Improving the Information Pipeline

A Resource to Help Regulators and Consultants Navigate the Natural Gas Pipeline Permitting Process

Collaboratively developed by Downstream Strategies, LLC and the Association of State Wetland Managers

November 2018

Association of State Wetland Managers

This document was developed under Assistant Agreement No. WD 83692401 awarded by the U.S. Environmental Protection Agency. It has not been formally reviewed by EPA. The views expressed are solely those of the authors and EPA does not endorse any products or commercial services mentioned.

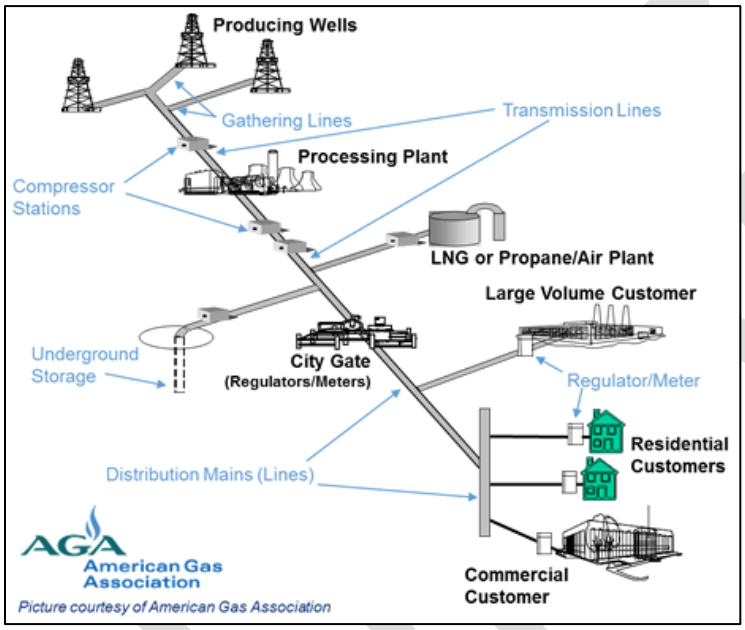
Photos courtesy of FERC

Introduction

Following the recent development of unconventional natural gas resources in many parts of the United States, numerous new natural gas pipelines have been proposed, permitted, and built to bring gas from wells to consumers. These pipelines include gathering, transmission, and distribution lines (Figure 1) and have resulted in an unprecedented number of permit applications for state agency personnel to review and process.

Each section in this document is a stand-alone resource. Consider skimming the entire document, and then keeping it handy for future reference when questions arise.

FIGURE 1: NATURAL GAS PIPELINES AND ASSOCIATED INFRASTRUCTURE



The Association of State Wetland Managers (ASWM) has worked with state and tribal agency personnel, consultants working with energy companies, nonprofits, and others to identify potential permitting improvements designed to reduce the impacts of linear oil and gas pipeline development on wetlands and streams in the United States.

As a result of ASWM's two year, need-based project, ASWM has identified several common barriers, challenges and issues. A full listing can be found in ASWM's pipeline permitting factsheet on the topic, as well as the accompanying matrix of barriers and solutions and a policy brief designed to highlight the most common of these challenges and provide information about potential policy improvements to address them.

Don't Forget to Think About:

- Is the proposed pipeline a gathering line, transmission line, or distribution line?
- Is the project a single-state or multi-state pipeline?
- Which parties will need to work together in the permitting process?
- Will the consultant be representing the energy company during the permitting process or working in a support capacity?

Understanding the Permitting Process

This document is one of several linked work products created by ASWM to assist states and tribes working on pipeline permitting activities. It is designed to be a resource for both regulators and consultants and focuses on state §401 Certifications of federal §404 permits for natural gas pipelines (Table 1).

The U.S. Army Corps of Engineers issues §404 permits for the discharge of dredged or fill material into waters of the United States, including wetlands. Before issuance, states have the opportunity to provide §401 Certifications that the discharge will not cause violations of state water quality standards.

The regulatory process may also include permits, certifications, or licenses from the U.S. Army Corps of Engineers, state environmental agencies, or the Federal Energy Regulatory Commission (FERC). Other requirements may also stem from state, county, and local authorities.

