and 35+65).	Stream Crossing with moderately steep slopes on stream bank.
3	43+25	43+75	36.82121	-79.34926	36.82111	-79.34936	--	Water bar installed at tops of stream bank (43+25 and 43+75).	Stream Crossing with moderately steep slopes on stream bank.
4	72+45	72+90	36.81502	-79.35548	36.81494	-79.35558	--	Water bar installed at tops of stream bank (72+45 and 72+90).	Stream Crossing with moderately steep slopes on stream bank.
5	106+40	106+90	36.80848	-79.36302	36.80835	-79.36317	--	Water bar installed at tops of stream bank (106+40 and 106+90).	Stream Crossing with moderately steep slopes on stream bank.
6	133+25	--	36.80305	-79.36921	--	--	MVP-SG-35	Trench breaker with outlet drain.	Moderately steep slope section (16-26 deg). Less than 50 feet section or ROW with moderately steep slope.
7	186+15	186+85	36.79216	-79.38113	36.79202	-79.38128	--	Water bar installed at tops of stream bank (186+15 and 186+85).	Stream Crossing with moderately steep slopes on stream bank.
8	234+00	234+75	36.78284	-79.39049	36.78277	-79.39067	MVP-SG-40	Water bar installed at tops of stream bank (234+00 and 234+75) and rip rap armoring of stream channel and banks.	Stream crossing with steep slopes.
9	249+80	251+60	36.78109	-79.39542	36.78079	-79.39558	MVP-SG-36A/B and MVP-SG-37	Cut off drain with outlet.	PI near partial side slope area with drainage downhill of ROW.

Geohazard Point	Approx. Station[1]		Approx. Coordinates[2]				Mitigation Controls (Appendix B)	Mitigation Controls[3, 4]	Geohazard Description
			Start		End				
	Start	End	Lat.	Long.	Lat.	Long.			
10	271+25	273+00	36.77572	-79.39842	36.77531	-79.39865	MVP-SG-35, MVP-SG-43A/B	Trench breakers with outlet drains for each trench breaker.	Moderately steep slope section (16-26 degrees).
11	277+15	277+90	36.77425	-79.39920	36.77404	-79.39931	--	Water bar installed at tops of stream bank (277+15 and 277+90).	Larger stream crossing with moderate to steep slopes on stream bank.
12	285+80	287+00	36.77191	-79.39999	36.77186	-79.40022	MVP-SG-35, MVP-SG-43A/B	Trench breakers with outlet drains.	Steep slope section. Slopes ~26 degrees.
13	312+82	--	36.76853	-79.40775	--	--	MVP-SG-35	Trench breakers with outlet drains.	Moderately steep slope section (16-26 degrees). Less than 50 feet section or ROW with moderately steep slope.
14	314+50	315+50	36.76819	-79.40812	36.76799	-79.40834	--	Water bar installed at tops of stream bank (314+50 and 315+50).	Steep slopes around small creek drainage.
15	334+00	337+00	36.76415	-79.41249	36.76349	-79.41315	MVP-SG-36A/B	In order to avoid steep slopes and drainage features east of ROW, do not install pipeline east of current center line alignment. Install cutoff drain from station 334+00 to 337+00.	Steep slope on east side of ROW. East of proposed CL.
16	367+45	--	36.75695	-79.41961	--	--	MVP-SG-40	Riprap armoring of stream channel and banks.	Steep slopes around small creek drainage.
17	385+30	386+30	36.75309	-79.42344	36.75292	-79.42361	MVP-SG-45	Steep slope revetment.	Steep slope section, Slope ~25-30 degrees.
18	416+50	417+50	36.74619	-79.42983	36.74596	-79.43005	MVP-SG-45	Steep slope revetment. During restoration, reestablish existing natural drainage swale at STA 416+50.	Steep slopes on north side of drainage area with pond off ROW to west. Slopes ~16-26 degrees with isolated, very steep areas. Possible old slide area based on Google Earth.

Geohazard Point	Approx. Station[1]		Approx. Coordinates[2]				Mitigation Controls (Appendix B)	Mitigation Controls[3, 4]	Geohazard Description
			Start		End				
	Start	End	Lat.	Long.	Lat.	Long.			
19	417+50	419+30	36.74596	-79.43005	36.74565	-79.43033	MVP-SG-35	Trench breakers with outlet drains.	Steep slope section on south side of drainage.
20	437+60	439+00	36.74153	-79.43406	36.74127	-79.43431	MVP-SG-35	Trench breakers with outlet drains.	Steep slope section. Slopes ~16 to 30 degrees.
21	469+50	471+00	36.73456	-79.44054	36.73423	-79.44084	MVP-SG-35	Trench breakers with outlet drains.	Steep slope section. Slopes ~26 to 33 degrees.
22	543+25	544+25	36.72027	-79.45537	36.72027	-79.45537	MVP-SG-45, MVP-SG-35	Steep slope revetment from station 543+25 to 543+75. Trench breakers with outlet drains from station 543+75 to 544+25.	Steep slope section. Slopes ~26 to 40 degrees.
23	544+25	547+50	36.71999	-79.45568	36.71942	-79.45657	MVP-SG-38A/B	Transverse drains with outlet drain every 100 feet along ROW.	Large side slope section.
24	548+25	549+25	36.71932	-79.45680	36.71917	-79.45705	MVP-SG-35	Trench breakers with outlet drains.	Steep slope section. Large side slope section.
25	550+25	551+00	36.71901	-79.45720	36.71884	-79.45735	MVP-SG-35, MVP-SG-43A/B	Breakers with alternating outlet/daylight and pass through drains.	Moderately steep slope section. >16 degrees.
26	597+00	600+75	36.70874	-79.46673	36.70771	-79.46699	MVP-SG-35	Trench breakers with outlet drains.	Semi-sidehill section with moderately steep slopes.
27	600+75	601+75	36.70771	-79.46699	36.70744	-79.46703	MVP-SG-45	Steep slope revetment along south of stream.	Steep slope section, Slope ~25-30 degrees.
28	632+50	--	36.70140	-79.47364	--	--	MVP-SG-35	Breaker with drain.	Moderately steep slope section (16-26 deg). Less than 50 feet section or ROW with moderately steep slope.
29	643+00	--	36.69923	-79.47554	--	--	MVP-SG-35	Trench breaker with outlet drain.	Topographic slope map shows possible drainage with steep slopes.
30	648+20	650+25	36.69780	-79.47723	36.69816	-79.47687	MVP-SG-35, MVP-SG-43A/B	Trench breaker with alternating outlet/daylight and pass through drains.	Moderately steep slope section. >16 degrees. In USGS Landslide low probability slide zone.

Geohazard Point	Approx. Station[1]		Approx. Coordinates[2]				Mitigation Controls (Appendix B)	Mitigation Controls[3, 4]	Geohazard Description
			Start		End				
	Start	End	Lat.	Long.	Lat.	Long.			
31	692+70	693+75	36.68868	-79.48632	36.68848	-79.48652	MVP-SG-35	Trench breakers with outlet drains.	Steep slope section, Slope ~25-30 degrees. IN USGS low probability landslide area.
32	728+80	730+80	36.68023	-79.49036	36.67976	-79.49075	MVP-SG-35, MVP-SG-45	Steep slope revetment from station 728+80 to 729+20. Trench breakers with outlet drains from station 729+20 to 730+80.	Steep slope section, Average Slope ~25-30 degrees with steep section ~40 degrees. IN USGS low probability landslide area.
33	738+50	739+00	36.68055	-79.49316	36.68048	-79.49334	MVP-SG-38A/B	Transverse drain for 50 feet south of the PI.	PI in area with moderate slopes ~16 degrees in drainages south of PI.
34	742+30	--	36.68006	-79.49436	--	--	MVP-SG-35	Trench breakers with outlet drains.	Moderately steep slope section (16-26 deg) in drainage. Less than 50 feet section or ROW with moderately steep slope.
35	755+00	--	36.67766	-79.49734	--	--	MVP-SG-35	Trench breakers with outlet drains.	Moderately steep slope section (16-26 deg) in drainage. Less than 50 feet section or ROW with moderately steep slope.
36	774+80	775+80	36.67345	-79.50161	36.67326	-79.50180	--	Water bar installed at tops of stream bank (774+80 and 775+80).	Stream crossing with moderately steep slopes on stream bank.
37	825+10	825+50	36.66212	-79.51121	36.66206	-79.51129	--	Water bar installed at tops of stream bank (825+10 and 825+50).	Stream Crossing with moderately steep slopes on stream bank.
38	847+00	848+00	36.65820	-79.51667	36.65797	-79.51699	Site-specific controls	Stream bank protection along ROW.	Stream bank on southeast side of TWS has bank erosion and steep slope (+40 degrees) cutting into the ROW.
39	850+00	850+75	36.65753	-79.51737	36.65737	-79.51750	Site-specific controls	Trench breaker with outlet drain and possible rock-lined stream banks.	Meandering stream crossing with steep banks.

Geohazard Point	Approx. Station[1]		Approx. Coordinates[2]				Mitigation Controls (Appendix B)	Mitigation Controls[3, 4]	Geohazard Description
			Start		End				
	Start	End	Lat.	Long.	Lat.	Long.			
40	857+30	857+75	36.65590	-79.51878	36.65573	-79.51893	MVP-SG-36A/B and MVP-SG-37	Cutoff drains on top side of the LOD from station 857+30 to 857+75.	Moderate slopes of drainages crossing ROW.
41	860+30	--	36.65524	-79.51939	--	--	MVP-SG-35	Trench breaker with outlet drain.	Moderately steep slope section (16-26 degrees) in drainage. Less than 50 feet section or ROW with moderately steep slope.
42	875+00	875+75	36.651976	-79.522157	36.651642	-79.522444	MVP-SG-35	Trench breakers with outlet drains. Install breakers at toe of slope in steeper section (station 875+70).	Stream Crossing with moderately steep slopes on stream bank.
43	908+25	908+75	36.64397	-79.527388	36.643802	-79.527354	--	Water bar installed at tops of stream bank (908+25 and 908+75).	Stream Crossing with moderately steep slopes on stream bank.
44	916+70	917+00	36.641988	-79.528759	36.641916	-79.528838	--	Water bar installed at tops of stream bank (916+70 and 917+00).	Stream Crossing with moderately steep slopes on stream bank.
45	933+75	936+25	36.639913	-79.533857	36.639577	-79.534623	MVP-SG-35, MVP-SG-45	Trench breakers with outlet drains every breaker. Steep slope revetment on west bank of slope from station 935+00 to 935+50.	Steep slopes leading to drainage. Steep slopes on both sides. Slopes up to ~30 degrees. In USGS low probability landslide area.
46	998+50	--	36.627925	-79.547958	--	--	MVP-SG-35	Trench breaker with outlet drain.	Moderate slopes with multiple PIs.
47	999+50	--	36.627732	-79.548318	--	--	MVP-SG-35	Trench breaker with outlet drain.	Moderate slopes with multiple PIs.
48	1053+00	--	36.617154	-79.560019	--	--	MVP-SG-35	Trench breaker with outlet drain. Install breaker uphill of PI at a safe distance from welds and fittings.	Moderate slopes near PIs.

Geohazard Point	Approx. Station[1]		Approx. Coordinates[2]				Mitigation Controls (Appendix B)	Mitigation Controls[3, 4]	Geohazard Description
			Start		End				
	Start	End	Lat.	Long.	Lat.	Long.			
49	1058+00	1061+00	36.615908	-79.560857	36.615518	-79.561119	MVP-SG-38A/B	Continuous transverse trench drain for entire length between station 1058+00 and 1061+00 with at least two outlets.	Slight side slope (~12 degrees). The ROW is downhill of recently cleared area that may lead to additional drainage across ROW.
50	1101+70	1103+70	36.606006	-79.568075	36.605426	-79.56857	MVP-SG-35	Trench breakers with outlet drains every breaker.	Steep slopes leading to drainage. Steep slopes on both sides. Slopes up to ~25 degrees. In USGS low probability landslide area. Very steep slopes off ROW to southeast.
51	1114+20	1116+00	36.603071	-79.570585	36.602605	-79.570989	MVP-SG-35, MVP-SG-43A/B	Trench breakers with alternating outlet/daylight and pass through drains.	Moderately steep slope section. >16 degrees. In USGS low probability landslide area.
52	1132+80	1133+15	36.598933	-79.574146	36.598848	-79.574219	--	Water bar installed at tops of stream bank (1132+80 and 1133+15).	Stream Crossing with moderately steep slopes on stream bank.
53	1211+75	--	36.582538	-79.592092	--	--	MVP-SG-35	Trench breaker with outlet drain.	PI in side slope area.
54	1224+25	1226+50	36.580509	-79.594363	36.579533	-79.594988	MVP-SG-35	Trench breakers with outlet drains every breaker.	Moderate slopes (>16 degrees) in area of USGS moderate landslide probability. Some semi-side slope areas. Pipeline is partial side slope.
55	1230+00	1238+00	36.579145	-79.59551	36.577544	-79.59727	MVP-SG-35	Trench breakers with outlet drains every breaker.	Moderate slopes (>16 degrees) in area of USGS moderate landslide probability. Some semi-side slope areas. Pipeline is partial side slope.
56	1250+60	1251+40	36.574816	-79.599904	36.574704	-79.600099	MVP-SG-35	Trench breakers with outlet drains every breaker.	Steep slope (26 to 30 degrees) in area of USGS moderate landslide probability.
57	1251+50	1254+00	36.574643	-79.600207	36.574264	-79.600867	MVP-SG-35, MVP-SG-43A/B	Trench breakers with alternating outlet/daylight and pass through drains.	Moderate slopes (~12-16 degrees) in area of USGS moderate landslide probability.

Geohazard Point	Approx. Station[1]		Approx. Coordinates[2]				Mitigation Controls (Appendix B)	Mitigation Controls[3, 4]	Geohazard Description
			Start		End				
	Start	End	Lat.	Long.	Lat.	Long.			
58	1255+00	1256+00	36.574125	-79.60111	-79.60134	36.57399	MVP-SG-36A/B	Transverse drain from station 1255+00 to 1256+00.	Moderate slope (>16 degrees) side slope area on north side or ROW.
59	1313+40	1314+00	36.563758	-79.613674	36.563504	-79.613571	--	Water bar or maybe riprap lined water bar if high flow velocity is a concern.	Stream/drainage Crossing with moderately steep slopes on stream bank.
60	1347+00	1348+00	36.556419	-79.617843	36.556162	-79.618118	MVP-SG-35	Trench breakers with outlet drains every breaker.	Moderate slopes (>16 degrees) in area of USGS moderate landslide probability. A very steep area (>33 degrees near drainage).
61	1358+00	1359+00	36.554094	-79.62022	36.553964	-79.620349	MVP-SG-35	Trench breakers with outlet drains every breaker.	Moderate slopes (>16 degrees) above proposed bore pit under railroad tracks.
62	1395+85	1396+30	36.546013	-79.628291	36.545917	-79.628386	--	Water bar installed at tops of stream bank (1395+85 and 1396+30).	Stream Crossing with moderately steep slopes on stream bank.
63	1481+75	1482+75	36.528178	-79.646037	36.527867	-79.646336	--	Water bar installed at tops of stream bank (1481+75 and 1482+75).	Stream Crossing with moderately steep slopes on stream bank.
64	1537+50	1538+00	36.516262	-79.656848	36.516091	-79.657028	--	Water bar installed at tops of stream bank (537+50 and 1538+00).	Stream Crossing with moderately steep slopes on stream bank.
65	1553+50	--	36.512926	-79.660336	--	--	MVP-SG-35	Trench breaker with outlet drain. Install breaker uphill of PI at a safe distance from welds and fittings.	PI in side slope area. Locate trench breaker 50 feet from PI to avoid welds and fittings.
66	1561+00	1564+00	36.51138	-79.662117	36.510679	-79.662848	MVP-SG-35, MVP-SG-43A/B	Trench breakers with alternating outlet/daylight and pass through drains.	Moderate slopes (>16 degrees) in area of USGS moderate landslide probability. Pipeline is partial side slope.

Geohazard Point	Approx. Station[1]		Approx. Coordinates[2]				Mitigation Controls (Appendix B)	Mitigation Controls[3, 4]	Geohazard Description
			Start		End				
	Start	End	Lat.	Long.	Lat.	Long.			
67	1567+50	1568+75	36.510017	-79.66354	36.509737	-79.663833	MVP-SG-35, MVP-SG-43A/B	Trench breakers with alternating outlet/daylight and pass through drains.	Moderate slopes (>16 degrees) in area of USGS moderate landslide probability.
68	1583+50	1585+75	36.506652	-79.667062	36.506135	-79.667427	MVP-SG-35, MVP-SG-43A/B	Breakers with alternating outlet/daylight and pass through drains.	Moderate slopes (>16 degrees) in area of USGS moderate landslide probability.
69	1588+00	1590+50	36.505374	-79.667489	36.504822	-79.667534	MVP-SG-35, MVP-SG-43A/B	Breakers with alternating outlet/daylight and pass through drains.	Moderate slopes (~20 degrees) in area of USGS moderate landslide probability.
70	1593+50	1592+00	36.504523	-79.667715	36.504201	-79.668094	MVP-SG-35, MVP-SG-43A/B	Breakers with alternating outlet/daylight and pass through drains.	Moderate slopes (~20 degrees) in area of USGS moderate landslide probability.
71	1598+00	1598+40	36.50371	-79.66958	36.50369	-79.66963	MVP-SG-45	Steep slope revetment.	Moderately steep slope (26 to 30 degrees).

[1] Stationing is approximate based on the alignment stationing provided at the time this report was prepared (November 2024). Please refer to the coordinates provided to verify the geohazard and mitigation control location. The location of the mitigation controls should be field fit based on conditions observed during construction.
[2] The coordinates provided are approximate locations of mitigation controls. The actual locations should be field fit based on conditions observed during construction.
[3] All surface and subsurface drains should be graded for positive drainage with outlets at the wooded or well-vegetated area at the edge of the LOD. Surface and subsurface drains should outlet away from and on the opposite side of the ROW from existing facilities (i.e. the Transco pipelines). Drain outlets should be in stable areas outside of existing streams or environmentally sensitive areas.
[4] The mitigation controls are recommended as general guidance; additional controls may be necessary based on field conditions observed during construction.

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
H-650	SS-01		X		Wetland	0.00	273+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a segment with an average slope of 20 degrees (36%). A trench breaker daylight drain will be utilized in this location.
H650	SS-02		X		Stream	9.00	425+00	MVP-SG-35	This pipeline segment is a steep planar segment with an average slope of 27 degrees (50%). Trees are well established, with no visible signs of slope movement. One trench breaker daylight drain will be utilized at this location behind the E&S specified trench breaker.
H-650	SS-03		X		Wetland	0.00	456+50	MVP-SG-35	This segement is a steep planar segment with an average slope of 25 degrees (47%) with localized segments of 28 degrees. A daylight drain will be used behind a sakrete trench breakers to provide additional stability to the slope. One additional trench breaker will be placed at approximately 457+00, at the top of the hill with a daylight drain.
H-650	SS-04		X	X	Wetland	10.00	528+75	MVP-SG-35	This segment is located on a steep area with an average slope of 31 degrees (60%) and previous landslide activity. Sakrete trench breakers with daylight drains will be utilized to stabilize the trench and previous landslide activity at the E&S specified locations. One additional sakrete trench breaker and daylight drain will be utilized at approximately at 529+00 at the top of the hill.
H-650	SH-05	X			Weland	94.70	530+60	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 10 degree slope (17.6%). A transverse trench drain will extend through the trench from approximately 529+50 to 531+00 and sidehill cutoff drains will be utilized where seeps occur.

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
H-650	SS-06		X		Wetland	10.00	536+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 19 degrees (34%). Install one trench breaker with daylight drain at the E&S specified breaker location.
H-650	SS-07		X		Stream	57.00	678+50	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees. Install a trench breaker daylight drain at the one trench as specified on the E&S plans at approximately 678+75
H-650	SS-08		X		Wetland	0.00	714+50	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep planar segment with an average slope of 28 degrees (32%). Trees are well-established, with no visible signs of slope movement. A daylight drain will be installed behind a sakrete trench breaker in the E&S specified location. One additional sakrete trench breaker will be installed at approximately 715+00 with a trench breaker daylight drain.
H-650	SS-09		X		Stream	0.00	920+70	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a steep area of 25 degrees (47%) with a stream at the very base of the hill. There is a localized segment measuring 31 degrees (60%) as well. Install one sakrete trench breaker at approximately 920+50 with a daylight drain, and install the second at the location specified on the E&S plans.
H-650	SS-10		X		Wetland	12.00	941+75	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep planar segment with an average slope of 26 degrees (49%) . Trees are well-established, with no visible signs of slope movement. Trench breaker daylight drains will be installed in the pipeline trench to prevent an accumulation of water behind the trench breakers which could saturate the local soil. Place one daylight drain in

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
									the E&S specified trench breaker, and add one trench breaker at approximately 942+00 with a daylight drain.
H-650	SH-11	X			Stream	78.00	945+00	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 10 degree (17.6%) slope. A transverse trench drain will extend from approximately 945+00 to 945+50 through the trench and sidehill cutoff drains will be utilized where seeps occur.
H-650	SS-12		X		Stream	5.00	947+75	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 18 degrees (32%). A trench breaker daylight drain will installed behind one trench breaker to avoid accumulation of water in the ditch. Install a trench breaker daylight drain behind the trench breaker specified on the E&S plan.
H-650	SS-13		X		Wetland	27.00	961+60	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a 20 degree (36%) slope with well established vegetation and no evidence of movement. Install a trench breaker daylight drain behind the trench breaker specified on the E&S plan.
H-650	SS-14		X		Stream	96.00	1100+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 18 degrees (32%). A trench breaker with daylight will be added at station 1100+00 with a daylight drain behind it.
H-650	SS-15		X		Wetland	1100.00	1148+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment has an average slope of 16 degrees (29%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. Install a trench breaker daylight drain behind the drain as specified in the E&S plans at approximately 1148+25
H-650	SH-16	X			Stream	1500.00	1213+50	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 10 degree (17.6%) slope. A transverse trench drain will extend approximately from

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
									1212+00 to 1215+00 through the trench, outletting at the downhill side of the edge of ROW. Sidehill cutoff drains will be utilized where seeps occur.
H-650	SS-17		X		Stream	792.00	1217+25	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 18 degrees (32%). Install trench breaker daylight drains at the E&S specified locations, approximately at 1217+00 and 1219+00.
H-650	SS-18		X		Stream	160.00	1236+50	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 27 degrees (50%) . Install trench breaker daylight drains behind sakrete breakers at the E&S specified locations. An additional sakrete breaker and daylight drain may be necessary depending on the pipe placement.
H-650	SS-19		X		Stream	160.00	1238+50	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 21 degrees (38%). Alternate trench breaker daylight drains and trench breaker pass through drains per the E&S plan trench breakers.
H-650	SS-20		X		Stream	675.00	1344+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 18 degrees (32%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker on the E&S plans.
H-650	SS-21		X		Stream	29.00	1547+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a planar segment of 21 degrees (28%) with no evidence of slope movement. Install one trench breaker at approximately 1547+00 with a daylight drain behind it.
H-650	SS-22		X		Stream	400.00	1574+50	MVP-SG-35, MVP-	This segment is located on a slope with an average inclination

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
								SG-43A, MVP-SG-43B	of 19 degrees (34%). Install one trench breaker at approximately 1575+00 with a daylight drain behind it.
H-650	SS-23		X		Stream	334.00	1578+30	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 21 degrees (38%). Install one trench breaker at approximately 1578+00 with a daylight drain behind it.
H-650	SS-24		X		Stream	0.00	1672+50	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	Planar segment of 20 degrees (36%) that is going down into a creek. No evidence of movement. Install one trench breaker with a daylight drain behind it.
H-650	SS-25		X		Stream	5.00	1674+50	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 21 degrees (38%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. If more than one trench breaker is to be installed along this segment, alternating pass through drains and daylight drains will be utilized
H-650	SS-26		X		Stream	14.50	1675+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 21 degrees (38%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker at approximately 1675+50.
H-650	SS-27		X		Stream	5.00	1684+00	MVP-SG-35	This segment has no evidence of movement. Use a sakrete trench breaker with daylight drain at approximately 1684+25 to help stabilize the trench.
H-650	SS-28		X		Stream	20.00	1685+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is 23 degrees (42%) and extends from the other side of the stream bank. The area is well vegetated and there is no evidence of movement. This slope will need a trench breaker with a daylight drain at approximately 1685+20.

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
H-650	SH-29	X			Stream	175.00	1705+50	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 10 degree (17.6%) slope with no movement present. Transverse trench drains should be utilized in the low portions of this sidehill segment to convey any accumulated water out of the trench.
H-650	SS-30		X		Wetland	64.00	1724+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is a short 29 degree (55%) segment that will require one trench breaker with a daylight drain.
H-650	SS-31		X		Stream	68.20	1748+75	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is planar with an average slope of 21 degrees (38%). The area is well vegetated and has no evidence of movement. One trench breaker and daylight drain should be installed at approximately 1748+75.
H-650	SS-32		X		Wetland	39.00	1753+20	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is planar with an average slope of 23 degrees (42%). There is no evidence of movement and the area is well vegetated. One daylight drain should be installed behind a trench breaker at approximately 1753+25.
H-650	SS-33	X			Stream	290.60	1764+00	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 11 degree (19.4%) slope. A transverse trench drain will extend from 1763+50 to 1766+00 through the trench and sidehill cutoff drains will be utilized where seeps occur.
H-650	SS-34		X		Wetland	18.50	1781+75	SG-45, MVP-SG-35	This segment is on a a very steep slope, with an average measurement of 35 degrees (70%). While there is no evidence of movement currently, a riprap revetment will be utilized in this section with sakrete trench breakers to provide stability.

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
H-650	SS-35		X		Stream	36.50	1790+80	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 18 degrees (32%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker at approximately 1791+00.
H-650	SS-36		X		Stream	50.00	1792+20	SG-45, MVP-SG-35	This segment is on a very steep slope, with an average measurement of 38 degrees (78%). This segment is near a stream and to preserve future slope stability, a riprap revetment with sakrete breakers should be used with daylight drains behind each trench breaker.
H-650	SH-37	X			Wetland	234.00	1793+60	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 12 degree (21%) slope. A transverse trench drain will extend from approximately 1793+00 to 1794+00. Sidehill cutoff drains will be utilized where seeps occur.
H-650	SH-38	X			Wetland	212.00	1809+00	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 11 degree (19.4%) slope. A transverse trench drain will extend from approximately 1809+25 to 1810+00. Sidehill cutoff drains will be utilized where seeps occur.
H-650	SS-39		X		Wetland	0.00	1811+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 18 degrees (32%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker specified on the E&S plans
H-650	SS-40		X		Wetland	5.00	1811+90	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 23 degrees (42%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker.

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
H-650	SS-41		X		Stream	16.70	1814+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep planar segment with an average slope of 27 degrees (50%) with localized segments up to 31 degrees. Trees are well establised, with no visible signs of slope movement. Trench breaker daylight drains will be used behind sakrete breakers at approximately 1814+00 and 1814+50.
H-650	SS-42		X		Stream	600.00	1818+40	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). A trench breaker daylight drain will be used behind the trench breaker specified on the E&S plans.
H-650	SH-43	X			Stream	291.00	1822+20	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 12 degree (21%) slope. A transverse trench drain will extend through the trench from approximately 1821+75 to 1823+00. Sidehill cutoff drains will be utilized where seeps occur.
H-650	SH-44	X			Stream	336	1827+00	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 13 degree (23%) slope. A transverse trench drain will extend through the trench from approximately 1826+00 to 1828+00. Sidehill cutoff drains will be utilized where seeps occur.
H-650	SS-45		X		Stream	16.00	1839+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). Trench breaker pass through drains will be utilized behind the E&S specified trench breakers. In addition to the landslide mitigation, there will be some bank resoration needed in this area - please refer to the standard details for bank restoration
H-650	SS-46		X		Stream	83.00	1855+00	MVP-SG-35, MVP-SG-43A, MVP-SG-	This segment is located on a slope with an average inclination of 19 degrees (34%). A trench breaker pass through drain will

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
								43B	be used behind a breaker at approximately 1855+25.
H-650	SS-47		X		Stream	45.00	1857+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B , MVP-SG-38A, MVP-SG-38B, MVP-SG-36A	This segment is located on a slope with an average inclination of 18 degrees (32%). A trench breaker pass through drain will be utilized behind the E&S specified trench breaker location. This section is also located next to a side slope area. A transverse trench drain will extend from 1857+00 to 1859+00. Cutoff drains will be utilitzed as necessary in the sidehill.
H-650	SH-48	X			Stream	122.00	1883+25	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 10 degree slope (17.6%) with no movement present. Transverse trench drains should be utilized in the low portions of this sidehill segment to convey any accumulated water out of the trench.
H-650	SH-49		X		Stream	149.00	1897+00	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 10 degree (17.6%) slope with no movement present. Transverse trench drains should be utilized from 1897+00 to 1898+00. Cutoff drains should be used as seeps occur.
H-650	SS-50		X		Stream	0.00	1931+75	MVP-SG-35	This segment has an average slope of 27 degrees (47%) and doesn't have any evidence of movement. If bedrock is encountered at shallow depths, sakrete may be used in lieu of sandbag breakers. Place a trench breaker daylight drain behind the breakers specified on the E&S plan.
H-650	SH-51		X		Stream	88.00	1971+00	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 13 degree (23%) slope. A transverse trench drain will extend through the trench from 1970+00 to 1972+00. Sidehill cutoff drains will be utilized where seeps occur.

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
H-651	SS-52			X	Wetland	10.00	2068+00	SG-45, MVP-SG-35	This planar segment has an average slope of 39 degrees (80%). While the area is well vegetated, there is evidence of landslide activity. To stabilize the area, a riprap revetment using R4 and/or R5 riprap should be used in conjunction with sakrete trenchbreakers and daylight drains.
H-650	SS-53			X	Wetland	16.00	2080+75	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 22 degrees (40%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker specified on the E&S plans.
H-650	SH-54		X		Stream	56.00	2096+00	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 13 degree (23%) slope. A transverse trench drain will extend through the trench from 2095+00 to 2096+00. Sidehill cutoff drains will be utilized where seeps occur.
H-650	SS-55			X	Stream	0.00	2177+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). A trench breaker daylight drain will be used behind the trench breaker specified on the E&S plans.
H-650	SS-56			X	Stream	0.00	2178+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). A trench breaker daylight drain will be used behind the trench breaker specified on the E&S plans.
H-650	S-57			X	Stream	34.00	2187+50	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 24 degrees (45%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. If more than one trench breaker is to be installed along this segment, alternating pass through drains and daylight drains will be utilized per the breakers on the

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
									E&S plan.
H-650	SS-58				Wetland	0.00	2206+50	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 17 degrees (31%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker per the E&S plans.
H-650	SH-59	X			Stream	375.00	2226+00	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 11 degree slope (19.4%). A transverse trench drain will extend through the trench from approximately 2225+00 to 2226+50. Sidehill cutoff drains will be utilized where seeps occur.
H-650	SS-60		X		Stream	45.00	2236+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 23 degrees (42%). Install a trench breaker with a daylight drain at 2236+20.
H-650	SS-61		X		Stream	16.00	2267+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 19 degrees (34%). Use a trench breaker daylight drain behind the trench breakers specified on the E&S plans.
H-650	SH-62	X			Home	150.00	2272+25	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 10 degree (17.6%) slope with no movement present. Transverse trench drains should be utilized from 2272+00 to 2274+00. Use cutoff drains in the low points of the sidehill or as seeps occur.

