

**BUCKEYE PARTNERS, L.P. AND AFFILIATES
6161 Hamilton Boulevard
Allentown, PA 18106**

**Right-of-Way Use Restrictions Specification
Revision 7.3**

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Purpose and Scope

This Right-of-Way Use Restrictions Specification (hereinafter called "Specification") has been developed by Buckeye Partners, L.P. and Affiliates (hereinafter called "Buckeye") and is intended for landowners, utility owners, general contractors and their sub-contractors, pipeline/utility contractors, real estate developers, brokers and agents, lending officers and title underwriters, engineers, architects, surveyors, and local / governmental elected staffs (hereinafter called "Crossing Party") as a guideline for the design and construction of proposed land development.

Buckeye appreciates this opportunity to work with you in the planning stages of your development (or construction activity), and we look forward to working with you proactively. Buckeye's primary concern when activities are taking place near our pipeline is public safety and environmental protection. The intent of this Specification is to provide a clear and consistent set of requirements that will: (1) reduce the risk of damage to our pipeline and related facilities; (2) ensure unencumbered access to our right-of-way and pipeline facilities and the availability of adequate workspace for routine maintenance, future inspection, and/or repair work on our pipeline; and (3) enable the effective corrosion protection of our pipeline.

All such activities and projects that are performed near Buckeye's pipeline facilities are subject to formal review by Buckeye prior to issuance of final written approval. Depending on the scope of the project and its impact on Buckeye's pipeline facilities, additional engineering requirements and protective measures may apply. Furthermore, any damage caused by the encroaching party to Buckeye's pipeline(s), the pipeline cathodic protection system, or other Buckeye assets is the sole responsibility of the encroaching party. Buckeye will pursue reimbursement for all costs associated with the event including, but not limited to, excavation services, inspection services, pipeline repairs, and loss of operations.

The following requirements are not only the policy of Buckeye, but comply with regulations set forth by the United States Department of Transportation, Safety Regulations, 49 CFR, Parts 192 and 195.

We want to be a good neighbor, but to do so requires us to act responsibly in protecting our right-of-way and preventing damage to the pipeline system. While we want to make every effort to accommodate your desired use of your property, our responsibility for public safety is paramount. Through proper planning and communications, we can ensure the safety and integrity of our pipeline system and the welfare of our neighbors.

The transmittal of this Specification does not constitute Buckeye's approval or permission for the Crossing Party to begin construction or work within or across the pipeline right-of-way. Work may not commence until written authorization approving such work has been issued by Buckeye.

1.0 General Guidelines

1.1 The safety of the pipeline must be considered at all times. No attempt to probe for or engage in any construction activities which might damage the pipeline is permitted.

- 1.2 Before any preliminary field work or construction begins in the vicinity of Buckeye's pipeline, a determination of the exact location and elevation of the pipeline must be made. To coordinate this procedure, please contact our local Field Operations Manager at the Buckeye facility nearest to your proposed project (see [Attachment 1](#) for a listing of Buckeye's facilities and telephone numbers). Buckeye makes no assurance that its permanent pipeline markers are positioned directly over its pipeline(s). Line markers should be placed at intervals determined by "line of sight". The relocation, removal, or destruction of Buckeye's pipeline markers are prohibited by federal law. Pipeline markers damaged or made unusable shall be repaired or replaced at the Encroaching Party's expense.
- 1.3 All proposed drawings/plans must be submitted to Buckeye's Right of Way Department for review to determine to what extent, if any, the pipeline or right-of-way will be affected by the proposed construction and/or development. These drawings/plans must be prepared in strict compliance to [Attachment 4](#), "Requirements for Submission of Design Plans".
- 1.4 Buckeye may require the property owner to provide proof of current ownership of the land where the proposed encroachment is to occur. Such proof may be in the form of a Title Commitment, Title Policy, or a certified copy of a recorded Conveyance Deed.
- 1.5 When any construction activity is conducted in or around our pipeline right-of-way, Buckeye's On-Site Inspector must be present at all times. **NO WORK SHALL TAKE PLACE WITHOUT A BUCKEYE ON-SITE INSPECTOR PRESENT.** For this free-of-charge service, contact our local Field Operations Manager at the Buckeye facility nearest to your proposed project.
- 1.6 The Crossing Party shall contact Buckeye for re-marking of a pipeline if the existing markers are inadequate for any reason, including disturbance due to construction activities.

Note: Federal law prohibits the removal of pipeline markers.
- 1.7 The Crossing Party shall not burn trash, brush, or other items or substances within 50 feet of the pipeline.
- 1.8 The Crossing Party shall not store any equipment or materials on the right-of-way. Full access must be maintained to the pipeline(s) at all times. The stockpiling of items including soil, or topsoil over the pipeline(s) is not permitted.
- 1.9 During routine or emergency maintenance on the pipeline, the cost to restore approved surface improvements (e.g., pavement, landscaping, sidewalks, etc.) shall be the responsibility of the Crossing Party.
- 1.10 Depending on the type and nature of the encroachment, Buckeye may require the pipeline(s) within the proposed encroachment to be exposed, visually inspected, and backfilled by a Buckeye representative at the full expense of the Crossing Party. Buckeye will evaluate the pipeline(s) cathodic protection system, including the coating type and condition, for suitability of service in relation to the proposed encroachment. Should Buckeye deem that the cathodic protection system and/or coating system is insufficient for any reason, Buckeye will repair or upgrade the system at the Crossing Party's expense to accommodate the proposed encroachment. Potential cathodic protection modifications can include, but are not limited to equipment such as rectifiers, anode systems, test stations, casing pipe, and coating.

2.0 Excavation and Construction Restrictions

2.1 Excavation operations shall be performed in accordance with appropriate State “One-Call” utility locating system requirements. As a matter of State law, anyone undertaking excavation work is required to call three (3) working days before excavating in MA, ME, MI, MO, NJ, PA, RI, SC, TN, and WI; two (2) working days in all other states (see [Attachment 3](#) for State “One-Call” numbers).



2.2 The Crossing Party will conduct “white-lining” of any proposed excavation areas. Buckeye will erect temporary pipeline markers/flags (yellow) identifying the location of the pipeline within the work area, and will provide information on how to respond should the pipeline be damaged or a commodity release occur. All personnel operating equipment over or around the pipeline must be made aware of its location and what to do if they make contact with the pipeline.

