

TABLE 2 - ROUTE SEGMENT OBSERVATIONS AND ANALYSIS

Segment A: Thruway/Algonquin ROW-Kakiak Park to PIP-Thruway Intersection

- The Thruway ROW is characterized by steep slopes, rock faces, confined spaces, and is bordered by densely populated areas. An existing fiber optic cable route is located in the north side of the highway ROW and occupies most of the existing space, therefore making it necessary to use the south side of the ROW. It appears that blasting would be required in several locations (Attachment 6, Segment A: Photo 2), which would result in traffic stoppage of several lanes of traffic for approximately 30 minutes each day. Trees and vegetation acting as screening barriers to the populated areas would be removed causing the residents along the Thruway additional noise impacts from this highly trafficked corridor.
- The portion of the alignment passing through Suffern lies in heavily trafficked, narrow streets. The Thruway is elevated through Suffern on bridges and vertical retaining walls (Attachment 6, Segment A: Photo 1). It appears that Suffern Water Company uses two ponds as a source of water adjacent to the highway in areas of fill near the ROW leaving no space at these locations as an access point to the Thruway. A location to gain access to the Thruway from Suffern local streets on the proposed route does not exist.
- The Algonquin ROW would require significant clearing and grading in or near Harriman State Park. If blasting were required, a 50-foot separation distance from the active pipelines would be required. This would require construction traffic to be outside of the existing ROW, resulting in the need for additional tree removal and acquisition of additional ROW in the Park.

Segment A Conclusions: An increased separation distance from existing pipelines would be required to protect them from the vibrations of blasting or rock sawing, and additional ROW would be required for construction traffic. Rock faces, steep slopes, inadequate workspace, and inadequate access, make construction along the Thruway very difficult and lane closures would limit work hours. It is doubtful that the NYSDOT would agree to such prolonged and repeated stoppage of traffic on this major transportation corridor. A feasible facility location on or along the elevated New York Thruway through Suffern does not exist. Segment A is not feasible from a design, construction, operation and maintenance perspective.

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Segment B: Rte. 340 to Tennessee ROW

- Paralleling Route 304 on the east side would be difficult in the northern reaches as it is heavily trafficked, and bordered by businesses. It is not possible to construct the pipeline on the west side of Route 304 due to lack of workspace for the required directional drills.
- A portion of this segment follows the Tennessee Pipeline ROW and runs easterly through Bergen County, New Jersey. The Tennessee Pipeline alignment passes through extremely densely populated areas (Attachment 6, Segment B: Photo 1). The pipeline shares a ROW with a high voltage Coned electric tower line, and no additional space is available for construction. In some cases it appears that there are permanent structures situated near -- if not on top of -- the existing pipeline. A 2,000-foot crossing of Lake Tappan would be required. The lake is a reservoir that serves four New Jersey counties and would probably require a HDD rather than a lay barge method of construction. With the pipelines and electric lines occupying the available workspace in the ROW, additional ROW would be required at each shore.

Segment B Conclusions: Construction along Route 304 would require significant lane closures. Construction within the Tennessee and Con Ed ROWs is not feasible, as workspace is inadequate and adjacent properties are occupied with residences and businesses that encroach on the ROW. In order to parallel Tennessee across Tappan Lake the separation distance between the facilities would need to be increased to prevent damage to the active gas line. Segment B is not feasible from a design, construction, operation and maintenance perspective.

Segment C: PIP-Thruway to Rte. 340

- The Tennessee Pipeline ROW passes through a heavily wooded area interspersed with homes. Clearing and grading for the ROW would be required.

Segment C Conclusions: This segment appears to be constructable. However, additional ROW may have to be obtained if rock is encountered along the parallel pipeline.

