

6.3 ROUTE VARIATIONS

A number of landowners and area residents identified route variations to be considered in the EIS. Most of the variations were for specific reasons to address landowner concerns about the placement of the pipeline on their property. Others were suggested as a means to reduce environmental impact. We found that many of the variations could be accommodated with minor realignments (i.e., to avoid a tree, a well) that could be negotiated between Millennium and the landowner during easement acquisition. Others were not practicable or offered no significant environmental advantage. Discussed below are 21 route variations, including those at Little Valley, Union Center, and Yonkers. Also included are 8 variations identified to address site-specific landowner concerns.

6.3.1 Lake Erie Landfall Route Variations

State Line Variation (Landfall to MP 36.7)

In its original application, Millennium identified a route with a landfall in North East, Pennsylvania, the State Line Variation (see figure 6.3.1-1). From the landfall in Pennsylvania, the State Line Variation would turn south for about 0.9 mile before crossing into New York and turning southeast for about 1.2 miles to cross the New York State Thruway and State Route 20. It would then turn east for about 0.6 mile to the base of a steep slope on the east side of Ripley Side Hill Road. The variation would then turn northeast along the base of the slope, parallel to Ripley Side Hill Road, cross two unnamed roads and State Route 76, turn east for about 1.0 mile to cross Welch Hill Road, and then continue northeast to the proposed route at MP 36.7 in Westfield, New York. Table 6.3.1-1 shows a comparison of the significant environmental characteristics of the State Line Variation with the corresponding segment of the proposed route.

The Lake Erie segment of the State Line Variation would be about 2.4 miles shorter, but the land segment would be 3.1 miles longer, than the corresponding segment of the proposed route. The land segment of the State Line Variation would require a total of about 75.1 acres of construction work area, affecting about 33.9 acres of agricultural land, including 12.9 acres of active vineyards. The proposed route would require about 35.3 acres of construction work area, affecting about 6.6 acres of agricultural land and no vineyards. Additionally, because the land segment of the State Line Variation would be twice as long as the land segment of the proposed route, impact on other resources would be similarly increased. The State Line Variation would cross 14 more perennial streams and 6 more wetlands, and it would affect 7.7 acres more forested land than the corresponding segment of the proposed route. Further, the variation could affect two cultural resource sites.

The State Line Variation generated numerous comments from Ripley town officials and area residents. The major issue was clearing the vineyards for the construction work area. These vineyards occupy a narrow band along the shores of Lake Erie that has a unique microclimate that is favorable for the vines. Since the area is limited and vines take years to mature, clearing would represent a significant impact on local growers.

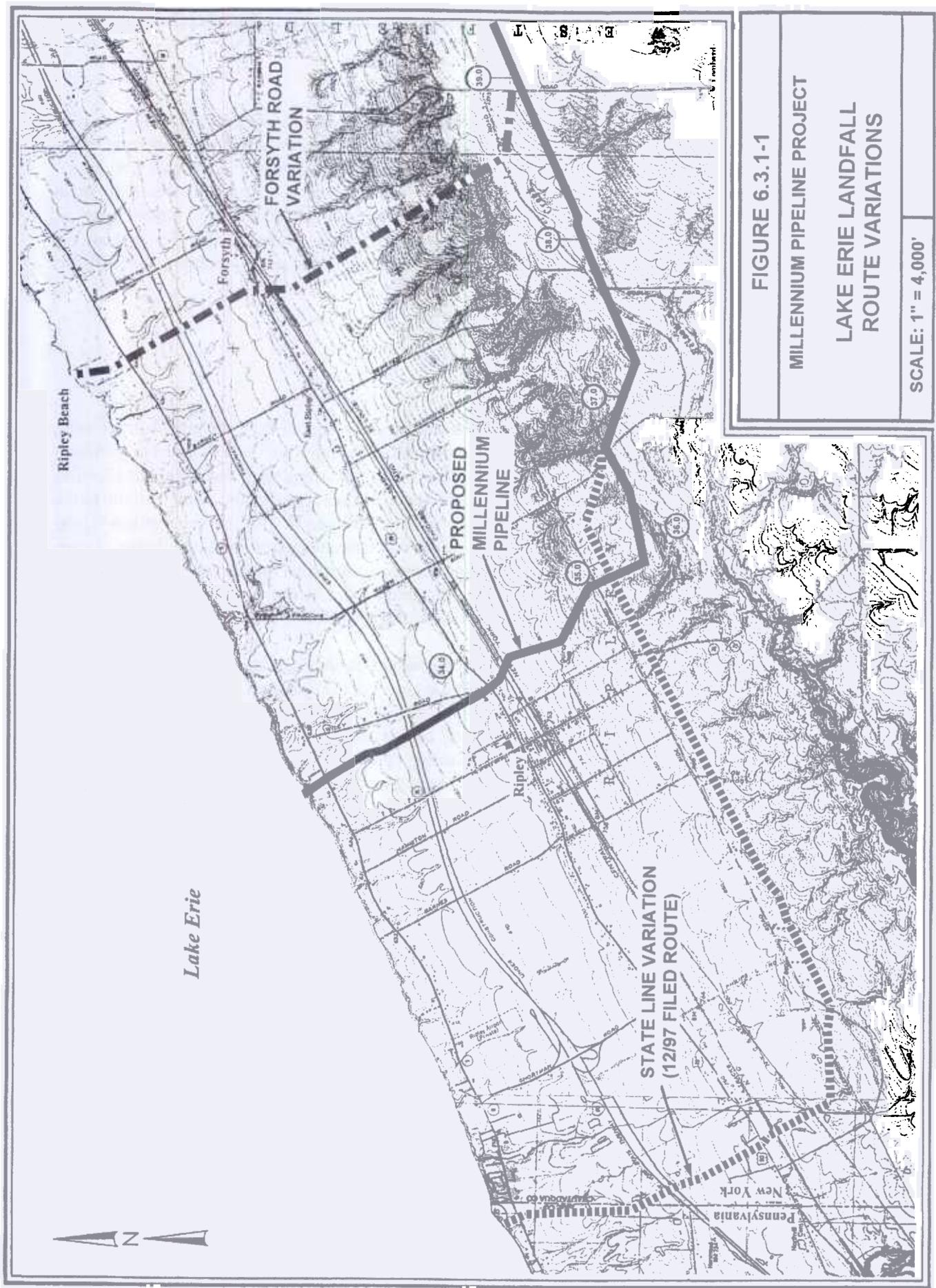


FIGURE 6.3.1-1

MILLENNIUM PIPELINE PROJECT

LAKE ERIE LANDFALL
ROUTE VARIATIONS

SCALE: 1" = 4,000'

| State/County | Mileposts/ Environmental Factor | Unit | Proposed Route | State Line Variation |
|--|--|------|-------------------|-------------------------|
| Pennsylvania/New York Erie/Chautauqua | Landfall to MP 36.7 | | | |
| | • Total length (land portion of route) | mi | 3.1 | 6.2 |
| | • Estimated land requirements | | | |
| | Construction right-of-way (land) | ac | 35.3 | 75.1 |
| | Permanent right-of-way (land) | ac | 19.1 | 37.5 |
| | • Agricultural land affected by construction | ac | 6.6 | 33.9 |
| | Vineyards crossed | no | 0 | 12 |
| | Vineyards affected by construction | ac | 0 | 12.9 |
| | • Perennial waterbody crossings | no | 1 | 15 |
| | • Wetland crossing length | mi | 0 | 0.1 |
| | Number of wetlands | no | 0 | 6 |
| | Wetlands affected by construction | ac | 0 | 0.24 |
| | • Forest affected by construction | ac | 15.9 | 23.6 |
| | • Residences within 50 feet of the construction work area | no | 3 | 1 |
| • Cultural resource sites affected | no | 0 | 2 ^{a/} | |

Note: Acreage calculations are for the land segment only and are based on a 75-foot-wide construction right-of-way and a 50-foot-wide permanent right-of-way, and include extra work areas.

^{a/} A third cultural resource was identified during site file review but not located during the field survey.

Other concerns included impact on water supplies, specifically on wells along Ripley Side Hill Road, and proximity to residences and the Ripley school. The proposed route would avoid all vineyards and would not parallel Ripley Side Hill Road, thereby reducing potential impacts on private water supplies. However, the proposed route would be about 0.3 mile from the Ripley School (the State Line Variation would be about 1.0 mile from the school) and the construction work area would be within 50 feet of 3 residences (2 more than the State Line Variation).

While the proposed route would be closer to two more residences and the town school than the State Line Variation, we believe that the advantages of the proposed route, including avoidance of active vineyards and wetlands, outweigh the disadvantages of the proposed route's proximity to two residences and the town school. Therefore, we do not recommend the State Line Variation.

Forsyth Road Variation (Landfall to MP 39.0)

The Forsyth Road Variation was identified by several Ripley residents and would have a landfall in the vicinity of Ripley Beach. From there, the variation would continue southeast parallel to Ripley Road and then cross State Route 5 and I-90. After crossing State Route 20 and a 4-track railroad bed in the Forsyth area, the variation would continue southeast to rejoin the proposed route east of Parker Road at about MP 39.0 (see figure 6.3.1-1). Table 6.3.1-2 shows a comparison of the significant environmental characteristics of the Forsyth Road Variation with the corresponding segment of the proposed route.

| County | Mileposts/ Environmental Factor | Unit | Proposed Route | Forsyth Road Variation |
|--|---|------|-------------------|---------------------------|
| Chautauqua | Landfall to MP 39.0 | | | |
| | • Total length (land portion of route) | mi | 5.6 | 3.3 |
| | • Estimated land requirements | | | |
| | Construction right-of-way (land) | ac | 50.9 | 30.0 |
| | Permanent right-of-way (land) | ac | 33.9 | 20.0 |
| | • Agricultural land affected by construction | ac | 6.6 | NA |
| | Vineyards crossed | no | 0 | 0 |
| | Vineyards affected by construction | ac | 0 | 0 |
| | • Perennial water body crossings | no | 1 | 1 |
| • Residences within 50 feet of the construction work area | no | 3 | 1 | |
| Note: | Acreage calculations are for the land segment only and are based on a 75-foot-wide construction right-of-way and a 50-foot-wide permanent right-of-way. | | | |
| NA | Not Available | | | |

The Lake Erie segment of the Forsyth Road Variation would be about 5.2 miles longer, but the land segment would be about 2.3 miles shorter, than the corresponding segment of the proposed route. The primary advantage of the Forsyth Road Variation would be the shorter land segment of the route, which would require about 20.9 acres less construction right-of-way than the corresponding segment of the proposed route. The variation would also increase the distance between the pipeline and the town of Ripley, including the town school. The construction work area for the variation would be within 50 feet of 2 fewer homes than the corresponding segment of the proposed route. Both routes would cross one perennial stream, Bradley Creek. Construction of the Forsyth Road Variation would require clearing of most of the trees within a forested town park for the construction work area for the directional drill.

As discussed above, we received comments about the potential impact on vineyards and private wells adjacent to Ripley Side Hill Road. Both the proposed route and the variation would avoid paralleling Ripley Side Hill Road, and neither would require construction through vineyards. While we found no significant environmental advantages or disadvantages with the Forsyth Road Variation when compared to the corresponding segment of the proposed route at Wiley Road, the Lake Erie segment of the variation would be longer. The variation would also require clearing of most of the trees in the town park and would cross through much steeper topography between I-90 and the intersection with the proposed route. Since the proposed route mostly addresses landowner and town comments, balances additional construction in Lake Erie (with a 200-foot-wide right-of-way) with additional construction on land, and would avoid tree removal within the town park, we have not identified a compelling environmental advantage with the Forsyth Road Variation and do not recommend its use.