Note: The Encroaching Party must utilize a qualified contractor of Buckeye’s choice to locate and mark the existing Buckeye operated pipeline(s) using current industry practices and agrees to mark the location of the pipeline with buoys or by electronic location methods as approved by Buckeye for the duration of the construction activity in the vicinity of Buckeye’s operated pipeline(s). If proposing dredging activities within 150-feet of Buckeye’s pipeline(s), a dredging plan must be submitted to Buckeye for review and approval.

2.3 When a Crossing Party excavates near Buckeye’s pipeline, a Buckeye representative must locate the pipeline and determine the depth of cover before the Crossing Party begins excavation. The Buckeye representative and the excavator must review and complete an Excavation Safety Checklist ([Attachment 9](#)). The Crossing Party shall not perform any excavation, crossing, backfilling, or construction operations until Buckeye’s On-Site Inspector has reviewed the proposed work on site and given approval for work to proceed. Buckeye’s On-Site Inspector shall have full authority to stop the work if it is determined that the work is being performed in an unsafe manner.

2.4 No equipment shall work directly over the pipeline. The Crossing Party shall install temporary fencing along Buckeye’s right-of-way boundaries so that equipment will not inadvertently pass over the pipeline at locations other than those established for crossing (see Section 3.5).

2.5 When excavating within the right-of-way, the Crossing Party’s backhoe shall have a plate welded over the teeth of the backhoe bucket, and the side cutters must be removed prior to excavation. However, if within 24 inches of the outer edge of the pipe (this “tolerance zone” extends on all sides of the pipe), only hand excavation, air cutting, and vacuum excavation are permitted.

2.6 No excavations shall be made on land adjacent to the pipeline that will in any way impair, withdraw lateral support, cause subsidence, create the accumulation of water, or cause damage to the pipeline or right-of-way.

2.7 The Crossing Party shall ensure all excavation work complies with OSHA’s excavation standards outlined in 29 CFR 1926 and correct any noncompliant excavation site before Buckeye’s On-Site Inspector or the Crossing Party enters the site to perform work.

- 2.8 If conditions require, the Crossing Party shall be directed by Buckeye to install sand or cement bags or other suitable insulating materials to maintain proper vertical clearance from the pipeline.
- 2.9 At any location where the pipeline is exposed, the Crossing Party shall provide Buckeye the opportunity to inspect the pipeline condition, install cathodic protection test leads, and/or install underground warning mesh.
- 2.10 The maximum unsupported exposed length of pipe shall be 20 feet for 4-inch-diameter pipe, 25 feet for 6-inch- to 10-inch-diameter pipe, and 35 feet for 12-inch- to 24-inch-diameter pipe. When required, the pipeline shall be supported with grout and sand bags or padded skids. At no time shall the pipeline be used as a brace to support equipment or sheeting/shoring materials.

Note: The Crossing Party shall submit a support plan for Buckeye's review and approval.

- 2.11 No buried pipeline may be left exposed for any duration of time without concurrence of Buckeye's On-Site Inspector.
- 2.12 Backfill and compaction shall be performed to the satisfaction and in the presence of Buckeye's On-Site Inspector. Within 5 feet of the pipeline crossing location, the Crossing Party shall place at least 12 inches of sand with no sharp gravel, rock, hard clods, vegetation, or other debris on all sides of any pipeline, and remaining backfill shall be placed so as not to disturb this padding material or damage the pipeline (see Attachment 7 for Foreign Utility Crossing Detail). Backfill over the pipe shall be compacted by hand until 18 inches of cover is achieved. The disturbed ground shall be compacted to the same degree of compaction of surrounding areas. The Crossing Party shall restore the site to its original condition except for items that are part of the Buckeye approved change.

3.0 Specific Guidelines

3.1 Cover, Grading, and Drainage

3.1.1 Cover and Grading:

- a. The existing cover over the pipeline shall not be modified without Buckeye's written approval.
- b. The final grading shall net a minimum cover of 36 inches over the pipeline.
- c. In areas where buildings are proposed within 50 feet of the pipeline or due to other surface improvements and/or in areas determined by Buckeye, final grading shall net a minimum cover of 48 inches over the pipeline.
- d. The maximum allowable constructed cross-slope within the ROW shall be 5H:1V and shall never be greater than the existing cross-slope.
- e. The maximum allowable cover/soil shall not exceed six (6) feet without Buckeye's written approval.
- f. Use of vibratory equipment larger than walk-behind units are not permitted within 25 feet of the pipeline.

3.1.2 Drainage:

- a. Detention ponds, lakes, structures or any type of impoundment of water, temporary or permanent, are prohibited within the right-of-way.
- b. Culverts are not permitted within the right-of-way.

- c. Any modifications to an existing drainage pattern shall be designed such that the erosion of the pipeline cover is controlled.
- d. For streams, drainage channels, and ditches, a minimum of cover of 60 inches is required between the pipeline and the bottom of the drainage canal or ditch (see Section 3.3.1.f for road drainage ditches).

3.2 Aboveground and Underground Structures

3.2.1 **General Requirements:**

- a. Buildings or other structures, including, but without limitation, overhanging balconies, patios, decks, swimming pools, wells, walls, septic systems, propane tanks, transformer pads, manholes, valve boxes, storm drain inlets, utility poles, the storage of materials, or any other item which will create an obstruction or prevent the inspection of the right-of-way by air or foot, shall not be erected within the right-of-way.
- b. The Crossing Party shall not develop or build retaining walls, drive piling or sheeting, or install an engineered structure that develops or controls overburden loads that will impact the pipeline (see Section 3.8).
- c. Deep foundations which include piers, caissons, drilled shafts, bored piles, and cast-in-situ piles located within 500 feet of the pipeline shall be installed/drilled using an auger.
- d. Occupied structures shall not be located within 50 feet of the pipeline unless a minimum cover of 48 inches is provided above the top of the pipeline.
- e. Any deviation for aboveground and underground structures will be reviewed by Buckeye on a **case-by-case basis**.

3.2.2 **Gardening and Landscaping:**

- a. Trees, shrubs and bushes are not permitted within the right-of-way. Trees planted outside of the right-of-way should be placed so branches and limbs will not overhang the pipeline right-of-way as the tree matures. Buckeye may trim/remove overhanging branches and limbs that encroach into the right-of-way.
- b. Flowerbeds, vegetable gardens and lawns, are permitted within the right-of-way. Buckeye is not responsible for replacing any plantings located within the right-of-way.