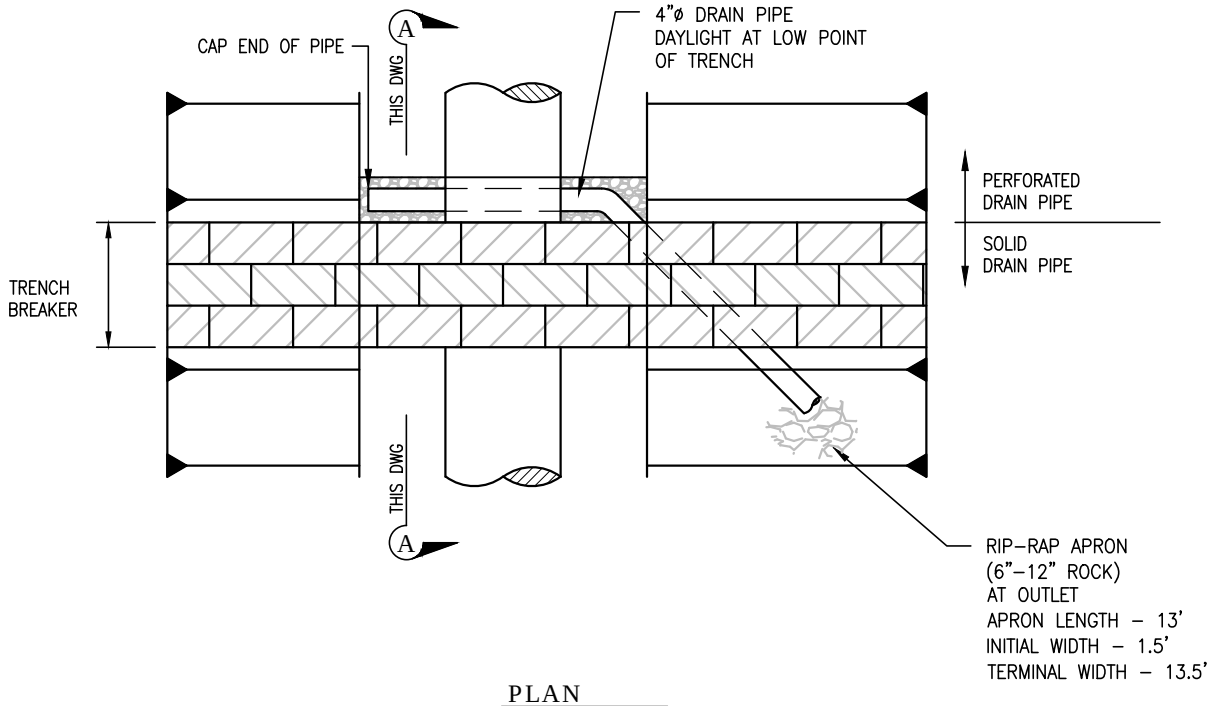
Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide		Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
H-650	SH-63		X			Stream	148.00	2363+50	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 12 degree (21%) slope with no movement present. Transverse trench drains should be utilized from 2364+00 to 2364+50. Use cutoff drains as seems occur.
H-650	SS-64			X		Stream	81.00	2367+50	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees. Trench breaker pass through and daylight drains will be utilized in this location per the E&S plan.
H-650	SS-65			X		Stream	72.80	2450+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). Trench breaker pass through and daylight drains will be utilized in this location per the E&S plan.
H-650	SS-66			X		Stream	89.00	2456+00	MVP-SG-35	This pipeline segment is a steep planar segment with an average slope of 28 degrees (53%). Trench breaker daylight drains will be installed in the pipeline trench to prevent an accumulation of water behind the trench breakers which could saturate the local soil. If bedrock is shallow, sakrete breakers may be used. Install trench breakers at 2456+00, and 2456+50.
H-650	SS-67			X		Stream	29.00	2466+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). Trench breaker pass through and daylight drains will be utilized in this location behind E&S plan specified trench breakers.
H-650	SH-68		X			Stream	201.00	2471+50	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 10 degree (17.6%) slope with no movement present. Transverse trench drains should be utilized from 2471+00 to 2472+00.

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
H-650	SS-69			X	Wetland	0.00	2518+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This is a planar segment of 23 degrees (42%) with no evidence of movement. Install two trench breaker daylight drains behind trench breakers at 2519+00 and 2519+25.
H-650	SS-70			X	Stream	45.00	2337+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). Install alternating trench breaker daylight drains and pass through drains from station 2535+00 to 2537+00 from the trench breakers on the E&S plan.
H-650	SH-71		X		Stream	183.00	2540+50	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 10 degree (17.6%) slope with no movement present. Transverse trench drains should be utilized in the low portions of this sidehill segment to convey any accumulated water out of the trench.
H-650	SS-72			X	Stream	10.00	2548+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 21 degrees (38%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. If more than one trench breaker is to be installed along this segment, alternating pass through drains and daylight drains will be utilized. Install trench breakers per the E&S plan.
H-650	SH-73		X		Home	411.00	2662+50	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 10 degree (17.6%) slope with no movement present. Transverse trench drains should be utilized from 2661+00 to 2663+00. Use cutoff drains as seeps occur.

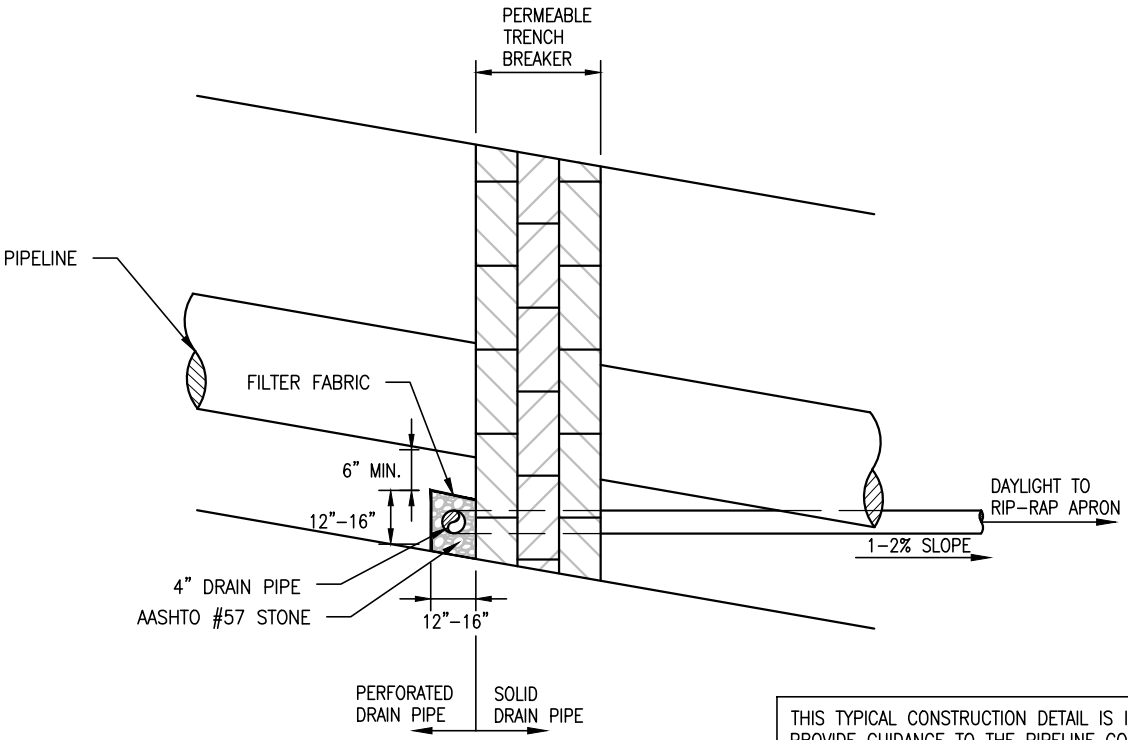
Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide		Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
H-650	SH-74		X			Stream	87.90	3756+00	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 13 degree (23%) slope. A transverse trench drain will extend through the trench from 3751+30 to 3759+00. Use cutoff drains as seeps occur.
H-650	SS-75			X		Stream	61.00	3773+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep planar segment with an average slope of 26 degrees (49%). A trench breaker daylight drain will be installed behind the trench breaker to prevent water accumulation.
H-650	SH-76		X			Stream	260.00	3778+40	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 10 degree (17.6%) slope with no movement present. Install a cutoff drain at approximately 3778+40
H-650	SH-77		X			Stream	360.00	3824+50	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 11 degree (19.4%) slope with no movement present. Transverse trench drains should be utilized as necessary from 3824+00 to 3827+00. Use cutoff drains as seeps occur
H-650	SS-78			X		Stream	122.00	3833+00	MVP-SG-35	This pipeline segment is a steep planar segment with an average slope of 29 degrees (55%).Install a sakrete trench breaker at 3832+80 with a daylight drain to prevent water from accumulating in the trench.
H-650	SH-79		X			River	186.00	3856+00	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 15 degree (27%) slope with no movement present. Transverse trench drains should be utilized in the low portions of this sidehill segment from 3856+00 to 3859+00. Use cutoff drains as seeps occur and at 3856+30 in the natural drain.

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Station	Mitigation Controls (Appendix B)	Comments
H-650	SS-80			X	Stream	20.00	3889+50	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is planar with an average slope of 20 degrees (36%). The area is well vegetated and has no evidence of movement. Alternating pass through and daylight drains will be utilized on the slope at the E&S specified trench breakers.
H-650	SS-81			X	River	326.00	3894+00	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is planar with an average slope of 21 degrees (38%). Install a trench breaker daylight drain behind the breaker specified on the E&S plans
H-650	SS-82			X	River	52.40	3900+00	MVP-SG-35	This pipeline segment is a steep planar segment with an average slope of 30 degrees (57%). Trench breaker daylight drains will be used behind sakrete trench breakers at approximately 3937+00 and 3937+50.
H-650	SH-83		X		Stream	50.00	3944+00	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 11 degree (19.4%) slope. A transverse trench drain will extend through the trench from 3943+00 to 3945+00 and sidehill cutoff drains will be utilized where seeps occur.

Appendix B
Slide Mitigation Details



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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

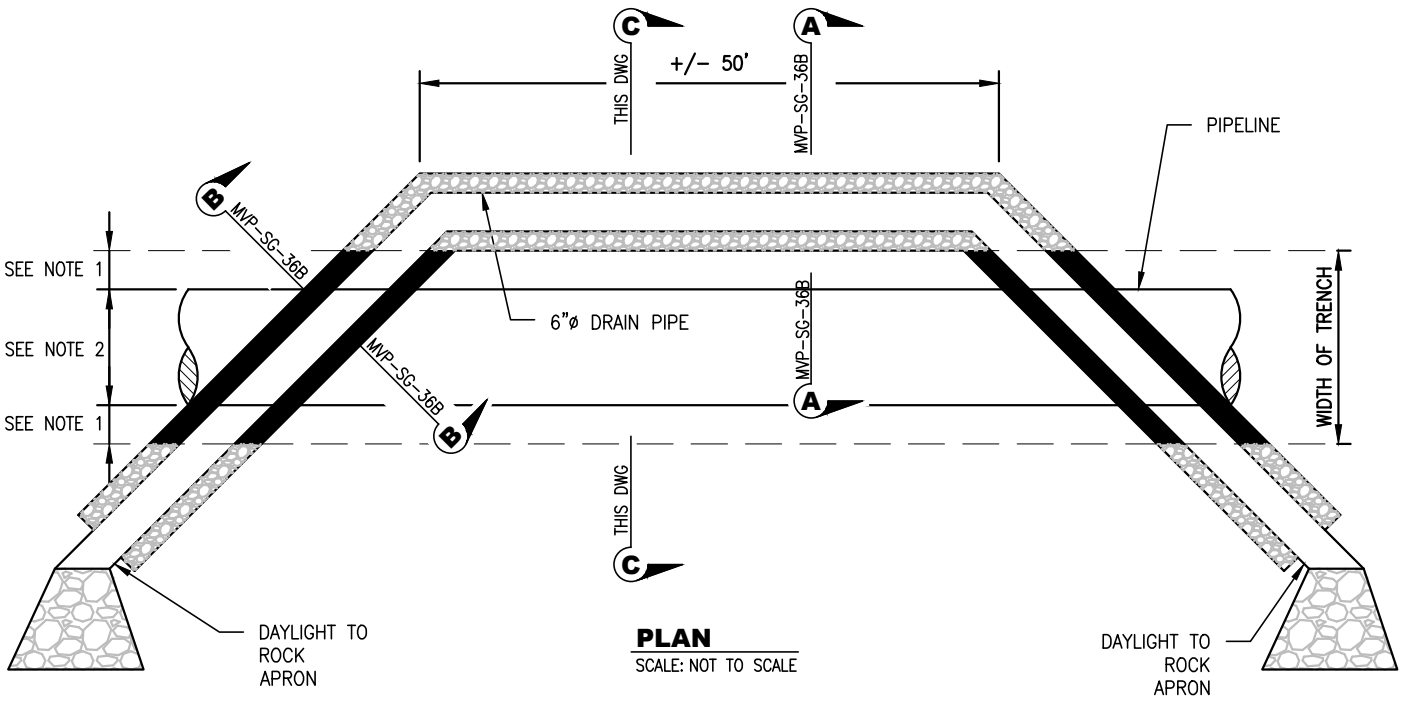
TYPICAL CONSTRUCTION DETAIL

TRENCH BREAKER DAYLIGHT DRAIN

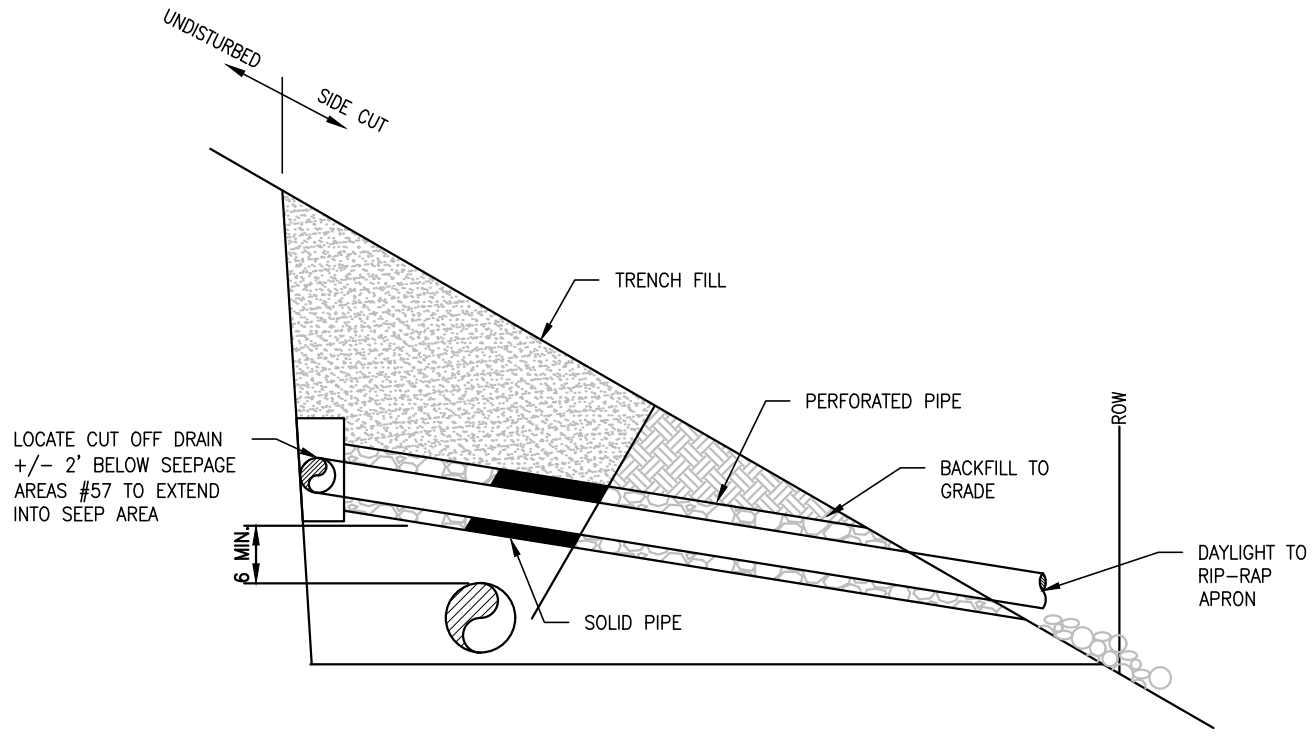
DRAWING NO.	REV.
MVP-SG-35	P1

Plotted by: Sample, Stanley on: August 16, 2018 - 12:39 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-35.dwg



PLAN
SCALE: NOT TO SCALE



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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

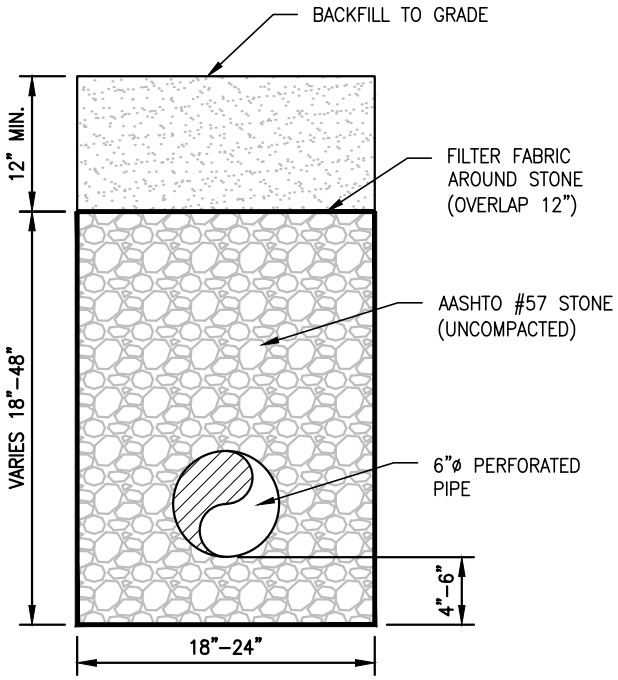
TYPICAL CONSTRUCTION DETAIL

CUTOFF DRAIN-SIDEHILL

DRAWING NO.	REV.
MVP-SG-36A	P1

Plotted by: Doersom, Sharon on: January 28, 2025 - 10:58 AM

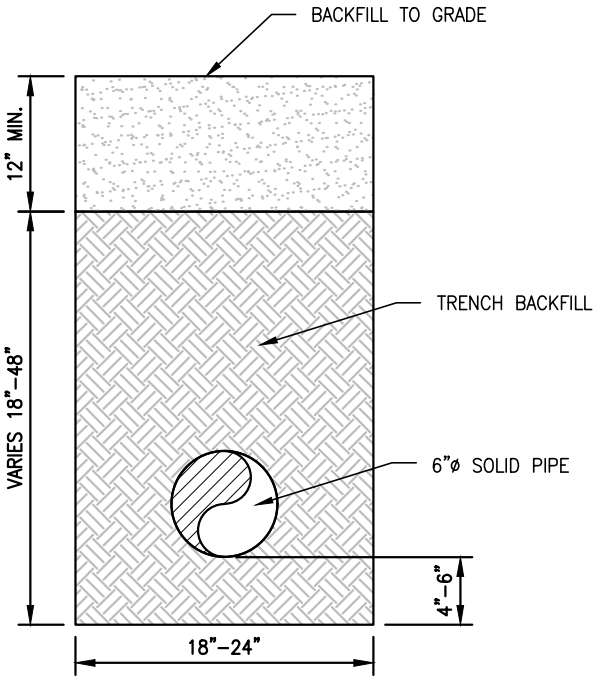
File Path: C:\users\sdoersom\projectwise\fsl\dms27383\MVP-SG-36A.dwg



SECTION A-A

SCALE: NOT TO SCALE

FROM MVP–SG–36A



SECTION B-B

SCALE: NOT TO SCALE

FROM MVP–SG–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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:			
H–650–TYP			

Mountain Valley PIPELINE LLC

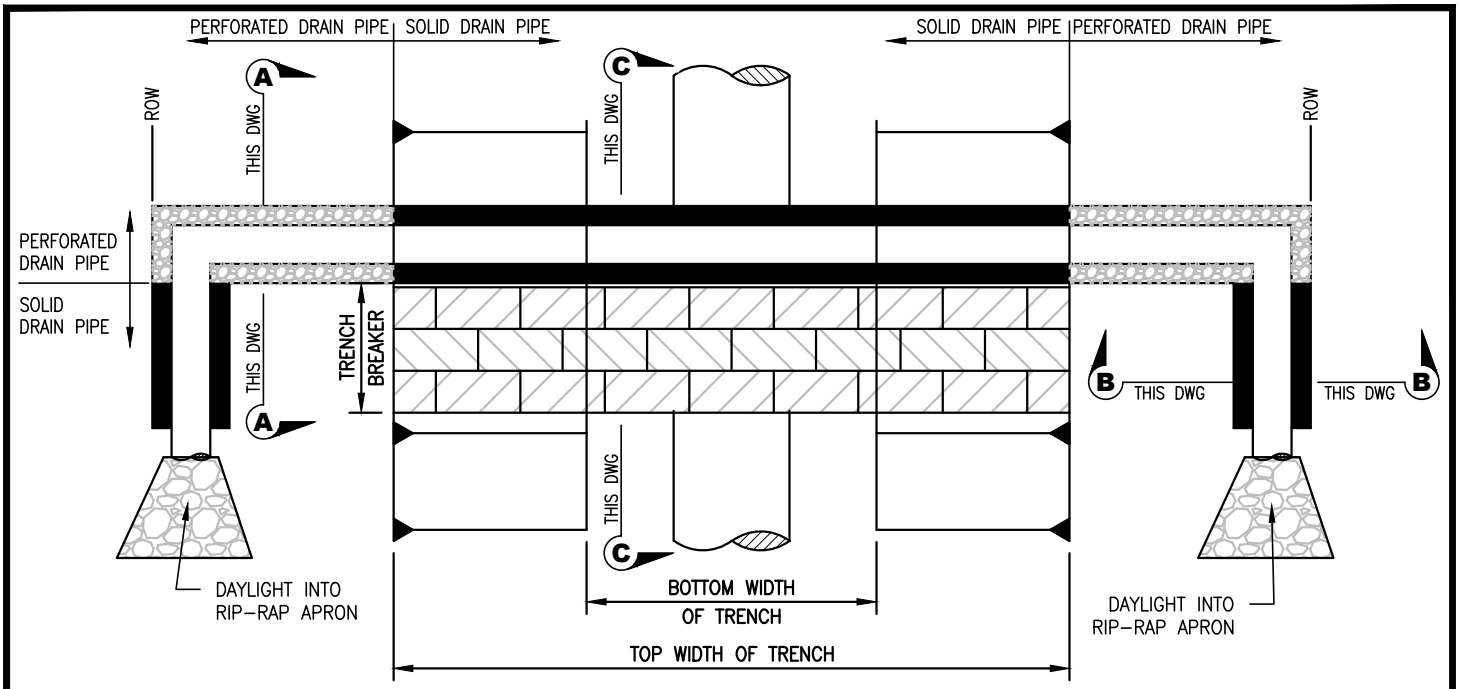
TYPICAL CONSTRUCTION DETAIL

CUTOFF DRAIN–SIDEHILL

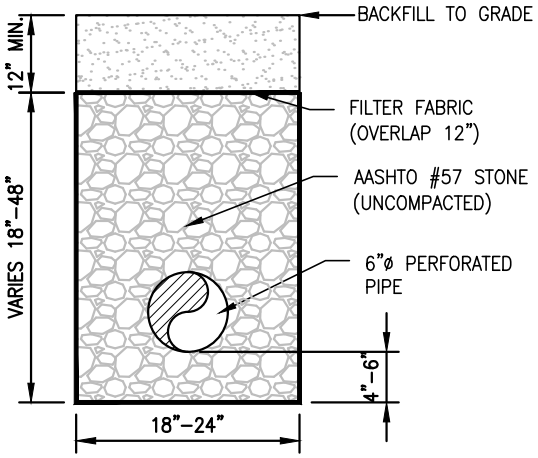
DRAWING NO.	REV.
MVP–SG–36B	P1

Plotted by: Doersom, Sharon on: January 28, 2025 - 10:53 AM

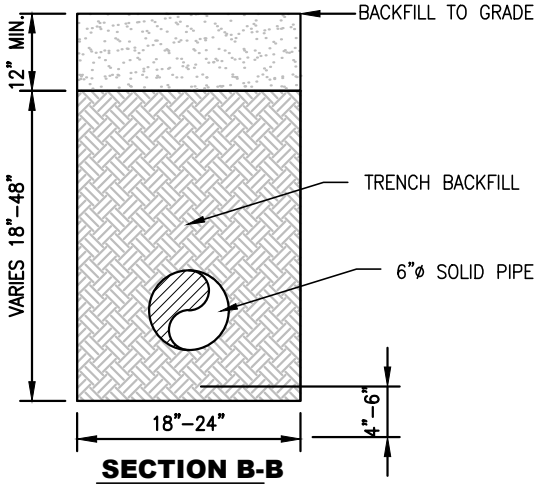
File Path: C:\users\sdoersom\projectwise\fsl\dms27383\MVP-SG-36B.dwg



PLAN
SCALE: NOT TO SCALE

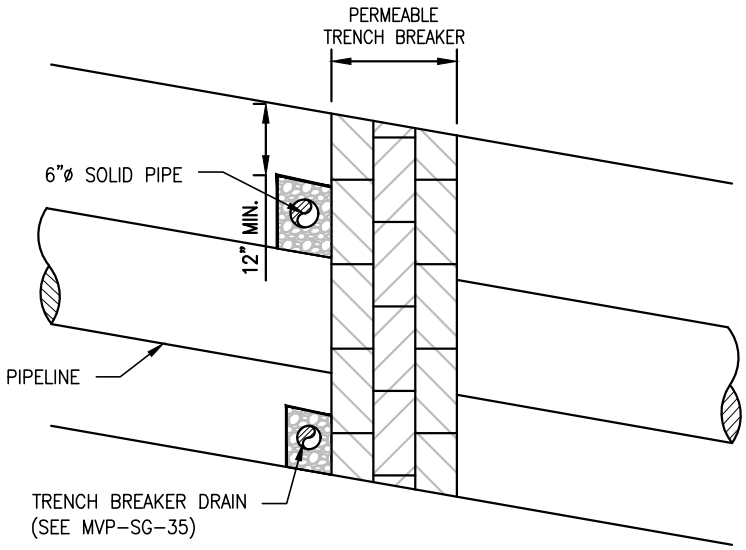


SECTION A-A
SCALE: NOT TO SCALE



SECTION B-B
SCALE: NOT TO SCALE

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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

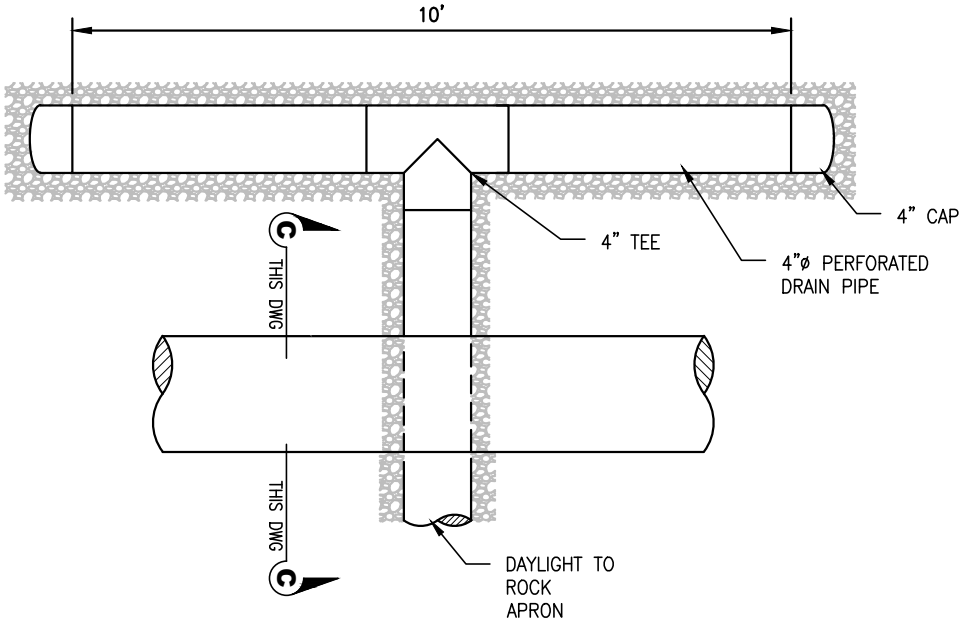
TYPICAL CONSTRUCTION DETAIL

CUTOFF DRAIN-PLANAR

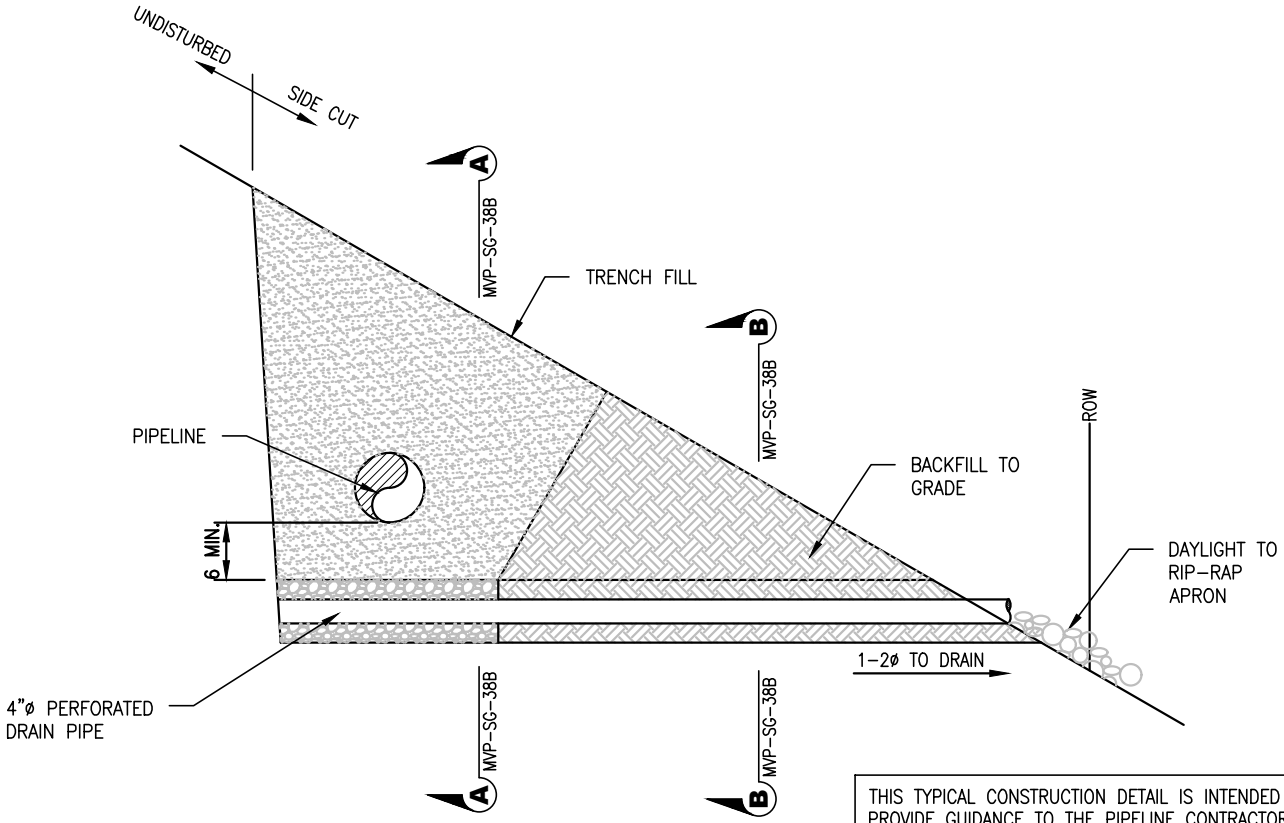
DRAWING NO.	REV.
MVP-SG-37	P1

Plotted by: Doersom, Sharon on: January 28, 2025 - 10:50 AM

File Path: C:\users\sdoersom\projectwise\fsl\dms27383\MVP-SG-37.dwg



PLAN
SCALE: NOT TO SCALE



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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

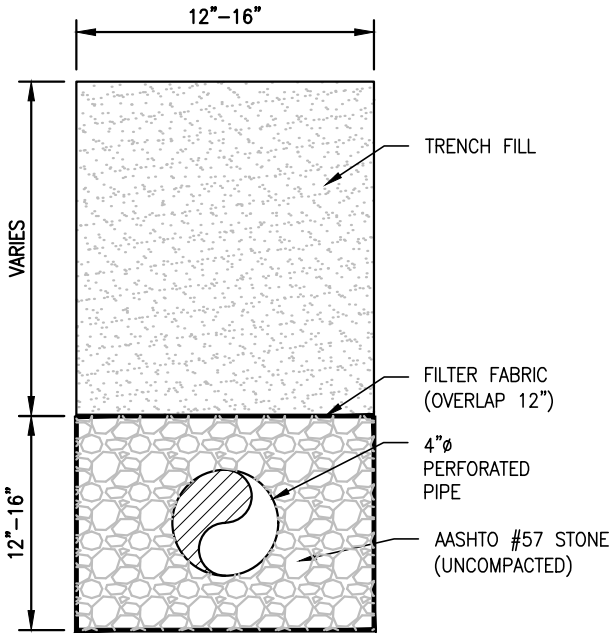
TYPICAL CONSTRUCTION DETAIL

TRANSVERSE TRENCH DRAIN

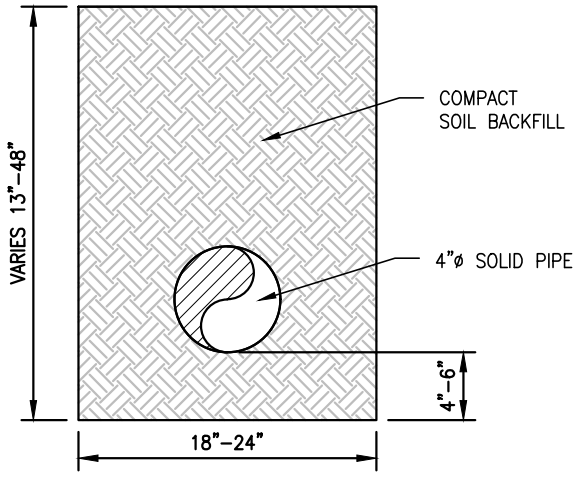
DRAWING NO.	REV.
MVP-SG-38A	P1

Plotted by: Doersom, Sharon on: January 29, 2025 - 10:27 AM

File Path: C:\users\sdoersom\projectwise\fsl\dms27383\MVP-SG-38A.dwg



SECTION A-A
SCALE: NOT TO SCALE
FROM MVP–SG–38A



SECTION B-B
SCALE: NOT TO SCALE
FROM MVP–SG–38A

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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:			
H–650–TYP			