6.3.2 Little Valley Variations (MPs 88.0 to 93.7)

The Little Valley Variations were identified to address the concerns of two landowners who were both concerned about the impact of the creation of a new right-of-way through their forested properties. Airport Variations 1 and 2 were identified by Cattaraugus County Department of Economic Development, Planning and Tourism; the Modified Airport Variation was identified by the Cattaraugus County Planning Board; the Hungry Hollow Variations were identified to reduce tree clearing within these properties; and the

Coleman Variation was identified by one of the affected landowners. The Airport Variations were named for the proposed Cattaraugus County Airport that has since been disapproved. Figure 6.3.2-1 shows the location of these variations. Table 6.3.2-1 compares the environmental characteristics of the Airport Variations as further discussed below.

| County | Mileposts/ Environmental Factor | Unit | Proposed Route | Airport Variation 1 | Airport Variation 2 | Modified Airport |
|---|--|------|-------------------|------------------------|------------------------|---------------------|
| Cattaraugus | MPs 88.0 to 93.7 | | | | | |
| | Total length | ft | 30,300 | 39,200 | 40,900 | 37,000 |
| | | mi | 5.7 | 7.4 | 7.7 | 7.0 |
| | Land Requirements <u>a/</u> | | | | | |
| | Construction right-of-way | ac | 52.2 | 67.5 | 70.4 | 63.7 |
| | Permanent right-of-way | ac | 34.8 | 45.0 | 46.9 | 42.5 |
| | Length adjacent to existing road/railroad | mi | 0.0 | 2.0 | 2.0 | 1.9 |
| | Number of waterbodies crossed | no | 3 | 9 | 10 | 5 |
| | Number over 50 feet | no | 0 | 1 | 1 | 1 |
| | Forest crossed | ft | 26,400 | 26,100 | 24,300 | 19,000 |
| | Forest affected during construction <u>b/</u> | ac | 45.5 | 44.9 | 41.8 | 32.7 |
| | NYDEC Reforestation/Rock City State Forest land crossed | ft | 2,600 | 3,900 | 2,400 | 1,500 |
| | Disapproved airport land crossed | ft | 0 | 4,600 | 4,600 | 2,000 |
| | Golf course land crossed | ft | 0 | 2,300 | 2,300 | 0 |
| <u>a/</u> Calculations are based on a 75-foot-wide construction right-of-way and a 50-foot-wide permanent right-of-way. <u>b/</u> Forest estimation from USGS topographic maps. Acreage calculation based on a 75-foot-wide construction right-of-way. | | | | | | |

Airport Variations 1 and 2 (MPs 88.0 to 93.7)

The Airport Variation 1 and Variation 2 were identified by Cattaraugus County and would avoid the properties of the landowners on or adjacent to Hungry Hollow Road (see figure 6.3.2-1). Both Airport Variations would leave Millennium's proposed route at MP 88.0 and turn south adjacent to the west side of a single track railroad that is under consideration for development of a bicycle trail. Both variations would continue adjacent to the railroad for about 1.5 miles, cross Little Valley Creek, and then turn east along the north side of Woodworth Hollow/Rock City Road.

The variations would continue east along the edge of a golf course to the property that was under consideration for the proposed Cattaraugus County Airport and would then turn south within the proposed airport property to the Little Valley/Salamanca town line. At that point, the Airport Variations would split. Variation 1 would turn directly northeast for 3.4 miles to rejoin the proposed route at MP 93.7; Variation 2 would continue east along the town line for about 1.9 miles and then northeast for 1.8 miles to the proposed route at MP 93.7.

The Airport Variations would be 1.7 miles (Variation 1) and 2.0 miles (Variation 2) longer than the proposed route, affecting about 30 percent more land than the proposed route (see table 6.3.2-1). Within the common segment, the Airport Variations would cross Little Valley Creek (about 50 feet wide at the crossing location), parallel the creek for about 1,500 feet, and cross a golf course. The proposed route and Airport Variations would require about the same amount of forest clearing. The proposed route and Variation 2 would cross about the same distance within the NYSDEC Reforestation land/Rock City State Forest (2,600 feet for the proposed route and 2,400 feet for Variation 2). Variation 1 would cross 3,900 feet of NYSDEC reforestation land.

The most significant disadvantages of the Airport Variations are their longer length and their greater potential for environmental impact. For these reasons, we do not recommend them.

Modified Airport Variation (MPs 88.0 to 93.7)

The Modified Airport Variation was identified by the Cattaraugus County Planning Board in its comment letter on the SDEIS. The planning board stated that their proposed Modified Airport Variation would avoid impacts on the Elkdale Country Club Golf Course, Rock City State Forest, and a large outcropping of rare conglomerate rock formations. The Modified Airport Variation would leave Millennium's proposed route at MP 88.0 and turn south-southeast adjacent to and along National Fuel's "K" pipeline and/or a single track railroad that is under consideration for development of a bicycle trail. The variation would continue adjacent to these existing rights-of-way for about 1.9 miles, crossing Little Valley Creek twice, and then turn east towards Hungry Hollow Road. The Modified Airport Variation would continue in a easterly direction for about 3.2 miles crossing mostly forest land before it turns northeast. It would continue northeast for about 1.9 miles crossing a tributary to the Great Valley Creek, Hungry Hollow Road, and Parker Creek before it joins the proposed route at MP 93.7.

The Modified Airport Variation would be 1.3 miles longer than the proposed route, affecting about 20 percent more land; however, it would be 0.4 and 0.7 mile shorter than the Airport Variations 1 and 2, respectively (see table 6.3.2-1). The Modified Airport Variation would cross Little Valley Creek at 3 locations (about 50 feet wide at each crossing location). The proposed route and Airport Variations 1 and 2 would require about the same amount of forest clearing. The Modified Airport Variation would require between 9.1 and 12.8 acres less tree clearing than these variations. The Modified Airport Variation would cross less distance within the NYSDEC Reforestation land/Rock City State Forest (1,500 feet) than the proposed route (2,600 feet) and either of the Airport Variations 1 and 2.

As with the Airport Variations 1 and 2, the most significant disadvantages of the Modified Airport Variation is its longer length and the greater potential for environmental impact. In addition, we do not agree with Cattaraugus Planning Board's statement that the Modified Airport Variation would avoid impacts on the Rock City State Forest land. As shown in figure 6.3.2-1 and table 6.3.2-1 about 1,500 feet of state forest land would be crossed by this alternative. For these reasons, we do not recommend the Modified Airport Variation.

Hungry Hollow Variations - North and South (MPs 89.5 to 91.2)

We examined two variations to minimize tree clearing between MPs 89.5 and 91.2 (see figure 6.3.2-1). The Hungry Hollow Variation would deviate from Millennium's proposed route at about MP 89.5 and proceed east along the southern boundary of the Golaszewski property. The variation would cross about 0.2 mile of forest and 0.2 mile of agricultural/open land west of Whig Street, and 0.3 mile of agricultural/cleared land east of Whig Street. At MP 90.2, the Hungry Hollow Variation would split into the Hungry Hollow North and Hungry Hollow South Variations.

The Hungry Hollow North Variation would cross Hungry Hollow Road and continue east about 20 feet north of the roadway, crossing agricultural/pasture land for about 0.1 mile, Field Hollow Road, and roadside forests for about 0.9 mile. It would cross one driveway and Hungry Hollow Road and proceed southeast for 0.2 mile, crossing additional forest, before rejoining the corresponding segment of the proposed route at about MP 91.2.

The Hungry Hollow South Variation would proceed east along the south side Hungry Hollow Road, about 20 feet south of the road, crossing open land and roadside forest for about 0.4 and 0.6 mile, respectively. It would also cross four driveways, Little Rock City Road and then continue southeast for 0.2 mile, crossing additional forest, before rejoining the corresponding segment of the proposed route near MP 91.2. A comparison of the Hungry Hollow Variation - North and South route variations and the corresponding segment of the proposed route is included in table 6.3.2-2.

| County | Mileposts/ Environmental Factor | Unit | Proposed Route | Hungry Hollow Variations | |
|---|--|------|-------------------|-----------------------------|-------|
| | | | | North | South |
| Cattaraugus | MPs 89.5 to 91.2 | | | | |
| | • Total length | mi | 1.7 | 1.9 | 1.9 |
| | • Estimated land requirements | | | | |
| | Construction right-of-way | ac | 15.4 | 17.3 | 17.3 |
| | Permanent right-of-way | ac | 10.3 | 11.5 | 11.5 |
| | • Total agricultural land crossed | ac | 1.8 | 5.5 | 8.2 |
| | • Total forest crossed | ac | 13.6 | 11.8 | 9.1 |
| | • Total perennial water body crossings | no | 4 | 3 | 3 |
| • Residences within 50 feet of the construction work area | no | 0 | 0 | 0 | |
| Note: Acreage calculations are based on a 75-foot-wide construction right-of-way and a 50-foot-wide permanent right-of-way. | | | | | |

The Hungry Hollow Variations would be 0.2 mile longer than the corresponding segment of the proposed route and would affect 1.9 more acres of land. The North Variation would affect 3.7 more acres of agricultural land and 1.8 less acres of forested land, whereas the South Variation would affect 6.4 more acres of agricultural land and 4.5 less acres of forested land than the corresponding segment of the proposed route. Both the North and South Variations would cross 1 less perennial waterbody, and no residence would be within 50 feet of the construction work area of any of these routes.

The primary concern of one of the landowners with the proposed route is that it would affect a relatively undisturbed tract of forest by creating new right-of-way between MPs 89.5 and 91.2. The advantages of the Hungry Hollow Variations are similar in that neither alignment would place the

construction work area within 50 feet of an existing residence, and both routes would cross Whig Street Creek and 2 tributaries. In addition, both variations would affect less undisturbed forest and would be adjacent to an existing road. The disadvantages of the Hungry Hollow Variations include the longer length (about 0.2 mile) and additional land use impacts, including additional land requirements for construction and operation. Millennium indicated that the primary disadvantage with the Hungry Hollow North Variation is that it would be between Hungry Hollow Road and parallel to a tributary to Whig Street Creek. Although it may be possible to construct the pipeline within the road berm/stream bank interface, such construction could impact both features. We agree. The primary disadvantage of the Hungry Hollow South Variation would be the crossing through the front yards of several vacation homes, whereas the proposed route would be along the back property lines of these residences. A landowner on Hungry Hollow South commented that the area along the road is the only place that is level enough for a septic system that he plans to construct. Since neither of the Hungry Hollow Variations offer a significant environmental advantage and would interfere with planned land use, we do not recommend their use.

Coleman Variation (MPs 89.9 to 91.9)

The Coleman Variation was proposed by the landowner near MP 90.7, to avoid a stand of old growth forest on his property, minimize tree clearing within the extra work space on the edge of the property, and relocate the pipeline so as to increase the distance between the pipeline and his residence (see figure 6.3.2-1). The Coleman Variation would deviate from Millennium's proposed route at MP 89.9 and proceed directly east, crossing about 1.8 miles of forest. It would cross Little Rock City Road and Hungry Hollow Road before rejoining the corresponding segment of the proposed route at about MP 91.9. A comparison of the Coleman Variation and the corresponding segment of the proposed route is included in table 6.3.2-3.

| County | Mileposts/ Environmental Factor | Unit | Proposed Route | Coleman Variation |
|--|------------------------------------|------|-------------------|----------------------|
| Cattaraugus | MPs 89.9 to 91.9 | | | |
| | • Total length | mi | 2.0 | 1.8 |
| | • Estimated land requirements | | | |
| | Construction right-of-way | ac | 18.2 | 15.5 |
| | Permanent right-of-way | ac | 12.1 | 10.9 |
| | • Total agricultural land crossed | ac | 0 | 0 |
| | • Total forest crossed | ac | 18.2 | 15.5 |
| • Total perennial water body crossings | no | 4 | 2 | |
| • Residences within 50 feet of the construction work area | no | 0 | 0 | |

Note: Acreage calculations are based on a 75-foot-wide construction right-of-way and a 50-foot-wide permanent right-of-way.

