**Tributary to Big Run (WWF)**

General Notes:

- **Total Limit of Disturbance**: Includes 104,783 SF (2.405 Acres)
- **Photography and LiDAR Contour Data Obtained From**: TRIMBLE R6-4 ANTENNA/RECEIVER

**Scale**: 1" = 50' ±

**Property Line**

**Drill/Receiving Site**

**Gas Test Station**

**Gas Line Flag**

**Gas Line Marker**

## Permanent Conservation Area

**PROPOSED GAS LINE (APPROX.)**

**NO CLEARING OR DISTURBANCE AREA**

**TOP OF BANK**

**FLOODWAY**

**FLOOD PLAIN**

**UTILITY POLE**

**OPEN CUT / TIE-IN EXCAVATION**

**GAS LINE MARKER**

**EQUIPMENT ACCESS**

**PADEP Chapter 105 Impacts**

**10'±x10'± excavation at tie-in**

**2'±x2'± excavation at tie-in**

**MATCHLINE 1**

**EXISTING FOOT BRIDGE**

**TO BE REMOVED**

**6+00**

**6'±x22'± EXPOSED GAS PIPELINE**

**6'±x10'± x-Wetland Area # 4: 12' x 198.7' equipment travel to remove bridge = 2,385 SF**

**Stream # 6 Floodway: 12' x 82.1' for equipment travel to remove bridge = 985 SF**

**WETLAND AREA #6**

**WETLAND AREA #5**

**Permanent Impacts:**

- Stream # 4 & # 5, and Stream # 4 & # 5. The open-cut pipeline installation through the forested/scrub-shrub portion of Wetland #6 & # 7, and Stream # 4 & # 5.
- Directional drill installation of pipeline beneath a stream/wetland does not constitute a USACE Section 404 permit activity.
- No impacts to stream bed or floodway.

**Temporary Impacts:**

- See Standard Drawing # 102 for equipment travel across wetlands.
- No proposed disturbance or impacts to PEM wetlands within 10' wide area.
- Through PFO/SS wetlands.
- No impacts to stream bed or floodway.
- 10'±x10'± excavation at tie-in
- 1'±2'± DEEP areas, the Temporary Construction Area shall be maintained by periodic mowing.
- If stump removal is needed within PFO/SS wetlands determined feasible. Do not remove stumps/root systems.
- 4.1' x 10' Wetland Area # 4
- 17,660 SF (0.41 Acre)
- 10' x 83.7' for permanent maintained ROW through PFO/SS wetland = 837 SF
- 35 SF
- 1,123 SF
- 22 SF
- 40' x 75' temporary disturbance to PEM at tie-in location = 3,000 SF
- 10' x 75' for pump bypass during open-cut pipeline installation  = 750 SF
- 10' x 52.7' for temporary construction area through floodway = 527 SF
- 1' x 83' for directional drill of 6" pipeline = 830 SF
- 1' x 22' for directional drill of 6" pipeline = 22 SF

**PADEP Separate Activity Waiver Approval**

**NA, < 100-acre drainage area, Waived Activity**

**Steel Pipeline.**

**10'±x10'± excavation at tie-in**

**10'±x10'± equipment travel to remove bridge**

**Through PFO/SS wetlands.**

**No impacts to stream bed or floodway.**

**EXPOSED GAS PIPELINE**

**No impacts to stream bed or floodway.**

**See Standard Drawing # 100, # 101 & # 102 for pipeline replacement and equipment travel across wetlands.**

**See NFG Standard Drawing #23A for topsoil stripping within travelway through farmed wetland areas. Top soil stripping may be utilized as an alternative to equipment mats within farmed wetland areas to minimized soil compaction.**

**See Standard Drawing # 104, PADEP SCD # 13-2, # 13-4, & # 3-15, and NFG Standard Drawings # 9B & 21 for construction activities. Do not remove stumps/root systems.**

**PADEP Separate Activity Waiver Approval.**

**NA, < 100-acre drainage area, Waived Activity.**

**10'±x10'± excavation at tie-in.**

**1'±2'± DEEP areas, the Temporary Construction Area shall be maintained by periodic mowing.**

**If stump removal is needed within PFO/SS wetlands determined feasible. Do not remove stumps/root systems.**

**Permanent Impacts:**

- Stream # 8: 1' x 22' for directional drill of 6" pipeline = 22 SF
- Stream # 7: 10' x 52.7' for temporary construction area through floodway = 527 SF
- Stream # 8: 1' x 22' for directional drill of 6" pipeline = 22 SF
Tributary to Big Run (WWF)

3,458 SF (5.38 Acres)

within Limit of Disturbance.