3.2.3 **Fences and Walls:**

- a. Privacy fences or fences that prevent access to the right-of-way are not permitted.
- b. All other fence installations within the right-of-way will be reviewed for approval by Buckeye on a **case-by-case basis**. Upon Buckeye's written approval, fences shall be constructed with a 14-foot gate or removable sections across the right-of-way.
- c. Fence posts shall not be installed within 5 feet of the pipeline and must be equidistant if crossing the pipeline.
- d. No fence shall cross the right-of-way at less than a 60-degree angle.
- e. Fences that run parallel to the pipeline shall be installed outside the right-of-way.
- f. Masonry, brick, or stone walls are not permitted on the right-of-way.

3.3 Roads, Driveways, Sidewalks, and Parking Areas

3.3.1 **General Requirements:**

- a. Roads, driveways, sidewalks, or parking areas are strictly prohibited. When extenuating circumstances arise, these items may be reviewed by Buckeye on a

- case-by-case basis. Upon Buckeye's written approval, roads, driveways, and sidewalks shall cross perpendicular to the pipeline.
- b. The maximum allowable cover shall not exceed six (6) feet without Buckeye's written approval.
 - c. Use of vibratory equipment larger than walk-behind units is not permitted within 25 feet of the pipeline.
 - d. Roads or driveways shall not be installed longitudinally within the right-of-way.
 - e. For roads and driveways, a minimum cover of 48 inches with a net cover of 36 inches of undisturbed soil is required above the pipeline.
 - f. A minimum cover of 36 inches over the pipeline is required at road drainage ditches. Upon Buckeye's approval, this cover can be reduced to 24 inches if ditch is rock/rip-rap lined and 12 inches if ditch is concrete lined.
 - g. For asphalt parking lots and sidewalks, a minimum cover of 36 inches with a net cover of 24 inches of undisturbed soil is required above the pipeline. Additional cover may be required by Buckeye based upon specific site conditions.
 - h. Stockpiling of materials on the right-of-way is not permitted. These materials include, but are not limited to soil, snow, stone, boulders, trees, brush, grass clippings, leaves, etc.

3.4 Foreign Utility Crossings

3.4.1 **General Requirements:**

- a. Utilities shall cross perpendicular to the pipeline.
- b. Utilities are required to cross beneath the pipeline with a minimum clearance of 24 inches. Exceptions to Buckeye's clearance requirements for underground service entrances to single family dwellings will be reviewed on a **case-by-case basis**.
- c. Sand or select fill shall be placed between the pipeline and utility (see Section 2.8).
- d. Utilities installed parallel to the pipeline shall be reviewed by Buckeye on a **case-by-case basis**. If approved, the utility shall be no closer than 15 feet from the pipeline.
- e. Warning tape, in accordance with A.P.W.A. Uniform Color Code, shall be placed above utility, 12 inches below ground, for a distance of 25 feet on either side of crossing.
- f. Signage shall be placed at crossing as determined appropriate by Buckeye.
- g. Splice boxes, service risers, energized equipment, etc., are not permitted within the right-of-way.

h. Trenchless Excavations:

- [1] Utilities installed by a trenchless excavation method (directional drilling, jacking, slick boring, etc.) shall be reviewed by Buckeye on a **case-by-case basis**.
- [2] Buckeye reserves the right to select the method of crossing for the proposed utility.
- [3] A minimum clearance of 60 inches (5 feet) below the pipeline is required.
- [4] For directional drilling operations, a tracking system is required to verify the exact location of the drill head.
- [5] For perpendicular crossings, a 4 feet by 4 feet excavation window, 24 inches below the pipeline is required for visual inspection of the pipeline to ensure the drill (or bore) does not impact the pipeline.
- [6] Blind boring is not permitted within Buckeye's right-of-way.
- [7] When trenchless excavations are authorized by Buckeye parallel to and within 10 feet of an existing pipeline, observation holes shall be excavated at 25-foot intervals to monitor the progress and horizontal/vertical location of the drill head.

[8] Buckeye must be provided with an advance copy of the horizontal directional drill (HDD) plan for the trenchless excavation which specifies how the HDD will be tracked, monitored and controlled at least two weeks before work is to commence. The plan must detail preventative measures to prevent conflicts with Buckeye's existing facility. The plan must state the planned HDD bore diameters, rod lengths, ream diameters, method of guidance, method of drill head tracking, etc. Additionally, the plan needs to include procedures for continuous monitoring and reporting of the drill head location, and state the appropriate vertical and horizontal deviation tolerances for the HDD operations in accordance with API RP 1172 – "6 Final Design". The procedure must include reporting requirements and procedures to correct or shut down the HDD trajectory should the operation exceeds the established tolerances. Buckeye Operations must be notified immediately if tolerances are compromised and should be involved in the recommencement of operations after tolerances are exceeded.

3.4.2 **Metallic Utilities:**

- a. Bonds and test leads shall be installed at the expense of and by the Crossing Party where Buckeye deems necessary.
- b. Utilities shall be coated with a non-conductive coating for a distance of 50 feet on either side of the pipeline crossing.
- c. Ductile water pipe shall include nitrile gaskets within 50 feet of the pipeline crossing or anywhere within 25 feet of horizontal offset locations.

3.4.3 **Non-Metallic Utilities:**

- a. Utilities shall be wrapped with tracer wire within the width of the right-of-way.
- b. Natural gas (or other industrial gases) lines shall be encased in a 6-inch envelope of yellow 3,000 psi concrete across the right-of-way for a minimum distance of 10 feet to each side of each BUCKEYE Pipeline(s) across the right-of-way.
- c. PVC water pipe shall include nitrile gaskets within 50 feet of the pipeline crossing or anywhere within 25 feet of horizontal offset locations.

3.4.4 **Underwater Line Crossings:**

- a. For underwater line location procedures, refer to section 2.2.
- b. The Encroaching Party must provide qualified diving inspectors to Buckeye for use during the crossing activity at no cost to Buckeye.
- c. The Encroaching Party must place sacks filled with sand and cement between Buckeye's pipeline(s) and the encroaching utility to provide and maintain the required minimum vertical clearance between the two utilities.

3.4.5 **Electrical, Fiber-Optic, and Communications Cables**

a. **Buried Cables:**

- [1] Electrical conductors/cable installations shall meet minimum requirements of National Electric Code for buried conductors and be adequately shielded and be impervious to hydrocarbon liquids.
- [2] Cables are required to cross beneath the pipeline with a minimum clearance of 24 inches. Exceptions to Buckeye's clearance requirements for underground service entrances to single family dwellings will be reviewed on a **case-by-case basis**.
- [3] Sand or select fill shall be placed between the pipeline and cable (see Section 2.8).