The major advantage of the Coleman Variation is that it would be about 0.2 mile shorter, thus requiring 2.7 acres and 1.2 acres less land for construction and operation, respectively. The construction work area for either route would not be within 50 feet of any existing residence. The Coleman Variation would cross 2 fewer waterbodies and affect 2.7 acres less forest than the corresponding segment of the proposed route, but still affect 15.5 acres of forest between MPs 89.9 and 91.9. However, the proposed route would affect less state forest land between MPs 89.9 and 91.9.

Millennium indicated that it has not been able to determine the type or quality of timber on either the variation or the proposed route because the landowners have denied access. Since the extra work space on the east side of the property was estimated using aerial photography and topographic maps, Millennium states that it would reevaluate the size of this work area and make every effort to minimize clearing.

During the development of the proposed route, Millennium stated that it worked with the NYSDEC, the designated land management agency, to identify a preferred alignment across the state reforestation land. Although the Coleman Variation would affect about 2.7 acres less forest than the corresponding segment of the proposed route, the Variation would affect a greater amount of vegetation on the important state reforestation lands. In addition, Millennium has stated that it would attempt to reduce the estimated size of construction work areas at waterbody crossings, further reducing the temporary construction workspace requirements. Millennium also stated that the Rock City geological formation²⁷ is reportedly present along the southern boundary of the Coleman property and near the east end of the Coleman Variation.

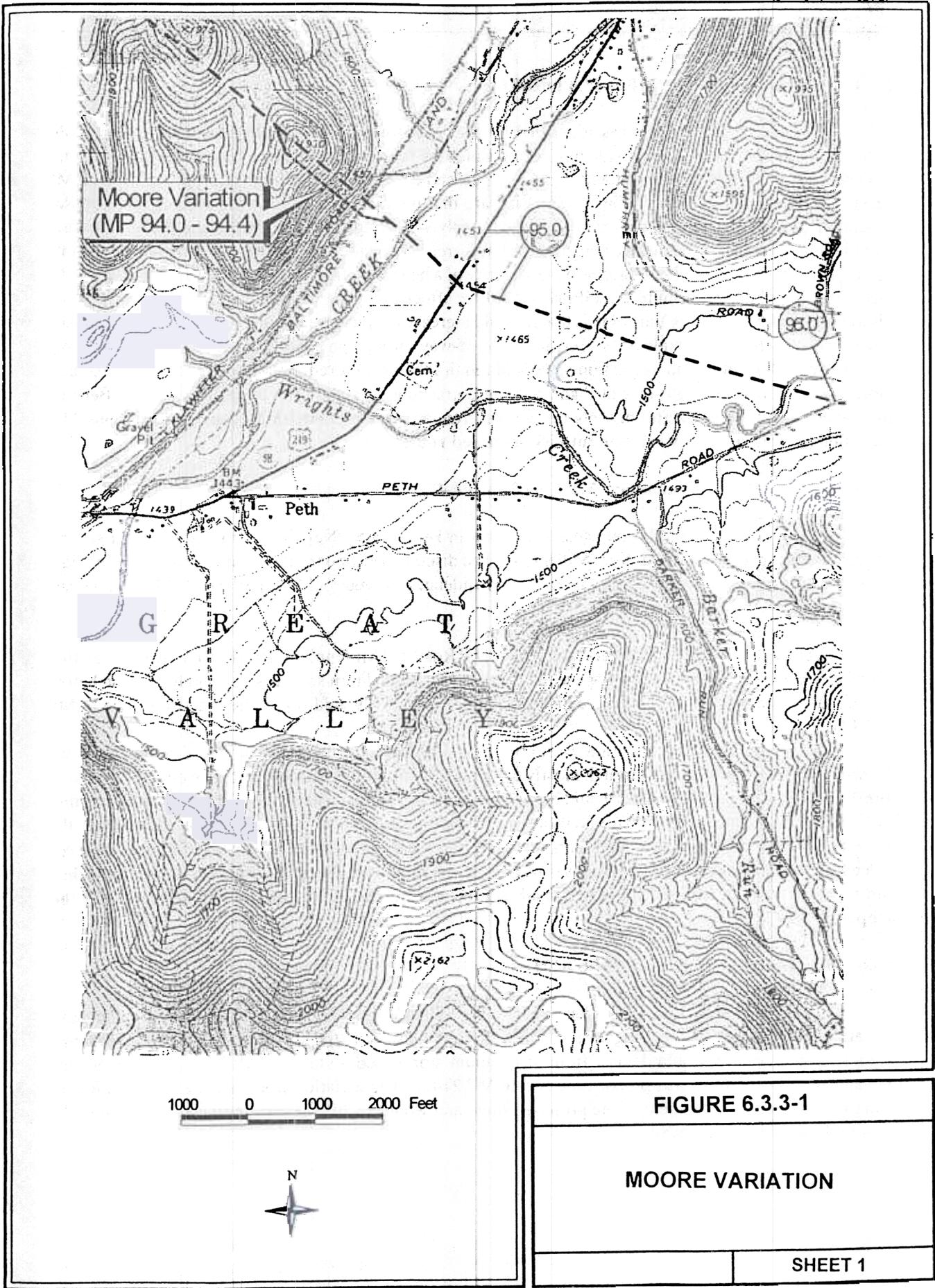
Because the proposed route across the state reforestation lands was developed in consultation with the appropriate land management agency, and Millennium has stated that it would attempt to reduce the construction right-of-way to the maximum extent practicable to limit unnecessary tree clearing, and because the variation could impact the unique Rock City formations, we do not recommend that Millennium incorporate the Coleman Variation into its proposed route.

6.3.3 Moore Variation (MPs 94.0 to 94.4)

The Moore Variation was identified by the NYSDA&M and Millennium to avoid removal of mature sugar bush. It would deviate from Millennium's proposed route at about MP 94.0 and move the pipeline about 200 feet southwest of the corresponding segment of the proposed route (see figure 6.3.3-1). The variation would proceed in a southeasterly direction crossing about 0.1 mile of agricultural land and 0.3 mile of forest. It would cross Klawitter Road and a railroad before rejoining the corresponding segment of the proposed route at about MP 94.4.

The Moore Variation would be about 95 feet longer than the corresponding segment of the proposed route and would avoid a large production stand of sugar maple trees. In all aspects, both routes would require new right-of-way affecting approximately equal amounts of agriculture (0.9 acre) and forest (2.7 acres). No waterbodies, residences, or public facilities would be affected. However, one wetland would be affected by both the variation and the corresponding segment of the proposed route. One archeological site (Site CAT-195) may also occur on the variation. Although the entire boundary of this site has not been determined because of denied access, it is likely that this resource, or similar resources, may be present on the variation. **However, because this variation would avoid a large production stand of sugar maples and because other environmental impacts would be similar, we concur with Millennium's proposal to incorporate the Moore Variation into its proposed route between MPs 94.0 and 94.4.**

The Rock City formations are unique geologic features that were not affected by glaciation. They are a cultural resource and have a Native American significance.



Grimins Variation (MPs 185.0 to 186.0)

The Grimins Variation was identified by the landowner and would involve a crossover of the proposed pipeline from the south side of existing Line A-5 to the north side (see figure 6.3.4-1). It would deviate from the proposed route at MP 185.0 and proceed east before rejoining the proposed route at MP 186.0. The advantages of the Grimins Variation are that it would increase the distance of the proposed pipeline from two residences, and from the water supply wells to greater than 100 feet although the wells would remain within 150 feet of the construction work area. No residences would be within 50 feet of either route. This variation would also preserve the integrity of a hedgerow that buffers residences from wind. No wetlands, waterbodies, or public facilities would be affected by the Grimins Variation. The primary disadvantage of the Grimins Variation is that it would increase the pipeline length by about 40 feet and result in construction impacts outside of the existing right-of-way through an abandoned agricultural field that is overgrown with scrub-shrub vegetation. It would require 0.7 acre more land for construction and 0.4 acre more land for permanent right-of-way than would the corresponding segment of the proposed route. **Because the variation would alleviate impacts on two residences, we concur with Millennium's proposal to incorporate the Grimins Variation into its proposed route.**

Moss Hill Road Variation (MPs 204.3 to 204.4)

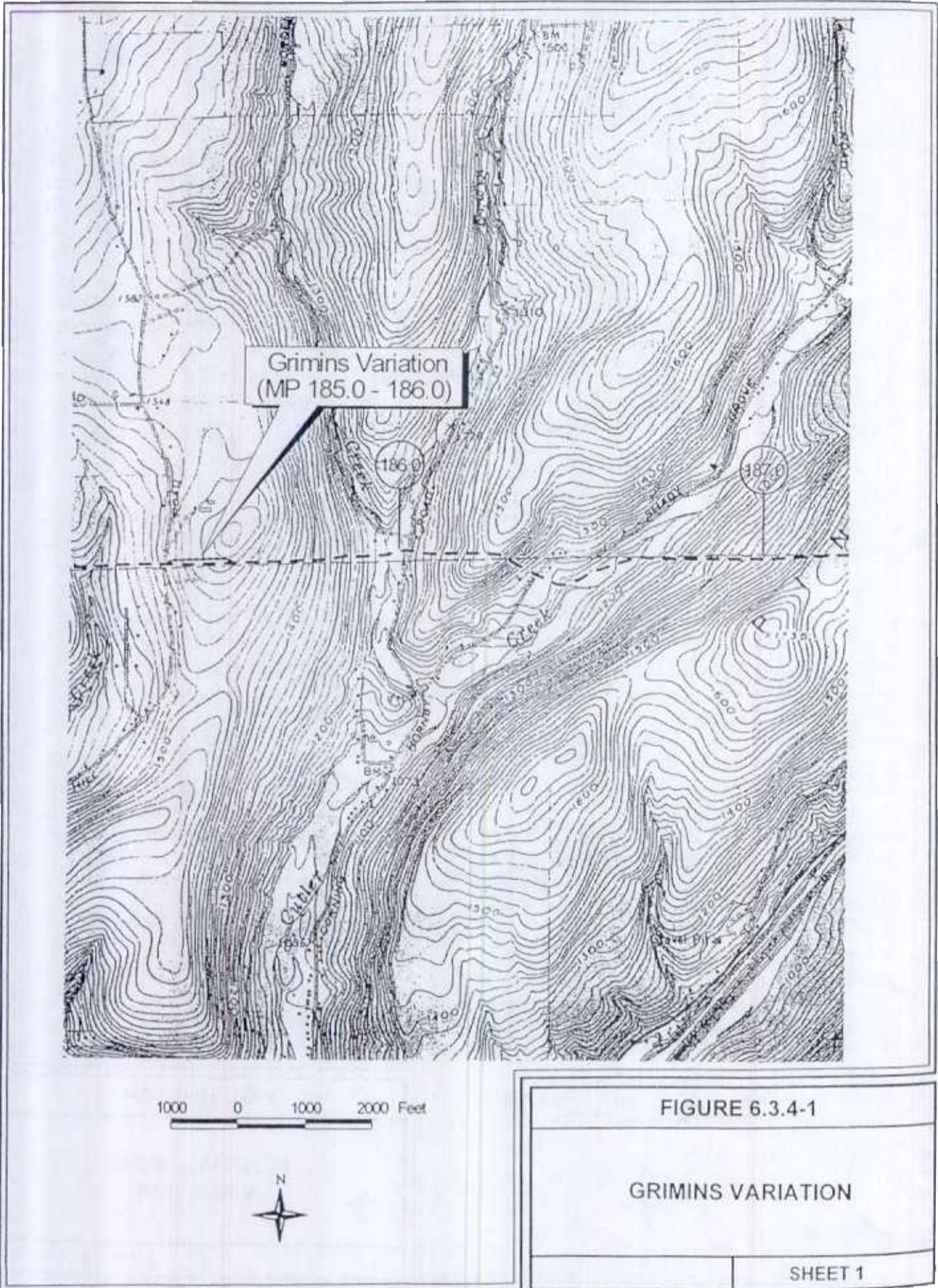
A landowner (Whipple) on Moss Hill Road in Horseheads, New York, commented that several parties, including representatives from Millennium, had discussed a minor route variation that would increase the separation between the proposed pipeline and residences located on Moss Hill Road (MP 204.3) (see figure 6.3.5-1).