Mountain Valley PIPELINE LLC

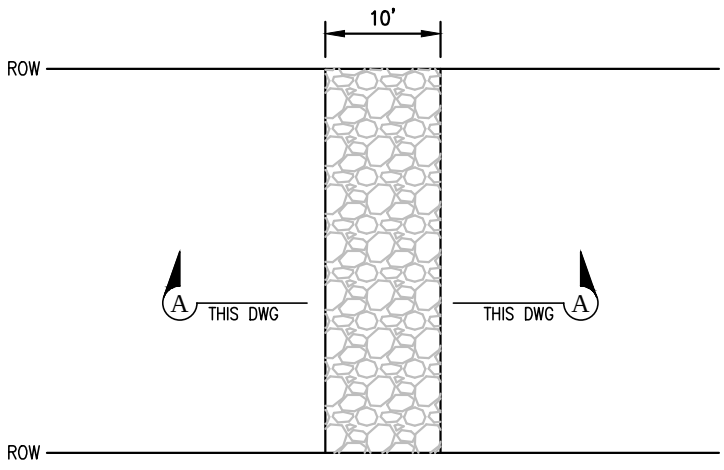
TYPICAL CONSTRUCTION DETAIL

TRANSVERSE TRENCH DRAIN

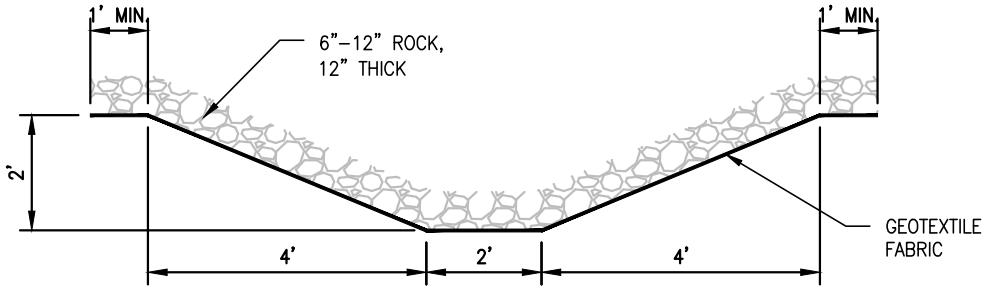
DRAWING NO.	REV.
MVP–38B	P1

Plotted by: Doersom, Sharon on: January 28, 2025 - 10:47 AM

File Path: C:\users\sdoersom\projectwise\fsl\dms27383\MVP-SG-38B.dwg



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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H–650–TYP			

Mountain Valley PIPELINE LLC

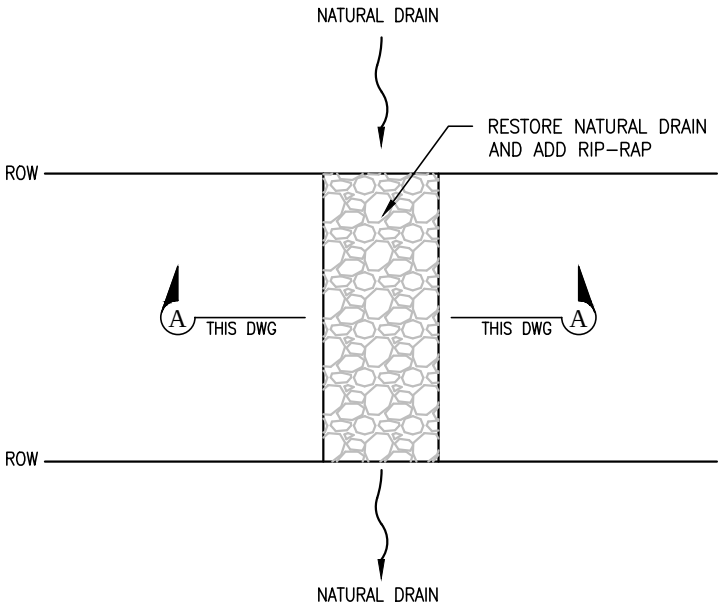
TYPICAL CONSTRUCTION DETAIL

ROCK LINED SWALE

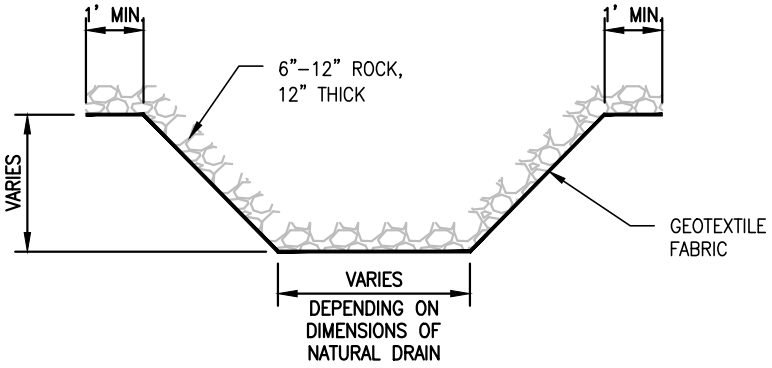
DRAWING NO.	REV.
MVP–SG–39	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:39 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-39.dwg



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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

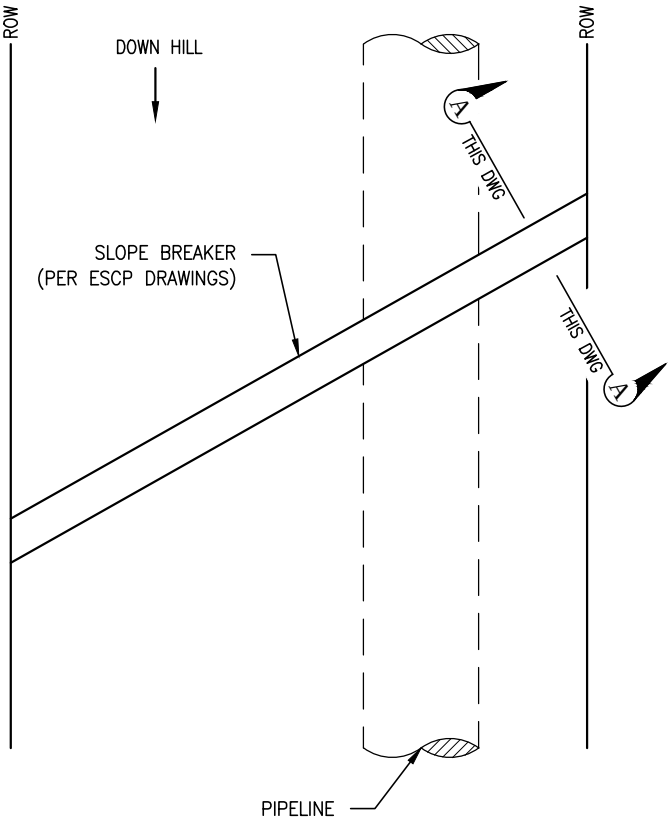
TYPICAL CONSTRUCTION DETAIL

RIP-RAP NATURAL DRAIN

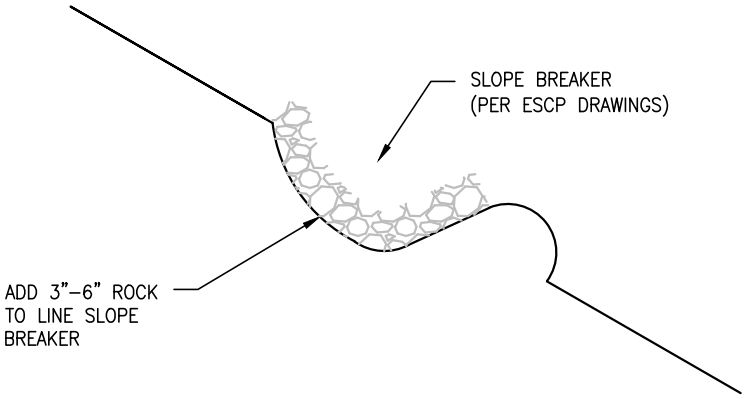
DRAWING NO.	REV.
MVP-SG-40	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:39 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-40.dwg



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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H–650–TYP			

Mountain Valley PIPELINE LLC

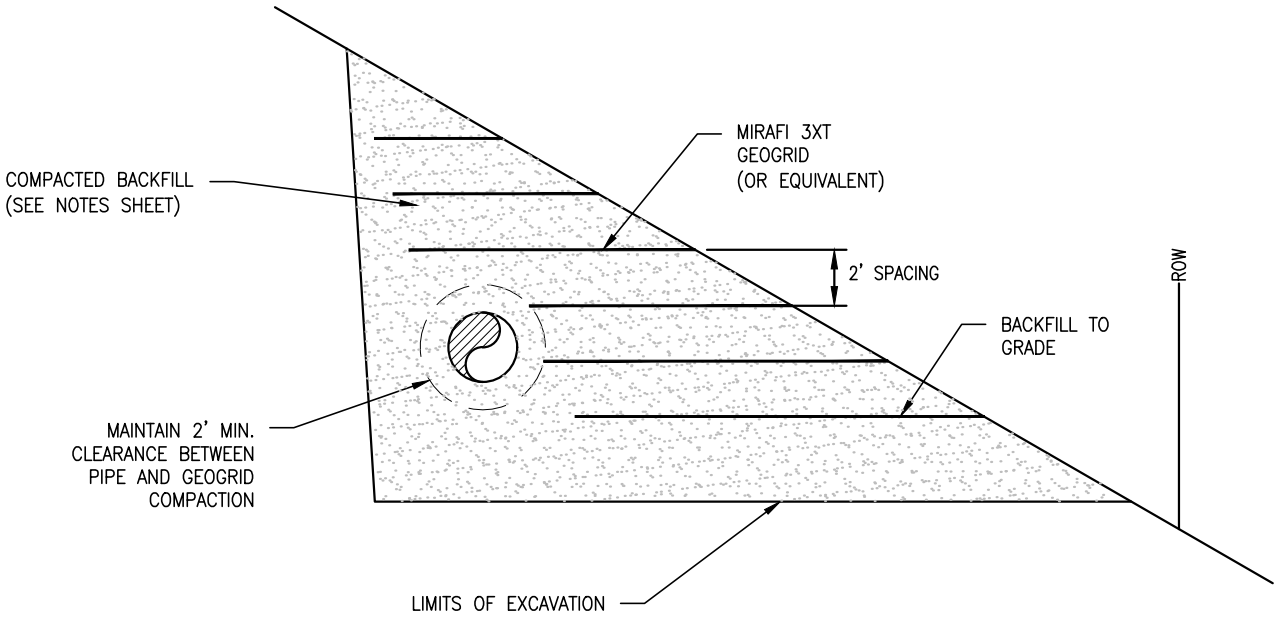
TYPICAL CONSTRUCTION DETAIL

RIP–RAP SLOPE BREAKERS

DRAWING NO.	REV.
MVP–SG–41	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:39 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-41.dwg



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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 3
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

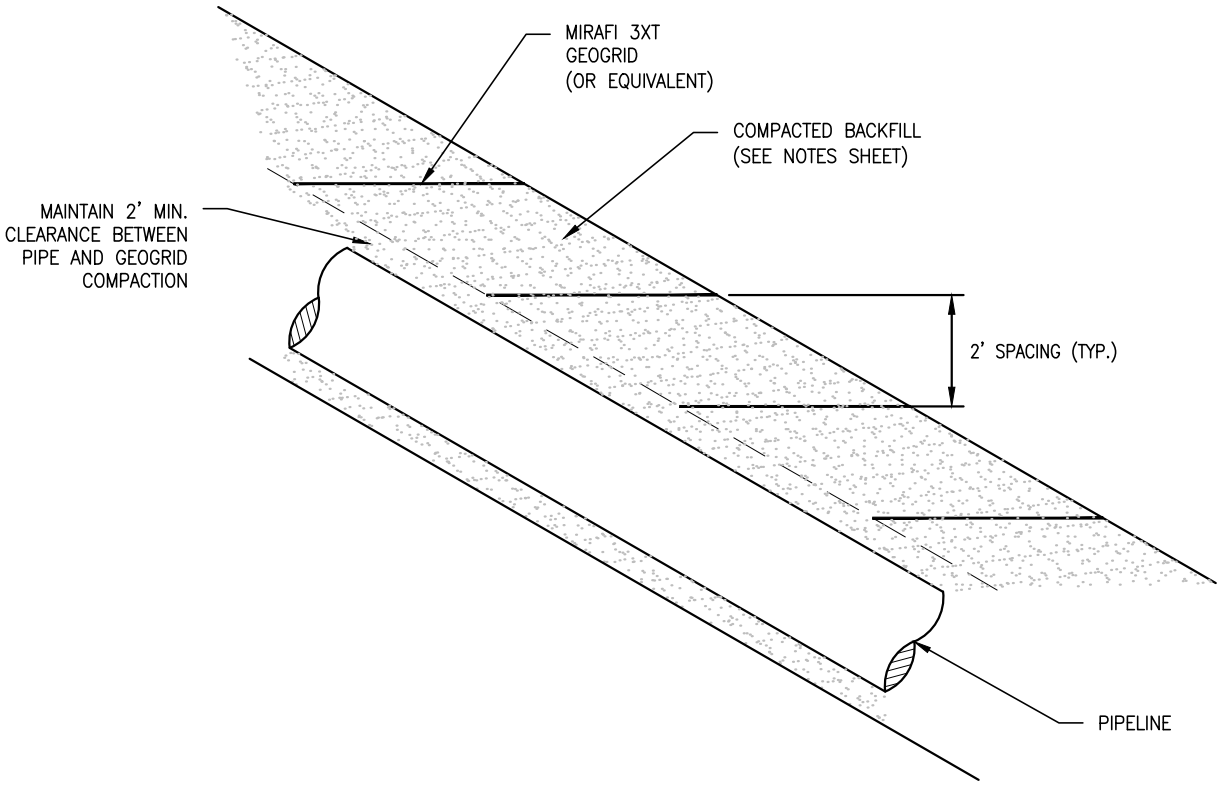
TYPICAL CONSTRUCTION DETAIL

GEOGRID-SIDEHILL

DRAWING NO.	REV.
MVP-SG-42A	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-42A.dwg



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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	2 OF 3
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

SLIDE MITIGATION DETAIL

GEOGRID-PLANAR

DRAWING NO.	REV.
MVP-SG-42B	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:58 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-42B.dwg

COMPACTION NOTES

1) ALL ROCKS LARGER THAN 6 INCHES IN SIZE, AND MORE THAN 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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	3 OF 3
JOB NO.			
PROJECT ID:			
H-650-TYP			

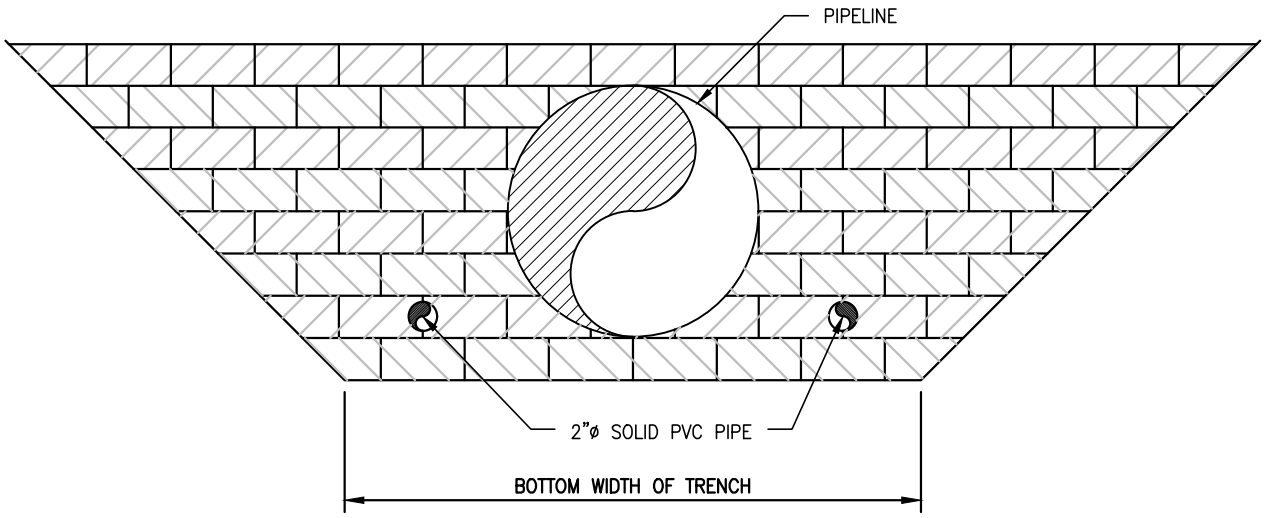
Mountain Valley PIPELINE LLC

TYPICAL CONSTRUCTION DETAIL

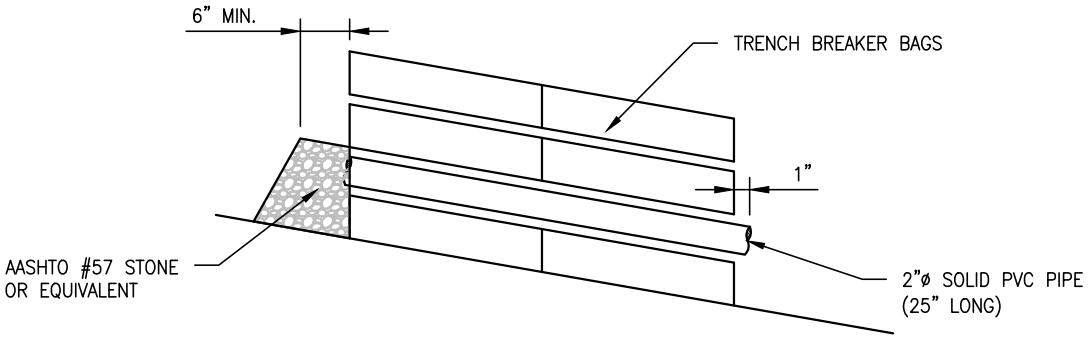
GEOGRID NOTES

DRAWING NO.	REV.
MVP-SG-42C	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM



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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

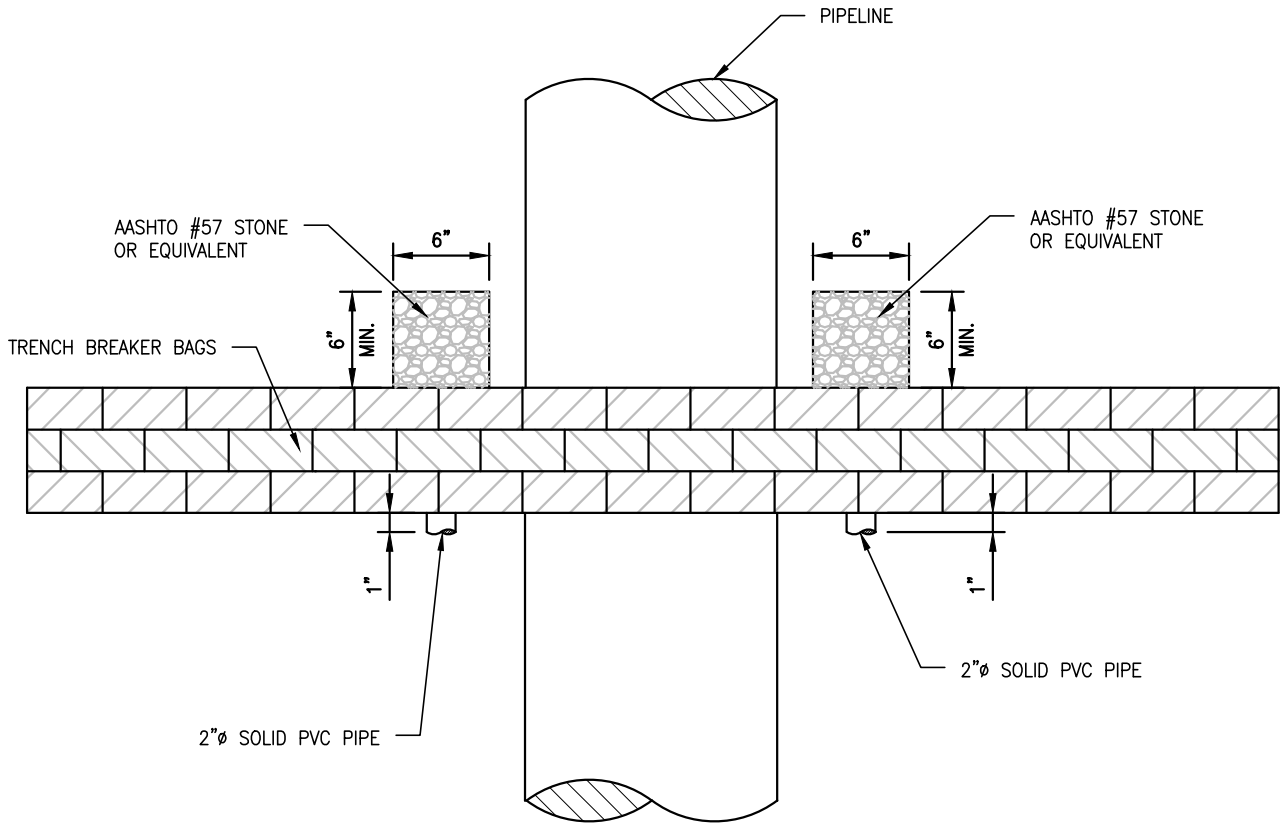
TYPICAL CONSTRUCTION DETAIL

TRENCH BREAKER
PASS-THROUGH DRAIN

DRAWING NO.	REV.
MVP-SG-43A	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-43A.dwg



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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

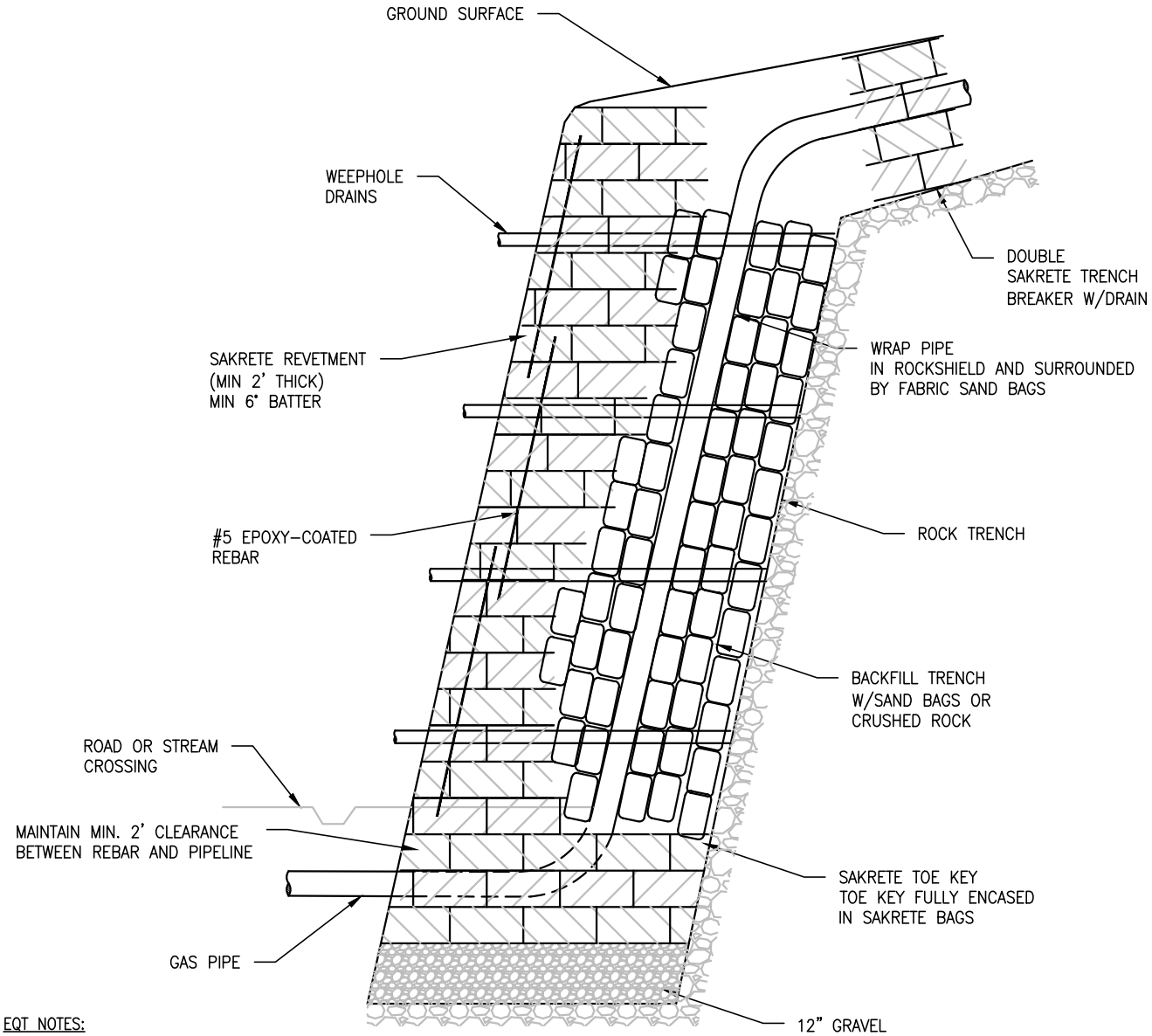
TYPICAL CONSTRUCTION DETAIL

TRENCH BREAKER
PASS-THROUGH DRAIN

DRAWING NO.	REV.
MVP-SG-43B	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-43B.dwg



SIDE VIEW
SCALE: NOT TO SCALE

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.

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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

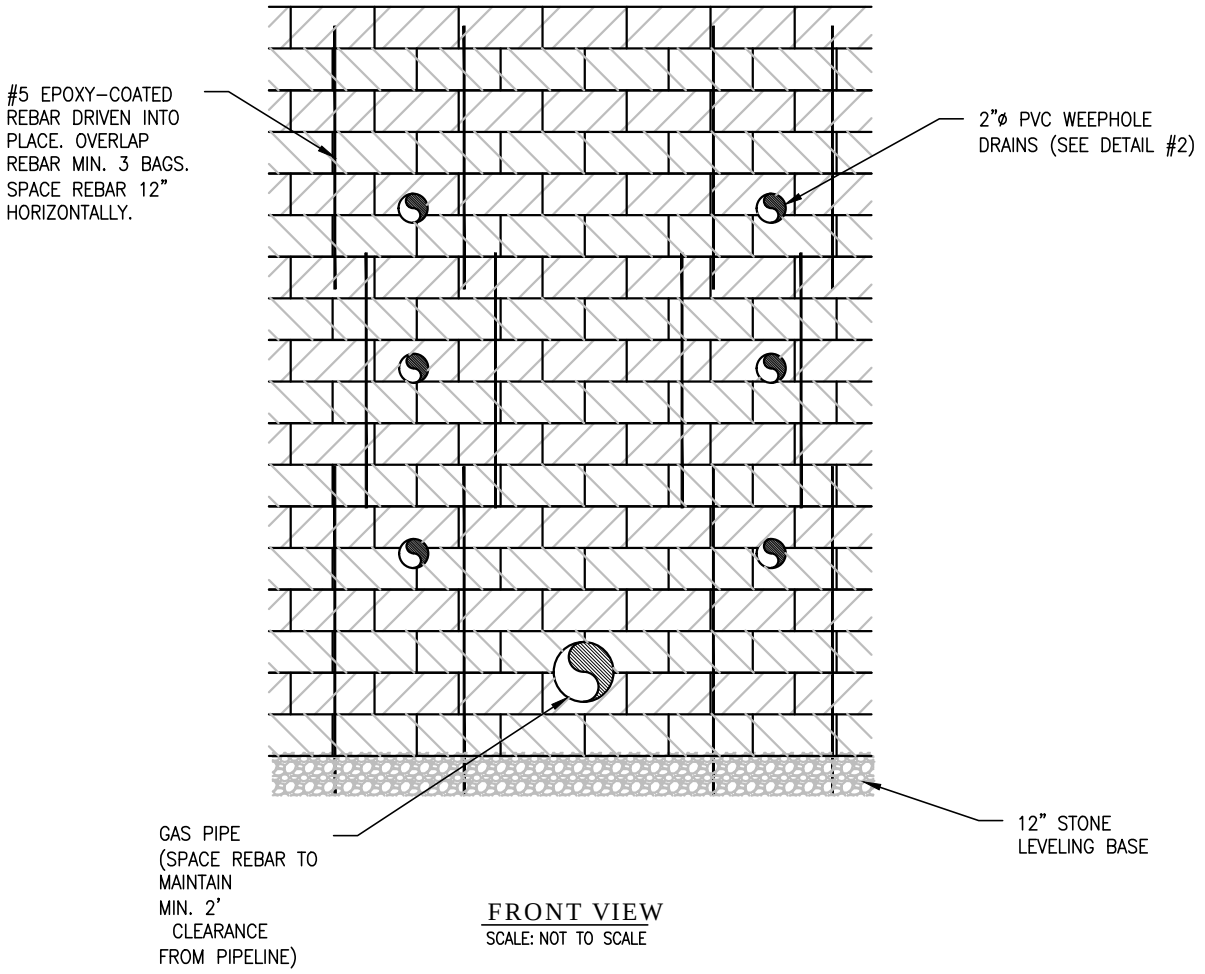
TYPICAL CONSTRUCTION DETAIL

SLIDE MITIGATION
HIGHWALL REVETMENT
SIDE VIEW

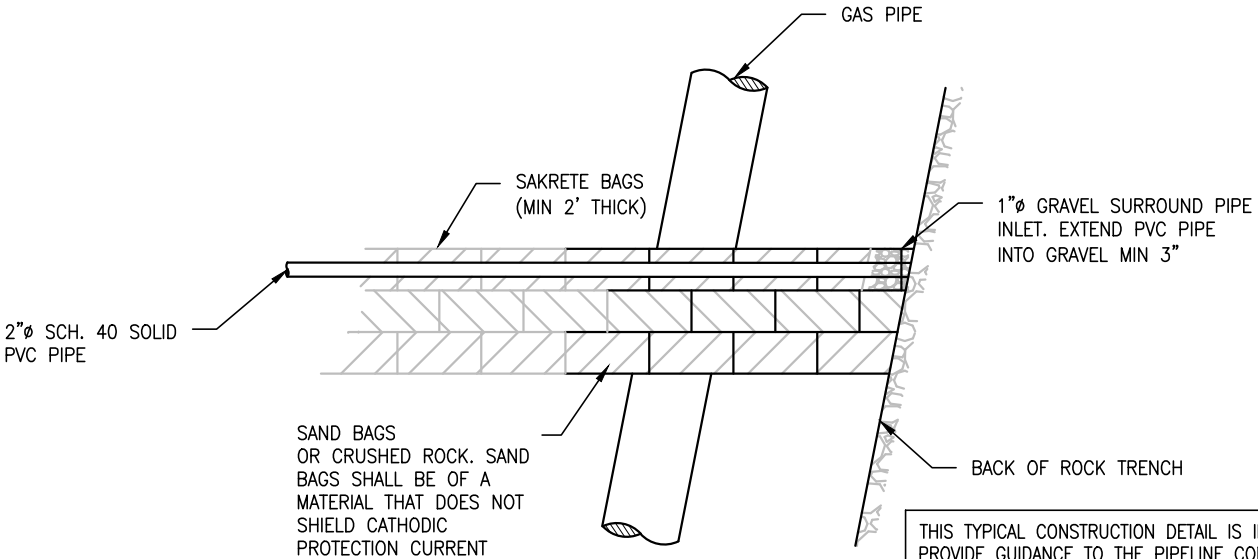
DRAWING NO.	REV.
MVP-SG-44A	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-44A.dwg



FRONT VIEW
SCALE: NOT TO SCALE



DRAIN DETAIL
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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