FERC regulates interstate natural gas transmission pipelines, but not gathering or distribution pipelines. FERC does not regulate pipelines for natural gas liquids, oil, or oil products.

TABLE 1: THE FOCUS OF THIS DOCUMENT

This document addresses:	This document does not address:
• Natural gas pipelines	• Oil pipelines
• State §401 Certifications	• Federal §404 permits • FERC certificates • Requirements from state, county, and local laws, regulations, plans, or ordinances

Note: New Jersey and Michigan are exceptions, as these states have formally assumed the responsibility of issuing §404 permits from the federal government through a process called "assumption."

While all states follow the same general framework for state §401 Certifications, there are many differences in the actual process among states. For example, the threshold for requiring §401 Certifications for natural gas pipelines varies by state. In West Virginia, §401 Certifications are only required for pipelines larger than 36 inches in diameter and/or for projects that cross Section 10 rivers. Alternately, New Jersey requires §401 Certifications for all pipelines with wetland impacts, regardless of size.

Section 10 rivers and streams are navigable waters. The U.S. Army Corps of Engineers maintains online lists of Section 10 waters by district and state.

What is common across the country, though, is that special conditions can be added at the national level, regional level, state level, or for specific projects to ensure that activities covered under §404 permits will not result in violations of state water quality standards.

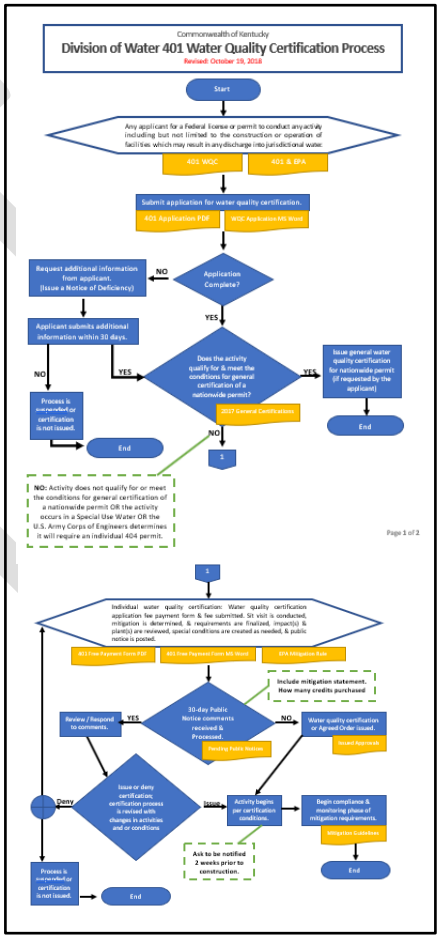
ASWM's Natural Gas Pipeline Permitting 101 webinar provides more details on the permitting process and can be viewed online.

Developing Process Maps for Oil & Gas Permitting Processes
A Guide for States and Tribes

Association of State Wetland Managers

Last revised: November 4, 2018

Many natural gas pipeline projects that require §404 permits are being permitted under Nationwide Permit 12 ("NWP 12"), which was most recently issued in 2017. NWP 12 authorizes discharges related to utility lines, including natural gas pipelines. In 2017, state environmental agencies had the opportunity to—and did—require special conditions for NWP 12. These agencies can also require special conditions for specific pipelines seeking coverage under NWP 12. *Whether or not a pipeline is seeking an individual §404 permit or coverage under NWP 12, this document serves as a resource for regulators and consultants during the time that state agencies are considering including special conditions via the §401 Certification process.*



To assist all parties in understanding the state/tribe's §401 Certification process steps, ASWM worked with states to develop sample state natural gas permitting process maps to detail both the procedural steps from application to issuance and the points of access for both the regulators and the applicants (and their consultants). ASWM has created two state §401 Certification permitting process maps (Kentucky, Missouri), that can serve as examples to guide discussions about other state process, but likely differ significantly at one or more phases of the process. To assist states and tribes in this process, ASWM has also developed a document entitled, "Developing Process Maps for Oil and Gas Permitting Processes: A Guide for States and Tribes," which also includes a process map template for use in creating and discussing any state/tribal 401 certification permitting process of interest.