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Segment D: Tennessee ROW Crossing (Hudson River)

- ◆ Western Shore
 - Tennessee ROW has taken all the usable space in laying its two lines across the river and in the approaches to the river.
 - There is no evidence of any permanent channel within the immediate construction area, contrary to the assertions of NYSDOS. A permanent stream channel through the Piermont Marsh is located to the north but could not be used due to routing restrictions along the Palisades cliff. Since there is no staging area at any location at the base of the cliff, a staging area of approximately one acre must be created by filling the wetland at that location. Any attempt to utilize the existing stream channel would only serve to block natural flows following the creation of a staging area.
 - It is estimated that 3,700 cubic yards of Palisade's cliffs would have to be permanently removed, leaving a highly visible scar (Attachment 6, Segment D: Photo 1). This would take place on a 20 to 25 degree slope leading directly to the river and wetlands.
 - Erosion and bank stability would be a continuous problem as evidenced by the erosion on the Tennessee Pipeline ROW. Survey points seem to indicate that Tennessee is monitoring the slope for slippage, which is a serious concern for proper operation and maintenance of pipeline facilities.
 - The route through this area crosses the wetland located with Piermont Marsh. This marsh is designated as Significant Coastal Fish and Wildlife habitat and is one of only 25 National Estuarine Research Reserve locations as reported by NOAA. Contrary to the NYSDOS brief and O'Brien & Gere report, there is no space available for staging. Filling in the wetlands along the river to create a construction staging area is not a realistic solution. Therefore, at least one acre of presently undisturbed wetland would be destroyed by filling and trenching. Due to the lack of stability of the soils in the Piermont Marsh, it is likely that the trenching would create a swath of approximately 150 feet wide, which would take years to be restored to a more natural condition.
 - A potentially historic site and creek north of the Tennessee ROW could be damaged as a result of construction.

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◆ Eastern Shore

- No workspace exists to stage the pipeline landing, and filling in the Hudson River to create a construction staging area is not a realistic option. Similar to Tennessee's landing, approximately one acre of the Hudson River would have to be filled to create the required staging area. However, water flow from Wickers Creek into the Hudson River would be restricted.
- No workspace is available on either side of the railroad for boring once landfall is approached.
- Historic site (Dobbs' Ferry Landing) tennis courts and permanent structures further constrict workspace.
- Tennessee Pipeline crossover eliminates workspace on the east side of the railroad.

Segment D Conclusions: Removal of Palisade's cliffs on the west shore would be required. No workspace for staging is available without permanently filling at least one acre of Piermont Marsh. The steepness of the bank is likely to lead to erosion and stability problems as evidenced by the continuing problems associated with the Tennessee pipeline that was constructed approximately 40 years ago. Permanent, unavoidable impacts would result in the Piermont Marsh. The east shore has no space for landing the pipeline and staging the bore under the railroad. Existing pipeline facilities have used all available space for parallel construction, and additional spacing across river would be required. Segment D is not feasible from a design, construction, operation and maintenance perspective.

Segment E: Tennessee ROW to Saw Mill Parkway

- The first 500 feet of this segment is in a steep, narrow draw (2:1 forested slopes on each side) bordered on one side by residences and on the other by an under-construction gymnasium for Mercy College. Tennessee's ROW uses all available space within the Wickers Creek drainage basin (Attachment 6, Segment E: Photo 1 & 2).
- This segment then passes through dense residential neighborhoods (The Landing and Legend Hollow (Attachment 6, Segment E: Photo 2)), a country club (Ardsley Country Club), and local streets that are best characterized as narrow and winding. A large number of residential structures already encroach upon the Tennessee pipeline ROW. As a

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consequence, a large number of residential structures would be destroyed by routing a pipeline adjacent to the Tennessee pipeline in this location. There is no workspace or ROW to place additional pipeline facilities on or along Tennessee's existing easement, nor is there an effective means to detour traffic and place the pipeline in local streets.

Segment E Conclusions: Tennessee's pipeline passes through densely populated areas with no space between homes available for pipeline installation. Further, no workspace or ROW is available along Wickers Creek. Construction within local streets would paralyze local traffic and deny access to private residences for extended periods of time. Segment E is not feasible from a design, construction, operation and maintenance perspective.