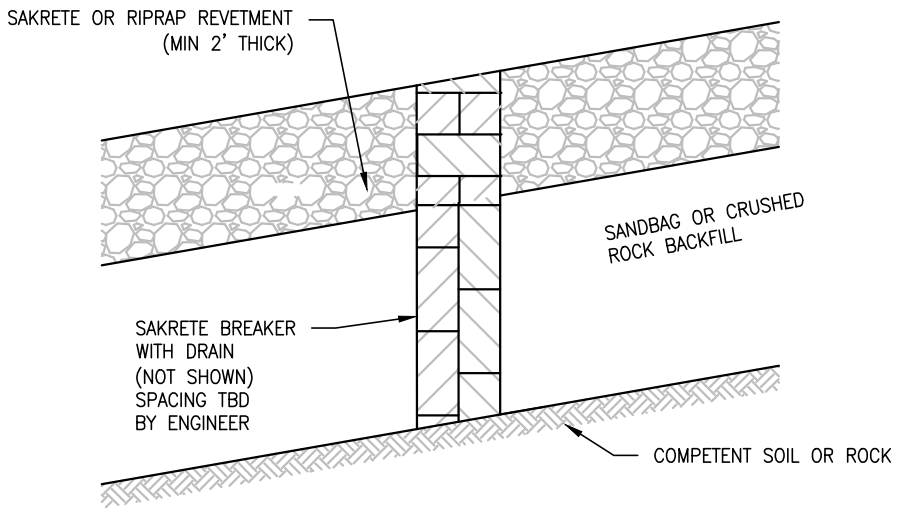
TYPICAL CONSTRUCTION DETAIL

SLIDE MITIGATION
HIGHWALL REVETMENT
FRONT VIEW AND DRAIN DETAIL

DRAWING NO.	REV.
MVP-SG-44B	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-44B.dwg



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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

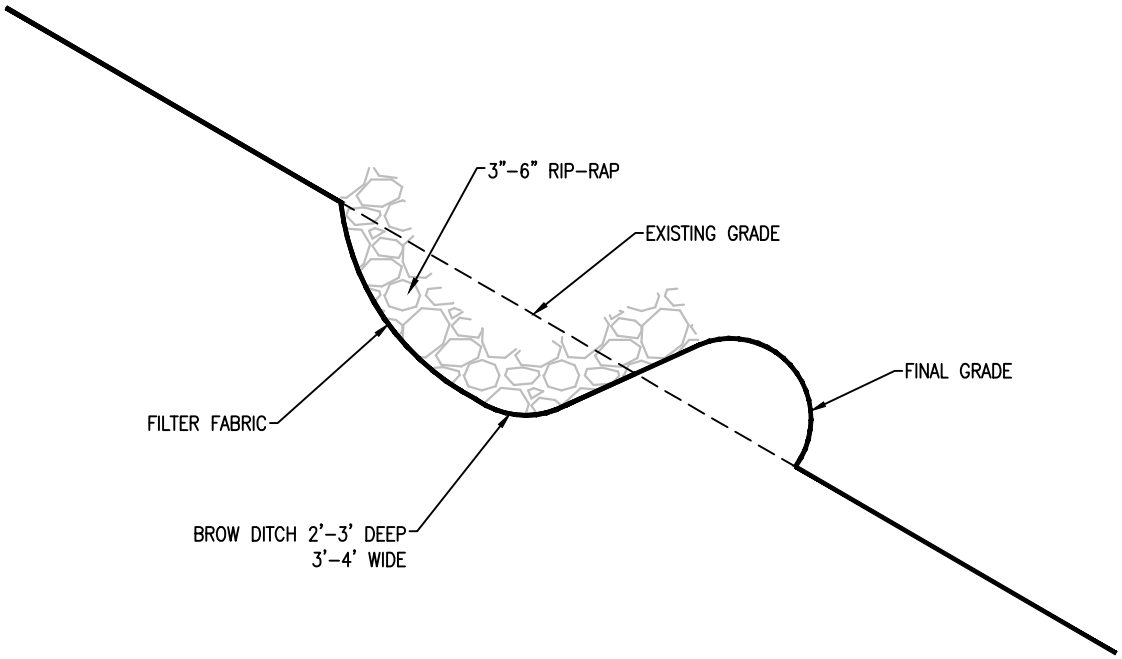
TYPICAL CONSTRUCTION DETAIL

STEEP SLOPE REVETMENT

DRAWING NO.	REV.
MVP-SG-45	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-45.dwg



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.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H–650–TYP			

Mountain Valley PIPELINE LLC

TYPICAL CONSTRUCTION DETAIL

BROW DITCH DETAIL

DRAWING NO.	REV.
MVP–SG–46	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-46.dwg

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

ATTACHMENT 2- NIGHTTIME CONSTRUCTION NOISE MANAGEMENT PLAN

MVP Southgate Amendment Project

Nighttime Construction Noise Management Plan

Revised February 2025

TABLE OF CONTENTS

~~TABLES~~

APPENDICES

~~ACRONYMS~~

~~CI Chief Inspector~~

~~dBA decibels on the A-weighted scale~~

~~FERC Federal Energy Regulatory Commission~~

~~HDD horizontal directional drill~~

~~Ldn day–night sound level~~

~~Mountain Valley Mountain Valley Pipeline, LLC~~

~~NSA noise sensitive area~~

~~Plan~~ Horizontal Directional Drilling Nighttime Construction Noise ~~Management Plan~~Evaluation ~~Project~~ ~~Southgate Project~~

1.0 INTRODUCTION

Mountain Valley Pipeline, LLC ~~((~~"Mountain Valley~~))~~") is requesting that the Federal Energy Regulatory Commission ~~((~~"FERC~~))~~") approve nighttime construction at the following locations during the construction of the MVP Southgate Amendment Project ~~((~~"Amendment Project~~):~~"):

- ~~Lambert Compressor Station / Interconnect (MP 0.0)~~
- ~~Interconnects~~
  - ~~LN 3600 Interconnect (MP 28.7)~~
  - ~~T-15 Dan River Interconnect (MP 31.1)~~
  - ~~T-21 Haw River Interconnect (MP 75.0)~~
- Horizontal Direction Drills ~~((~~"HDDs~~))~~")
  - Sandy River (milepost ["MP"] 18.1)
  - ~~Dan River HDD (MP 30.6)~~
  - ~~Stony Creek Reservoir HDD (MP 65.08~~)
- Railroad Bores
  - Railroad Crossing 1 (MP 5.~~3~~6)
  - Railroad Crossing 2 (MP 25.47)
  - ~~Railroad Crossing 3 (MP 40.3)~~
  - ~~Railroad Crossing 4 (MP 71.5)~~

The above list is subject to change as Mountain Valley finalizes its crossing method determinations. The purpose of this *Nighttime Construction Noise Management Plan* ~~((~~"Plan~~))~~") is to demonstrate noise levels will be reduced to below 48.6 decibels on the A-weighted scale ~~((~~"dBA~~))~~") at night and 55 dBA day-night sound level ~~((~~"L_{dn}~~))~~") overall at the nearest noise sensitive area ~~((~~"NSA~~),~~"), or not exceed 10 dBA over the ambient at the nearest NSA where ambient noise levels are already above ~~55dBA~~55 dBA. Additionally, this ~~plan~~Plan describes site-specific mitigation measures and resulting noise impacts on NSAs for the above-listed locations.

2.0 PERSONNEL AND RESPONSIBILITIES

The actions in this Plan are to be implemented by the following personnel:

Chief Inspector: The Project will designate a Chief Inspector ~~((~~"CI~~))~~") for the Amendment Project. The CI has overarching authority over all construction activities occurring throughout the Amendment Project.

HDD/Bore Superintendent: The HDD contractor's senior representative on-site is the HDD Superintendent. It is the HDD Superintendent's responsibility to implement this Plan on the contractor's behalf. The HDD Superintendent must be familiar with all aspects of the drilling activities, the contents of this Plan, and the conditions of approval under which the activity is permitted. The HDD Superintendent will maintain a

copy of this Plan on all drill sites and distribute, as appropriate, to construction personnel. The HDD Superintendent ensures that workers are properly trained and familiar with the mitigation measures herein.

HDD / Bore Operator: The HDD operator is employed by the HDD contractor to operate the drilling rig, driller, and fluid pumps. The HDD Operator is responsible for installing noise mitigation measures described in this plan and for monitoring nighttime noise. Should noise levels go above the FERC-regulated nighttime noise limits, the HDD Operator must communicate this information to the HDD Superintendent and HDD contractor field crews as well as the on-site Amendment Project inspection staff. The HDD Operator is responsible for stopping ~~or~~ the drilling program and implementing additional noise mitigation should noise levels go above the FERC sound level guidelines.

A copy of this Plan will be included in the bid package documents for the Amendment Project.

~~3.0 LAMBERT COMPRESSOR STATION / INTERCONNECT (MP 0.0)~~

~~Construction at the Lambert Compressor Station would include use of typical construction equipment (see Section 4.0 below) and may occur at night. The nighttime and 24-hour Ldn noise impacts at the Lambert Compressor Station were estimated to be below 55 Ldn as presented in the FERC Certificate Application for the Project. However, considering the length of construction at the Lambert Compressor Station, nighttime noise may be disruptive to nearby residents due to the equipment usage and vehicle back-up alarms. To minimize potential disruption to nearby residents, Mountain Valley proposes to use the following general mitigation measures at the Lambert Compressor Station construction area:~~

- ~~For excavation/embankment activities, the haul routes and dump locations will be planned to limit the backing required from the off-road trucks. This limits the number of times the white noise back-up alarms are activated.~~
- ~~Use of broadband backup alarms on all equipment operating at night.~~
- ~~Excavator operators will communicate through the use of radios or ground man.~~
- ~~Clearing and grading operations near the Interconnect sites perimeter area will be limited to daytime hours. Other operations with smaller equipment, such as the equipment used to install perimeter control devices (e.g., silt fencing, earth dikes and ditches, and drainage piping) will continue.~~
- ~~Lights will be placed in the direction of the work zones, to minimize impacts on areas outside of the Interconnect sites.~~
- ~~No idling of equipment will occur; when not in use, equipment will be turned off.~~
- ~~Training will be provided to nighttime work crews, focusing on not over-revving engines, avoiding unnecessary idling, and proper inspection and maintenance of moving parts and mufflers.~~

~~4.0 INTERCONNECTS~~

~~A Nighttime Construction Noise Evaluation Technical Memorandum for the Project Interconnects is included in Appendix A of this Plan. Construction activities during the nighttime at the LN-3600 Interconnect, T-15 Dan River Interconnect, and T-21 Haw River Interconnect will be the same as daytime~~

~~activities except that it will not involve significant noise-producing construction activities (e.g., demolition, pile driving, tree clearing and grubbing). Additionally, nighttime construction activities are anticipated to use less equipment in total. Nighttime noise at the Interconnects will be generated by the following:~~

- ~~two komatsu 228 excavators or equivalent;~~
- ~~two Caterpillar D6T bulldozers or equivalent;~~
- ~~two 26-ton articulated dump trucks;~~
- ~~three light plants; and,~~
- ~~one 25-ton smooth drum roller.~~

~~As the Nighttime Construction Noise Evaluation concludes (see Appendix A), updated modeling with reduced equipment and limiting general construction activities predicts that noise from nighttime construction activities at these locations will be lower than the FERC sound level guidelines. Despite this, Mountain Valley proposes to use the following general mitigation measures at the LN3600, T-15, and T-21 construction areas:~~

- ~~For excavation/embankment activities, the haul routes and dump locations will be planned to limit the backing required from the off-road trucks. This limits the number of times the white noise back-up alarms are activated.~~
- ~~Use of broadband backup alarms on all equipment operating at night.~~
- ~~Excavator operators will communicate through the use of radios or ground man.~~
- ~~Clearing and grading operations near the Interconnect sites perimeter area will be limited to daytime hours. Other operations with smaller equipment, such as the equipment used to install perimeter control devices (e.g., silt fencing, earth dikes and ditches, and drainage piping) will continue.~~
- ~~Lights will be placed in the direction of the work zones, to minimize impacts on areas outside of the Interconnect sites.~~
- ~~No idling of equipment will occur; when not in use, equipment will be turned off.~~
- ~~Training will be provided to nighttime work crews, focusing on not over-revving engines, avoiding unnecessary idling, and proper inspection and maintenance of moving parts and mufflers.~~

~~5.0~~3.0 HORIZONTAL DIRECTIONAL DRILLING AND RAILROAD CROSSING SITES

The HDD method will be used to cross the ~~Dan~~Sandy River in Virginia and the ~~Stony Creek Reservoir~~ Dan River in North Carolina. In addition, there will be ~~four~~two railroad crossings that will be performed using

the conventional boring methods and will likely require nighttime construction work. A noise evaluation has been performed for each HDD site and railroad crossing. An ambient noise survey at the potential HDD and railroad crossing sites was conducted to quantify the current ambient sound levels around each site and to document/identify existing NSAs. All NSAs are residences. A noise evaluation has been performed for each HDD site and railroad crossing as part of the ~~FERC Certificate~~Amendment Application ~~for the Project~~.

For those HDD or railroad crossing sites where the predicted HDD or boring activity sound levels at the NSAs are predicted to be greater than 55 dBA L_{dn}, noise mitigation for the equipment or compensation/relocation will likely be necessary to achieve the noise goals. For noise mitigation on HDD or conventional bore equipment, engine exhaust and barrier treatments are typically used to reduce the sound level contribution to less than 55 dBA L_{dn}. Typically, all engines on power units, gensets, etc., would be fitted with residential-grade exhaust mufflers, and temporary barriers may be installed between the HDD/ conventional bore site and the nearest NSAs. Secondary noise control treatments may be required, depending on the actual equipment and site layout used.

As an alternative to these primary and/or secondary noise control treatments, ~~the Project~~Mountain Valley may consider offering the residents compensation or temporary relocation as a means of reducing the temporary construction noise impact. If all impacted residents choose to accept temporary relocation compensation, then temporary barriers or other treatments will not be necessary.

Railroad Crossings 1 and 2 are located in Pittsylvania County and, therefore, are subject to the county noise ordinance. Construction noise is exempt from the Pittsylvania County noise ordinance if it occurs between 7:00 a.m. and 10:00 p.m. However, if nighttime construction is necessary, the sound due to construction is expected to be less than 52 dBA at the nearest resident's property line for both locations.

The acoustical assessment indicates that the noise of HDD operations at the entry site for the planned HDD crossing at the ~~Stony Creek Reservoir could exceed 55 dBA L_{dn} at the closest NSAs. Noise from the direct bore work at Railroad Crossings 3 and 4 will likely also~~Sandy River and Dan River could exceed 55 dBA Ldn at the closest NSAs.

HDD activities can occur over the course of several weeks, so compensation or relocation ~~are~~is typically not practical for HDD work areas. ~~Railroad crossings typically take several days, so compensation or relocation of affected residents of the most impacted NSAs is a practical noise mitigation option.~~

Noise mitigation for the ~~Stony Creek Reservoir~~Sandy River and Dan River HDD ~~site~~sites will likely take the form of a noise barrier erected between the HDD site and the closest NSAs. Calculations indicate that an approximately ~~12~~9–21 decibel reduction in the HDD site sound level contributions ~~are~~is possible through the implementation of a series of ~~12–14~~20- to 24-foot-tall noise barriers located approximately 20 feet from the primary noise-generating equipment at the HDD site. Similar reductions would be expected for the conventional boring equipment at the railroad crossings. Table ~~4–~~1 shows the predicted sound levels with a noise barrier in place for the ~~Stony Creek Reservoir~~Sandy River and Dan River HDD ~~site and at Railroad Crossings 3 and 4~~sites.

Table ~~4–~~1

Predicted Temporary Sound Levels Due to ~~HDD / Railroad Crossings~~HDDs and Noise Mitigation

HDD Crossing (Entry or Exit Site)	Distance and Direction of the Closest NSA to Site Center	Existing Ambient (L_{dn} dBA)	Calculated L_{dn} of the Operations (L_{dn} dBA)	Existing Ambient L_{dn} Plus L_{dn} of Operations (L_{dn} dBA)	Temporary Change in the Ambient Sound Level (L_{dn} dBA)
~~Stony Creek Reservoir HDD~~Sandy River	~~300~~650 feet ~~Northwest~~NNW	~~42.8~~47.3	~~48.7~~54.4	~~49.7~~55.2	~~6~~7.9
~~Railroad Crossing~~ 3Dan River	~~250~~740 feet ~~Northwest~~SSW	~~45~~49.5	~~57.5~~54.6	~~57~~55.8	~~12~~6.3
~~Railroad Crossing 4~~	~~700 feet North~~	~~48.9~~	~~44.7~~	~~50.3~~	~~1.4~~

~~Even with noise barriers in place, it is likely that the sound levels due to the conventional bore at Railroad Crossing 3 will exceed 55 dBA L_{dn} due to the close proximity of the NSA to the work area. Due to the short-term nature of the railroad crossing work, temporary compensation or relocation of the effected residents is likely the most efficient method.~~

Appendix A

~~Technical Memorandum – MVP Southgate Project, Pipeline Interconnects,~~ Horizontal Directional Drilling Nighttime Construction Noise Evaluation

SLR International Corporation
100 S Commons, Suite 102, Pittsburgh, PA 15212

November 19, 2024

Attention: James Sabol
Mountain Valley
2200 Energy Drive
Canonsburg, PA 15317

SLR Project No.: 135.000031.00001

RE: Nighttime HDD Noise Assessment – HDD Crossings – Rev. A
MVP Southgate Amendment Project

1.0 Introduction

Mountain Valley Pipeline, LLC (Mountain Valley) has requested that SLR International Corporation (SLR) modify the noise model for the proposed Horizontal Directional Drilling (HDD) sites along the MVP Southgate Amendment Project (Project). Mountain Valley is proposing to perform nighttime construction activities at the crossing work areas. SLR has updated the noise model with the additional nighttime activities and this report presents the results and impact assessment. Baseline sound level measurements were conducted on August 14 to August 15, 2024, and nighttime boring sound level impacts were predicted for the nearest noise sensitive areas (NSAs). Noise mitigation has been developed to reduce the sound levels due to nighttime HDD activities to 48.6 L_{eq} or less at the closest NSAs.

2.0 Environmental Sound Level Criteria

The Federal Energy Regulatory Commission (FERC) limits for noise from nighttime construction work are typically based on a goal of 55 dBA L_{dn}. The L_{dn} is essentially the logarithmic average of the sound levels during a 24-hour period, with a 10 dBA penalty added to the sound levels occurring during the more noise sensitive nighttime period from 10:00 p.m. to 7:00 a.m. Because of the nighttime penalty, a constant sound level at 48.6 dBA for 24-hours will result in an L_{dn} of 55 dBA.

As per the latest FERC guidance (FERC 2017) for the preparation of Resource Report 9, "Construction activity that would or may occur during nighttime hours should be performed with the goal that the activity contributes noise levels below 55 dBA L_{dn} and 48.6 L_{eq}, or no more than 10 dBA over background if ambient noise levels are above 55 dBA L_{dn}." If construction activities are limited to the daytime hours, with no significant noise production at night, then there is no specific sound level target for those activities.

These FERC noise limits apply at the nearest Noise Sensitive Areas (NSAs), which are typically residences, churches, schools, or hospitals. The FERC noise limits are not property-line limits – they apply at the NSA structure itself. As per the latest FERC guidance (FERC 2017) for the preparation of Resource Report 9, NSAs should be defined within 0.5 miles of the proposed HDD entry and exit sites.

Pittsylvania County, Virginia has a noise ordinance that applies at the property boundary of the noise source or at any point within any other affected property, rather than at the NSA structure,

so they cannot be directly compared to the FERC sound level requirements. The Pittsylvania County ordinance has an exemption for construction provided it takes place between 7:00 a.m. and 10:00 p.m. Pittsylvania County limits sound levels to 52 L_{eq} dBA at residential property boundaries during nighttime hours (10:00 p.m. to 7:00 a.m.). The Sandy River HDD site is located within Pittsylvania County and is subject to the nighttime limit of 52 L_{eq} dBA at the nearest property boundaries.

There are no other known state, county, or local regulations that would apply to these HDD sites.

3.0 Sound Level Survey

NSA(s) were identified by SLR using aerial imagery and field observations. Four NSAs were identified for the Sandy River HDD site and three NSAs for the Dan River HDD site. The NSAs consist of the closest residences. The NSAs are summarized in Table 3-1.

Table 3-1: Summary of Noise Sensitive Areas

HDD	Noise Sensitive Area	Description	Approximate Distance from Crossing, Feet	Direction to NSA from Crossing	NSA Coordinates	
					Lat	Long
Sandy River HDD	NSA 1	Residence	1,320	WSW	36.637136°	-79.543980°
	NSA 2	Residence	1,100	W	36.639264°	-79.540350°
	NSA 3	Residence	650	NNW	36.640120°	-79.538130°
	NSA 4	Residence	1,850	SW	36.635487°	-79.531551°
Dan River HDD	NSA 1	Residence	740	SSW	36.492462°	-79.679168°
	NSA 2	Residence	2,290	W	36.499735°	-79.682037°
	NSA 3	Residence	1,200	NNW	36.501900°	-79.676652°

3.1 Measurement Equipment

Sound level equipment used during the sound study included the following instruments:

- Larson Davis 831 SLM; Type 1; s/n 3220, 2443, 2572, 1708
- Larson Davis 831C SLM; Type 1; s/n 10403
- Larson Davis® CAL200 Calibrator; s/n 15533, 6266

A windscreen was used on the measurement microphones. The sound level meters were field-calibrated before and after the survey. All instruments have current laboratory certification that can be provided upon request. Measurements were conducted five feet above the ground.

3.2 Weather Conditions

Weather conditions were appropriate for a sound level study. A summary of the weather conditions is shown in Table 3-2.

Table 3-2: Summary of Weather Conditions

Date	August 14 – August 15, 2024
Temperature Range	61°F – 101.3°F
Relative Humidity Range	32% – 100 %
Wind Speed (Average)	0 mph – 6.2 mph
Wind From	NE
Sky Condition	Clear
Ground Condition	Dry

Complete weather data from the measurement survey were obtained from a Kestrel® weather station deployed while on site and are shown in Figure 3 and Figure 4.

3.3 Measurement Methodology

Sound levels were measured using the slow meter response and A-weighting. Data were collected in 1/3-octave bands and recorded using 10-second sampling period and 15-minute statistical intervals.

3.4 Environmental Sound Level Measurements

The sound study was performed on August 14 and 15, 2024 by Geoffrey Kulp and Rhianna Spong of SLR. Sound level measurements were conducted at three locations near Sandy River and two locations near Dan River selected to quantify ambient sound levels near the closest NSAs. Measurements were collected for one overnight period.

Figure 1 and Figure 2 show the measurement locations. Sound sources observed at the measurement locations are summarized in Table 3-3.

Table 3-3: Summary of Measurement Locations

HDD	NSA	Measurement Location (ML)	Measurement Start Time	Measurement Duration HH:MM:SS	Source Observations During Measurements
Sandy River HDD	NSA 1	ML 2	6:30 PM	15:20:59	Audible sounds included wildlife, insects, dog barks, local residence noise, and local traffic.
	NSA 2	ML 1	6:15 PM	15:26:08	Audible sounds included wildlife, insects, and local traffic.
	NSA 3				
	NSA 4	ML 3	6:00 PM	15:28:55	Audible sounds included insects, residence, foliage, bird caws, cows, wildlife
Dan River HDD	NSA 1	ML 2	9:30 AM	25:50:36	Audible sounds included wildlife, insects, foliage, small aircraft, nearby construction, and local traffic.
	NSA 2				
	NSA 3	ML 1	9:45 AM	25:10:03	Audible sounds included wildlife, leaves, insects, lawn equipment, and local traffic.

3.5 Measurement Results

The sound level measurement results are summarized in Table 3-4. The measured day, night, and day-night sound levels are shown. Due to significant insect activity during the survey, measurement results were filtered to remove noise from these environmental sources. This was completed by correcting all sound energy at and above the 1,600 Hz one-third (1/3) octave band in accordance with ANSI/ASA S3/SC1.100-2014[1]. Data are presented with and without the filtering applied.

[1] "Methods to Define and Measure the Residual Sound in Protected Natural and Quiet Residential Areas", ANSI/ASA S3/SC1.100-2014.

Table 3-4: Summary of Sound Level Measurements

HDD	NSA	Meas. Location (ML)	Dist. from HDD to NSA	Direction from HDD to NSA	Measured Sound Level, Unfiltered			Measured Sound Level, Filtered to Remove Noise from Birds and Insects			Noise Limit Based on Ambient Measurements
					dBA			dBA [a]			dBA
			Feet		L_d	L_n	L_{dn}	L_d	L_n	L_{dn}	L_n
Sandy River HDD	NSA 1	ML 2	1,320	WSW	44.4	42.8	49.5	42.9	41.8	48.4	48.6
	NSA 2	ML 1	1,100	W	44.6	42.1	49.0	42.5	40.6	47.3	
	NSA 3		650	NNW	44.6	42.1	49.0	42.5	40.6	47.3	
	NSA 4	ML 3	1,850	SW	42.9	42.3	48.8	40.2	39.1	45.7	
Dan River HDD	NSA 1	ML2	1,850	SW	45.4	43.8	50.5	43.8	42.9	49.5	
	NSA 2		740	SSW	45.4	43.8	50.5	43.8	42.9	49.5	
	NSA 3	ML 1	2,290	W	43.0	41.7	48.3	40.4	39.2	45.8	

a. Post-processed to remove noise from birds, insects, and passing vehicles in accordance with ANSI ANSI/ASA S3/SC1.100-2014.

The results in Table 3-4 show that the unfiltered ambient nighttime sound levels range from 42.1 to 42.8 dBA L_n at the Sandy River NSAs and from 41.7 to 43.8 dBA L_n near the Dan River NSAs. The main noise source at these locations are environmental noise sources such as wildlife, leaves, and insects. The overall measured sound levels are inclusive of all environmental noise sources and include noise from birds and insects. The filtered nighttime sound levels near the Sandy River NSAs ranged from 39.1 to 41.8 dBA L_n and 39.2 to 42.9 dBA L_n near the Dan River NSAs.

4.0 Site Description

The Sandy River and Dan River HDD milepost along the pipeline and coordinates are given in Table 4-1. Assumptions for Boring activity durations for each site are listed in Table 4-2.

Table 4-1: Site Location, Milepost, and Coordinates

Location Name	Milepost	Coordinates
Sandy River HDD	18.1	36.635683, -79.538034
Dan River HDD	30.8	36.497657, -79.675395

Table 4-2: Duration of Bore Pit Excavation and Boring Operations

Location Name	Boring Operation Duration (hrs/day, # of days)
Sandy River HDD	12 hrs/day, Site Prep, 6 days 24 hrs/day Pilot Hole, Ream (24” followed by 36”), and Pullback, 26 days
Dan River HDD	12 hrs/day, Site Prep, 6 days 24 hrs/day Pilot Hole, Ream (24” followed by 36”), and Pullback, 31 days

5.0 Sound Level Prediction

5.1 HDD Equipment

An HDD noise model was developed for the Amendment Project using US Federal Highway Administration (FHWA 2008) Roadway Construction Noise Model (RCNM) noise data for the expected construction equipment that will be used during the HDD. The RCNM manual was used in combination with an equipment schedule provided by Mountain Valley (Table 5-1) to obtain sound power levels during construction for both the Sandy River and Dan River HDD sites. The noise model was used to predict the HDD sound level contribution at the NSAs.

Construction equipment does not operate continuously, and typically is operating at maximum sound levels for only a small percentage of the overall period. The percentage of the work period during which the equipment operates at the listed sound level is termed the usage factor. The usage factor for each piece of equipment was obtained from the RCNM. Typical sound power levels (L_w) for peak HDD operations based on RCNM are shown in Table 5-2, below.

Table 5-1: HDD Operation Equipment List

Equipment	Quantity
Entry Work Area	
HDD Pilot/Reaming/Pullback Rig	1
P-750 Mud Pump	1
MCD-1000 Cleaning System	1
6" Dri Prime Pump	4
Cat 336 Excavator	2
Cat CTL- 299D3	1
Miller 500-amp Welder	2
3" Trash Pump	4
2" Trash Pump	1
Light Plants*	6
Generator- CAT - 100KW XQ125 T4F	1
Hydrovac Truck Peterbilt 548 or equiv.	5
Exit Work Area	
CAT 349 Excavator	1
CAT 583- Pipelayer	5
Grove RT890E Rough Terrain Crane, or equiv.	2
Light Plants*	2
*Used during nighttime only	

Crew Trucks were considered transient noise and were not included in calculations.

Table 5-2: Equipment Sound Power Levels (L_w) of HDD Equipment

Noise Source	Sound Power Level at Octave Band Center Frequency, dB									Total
	31.5	63	125	250	500	1000	2000	4000	8000	dBA
HDD Entry Site	122	127	127	132	127	122	117	112	107	129
HDD Exit Site	108	113	113	118	113	108	103	98	93	115
Dan River HDD Entry Site Night L_w (with mitigation)	119	122	120	124	119	114	109	104	99	121
Sandy River HDD Entry Site Night L_w (with mitigation)	119	121	118	122	117	112	107	102	97	119

5.2 Prediction Methodology

A three-dimensional computer noise model was constructed to analyze the noise contributions expected from the proposed construction equipment. The model was developed using CadnaA, 2024, MR 1 version 205.5427, a commercial noise modeling package developed by DataKustik GmbH. The software takes into account spreading losses, ground and atmospheric effects, shielding from barriers and buildings, reflections from surfaces and other sound propagation properties. The software is based on published engineering standards.

The ISO 9613-2 standard was used to calculate all propagation effects, including air and ground absorption, and spreading losses. Weather conditions used in the calculation were ISO 9613-2 default conditions. The default ISO conditions are representative of a moderate downwind condition under typical inversion conditions and are considered conservative as they will tend to overpredict sound levels in most cases.

Ground absorption for the entire Amendment Project area was conservatively set as 0.5, representing a mix of reflective and absorptive ground. This is a conservative assumption, as the majority of the Amendment Project area is undeveloped forests or fields, which are ground types that would typically be assigned a higher ground absorption coefficient of 1.0 (Kephalopoulos 2012).

To be conservative, foliage was not included in the model. The terrain was modeled based on USGS topographical data at a resolution of 10 by 10 meters. A temperature of 20 degrees Celsius and 70 percent relative humidity were used for the atmospheric absorption calculations. The ground was modeled as mixed, with a 0.5 absorption coefficient.

All construction equipment was arranged as an area source over the work area, six and a half feet above grade, as shown in Figure 3. This is appropriate because the site contains stationery and mobile equipment. The mobile equipment may move around the work area, as needed.

6.0 Sound Level Assessment

6.1 Base Model Results

Table 6-1 below shows results for the noise model calculations as the A-weighted equivalent unmitigated sound level, dBA $L_{eq,}$ for the construction activity period. If HDD activities take place during nighttime hours, then FERC guidance gives a sound level limit of 48.6 dBA L_{eq} for those nighttime activities.

Table 6-1: Predicted Temporary Sound Levels Due to Construction, 24-Hour Construction Activities – Base Unmitigated

HDD	NSA	Existing Ambient Sound Levels, dBA [a]			Predicted Sound Level 24-Hour Construction, dBA		Construction Plus Ambient, dBA		Temporary Increase in Sound Level, dBA	
		Day	Night	L_{dn}	Night	L_{dn} [b]	Night	L_{dn}	Night	L_{dn}
Sandy River	1	42.9	41.8	48.4	58.2	64.6	58.3	64.7	16.5	16.3
	2	42.5	40.6	47.3	60.3	66.7	60.3	66.7	19.7	19.4
	3	42.5	40.6	47.3	68.7	75.1	68.7	75.1	28.1	27.8
	4	40.2	39.1	45.7	60.5	66.9	60.5	66.9	21.4	21.2
Dan River	1	43.8	42.9	49.5	69.7	76.1	69.7	76.1	26.8	26.6
	2	43.8	42.9	49.5	57.3	63.7	57.5	63.9	14.6	14.4
	3	40.4	39.2	45.8	56.4	62.8	56.5	62.9	17.3	17.1

a. Post-processed to remove noise from birds, insects, and passing vehicles in accordance with ANSI ANSI/ASA S3/SC1.100-2014.
b. L_{dn} was obtained by adding 6.4 dB to the predicted sound levels due to nighttime construction.

Without mitigation, sound level modeling shows the sound levels during nighttime construction activities at several NSAs surrounding both Sandy River and Dan River HDD sites will exceed 48.6 dBA L_{eq}. Noise mitigation will be required to limit the nighttime construction sound level to less than 48.6 dBA L_{eq}.