Regulatory timelines will be different for different agencies. For example, FERC publishes a Notice of Schedule with specified timelines. And the U.S. Fish and Wildlife Service provides for 135 days for completion of a Biological Opinion under the Endangered Species Act.

Different combinations of requirements for §401 Certifications and/or FERC certificates are possible.

For example, in West Virginia:

- The Mountaineer Xpress Pipeline, which is entirely in West Virginia, required a §401 Certification because the pipeline is larger than 36 inches. It also required a FERC certificate because it is connected to a broader interstate transmission network.

- The Supply Header Project did not require a §401 Certification in West Virginia because it is smaller than 36 inches; however, a FERC certificate was required because it is an interstate transmission line.

Note: §401 Certifications are triggered differently in different states. These examples are for West Virginia, in which §401 Certifications are triggered for pipelines larger than 36 inches in diameter and/or for pipelines that cross Section 10 rivers. The State has one year to issue, deny, or waive certification after receipt of a complete application.

Don't Forget to Think About:

- ☐ Is the proposed activity covered under NWP 12, or is an individual permit required?
- ☐ Is a §401 Certification required for this project?
- ☐ Is the project also regulated by FERC and/or other state, county, and local laws, regulations, plans, or ordinances, and if so, how do these other regulatory processes impact the timeline?
- ☐ Does the state have a process map to document the gas pipeline permitting process? If not, who needs to be contacted to learn what the process is?
- ☐ Can you still participate in the pre-application process through NEPA?
- ☐ Is this a multi-state project?
- ☐ If it's a multi-state project, are key terms defined differently in different states (See the following chapter)?
- ☐ If it's a multi-state project, are rules different in different states (e.g., haybales cannot be used in West Virginia for stormwater control)?
- ☐ If it's a multi-state project, while EPA is required to coordinate §401 Certifications, are you as the consultant also coordinating across states?

Pipeline Terms and Language

The permitting process works more effectively and efficiently if regulators, energy companies, and consultants speak the same language. If all parties are not on the same page in terms of what specific terms, words, or acronyms mean, major disconnects can occur. These disconnects can result in permitting delays, confusion, extra work, or even damages to water resources.

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ASWM has worked with states, tribes, federal agencies, academics, nonprofits, and consultants to compile glossaries and lists of acronyms to help guide discussion about terms that will be used during the permitting process. Those who are working on permitting processes should identify relevant language support documents or develop documents to support their joint work.

Glossaries

While different parties may use the same term, this does not always mean they agree on the definition. To illustrate this challenge, ASWM's pipeline permitting web resource provides links to several different glossaries. These glossaries, when compared, are found to provide multiple definitions for the same term in numerous cases. Rather than identifying which definition should be used, ASWM's listing of pipeline permitting glossaries provides an opportunity for readers to discuss the differing definitions and encourages those involved in a specific permit review process to develop their own glossary of commonly used terms to create greater clarity for all engaged in the permitting activities.

Acronyms

Another challenge is the barrage of acronyms that come from multiple fields. Sometimes these acronyms are explained, but sometimes they are not. The same acronym may even represent two or more different sets of words. To assist with deciphering this complexity and allow parties to come to agreement on what different acronyms represent during their review process, ASWM provides another set of weblinks to various pipeline permitting acronym lists. Regulators and consultants may find these resources useful when reviewing technical documents. ASWM also encourages states to use this tool to develop their own acronym lists.

For more information about the challenges of language and other forms of complexity in pipeline permitting processes, check out ASWM's Wetland News Article entitled, "When my Pig isn't the Same as Your Pig: Helping State and Tribal Wetland Regulators Address Complexity in Linear Oil and Gas Pipeline Development Permitting Processes."

ASWM's Improving the Information Pipeline: Working with Consultants during Oil and Gas Pipeline Permitting Processes webinar can be viewed online.