Segment F: PIP-Rte. 45 to Thruway

- This segment is located within the PIP ROW, on the east side. The PIP is a National Historic Landmark and thus is afforded special status and protection under the National Historic Preservation Act. The centerline of the required pipeline trench would be 25 feet inside the eastern edge of the PIP ROW. The pipeline facilities could not be located immediately adjacent to the highway because other drainage and infrastructure already exist in that location. Construction would require clear cutting of most of the mature forest along the east side and would produce visible permanent scars where rock has to be blasted and/or trenched. Approximately 50 acres of forest would be cleared. The results from construction would be to expose hundreds of private residences (which are located immediately adjacent to the PIP ROW) to the visual and noise impacts associated with the parkway (Attachment 6, Segment F: Photo 1). Trees could not be replanted over the entire ROW, as maintenance activities would require access to the pipeline.
- At each overpass (approximately 4), the pipeline would have to be located off the PIP ROW for several hundred feet in order to avoid the overpass foundations. The confined spaces on adjacent roads and PIP over/underpasses would cause construction access to be extremely difficult and disruptive.
- Further, truck traffic must be allowed to access the PIP in order to transport in the required heavy equipment and materials. Well over several hundred permitted loads would be required to complete pipeline construction along this segment of the PIP. Many loads would be in excess of the weight-bearing design of the existing highway facilities and the adjacent shoulders, leading to significant damages in areas that were just recently restored and/or enhanced.

Segment F Conclusions: This segment appears to be constructable, but the impacts on the PIP would be severe and profound.

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Segment G: PIP-Thruway to Rte. 340

- This segment is located within the PIP ROW on the east side. The PIP is a National Historic Landmark and thus is afforded special status and protection under the National Historic Preservation Act. The centerline of the required pipeline trench would be 25-feet inside the eastern edge of the PIP ROW. The pipeline facilities could not be located immediately adjacent to the highway because other drainage and infrastructure already exist in that location. Construction would require clear cutting of most of the mature forest along the east side and would produce visible permanent scars where rock has to be blasted and/or trenched. Approximately 65 acres of forest would have to be cleared. The results from construction would be to expose hundreds of private residences (which are located immediately adjacent to the PIP ROW) to the visual and noise impacts associated with the parkway (Attachment 6, Segment G: Photo 1). Trees could not be replanted over the entire ROW, as maintenance activities would require access to the pipeline.
- At each overpass (approximately 12), the pipeline would have to be located off the PIP ROW for several hundred feet in order to avoid the overpass foundations. The confined spaces on adjacent roads and PIP over/underpasses would cause construction access to be extremely difficult and extremely disruptive.
- Further, truck traffic must be allowed to access the PIP in order to transport in the required heavy equipment and materials. Well over several hundred permitted loads would be required to complete pipeline construction along this segment of the PIP. Many loads would be in excess of the weight-bearing design of the existing highway facilities and the adjacent shoulders, leading to significant damages in areas that were just recently restored and/or enhanced.

Segment G Conclusions: This segment appears to be constructable, but the impacts on the PIP would be severe and profound.

Segment H: CSX ROW–Bowline to Route 303

- The rail line passes beneath Rockland Lake State Park and Hook Mountain State Park via a tunnel (Attachment 6, Segment H: Photo 1). The pipeline cannot be placed in the tunnel because there is not enough room between the track and tunnel walls. Routing around the tunnel would involve permanent clearing and grading steep slopes in Hook Mountain

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State Park, a National Historic Landmark. These activities would leave a permanent ROW that would be visible from the Hudson River and other locations both south and north of Hook Mountain.