6.2 Mitigated Model Results

Noise mitigation for the equipment will likely be necessary to achieve the noise goals. For noise mitigation on HDD or conventional bore equipment, engine exhaust and barrier treatments are typically used to reduce the sound level contribution to less than 48.6 dBA L_{eq}. Typically, all engines on power units, gensets, etc. would be fitted with residential-grade exhaust mufflers, and temporary barriers may be installed between the HDD bore site and the nearest NSAs. Secondary noise control treatments as specified in Section 7 may be required, depending on the actual equipment and site layout used.

Table 6-2 below shows results for the noise model calculations as the A-weighted equivalent mitigated sound level for the construction activity period.

Table 6-2: Predicted Sound Levels During Boring Operations 24-Hour Construction Activities - Mitigated

HDD	NSA	Existing Ambient Sound Levels, dBA [a]			Predicted Sound Level 24-Hour Construction, dBA		Construction Plus Ambient, dBA		Temporary Increase in Sound Level, dBA	
		Day	Night	L_{dn}	Night	L_{dn} [b]	Night	L_{dn}	Night	L_{dn}
Sandy River	1	42.9	41.8	48.4	46.1	52.5	47.5	53.9	5.7	5.5
	2	42.5	40.6	47.3	46.4	52.8	47.4	53.9	6.8	6.6
	3	42.5	40.6	47.3	48.0	54.4	48.7	55.2	8.1	7.9
	4	40.2	39.1	45.7	48.0	54.4	48.5	54.9	9.4	9.2
Dan River	1	43.8	42.9	49.5	48.1	54.5	49.2	55.7	6.3	6.2
	2	43.8	42.9	49.5	48.2	54.6	49.3	55.8	6.4	6.3
	3	40.4	39.2	45.8	48.4	54.8	48.9	55.3	9.7	9.5

a. Post-processed to remove noise from birds, insects, and passing vehicles in accordance with ANSI ANSI/ASA S3/SC1.100-2014.
b. L_{dn} was obtained by adding 6.4 dB to the predicted sound levels due to nighttime construction.

Property line sound levels were assessed at the Sandy River HDD location to compare to the Pittsylvania County, Virginia noise limit of 52 dBA L_{eq}. Mitigated model results indicate compliance with this limit, as sound levels range from 49.8 to 51.8 dBA L_{eq} during nighttime HDD activities.

7.0 Noise Control Treatments

The following noise control treatments have been evaluated in the noise model. With these noise control treatments, the noise models predict HDD sound levels lower than 48.6 dBA at all NSAs during nighttime HDD activities.

This is one potential set of noise control treatments. There are various combinations of noise control treatments that can effectively reduce the HDD activity sound levels. After an HDD contractor is selected the noise control treatments should be reevaluated and a site-specific noise control plan developed for each site.

7.1 Site Specific Noise Control Treatments

7.1.1 Sandy River Noise Control Treatments

- Entry Work Area:
  - Reduce vacuum truck activity at night from five to one
  - Install small enclosures constructed of mass-loaded vinyl or plywood over the drill rig engine(s), mud and trash pumps, generator, and the mud processing system during nighttime operations
  - A temporary barrier wall on the north (approximately 40 feet tall, 560 feet long) and south sides (approximately 30 feet tall, 340 feet long) of the entry work area
- Exit Work Area:
  - A temporary barrier wall on the north side of the exit pit (approximately 20 feet tall, 440 feet long)

Figure 11 and Figure 12 show examples of possible enclosure layouts and Figure 7 shows a close-up view of the HDD entry and exit barriers.

7.1.2 Dan River Noise Control Treatments

- Entry Work Area:
  - Reduce vacuum truck activity at night from five to one
  - Install small enclosures constructed of mass-loaded vinyl or plywood over the generator, drill rig engine(s), mud and trash pumps, and the mud processing system during nighttime operations
  - A temporary barrier wall on the north (approximately 16 feet tall, 210 feet long), west (20 feet tall, 215 feet long), and south sides (approximately 40 feet tall, 655 feet long) of the entry work area.
- Exit Work Area:
  - A temporary barrier wall on the north side of the exit pit (approximately 24 feet tall, 250 feet long)

Figure 11 and Figure 12 show examples of possible enclosure layouts Figure 10 shows a close up view of the HDD entry and exit barriers.

7.2 Barriers and Enclosures in General

For barriers and enclosures there are many suitable material choices. Typically, for short duration projects such as boring work, the best choices are either plywood or acoustical blankets.

For plywood enclosures or barriers, the plywood should be ¾″ thick at a minimum and the side facing the noise source should be faced with a layer of acoustically absorptive material. A widely available option would be 2 inches of medium-weight fiberglass board insulation such as Owens Corning 703 or Knauf Insulation Board (3 lb/cu.ft. density). Lightweight fiberglass batt insulation can also be used for short term uses. Batt insulation can be purchased with a thin plastic or paper facing that will offer some weather protection and will make installation easier.

Acoustical blankets should have a surface weight of greater than 1.5 pounds per square foot. The side facing the noise sources should be acoustically absorptive. Typically, this is accomplished with a quilted absorber material. Blankets should be installed with as few cracks and gaps as possible. Blankets can be applied directly to equipment skid supports, if desired, as long as there are no significant cracks or gaps between the blankets, and that there is no gap between the bottom of the blankets and the ground.

8.0 Conclusion

SLR has updated the noise models for the Sandy River HDD and Dan River HDD sites, a part of the Amendment Project, using an updated HDD equipment list provided by Mountain Valley. With the noise mitigation recommended in this report, the noise model predicts that sound levels will remain below the FERC criterion of 48.6 dBA, L_{eq} at all occupied NSAs at night during HDD activities, as shown in the rightmost column of Table 6-2. Property line sound levels were assessed at the Sandy River HDD location to compare to the Pittsylvania County, Virginia noise limit of 52 dBA L_{eq}. Mitigated model results indicate compliance with this limit, as sound levels range from 49.8 to 51.8 dBA L_{eq} during nighttime HDD activities. Due to the preliminary nature of the information presented in this report, results may change as the construction plan is finalized.

This concludes our Technical Report for the Mountain Valley Amendment HDD crossings.

Please contact us if you have any questions.

Regards,

SLR International Corporation

David M. Jones, P.E., INCE Bd. Cert.
US Manager – Acoustics & Vibration
dmjones@slrconsulting.com

Steve Gronsky, P.E.
Associate Engineer
sgronsky@slrconsulting.com

Joy Rathod, P.E.
Senior Engineer
jrathod@slrconsulting.com

9.0 References

ANSI/ASA S3/SC1.100-2014, Methods to Define and Measure the Residual Sound in Protected Natural and Quiet Residential Areas

FERC (2017) Federal Energy Regulatory Commission, Office of Energy Projects "Guidance Manual for Environmental Report Preparation for Applications Filed Under the Natural Gas Act." Volume 1, February 2017.

FHWA (2008) Roadway Construction Noise Model, Federal Highway Administration, US Department of Transportation. Version 1.1, December 8, 2008.

Kephalopoulos, Stylianos et al. (2012). Common Noise Assessment Methods in Europe (CNOSSUS-EU) European Commission Joint Research Centre, Institute for Health and Consumer Protection, TP 281 21027 – Ispra (VA), Italy.

ISO 9613-2 (1996) Acoustics - Attenuation of Sound During Propagation Outdoors - Part 2: General method of calculation

Figure 1: Sandy River NSAs and Measurement Locations

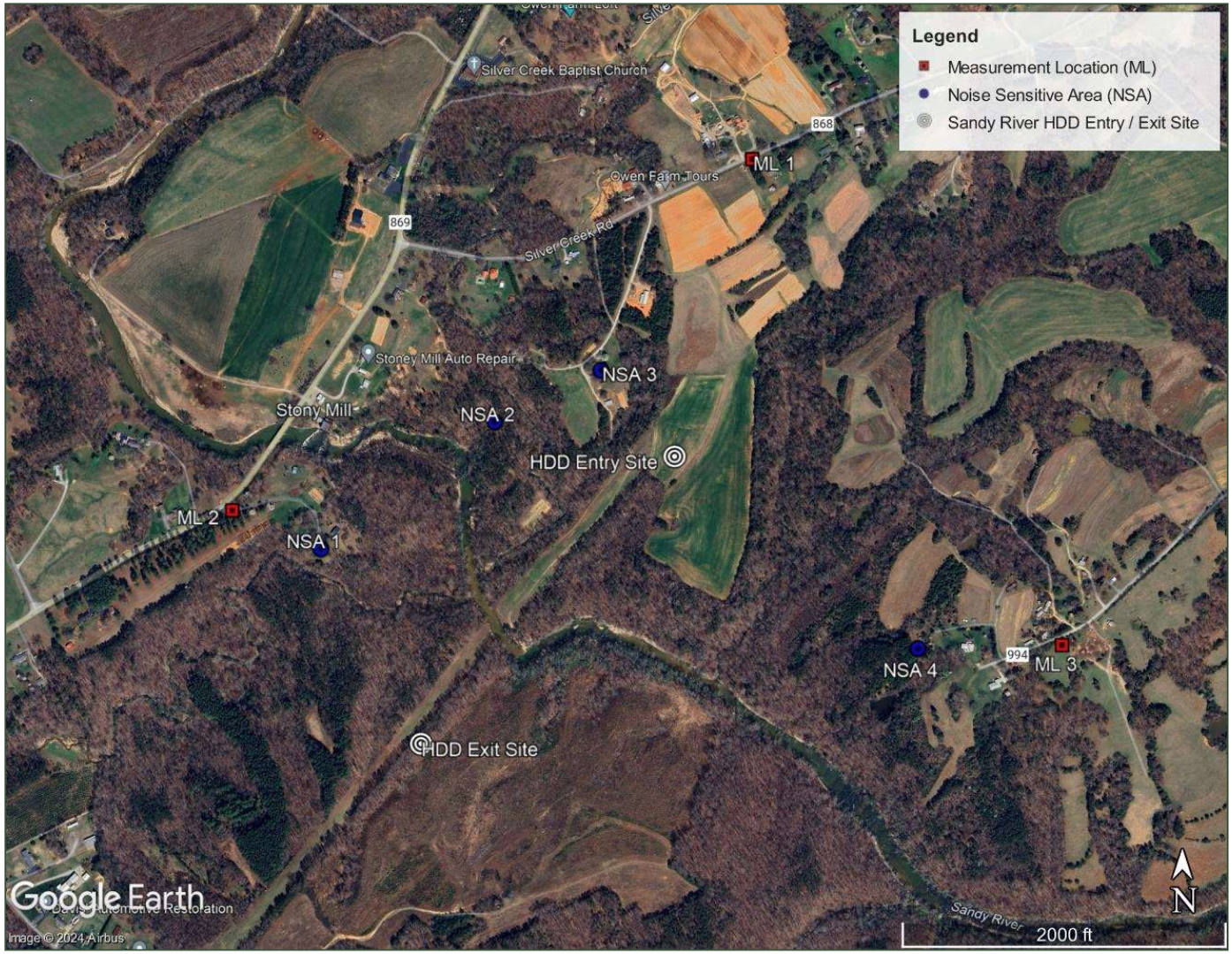


Figure 2: Dan River NSAs and Measurement Locations

Figure 3: Weather Data (Temperature and Relative Humidity) – August 14 to August 15, 2024

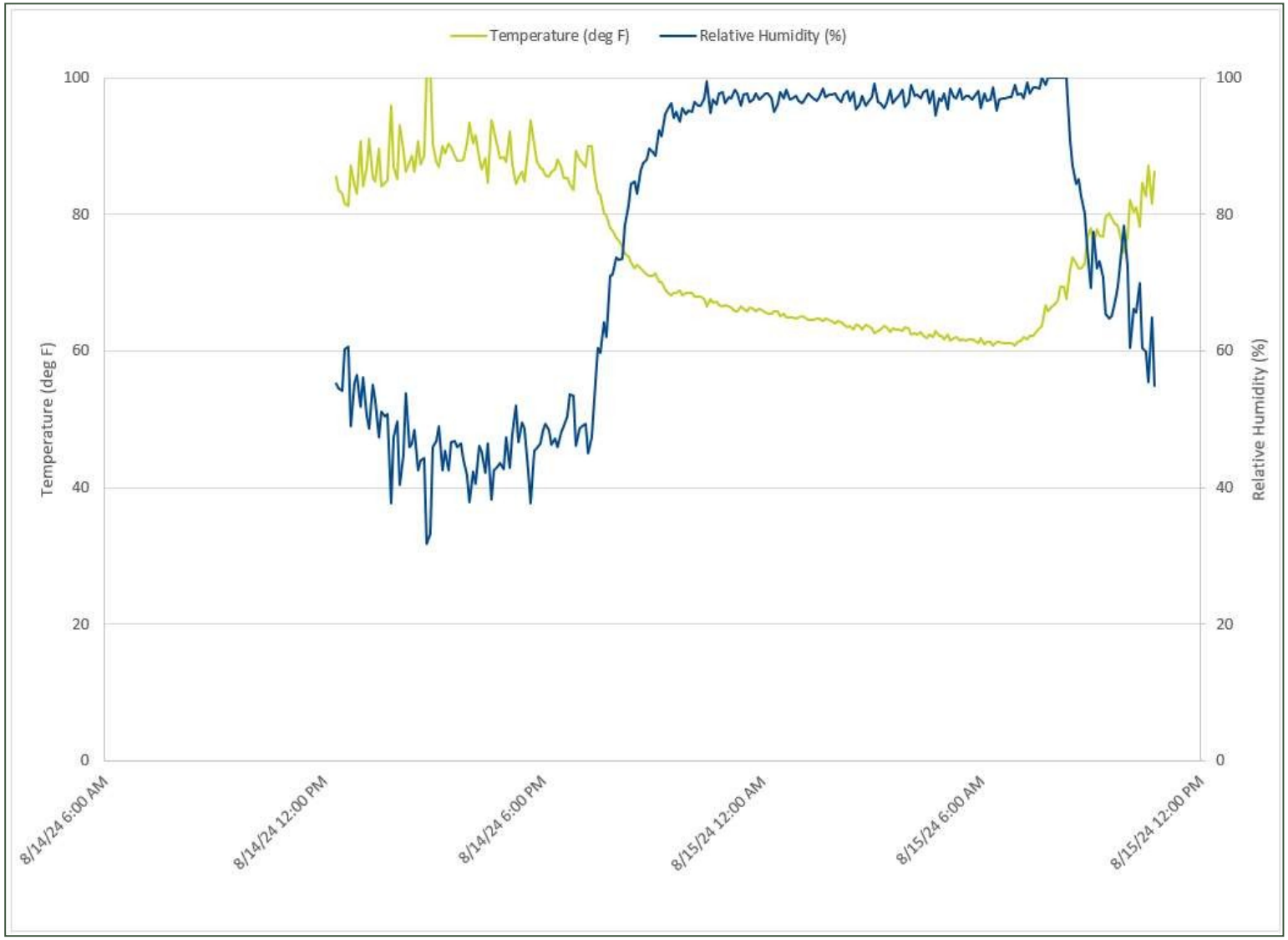


Figure 4: Weather Data (Wind Speed and Direction) – August 14 to August 15, 2024

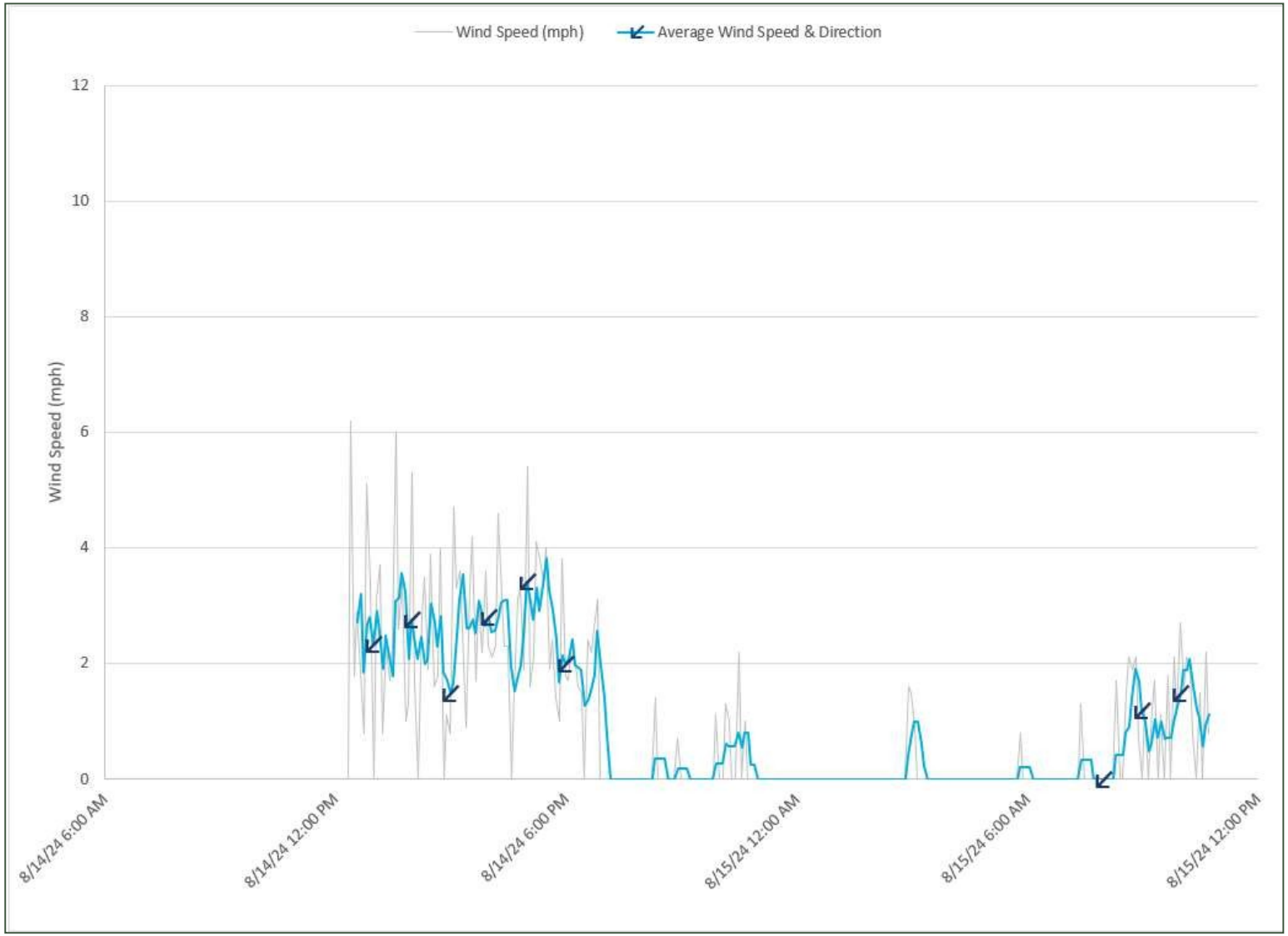


Figure 5: Predicted Unmitigated 48.6 dBA L_n Contour for Sandy River HDD

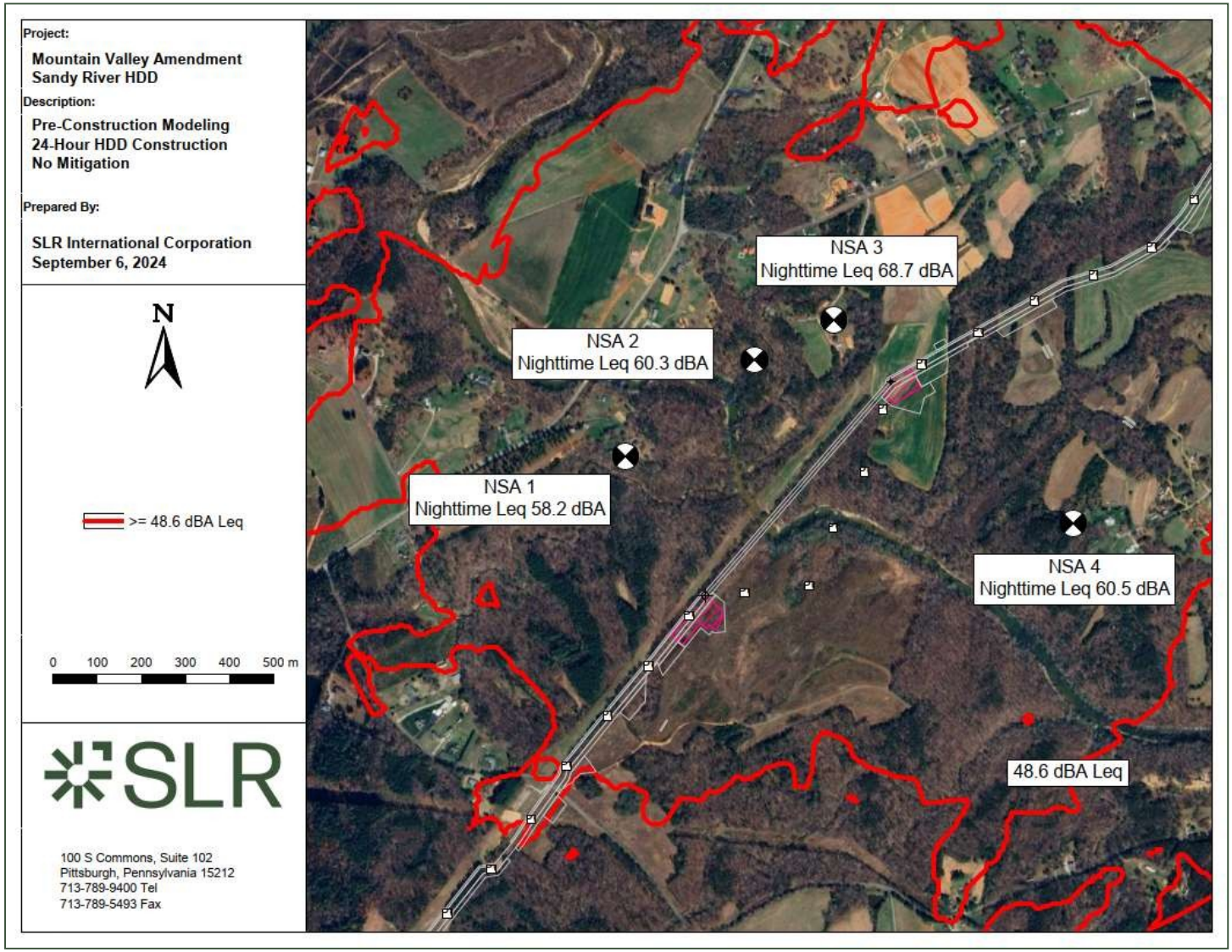


Figure 6: Predicted Mitigated 48.6 dBA L_n Contour for Sandy River HDD

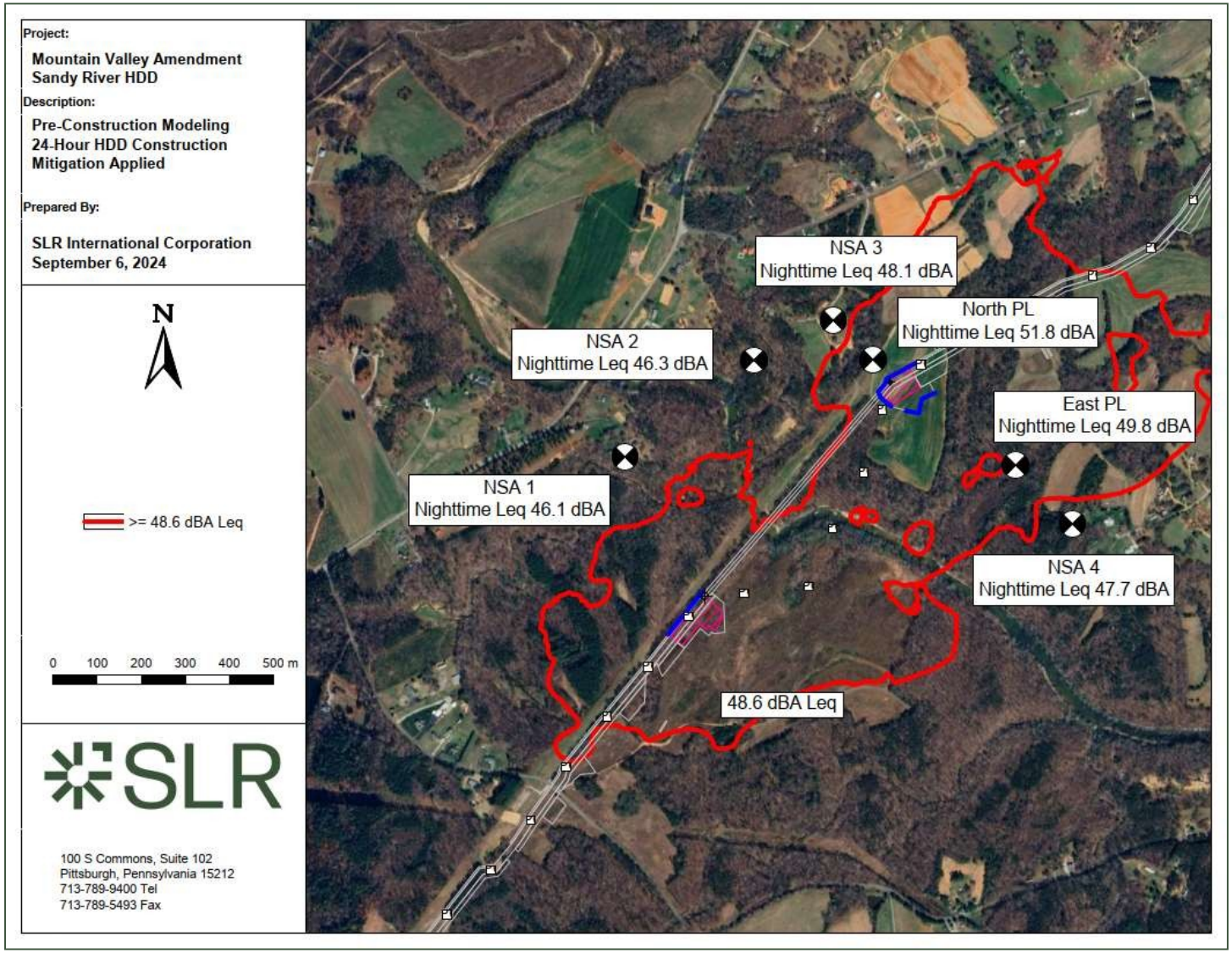


Figure 7: Sandy River HDD Barriers

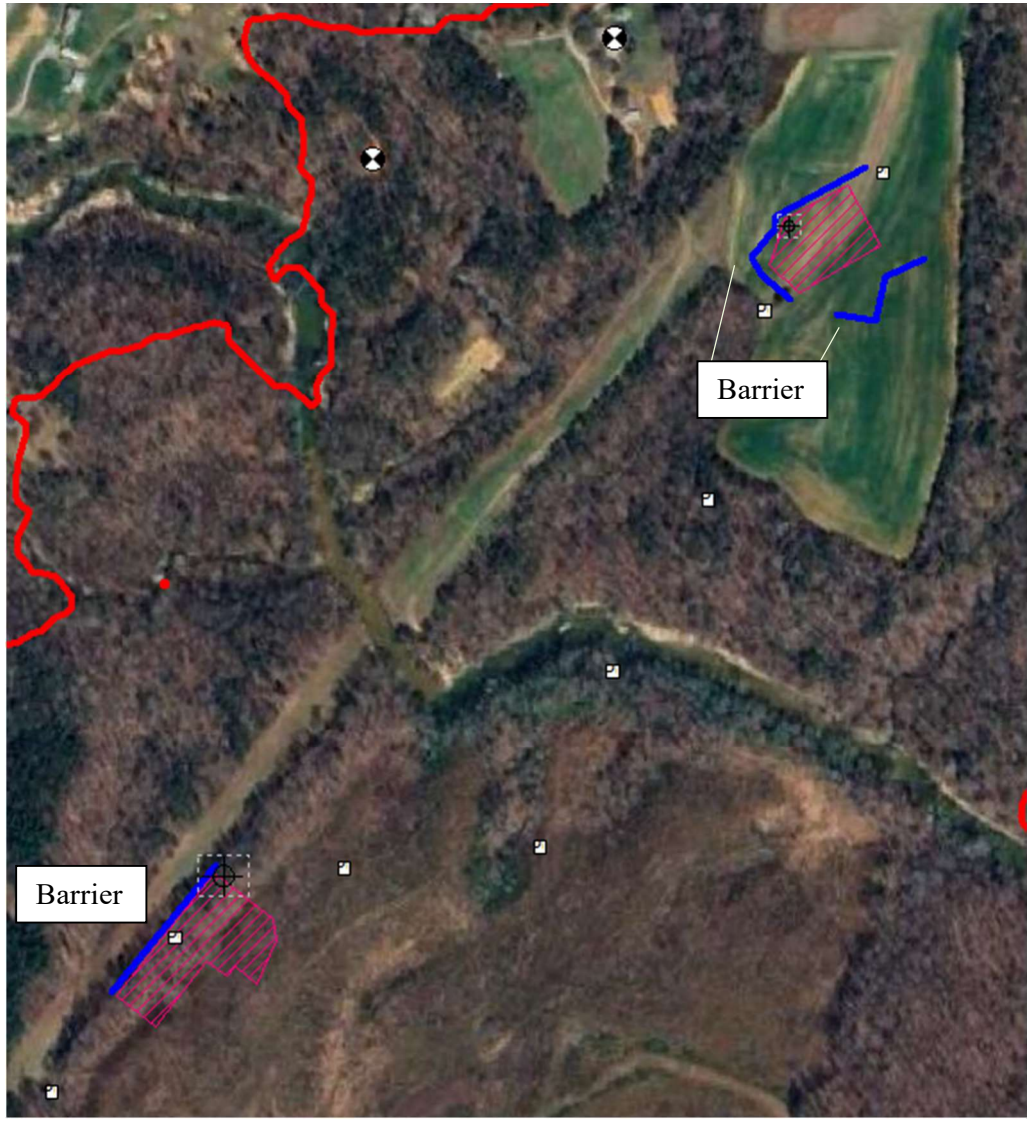


Figure 8: Predicted Unmitigated 48.6 dBA L_n Contour for Dan River HDD

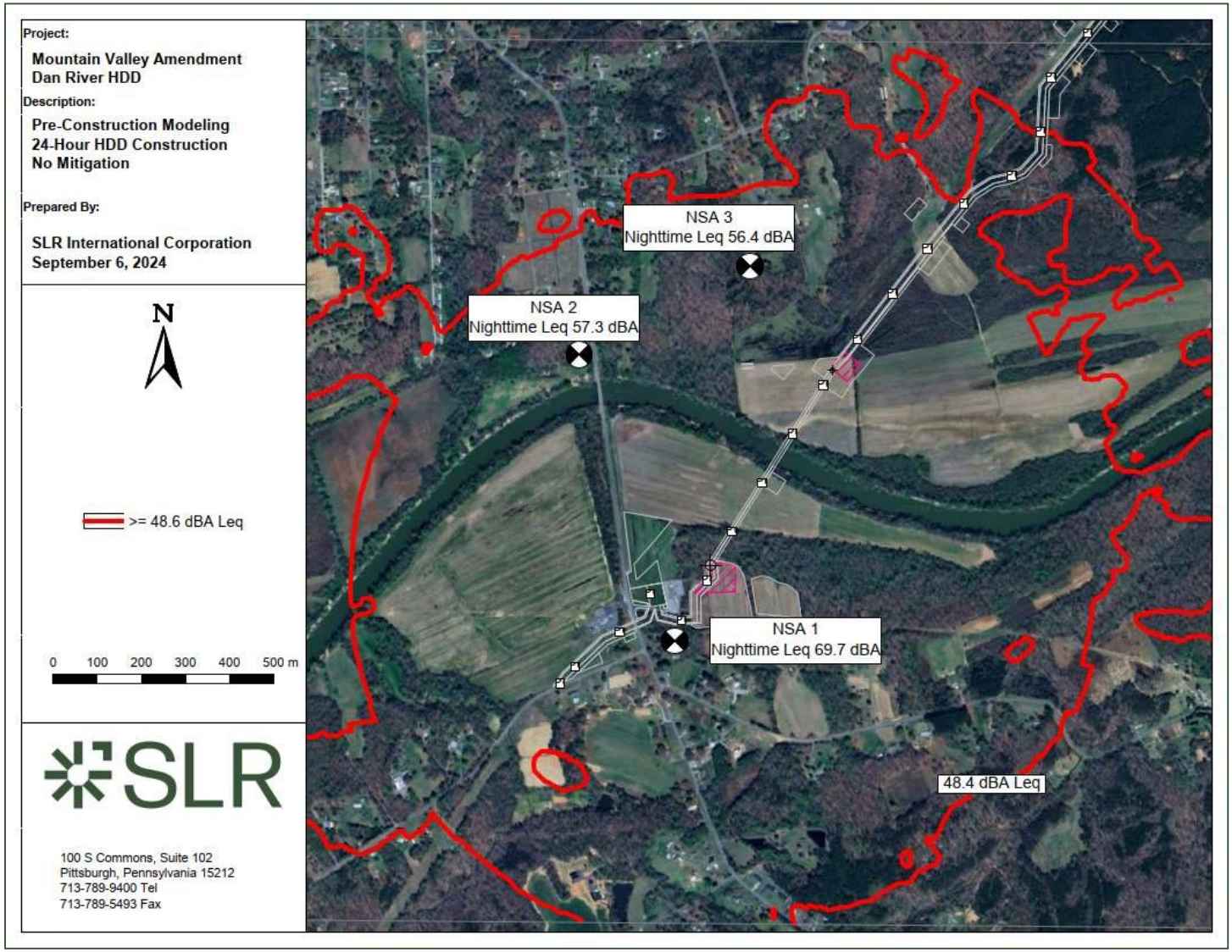


Figure 9: Predicted Mitigated 48.6 dBA L_n Contour for Dan River HDD

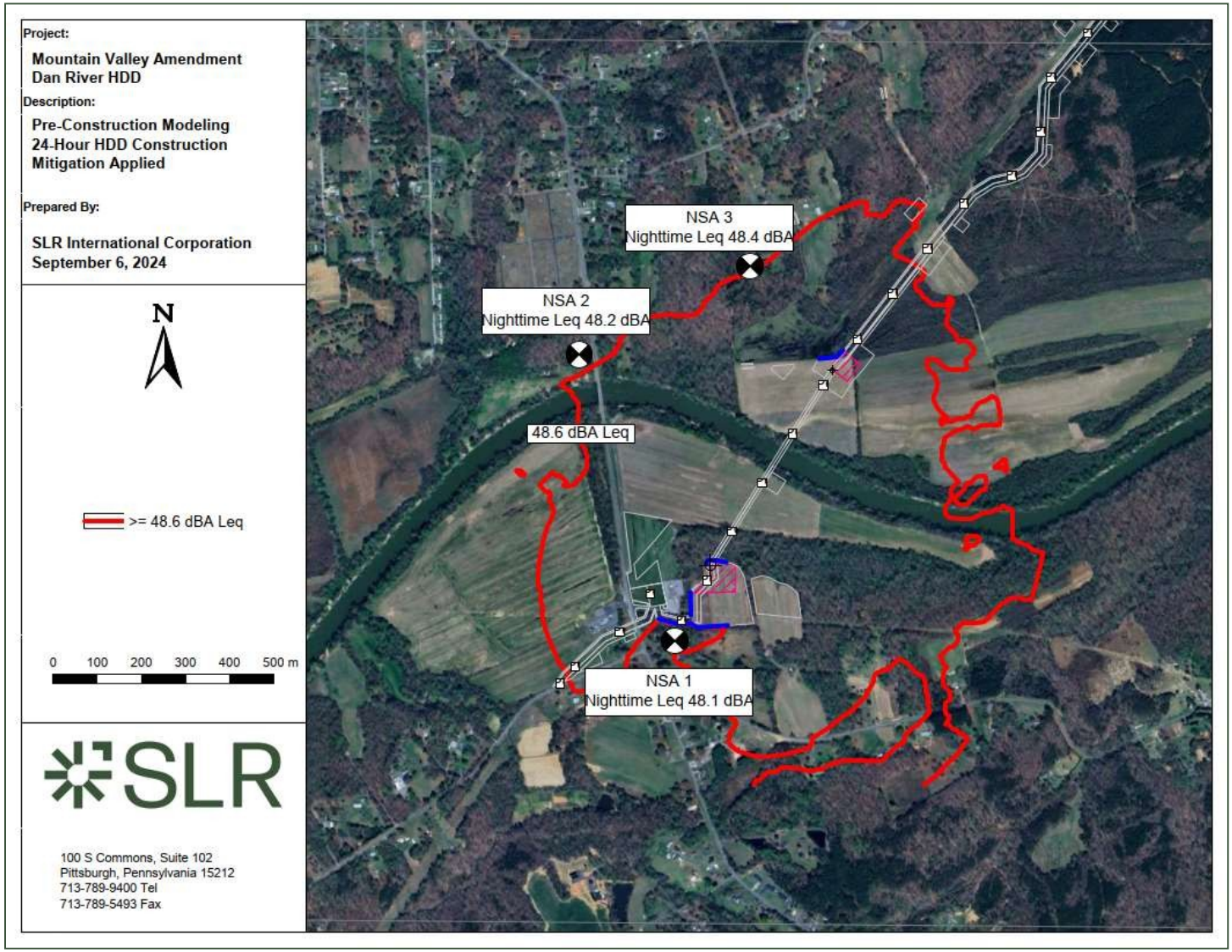


Figure 10: Dan River HDD Barriers

Figure 11: Typical Enclosure Layout for Diesel Powered Pump or Welder Equipment Axis Oriented North/South