As proposed by the landowners along Moss Hill Road and Millennium, the Moss Hill Road Variation would deviate from Millennium's proposed route at MP 204.3 and turn southeast for about 0.1 mile before turning and paralleling the proposed route for about 0.3 mile. It would rejoin the proposed route at MP 204.4.

The Moss Hill Road Variation would be about 130 feet longer than the proposed route. Whereas the proposed route would cross through mostly cleared or open scrub land, the variation would cross mostly forest. Whereas the proposed route would be within 50 feet of five residences, the variation would be within 50 feet of no residences. No public facilities, waterbodies, or wetlands would be affected by either the proposed route or the variation. **Although the variation would require the clearing of about 3.6 acres more forest, the concerns of the residents outweigh the impact of forest clearing on their properties, and we concur with Millennium's proposal to incorporate the Moss Hill Road Variation into the proposed route.**

Larison Variation (MPs 213.6 to 214.0)

The Larison Variation was identified by NYSDA&M and Millennium to avoid a sugar bush operation. It would involve moving the pipeline from the south side to the north side of Line A-5 (see figure 6.3.6-1). The variation would deviate from Millennium's proposed route near MP 213.6, cross over Line A-5 and continue on the north side of Line A-5 to MP 214.0. The variation would be about 23 feet longer than the corresponding segment of the proposed route and would require new right-of-way adjacent to the existing Line A-5 right-of-way.





Moss Hill Road Variation
(MP 204.3 - 204.4)

1000 0 1000 2000 Feet



FIGURE 6.3.5-1

MOSS HILL ROAD
VARIATION

SHEET 1



1000 0 1000 2000 Feet



FIGURE 6.3.6-1

LARISON VARIATION

SHEET 1

Both the Larison Variation and the corresponding segment of the proposed route would cross approximately equal amounts of agricultural land and forest, but the variation would affect about 0.1 more acre of agricultural land and forest than the corresponding segment of the proposed route. No waterbodies, residences, or public facilities would be affected. However, one wetland would be affected by both the variation and the corresponding segment of the proposed route. **Since the Larison Variation would avoid a sugar bush operation and impacts on sugar maple trees, and other environmental impacts would be not be significant, we concur with Millennium’s proposal to incorporate the Larison Variation into the proposed route.**

6.3.7 Union Center Variations

The Union Center Variations include the Line A-5 Variation (the original proposed route) and the Bradley Creek Variation (see figure 6.3.7-1). This is a rural residential area that is crossed by two major utility corridors, the NYSEG powerline and the Line A-5 pipeline rights-of-way. Several years ago, a NYSEG pipeline was installed adjacent to the Line A-5.

Line A-5 Variation (MPs 232.4 to 243.5)

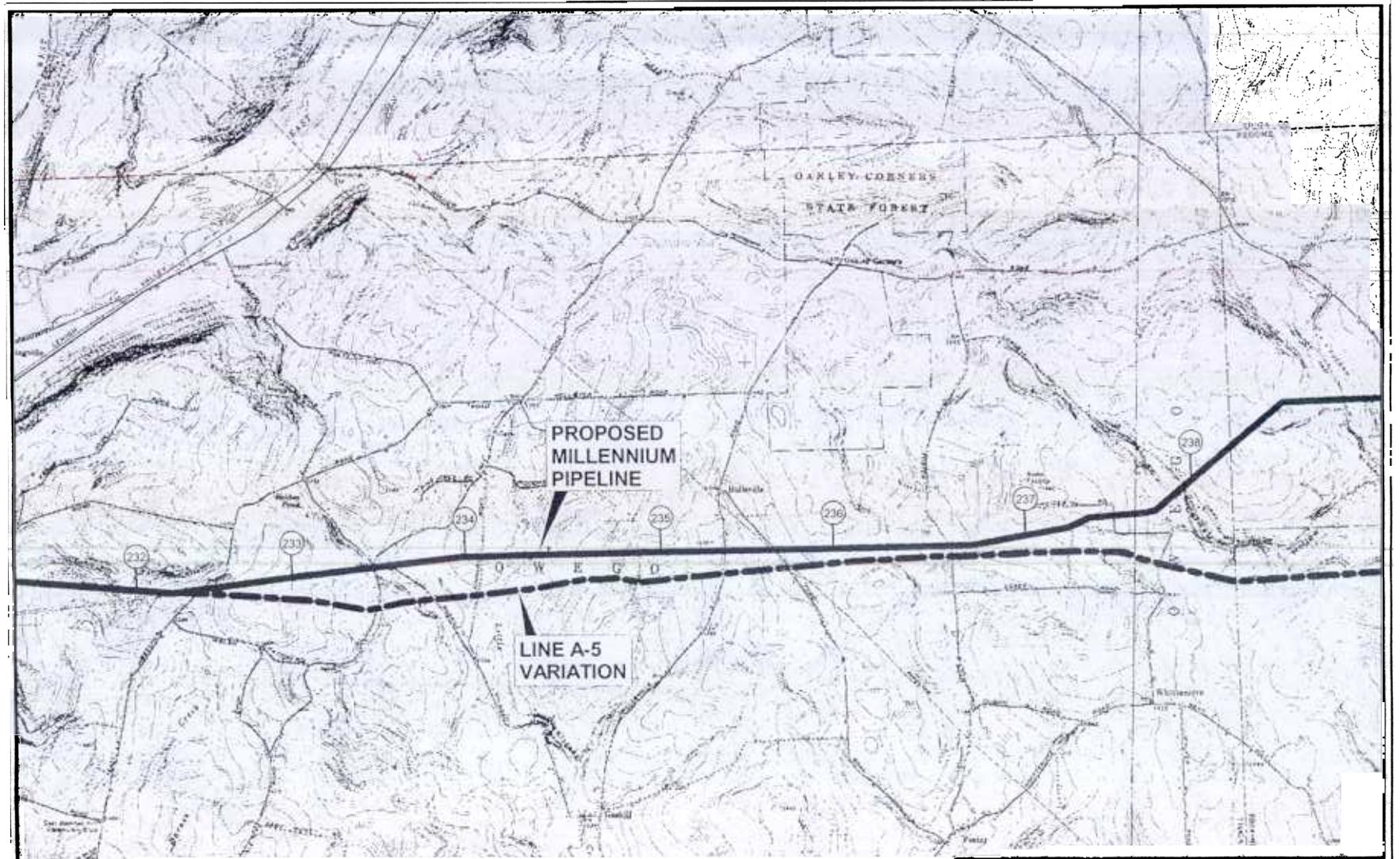
The Line A-5 Variation was Millennium’s original proposed route between MPs 232.4 and 243.5 and would essentially follow the existing Columbia Line A-5 right-of-way. It would begin where the proposed route would deviate northeast along an existing powerline and would continue east adjacent to the existing Line A-5 right-of-way to the point where the powerline right-of-way (and the proposed route) rejoin the Line A-5 right-of-way (see figure 6.3.7-1, sheets 1 and 2). A comparison of the significant environmental characteristics of the Line A-5 Variation with the corresponding segment of the proposed route is in table 6.3.7-1.

| County | Mileposts/ Environmental Factor | Unit | Proposed Route | Line A-5 Variation |
|--------------|--|------|-------------------|-----------------------|
| Tioga/Broome | MPs 232.4 to 243.5 | | | |
| | • Total length | mi | 11.5 | 11.2 |
| | • Estimated land requirements | | | |
| | Construction work area | ac | 123.1 | 162.1 |
| | Permanent right-of-way | ac | 70.0 | 67.6 |
| | • Union Center Regulator Station land requirements | ac | 0.7 | 0.0 |
| | • Perennial waterbody crossings | no | 7 | 5 |
| | • Wetland crossing length | mi | 0.6 | 1.2 |
| | Number of wetlands | no | 13 | 23 |
| | Wetlands affected by construction | ac | 5.1 | 14.5 |
| | • Agricultural land affected by construction | ac | 20.1 | 12.6 |
| | • Forest affected by construction | ac | 0.8 | 34.3 |
| | • Residences within 50 feet of the construction work area | no | 1 | 18 |
| | • Cultural resource sites recommended for Phase II testing | no | 2 | 2 |

Note: Acreage calculations are based on a 75-foot-wide construction right-of-way and a 50-foot-wide permanent right-of-way, and include extra work areas.

6-79

VARIATIONS



4000



4000

Base: USGS 7.5 Minute Topographic Quadrangles: Newark Valley, Castle Creek, and Maine, New York.