- This segment has inadequate workspace in multiple locations. Some sections have retaining walls which leave only room for trains. In other areas, the engineered rail foundation (bed) is sloped and takes up all available space. In many places, there are residences and/or business structures immediately adjacent to the railroad ROW, leaving no pipeline workspace.
- Some locations are fill areas and have only 10 feet of space on each side of the rails before they slope up to 40 feet in height. Electric poles typically occupy one side of the ROW, and often drainage ditches along the tracks preclude any workspace for construction. At the base of the steep slopes there are very often houses or other structures, which prevent minor route adjustments to avoid these areas.
- This segment crosses a large, deep quarry (permitted to over 500 feet below the Hudson River). Construction through the quarry is not possible, and slight deviations around the quarry (in particular along Snake Hill Road) would unacceptably place the pipeline in several severe side slope areas.
- The western shore of this route would be situated in dedicated parklands, Hook Mountain State Park and Nyack Beach State Park (both National Natural Landmarks). The only available workspaces are the parking lots serving both parks. The entrances to the parking lots are historic access roads that are hand-laid, vertical stone walls that would most certainly be damaged or destroyed by construction vehicles. The seawall along the Hudson River would most likely be severely damaged as well. The park would be closed for at least several months to complete the required construction activities in this area.
- Two simultaneous activities (train traffic and pipeline construction) in the tightly confined space of the railroad ROW is at best difficult and potentially very dangerous.
- Installing the pipeline inside extended lengths of casing, as recommended by O'Brien & Gere, would result in a dangerous and unacceptable situation. The pipeline's cathodic protection system will be jeopardized (due to a shielding effect from approximately 7.4 miles of casing), and it is extremely likely that the pipeline will electrically short against the casing. This could lead to pipeline rupture. Using casing pipe for this length would not only lead to these problems but construction would be impacted by increased depth of the trench, essentially placement of two pipelines, resulting in increased construction time, and a potential operation and maintenance problem.

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Segment H Conclusions: Inadequate or no workspace resulting from residential and business structures, vertical retaining walls, existing electric poles and other utilities, and sloping ballast would prevent pipeline construction along this segment. Installing the pipeline inside extended lengths of casing would result in a dangerous and unacceptable situation, cathodic protection issues and likely casing/pipeline shorting would inevitably lead to pipeline rupture. There is heavy train traffic on this corridor which would have to be stopped for prolonged periods of time during construction. Construction through or around the quarry is not possible. The impacts to Nyack Beach State Park would be severe and permanent. Segment H is not feasible from a design, construction, operation and maintenance perspective.

Segment I: CSX ROW Snake Hill Road to PIP

- This segment does not have sufficient workspace or ROW in multiple locations. Some sections have retaining walls which leave only room for trains. In other areas, the engineered rail foundation (bed) is sloped and takes up all available space in the ROW. In many places, there are residences and/or business structures immediately adjacent to the railroad ROW leaving no pipeline workspace.
- Some locations are fill areas and have only 10 feet on each side of rail before they slope up to 40 feet in height. Electric poles typically occupy one side of the ROW, and often drainage ditches along the tracks preclude any workspace for construction.
- Two simultaneous activities (train traffic and pipeline construction) in the tightly confined space of the railroad ROW is at best difficult and at the worst, dangerous.
- Installing the pipeline inside extended lengths of casing, as recommended by O'Brien & Gere, would result in a dangerous and unacceptable situation. The pipeline's cathodic protection system will be jeopardized (due to a shielding effect from approximately 4.4 miles of casing), and it is extremely likely that the pipeline will electrically short against the casing. This could lead to pipeline rupture. Using casing pipe for this length would not only lead to these problems but construction would be impacted by increased depth of the trench, essentially placement of two pipelines, resulting in increased construction time, and a potential operation and maintenance problem.

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Segment I Conclusions: Limited to no workspace resulting from residential and business structures, vertical retaining walls, existing electric poles and other utilities, and sloping ballast would prevent pipeline construction along this segment. Installing the pipeline inside extended lengths of casing would result in a dangerous and unacceptable situation, cathodic protection issues and likely casing/pipeline shorting would inevitably lead to pipeline rupture. There is heavy train traffic on this corridor which would have to be stopped for prolonged periods of time during construction. Segment I is not feasible from a design, construction, operation and maintenance perspective.