- [4] All cables shall be installed in Schedule 80 PVC pipe and encased in a 6-inch envelope of color coded (i.e. red for electrical cable, orange for communication cable) 3,000 psi concrete for a minimum distance of 10 feet to each side of each BUCKEYE Pipeline(s) across the right-of-way.
- [5] Warning tape, in accordance with A.P.W.A. Uniform Color Code, shall be placed above the utility, 12 inches below ground, for a distance of 25 feet on either side of the crossing.
- [6] Signage for the crossing shall be placed as determined appropriate by Buckeye.

b. Aboveground Cables:

- [1] A minimum of 20 feet of above-grade clearance for a distance of 25 feet on each side of the pipeline is required.
- [2] Mechanical supports and service drops including poles, towers, guy wires, ground rods, anchors, etc., are not permitted within 25 feet of the pipeline.

3.5 Temporary Access Roads and Heavy/Construction Vehicle Crossings

3.5.1 **General Requirements:**

- a. The Encroaching Party shall provide Buckeye information as to the type, model, size, and axle weight of construction equipment that will be used over or in the vicinity of the pipeline(s).
- b. Trucks carrying a maximum axle load up to 15,000 pounds may cross the right-of-way after Buckeye has confirmed a minimum cover of 48 inches over the pipeline.
- c. For all other cases, earthen ramps (see Attachment 6), swamp mats, air bridges, reinforced-concrete slabs (see Attachment 5), or steel plates may be required. Loading conditions and protection measures will be evaluated and dictated by Buckeye's Right of Way Department.
- d. When temporary fill must be added, colored sheets of plastic shall be placed under the temporary fill at original grade so that the original grade will not be disturbed when the temporary fill is removed.
- e. At all crossing locations, the Crossing Party will provide 12" of clean AASHTO 1 stone over the pipeline right-of-way.
- f. During the use of an approved temporary construction road, Buckeye may require that the Crossing Party provide additional protective measures deemed necessary to prevent damage to the pipeline.
- g. Buckeye will limit the number of temporary construction roads constructed by the Crossing Party.

3.6 Railroad Crossings

3.6.1 **General Requirements:**

- a. A minimum clearance of 72 inches is required between railroad tracks and the pipeline.
- b. A minimum cover of 36 inches is required between the bottom of drainage ditches on either side of a railroad and the pipeline.
- c. For railroad main lines, the pipeline crossing must comply with local railroad guidelines that delineate the requirements for carrier pipe, casing pipe, and clearances. Buckeye shall be consulted for the review of any State submittals.
- d. For private spur crossings, Buckeye will determine the railroad entity having jurisdictional authority to dictate crossing requirements.

3.7 Farming and Field Tile

3.7.1 **General Requirements:**

- a. Field tile running parallel to the pipeline shall be spaced 10 feet from the centerline of the pipeline.
- b. Field tile shall cross the pipeline perpendicularly with a clearance of 12 inches above or below the pipeline.
- c. Buckeye will approve the total number of crossings of the pipeline on a **case-by-case basis**.
- d. Deep plowing or “ripping” operations shall be approved by and coordinated with Buckeye.

3.8 Construction-Induced Vibrations

3.8.1 **General Requirements:**

- a. Construction activities that generate ground vibrations, including, but without limitation, pile driving, sheet driving, soil compaction work, jackhammering, or ramming, shall be reviewed by Buckeye on a **case-by-case basis**.
- b. If the Crossing Party anticipates such an activity within 10 feet of the pipeline, then continuous testing monitored by a seismograph located directly over the pipeline at its closest point to the activity must be conducted. The Crossing Party shall provide, at their expense, the monitoring service which must be approved by Buckeye.
- c. The particle velocity of any one component of a three-component seismograph must not exceed 2.0 inches per second as recorded on the seismograph placed directly over the pipeline.

3.9 Blasting Operations

3.9.1 **Blasting within 500 feet of the pipeline right-of-way:**

- a. The Crossing Party must submit a blast plan to Buckeye for review and approval. Verbal and written notice will be given 14 and 21 days respectively.
- b. Blasting plans must include the following information:
 - Dates blasting to occur
 - Explosives type
 - Maximum shot hole depth and diameter
 - Number of holes and spacing
 - Delay pattern
 - Delay types and intervals
 - Depth of overburden
 - Depth of blast area
 - Maximum charge per hole, per delay
 - Show drilling/blasting pattern plan and profile in relation to Buckeye facilities
 - Calculated radiant peak particle velocity (PPV) at varying distances from the pipeline and at the pipeline itself
 - State permit (copy)
 - Blasting contractor qualifications and insurance certificate (copy)
 - Blasting Safety Plan (copy)

The Crossing Party shall complete Attachment 8, “Blasting Plan Submission Form”, and include this form with their submission to Buckeye.

- c. The Crossing Party shall make arrangements for a Buckeye On-site Inspector to be present to witness the blasting operation.

3.9.2 Blasting within 300 feet of the pipeline right-of-way:

(Adds to or replaces items in Section 3.10.1)

- a. Blasting shall be monitored by a seismograph located directly over the pipeline at its closest point to the blast hole(s). The Crossing Party shall provide, at their expense, the monitoring service which must be approved by Buckeye.
- b. The particle velocity of any one component of a three-component seismograph must not exceed 2.0 inches per second as recorded on the seismograph placed on the ground directly over the pipeline.
- c. For blast testing, an initial test blast using a maximum charge of one pound shall be performed. The Crossing party shall detonate the first test blast with all necessary monitoring equipment in place to observe the results of the proposed blast design. Each subsequent test blast may be set and detonated only after the seismograph reading from the previous test blast indicates that further blasting can be safely conducted.
- d. Routine production blasting may be initiated after completion of a successful test blast, with allowable charge based on the seismographic vibration recordings of test blasts. However, all blasting must be continuously monitored by a seismograph. The velocity recorded must not exceed the 2.0 inches per second limit noted above.

3.9.3 Blasting within 50 feet of the pipeline right-of-way:

(Adds to or replaces items in Section 3.10.2)

- a. The Crossing Party shall hire a consulting firm that specializes in underground blasting to conduct the seismograph survey and certify the results.
- b. Buckeye will approve the Crossing Party's selection of consulting firms that will conduct the seismographic surveys before starting any blasting operation.

3.9.4 Special Requirements:

- a. For multiple-delay blasting, the Crossing Party shall begin the blasting sequence at the charge closest to the pipeline and progress away from the pipeline.
- b. If seismographic readings above the limit stated in item 3.10.2.b of this section are recorded, the pipeline must be exposed and inspected for possible damage and/or product release. The Crossing Party conducting blasting operations is responsible for all expenses related to the exposure and any subsequent repairs necessitated by the operation.
- c. At Buckeye's request, the Crossing Party shall install sheet piling, open trench channels, and/or matting to protect the pipeline during blasting operations.