FIGURE 6.3.7-1

MILLENNIUM PIPELINE PROJECT
UNION CENTER
ROUTE VARIATIONS

SHEET 1 of 2

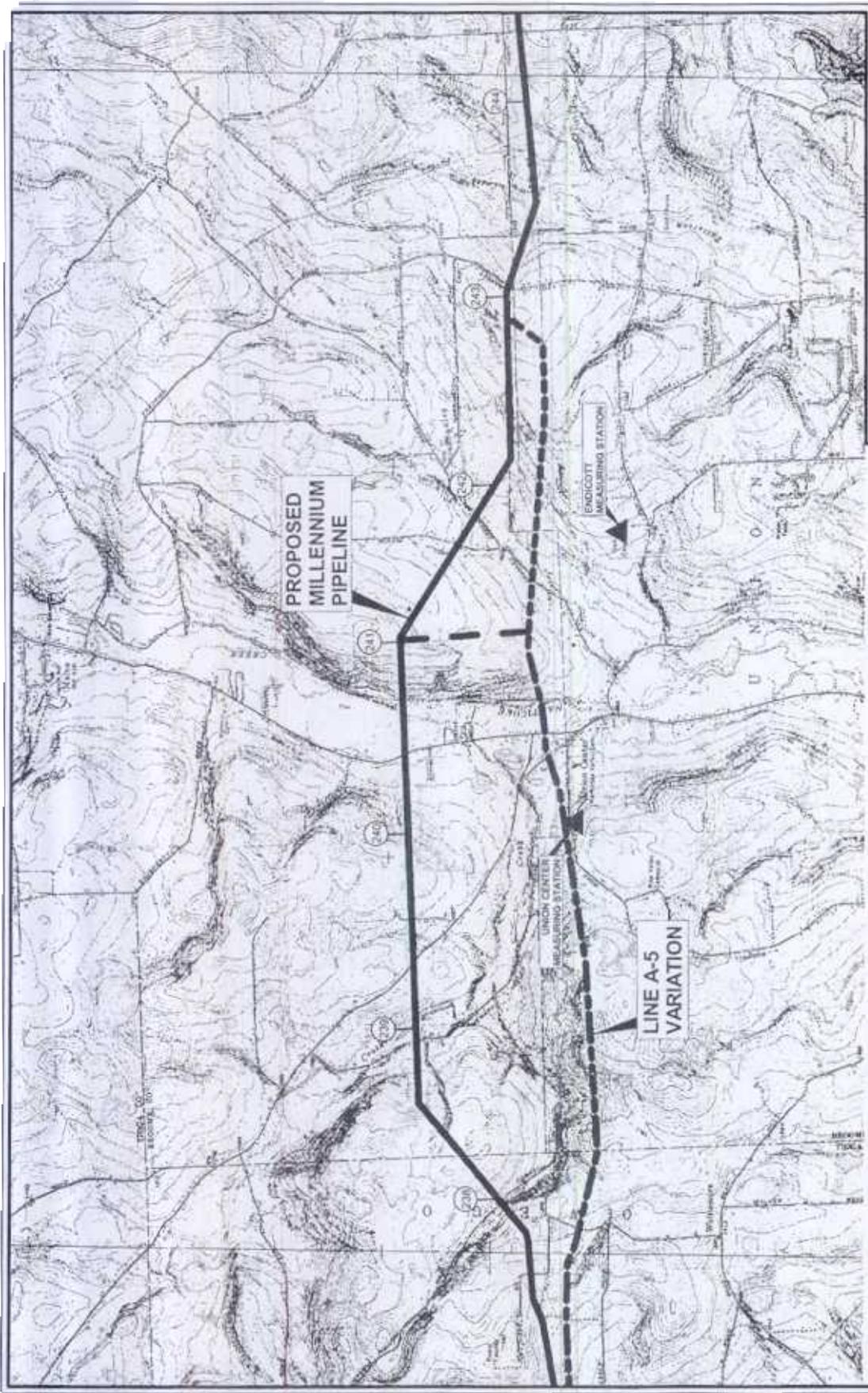
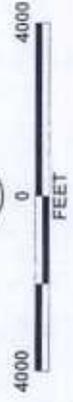


FIGURE 6.3.7-1

MILLENNIUM PIPELINE PROJECT
 UNION CENTER
 ROUTE VARIATIONS

SHEET 2 of 2



Base: USGS 7.5 Minute Topographic Quadrangles: Newarr Valley, Castle Creek, and Maine, New York.

The Line A-5 Variation would be about 0.3 mile (2,100 feet) shorter than the proposed route, but would require about 33.0 acres more construction work area because of the extra work areas required in the congested area around Union Center. The Line A-5 Variation would also require the clearing of 33.5 acres more forest, would cross 10 more wetlands affecting 9.4 more acres of wetland, and the construction work area would be within 50 feet of 17 more residences. However, the Line A-5 Variation would cross 2 fewer perennial streams and affect 7.5 fewer acres of agricultural land. Both routes are generally entirely within or adjacent to existing utility corridors.

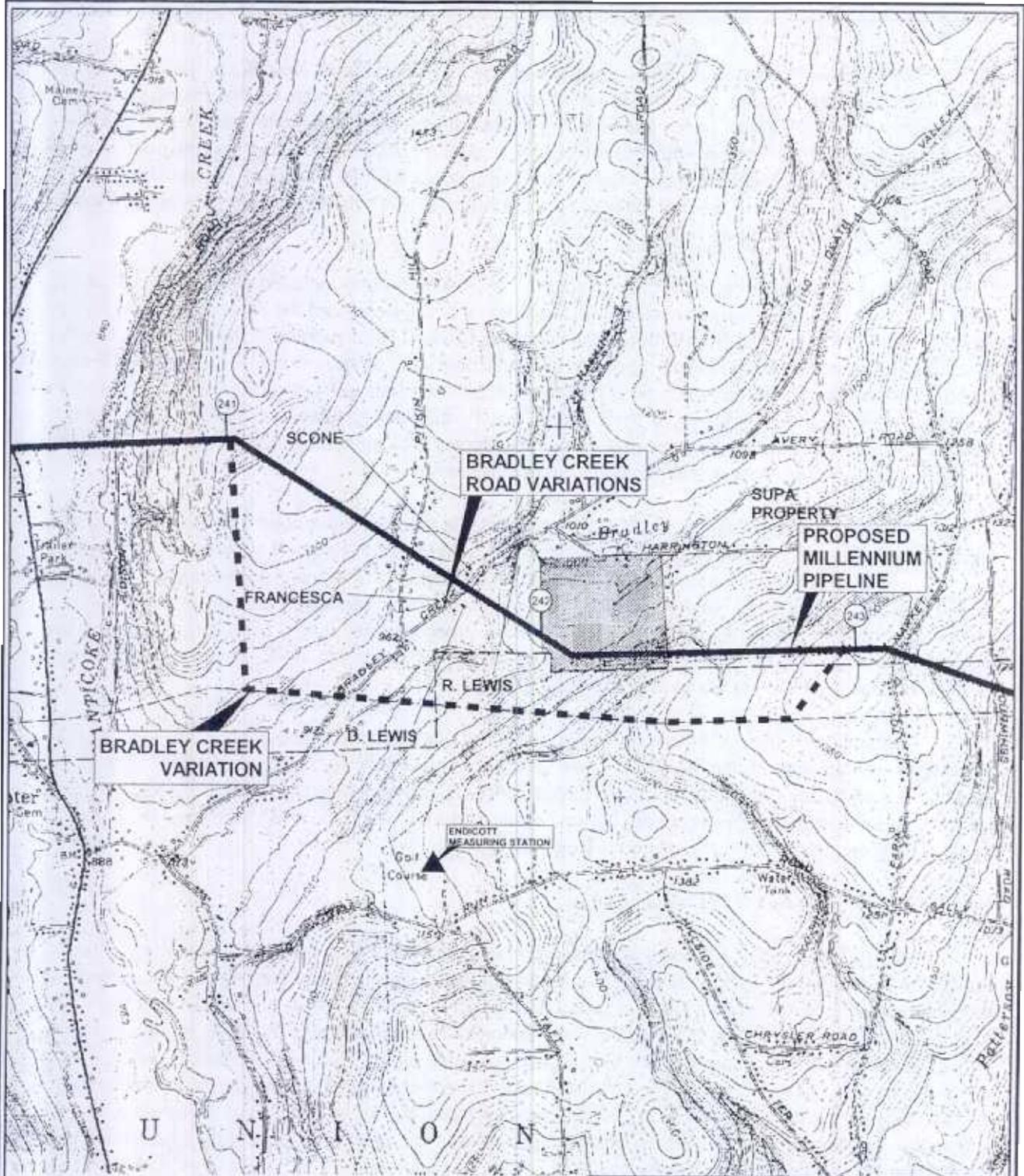
The concerns identified with original route (Line A-5 Variation) included the crossing of the Mt. Saint Francis Hermitage, a religious retreat west of Bradley Creek Road; and the Kodey tree farm, located west of Farm to Market Road. In addition, residents along Boswell Hill Road and in the vicinity of Bradley Creek Road adjacent to Line A-5 were concerned about the proximity of the new pipeline to their residences. Eighteen residences would be within 50 feet of the construction right-of-way of the Line A-5 Variation compared to 1 along the proposed route. At Bradley Creek Road, a new pipeline for NYSEG had been routed adjacent to Line A-5 through their properties, thereby limiting the amount of space available for a new pipeline. The proposed route would avoid all of these properties.

From an operational standpoint, Millennium states that about 3.3 miles of the existing Line A-5, from west of Maple Road in Union Center to east of Farm To Market Road in Endicott, would need to remain in service for the proposed route to supply the Union Center and Endicott Stations. The pipe west of the Union Center Station would be taken out of service and disconnected from the segment remaining in service. A new regulating station would be required at the east end of the proposed route (about MP 243.5) to connect the new pipeline with Line A-5. Most of this segment of Line A-5 was built in 1954. The operating pressure on this segment would be approximately 300 psig.

Although the Line A-5 Variation would be shorter and would cost about \$874,000 less than the corresponding segment of the proposed route, the variation would increase construction impact on residential, wetland, and forested areas. Except for the residents on Bradley Creek Road and one other landowner on the proposed route (see discussion below), commenters on the DEIS supported the proposed route. Therefore, we do not recommend the Line A-5 Variation.

Bradley Creek Variation (MPs 241.1 to 242.6)

The Bradley Creek Variation was proposed by a resident on Harrington Road to avoid: closeness to residences and a working barn on Bradley Creek and Pitkin Hill Roads, 1,200 feet of steep side slopes, an extra road crossing, extra stream crossings, an access road off the right-of-way to slick bore under guy wires, land in Agricultural District No. 1, a drinking water spring and a seasonal spring, isolation of a home, boring under a septic system and under Bradley Creek Road, blasting, crossing at least two ponds, possible fault currents, etc. (see figure 6.3.7-2). The Bradley Creek Variation would leave the proposed route and the powerline right-of-way at a point about 2,700 feet west of Pitkin Hill Road. The variation would turn south and continue along the existing NYSEG pipeline right-of-way for about 3,700 feet to the intersection with the existing Line A-5 pipeline right-of-way. At this point, it would turn east, cross Bradley Creek Road, and follow Line A-5 to a point about 1,700 feet west of Farm to Market Road. Here, the variation would turn northeast from the Line A-5 right-of-way along NYSEG's pipeline right-of-way to rejoin the NYSEG powerline and the proposed route at MP 242.6. A comparison of the significant environmental characteristics of the Bradley Creek Variation with the corresponding segment of the proposed route is in table 6.3.7-2.



Base: USGS 7.5 Minute Topographic Quadrangles: Castle Creek, and Maine, New York.

FIGURE 6.3.7-2
MILLENNIUM PIPELINE PROJECT
BRADLEY CREEK
ROUTE VARIATIONS

| County | Mileposts/ Environmental Factor | Unit | Proposed Route | Bradley Creek Variation |
|--|------------------------------------|------|-------------------|----------------------------|
| Broome | MPs 241.1 to 242.6 | | | |
| | • Total length | mi | 1.8 | 2.4 |
| | • Estimated land requirements | | | |
| | Construction right-of-way | ac | 15.5 | 23.0 |
| | Permanent right-of-way | ac | 10.9 | 15.2 |
| | • Total open land crossed | ac | 10.1 | 7.1 |
| | • Total agricultural land crossed | ac | 0 | 9.5 |
| | • Total forest land crossed | ac | 0 | 4.0 |
| • Total perennial water body crossings | no | 2 | 1 | |
| • Residences within 50 feet of the construction work area | no | 0 | 0 | |

Note: Acreage calculations are based on a 75-foot-wide construction right-of-way and a 50-foot-wide permanent right-of-way.

We also attempted to identify a modification to this variation in the vicinity of Bradley Creek Road to move the pipeline away from the area of concern. However, we found that any modifications would require additional forest clearing and the creation of a new right-of-way through forested areas. It would also affect new landowners and would not significantly reduce impact on the areas of concern. Therefore, we did no further analysis of the modification.

The Bradley Creek Variation would be 0.6 mile longer than the corresponding segment of the proposed route, and would affect 7.5 more acres of land including 9.5 more acres of agricultural land and 4.0 more acres of forested land. However, the variation would cross one fewer perennial waterbody. The variation would cross a property of the Saint Francis Hermitage and part of the Kodey Tree Farm.

