

DEVELOPER HANDBOOK



Guidance for Working Near or Adjacent to a Pipeline

KINDER  **MORGAN**

Welcome!

Kinder Morgan is the largest energy infrastructure company in North America. Our pipelines transport natural gas, refined petroleum products, crude oil and carbon dioxide from coast to coast and border to border. Working together with Kinder Morgan and following the guidelines in this booklet will ensure that we operate a safe pipeline and that you have the ability to use the land, while honoring our easement rights to maintain and operate our pipelines as safely and efficiently as possible.

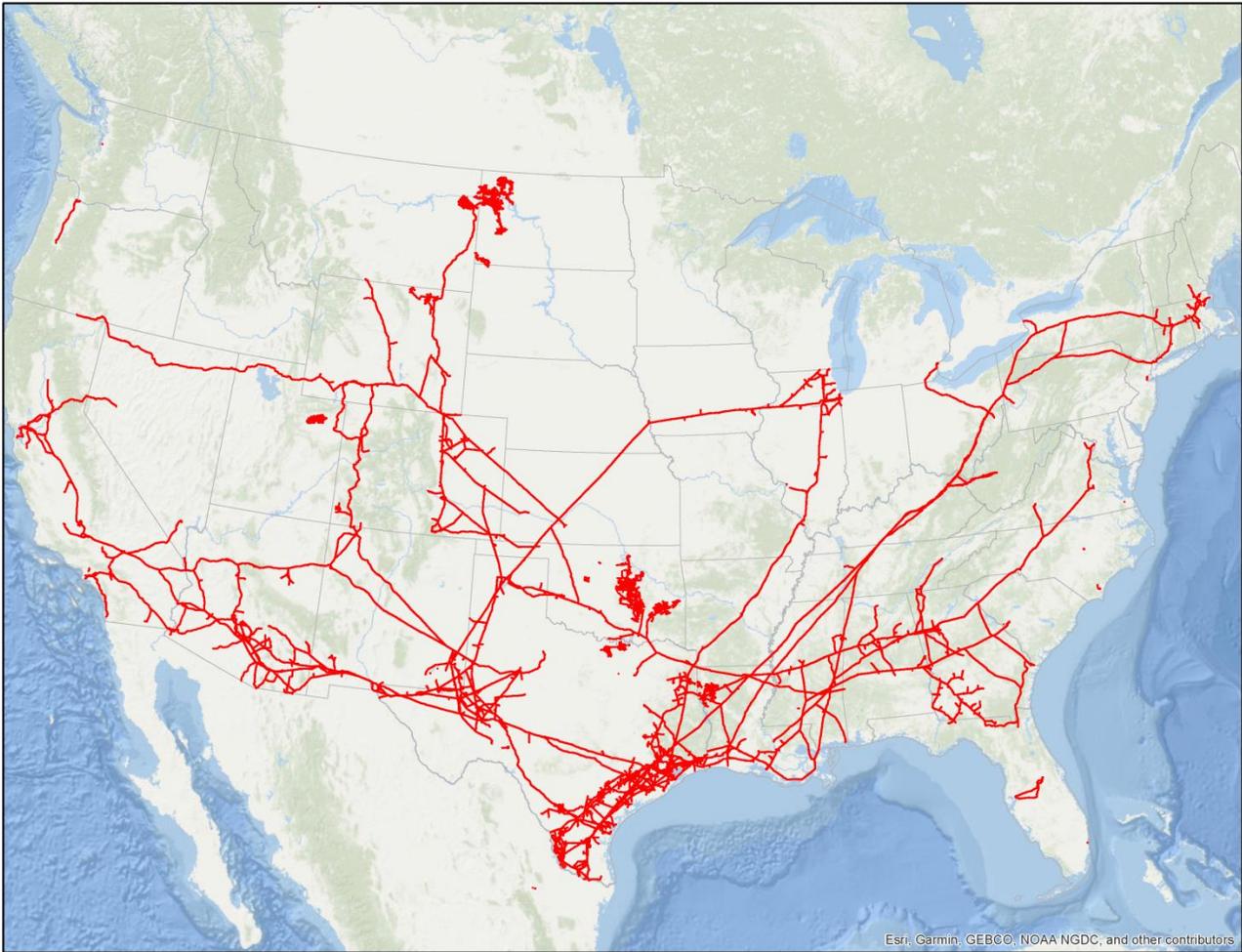


FIGURE 1: THIS MAP OFFERS A GENERAL REPRESENTATION OF KINDER MORGAN PIPELINES IN THE UNITED STATES. VISIT THE NATIONAL PIPELINE MAPPING SYSTEM WEBSITE WWW.NPMS.PHMSA.DOT.GOV TO VIEW A CURRENT MAP OF TRANSMISSION PIPELINES IN YOUR AREA.