Segment K: Route 117 Crossing (Hudson River)

- The western shore of the proposed crossing would be situated in dedicated parklands, Hook Mountain State Park and Nyack Beach State Park (both National Natural Landmarks). The only available workspaces are the parking lots serving both parks (Attachment 6, Segment K: Photo 2). The entrances to the parking lots are roads that are hand-laid, vertical stone walls that would most certainly be damaged or destroyed by construction vehicles (Attachment 6, Segment K: Photo 1). The crossing would involve constructing an approach through a steep wooded area in the Park. The park would be closed for at least several months to complete the required pipeline construction and restoration activities in this area. The eastern shore traverses Rockwood Hall State Park and/or Phelps Memorial Hospital lands. There is no room to pass beneath the rail line paralleling the Hudson River.

Segment K Conclusions: There is inadequate workspace on the west side of the river. The Park would be closed during construction, and it would be very difficult to get construction equipment and materials to the landing area via the local road network into the Park. It is likely that all the entrance roads, parking area and seawall would be destroyed during construction. The bore at the railroad on the east shore would be difficult with limited working space. Segment K could potentially be feasible from strictly a construction perspective, but should not be constructed as a practical matter in light of its severe impacts.

Segment L: Route 117 Phelps Memorial Hospital to Taconic Parkway

- The landfall of the Hudson River crossing on the eastern shore is south of the rock retaining wall at Rockwood Hall Park. This segment then would cross the Park or cut through the adjacent woods, depending on alignment, and would terminate at its point of interconnection with the FERC certificated route at the North County Bike Trail along the Taconic Parkway. Rock faces along route 117 would require blasting to obtain construction space (Attachment 6, Segment L: Photo 1).

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Segment L Conclusions: It appears Segment L is a constructable route, although the rock faces along Route 117 would likely require some blasting to increase working space.

Segment M: PIP/Algonquin ROW South to Lovett

- This segment runs parallel to the PIP on the east side. The PIP is a National Historic Landmark and, thus, is afforded special status and protection under the National Historic Preservation Act. The centerline of the required pipeline trench would be 25 feet inside the eastern PIP ROW. The pipeline facilities cannot be located immediately adjacent to the highway because other drainage and infrastructure already exist in that location. Construction would eliminate most of the mature forest along the east side as well as produce visible permanent scars where rock has to be blasted and/or trenched. Approximately 40 acres of forest would be cleared. The results from construction would be to expose hundreds of private residences (which are located immediately adjacent to the PIP ROW) to the visual and noise impacts associated with the parkway. Trees could not be replanted over the entire ROW, as maintenance activities would require ready access to the pipeline.
- At each overpass (approximately 2), the alignment must move off the PIP ROW for several hundred feet on each side in order to avoid the overpass foundations. The confined spaces on adjacent roads and PIP over/underpasses would cause construction access to be extremely difficult and extremely disruptive. Further, truck traffic must be allowed to access the PIP in order to transport in the required heavy equipment and materials. Well over several hundred permitted loads would be required to complete pipeline construction along this segment of the PIP.
- The portion of the alignment paralleling the Algonquin Pipeline ROW is also occupied with an electric transmission line. Both lines occupy the available workspace along portions of the alignment that pass through housing areas that have built close to the ROW lines (Attachment 6, Segment M: Photo 1).

Segment M Conclusions: Paralleling the PIP is constructable; however, it must be kept in mind that it is a limited access ROW, and commercial vehicles are prohibited. The proposed alignment follows the PIP ROW and then follows a pipeline and electric transmission line that travels through densely populated areas where there is limited space for construction. Because of this latter portion of the route, Segment M is not feasible from a design, construction, operation and maintenance perspective.