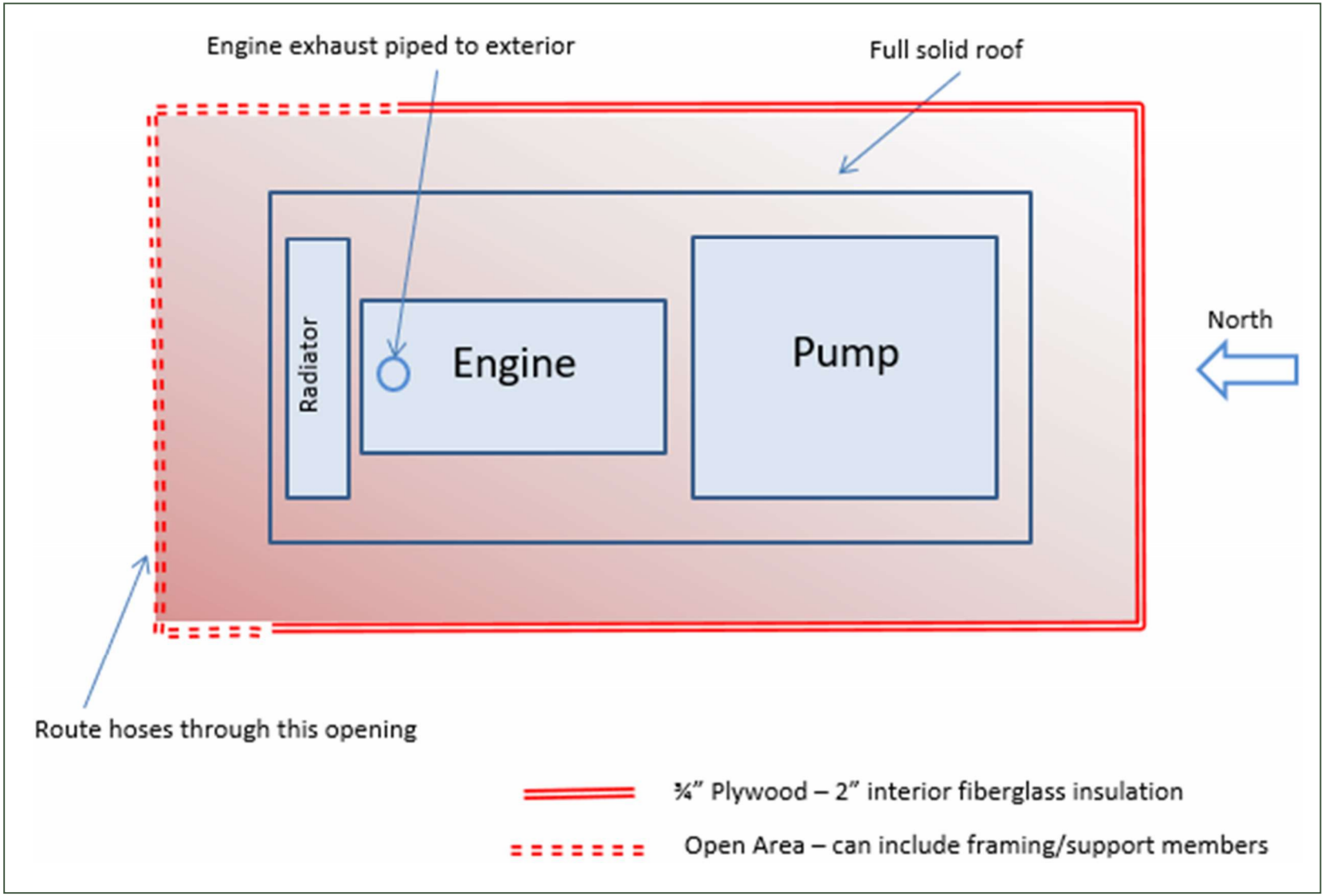
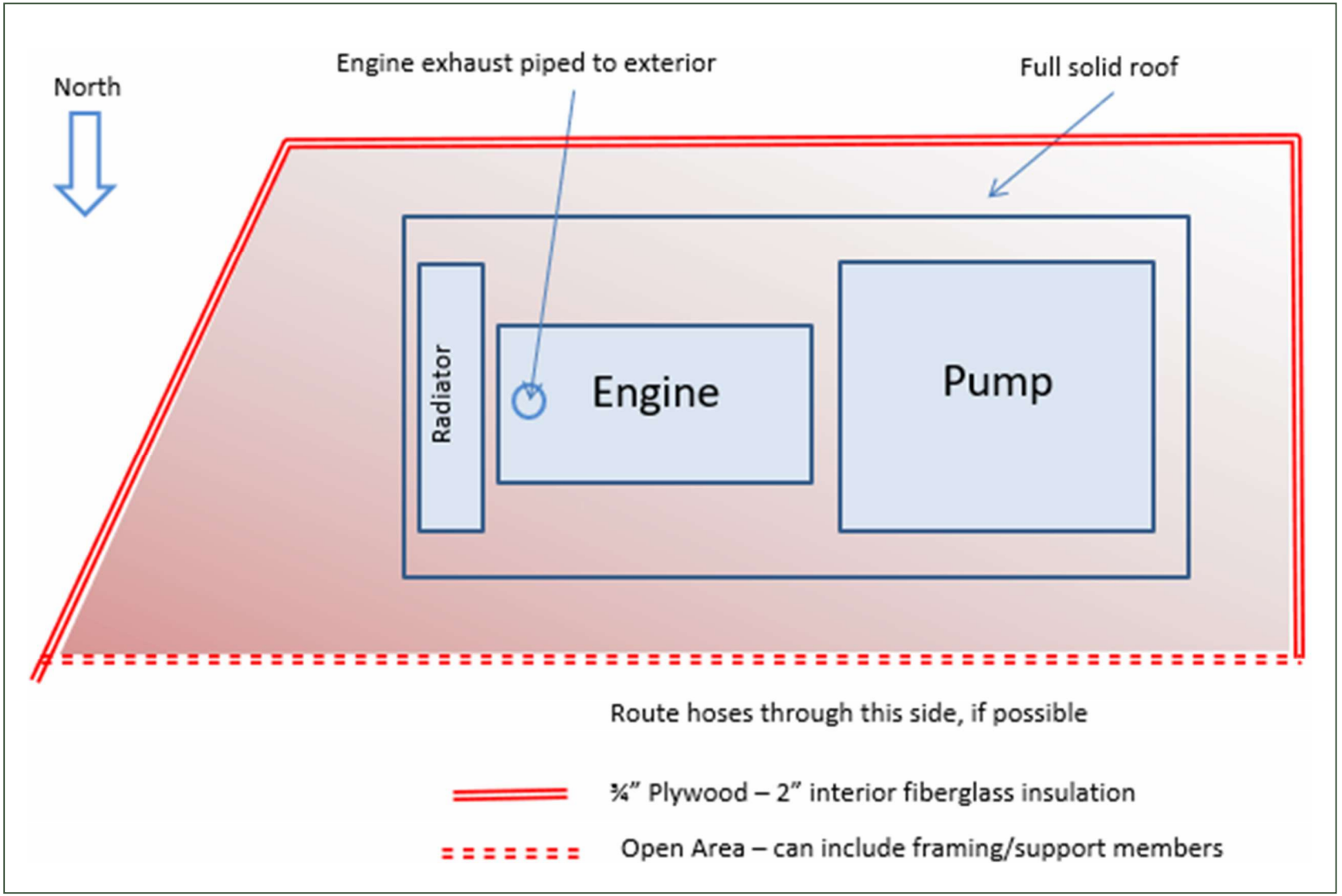


Figure 12: Typical Enclosure Layout for Diesel Powered Pump or Welder Equipment Axis Oriented East/West



Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

ATTACHMENT 3- PUBLIC, STAKEHOLDER, AND AGENCY PARTICIPATION PLAN

MVP Southgate Amendment Project

Public, Stakeholder, and Agency Participation Plan

Revised February 2025

TABLE OF CONTENTS

APPENDICES

1.0 PLAN PURPOSE

The purpose of this Public, Stakeholder and Agency Participation Plan is to identify stakeholders and potential issues related to the proposed MVP Southgate Project ("Project" or "Southgate Project"), determine appropriate and effective methods of communication with stakeholders, identify responsible parties, document the public consultation process, and adhere to communication protocols. The Southgate Project team is dedicated to seeking out greater involvement from the various affected groups early in the planning so that those who are interested may participate in the decision-making process. The Project's goal is to work with stakeholders to achieve consensus and settlements on mutually acceptable Project designs. The Southgate Project team believes an early and more collaborative approach will lead to Project designs that minimize impacts to landowners, communities, and the environment, while enabling us to develop more comprehensive applications for submittal to the Federal Energy Regulatory Commission ("FERC") and other agencies.

2.0 PROJECT SCOPE

Mountain Valley Pipeline, LLC ("Mountain Valley") is seeking a Certificate of Public Convenience and Necessity from the FERC" or "Commission pursuant to Section 7(c) of the Natural Gas Act to construct and operate the Southgate Project. The Project will provide timely, cost-effective access to new natural gas supplies to meet the growing needs of natural gas users in the southeastern United States, including for the Project's anchor shipper, PSNC Energy, a wholly-owned subsidiary of SCANA Corporation, a local distribution company serving customers in North Carolina. The Southgate Project is expected be in service by late 2020. The Project is a separate project from the 303-mile Mountain Valley Pipeline that is currently under construction. The Southgate Project will be developed, constructed, and owned by Mountain Valley and will be operated by EQM Midstream Partners, LP.

The Southgate Project includes an approximate 0.4-mile-long 24-inch-diameter pipeline (H-605), 73 miles of 24- and 16-inch diameter natural gas pipeline (H-650), a new 28,915 nominal horsepower compressor station (Lambert Compressor Station), meter stations and other ancillary facilities (e.g. contractor yards and access roads) required for the safe and reliable operation of the pipeline. The Southgate Project facilities will be located in Pittsylvania County, Virginia and Rockingham and Alamance counties, in North Carolina.

3.0 OUTREACH PLAN GOAL

MOUNTAIN VALLEY AND THE SOUTHGATE PROJECT TEAM KNOW THAT STAKEHOLDER OUTREACH AND PUBLIC CONSULTATION

1.0 BACKGROUND

Mountain Valley Pipeline, LLC ("Mountain Valley") first initiated contact with stakeholders for the MVP Southgate Project ("Original Certificated Project") in April 2018 and, as part of the Original Certificated Project application, Mountain Valley filed a *Public, Stakeholder, and Agency Participation Plan* ("Plan"). Mountain Valley has continued its stakeholder outreach for the MVP Southgate Amendment Project ("Amendment Project") and provides this updated Plan describing additional outreach activities for the Amendment Project.

2.0 PLAN PURPOSE

Mountain Valley recognizes that stakeholder outreach and public engagement are essential elements of the permitting process and ~~will~~ play an important role in the overall successful development of the Amendment Project.

~~The Southgate Project team~~ Mountain Valley has ~~developed~~continued to develop a comprehensive stakeholder list and ~~public participation plan. The plan is built~~build the Plan around the fundamental principle that open, honest, and proactive communication is ~~simply~~ the right thing to do and necessary for the sound development of the Amendment Project. ~~The Project strives~~ We strive to be a good neighbor and a good corporate citizen and ~~believes~~believe that every person, organization, and institution that ~~might~~may be affected by the Amendment Project has the right to be informed and ~~should~~ have an opportunity to participate in the decisions that ~~might~~may affect them.

~~The Southgate Project team, including land agents and survey crews, will participate in Public Consultation Training.~~ This ~~training includes appropriate communication, participation~~Plan outlines our continued approach to providing opportunities for community members to share concerns and ask questions through multiple ways of engagement. Our goal is to be clear and ~~documentation practices~~transparent with community members, providing information that is both accurate and easy to understand, and to work with stakeholders~~.~~

~~The Southgate Project team will also be trained in appropriate research methods about determining property ownership and legal descriptions. They will receive training~~ to achieve consensus and settlements on ~~landowner negotiations, including effective listening skills. These skills are a fundamental part of the communication process between stakeholder and agent.~~

~~4.0 OUTREACH AND PUBLIC PARTICIPATION PLAN~~

mutually acceptable project designs. We believe an early, ongoing, and collaborative approach led to Amendment Project designs that minimized impacts to landowners, communities, and the environment and enabled us to develop more comprehensive applications for submittal to the Federal Energy Regulatory Commission ("FERC") and other agencies. It is ~~the Southgate Project's~~our objective ~~to ensure~~ that all potential federal, state, and community stakeholders ~~are~~be informed of our intentions ~~relative~~related to the ~~proposed~~Amendment Project in a timely manner. ~~The Public, Stakeholder, and Agency Participation Plan, herein~~ As outlined~~, has~~ in this document, the Plan consists of the following objectives:

- Identify ~~*all*~~ key stakeholders along the proposed pipeline route. While landowners are the most obvious and directly affected stakeholders, many additional individuals and organizations along the proposed route may have a stake in the ~~Southgate~~Amendment Project. Identifying and engaging them is important to the success of the Amendment Project.
- Establish and maintain channels for two-way communication throughout the life of the Amendment Project. ~~Mountain Valley realizes~~ We realize that effective communication must be two-way. In addition to sharing information, ~~the Project's~~Mountain Valley's outreach ~~effort is~~efforts are designed to create a continuing dialogue with stakeholders, from the ~~start of the pre-filing process~~Original Certificated Project through the construction of the Amendment Project, restoration, and operation. It is also designed to provide stakeholders with a central point of contact to maintain ease of communication and ensure consistency of messaging.
- Ask for public input at critical stages of planning. ~~Mountain Valley believes~~ We believe that the ~~Southgate~~Amendment Project is a partnership not only with the commercial partners but with all stakeholders. With that idea in mind, for the ~~Southgate~~Amendment Project ~~team has~~, we sought to gain input and ideas from stakeholders during the planning ~~and pre-filing~~ process. This ~~has~~ helped ~~to~~ identify and address areas of concern. ~~The Project held three open houses at locations convenient to affected stakeholders along the proposed Southgate Project route. These open house events initiated the open dialogue process with our community members. The Southgate Project open houses and other activities outlined herein, have been designed to serve as opportunities for the public to learn about the Project and for the Southgate Project team to listen to concerns of affected stakeholders.~~
- Keep stakeholders informed throughout the process. ~~Early and timely communication with all stakeholders is essential to the Southgate Project's success. The Project is committed to proactively communicating, through the use of website updates and other methods, during all phases of the Project.~~ Many outreach plans are designed to communicate effectively during the early stages of implementation—especially during the approval stage~~—but then reduce communication during~~

~~Examples of FERC Key Stages and other information to be communicated:~~

- ~~Pre-filing Request~~
- ~~Open Houses~~
- ~~Draft Resource Reports and Alternatives~~
- ~~Monthly Status Reports~~
- ~~FERC issues Notice of Intent~~
- ~~Draft Resource Reports~~
- ~~FERC Scoping Meetings~~
- ~~Responses to Scoping Comments~~
- ~~File Application~~
- ~~Data Requests & Responses~~
- ~~Supplemental information~~
- ~~Commission Order~~
- ~~Construction~~
- ~~In-service~~

~~construction.~~ . While communication about the ~~Southgate~~Amendment Project will certainly be heaviest early in the process, ~~the Project team plans~~we plan to proactively communicate via website updates and other methods during all phases of the Amendment Project, even after all approvals have been received.

- Engage local resources. To gain insight into public perceptions along the route ~~and to improve the credibility of the Project, the Southgate Project team has retained community involvement specialists, who are very familiar with and knowledgeable about the~~ , we have consulted with local ~~area, to supplement the efforts of the Project team. These specialists will arrange community meetings and other necessary meetings between the Project and stakeholders. Additionally, they will serve as the "eyes and ears" of the Project, helping to identify growing areas of concern, potential issues, and misinformation.~~

~~5.0 STAKEHOLDER IDENTIFICATION~~

~~Mountain Valley will focus its efforts on reaching the following audiences:~~

- ~~Landowners~~
- ~~Local elected officials~~
  - ~~Mayors, city councils, boards of supervisors~~
  - ~~County commissioners~~
  - ~~County and municipal planning organizations~~
  - ~~Zoning boards, etc.~~
- ~~State elected officials~~
  - ~~State senators (local area staff)~~
  - community leaders and organizers to ~~State congressmen (local area staff)~~
- ~~Federal elected officials~~
  - ~~U.S. Senators (local area staff)~~
  - ~~U.S. Congressmen (local area staff)~~
- ~~Federal, state, and local regulatory agencies~~
- ~~Native American Tribes~~
- ~~Economic development agencies/chambers of commerce~~
- ~~Owners of mineral rights, such as coal companies~~
- ~~Local law enforcement agencies~~
- ~~Local emergency services (fire departments, ambulatory)~~
- ~~Local media outlets~~

- ~~Environmental non-governmental organizations~~
- ~~Community at large~~

~~The status of contacts made to-date with federal and state agencies, local elected officials and municipal planning agencies can be found in the Southgate Project's pre-filing monthly reports to the FERC.~~

~~5.1 AGENCIES~~

~~In April 2018, the Project team made phone calls to all permitting agencies that require consultation of the projects plan to use the FERC pre-filing process and invited them to participate in the pre-filing process. Additionally, the Southgate Project team sent written correspondence to many of the aforementioned agencies requiring consultation that included a formalized invitation to participate in the FERC pre-filing process, a basic project overview, and a point of contact for the project.~~

~~The Southgate Project team remains committed to working with federal and state agencies. In the spirit of two-way engagement, the Project team is responding, and will continue to respond, to requests for information from these agencies in a timely manner. During the initial contacts, a specific line of communication was established between the agency personnel and Project staff. This line of communication will be utilized as confirmation to better understand agency requests and reaffirm agency receipts of requested information.~~

~~5.2 OTHER STAKEHOLDERS~~

~~The Southgate Project contacted stakeholders, including any affected landowners (as that term is defined by 18 CFR Section 157.6(d) (2)). In areas where notifying a larger group may be necessary, the Project will expand the mailing list to include landowners that may fall outside the requirements stated in 18 CFR Section 157.6(d)(2). Many of these stakeholders will have already been contacted, but it is the Project's goal to provide all stakeholders – including those with whom we have been in contact – the same information at the same time. The letter will describe the Project and provide updated information and~~ inform ~~stakeholders of the pre-filing process timeline and invite them to open houses.~~

~~5.3 STAKEHOLDER OUTREACH ACTIVITIES~~

- ~~Mountain Valley will employ the following methods to ensure successful communication and~~ the outreach~~, including:~~ effort for the Amendment Project.

3.0 STAKEHOLDER IDENTIFICATION ~~*AND ISSUES MANAGEMENT & DATABASE TRACKING SYSTEM:* AFTER IDENTIFYING STAKEHOLDERS, THE SOUTHGATE PROJECT HAS DEVELOPED AND MAINTAINED AN ISSUES~~

Efforts to identify stakeholders focused on landowners; federal, state, and local elected officials; federal, state, and local regulatory agencies; Native American tribes; environmental justice communities, economic development agencies/chambers of commerce; faith-based organizations; community organizations; local law enforcement agencies; emergency response agencies; educational institutions; local media outlets; non-governmental organization; and the community at large. Mountain Valley has continued to develop and maintain a contact management system to track ~~contact~~engagement with these stakeholders in a manner

that ~~helps identify address~~assists in the identification and ~~resolve~~resolution of emerging issues and concerns.

~~*Information Materials*: The Southgate Project has developed messages and materials to inform stakeholders about the Project and to address potential questions and areas of concern. These materials include, for example:~~

- ~~A project overview fact sheet~~
- ~~Frequently Asked Questions (FAQ)~~
- ~~"Standard presentation" information posters, etc. for use at open houses and other meetings~~
- ~~Internal project guidance concerning key messages about the Southgate Project to ensure consistency in communication~~
- ~~Media advisories to announce public meetings and other Project updates~~
- ~~Project newsletter to be physically mailed directly to affected landowners and other stakeholders 3-4 times per year and made available online via the Project website~~
- ~~Project website that will include all the above, as well as maps of the proposed pipeline route~~

~~*Media Relations:* Keeping the media appropriately informed helps minimize the potential for misunderstanding and allows the Project to inform all stakeholders while reducing inaccurate information. Messages and materials about the Southgate Project will continue to be refined throughout the development effort to contain updated information and to address stakeholder concerns that may arise. In addition, materials contain the following information:~~

- ~~Purpose and Need of the Project~~
- ~~Information on Mountain Valley~~
- ~~Information on environmental and other benefits of natural gas~~
- ~~Discussion of today's energy market and the need for expanded natural gas infrastructure~~
  - ~~FERC background information – The role of the FERC and other regulatory agencies in the process, and an overview of the pre-filing and filing processes~~
  - ~~Information on construction, including the types and sizes of equipment used~~
  - ~~Information on environmental activities conducted throughout the project, including pre-construction environmental surveys, measures during construction to minimize impact on environmental resources including agricultural resources, restoration, and post-construction monitoring~~
  - ~~Safety information – A discussion of pre- and post-construction safety, and an overview of the safety record of the interstate natural gas pipeline industry and of the Project's affiliates~~
  - ~~A Project time line – An intended time frame for completing key phases of the Southgate Project.~~

~~*Training*: A significant component of the outreach and communication team's effort is focused on training the Project team. The goal of the training effort is to familiarize all personnel who participate in the Project – both home office and field staff, including sub-contractors – of the Southgate Project outreach and public participation plan and to provide specific modules of training – including those developed by INGAA/IRWA for those personnel and contractors who interface with the public. Southgate Project staff receiving training includes all Project personnel and all contractors involved in field engineering, siting and survey, permitting and environmental impact mitigation, land acquisition, operations, property owner relations, and government affairs. The Southgate Project's guiding principle is to train each individual shortly after retention for the Project or before the individual engages in his or her designated role.~~

3.1 ~~*WEBSITE*: BECAUSE OF ITS ACCESSIBILITY AND THE ABILITY TO BE CONSTANTLY UPDATED, ONLINE COMMUNICATIONS WILL PLAY A VITAL ROLE IN STAKEHOLDER DIALOGUE.~~OUTREACH AND ENGAGEMENT METHODS

Mountain Valley's public outreach and engagement methods include but are not limited to updates to the Amendment Project website (www.mvpsouthgate.com), local advertising, digital advertising, email, flyers, in-person meetings, sponsorship of and participation in community events, and virtual meetings. Allowing for non-native English speakers, Mountain Valley continues its commitment to employ resources such as providing translated materials and interpretation services as necessary.

3.1.1 Amendment Project Website Information

Early in the stakeholder outreach process, Mountain Valley established a website (www.mvpsouthgate.com). In addition to serving as a repository for up-to-date materials and information, the ~~MVP Southgate Project~~ website ~~will feature~~features mechanisms for stakeholders to ask questions and provide input about the Amendment Project.

3.1.2 ~~*Direct*~~Points of Contact ~~*Outreach*~~:

Mountain Valley ~~will utilize direct contact, either in-person, by phone, or correspondence (e-mail~~operates and ~~letter) with~~ monitors a toll-free phone number, email address, and postal mailing address that enables stakeholders ~~throughout the Project,~~to obtain additional Amendment Project information and provide input. This information is printed on all materials and included on the Amendment Project website and includes a single point of contact for stakeholder inquiries.

Email: mail@mvpsouthgate.com
Phone: 833-MV-SOUTH
Mail: 2200 Energy Drive, Canonsburg, PA 15317

3.2 STATE AND FEDERAL PERMITTING AGENCIES

Engagement with state and federal permitting agencies began in 2018 for the Original Certificated Project and has continued to the present. In July 2024, Mountain Valley sent letters to all permitting agencies and agencies that require consultation, notifying them of our plan to file an amendment application with FERC and inviting them to participate in the process. Copies of the submitted consultation letters are provided in Appendix 1-I to Resource Report 1. Mountain Valley followed up on these letters to seek guidance from

agencies and requested meetings as appropriate. In the spirit of two-way engagement, Mountain Valley is responding and will continue to respond to requests for information from these agencies in a timely manner. During the initial contacts, a specific line of communication was established between the agency personnel and Amendment Project staff. This line of communication will be utilized to confirm our understanding of agency requests and to confirm agency receipt of requested information.

3.3 AMENDMENT PROJECT BRIEFINGS/INFORMATION UPDATES

Mountain Valley is committed to maintaining contact with local government officials, non-governmental organizations, and other interested stakeholders in the Amendment Project area. Mountain Valley created and distributed informational collateral materials to stakeholders via traditional mail, in person, and utilizing electronic technologies. Additionally, Mountain Valley seeks out opportunities to speak with and listen to community members at public meetings and events, community events, and other gathering places. Mountain Valley has provided and will continue to provide various updates, including periodic newsletters and other communications that inform stakeholders about recent activities, Amendment Project milestones, and what to expect next. The ~~Southgate Project will notify~~first newsletter was distributed in August 2018 for the Original Certificated Project. Eight newsletters have been distributed in total, and Mountain Valley intends to distribute additional newsletters, starting with the ninth newsletter slated for early 2025.

Mountain Valley continues to work with local news media to facilitate accurate and informed reporting on the Amendment Project, and work with local government and non-governmental organizations to provide Amendment Project updates and respond to questions as they arise in the community. Mountain Valley has engaged with various civic groups and non-governmental groups through event and program sponsorships and ongoing efforts to raise the Amendment Project's visibility and introduce the public to the Amendment Project. This approach was initiated in 2018 for the Original Certificated Project and continued through 2022, 2023, and 2024, with the most recent Amendment Project update communicated via flyer beginning in August 2024. Mountain Valley will continue these efforts to build relationships, engage meaningfully with the community, and ensure stakeholders have ample opportunity to learn about the Amendment Project and get answers to their questions.

We have provided and will continue to provide copies of the filing materials, including resource reports, to participating federal agencies and public libraries along the proposed pipeline route and to certain state offices so the public will have the opportunity to view the materials and provide comments. Copies are posted to the website, www.mvpsouthgate.com/news-info/ and will be provided to the following libraries in the Amendment Project area:

- Eden Public Library – Eden, North Carolina;
- Pittsylvania County Public Library - Chatham, Virginia.

3.4 LANDOWNER ENGAGEMENT

Engagement with landowners continues today for the Amendment Project. Landowners were contacted beginning in April 2024 to request access for survey permissions to perform updated civil and environmental surveys for the amended pipeline route, access roads, staging areas and aboveground facility sites.

The Amendment Project team, including land agents and survey crews, participated in Public Consultation Training, which included appropriate communication, participation, and documentation practices with stakeholders. The Amendment Project team was also trained in appropriate research methods with regard to determining property ownership and legal descriptions. They received training on landowner negotiations, including effective listening skills. These skills are a fundamental part of the communication process between stakeholder and agent, and we are pleased to report that as of September 2024, all easements needed for the amended Amendment Project in North Carolina have been fully acquired, and more than 95 percent of easements needed for the amended Amendment Project in Virginia have been acquired.

Landowners and stakeholders will be kept informed about the Amendment Project's FERC process and permitting status through various means. In April 2024, we sent a letter to the directly affected ~~by the Project as required by FERC's regulations. For example, direct contact by Project right-of-way representatives is a necessity in communicating with~~ and abutting properties affected ~~landowners. Direct contact with agencies has already been initiated by Project environmental staff and will continue.~~by the construction work areas. The letters also provided information regarding procedures to follow in the event that the landowner has any issues during construction. We have also implemented a Landowner Complaint Resolution Process, which outlines these procedures.