This booklet will explain some basic land management guidelines. It will describe our right-of-way, land rights and requirements that allow us to maintain the safety and preserve the integrity of our pipelines.

This booklet is designed for city planners, building inspectors, surveyors, landscape and building architects, and other interested parties who may be working near or approving work adjacent to our right of way easement.

To learn more about pipeline safety and pipelines in your community, visit:

- **Kinder Morgan Public Awareness** website: <http://publicawareness.kindermorgan.com>
- **PIPA** website: <https://primis.phmsa.dot.gov/comm/pipa/LandUsePlanning.htm>
- **National Pipeline Mapping System** website: <https://www.npms.phmsa.dot.gov/>
- **811** website: <https://call811.com>

Developer Handbook



A FEW WORDS ABOUT US

Kinder Morgan operates pipelines in your community. Pipelines are the backbone of our nation’s energy infrastructure. We own an interest in or operate approximately 84,000 miles of pipelines and approximately 180 terminals. Our pipelines transport natural gas, refined petroleum products, crude oil, carbon dioxide (CO2) and more. Because our services are transportation-related, we fall under federal regulations administered by the Department of Transportation. Our job is to ensure the efficient uninterrupted delivery of these energy products to our customers. Safety guides our actions every day.

The guidelines in this booklet allow us to operate our pipelines safely. We strive to keep you, your neighborhood, and your community safe, but to do that we need your support. To maintain the integrity of our pipeline system, we request your cooperation when you plan, design, and construct improvements around our easement.

* **Safety**

Pipelines are the safest mode of energy transportation, and our pipeline system has one of the best safety records in the industry. At Kinder Morgan, safety is a core value. It’s our top priority. We focus on the safety of you, your neighbors, our employees, and all residents near our pipeline. Federal regulations outline the safe operation of our pipelines. We take these regulations seriously.



If our employees observe an unsafe activity occurring that would compromise pipeline integrity, then we will require the activity to stop. If we need support enforcing this requirement, the local police authorities will be contacted for assistance.

We request that you follow the guidelines in this booklet. Please contact us to discuss your planned activities within our easement area. These activities ensure your safety and the safe operation of our pipelines:

- Send us your plans so we can review and approve them.
- Contact **811** (call or [online request](#)) to notify your local one-call center during your design phase and request a joint meet with utilities in the area of your project.
- Always notify your local one call center by contacting 811 at least two or three working days, as dictated by state law, before excavating to have our pipelines located and marked. This is a **FREE** service.
- Follow our approval letter guidelines.
- Respect our rights to maintain and operate our pipelines.



The use of your property, where it is crossed by our easement, is subject to our granted easement rights. Certain uses within the easement area can conflict with the safe operation of our pipeline.



Some activities are allowed, such as walking across, lawn mowing, and watering a garden. We must review activities with greater impact, including, but not limited to, deep plowing, crossing with heavy equipment, blasting, constructing roads or driveways, installing utilities, adding fences, landscaping, logging, mining, and grading activities. Before you undertake any development or encroachment activities, you must submit your plans for our review.

All plans for review must show our pipeline and easement. We encourage the approved plan to be recorded in the County Clerk's office.

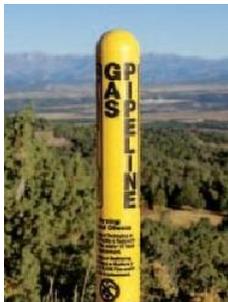
We will review your plans. Please allow two to four weeks for a complete review. If your plans are not approved, you will need to submit a revised plan.

After we have approved your development or encroachment activity, you must follow the guidelines contained in our approval letter, and respect our right to operate and maintain our pipelines.

Some encroachment activities not normally allowed may be considered under special circumstances. If approved by Kinder Morgan, then an Encroachment Agreement will be signed by all parties.

Our approval of your plan will be based upon our ability to safely maintain and operate our pipelines. For example, we must be able to respond quickly in an emergency. For us to be able to access our easement, it must be free and clear of obstructions and woody vegetation.

We also examine plans to add fill over the pipeline, and we will not allow any cover to be removed. No structures will be allowed within the easement. Utilities and fencing must cross as close to 90 degrees as possible. See [page 8](#) for more details regarding the installation of fencing.



We will mark our pipeline and easement edge prior to your planned construction activities. You or your contractor will be required to establish a boundary with fencing or markers separating the approved work area from our easement area.

Our easements include markers that identify the presence of our pipeline. All markers include a 24-hour emergency contact number.

These markers let you know how to get in touch with us and remind third-party contractors to contact us prior to digging. These markers are only a general representation of the location of our pipeline (or multiple pipelines). They cannot be used to identify the exact location of the buried pipeline. Our markers must be visible along the corridor. Contact 811 to identify the exact location of our buried pipeline. To discuss your plans contact us at 800-276-9927.