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Segment N: Algonquin ROW Crossing (Hudson River)

- The approach to the eastern shore is occupied by multiple Algonquin pipelines and their ancillary facilities (scraper traps, crossovers, metering runs, etc.). There is inadequate workspace to construct another pipeline. The western approach would require a bore under a road and railroad tracks then into the river. This bore would be difficult if not impossible with the road, railroad, and available setup space at different elevations.

Segment N Conclusions: Algonquin's pipelines occupy the entire existing ROW. There is inadequate workspace on the west shore. A bore across a road and railroad would be very difficult on the east side. A horizontal bore would require a 50 foot deep bore pit (not feasible), and there is no staging area for an HDD or way to pull back the pipe from the river. Segment N is not feasible from a design, construction, operation and maintenance perspective.

Segment O: Electric Transmission ROW Indian Point to Route 9

- This segment would follow the Con Ed electric ROW east, and then to the south. There is no available space on the existing ROW since construction under the conductors is not allowed and construction off the ROW would encounter several residential and business structures.
- The crossing of Highway 9 in Buchanan is impossible. There is a solid rock cliff that would have to be breached, and there is inadequate space to bore it. Crossing Highway 9A and railroad ROW leading to Montrose Station Road would be extremely difficult because of a small pond, the railroad and the highway, and a steep slope. Subsurface conditions, such as solid rock, may make boring and other construction activities very difficult (Attachment 6, Segment O: Photos 1 and 2).

Segment O Conclusions: Rock would prevent the crossing of NY State Route 9. Other locations would be extremely difficult due to inadequate workspace. Segment O is not feasible from a design, construction, operation and maintenance perspective.

Segment P: Electric Transmission ROW (Hudson River)

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- The approach to the eastern shore has adequate workspace and the transition from the river through the shoreline and to landfall is good. The western approach is difficult but it can be done. Workspace is limited and a narrow road and railroad must be crossed at the waters' edge.

Segment P Conclusions: It appears this is a constructable segment; however, the western approach may require significant grading to increase working space.

Segment Q: Electric Transmission ROW - Bowline to Lovett

- This corridor is approximately 125 feet in width and already contains 2 sets of electrical towers, and a high-pressure natural gas pipeline (Attachment 6, Segment Q: Photo 1). Hundreds of residences line the ROW along both sides for significant portions of its length. There is inadequate room to construct the pipeline off the conductor for most of this alignment.

Segment Q Conclusions: Parallel pipeline and electric transmission lines through densely populated areas make this segment impossible to construct. Segment Q is not feasible from a design, construction, operation and maintenance perspective.

Segment R: Lovett Power Plant Crossing (Hudson River)

- The approach to the eastern shore has adequate workspace. While the departure point on the western side near Lovett Power Plant could not be inspected, it is anticipated that there would be inadequate staging area to complete the river crossing.

Segment R Conclusions: This is potentially a constructable segment, but workspace on the western shore may be inadequate.

Segment S: CSX ROW-Bowline to Lovett

- This segment has inadequate workspace and ROW in multiple locations. Some sections have retaining walls which leave only room for trains. In other areas, the engineered rail foundation (bed) is sloped and takes up all available space in the

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ROW. In many places, there are residences and/or business structures immediately adjacent to the railroad ROW leaving no pipeline workspace (Attachment 6, Segment S: Photos 1 and 2).