3.10 Seismic Vibrating Operations

3.10.1 Seismic vibrating within 500 feet of the pipeline right-of-way:

- a. The Crossing Party must submit a seismic vibrating plan to Buckeye for review and approval. Verbal and written notice will be given 14 and 21 days respectively.
- b. Seismic vibrating plans, when using Vibroseis System Vibrators to radiate ground vibrations, must include information on soil conditions and depth of exploration, the anticipated number and type of vibrations, type and weight of vehicle, and peak force of equipment.
- c. The peak force by vehicle weight shall not exceed 45,000 pounds.
- d. The Crossing Party shall also make arrangements for a Buckeye On-Site Inspector to be present to witness the seismic vibrating operation.

3.10.2 Seismic vibrating within 100 feet of the pipeline right-of-way:

- a. Vibration shall be monitored by a seismograph located directly over the pipeline at its closest point to the vibrator(s). The Crossing Party shall provide, at their expense, the monitoring service which must be approved by Buckeye.
- b. The Crossing party shall determine and limit the maximum peak force allowed under continuous seismographic vibration monitoring such that the peak particle velocity will not exceed 2.0 inches per second.
- c. Seismic vibration surveys shall not be conducted closer than 100 feet to the pipeline.

3.10.3 **Special Requirements:**

- a. If seismographic readings above the limit stated in item 3.10.2.b of this section are recorded, the pipeline must be exposed and inspected for possible damage and/or product release. The Crossing Party conducting seismic vibrating operations is responsible for all expenses related to the exposure and any subsequent repairs necessitated by the operation.
- b. At Buckeye's request, the Crossing Party shall install sheet piling and/or open trench channels to protect the pipeline during seismic vibrating operations.

3.11 Wind Turbines

3.11.1 **Setback Distance from Pipelines**

- a. Wind turbine structures shall be set back from any Buckeye pipeline at least a distance equal to 110% of the structure height, which is defined as the height of the entire wind turbine system as measured from the bottom of the base to the highest vertical point of the system including the base and tower and the highest reach of the turbines or blades.
- b. No facilities associated with a wind turbine installation project shall be permitted to be installed within the pipeline easement.
- c. Warning lights shall be installed on all wind turbines that are located within 1,200 feet of any Buckeye pipeline.

3.11.2 **Construction Equipment and Crane Crossings**

- a. All temporary access roads and heavy/construction vehicle crossings shall comply with Section 3.5 above.
- b. Where cranes and other maintenance vehicles will need to cross Buckeye pipelines on a routine permanent basis for maintenance of the turbine(s), permanent crossing locations must be established, an encroachment agreement must be signed by the landowner and facility owner, and permanent crossing protections must be installed to the satisfaction of Buckeye.
- c. Construction materials or equipment shall not be transported longitudinally over Buckeye's pipelines.

3.11.3 **Underground Utilities**

- a. Cables and electrical conduit crossings shall comply with Section 3.4 above.
- b. BUCKEYE may require at the expense of the CROSSING PARTY an AC Arc Fault Study, specific to the CROSSING PARTY'S project encroachments. The study will determine if there is adequate AC Arc Fault protection of and separation from BUCKEYE'S facilities. BUCKEYE will arrange for the engineering, design and installation of AC mitigation and Lightning suppression systems, as deemed necessary by the AC Arc Fault Study. The reasonable cost of such AC remediation

and Lightning suppression systems shall be submitted to CROSSING PARTY for review and approval, which approval shall not be unreasonably delayed, conditioned or withheld, and, upon approval such reasonable cost will be prepaid by CROSSING PARTY to BUCKEYE.

4.0 Deviations and Exceptions

- 4.1 When and where special circumstances dictate, deviation from these requirements must be formally approved by Buckeye in writing prior to commencement of any excavation or other construction activity that may impact the pipeline. Any such deviations must be explained and documented and provided to Buckeye for review and approval.

5.0 Additional Information and Buckeye Contacts

- 5.1 Should you have any questions regarding pipeline rights-of-way or your specific easement, contact Buckeye's Right of Way Department at the applicable phone number listed in [Attachment 2](#).
- 5.2 Should you have any questions regarding Buckeye's engineering requirements, contact Buckeye's Encroachment Design Reviewer at encroachmentreviews@buckeye.com .

Attachment 1: State One Call Systems (National One Call System - Dial 811)

State	One Call Program	Phone No.	Website
Alabama	Alabama 811	(800) 292-8525	www.al811.com
California - North	USA North of Central / Northern California & Nevada	(800) 227-2600	www.usanorth.org
- South	Dig Alert & Underground Service Alert South	(800) 422-4133	www.digalert.org
Connecticut	Call Before You Dig	(800) 922-4455	www.cbyd.com
Florida	Sunshine State One Call	(800) 432-4770	www.callsunshine.com
Georgia	Georgia 811	(800) 282-7411	www.georgia811.com
Illinois - Non-Chicago	Julie, Inc.	(800) 892-0123	www.illinois1call.com
- Chicago	DIGGER - Chicago Utility Alert Network	(312) 744-7000	www.cityofchicago.org/transportation
Indiana	Indiana 811	(800) 382-5544	www.indiana811.org
Iowa	Iowa One Call	(800) 292-8989	www.iowaonecall.com
Louisiana	Louisiana One Call System, Inc.	(800) 272-3020	www.laonecall.com
Maine	Dig Safe System Inc.	(888) 344-7233	www.digsafe.com
Massachusetts	Dig Safe System Inc.	(888) 344-7233	www.digsafe.com
Michigan	MISS Dig System, Inc.	(800) 482-7171	www.missdig.net
Missouri	Missouri One Call System, Inc.	(800) 344-7483	www.mo1call.com
Nevada	USA North of Central / Northern California & Nevada	(800) 227-2600	www.usanorth.org
New Jersey	New Jersey One Call	(800) 272-1000	www.nj1-call.org
New York	UDig NY	(800) 962-7962	www.udigny.org
New York City & Long Island	New York 811, Inc.	(800) 272-4480	www.newyork-811.com
North Carolina	North Carolina 811	(800) 632-4949	www.nc811.org
Ohio	Ohio Utilities Protection Service	(800) 362-2764	www.oups.org
Pennsylvania	Pennsylvania One Call System, Inc.	(800) 242-1776	www.pa1call.org
Rhode Island	Dig Safe System Inc.	(800) 344-7233	www.digsafe.com
South Carolina	South Carolina 811 / PUPS	(888) 721-7877	www.sc811.com
Tennessee	Tennessee 811	(800) 351-1111	www.tnonecall.com OR www.tennessee811.com
Texas	Texas 811 OR Lone Star Notification Center	(800) 344-8377 (800) 669-8344	www.texas811.org www.lsnconeall.com
Wisconsin	Wisconsin Diggers Hotline	(800) 242-8511	www.diggershotline.com

Attachment 2: Application for Design Plan Submission and Encroachment Review

INSTRUCTIONS

Prior to completing the following Application for Design Plan Submission and Encroachment Review (application), please review these instructions to determine if an application is required and to ensure that all necessary information has been obtained. Failure to follow these instructions and/or failure to provide the required information will delay the review process.