We regularly monitor our pipeline easement for third-party damage and unauthorized excavation activity by aerial surveillance with the use of helicopters or airplanes.

Unauthorized excavation activities can compromise the integrity of our pipeline. Your communication and cooperation will enable us to work with you while maintaining the safety of our pipeline system.

* **Easements and Right of Way**

Our Easement Agreements cover our rights to maintain and operate our pipelines across your property. If you would like to discuss the terms of the Agreement, then please call our Right of Way Agent, who can be contacted through the Kinder Morgan office.

If you would like to discuss the terms, such as easement width, or have questions regarding the Agreements, then please call our local Right of Way Agent, who can be contacted through the Kinder Morgan office.

Developers and landowners are encouraged to consider the easement area as green space, parks, hike and bike trails, horse trails, and other low impact recreational uses. Written approval, by Kinder Morgan is required for any proposed improvements over and within the easement area.

* **One Call (811 before you dig)**

The law requires anyone who excavates to notify their local one call center by contacting 811 (call or [online request](#)), a clearinghouse for all utilities regarding excavation. This is not to add extra requirements to your project—it's to keep you safe.

Excavation activities can rupture our pipelines or damage our coating, which, if left unrepaired, can lead to pipeline corrosion. If you hit a buried pipeline and cause a leak or severally damage the pipe move to a safe area and call 911, then call Kinder Morgan. If you do not have our number with you, contact 811 and report an emergency ticket for your location.

Contact information is included at the end of this booklet.

* **Local Offices**

Our offices are located throughout the United States. Contact your local office for accurate information on the location of our buried pipelines. To determine the location of our local office, please call our main number at 800-276-9927. We will support your excavation activities while we are on site. However, we request that you work with us, following our rules and requirements when excavating near our pipelines. Our employees are familiar with our restrictions and requirements, and are trained and qualified to locate, mark, and stand by while you excavate across our pipelines. We will support your approved project, so please help keep our pipeline safe.



Know what's below.
811 before you dig.

ENCROACHMENT ACTIVITIES

Your development or planned activity may involve one of the following activities. Although this list is not complete, it summarizes the majority of activities that impact our easement and pipeline.



* Utility Crossings

All utilities require 12 inches of padding around any buried conduit.

At least 24 inches of vertical separation are required between all utilities and our pipeline.

All crossings must be as close to 90 degrees as possible. Parallel occupation within our easements is not allowed.

A cathodic bond may be needed to maintain the integrity of our pipeline. Additional cathodic protection equipment will be at your expense.

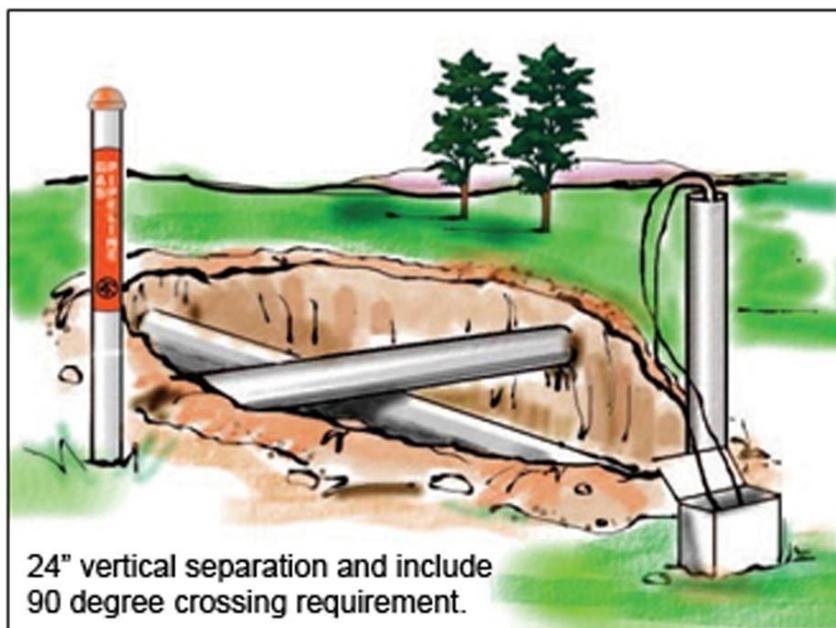


FIGURE 2: DOT-APPROVED PIPELINE MARKERS, CATHODIC PROTECTION BONDS, AND POTENTIAL LEADS ARE AT ALL CROSSINGS AND TERMINATE AT ABOVEGROUND LOCATIONS.

New DOT Standard surface markers must be installed for all of your utility crossings. We must clearly know—without guessing—where your utilities cross in case excavation of our pipeline is necessary.