Getting on the Same Page with Language

While many terms are commonly understood or can be easily agreed upon once discussed, certain specific terms and acronyms commonly create confusion. ASWM's national workgroup identified the following terms that have created problems in some states. By documenting these, it is ASWM's hope to encourage dialogue at the state level to come to an understanding about what terms mean and what expectations are associated with their usage.

A common understanding of industry terms is also important in determining the potential for impacts to aquatic resources. For example, ***pig launchers and receivers***, ***drips***, and ***looping*** are basic terms in the natural gas industry but may be confusing to permit reviewers. These terms refer to sections of pipe that are installed for a specific purpose.

An Example:

Pig launchers and receivers are sections of pipe where pipeline cleaning and inspection devices (pigs) are inserted or removed, drips are sections of pipe used to collect condensate (hydrocarbon liquids) for removal, and looping refers to the installation of parallel sections of pipe to increase capacity. Because all these appurtenances require additional space, there is the potential for permanent or temporary impacts to aquatic resources, particularly wetlands.

Some other terms and techniques to understand during the permit review process that have been found to commonly have different definitions or conceptualizations between parties include:

- study corridor,
- limit of disturbance,
- temporary workspace,
- additional temporary workspace,
- staging area,
- wet trench,
- dry trench,
- conventional bore,
- HDD, and
- direct pipe.

Don't Forget to Think About:

- ☐ Are consultants and regulators for the project speaking the same language and in agreement on the definition of key terms?
- ☐ If it's a multi-state project, are definitions different in different states?
- ☐ Are any existing glossaries or definitions being used by any of the parties, and if so, can they be shared?

Cumulative Impacts to Aquatic Resources

Many types of impacts can occur as part of the pipeline development process. Pipelines may affect a range of aquatic resources, including wetlands, and these impacts range from both short- and long-term destruction and disruption of wetlands and other aquatic resources to water quality impacts, habitat loss, and increasing invasive species, as well as compromised quality of critical areas and increased risks to endangered species.

In addition to direct impacts, there also needs to be consideration of cumulative impacts. Specifically, parties to the permitting process need to consider cumulative negative effects from pipeline development activities. This requires that those involved understand the types of impacts that can be cumulative, the importance of scope and context, and how negative cumulative effects can accumulate.

To help regulators and consultants better understand these considerations, ASWM points these parties to its Cumulative Adverse Effects (CAE) White Paper, which explains the complex issue of cumulative impacts and how to assess them for pipeline development projects. ASWM's resource limits the focus of cumulative adverse effects to those effects only from pipeline construction, rather than all activities occurring in that watershed at the same time pipelines are being developed in them.

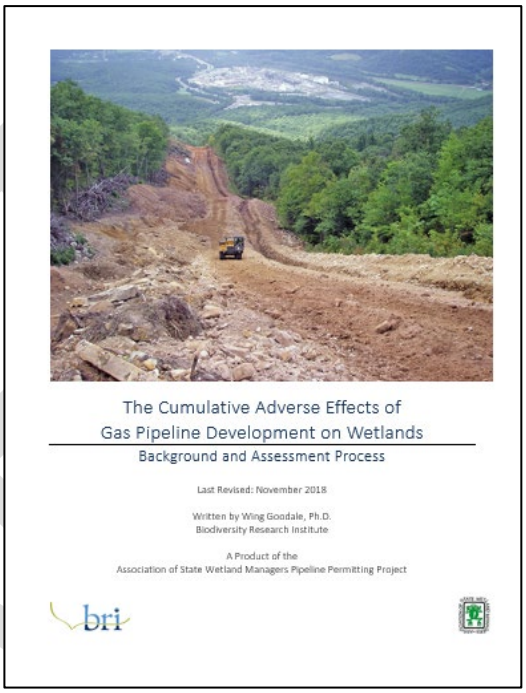
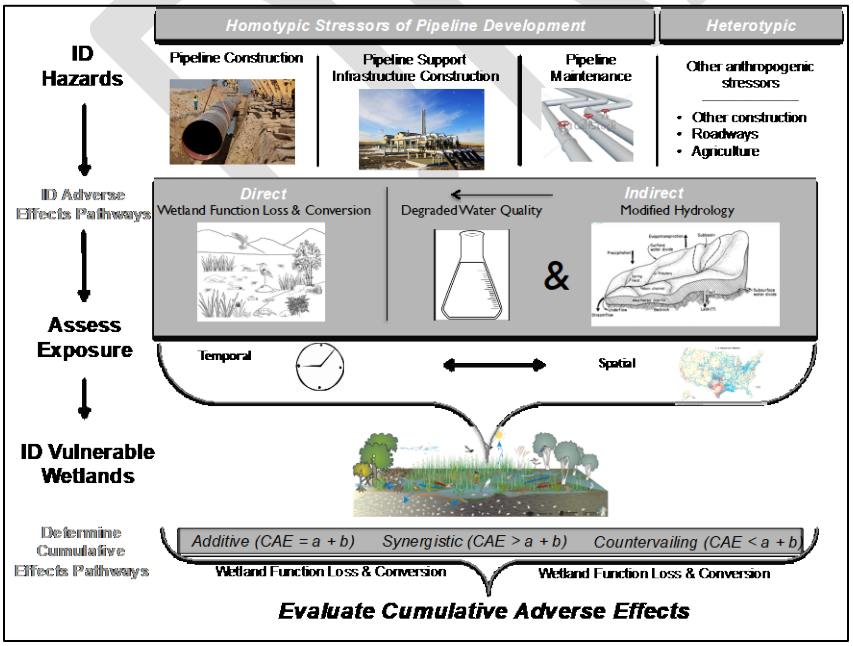