Supporters of the Bradley Creek Variation identified the following concerns with the proposed route: (1) it would preclude access to properties (specifically the Lewis properties on Bradley Creek Road at about MP 241.7) both during and after construction, (2) it would interfere with the use of trucks and heavy equipment that are required for business activities on the Lewis properties, (3) it would cross a septic system and require removal of trees on the east side of Bradley Creek Road on the Thompson and Scone properties, and (4) it would affect a ground fed water supply system (specifically the Supa property at about MP 242.0). In addition, construction of the proposed route would result in erosion and other problems because of the steep slopes and erodible soils between MPs 242.0 and 242.5.

Millennium proposes to place its pipeline between the powerline structures within the existing powerline right-of-way. The issue with access is associated with the proposed crossing of the Lewis driveway and the concern that this access for the residence and business would be obstructed, either temporarily during construction or during an emergency if the pipeline were to break at the driveway. To address this issue, Millennium has proposed a minor route variation on the Lewis property to avoid crossing the driveway (see Bradley Creek Road Variation below). While we did not observe a lot of heavy truck movement on the Lewis property during site visits, it is likely that heavy equipment is used as part of the landowner's business. Millennium would provide additional cover if necessary to protect its pipeline from heavy equipment. This would be done in compliance with USDOT regulations (49 CFR section 192, Subpart C, Pipe Design).

On the east side of Bradley Creek Road, the pipeline would cross a septic system within the powerline right-of-way and could require removal of several trees (including an apple tree) that serve as screening between two residences, and the residences and the road. However, Millennium states that it would bore the road, the septic system, and the tree screening. The apple tree would be fenced and protected throughout construction.

While we recognize that construction may affect the spring on the Supa property (which supplies water to the residence and barn), Millennium has committed to, and we have recommended pre- and post-construction water quality testing of wells and springs. We have also recommended additional site testing (see Bradley Creek Road Variations below). In addition, Millennium has identified and we have recommended a minor route variation to move the pipeline further from the potentially affected spring (see Bradley Creek Road Variations below).

Finally, side slopes are typically encountered during the construction of pipelines, and special techniques have been developed to address construction-related issues. Side hill construction along the proposed route in this area would not be considered unusual because both the proposed route and the Bradley Creek Variation would encounter similar topographic conditions.

We have not identified any significant environmental advantage with the Bradley Creek Variation. Both routes are similar in that neither alignment would place the construction work area within 50 feet of an existing residence and both routes would cross Bradley Creek. Many commenters on the DEIS were strongly opposed to the Bradley Creek Variation. The disadvantages of the Bradley Creek Variation include its longer length (about 3,300 feet) and additional land use impacts, including additional impacts on agricultural and forested areas. We also believe that the concerns of the Supas and Lewises can be mitigated with use of the minor route variations described below without the need for the added environmental impact. Because the disadvantages of the Bradley Creek Variation outweigh its advantages, we do not recommend it.

Bradley Creek Road Variations (MPs 241.7 and 242.0)

These variations were identified by Millennium to reduce impact on the Lewis and Supa properties (see discussion above). At the Lewis property, Millennium proposes to move the pipeline north to avoid crossing the driveway for the Lewis residence (MP 241.7) (see figure 6.3.7-2). Since this route variation would partially address the concerns identified by the landowner, we concur with Millennium's proposal to incorporate the route variation on the Lewis property into its proposed route.

At the Supa property, Millennium proposes to move the pipeline south to avoid a seasonal spring and to maintain about 165 feet between the Supa water supply spring and the construction work area (MP 242.0) (see figure 6.3.7-2). Since this route variation would partially address the concerns identified by the landowner, we concur with Millennium's proposal to incorporate the route variation on the Supa property into the proposed route.

While the potential for adverse construction impact on this landowner's water supply system may be remote, we believe that it could affect the water supply if the trench diverts the water flow. Therefore, we recommend that:

Millennium prepare a report that contains the following information regarding the water supply system on the Supa property (approximate MP 242.0):

- a. **the elevation of the spring outlet and cistern;**

- b. the water bearing stratum for the spring at source, if possible;
- c. the depth to water along the pipeline trench, and the water bearing strata along the pipeline trench and orthogonal (right angle) downhill to spring;
- d. if the pipeline trench or sidehill cut would intersect the water bearing stratum that feeds the spring or the spring's water source, determine if the pipeline trench would convey water away from the spring based on trench elevations; and
- e. if the pipeline trench would convey water away from the spring, develop engineering and/or other mitigation measures (including a reroute upslope to avoid the water table) to maintain uninterrupted flow to the spring and cistern.

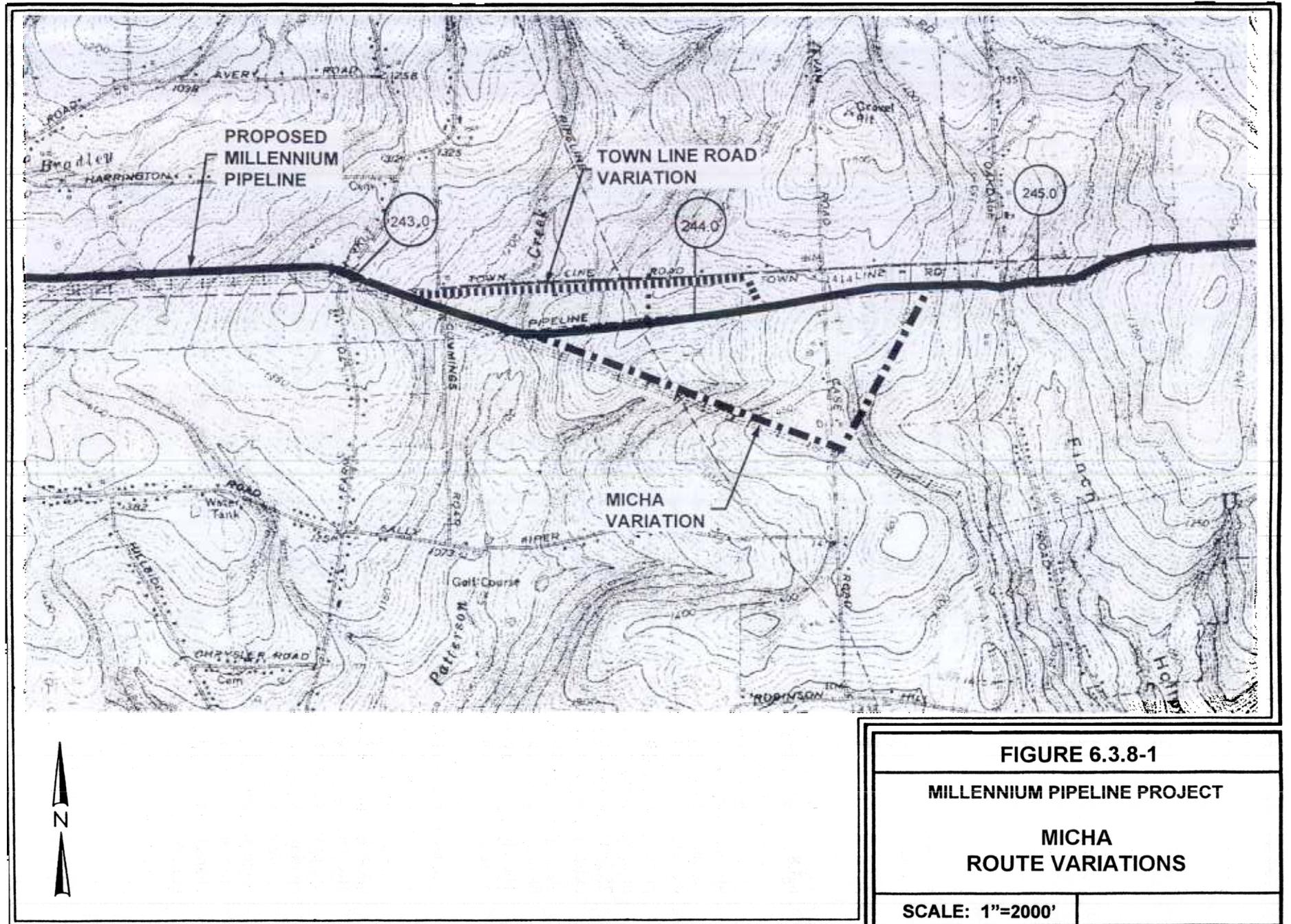
The report should include site-specific diagrams as necessary to illustrate the flow of water to the spring and cistern and should be filed with the Secretary for review and written approval by the Director of OEP before construction.

6.3.8 Micha Variations (MPs 243.4 to 245.7)

A landowner in Johnson City, New York, commented that six existing utility lines currently cross his property at about MP 243.5 and requested that any additional pipelines be placed within existing easements to minimize impacts. The Micha property is east of Union Center, where Millennium's pipeline would be installed between the powerline structures to about MP 243.5. At the western edge of the Micha property, the proposed route would rejoin the existing Line A-5 corridor, where Millennium proposes to install the new pipeline using a 25-foot offset from the existing pipeline. This would require an additional 25 feet of permanent right-of-way outside of the existing corridor. Millennium has maximized the use of the existing Columbia right-of-way in this area, and the additional 25 feet of permanent right-of-way would not significantly affect future agricultural operations. However, the NYSDA&M commented that there may be benefits associated with moving out of agricultural land and onto new right-of-way in this location. Therefore, we have identified and evaluated two route variations in this location and compared them to the corresponding segment of the proposed route (see figure 6.3.8-1).

Micha Variation (MPs 243.4 to 244.7)

This route variation was identified by the affected property owner to minimize the length of the proposed crossing through active agricultural lands. The landowner apparently consulted with most of the affected landowners along the variation for their approval of the reroute. The variation would deviate from the proposed route just east of Cummings Road at about MP 243.4. At this point, the variation would continue southeast within the existing powerline right-of-way for about 1.0 mile to a point east of Case Road, where it would turn northeast, and cross the Goodrich and Morlando properties before rejoining the proposed route at about MP 244.7, about 650 feet west of Oakdale Road. All of the land use associated with the proposed route and the Micha Variation is open. A comparison of the significant environmental characteristics of the Micha Variation with the corresponding segment of the proposed route is in table 6.3.8-1.



| County | Mileposts/ Environmental Factor | Unit | Proposed Route | Micha Variation |
|--------|--|------|-------------------|--------------------|
| Broome | MPs 243.4 to 244.7 | | | |
| | • Total length | mi | 1.3 | 1.5 |
| | • Estimated land requirements | | | |
| | Construction right-of-way | ac | 11.4 | 13.4 |
| | Permanent right-of-way | ac | 7.6 | 8.9 |
| | • Residences within 50 feet of the construction work area | no | 0 | 0 |

Note: Acreage calculations are based on a 75-foot-wide construction right-of-way and a 50-foot-wide permanent right-of-way.

Our review of this variation was based on existing aerial photography and topographic maps, and indicates that, while it would reduce the pipeline crossing through the Micha property, construction would require an additional 1,200 feet of pipeline and the creation of about 2,500 feet of new right-of-way. This new right-of-way would be along the side slopes, which likely would require additional construction work areas. Further, while the Goodrich and Morlando properties currently contain utility rights-of-way, the Micha Variation would cross diagonally through properties on land currently unencumbered by utility easements, restricting future use of these properties.