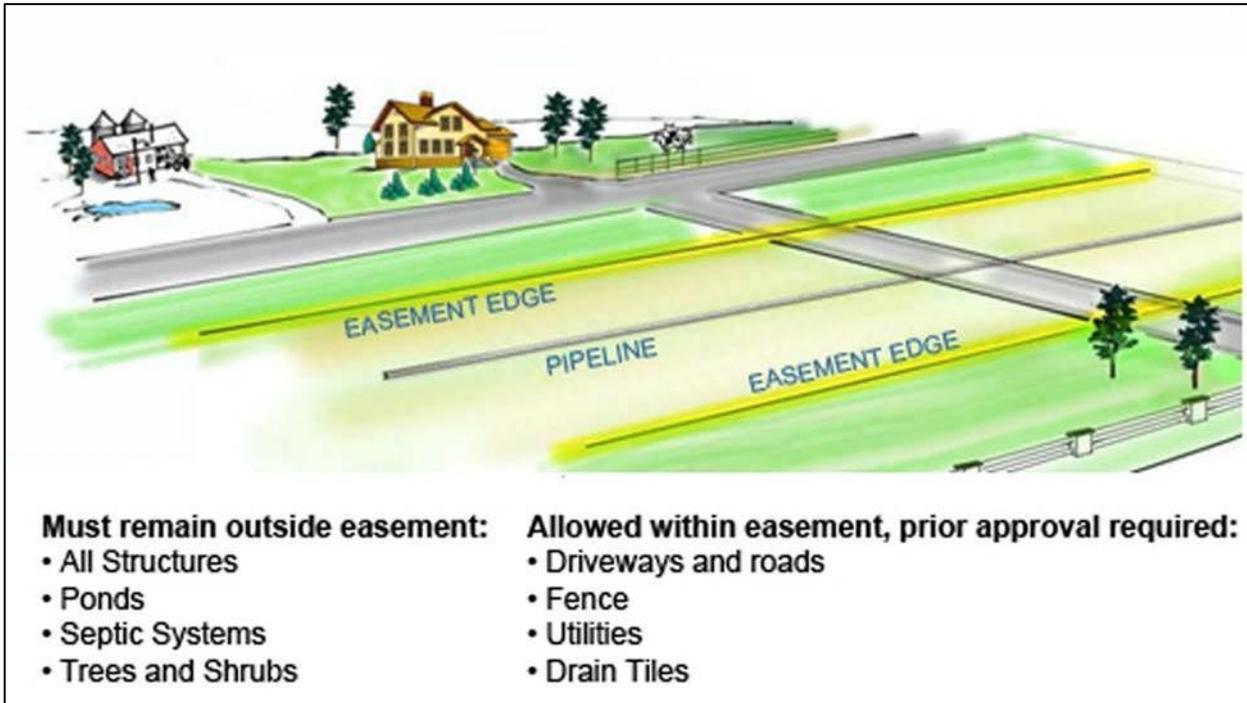


FIGURE 3: EASEMENT ILLUSTRATION.

Electric crossings, except low voltage ones used for residential services, must be encased in non-metallic conduit. The conduit must be covered with at least 3 inches of red colored concrete or red marking tape and be at least 36 inches wide centered on each conduit. Both the conduit and the concrete must extend across the full limits of the pipeline right-of-way. All buried conductor crossings shall be clearly and permanently marked with signs showing the location of the buried conductor.

* **Landscaping**

Landscaping can directly impact our pipelines’ safety, so we restrict most landscaping in the easement. Roots can damage pipeline coating, which can lead to corrosion. Growth obstructs our ability to monitor for leaks, erosion, and third-party activities. Plants can also restrict our ability to respond in an emergency.

No trees will be allowed within the easement.

We must have open and clear visibility with the unobstructed ability to access our easement.

Remember, you must notify your local one call center by contacting 811 two or three days prior to any excavation, as dictated by state law.

* **Fences**

Fences are allowed to cross the easement as long as they cross as close to 90 degrees as possible and don’t hinder Kinder Morgan access to the Right-of-Way.

No fence posts may be installed within 5 feet of the pipeline. Parallel fencing is not allowed within the easement.

* **Roads, Driveways, Parking Lots**

Our pipeline was designed according to the land’s original use. If you want to change the surface’s use, you may be responsible for all the costs required for your proposed improvement, depending on the specific language in your easement agreement.