- Some locations are fill areas and have only 10 feet on each side of rail before they slope up to 40 feet in height. Electric poles typically occupy one side of the ROW, and often drainage ditches along the tracks preclude any workspace for construction.
- Two simultaneous activities (train traffic and pipeline construction) in the tightly confined space of the railroad ROW is at best difficult and at the worst, dangerous. Railroad regulations would not allow construction activities in consecutive blocks. This would severely impact scheduling and construction activities.
- At one point along this route, the route passes through Stony Point Park, which is a state -park maintained by the Palisades Interstate Park Commission. The park is designated as a National Historic Landmark. The park is accessed by an historic bridge that crosses over the railroad tracks. Immediately to the west of the bridge is an historic stone archway. The railroad tracks pass-through a narrow rock cut underneath his bridge and immediately adjacent to the stone archway. The rock cut in this area is very narrow and would have to be widened by at least 50 feet, which would destroy the character of this entranceway. Approximately 5,000 cubic yards of rock would be removed in this process.
- The pipeline industry has tried for many years to discourage the use of casing pipe. The practice of using casing pipe has a more detrimental impact on the carrier pipe than once believed. Typical use of the casing pipe was for protection of the carrier from stress placed by weight (traffic) on the pipe. Casing pipe has dangerous impacts on the cathodic protection measures induced on the pipe, and there is always the possibility of foreign gas collecting in the casing leading to potential explosive problems. Using casing pipe for approximately 3.8 miles would not only lead to these problems, but construction would be impacted by increased depth of the trench, essentially placement of two pipelines, resulting in increased construction time, and a potential operation and maintenance problem.

Segment S Conclusions: Limited to no workspace resulting from residential and business structures, park structures, vertical retaining walls, existing electric poles and other utilities, and sloping ballast would prevent pipeline construction along this segment. Installing the pipeline inside extended lengths of casing would result in a dangerous and unacceptable situation, cathodic protection issues, and it is likely that casing/pipeline shorting would inevitably lead to pipeline rupture. There is heavy train traffic on this corridor which would have to be stopped for prolonged periods of time during construction. Segment S is not feasible from a design, construction, operation and maintenance perspective.

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Segment T: Navigation Channel Alternative

- Placement of the pipeline for an extended length (approximately 7.2 miles) within the federal navigation channel would be an unacceptable proposition. The pipeline would have to be buried with extra cover (15 feet) for the entire length. This segment would actually significantly increase the length, time and construction related impacts to Haverstraw Bay. Construction could not be completed within the 2½ month designated window, and it is extremely doubtful that the US Army Corps of Engineers would permit joint occupation of the federal shipping channel for this extended length.
- Segment T would still have approximately 4000 feet outside of the federal channel within the Haverstraw Bay Significant Fish and Wildlife Habitat area.

Segment T Conclusions: Segment T is not feasible from a design, construction, operation and maintenance perspective.

Segment U: Thruway portion of Palisades/Dobbs Ferry Alternative 2

- The Thruway ROW is characterized by steep slopes, rock faces, confined spaces, and is bordered by densely populated areas. An existing fiber optic cable route is located in the north side of the highway ROW and occupies most of the existing space, therefore making it necessary to use the south side of the ROW. Blasting would be required in several rock locations which would result in traffic stoppage of several lanes of traffic for approximately 30 minutes each day. Trees and vegetation acting as screening barriers to the populated areas would also be removed.

Segment U Conclusions: Parallel pipeline in rock would require additional separation and additional ROW. Rock faces, steep slopes, limited workspace, and limited access make construction along the Thruway very difficult. Further, lane closures would limit work hours. It is doubtful that the NYSDOT would agree to such prolonged and repeated stoppage of traffic on this major transportation corridor. Segment U is not feasible from a design, construction, operation and maintenance perspective.

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Segment V: CSX portion of Palisades/Dobbs Ferry Alternative 2