While use of this variation would result in an increase in environmental impacts in that the total land requirement for construction would increase by about 2 acres and the route would be 0.2 mile longer as compared to the proposed route, the variation would significantly reduce impact on residential properties on Town Line Road that are currently bisected by the existing Line A-5 by moving the proposed pipeline farther from them. The affected landowners along the proposed route and the Micha Variation support use of the variation, as well as the NYSDA&M and Millennium. **Therefore, we have no objection to its use and concur with Millennium's proposal to incorporate the Micha Variation into its proposed route.**

A landowner (Curran) also proposed a route variation to minimize impact on his property in the vicinity of the Micha Variation. This variation would continue along the powerline as described for the Micha Variation, but instead of rejoining the proposed route at MP 244.7, the variation would continue southeast along the powerline, and then northeast adjacent to another powerline until that powerline intersects the proposed route. This variation would be considerably longer since the powerline trends south away from the pipeline. It would also require crossing of large pond near the point where it would rejoin the proposed route. Because the landowner's concerns were resolved with the adoption of the Micha Variation, we did no further analysis of this variation.

Town Line Road Variation (MPs 243.0 to 244.2)

The Town Line Road Variation would deviate from the proposed route just east of Farm To Market Road at about MP 243.0, at the intersection of the proposed route and the Maine/Union Town Line (see figure 6.3.8-1). The variation would then continue east adjacent to the town boundary, cross Cummings Road, and then follow the south side of Town Line Road for about 4,200 feet, where it would turn southwest for about 600 feet before rejoining the proposed route on the existing Line A-5 right-of-way at about MP 244.2. A comparison of the significant environmental characteristics of the Town Line Road Variation with the corresponding segment of the proposed route is in table 6.3.8-2.

TABLE 6.3.8-2
Comparison of the Town Line Road Variation
with the Corresponding Segment of the Proposed Route

| County | Mileposts/ Environmental Factor | Unit | Proposed Route | Town Line Road Variation |
|--|------------------------------------|------|-------------------|--------------------------------|
| Broome | MPs 243.0 to 244.2 | | | |
| | • Total length | mi | 1.1 | 1.1 |
| | • Estimated land requirements | | | |
| | Construction right-of-way | ac | 9.6 | 9.8 |
| Permanent right-of-way | ac | 6.4 | 6.5 | |
| • Residences within 50 feet of the construction work area | no | 0 | 0 | |

Note: Acreage calculations are based on a 75-foot-wide construction right-of-way and a 50-foot-wide permanent right-of-way.

As with the Micha Variation, this variation would minimize disruption to agricultural lands by placing the pipeline at the edge of the fields adjacent to Town Line Road. However, residents along Town Line Road expressed opposition to this route variation, both in written comments on the DEIS and during our field review of the route. The most often cited concern was about having two rights-of-way across their properties. Therefore, we do not recommend the Town Line Road Variation.

6.3.9 Fava Variation (MP 249.4)

The Fava Variation was identified by Millennium during discussions with the affected landowner and would involve moving the pipeline off the corner of the Fava property at MP 249.4 (see figure 6.3.9-1). This property is a shopping center, and the landowner was concerned about disruption of business during construction. The advantages of the Fava Variation are that it would move the pipeline outside of the northern boundary of the shopping center parking lot and avoid existing underground utilities. The Fava Variation would be 12 feet shorter than the corresponding segment of the proposed route and would require 0.02 acre less land for construction and 0.01 acre less land for permanent right-of-way. It would not affect any residences, waterbodies, or public facilities. A single emergent and shrub-scrub wetland would be affected by both routes (about 0.4 acre). **Because the variation would address the landowner concerns without significant environmental impact, we concur with Millennium’s proposal to incorporate the Fava Variation into its proposed route.**

6.3.10 Bauer Variations (MPs 302.5 to 303.0)

Based on comments from the NYSDA&M, we evaluated three route variations to minimize impacts on a dairy farm located at about MP 302.5 (see figure 6.3.10-1). The property owner commented that the proposed route would locate the pipeline adjacent to an existing dairy barn and cross the inlet to a small pond that supplies water to the farm, potentially disrupting his water source during and after construction.

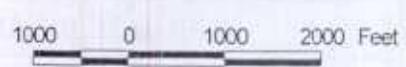
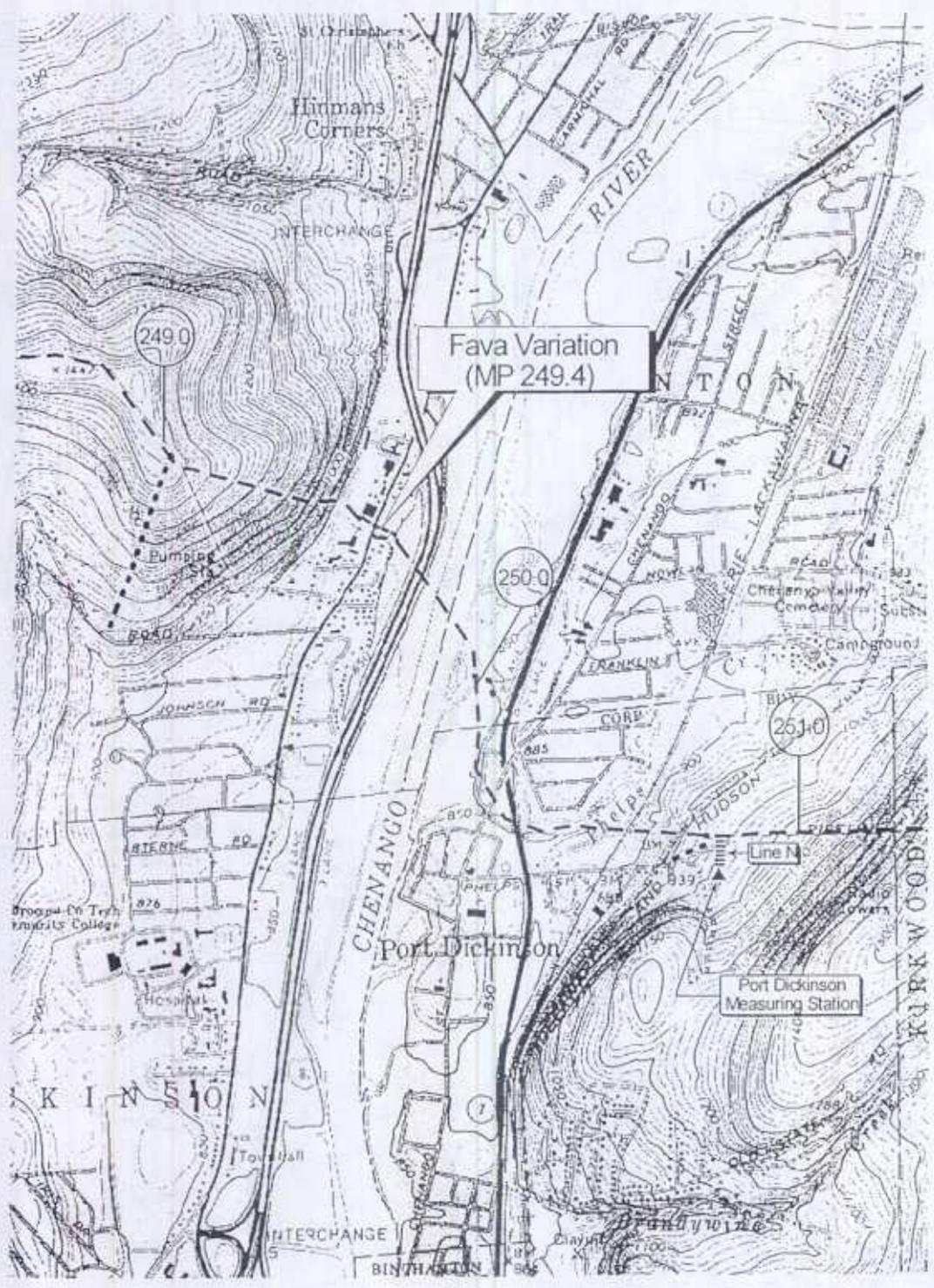


FIGURE 6.3.9-1

FAVA VARIATION

SHEET 1

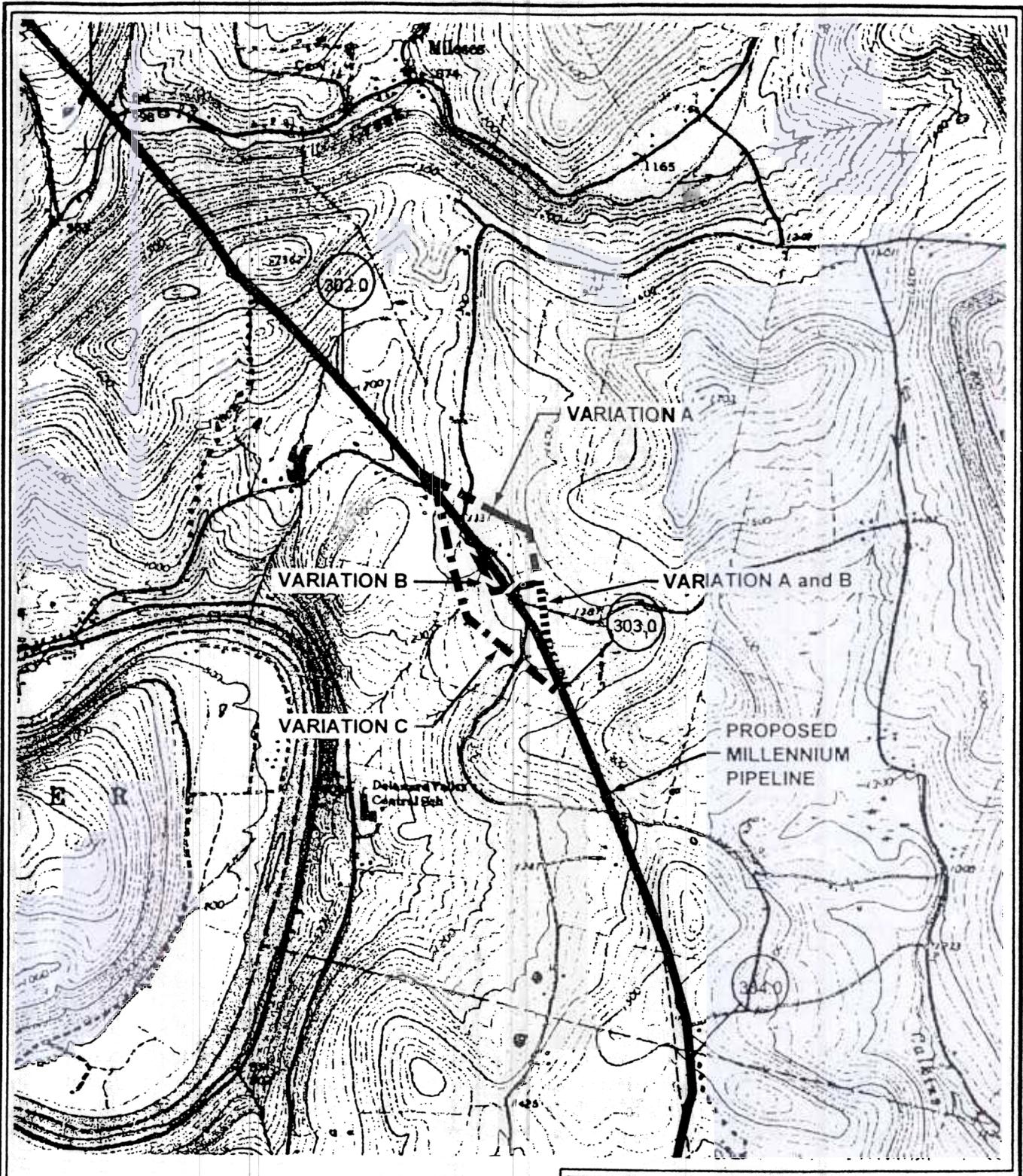


FIGURE 6.3.10-1

MILLENNIUM PIPELINE PROJECT

BAUER
ROUTE VARIATIONS

SCALE: 1"=2000'