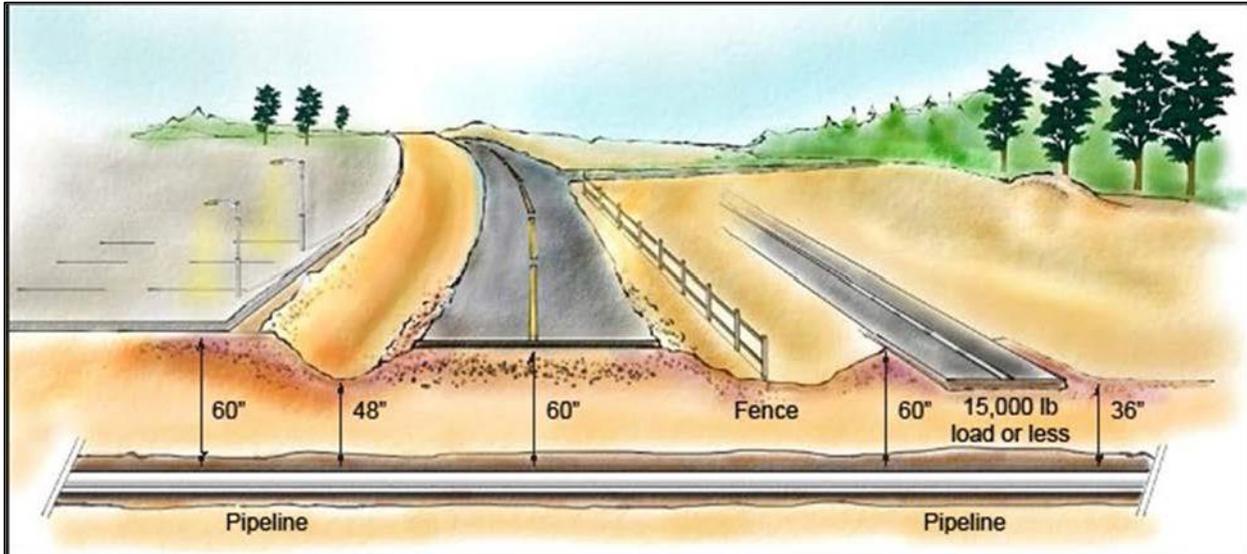


FIGURE 4: ALL ROADS, PARKING LOTS, DRIVEWAYS, AND HEAVY EQUIPMENT CROSSINGS MUST BE APPROVED PRIOR TO INSTALLATION. SEE SAMPLE BELOW.

All roads and driveways must cross as close to 90 degrees as possible.

All roads and driveways must have at least 4 feet of cover in the bar ditch.

Parking lots must have at least 5 feet of cover from top of pipe.

Your plans must identify the required cover. Cover cannot exceed 9 feet from the top of the pipe.

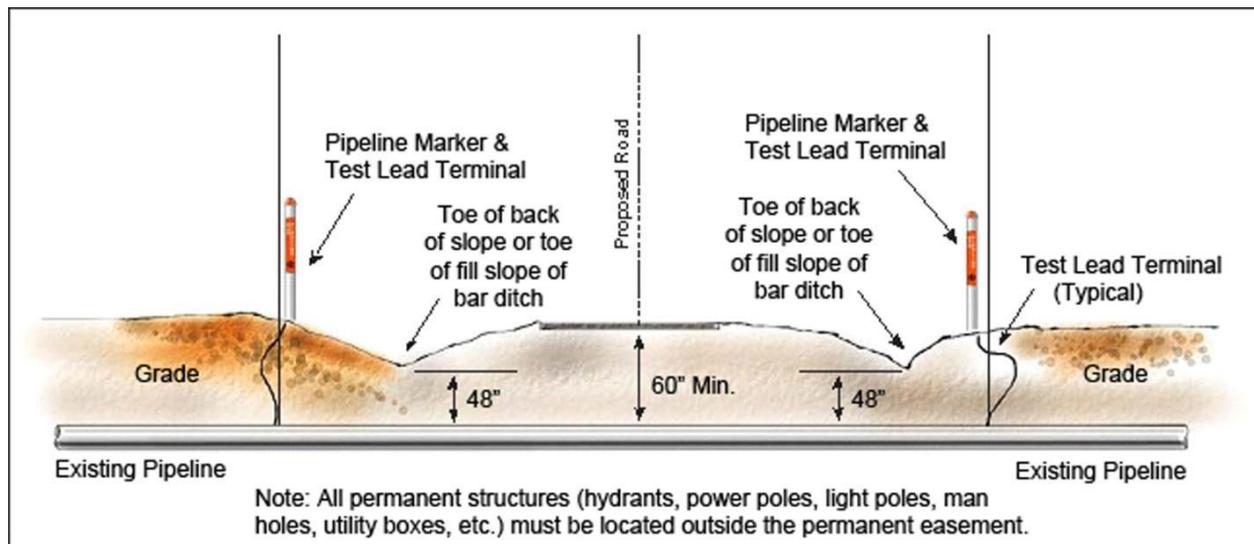


FIGURE 5: TYPICAL PROFILE DATA FOR PROPOSED ROAD CROSSING AND PARKING LOT.