- This segment does not have sufficient workspace or ROW in multiple locations. Some sections have retaining walls which leave only room for trains. In other areas, the engineered rail foundation (bed) is sloped and takes up all available space in the ROW. In many places, there are residences and/or business structures immediately adjacent to the railroad ROW leaving no pipeline workspace.
- Some locations are fill areas and have only 10' on each side of rail before they slope up to 40' in height. Electric poles typically occupy one side of the ROW, and often drainage ditches along the tracks preclude any workspace for construction.
- Two simultaneous activities (train traffic and pipeline construction) in the tightly confined space of the railroad ROW is at best difficult and at the worst, dangerous. Railroad regulations would not allow construction activities in consecutive blocks. This would severely impact scheduling and construction activities.
- The pipeline industry has tried for many years to discourage the use of casing pipe. The practice of using casing pipe has a more detrimental impact on the carrier pipe than once believed. Typical use of the casing pipe was for protection of the carrier from stress placed by weight (traffic) on the pipe. Casing pipe has dangerous impacts on the cathodic protection measures induced on the pipe, and there is always the possibility of foreign gas collecting in the casing leading to potential explosive problems. Using casing pipe for approximately 1.5 miles would not only lead to these problems, but construction would be impacted by increased depth of the trench, essentially placement of two pipelines, resulting in increased construction time, and a potential operation and maintenance problem.

Segment V Conclusions: Limited to no workspace resulting from residential and business structures, vertical retaining walls, existing electric poles and other utilities, and sloping ballast would prevent pipeline construction along this segment. Installing the pipeline inside extended lengths of casing would result in a dangerous and unacceptable situation, cathodic protection issues, and it is likely that casing/pipeline shorting would inevitably lead to pipeline rupture. There is heavy train traffic on this corridor which would have to be stopped for prolonged periods of time during construction. Segment V is not feasible from a design, construction, operation and maintenance perspective.

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Segment W: Hudson River North Alternative 1

- The first 3.7 miles of this segment are within Harriman State Park, listed on the National Register of Historic Places. This segment would be immediately adjacent to and significantly expand the existing Algonquin ROW. The existing Algonquin ROW is only about 75 feet wide, and it currently contains from 2 to 3 pipelines, a cathodic protection line, and, in some locations, an AT&T line. There are significant stretches of difficult side-hill construction that would require extra work space, up to 80 feet wide in moderately steep areas and up to 110 feet in width for severe side slopes. Construction through this area would require clearing approximately 19 acres of mature forest, of which approximately 13.7 acres must be maintained as permanent ROW. Approximately 44 acres would be extensively graded, thus permanently impacting the existing topographic and rock features.
- This segment then crosses at least 4 different residential and/or recreational areas. Following the powerline ROW from south to north, they are:
 1. Palisades Court - Thirteen houses are immediately adjacent to the eastern side of the powerline ROW. The terrain is severely sideling along the western side of the ROW.
 2. Platel Brauhause – This recreational area has numerous outdoor activity areas such as tennis courts, ball fields and picnic grounds as well as outbuildings necessary for operations. These facilities are immediately adjacent to the existing ROWs.
 3. Calls Hollow Road crossing - Residences are immediately adjacent to the ROWs on the west side; the terrain is severely sideling on the east side.
 4. Calls Hollow Road trailer park – Mobile homes are immediately adjacent to both sides of the existing ROW; the powerlines cross this area overhead. Pipeline installation would require the removal of approximately 20 trailers.

Segment W Conclusions: Limited to no workspace resulting from residential structures, existing utilities, and sloping terrain would prevent pipeline construction along this segment. Segment W is not feasible from a design, construction, operation and maintenance perspective.

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Segment X: Hudson River North Alternative 2

- This segment follows an existing electric transmission ROW through a portion of Palisades Interstate Park, a National Register property, to US 202. From this point east, no existing corridors or other workspace are available.
- After crossing US 202, this segment passes through a residential subdivision and crosses Minisceongo Creek before entering a municipal park that was once part of the Letchworth Village State Mental Hospital grounds. It then crosses Thiells–Mt. Ivy Road, an additional segment of municipal park, and Letchworth Village Road before crossing the grounds of the Letchworth Village Development Center. After crossing Willow Grove Road, it passes through another residential subdivision, another municipal park, and a third residential subdivision.

Segment X Conclusions: Limited to no workspace resulting from residential structures, existing utilities, and sloping terrain would prevent pipeline construction along this segment. Segment X is not feasible from a design, construction, operation and maintenance perspective.