FIGURE 2: CUMULATIVE ADVERSE EFFECTS OF PIPELINE DEVELOPMENT ON WETLANDS



Source: ASWM Cumulative Adverse Effects White Paper.

Note: Homotypic and heterotypic hazards directly/indirectly adversely affect vulnerable receptors. These adverse effects accumulate as vulnerable receptors are repeatedly exposed through time and space to the hazards via additive, synergistic, and countervailing pathways. The adverse effects can then accumulate to a degree that significant wetland functionality is lost within watershed.

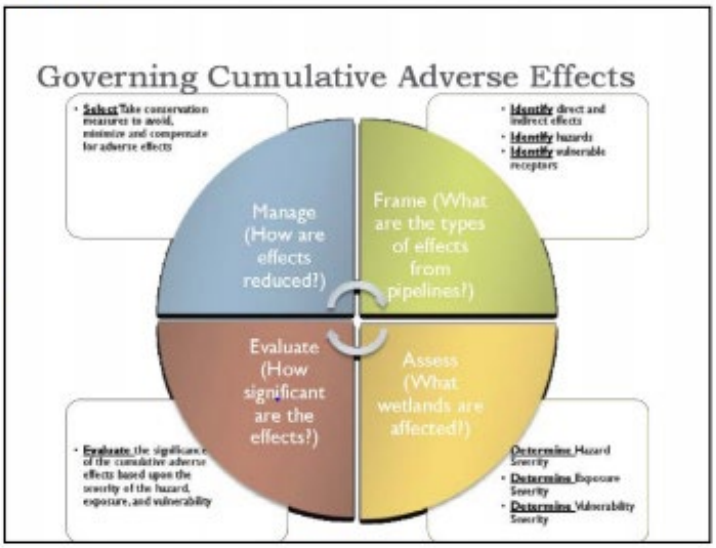
Once parties understand the key concepts and considerations around cumulative negative effects, they must decide how to review and account for these effects in the permit requirements. To assist states with this process, ASWM and its partners have developed a qualitative model to help states think through the effects on single or multiple pipeline projects in an area. This model allows regulators and consultants to collect specific pieces of information and enter it into a tool. The tool, also included in the model considers elements such as size of watershed, types of aquatic resources affected, types of expected impacts, and how various planned projects compare to each other in terms of impact, as well as jointly impact identified resources.

ASWM's Cumulative Adverse Effects of Pipeline Development on Wetlands and Other Aquatic Resources webinar can be viewed online.

While the tool is not suggested as a regulatory device, it does provide a thoughtful and logical method for thinking through and comparing alternative pipeline development scenarios.