Test holes are required to determine depth of cover at all proposed road and driveway crossings. They must be installed at your expense. Both the local one call center (811) and our office must be notified prior to any test-hole excavation. A Kinder Morgan representative will stand by when work occurs within the easement.

All roads, driveways, and parking lots may be required to be re-bedded at your expense. This will be determined when we examine the existing back-fill material around the pipeline. This re-bedding will accommodate the new loads placed upon the pipeline by crossing vehicles.

If the pipeline design has to be adjusted to accommodate new crossing loads from cars and trucks, it will be done at your expense.

Longitudinal excavation around the pipeline can only be done by a contractor who meets DOT operator qualifications.

Gas monitoring test stations used to check for the presence of natural gas will be required when parking lots are constructed over the pipelines and the parking facility is adjacent to a building. These test stations and the subsurface design may be at your expense, depending on the specific language in your easement agreement.

* **Structures**

No permanent structures are allowed within the easement, including, but not limited to, sheds, garages, pools, septic systems, above-ground utility connections, wells, retaining walls, fire hydrants, light poles, driveway columns, wing walls, headwalls, spillways, retention ponds, and stormwater and water management infrastructure.

We will mark parameters of the easement to ensure that nothing is placed in the easement. Feel free to call our office to find out the specific easement width as it crosses your property.



FIGURE 6: RIGHT-OF-WAY PHOTOGRAPH.

* **Drain Tiles**

All drain tiles must cross as close to 90 degrees as possible. We will not allow parallel drain tiles within the easement area. All drain tiles must maintain at least 24 inches of vertical separation between any crossing and the pipeline.

* **Erosion**

All soil erosion must be stabilized immediately.

* **Logging and Timber Harvesting**

We will meet on site with your forester to review the site conditions and proposed work plan. We will mark the easement limits. No skidding or timber forwarding is allowed parallel to or within the easement. Only crossings perpendicular to the easement are allowed. No staging areas or landings are allowed within the easement. The actual pipeline crossing must be approved and bridged with approved material. The bridge must be maintained throughout the job. Finally, all soils on the easement must be stabilized and re-seeded to prevent erosion.

* **Deep Plowing**

Deep plowing can cause severe pipeline damage. Please contact our local office or notify the local one call center by contacting 811 (call or [online request](#)), so we can meet with you on site to review your plowing needs.



* **Cover**

You may not remove any cover from the easement area. If your encroachment will impact the easement, please include this information in your plan that will be submitted for our review. Plans for roads and driveways must include a cross-section showing the existing and proposed grades based upon our existing pipeline. See the sample cross-section plan for additional information. (See [page 9](#).) Test pits will be required to determine this information. These pits will be completed at your expense and can only be done while we are on site. We will review your proposal based upon your plans, our engineering standards, and the pipeline design.

Maximum cover will also be evaluated when we review your proposal. We will not allow more than 9 feet of cover above the top of the pipe. Extra cover increases the load on the pipe. It also impacts our work area and the ability to maintain safe Occupational Health and Safety Administration (OHSA) standards.



FIGURE 7: LAYING PIPE.

* Heavy Equipment Crossing



Crossing the pipeline with heavy equipment can compromise our pipeline's safety. Depending on the equipment's size and type of tracks or wheels, the weight load on the surface can place extra stress on the pipeline. Contact our local office or notify 811 before crossing with heavy equipment. We will meet with you on site to determine the best crossing location, taking into account soil stability and rock composition. Once we determine a suitable crossing location, please do not cross elsewhere. We will then require additional padding over the pipeline (or pipelines) extending at least 15 feet outside each pipeline. This padding material must be maintained throughout the job.