One Call Notification – To prevent damages to pipeline facilities from subsurface excavation or any activity that disturbs or impacts the depth of cover over underground facilities, Buckeye participates in "One-Call" organizations in all the states in which Buckeye has operating facilities. A list of the One-Call organizations Buckeye participates in is listed in Attachment 3 of the Right of Way Use Restrictions Specification. Placing a one call notification will put you in contact with the appropriate Buckeye Field Representative

Buckeye Field Representative Coordination – Discuss with the Buckeye Field Representative a summary of the project and potential encroachments. The Buckeye Field Representative will determine if any additional information such as pipeline depth of cover is necessary and if an application is required.

Application and Plan Submission –

SUBMIT APPLICATION AND PLANS TO:

Buckeye Partners, L.P.
ROW Department
Attn: Encroachment Review
6161 Hamilton Blvd.
Allentown, PA 18106

OR

encroachmentreviews@buckeye.com
With subject line reading
"Encroachment Review Application"

Buckeye requires a minimum of 60 days for technical review upon receipt of complete application with all relevant fees and complete and accurate design plans. Submission of plans electronically to the above email address is encouraged and acceptable, but signed application and fees must follow by mail.

Relocation or Modification – Should the initial encroachment review result in a determination that Buckeye facilities must be relocated or modified because of the request, additional review time may be required. A Feasibility Study will be performed to prepare a scope of work, cost estimate, schedule and project plan; the cost of which will be borne by a party or parties other than Buckeye and must be paid before the relocation or modification will commence. A Technical Services Agreement between Buckeye and the responsible entity will be prepared to specify the duties of each party. A Letter of No Objection or Encroachment Agreement will be issued which will authorize the construction of the proposed encroachment under certain terms and conditions.

Permission / Notification - A fully-executed Approval Letter, Encroachment Agreement, Reimbursement Agreement, and/or Technical Services Agreement is needed prior to construction. Buckeye must be notified 10-days prior to construction to allow for the scheduling of a Buckeye representative to be present. It is also the encroaching entity's responsibility to notify the owners of any other pipelines, communication lines, other third party property or facility owners located within the proposed project area and to secure any additional needed rights from these parties where Buckeye's rights are limited.

If construction of the aforementioned project does not commence within three calendar years of the issued approval letter date, the Crossing Party shall submit a new application and resubmission fee. The Company shall have the right to reconsider the conditions and privileges granted, and have full right to consider current policies and procedures at the time of resubmission.

APPLICATION FEES: A non-refundable Encroachment Application Fee must accompany all encroachment review requests for private development within Buckeye's right-of-way. Any request submitted without the required application fee, or that does not contain the specified information in the format requested on the application, may not be considered. Remit payment by check payable to: *Buckeye Partners, L.P.* Buckeye may require a developer to enter an agreement to pay any outside consultant costs that Buckeye deems necessary for a complete review of the proposed encroachment(s).

Initial Encroachment Application Fee is \$3,000. Following initial review, all necessary plan resubmissions until plan approval shall be accompanied by a **Resubmission Fee of \$750.**

Small Project Application Fee is \$500. This reduced fee is reserved solely for single utility line service crossings or requests for installation of a fence or other residential-related improvement within Buckeye's pipeline easement.

Application for Design Plan Submission and Encroachment Review

PROJECT INFORMATION & LOCATION

BUCKEYE PARTNERS, L.P.

Project Title

Project Address

City

State

Zip Code

Latitude

Longitude

Municipality

County

APPLICANT INFORMATION:

Name and Title of Applicant

Company

Email Address

Phone Number

Address

City

State

Zip Code

LEGAL NAME OF INDIVIDUAL, COMPANY, OR ENTITY TO WHICH PERMISSION WILL BE GRANTED:

Name

Name and Title of authorized signatory for company or entity

Address

City

State

Zip Code

Email Address

Fax Number

PROJECT INVOLVES THE FOLLOWING IMPACTS TO BUCKEYE'S FACILITIES (CHECK ALL THAT APPLY):

- Cover, grading, and drainage pattern changes
- Aboveground and/or underground structures
- Road, driveway, sidewalks, and parking areas
- Utility crossings including gas, water (steam), sewer (storm/sanitary) – include trench backfill detail
- Electrical, fiber-optic, and communications cables
- Temporary access roads for the crossing of heavy/construction equipment
- Railroad crossings
- Farming and field tile
- Construction-induced vibrations
- Blasting operations (attach BLASTING PLAN)
- Seismic vibrating operations (attach SEISMIC VIBRATING PLAN)
- Exposure of the pipeline (attach SUPPORT PLAN)
- Boring, drilling, or tunneling near the pipeline (attach DRILL PLAN)
- Other: _____

Indicate any areas of disturbance or other work that will require Buckeye's pipeline(s) to be exposed in order to perform your work.

Supplemental Plan Information (as applicable)

Blasting Vibrating Plan

Seismic Vibrating Plan

Support Plan

Drill Plan

I hereby authorize Buckeye to contact the Engineer/Survey firm which prepared the drawings, survey and attachments.

I certify that the information provided is accurate and I realize that incomplete information may delay processing or invalidate this application.