Still in its early stages of development, the tool should be considered as a potential way for applicants and regulators alike to demonstrate due diligence in identifying and considering negative cumulative effects in a more comprehensive and research-based manner than they often have been in the past.

Figure 2



Don't Forget to Think About:

- ☐ Have you identified the hazards, adverse effect pathways, exposure, and vulnerable streams and wetlands?
- ☐ Have you identified not just the direct, but also the indirect effects?
- ☐ Are effects additive, synergistic, or countervailing?
- ☐ Have you used the qualitative model to think through the effects of one or multiple pipeline projects in the area?

Best Practices for an Effective §401 Process

While each state and pipeline have unique needs, best practices can serve as a useful tool for states and tribes to help create transparent expectations, provide support for regulatory decisions, and increase the predictability of the permitting process. ASWM worked with states, tribes, consultants, nonprofits, and others to identify examples of common best practices. This process found not only great diversity in the types of BMPs used and their variations, but only a limited number of states that have formalized these practices into a BMP manual.

To assist states and tribes increase their permitting capacity in ways that work for them, ASWM has developed a document to help states and tribes entitled, "Considering Best Practices for Managing Pipeline Permitting". This document provides a roadmap for states and tribes considering ways to incorporate best practices into oil and gas permitting processes, including information on developing BMPs and BMP manuals, considerations when making decisions about BMPs, and examples of the types of practices that states or tribes may want to encourage or require for pipeline projects. Some of the BMPs can be encouraged during the pre-planning process, some may be required during the permit conditioning process, and yet others may simply be recommended and encouraged, but not required by the state.

ASWM's Horizontal Directional Drilling: Understanding Context when Reviewing Oil and Gas Pipeline Permit Applications webinar can be viewed online.

The document provides examples of five different categories of best practices related to oil and gas pipeline permitting:

1) Administrative Best Practices: These BMPs are designed to assist states in improving internal administrative practices or processes, including the development of effective systems, relationships, and supporting tools or documentation.

2) Legal/Regulatory Best Practices: This set of BMPs provides suggested legal or regulatory mechanisms that states/tribes may want to put in place to increase the efficiency and effectiveness of pipeline permitting activities. These might include the formalization of required setbacks, adopting new regulatory language, or understanding legal precedent for specific decisions.

3) Pre-Application Planning Best Practices: These practices guide the permit reviewer in ways to engage in the planning process before a formal application for 401 Certification is submitted to the state/tribe. By being part of these early conversations, states and tribes may be able to address questions about what information and data collection is needed to support §401 certification, concerns about the pipeline route and encourage the integration of specific considerations and best practices in the formal application. Advance planning is important for a wide variety of issues, including inadvertent returns from HDD, landslides, and encountering acid-forming materials, karst, or other sensitive areas.

4) Pipeline Construction Best Practices: These BMPs provide a limited set of examples of types of BMPs that may be encouraged or required by states/tribes during the planning, implementation, or monitoring/assessment phases of pipeline development to reduce impacts to water quality. BMPs encourage consideration of specific categories of practices, such as soil and erosion control, drilling approaches, and onsite water management. This portion of the BMP list is limited and should be resourced by other BMP guidance documents. *Note: This portion of the BMP list does not include any BMPs related to emergency planning or management for pipeline issues, because these practices were not part of ASWM's project scope*.

5) Pipeline Post-Construction Best Practices: These BMPs focus on pipelines after initial construction is completed and focus on such tasks as restoration, tracking, monitoring, reporting and enforcement.

Special Considerations for Construction Techniques

When selecting among BMPs, some common issues often arise. The permitting process will work most effectively and efficiently if regulators are as knowledgeable as consultants (and vice versa) about pipeline construction techniques and tradeoffs. Some practices may be ideal for some circumstances, yet not viable or preferred in others. Some decisions may require applicants and reviewers conduct additional testing, analysis and reporting before decisions can be made in ways that comply with requirements to protect water quality.