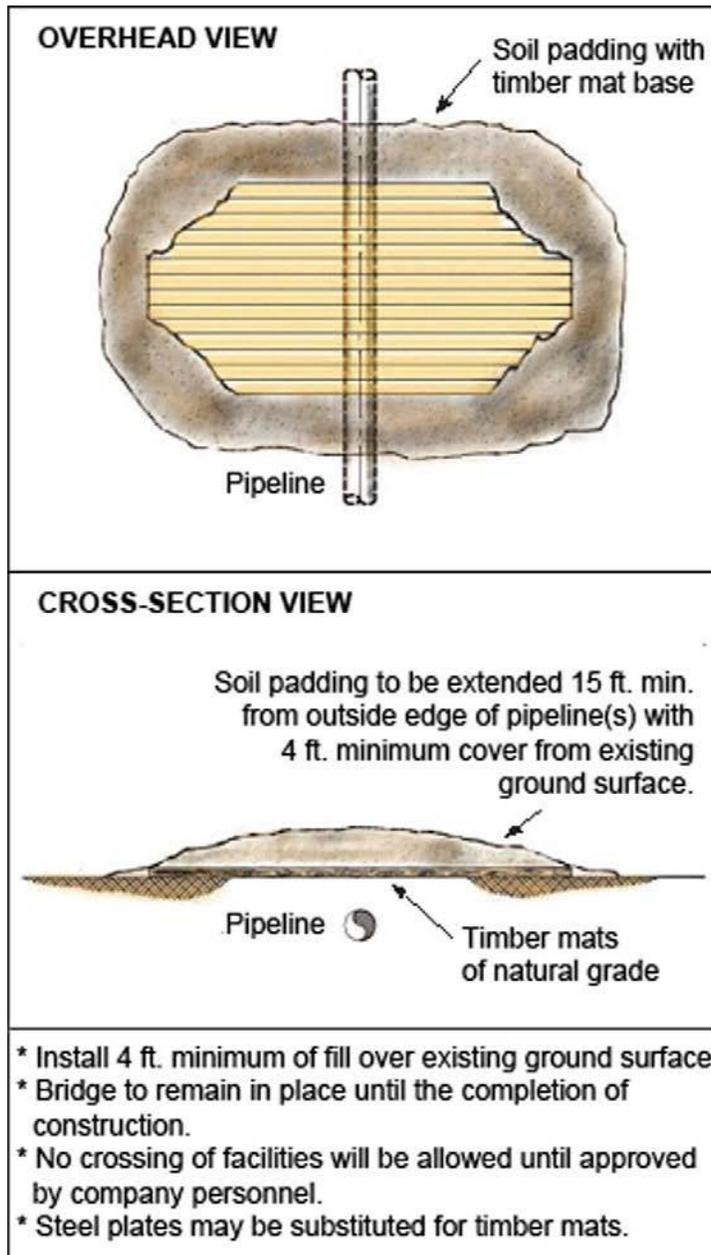


FIGURE 8: REQUIREMENTS FOR HEAVY EQUIPMENT CROSSING A PIPELINE.

* Burning

Please do not burn within the easement area. If you need to discuss this further, contact your local office.

* Overhead Lines

All new poles must be located off the easement at least 15 feet from the pipeline and not between multiple pipe- lines. At least 25 feet of clearance is required from the top of the ground to the overhead crossing. No guy-wire, appurtenances, aboveground cable towers or telephone cabinets are allowed within the easement.

* Blasting

Blasting can profoundly impact our pipelines. Please forward any proposed blasting activities within 1000 feet of our pipeline, allowing two weeks for review and approval. If the blasting will occur within 100 feet, you will be required to hire a blasting inspector with seismograph equipment on site during your blasting activities. The inspector will confirm that your blasting plan is being followed and that proper seismic readings are being taken and meet our standards and your approved blasting plan. All blasting must be done by licensed blasting contractors who conform to all state and local regulations. A Certificate of Insurance, Blasting Indemnification Agreement and Emergency plan will be required.

Seismic activity must be approved within 300 feet of the pipeline. Please submit a seismic plan for our review and approval.

Vibrator activity must be approved within 300 feet of the pipeline. Please submit a plan covering all vibrator activities within 300 feet of the pipeline.

* Excavation Activity

Excavation damage is one of the leading causes of damage to buried pipelines. That's why we provide the following specific excavation guidelines to help protect you and our pipelines.

Before Excavating, if necessary, Kinder Morgan's on-site personnel will consult with our Engineering Department or Pipeline Services group to determine the length of pipe that may be safely excavated.



A qualified representative from Kinder Morgan must be on site whenever an excavation is underway or equipment is being used within 25 feet of our pipeline or as determined by Kinder Morgan personnel and procedures.

Before any excavation can take place within State defined distances or offsets, the pipeline must be positively located, under Kinder Morgan supervision, using methods such as hydrovac, hand digging or pot-holing.

All Mechanical Excavation must remain outside of the Tolerance Zone. The Tolerance Zone is a defined distance from the pipeline. You will need to refer to your State's One Call/Dig Safe Laws to determine the Tolerance Zone. They do vary from State to State. Tolerances Zones remain in

place even after the pipeline has been exposed.

After a pipeline has been exposed, you can continue to use machine excavation as defined by local Kinder Morgan representative, with the assistance of an observer. The pipeline should remain exposed and clearly visible to the observer at all times during machine excavation.

For excavations near a buried pipeline, as State regulations dictate, you must ensure the hoe bucket teeth are barred and that side cutters are removed or that you're using approved paddle/flared teeth. If soil conditions require the removal of the bar or the use of the side cutters for excavation, you'll need to make a request in writing to your Kinder Morgan representative, outlining the locations for the exception, and the reasons the equipment is needed. Excavations involving removal of the bar or the use of side cutters should be done with an observer and under the direct supervision of the onsite Kinder Morgan representative or their designee.