~~*Open Houses*: In June 2018, Mountain Valley conducted three community open houses at locations in the project area. The Southgate Project's community open houses were in addition to the FERC scoping meetings. A formal presentation was not given during these open houses. However, attendees had direct, one-on-one access to members of the Project team who listened to stakeholder ideas and concerns and answered questions about the Project. The Project used an "information station" open house format with topic-specific stations covering possible concerns and potential solutions. The stations included rights-of-way, environmental, construction, engineering, etc., as well as a station dedicated specifically for FERC personnel. Each station contained information pertinent to that area of project responsibility, presented both in larger visual aids and/or in handout form and manned by Project team members knowledgeable of the subject presented. This allowed attendees arriving at different times to circulate among the stations and gather information in a more personal and relaxed fashion. Land agents were present at the open houses to review the proposed route and to answer any specific landowner concerns.~~

~~The Southgate Project utilized GIS software as a means of highlighting the proximity of the Southgate Project route to individual landowners' properties, businesses, farms, neighbors, etc. Stakeholders were notified and invited directly via invitations sent by U.S. mail and indirectly through news media reports, advertising and the MVP Southgate Project website about the open house schedule.~~

~~Locations of the open houses were determined and selected based on their proximity to the Southgate Project route and meeting room capacity, with intent to be as convenient as possible to the majority of landowners along the route. A list of dates and locations are provided in the table below:~~

3.5 COMMUNITY ENGAGEMENT

For the past two years, Mountain Valley has been actively engaged with our community to advance the Amendment Project. Mountain Valley has held numerous meetings and conversations with a wide range of stakeholders, including public safety officials like the Eden Police and Fire Departments, Draper Volunteer Fire Department, Dry Fork Fire Department, and the Pittsylvania County Sheriff's Office.

Mountain Valley has also collaborated with local businesses and organizations such as the Eden Chamber of Commerce, the Danville-Pittsylvania Chamber of Commerce, and nonprofit groups like the Boys & Girls Club of the Danville area and Life's Blessings Soup Kitchen.

Additionally, Mountain Valley has maintained open communication with local, state, and federal elected officials, as well as city and county administrators. Mountain Valley has engaged with community college and public school officials to explore potential partnerships and educational opportunities and has worked with local news outlets to keep the community informed about the Amendment Project's progress and benefits. Appendix A to this Plan contains a summary of activities, including sponsorships, advertising, and memberships, that Mountain Valley has participated in since 2023.

3.6 ENVIRONMENTAL JUSTICE

Amendment Project team members conducted a desktop Environmental Justice review to identify disadvantaged communities within a one mile footprint of the Amendment Project corridor to help ensure that underserved community members are included in outreach and engagement efforts. Utilizing available online resources and census data, information was collected to identify Environmental Justice Communities, sensitive receptor locations, as well as additional demographic, socioeconomic, and health data in order to gain a greater understanding of the communities that will be impacted by the Amendment Project. For additional information regarding our Environmental Justice analysis see Section 5.5 of Resource Report 5.

Mountain Valley has focused its stakeholder outreach to groups and individuals who have been historically underrepresented in project development processes and identified and engaged with relevant stakeholders in census tracts in and adjacent to the Amendment Project area. This outreach has included direct engagement and conversation about the Amendment Project's purpose, scope, and status, as well as distribution of Amendment Project information to dozens of businesses, organizations, and churches located near the project area and/or serving minority and economically disadvantaged residents. A copy of the Amendment Project materials is attached as Appendix B to this Plan.

Mountain Valley has posted updates to the project website, engaged with state Environmental Justice officials, and established relationships with first responders. Mountain Valley has sponsored and attended numerous events and activities benefitting disadvantaged children in the project area in Virginia and North Carolina; provided direct financial assistance and volunteer hours at a soup kitchen in Eden, North Carolina; made in-kind and financial contributions to local welding programs at public educational institutions; and funded need-based scholarships for participants in the Leadership Rockingham (North Carolina) program and students at Danville Community College (Virginia). We are committed to engaging meaningfully with stakeholders, building relationships, and informing the public about our project and our values. Highlights of Mountain Valley's local engagement include:

- **Pittsylvania Career & Technical Center, Virginia:** Mountain Valley has been pleased to provide meaningful support to the welding program and its students during the past six years. Mountain Valley donated 40 feet of 42-inch diameter pipe for welding program participants' use. Some of the donated material was fabricated into a "LOVE" sign on display at a public park in Pittsylvania County. Additionally, since the MVP Southgate project was announced, Mountain Valley has donated $20,000 to the program to support the purchase of welding equipment, supplies, and materials.

- **Danville Community College, Virginia:** Mountain Valley worked with officials at Danville Community College to identify ways to provide meaningful support to qualifying students from lower-income families. The project team has provided funding for scholarships through contributions to the college's foundation and has remained engaged with foundation and college leaders since early in the project's development. These ongoing efforts supplement Mountain Valley's direct contribution of $20,000 to support annual scholarships to qualifying students of limited financial means and living in local areas affected by the project's proposed route.
- **Boys & Girls Clubs of the Danville Area, Virginia:** The Boys & Girls Clubs of the Danville Area serves a high concentration of lower-income and minority families in the Danville and Pittsylvania County area. Since the project's announcement in 2018, Mountain Valley has been pleased to participate in fundraisers and provide financial support for the Boys & Girls Clubs of the Danville Area's programs. These contributions, totaling more than $24,000, have supported the club's food bank, hot meal program, holiday programs, and after-school programs serving local children from disadvantaged families.


STEEL
ONLY
20yd

- **Life's Blessings Soup Kitchen, North Carolina:** Mountain Valley has supported this soup kitchen, serving lower-income and homeless residents in Eden's Draper area, through volunteer hours and financial contributions totaling more than $4,000 since 2023. Donations have funded soup kitchen operations as well as seasonal programs, including a holiday meal event and a back-to-school drive benefitting local children from lower-income families.
- **Rockingham Community College, North Carolina:** In 2024, Mountain Valley donated 20 feet of 42-inch diameter pipe to the welding program at Rockingham Community College. The two sections of pipe provide students with the opportunity to cut and weld large-diameter pipe. College officials said many program students are interested in a career in pipeline welding. The College recently expanded its welding program capacity through a facility expansion and the acquisition of new equipment.
- **Sunshine School, North Carolina:** Mountain Valley is working with organizers of a nonprofit group focused on saving and restoring an aging Rosenwald School in Eden. The former Sunshine School building has been vacant for years but traces its history to the segregation era when it was constructed to serve as a classroom for local African-American students. Mountain Valley has provided funds to facilitate the nonprofit group's effort to remove dangerous trees hanging over the structure, and project team members are volunteering time and expertise to assist the nonprofit owner in protecting, preserving, and restoring the structure for public use as a museum and community center.

Starting in July 2024 and continuing through subsequent months, Mountain Valley conducted ongoing outreach with community members and local officials, businesses, churches, and other non-governmental associations to share information about the revised scope of the Amendment Project. Mountain Valley distributed updated project information prioritizing locations with significant populations of economically disadvantaged and minority residents. The information was shared at the locations in Table 1 below by providing it to individuals, taping to entrance/lobby windows, displaying on counters, and posting to bulletin boards in high-visibility locations frequented by audiences who historically have been underrepresented during project development processes.

~~Project Open House Meetings – MVP Southgate Project~~Table 1 Locations Where Updated Amendment Project Information was Distributed	
Location~~Date~~	State~~Location~~
Community College Student Center	Virginia
Pittsylvania Boys & Girls Club	Virginia
DCC Educational Foundation	Virginia
Dollar General Store	Virginia
Emmanuel Pentecostal Holiness Church	Virginia
Hope Chapel Baptist Church	Virginia
Olde Dominion Agriculture Complex~~June 28, 2018~~	Virginia~~Olde Dominion Agriculture Complex Chatham, VA~~
Mill's Grill & Market	Virginia
Tunstall Fire & Rescue	Virginia
Dry Fork Volunteer Fire Department	Virginia
Jones Food Market	Virginia
Dollar General	Virginia
Pittsylvania County Public Works	Virginia
Dollar General Store	Virginia
Dry Fork Post Office	Virginia
~~June 26, 2018~~Pittsylvania County Pet Center	~~Reidsville Event Center Reidsville, NC~~Virginia
Pittsylvania County Administration Lobby	Virginia
Pittsylvania County Administration Bulletin Board	Virginia
~~June 25, 2018~~Pittsylvania County Community Action Center	~~The Palladium Event Center Burlington, NC~~Virginia
Pittsylvania County Community Action Center	Virginia
Pittsylvania County Community Action Center	Virginia
Pittsylvania County Community Action Center	Virginia
Danville-Pittsylvania County Chamber of Commerce	Virginia
Pittsylvania County Public Library	Virginia
Mt. Hermon Public Library	Virginia
Brosville/Cascade Public Library	Virginia
Exxon Station	Virginia
Railroad Café	North Carolina
U.S. Postal Service Office	North Carolina
Mill Avenue Recreation Center	North Carolina
Dollar General	North Carolina
Santana's Restaurant	North Carolina
Eden City Hall	North Carolina
Rockingham County Office of Economic Development	North Carolina
Eden Chamber of Commerce	North Carolina

Walmart/Woodforest National Bank	North Carolina
Rockingham County Public Library	North Carolina
Osborne Baptist Church	North Carolina
Life's Blessings Soup Kitchen/Gospel Tabernacle	North Carolina
Aging, Disability & Transit Services	North Carolina
Immanuel Friends Church	North Carolina
Draper Volunteer Fire Department	North Carolina

~~*Scoping Meetings:* The FERC conducted scoping meetings in the Southgate Project area. The Project participated in those scoping meetings, as well as in meetings with Federal, State, and local resource agencies.~~

Appendix A

Amendment Project Stakeholder Outreach Activities 2023 – Present

~~FERC Scoping Meetings – MVP Southgate Project~~Association	Outreach Activity
~~Date~~Boys and Girls Clubs of Danville Area	~~Location~~Sponsorship
Boys and Girls Clubs of Danville Area	Sponsorship – Holiday Meals
Carolinas Natural Gas Coalition	Sponsorship – Fall Meeting
Chatham Rotary Club	Sponsorship
Chatham Fire Department	Sponsorship
Danville Community College	Sponsorship
Danville Pittsylvania Chamber of Commerce	Sponsorship
Danville Area Alzheimer's Association	Sponsorship - Alzheimer's Walk
Eden Chamber of Commerce	Sponsorship – Awards Dinner
Explore Eden NC	Sponsorship – Eden Riverfest Event
Fine Arts Festival of Rockingham County	Sponsorship
Life's Blessings Soup Kitchen	Sponsorship - Back to School Event
Life's Blessings Soup Kitchen	Sponsorship – Holiday Event
Life's Blessings Soup Kitchen	Sponsorship – Annual Gift
Life's Blessings Soup Kitchen	Sponsorship – Holiday Gift Drive
Leadership Rockingham	Sponsorship – Two Financial Need Scholarships
NC Chamber	Sponsorship - Government Affairs Reception
NC Chamber	Sponsorship – Annual Awards Dinner
~~August 23, 2018~~NC Chamber	~~Vailtree Event and~~Sponsorship – Annual Conference ~~Center Haw River, NC~~
NC Chamber	Sponsorship – Building NC
NC Chamber	Sponsorship – Environmental Compliance Conference
North Carolina Disaster Relief Fund	Hurricane Helene Relief Donation
North Carolina Economic Development Association	Sponsorship - Spring Conference
North Carolina Economic Development Association	Sponsorship - Summer Conference
North Carolina Economic Development Association	Sponsorship - Fall Conference
North Carolina Economic Development Association	Sponsorship - Annual Membership
North Carolina Eden Chamber	Sponsorship - Annual Dinner
North Carolina Eden Chamber	Sponsorship – Community Sponsor
North Carolina Eden Chamber	Sponsorship – Temptations in the Garden Event
~~August 21, 2018~~Old Dominion Agricultural Complex	~~Olde Dominion Agriculture Complex Chatham, VA~~Sponsorship - Bluegrass Festival
~~August 20, 2018~~Pittsylvania County Career and Tech Center	~~Reidsville Event Center Reidsville, NC~~Sponsorship – Welding Program
Rotary of Chatham	Sponsorship - Gala Fundraiser
RoCo is Home LLC	Sponsorship - Christmas Parade
Southern Area Agency on Aging	Sponsorship
Virginia Danville Pittsylvania Chamber of Commerce	Sponsorship - Southside Leadership Dinner
Virginia Manufacturers Association	Sponsorship - Virginia Energy Summit
Virginia Public Access Project	Sponsorship - Annual Luncheon
Virginia Oil and Gas Association	Sponsorship – Annual Gift
VA Chamber	Sponsorship – Annual Gift
Virginia FREE	Sponsorship – Annual Gift
Virginia Oil and Gas Association	Sponsorship
Virginia Oil and Gas Association	Sponsorship – Fall Meeting

~~*Project Contact Information*: The Southgate Project maintains and monitors a toll-free phone number, e-mail address, and postal mailing address that enable stakeholders to obtain additional Project information and provide input. This information is included on printed materials and the Project website.~~

~~In summary, the Southgate Project understands that Stakeholder Outreach does not stop at submittal of the application or possible receipt of a certificate of Public Convenience and Necessity but is an ongoing commitment to keeping the public at large, affected landowners, the market, and other interested parties informed of the Project status. The Project will seek to continue the relationships and dialogue built during these crucial early stages of public interaction.~~

~~5.4 COMMUNICATIONS MILESTONES~~

- ~~April 2018 to present – Initial communications with agencies and stakeholders~~
- ~~April 2018 – MVP Southgate Project website live and online~~
- ~~April 2018 – Landowner welcome packet to introduce the Southgate Project~~
- ~~May 15, 2018 – FERC accepts the Southgate Project into Pre-filing Process~~
- ~~May – June 2018 – Additional informational letter to stakeholders; open house invitations; print media outreach~~
- ~~June 2018 – Community open houses~~
- ~~August 2018 – MVP Southgate Project first newsletter~~
- ~~August 2018 – Public scoping meetings hosted by FERC~~
- ~~November 2018 – File Certificate Application~~

~~5.5 COMMUNICATION VEHICLES~~

- ~~Briefing materials for elected officials~~
- ~~Website: www.mvpsouthgate.com~~
- ~~Toll-free hotline: 833-MV-SOUTH~~
- ~~Email: mail@mvpsouthgate.com~~
- ~~Community open houses~~
- ~~Site visits~~
- ~~Maps for stakeholders to view (hard copy and electronic versions)~~
- ~~High-level maps for general distribution~~
- ~~Regular mailings to engage stakeholders without internet access and locations set up to review voluminous Project info~~
- ~~Newspaper advertorials as needed~~

- Media interviews, including TV, radio, newspapers, to produce ongoing public stories and articles regarding updates on the MVP Southgate Project

5.6 FERC LANDOWNER ASSISTANCE

The FERC landowner helpline via telephone is toll-free at 1-877-337-2237 and via email address is LandownerHelp@FERC.gov

5.7 MVP SOUTHGATE PROJECT LANDOWNER RESOLUTION PROCESS

In the early stages of the Project's planning and development, the Southgate Project established a protocol to address landowner concerns and answer questions. The protocol utilizes Southgate Project's toll-free phone line (833-MV-SOUTH) and/or email submission to mail@mvpsouthgate.com and this same protocol will be utilized during the construction phase as well. These communication portals were created as a means for landowners, as well as community members, to contact Project representatives with questions, concerns, and issues. The Southgate Project also keeps a formal record of all calls and emails received in order to effectively track inquiries and resolutions. The three-step process is as follows:

Step 1: Gather Information

- Southgate Project representative will request all necessary information to complete the information section of the Inquiry/Issues Tracking Log, including the individual's name, address, parcel number, phone number, and Project reference. Additionally, any details offered regarding the purpose of the call will be entered on the Tracking Log.

Step 2: Define the Inquiry/Issue

- Southgate Project representative will work with the individual to help understand and address their concerns. If the representative can resolve the issue, they will record this on the Tracking Log. Otherwise, the individual will be advised that their concerns have been documented and that they can generally expect a return call within three business days from an MVP Southgate Project representative. The questions/concerns/issues as documented on the Tracking Log will then be directed to the appropriate right-of-way agent.

Step 3: Resolution

- If the issues are resolved during Step 2, the Southgate Project representative will complete the process by documenting how a resolution was reached for the Tracking Log. If a resolution is not reached during Step 2, the Tracking Log is forwarded to the appropriate right-of-way agent who will return the call and also update the Tracking Log with the resolution. The delegation of the issue should generally follow this progression until resolution is reached. If a right-of-way agent receives a direct phone call relating to environmental, construction, or non- right-of-way issues from a landowner during pre-construction, construction, or post-construction activities, the agent will request all necessary information (as outlined in Step 1) and will initiate submission of the information on the Inquiry/Issues Tracking Log. The agent will then proceed to Steps 2 and 3 until a resolution is reached. After working with the Southgate Project representative and appropriate right-of-way agent, if the landowner is still not completely satisfied with the resolution, the individual should contact the Commission's Landowner Helpline at (877) 337-2237, or by email, LandownerHelp@FERC.gov.

~~5.8 MVP SOUTHGATE PROJECT FORMAL APPLICATION – PUBLIC LOCATIONS FOR VIEWING~~

~~When the formal application from Southgate Project is filed with the FERC, it will be sent to a public location in each county in Virginia and North Carolina. The list below identifies the locations in each county where the public can review a hard copy and/or a digital copy (depending on the preference of the library or county building).~~

~~County~~	~~Name~~	~~Address~~
~~Pittsylvania~~	~~Pittsylvania County Public Library~~	~~24 Military Drive, Chatham, VA 24531~~
~~Rockingham~~	~~Reidsville Public Library~~	~~204 W Morehead Street, Reidsville, NC 27320~~
~~Rockingham~~	~~Eden Public Library~~	~~598 S. Pierce Street, Eden, NC 27188~~
~~Alamance~~	~~May Memorial Library~~	~~342 S. Spring Street, Burlington, NC 27215~~

Appendix B

Amendment Project Materials

2200 Energy Drive | Canonsburg, PA 15317
833-MV-SOUTH | mail@mvpsouthgate.com
www.mvpsouthgate.com

<GrantorName>
<GrantorStreet>
<GrantorCity>, <GrantorState> <GrantorZip>

November 12, 2024

RE: Parcel #

Dear <GrantorName>,

The MVP Southgate project is a proposed interstate natural gas transmission pipeline designed to meet public demand for natural gas in North Carolina for electricity generation and residential and business uses. Originally announced in 2018, the proposed project received a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission in 2020. In December 2023, following extensive evaluation and discussion with the proposed project's shippers, the MVP Southgate project was modified to incorporate public feedback and address the growing need for natural gas in North Carolina.

The redesigned MVP Southgate route is shorter (eliminated approximately 44 miles of pipeline and associated right-of-way in North Carolina), includes fewer crossings of waterbodies, and eliminates the previously planned compressor station in Pittsylvania County, Virginia.

Under the current shortened route, the updated MVP Southgate's 30-inch diameter underground pipe will span about 31 miles and deliver natural gas from Pittsylvania County, Virginia, to receipt points near Eden in Rockingham County, North Carolina. PSNC Energy and Duke Energy have signed long-term contracts for the full capacity of MVP Southgate, which is targeted for completion in 2028. MVP Southgate will be constructed by Mountain Valley Pipeline, LLC, and is an independent project separate from the recently completed Mountain Valley Pipeline. The MVP Southgate team intends to file an application with the Federal Energy Regulatory Commission to amend its Certificate of Public Convenience and Necessity. We are updating our mailing list of affected stakeholders and will share future project-related information with you.

If you have any questions or comments, please contact the project team via email at mail@mvpsouthgate.com; or by phone at **833-MV-SOUTH**; or by submitting the Contact Us form at our website at www.mvpsouthgate.com.

Sincerely,

Sarah Tacosik
Authorized Representative

IN THE PIPELINE

MVP SOUTHGATE NEWSLETTER
Volume 9 :: April 2025

MVP SOUTHGATE

Our project newsletter to stakeholders

We are pleased to provide you with the ninth newsletter for the MVP Southgate project as part of our effort to maintain communication with stakeholders throughout the regulatory process.

About MVP Southgate

The MVP Southgate project is a proposed interstate natural gas pipeline system that will tie into the Mountain Valley Pipeline near Chatham, Virginia, and transport natural gas via an underground 30-inch diameter pipe to delivery points in Rockingham County, North Carolina. The supply of natural gas will serve PSNC Energy and Duke Energy.

As an interstate pipeline project, MVP Southgate is governed by the federal Natural Gas Act and regulated by the Federal Energy Regulatory Commission (FERC). Mountain Valley Pipeline, LLC, will construct and own the proposed MVP Southgate. EQT will operate the pipeline and own the largest interest in the joint venture.

The Latest

Mountain Valley Pipeline, LLC, recently filed an application (Docket #CP25-60-000) with the Federal Energy Regulatory Commission seeking to amend MVP Southgate's existing Certificate of Public Convenience and Necessity to construct a modified version of the project that includes a shorter route, fewer crossings of waterbodies and a wider diameter pipe than was initially proposed in 2018.

The amended project:

•Eliminates the previously proposed compressor station in Pittsylvania County, Virginia.

•Largely maintains the same footprint of the first 31 miles of the previous FERC-approved route, including a 50-foot-wide permanent right-of-way.

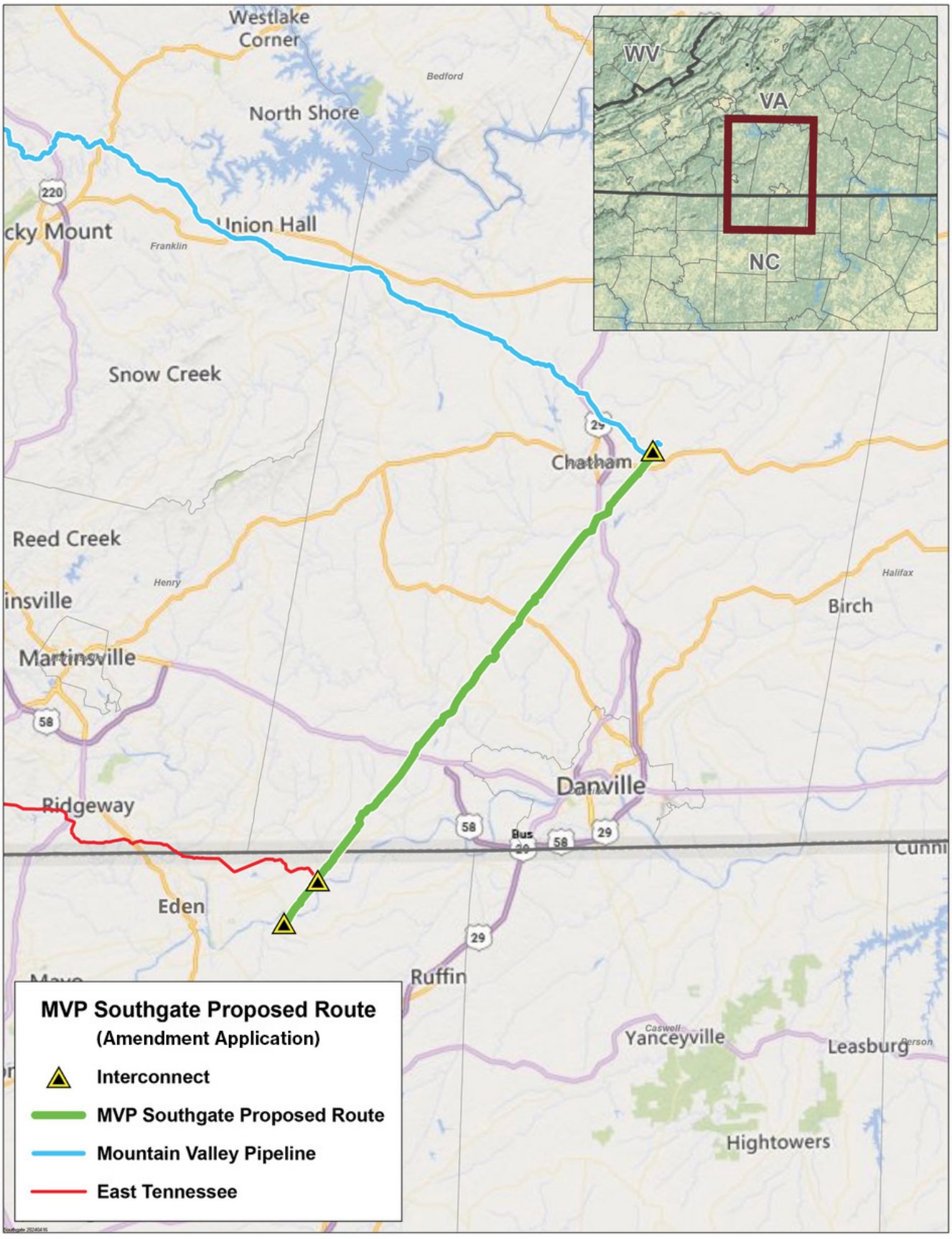
•Collocates with existing utility corridors for approximately 64% of the route.

•Will help satisfy demonstrated public need for a resilient, reliable and affordable supply of domestic natural gas for electricity generation and direct residential, commercial and industrial use.

Project Timeline

- May 2018 — **FERC Pre-filing**
- June 2018 — **Open Houses**
- November 2018 — **File FERC Application**
- July 2019 — **Draft EIS**
- February 2020 — **Final EIS**
- June 2020 — **FERC Certificate**
- December 2023 — **FERC Certificate Extended**
- February 2025 — **Amendment Application Filed**
- 2026 — **Construction (Target)**
- 2028 — **In-Service (Target)**

Project Route



Economic Benefits

MVP Southgate is designed to carry short-term economic benefits associated with construction activity, and long-term economic benefits associated with the increased supply of an affordable fuel that is preferred by many employers. As a result, the project has earned the support of the Virginia and North Carolina chambers of commerce, the Danville-Pittsylvania and Eden chambers of commerce, the North Carolina Economic Development Association and other organizations.

• **Direct Spending:** With an estimated capital expense of $370 million, the MVP Southgate project team anticipates spending $82 million directly in Virginia, and $21 million directly in North Carolina.

• **Labor & Employment:** During peak employment, the MVP Southgate project team is expected to support 770 jobs in Virginia and 220 jobs in North Carolina, including direct, indirect and induced jobs.

• **Tax Revenues:** A significant source of state and local tax revenues will be generated during the construction phase, with approximately $8.8 million generated in Virginia, and $2.0 million generated in North Carolina.

• **Ad Valorem Taxes:** Once the MVP Southgate project is operational, localities along the route will continue to receive annual tax revenues – generating an estimated $1.1 million in Virginia, and $328,000 in North Carolina.

Mountain Valley supports RCC welding program

Two 10-foot sections of 42-inch diameter pipe will provide students at Rockingham Community College with an opportunity to practice their welding skills.

The two sections, donated by Mountain Valley Pipeline, LLC, were delivered in October to the campus in Wentworth, North Carolina, where welding program director Wendy Young coordinated the unloading and storage of the 3,900-pound pipe sections.

"We've got a lot of students who want to be pipeline welders," Young said. The pipe from Mountain Valley will give students valuable experience in cutting and welding large diameter steel pipe, she said.
The recent expansion of Rockingham Community College's Industrial Technologies II building included the purchase of new welding equipment and allowed the college to more than double student capacity, with 48 students enrolled in the fall 2024 semester.

Wendy Young, welding program director at Rockingham Community College, helps unload 42-inch pipe from Mountain Valley for her students' use at the Wentworth, N.C., campus.

The donated pipe sections were unused from the MVP project, a 303-mile underground interstate natural gas transmission pipeline that entered service in June 2024. Mountain Valley previously contributed pipe sections to the Pittsylvania Career & Technical Center in Pittsylvania County, Virginia.

Since 2018, when Mountain Valley announced the MVP Southgate project to bring a needed supply of natural gas to North Carolina, the company has contributed more than $500,000 in grants, scholarships and in-kind donations to support community activities and efforts related to education, safety and economic growth in North Carolina and Virginia.

MVP SOUTHGATE

2200 Energy Drive | Canonsburg, PA 15317

Your feedback is important to us

For more information on our project

Access recent project filings on the FERC website at
https://elibrary.ferc.gov/idmws/docket_search.asp
and use the docket number **CP25-60**

Contact the MVP Southgate project team
www.mvpsouthgate.com
Call us toll-free: **833-MV-SOUTH**
Send us an email: **mail@mvpsouthgate.com**

IN THE PIPELINE

MVP SOUTHGATE NEWSLETTER
Volume 10 :: July 2025

MVP SOUTHGATE

Our project newsletter to stakeholders

We are pleased to provide you with the tenth newsletter for the MVP Southgate project as part of our effort to maintain communication with stakeholders throughout the regulatory process.

About MVP Southgate

The MVP Southgate project is a proposed interstate natural gas pipeline that will safely and efficiently transport natural gas from the existing Mountain Valley Pipeline terminus near Chatham, Virginia, via an underground 30-inch diameter pipe to delivery points in Rockingham County, North Carolina. The project will help satisfy growing energy demand in the Southeastern United States, ensuring diversified access to affordable, low emissions natural gas, and supporting reliable energy delivery to residents and businesses.

As an interstate pipeline project, MVP Southgate is governed by the federal Natural Gas Act and regulated by the Federal Energy Regulatory Commission (FERC). Mountain Valley Pipeline, LLC, a joint venture led by EQT Corporation and NextEra Energy, will construct and own the proposed MVP Southgate.

The Latest

The MVP Southgate team has been working with state and federal regulatory agencies on relevant permit applications for construction work on the amended project, including crossings of streams and wetlands.

- **In April,** MVP submitted a consolidated permit application package to the Virginia Department of Environmental Quality, the Virginia Marine Resources Commission and the Norfolk District of the U.S. Army Corps of Engineers.
- **In May,** MVP submitted an application for a water quality certification to the North Carolina Department of Environmental Quality.
- **In June,** the Federal Energy Regulatory Commission (FERC) held public scoping meetings to gather input on environmental issues related to the amended MVP Southgate project (Docket #CP25-60-000).

Project Timeline

2018
- May — **FERC Pre-Filing**
- June — **Open Houses**
- November — **File FERC Application**

2019
- July — **Draft EIS**

2020
- February — **Final EIS**
- June — **FERC Certificate**

2021

2022

2023
- December — **FERC Certificate Extended**

2024

2025
- February — **Amendment Application Filed**

2026
- **Construction (Target)**

2027

2028
- **In-Service (Target)**

What's next

Regulatory agencies continue to thoroughly review MVP Southgate's permit applications, and the project team is working collaboratively with them to ensure full compliance with all applicable state and federal requirements. As part of this process, the North Carolina Department of Environmental Quality's Division of Water Resources (DWR) will hold a public hearing on Aug. 12, 2025. We encourage all stakeholders to attend, learn more about the project and provide their input.

How to attend:

6 p.m. (Sign-in and speaker registration begins at 5:30 pm)
Eden City Hall Council Chambers
308 E. Stadium Drive
Eden, NC 27288

Written comments also may be submitted through Friday, Sept. 12, 2025.

By USPS: Sue Homewood, 401 permitting, 1617 Mail Service Center, Raleigh, NC 27699

Online: See the instructions in the notice at MVPSouthgate.com/public_meetings

What to know

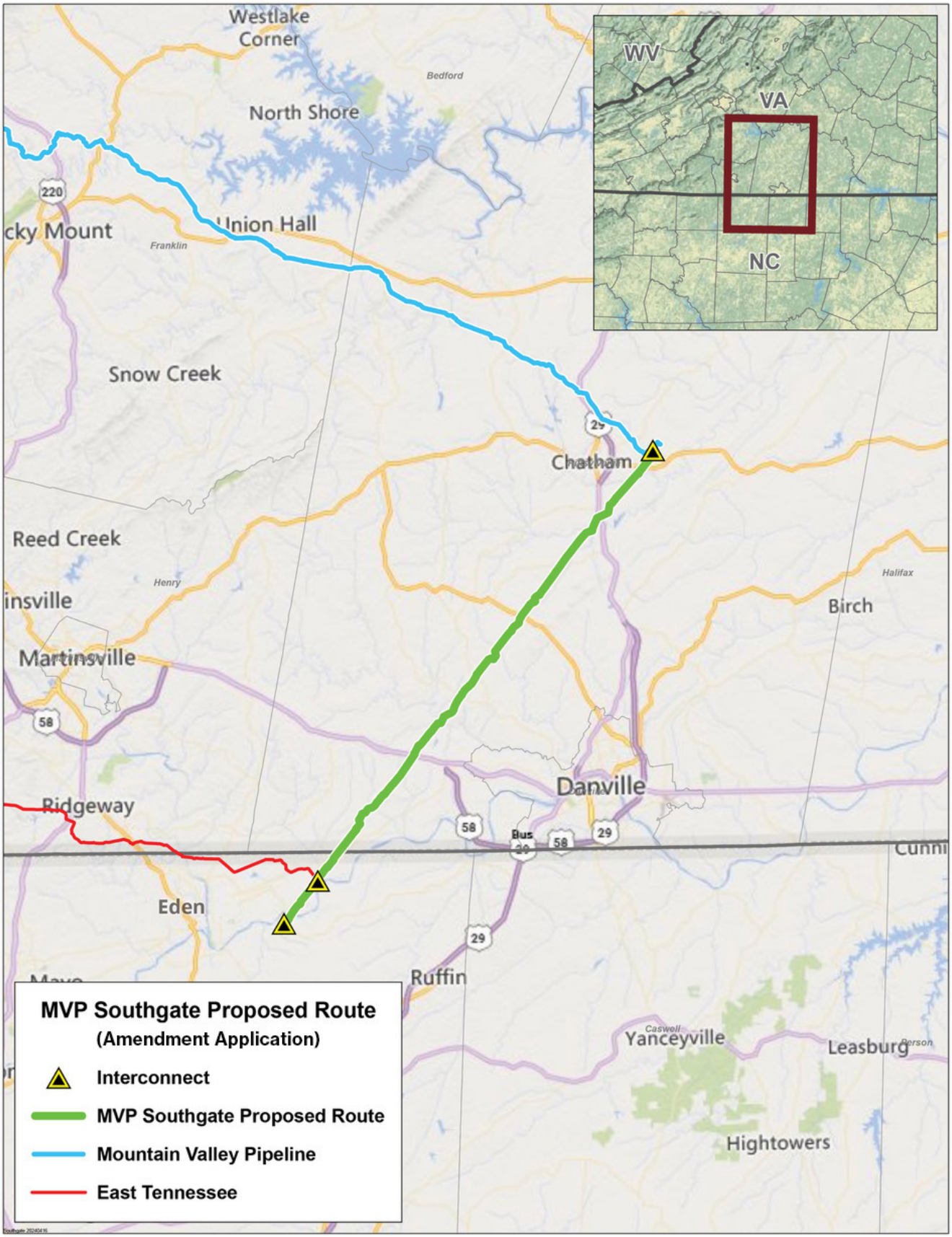
The amended MVP Southgate project is designed to help meet the region's growing demand for affordable, reliable and lower-carbon energy. Compared to the version approved by the Federal Energy Regulatory Commission in 2020, the amended project features a significantly shorter route and far fewer waterbody and wetland crossings.