Signature of Applicant

By: _____

Name: _____ Date: _____

Title: _____

**PAYMENT INFORMATION
(APPLICANT TO COMPLETE)**

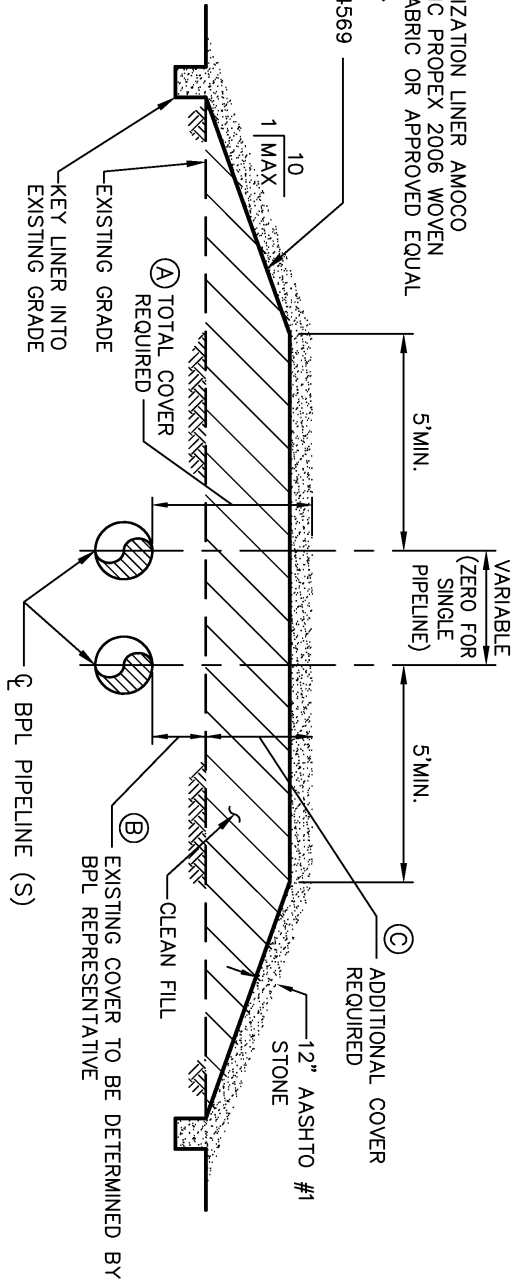
Check Number: _____

Payment Amount: \$_____

Attachment 4: Earthen Ramp Detail

Project/Inquiry:	Loading:	Date:
System:	Pipe Data:	Revision:

GEOTEXTILE STABILIZATION LINER AMOCO
ENGINEERING FABRIC PROPEX 2006 WOVEN
POLYPROPYLENE FABRIC OR APPROVED EQUAL
AMOCO FABRIC CO.
ATLANTA, GEORGIA
PHONE: (770)944-4569



TEMPORARY (WET CONDITIONS) CONSTRUCTION RAMP OVER BPL PIPELINE (S)

- NOTES:**
- RAMP SHALL BE 15 FOOT PLUS/MINUS WIDE WITH SIDES TAPERED ON A MINIMUM 1:1 SLOPE.
 - IF DRY CONDITIONS PREVAIL AT CROSSING SITE LINER AND STONE CAN BE REPLACED WITH FILL MATERIAL.

* Indicates item supplied by Buckeye Pipe Line Company.

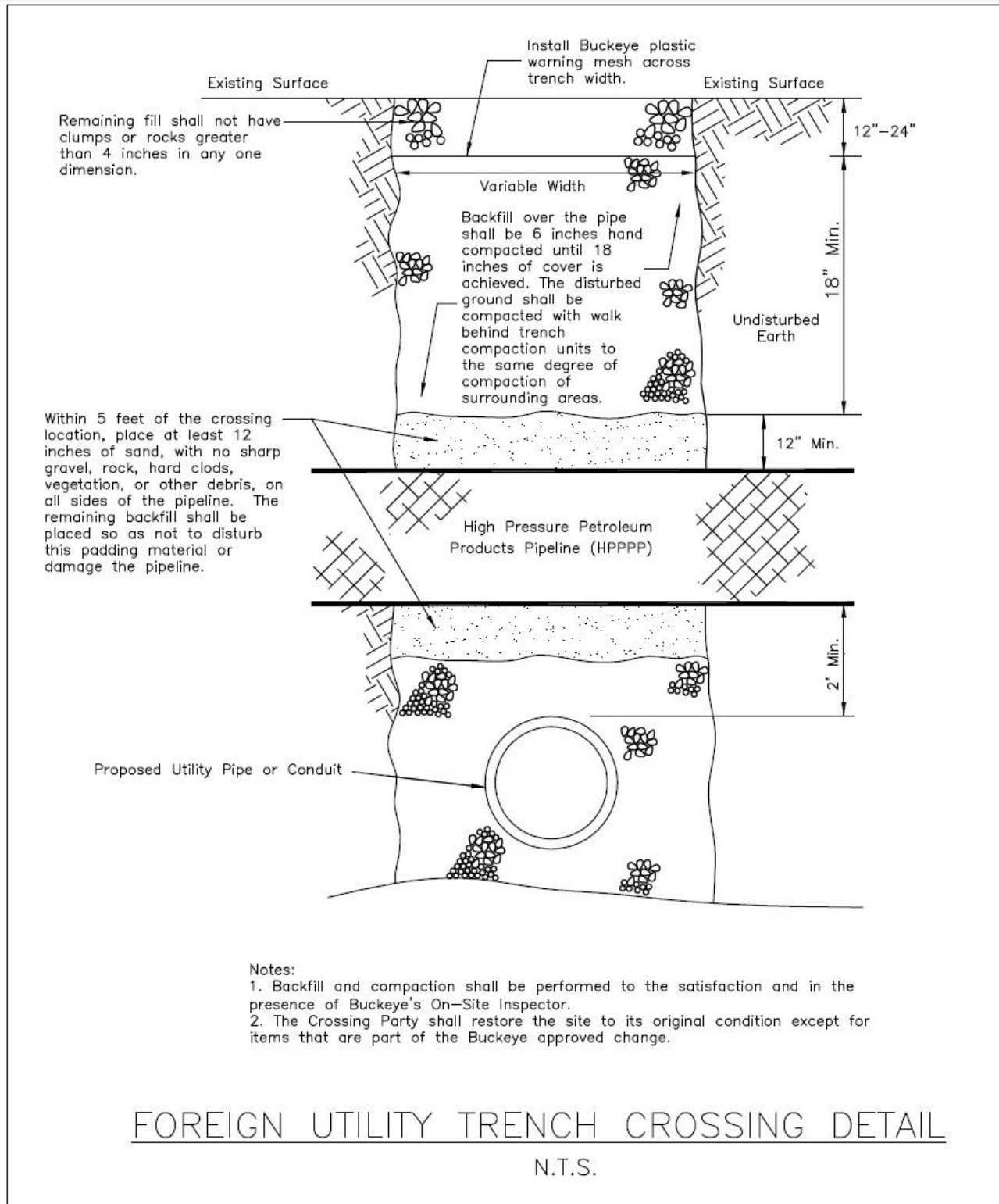
Legend & Notes:

A. Required pipeline cover must be a minimum of:	*	feet
B. Existing pipeline cover is currently:	TBD	feet
C. Earthen ramp height above existing grade:	*	feet

Buckeye Pipe Line Company
Earthen Ramp Detail



Attachment 5: Foreign Utility Trench Crossing Detail



Attachment 6: Blasting Plan Submission Form

INFORMATION SECTION	
Blasting Contractor -	Contracted by -
Company Name: _____	Company Name: _____
Phone: _____	Address: _____
Email Address: _____	_____
Contact Person: _____	Contact Person: _____
Project Name: _____	
Address: _____	
*Latitude: _____	
*Longitude: _____	
Location and Distance (in feet) to Nearest Buckeye Pipeline: _____	

Date of Blasting: _____	

EXPLOSIVES SECTION	
Type of Explosives: _____	
Max. Charge / Hole (lbs): _____	
Charge Delay (ms): _____	
No. of Holes: _____	
Max. Depth of Charge (ft): _____	
Max. Diameter of Charge (in): _____	
Calculated Particle Velocity at a point -	
Depth of Blast Area (ft): _____	300 feet from blasting event (in/sec): _____
Depth of Overburden (ft): _____	200 feet from blasting event (in/sec): _____
Type of Rock to be Blasted: _____	100 feet from blasting event (in/sec): _____
Density of Rock (lbs/cu-ft): _____	Directly above pipeline (in/sec): _____ @ _____ ft. _____

ATTACHMENT CHECKLIST
<input type="checkbox"/> Drilling/Blasting Pattern Sketch - include all depths, measurements, and delay patterns relative to Buckeye facility involved and each charge.
<input type="checkbox"/> State Approval Letter
<input type="checkbox"/> Blasting Contractor's Qualifications
<input type="checkbox"/> Blasting Contractor's Insurance Certificate
<input type="checkbox"/> Blasting Contractor's Safety Plan
OMMISSION OF ANY INFORMATION REQUESTED ABOVE WILL DELAY YOUR BLASTING PLAN REVIEW
Buckeye requires a minimum of 14 days for technical review upon receipt of complete and accurate blasting plans

Attachment 7: Excavation Safety Checklist

DPPM Section 7, FORM A – EXCAVATION SAFETY CHECKLIST

The information noted on this form is intended to communicate general information about our pipeline(s) and is not intended to be solely relied upon by any party for the purpose of excavation or any similar purpose.

By law, to enable all participating utilities time to mark their facilities, the **One Call Center** in your state requires notification by calling 811 prior to any excavation. Buckeye Partners, L.P. is a member of this One Call enterprise and will automatically be notified through this system. In addition, a Buckeye Pipeline and Terminal Protector will perform and/or review with the excavator representative the applicable checklist items below.

Pipeline Locate Activity:

- If plans are available, requested a copy of the written project plans and drawings for review with the excavator and/or engineer. Had the excavator and/or engineer explain the extent of the work area, location and depth of the excavation, type of proposed utilities, location of proposed utilities, number of utility crossings, etc.
- Established the pipeline(s) location and marked the line(s) per state One Call requirements throughout the entire work area.
- Photographed all established pipeline markings throughout the work area.

Communication with the Excavator and/or Engineer:

- The excavator and/or engineer was advised that a Buckeye Pipeline and Terminal Protector must:
 - Be a qualified Buckeye Pipeline and Terminal Protector.
 - Monitor the excavation site daily when work is performed within 25 feet of a Buckeye pipeline.
 - Observe continuously all excavation and backfill activity performed within 10 feet of a Buckeye pipeline or during the installation of any utility across a Buckeye pipeline facility.
 - In addition, the excavator was instructed to call 800-331-4115 if they were ready to excavate within either above distance of a Buckeye pipeline and a Buckeye Pipeline and Terminal Protector was not present. When called a Buckeye Pipeline and Terminal Protector will be sent to perform the inspection, which is free of charge.
- The excavator was advised that only backhoes or trackhoes with a steel plate welded across the teeth of the bucket are permitted to be used during excavation work around a Buckeye pipeline.
- The excavator was advised that the Buckeye Pipeline and Terminal Protector is required by law to perform an external inspection of any Buckeye pipeline exposed during excavation activity. The excavator understands that he/she is responsible as the qualified "Competent Person" who is designated to provide an OSHA compliant excavation under the requirements of 29 CFR Part 1926, Subpart P, ensuring the Buckeye Pipeline and Terminal Protector safe ingress and egress to and from the excavation to examine our exposed pipeline.
- Walked through the work area with the excavator and communicated the locations of all Buckeye pipelines in the planned work area.
- Discussed the number of pipelines, pipe size(s), approximate pressures, approximate depths, excavation tolerance zones, hand digging requirements, and the hazards and characteristics of product(s) in the pipeline system(s) located in the planned work area.
- The excavator was advised to call the One Call Center 811 or contact Buckeye, if the Buckeye markings are destroyed or need to be refreshed in the planned work area. This service is provided free of charge.
- The excavator was advised that before any exposed Buckeye pipeline can be backfilled, the Buckeye Pipeline and Terminal Protector will direct the placement of an orange warning mesh or yellow warning tape over the pipeline.
- The excavator was advised that **any contact** with the pipeline, pipeline coating, test station wiring, or anode beds **must be reported to Buckeye prior to backfilling the excavation** to permit further inspection of the damage to ensure continued safe pipeline operations.
- The excavator was advised that failure to comply with the conditions outlined above would result in Buckeye requiring the excavator to expose the pipeline again to allow an examination of the pipeline at the excavator's expense. If damage to the pipeline is discovered, Buckeye may seek monetary compensation for all repair costs. Buckeye may also report this activity to all concerned parties (State One Call Center, Regulatory Agencies, Principal Contractor, Excavator's Insurance Company, etc.).

If you are unable to reach the Buckeye Pipeline and Terminal Protector designated below, or **in case of an emergency**, request assistance as follows:
 For excavation activities in IL, IN, MI, MO, NJ, NY, OH, PA, or WI, please call 1-800-331-4115.
 For excavation activities in CT, FL, IA, LA, MA, ME, NV, TN, TX, or Southern California, please call 1-866-514-8380.
 For excavation activities in Northern California, please call 1-800-307-1107.

One Call Ticket:		Line Segments:	
Work Order:		Mile Posts:	
Address			
Buckeye Information		Property Owner / Excavator / Engineer	
Date:		Name:	
Name:		Phone:	
Cell Phone:		Signature:	