You will need to provide adequate support or protection for all exposed pipelines as determined by Kinder Morgan's on site representative.

If during excavation flowable fill is discovered, work should be stopped. Kinder Morgan's on site representatives will consult with our Engineering group to develop a plan for managing the situation to minimize any damage to Kinder Morgan's pipelines.

If the excavation requires entrance into a confined space, you must follow the OSHA standards.

If the excavation requires the use of ladders or other temporary structures for ingress and egress, you must follow the OSHA standards.

*** If the Unexpected Occurs**

If damage occurs to a pipeline, we will immediately notify our Operations Supervisor or Area Manager. If the damage results in the escape of any flammable, toxic, or corrosive gas or liquid that could endanger life or property, call 911 immediately. If the damage involves a pipeline not owned by Kinder Morgan, the owner or operator of the pipeline and the state one call center should also be notified.

*** Mining Activity**

All mining activity must be reviewed and approved so we can ensure the lateral support of the soil adjacent to the pipeline. Mining activity is not allowed within the easement area.



WHAT WE EXPECT OF YOU

As we've stressed throughout this booklet, safety is our top priority. To ensure your safety, we strive to keep our pipelines safe. Please respect our rights to operate our pipelines safely. By planning your project according to the guidelines in this booklet, you can minimize impact to our pipeline. We will strive to work with you throughout the process. Please remember to follow these guidelines:

- Always notify your local one call center by contacting 811 at least two or three days before excavation, as dictated by state law.
- Notify us prior to any work on the easement.
- Please allow us to review your project plans, and wait for our approval letter before starting work.
- Return the signed approval letter in a timely fashion.
- Throughout your project, adhere to the guidelines included in your approval letter.
- Contact us if you see suspicious activity along our right of way or at our valve stations.
- Contact us if you notice exposed pipe or a large washout.



WHAT YOU CAN EXPECT FROM US

We will respond to your requests and review your plans in a timely manner. We will provide clear, concise guidance that will ensure your project meets our safety standards.

Communication and cooperation are vital. When you work with us, we promise to do our part to ensure the safety of you, your family, and your community.

PIPELINE SAFETY

Please help keep your community safe by calling the local emergency services at 911 if you see any unusual conditions or abnormal activity around the pipelines.

* Recognize Pipeline Markers

Pipeline markers display information about what type of product each pipeline transports and the name/contact information for the pipeline operator. You can view examples of our pipeline markers at www.kindermorgan.com/public_awareness

* Pipeline Location Information

To view maps of transmission pipelines in your area, visit the National Pipeline Mapping System at <https://www.npms.phmsa.dot.gov/>.

* Dig Safely

Reduce the potential for pipeline damage during excavation or construction by following these simple steps:

- Notify **811** (call or [online request](#)) to contact your One Call Center before digging or excavating.
- Wait for the site to be marked by a pipeline representative. **(This is a free service.)**
- Respect all pipeline markers.
- Follow agreed excavation plan between you and Kinder Morgan.
- If changes are required contact Kinder Morgan before you continue work.
- Dig with care.



* Signs of a Pipeline Leak

The following signs are indications of a possible pipeline leak:

- Brown or discolored vegetation amid healthy plants
- Dirt being blown into the air
- Colorful sheens on water surfaces
- Fire at or below ground level
- Stains or pools of hydrocarbons not usually present in the right-of-way
- Bubbles coming from bodies of water
- A loud roar or hissing sound
- Distinctive petroleum type odors, the smell of mercaptan, Sulfur (e.g. rotten eggs or garlic-like), or a mild fragrant odor (Ethanol)
- A dense white cloud or fog
- Frozen ground near the pipelines

Not all signs need to be present to indicate a leak

* **Act Immediately If You Suspect a Leak**

Take the following actions immediately if you suspect a pipeline leak:

- Leave the area immediately in an upwind direction and warn others to stay away.
- Do NOT light a match, start an engine, use a telephone or cell phone or turn on/off any electrical appliances, and avoid potential ignition sources which may cause an explosion or fire.
- Once you are a safe distance away from the potential leak use a telephone or cell phone to call 911 and Kinder Morgan.
- Do NOT drive into an area where you suspect a leak, and do not touch or operate pipeline valves.
- Avoid making contact with escaping liquids or vapors as potential hazards may include eye, skin and respiratory irritation and the product may be highly flammable.





For more information about Kinder Morgan, Inc. visit our website at www.kindermorgan.com, contact us via <http://PA-InfoRequest.KinderMorgan.com> or call 800-276-9927.

Kinder Morgan, Inc. reserves the right to periodically update, amend, revise, and make changes to the guidelines and terms identified within this publication.