To Drill or Not to Drill: An Example of Context-focused Decision Making

An example of complicated decision making can be found looking at options for river and stream crossing methods. Several methods are available for crossing rivers and streams. Dry trenching methods divert the flow of the water around the portion of the streambed in which the trench is dug and the pipeline buried—using a dam and a pump or flume. In contrast, wet trenching methods do not divert the water, and the trenching and pipeline installation process will therefore create additional environmental impacts.

Horizontal directional drilling (HDD) is a trenchless method of installing pipelines under rivers and streams, and thereby avoiding the surface water impacts commonly associated with dry and wet trenching stream crossings. Careful consideration of context should be given when determining whether to approve HDD in any particular situation. HDD may not always be the most protective option. In addition, proper testing should be conducted to understand geology.

Additionally, HDD may take extra room for equipment that and may take longer than wet and dry trench stream crossings to complete, leading to longer adverse impacts and greater challenges with restoration. An alternative to both trenching methods and HDD is the direct pipe method that may be used when the geology does not safely allow the use of horizontal directional drilling. However, it too has its limitations and is only a viable alternative under specific conditions.

Some additional examples of complicated decisions include:

Construction timing. There is a balance between requiring extra BMPs, which slow down the process, versus completing the construction and restoration process very quickly. The faster that construction and restoration is completed, the less time is spent in streams and wetlands, and the more likely that restoration will be completed before the next rainstorm.

Landslides and steep slope construction. Extra precautions must be taken for pipeline construction on steep slopes where there is a high slip potential. Dewatering slopes is particularly important. For example, trench plugs with bleeder drains that direct stormwater to the surface at the edge of the right-of-way can be effective at reducing erosion and sedimentation and minimizing the risk of slips and landslides.

Don't Forget to Think About:

- What is the scope of work involved (how long is the pipeline? What water resources will be impacts? How much time will it take? How much disturbance is planned?)
- Are specific best practices planned, and are these practices appropriate for the landscape/context (e.g., Is HDD a viable option)?

Creating Constructive Relationships Among Parties

ASWM's research on barriers and challenges to effective, efficient permitting of natural gas pipelines identified repeatedly the significant role that relationships (between entities and individuals) and history between parties plays in the permitting process.

Representatives from state and tribal regulatory agencies, energy companies, consultants and other parties come to the permitting process with varied backgrounds, roles and specialized knowledge. Barriers can exist around conflicting or unmatched needs and goals for planned actions. Relationship building can take the form of informal or formal discussions, meetings or work together in the field. Understanding how people came to their positions, what they value, what they want to see for outcomes and how they view the permitting process all are stepping stones in bridging differences and resolving misunderstanding. In the same way that applicants want to see transparency and predictability in permitting processes, building relationships where parties hold trust and clear understandings about each other is key. When a face and a voice are familiar and there are shared positive experiences, much can be accomplished.

State and tribal regulators can benefit from establishing a reputation as being consistent, reasonable, and relevant. All parties should be part of building a current and network of contacts in relevant agencies. This network should include professionals with and with various types of expertise relevant to decision making on pipeline projects and permits, both for the regulator and the regulated to access. For more information and ideas about relationship building, check out ASWM's Policy Brief and Pipeline Permitting Barriers and Solutions/Lessons Learned Matrix.

Don't Forget to Think About:

- What are the relationships among the involved parties? Is there legal basis for these roles?
- What constitutes a "win" for each party? What are "non-starters" for each party?
- Are there historic relationships between the parties? Are these relationships positive or negative? Have staff changed over time, leading to potential relationship changes?
- Is there a need to have a neutral facilitator assist in discussions between parties to develop common ground or diffuse conflict?

To Learn More

Numerous resources are available for regulators and consultants to learn more about the linear natural gas pipeline permitting process. *ASWM's Pipeline Permitting Online Capacity Building Resources can be viewed online.*

The Association of State Wetland Managers is a 501(c)(3) nonprofit incorporated in 1983 with the mission to incorporate sound science into wetland policy. For more information, contact Brenda Zollitsch, Senior Policy Analyst at Brenda@aswm.org or call (207) 892-3399. ASWM's Pipeline Project was funded by an EPA Wetland Program Development Grant, the Robert and Patricia Switzer Foundation and the McKnight Foundation.

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