Cut and cap exposed portion of Big Run (WWF) feasible.

No impacts to stream bed or banks.

only along existing right-of-way.

FLOODWAY 50'

EXISTING NFG 1,262,450 SF (28.98 Acres)

No proposed disturbance or maintenance of Right-of-Way along 40'± Width.
Approximate 2,780' directional drill of 6" pipeline, including crossings of Wetland Area #4 & #7 and Stream #4, #5.

### PADEP Chapter 105 Impacts

- **Permanent Impacts:**
  - Stream #5 Floodway: 40' x 75' for temporary disturbance to PEM at tie-in location = 3,000 SF
  - Wetland Area #2: 50' x 94.4' equipment travel and pipe layout = 4,720 SF
  - Stream #5: 10' x 75' for pump bypass during open-cut pipeline installation = 750 SF
  - Wetland Area #2: 10' x 41' equipment travel and pipe layout = 410 SF
  - Stream #5 Floodway: 5.05' x 65' for permanent maintained ROW through floodway = 328 SF
  - Stream #6: 1' x 126' for directional drill of 6" pipeline = 126 SF
  - Stream #6 Floodway: 1' x 671' for directional drill of 6" pipeline = 671 SF
  - Stream #8: 1' x 22' for directional drill of 6" pipeline = 22 SF

- **Temporary Impacts:**
  - Wetland Area #7: 1' x 35' for directional drill of 6" pipeline = 35 SF
  - Wetland Area #7: 1' x 64' for open-cut of 6" pipeline = 64 SF
  - Stream #4: NA, < 100-acre drainage area, Waived Activity
  - Stream #5 Floodway: 1' x 308' for directional drill of 6" pipeline = 308 SF
  - Stream #5 Floodway: 10' x 51.6' for permanent maintained ROW through Floodway/PFO/SS Wetland = 516 SF
  - Stream #4: 50' x 6' for pump bypass during open-cut pipeline installation = 300 SF
  - Wetland Area #7: 180' x 189.25' for HDD receiving site in Farmed Wetland = 34,065 SF
  - Wetland Area #7: 50' x 1,125' for equipment travel and pipe layout area in Farmed Wetland = 56,250 SF

- **Equipment Travel**
  - Wetland Area #4: 20' x 131.5' for temporary construction area through PFO/SS wetland = 2,630 SF
  - Wetland Area #4: 4.9' x 75' for temporary disturbance to PFO/SS wetland at tie-in location = 367 SF
  - Wetland Area #7: 4.9' x 75' equipment travel and pipe layout = 367 SF
  - Wetland Area #7: 180' x 189.25' for HDD receiving site in Farmed Wetland = 34,065 SF
  - Wetland Area #7: 50' x 1,125' for equipment travel and pipe layout area in Farmed Wetland = 56,250 SF

- **Pipeline Layout for Site Plan**

- **General Notes:**
  1. These plans have been prepared by Urban Engineers using aerial photography and LiDAR contour data obtained from the Pennsylvania Department of Conservation and Natural Resources.
  2. Topography lines and temporary work areas were obtained from a drawing entitled "20180105 HM175-HDD" supplied by NFG, dated 1/5/2018.
  3. The plans are drawn to the scale of 1" = 50' ±2'.

- **Site Plan Details:**
  - The plans include temporary and permanent conversion areas, equipment travel, topography lines, and construction details.

- **Drawings:**
  - Stream #1 Typical Section
  - Stream #2 Typical Section
  - Stream #3 Typical Section
  - Stream #4 Typical Section
  - Stream #5 Typical Section
  - Stream #6 Typical Section
  - Stream #7 Typical Section
  - Stream #8 Typical Section

- **General Notes:**
  - All distances and areas are approximations and are intended for informational purposes only.
  - The plans do not depict all features or details that may be present in the field.
  - The plans are subject to change and may not depict all aspects of the project.

- **Prepared for:**
  - General Notes:

- **Prepared by:**
  - Urban Engineers, Inc.

- **Date:**
  - February 26, 2018

- **Scale:**
  - 1" = 50' ±2'

- **Address:**
  - Erie, PA 16512

- **Contact:**
  - Erie, PA 16512

- **Prepared by:**
  - Urban Engineers, Inc.