Key features of the amended MVP Southgate project proposal include:

- Eliminating the previously proposed Lambert Compressor Station in Virginia and eliminating impacts to North Carolina's Jordan Lake Watershed.
- Reducing environmental impact by aligning 64% of the route with existing infrastructure corridors.
- Operating underground, with surface areas along the right-of-way to be restored and replanted to pre-construction contours.
- Fully mitigating impacts to wetlands and streams to ensure no net loss of aquatic resources.
- Addressing the North Carolina Utilities Commission's recognized need for a new interstate transmission pipeline to diversify the state's natural gas supply, historically dominated by a single provider.
- Supporting state and federal environmental goals while promoting long-term regional energy and economic security.

Project feature	Original certificated project (proposed in 2018)	Amendment project (current proposal)
Pipe diameter (inches)	16 and 24	30
Approximate length (miles) – Total	75.1	31.3
Compressor station	Lambert, near Chatham, VA	None
Meter stations	Lambert LN 3600 T-15 Dan River T-21 Haw River	Lambert LN 3600 Dan River Interconnect 1 Dan River Interconnect 2
Capacity	375 million cubic feet	550 million cubic feet
Shippers	PSNC	PSNC Duke Energy
Right of way (temporary)	Up to 100 feet	Up to 100 feet
Right of way (permanent)	50 feet	50 feet
Land required for construction	1,416.9 acres	575.83 acres
Land required for operation	437.9 acres	190.42 acres

Project Map


Westlake Corner
Bedford
North Shore
220
Union Hall
Franklin
Snow Creek
Chatham
Reed Creek
Henry
Halifax
Birch
Martinsville
58
Danville
Ridgeway
Bus
29
Eden
Ruffin
Caswell
Yanceyville
Leasburg
Person
Hightowers
WV
VA
NC
MVP Southgate Proposed Route
(Amendment Application)
Interconnect
MVP Southgate Proposed Route
Mountain Valley Pipeline
East Tennessee

MVP SOUTHGATE

2200 Energy Drive | Canonsburg, PA 15317

Your feedback is important to us

For more information on our project

Access recent project filings on the FERC website at
https://elibrary.ferc.gov/idmws/docket_search.asp
and use the docket number CP25-60

Contact the MVP Southgate project team
www.mvpsouthgate.com
Call us toll-free: **833-MV-SOUTH**
Send us an email: **mail@mvpsouthgate.com**

Mountain Valley Pipeline, LLC
MVP Southgate Amendment Project
Docket No. CP25-60-000

Responses to FERC Office of Energy Projects Environmental Information Request 3
Dated July 25, 2025

ATTACHMENT 4- EMERGENCY RESPONSE PLAN

MVP Southgate Amendment Project

Emergency Response Plan

Revised August 2025

TABLE OF CONTENTS

APPENDICES

1.0 SCOPE

1.1 Purpose

1.1.1 The purpose of this Emergency Response Plan is to establish written procedures to minimize the hazard resulting from a gas pipeline emergency. Appropriate parts of this Emergency Response Plan shall be kept via the Company intranet at locations where operations and maintenance activities are conducted.

1.1.2 The Emergency Response Plan shall ensure compliance with the Office of Pipeline Safety "Minimum Federal Safety Standards for Gas Pipelines," as set forth in CFR Title 49 Part 192 Subpart L, Paragraphs 192.615 Emergency Plans, 192.617 Investigation of Failures, by establishing:

1.1.2.1 Written procedures to minimize the hazards resulting from a pipeline emergency and providing the latest edition of the procedures to appropriate operations personnel.

1.1.2.2 Company requirements for training the appropriate operations personnel in emergency procedures, verifying the training is effective, and reviewing employee activities to determine whether the procedures were effectively followed in an emergency.

1.1.2.3 Company requirements for initializing and maintaining liaison with appropriate fire, police, and other public officials.

1.1.2.4 Procedures for analyzing accidents and failures.

1.2 Plan Objectives

1.2.1 The objective of this Plan is to assure operations personnel that may be involved in an emergency are prepared to recognize the situation and take immediate, appropriate action in order to:

1.2.1.1 Protect the safety of the public and employees.

1.2.1.2 Prevent or minimize facility and property damage.

1.2.1.3 Maintain continuity of service or re-establish service should an interruption occur.

1.2.1.4 Assure immediate reporting and investigation of emergencies.

1.3 Definitions

1.3.1 *The Company* means Mountain Valley Pipeline, LLC.

1.3.2 A *Pipeline Emergency* means a hazardous or potentially hazardous condition is near or directly involves a pipeline facility to the extent the Emergency Plan procedures shall be implemented. These conditions include, but are not limited to:

1.3.2.1 Gas detected inside or near a building where gas is not intended to be present.

1.3.2.2 A pipeline rupture.

1.3.2.3 A fire located near or directly involving a pipeline facility.

1.3.2.4 An explosion occurring near or directly involving a pipeline facility.

1.3.2.5 A natural disaster such as a flood, tornado, or unforeseen subsidence.

2.0 EMERGENCY RESPONSE PROCEDURES

The procedures set forth in this Plan are not intended to be followed in all situations on an item-by-item basis. The investigator should draw on their training and experience and determine whether the steps set forth should be followed in a different order.

COMMUNICATION WITH PUBLIC OFFICIALS AND OTHER EMERGENCY RESPONSE AGENCIES

When an emergency occurs and results in a hazard to public safety, the Company should notify the applicable fire and police departments, the county 911 center(s), and other public officials, as appropriate, for the purpose of coordinating both planned responses and actual responses for the duration of the emergency. The appropriate fire and police departments, the county 911 center, and other public officials should also be utilized whenever their assistance is required to (i) expedite making the area safe, (ii) initiate evacuations and road closings, (iii) establish temporary shelters and/or (iv) respond to requests for information and aid with communications in situations likely to result in numerous calls from the public. Any agency or public official contacted pursuant to this section should be advised when the emergency has been resolved.

2.1 Receiving an Emergency Call

2.1.1 The primary emergency contact number for Mountain Valley Pipeline is 855-740-1092.

2.1.2 The recipient of the emergency call will obtain:

2.1.2.1 The name of the caller

2.1.2.2 Telephone number of the caller

2.1.2.3 Address of the caller

2.1.2.4 Detailed location of the emergency

2.1.2.5 Detailed description of the emergency

2.1.3 The person receiving the emergency call shall:

2.1.3.1 Identify the field location of the emergency.

2.1.3.2 Contact the appropriate operations personnel and relay the information received in Paragraph 2.1.3.

2.1.3.3 When calls are received by the answering service, the information obtained in Paragraph 2.1.2 should be input into the call log.

2.1.3.4 If requested to do so by appropriate operations personnel, contact outside emergency agencies in accordance with the type of emergency as outlined in Paragraphs 2.1.4 through 2.1.7.

2.1.4 Gas, vapor cloud, or odor detected inside or near a building where gas is not intended to be present – dispatched personnel shall:

2.1.4.1 Contact appropriate Operating and Maintenance personnel, including the Superintendent of Operations for the territory in which the condition exists (contact numbers for non-working hours are listed in Appendix C).

2.1.5 Pipeline Rupture

2.1.5.1 Contact appropriate Operating and Maintenance personnel, including the Superintendent of Operations and Director of Operations for the territory in which the condition exists (contact numbers for non-working hours are listed in Appendix C).

2.1.5.2 Contact Gas Control

2.1.5.3 Contact the police, fire, and/or other appropriate emergency agencies, if necessary, for the municipality in which the condition exists (contact numbers listed in Appendix D).

2.1.6 Fire or explosion located near or directly involving a pipeline facility – dispatched personnel shall:

2.1.6.1 Contact appropriate Operating and Maintenance personnel, including the Superintendent of Operations and Director of Operations for the territory in which the condition exists (contact numbers for non-working hours are listed in Appendix C).

2.1.6.2 Contact Gas Control

2.1.6.3 Contact the police, fire, and/or other appropriate emergency agencies, if necessary, for the municipality in which the condition exists (contact numbers listed in Appendix D).

2.1.6.4 If the description of the emergency warrants, consideration must also be given to contacting the Director of Operations and Gas Control operator on duty for the territory in which the condition exists (contact numbers for non-working hours listed in Appendix C).

2.1.7 Natural Disaster

2.1.7.1 Contact appropriate Operating and Maintenance personnel, including the Superintendent of Operations, Director of Operations, Vice President of Field Operations, and Gas Control operator on duty for the territory in which the condition exists (contact numbers for non-working hours listed in Appendix C).

2.1.7.2 Contact Gas Control

2.1.7.3 Contact the police, fire, and/or other appropriate emergency agencies, if necessary, for the municipality in which the condition exists (contact numbers listed in Appendix D).

2.2 Initial Field Procedures

2.2.1 The following guidelines and procedures apply to all emergencies, regardless of type.

2.2.1.1 The first Company employee or contract representative to arrive at the site of an emergency incident shall take actions toward protecting the public first and then the property.

2.2.1.2 If the incident warrants, an immediate call shall be placed to the immediate supervisor for obtaining additional Company and/or fire, police, or emergency response help.

2.2.1.3 If the police, fire department, or other appropriate officials are already on the scene, the employee/contract representative should make themselves known to them and get a summary of the situation.

2.2.1.4 If escaping gas or product is the cause of the incident, the employee/contract representative should not attempt to control the gas at the point of discharge unless the following conditions are met:

2.2.1.4.1 The gas/product is blowing freely into the atmosphere, and the work can be performed safely and without breathing oxygen-deficient air.

2.2.1.4.2 The escape of gas/product can be safely controlled by a method such as closing a valve or by using approved repair methods.

2.2.1.5 If the above conditions are not met or the escaping gas/product cannot be readily controlled, a restricted zone determined by the use of gas/hydrocarbon detection equipment, if possible, will be established around the area of the escaping gas/product.

2.2.1.6 Service to buildings within the restricted zone will be shut off by contacting the appropriate distribution company.

2.2.1.7 Possible sources of ignition will be eliminated within the restricted zone as reasonably as possible.

2.2.1.8 Persons within the zone, including those in buildings, are to be advised to leave and remain outside the restricted zone if the situation warrants evacuation provisions as defined in EOP127 Responding to Reported Leak or Rupture (see Appendix E) or in the judgment of the Operations Coordinator on site.

2.2.1.9 Vehicular traffic will be prevented from entering or leaving the restricted zone. Appropriate personnel to utilize applicable traffic control procedures and warning devices such as barricades, cones, flag persons, etc. to safely control vehicles and pedestrians near the established work site.

2.2.1.10 Once the emergency has been brought under control, the restricted zone will not be lifted until gas/hydrocarbon detection equipment is employed to verify the safety of the public and/or property. This determination will be made by the Operations Coordinator on site.

2.3 Gas Detected Inside or Near a Building

Dispatched personnel shall follow the procedures referenced below.

See EOP 126 Responding to Gas Detected Inside or Near a Building (see Appendix E)

See EOP 127 Responding to Reported Leak or Rupture (see Appendix E)

2.4 Fire or Explosion Located Near or Directly Involving a Pipeline Facility

Dispatched personnel shall follow the procedures referenced below.

See EOP 128 Responding to Fire and or Explosion (see Appendix E)

2.5 Natural Disasters and Severe Weather Conditions

Dispatched personnel shall follow the procedures referenced below.

See EOP 129 Responding to Natural Disaster (see Appendix E)

2.6 Emergency Shutdown

See EOP 130 Emergency Shutdown and Pressure Reduction (see Appendix E)

3.0 TELEPHONIC PROCEDURES AND DEPARTMENTAL RESPONSIBILITIES

It is the practice of departments and/or Operating Areas to maintain address and telephone listings of personnel. This listing should be made available to the appropriate personnel and should be available within the department and/or Operating Area during other than normal working hours. Telephone number listings (including Company direct telephone) of Company emergency personnel are made available to appropriate Company personnel and government agencies (see Appendix C). See Telephonic Procedures Flowchart, Page 10.

3.1 Gas Control

3.1.1 Remain in communication with the “Operations Coordinator” on the scene.

3.1.2 Monitor the affected system during the emergency and, if necessary, during supply shutdown and start-up.

3.1.3 Adjust the load to bleed gas from any particular section of the system as determined by location and type of emergency.

3.2 Engineering and Compliance Departments

3.2.1 Assist in conducting failure investigations.

3.2.2 Assist in the preparation of “safety-related condition” reports.

3.2.3 Assist in the preparation of “incident/accident” reports.

3.2.4 Telephonic or electronic reporting to external regulatory agencies.

3.3 Environmental and Safety Departments

- Prepare and report any OSHA-required reports.

3.4 Human Resources Department

- Arrange drug or alcohol tests needed as a result of an incident/accident.

3.5 Media Contact

Prepare all news releases and make necessary media announcements. Obtain the following information from the Operations Coordinator as quickly as possible.

3.5.1 Pertinent, detailed facts concerning the nature and location of the emergency or incident/accident.

3.5.2 Reasons for delay in shutting off gas flow (if there is a delay).

3.5.3 Plans for controlling the emergency.

3.5.4 Total number of people, homes, and customers affected by the incident/accident.

3.5.5 Estimated time to make repairs.

3.6 Legal Department, Business Risk and Insurance

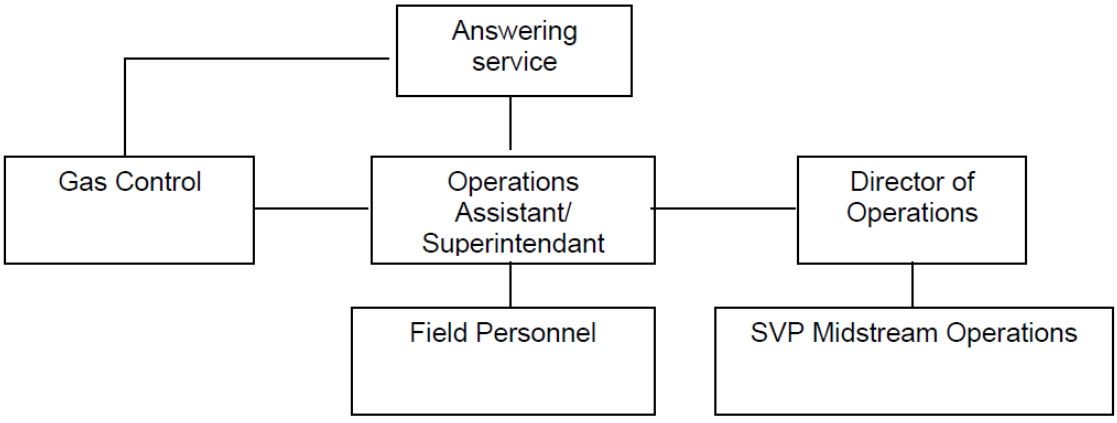
3.6.1 Obtain pertinent information from property owners who have sustained loss so a preliminary cost estimate can be prepared.

3.6.2 Survey damages, including photographs and secure statements from witnesses and reports from public investigators of the occurrence.

3.6.3 Analyze the situation so that further loss or damage can be prevented.

TELEPHONIC PROCEDURES

Note: Contact phone numbers are listed in Appendix C.



4.0 INVESTIGATION OF INCIDENTS, ACCIDENTS, FAILURES AND DEFECTIVE MATERIALS

See EOP 132 Investigation of Accidents, Failures, and Defective Materials (see Appendix E).

5.0 REPORTING – TELEPHONIC AND WRITTEN

Incident/accident reports are classified as telephonic and written.

5.1 Telephonic Reporting

A Telephonic Report shall be made by Compliance at the earliest practicable moment following discovery of a possible gas or hazardous material related incident/accident. Subsequent telephonic reports shall be made to confirm, change, or add the necessary details to include the following: (see also Appendix H – Telephonic Notice Worksheet). Written reports are required for all incidents/accidents reported by telephone (except courtesy calls).

The initial telephonic report should be made to the required regulatory agencies within 1 hour after discovery. This is necessary for the agency(ies) to make timely determinations regarding the need for response by their staff.

Complete information is not necessary for the initial telephonic report. In the event that a telephonic report has been made, and further investigation reveals that the situation was not an “incident/accident” and, therefore, not reportable, the telephonic report must be nullified with a letter. That letter must reference the telephonic report number received when the initial notification was made and briefly explain why the telephonic report is being nullified.

The following types of incidents/accidents should be reported by telephone to the National Response Center (DOT–Department of Transportation) at 800-424-8802 and the jurisdictional state regulatory agency at the earliest practical moment (see Appendix G for telephone numbers and addresses of state agencies).

5.1.1 An event that involves a release of gas from a pipeline and:

A death or personal injury necessitating in-patient hospitalization; or

Estimated property damage, including loss to the operator and others, or both, but excluding cost of gas lost of $50,000 or more

Unintentional estimated gas loss of three million cubic feet or more

An event that results in an emergency shutdown of an underground natural gas storage facility. Activation of an emergency shutdown system for reasons other than an actual emergency does not constitute an incident.

Any situation in the judgment of the operating personnel that presents a continuing danger to life or property, even if it does not meet the criteria of 5.1.1 above.

5.1.2 The following situations should be reported by telephone to the Federal Regulatory Energy Commission (FERC) at the earliest feasible time at 202-208-0700.

5.1.2.1 A serious interruption of service to any wholesale customer involving facilities operated under FERC certification. Serious interruptions of service shall include interruptions of service to communities, major government installations, and large industrial plants. Interruptible service customers that are interrupted under their tariff, interruptions for planned maintenance or construction, or interruptions of less than 3 hours do not need to be reported.

5.1.2.2 The following should be reported by telephone to the jurisdictional state regulatory agency at the earliest practical moment (see Appendix G for telephone numbers and addresses).

- An unplanned interruption of service to a significant number (1,000 or more) of retail customers.
- Any "non-reportable" gas-related event that may cause concern because of mass media coverage (courtesy call).

5.2 Written Reports

Written reports are required for all incidents/accidents reported by telephone (except courtesy calls).

5.2.1 Reports required by external agencies. The following summarizes the requirements of external regulatory agencies for written reports pertaining to gas or hazardous material incidents/accidents, meeting the criteria of Paragraph 5.1.1 of this Plan. (Addresses of external agencies are listed in Appendix G):

5.2.1.1 Department of Transportation – Office of Pipeline Safety – As soon as practical, but not more than 30 days following telephonic notice of a gas-related incident to the National Response Center, the Company shall file form PHMSA F-7100.2 *Incident Report Transmission and Gathering Systems* with the Office of Pipeline Safety. Where additional related information is obtained after a report is submitted, the Company shall make a supplemental report as soon as practicable with a clear reference by date, subject, and confirmation number to the original report.

5.2.1.2 Federal Energy Regulatory Commission (FERC) – As soon as practical, but not more than 30 days following telephonic notice of

an Interruption of Service is defined in Paragraph 5.1.2 of this Plan, the Company shall file form PHMSA F-7100.2 – Incident Report Transmission and Gathering Systems with FERC.

6.0 TRAINING AND REVIEW

6.1 The Technical Training Department will be responsible for verifying that appropriate training of Company personnel is being conducted and will, when necessary, provide proper guidelines for proper training, which will acquaint the appropriate personnel with the requirements and responsibilities covered by this plan.

6.2 The Compliance Department will be responsible for providing a copy of the latest edition of the Emergency Plan, as well as any future updates, to those supervisors responsible for emergency action through a computerized version of the Emergency Plan available on the Corporate Intranet.

6.3 When an emergency procedure has been instituted and the incident remedied, the Department Head or others deemed appropriate shall review the handling of the emergency to determine if Emergency Plan procedures were effectively followed by their employee(s). After the review, changes to the plan, training, etc., will be instituted, if so required.

7.0 LIAISON WITH PUBLIC OFFICIALS

The Company will keep on file and accessible on the Company intranet the responsibilities, resources and contact information of the emergency responders in the Company operating territory.

Emergency officials will be provided an Emergency Responder Manual which includes information regarding the Company's ability to respond to a gas pipeline emergency and identifies the types of gas pipeline emergencies for which the operator notifies the officials. The Emergency Responder Manual also includes Company contact numbers and emergency numbers.

APPENDIX A

EMERGENCY PLAN UPDATES

Compliance Department Responsibilities:

Periodically review and revise the Emergency Plan, as necessary.

The Compliance Department should consider the following during the review:

A. Changes in organization.
B. Changes in operating practices.
C. Code and regulation changes.
D. Changes in their physical plants.
E. Changes in appropriate personnel who receive the plan.

Issue the revised plan through the Company Intranet.

Conduct any informational programs necessary as the result of changes from this review.

APPENDIX B

EMERGENCY MATERIALS AND SUPPLIES

This Section to be Populated prior to Construction.

Emergency equipment will be available both internally and through the use of third-party contractors. Third-party contracts will be put in place prior to pipeline operations. The equipment list is to be developed.

APPENDIX C

COMPANY PHONE NUMBERS, MATERIALS, AND SUPPLIES

This Section to be Populated prior to Construction.

APPENDIX D

EMERGENCY RESPONSE CONTACT NUMBERS

Emergency Contact – 911

Company	City	County	State	Phone
EMERGENCY CALLS	**ALL**	**ALL**	**ALL**	**911**
CITY OF DANVILLE-EMERGENCY COMMUNICATIONS CENTER	DANVILLE	PITTSYLVANIA	VA	434-799-6535
PITTSYLVANIA COUNTY – COMMUNICATIONS CENTER	CHATHAM	PITTSYLVANIA	VA	434-432-7700
GRETNA RESCUE SQUAD	GRETNA	PITTSYLVANIA	VA	434-656-6650
CHATHAM VOL RESCUE SQUAD	CHATHAM	PITTSYLVANIA	VA	434-432-8827
COOL BRANCH VOL RESCUE SQUAD	PENHOOK	PITTSYLVANIA	VA	434-927-5050
640 COMMUNITY RESCUE SQUAD	JAVA	PITTSYLVANIA	VA	434-432-2507
DRY FORK VOL FIRE DEPT	DRY FORK	PITTSYLVANIA	VA	434-432-0431
DANVILLE LIFE SAVING CREW	DANVILLE	PITTSYLVANIA	VA	434-792-CREW
CHATHAM VOL FIRE DEPT	CHATHAM	PITTSYLVANIA	VA	434-432-1516
GRETNA VOL FIRE DEPT	GRETNA	PITTSYLVANIA	VA	434-656-2621
RINGGOLD VOL FIRE AND RESCUE	RINGGOLD	PITTSYLVANIA	VA	434-822-6989
KENTUCK VOL FIRE DEPT	RINGGOLD	PITTSYLVANIA	VA	434-822-8026
TUNSTALL FIRE AND RESCUE	DRY FORK	PITTSYLVANIA	VA	434-724-6677
RENAN VOL FIRE DEPT	GRETNA	PITTSYLVANIA	VA	434-335-5209
MOUNT CROSS FIRE AND RESCUE	DANVILLE	PITTSYLVANIA	VA	434-797-5535
RICEVILLE JAVA VOL FIRE DEPT	JAVA	PITTSYLVANIA	VA	434-432-8623
BACHELORS HALL VOL FIRE DEPT	DANVILLE	PITTSYLVANIA	VA	434-685-1224
HURT VOL FIRE DEPT	HURT	PITTSYLVANIA	VA	434-324-4141
CLIMAX VOL FIRE DPET	CHATHAM	PITTSYLVANIA	VA	434-432-1944
MOUNT HERMON VOL FIRE AND RESCUE	DANVILLE	PITTSYLVANIA	VA	434-836-4356
BLAIRS VOL FIRE DEPT	BLAIRS	PITTSYLVANIA	VA	434-836-3065
CALLANDS VOL FIRE AND RESCUE	CALLANDS	PITTSYLVANIA	VA	434-724-6459
LAUREL GROVE VOL FIRE AND RESCUE	SUTHERLIN	PITTSYLVANIA	VA	434-822-8821
BROSVILLE COMMUNITY VOL FIRE AND RESCUE	DANVILLE	PITTSYLVANIA	VA	434-685-3797
CASCADE VOL FIRE DEPT	CASCADE	PITTSYLVANIA	VA	434-685-1522
COOL BRANCH VOL FIRE DEPT	PENHOOK	PITTSYLVANIA	VA	434-927-5131
RIVERBEND VOL FIRE DEPT	DANVILLE	PITTSYLVANIA	VA	434-792-2312
KEELING VOL FIRE	RINGGOLD	PITTSYLVANIA	VA	434-797-2209
ALTAVISTA EMS	ALTAVISTA	PITTSYLVANIA	VA	434-369-4716

Company	City	County	State	Phone
EMERGENCY CALLS	**ALL**	**ALL**	**ALL**	**911**
DRAPER VOLUNTEER FIRE DEPARTMENT	EDEN	ROCKINGHAM	NC	336-635-2233
EDEN FIRE DEPARTMENT	EDEN	ROCKINGHAM	NC	336-623-2110
EDEN FIRE STATION 2	EDEN	ROCKINGHAM	NC	336-635-7754
EDEN FIRE STATION 3	EDEN	ROCKINGHAM	NC	336-623-8663
EDEN FIRE STATION 4	EDEN	ROCKINGHAM	NC	336-623-9820
LEAKSVILLE VOLUNTEER FIRE DEPARTMENT	EDEN	ROCKINGHAM	NC	336-623-9020
JACOBS CREEK FIRE DEPARTMENT	MADISON	ROCKINGHAM	NC	336-427-8888
MADISON FIRE DEPARTMENT	MADISON	ROCKINGHAM	NC	336-427-4495
HUNTSVILLE VOLUNTEER FIRE DEPARTMENT	MADISON	ROCKINGHAM	NC	336-427-5397
MAYODAN FIRE DEPARTMENT	MAYODAN	ROCKINGHAM	NC	336-427-5977
NORTHWEST VOLUNTEER FIRE DEPARTMENT	MAYODAN	ROCKINGHAM	NC	336-548-9027
BETHANY FIRE DEPARTMENT STATION 1	REIDSVILLE	ROCKINGHAM	NC	336-951-2155
CHERRY GROVE VOLUNTEER FIRE DEPARTMENT	REIDSVILLE	ROCKINGHAM	NC	336-421-0202
MONROETON VOLUNTEER FIRE DEPARTMENT	REIDSVILLE	ROCKINGHAM	NC	336-342-2945
OREGON HILL VOLUNTEER FIRE	REIDSVILLE	ROCKINGHAM	NC	336-349-5772
REIDSVILLE FIRE DEPARTMENT	REIDSVILLE	ROCKINGHAM	NC	336-634-3200
CITY OF REIDSVILLE FIRE DEPARTMENT	REIDSVILLE	ROCKINGHAM	NC	336-349-1023
REIDSVILLE FIRE DEPARTMENT STATION 2	REIDSVILLE	ROCKINGHAM	NC	336-634-3056
ROCKINGHAM COUNTY EMERGENCY SERVICES	REIDSVILLE	ROCKINGHAM	NC	336-634-3017
ROCKINGHAM COUNTY FIRE MARSHAL	REIDSVILLE	ROCKINGHAM	NC	336-634-3000
WENTWORTH VOLUNTEER FIRE DEPARTMENT	REIDSVILLE	ROCKINGHAM	NC	336-342-2795
WILLIAMSBURG VOLUNTEER FR DEPARTMENT	REIDSVILLE	ROCKINGHAM	NC	336-342-2429
YANCEYVILLE FIRE DEPARTMENT	REIDSVILLE	ROCKINGHAM	NC	336-342-2556
RUFFIN VOLUNTEER FIRE DEPARTMENT	RUFFIN	ROCKINGHAM	NC	336-939-9800
SHILOH VOLUNTEER FIRE DEPARTMENT	STONEVILLE	ROCKINGHAM	NC	336-573-9292
STONEVILLE FIRE DEPARTMENT	STONEVILLE	ROCKINGHAM	NC	336-573-9095

APPENDIX E

OPERATION AND MAINTENANCE PROCEDURES

This Section to be Populated prior to Construction.

APPENDIX F

CONTRACTOR CONTACT NUMBERS

This Section to be Populated prior to Construction.

APPENDIX G

REGULATORY AGENCY CONTACT NUMBERS

OFFICE OF PIPELINE SAFETY – DOT

Information Resources Manager
U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration
1200 New Jersey Avenue, SE,
Washington DC 20590
Phone: 800-424-8802 (National Response Center)
Phone: 202-366-4595

WEST VIRGINIA PUBLIC SERVICE COMMISSION

West Virginia Public Service Commission
Gas Pipeline Safety Division
201 Brooks Street
Charleston, WV 01
Phone – 24-hour emergency reporting (operators only): 304-340-0486

Name	Title	Phone Number
Mary Friend	Director	304-340-0770

VIRGINIA STATE CORPORATION COMMISSION

Division of Public Utility Regulation
Tyler Building, 4th Floor
1300 E. Main St.
Richmond, Virginia 23219
Phone: 804-371-9980

Name	Title	Phone Number
William F Stephens	Director	804-371-9611

NORTH CAROLINA UTILITIES COMMISSION

North Carolina Utilities Commission
430 North Salisbury Street
Dobbs Building
5th Floor
Raleigh, NC 27603-5918

Name	Title	Phone Number
Christopher J Ayers	Executive Director	919-733-4326

FEDERAL ENERGY REGULATORY COMMISSION

Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426
Phone (toll-free): 866-208-3372
Enforcement Hotline: 888-889-8030

OSHA AREA OFFICE REGION #3 Virginia

Headquarters State Plan Office
Main Street Centre
600 East Main Street, Suite 207
Richmond, VA 23219
Business Hours: 8:00 a.m. to 4:30 p.m. EST
Phone: 804-371-2327
Fax: 804-371-6524

OSHA AREA OFFICE REGION #3 West Virginia

Charleston Area Office
U.S. Department of Labor – OSHA
405 Capitol Street, Suite 407
Charleston, West Virginia 25301-1727
Phone: 304-347-5937
Fax: 304-347-5275

OSHA AREA OFFICE REGION #4 North Carolina

Raleigh Area Office
4407 Bland Road
Somerset Park Suite 210
Raleigh, North Carolina 27609
Phone: 919-790-8096
Fax: 919-790-8224

APPENDIX H

REPORTING FORMS

FORMS INCLUDED IN THIS APPENDIX:

COMPANY

1. Telephonic Notice Worksheet

Telephonic Notice Worksheet

Company/Operator Name: _____

Date of Incident: _____ Time of Incident: _____

Location of Incident: _____

Facilities Involved: _____

Injuries:

Description of Incident: _____

Customers/ Suppliers Affected: _____

Emergency Action Taken: _____

Other Significant Facts: _____

Date and Time of Report to National Response Center (NRC)
(800-424-8802; 267-2675 in Washington, D. C.): _____

Report Number Assigned by NRC: _____

Name & Phone Number of Person Making Report to NRC: _____

Operator's 24-hour phone: _____

This form may be reproduced.

Docusign Envelope ID: A733170F-557F-4832-A6C0-749D39B297B9

VERIFICATION

Pursuant to Rule 2005 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission ("Commission"), 18 C.F.R. § 385.2005, James Sabol, being duly sworn, upon his oath says that he is Project Manager; that he has read and is familiar with the foregoing updated response to the Commission's July 25, 2025 data request; that the contents of the response are true and correct to the best of his knowledge, information and belief; and that he has full power and authority to prepare the response and execute this verification.

Signed by:
Jim Sabol
E5DBAA9D967B4D7...

James Sabol
Project Manager