Bauer Variation A (MP 302.5 to 302.8) – Bauer Variation A was identified by the NYSDA&M and would deviate from the proposed route just west of County Route 132 at MP 302.5. It would continue east for about 700 feet, cross West Simmon Road, and continue east for another 800 feet. At this point, Bauer Route Variation A would turn south for about 1,400 feet, cross County Route 132 and rejoin the proposed route at about MP 302.8. This variation would avoid the dairy barn by crossing to the east side of Route 132 and cross the pond inlet about 700 feet above the pond. The variation would be about 200 feet longer than the corresponding segment of the proposed route

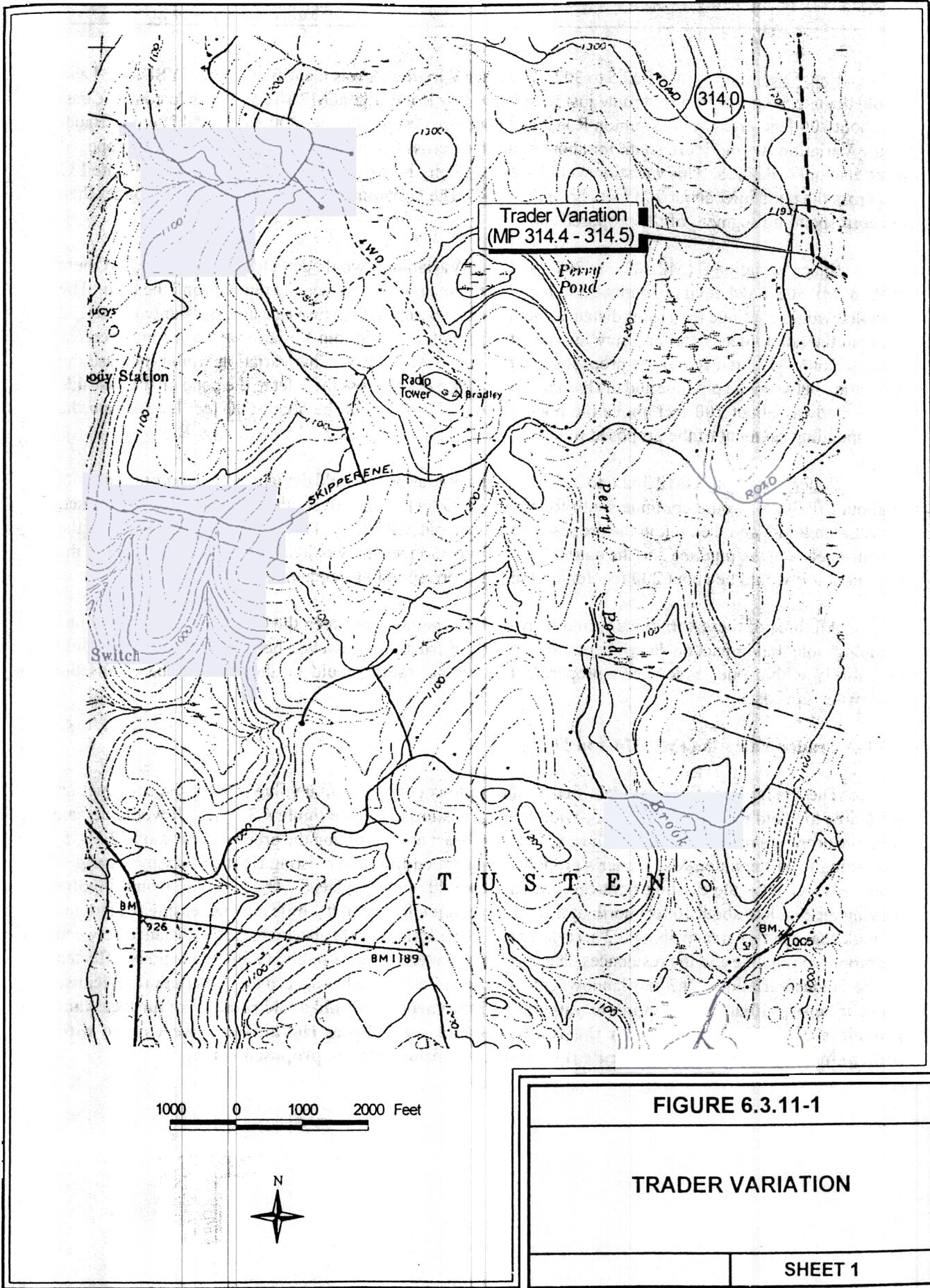
Bauer Variation B (MP 302.7 to 302.8) – Bauer Variation B would deviate from the proposed route at about MP 302.7 and deviate southwest to increase the separation between the pipeline and the barn. The variation would continue for a short distance south past the barn and then turn east across County Route 132 to avoid the pond inlet. After crossing the road, the variation would join Variation A, turn south, recross County Route 132, and rejoin the proposed route at about MP 302.8. This variation would increase the separation between the pipeline and the barn by about 100 feet and cross the inlet to the pond on the east side of the roadway about 700 feet above the pond. The variation would be about 600 feet longer than the corresponding segment of the proposed route.

Bauer Variation C (MP 302.6 to 303.0) – Bauer Variation C would deviate from the proposed route at about MP 302.6, would continue south for about 1,600 feet, then turn southeast for another 1,600 feet, cross Lahm Road, and then rejoin the proposed route at about MP 303.0. This variation would increase the distance between the pipeline and the dairy barn to about 350 feet and would avoid crossing the inlet to the farm pond. It would be about 200 feet longer than the corresponding segment of the proposed route.

All three of these variations would increase the separation between the pipeline and the barn, thus reducing potential impact on dairy operations during construction. However, because this variation would be entirely within one landowner's property, the ultimate route should be the one that best suits the landowner's needs.

6.3.11 Trader Variation (MP 314.4 to 314.5)

The Trader Variation was identified by the landowner and would involve moving the construction work area to avoid removal of a 15-foot-wide stand of mature trees (see figure 6.3.11-1). It would deviate from the proposed route at MP 314.4 and continue southeast until rejoining the proposed route at MP 314.5. According to Millennium, Ms. Trader's property is separated from the existing right-of-way by a stand of trees. A valve is on the existing right-of-way, and it would not be replaced. The variation would involve moving the pipeline about 10 feet north of its current location for about 0.1 mile and decreasing the amount of work space in this area to about 0.2 acre of land. The variation would also increase the distance between the proposed pipeline and the residences. No wetlands, waterbodies, or public facilities would be affected by the Trader Variation. One new landowner would be affected, and has agreed to the variation. **Because there are no significant environmental impacts and the variation would avoid removal of the trees that provide a visual barrier between the residences and the existing right-of-way, we concur with Millennium's proposal to incorporate the Trader Variation into the proposed route.**



6.3.12 Mission Land Road Variation (MPs 351.6 to 352.4)

The Mission Land Road Variation was identified by Millennium to address design and engineering issues associated with the 90 degree angle crossings of Mission Land Road and the approach to the Pochuck River (see figure 6.3.12-1). The variation would begin at approximate MP 351.6 at Mission Land Road and would turn east, then southeast, and then east again to rejoin the proposed route at approximate MP 352.4 on the west side of Pochuck Creek. Both routes would be approximately the same length, and impacts would be similar in that neither route would be in farmed black dirt areas. **Because we identified no significant environmental impact with the Mission Land Road Variation, we concur with Millennium's proposal to incorporate the Mission Land Road Variation into its proposed route.**

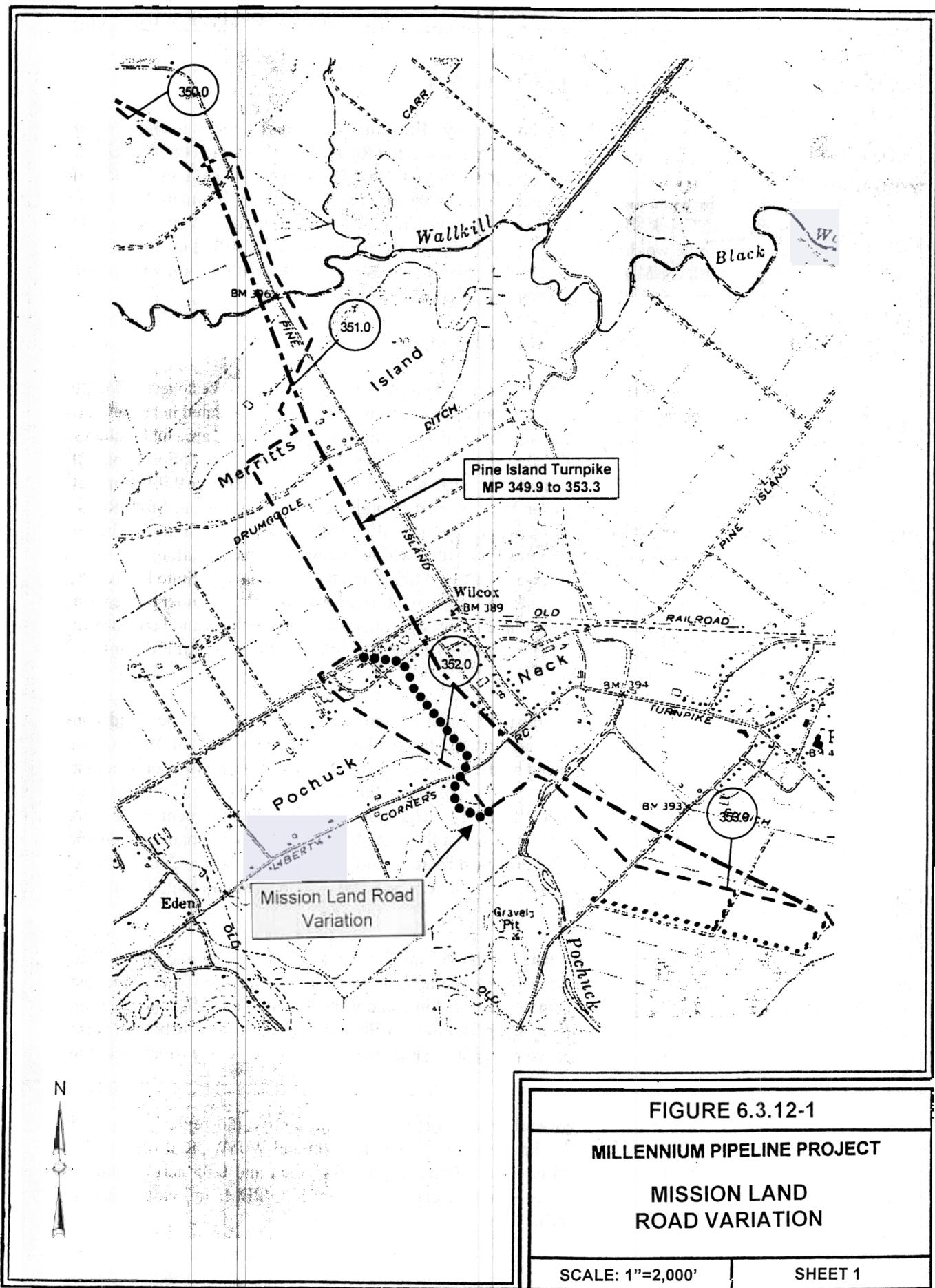
6.3.13 Briarcliff Commons Variation (MP 401.3 to 401.5)

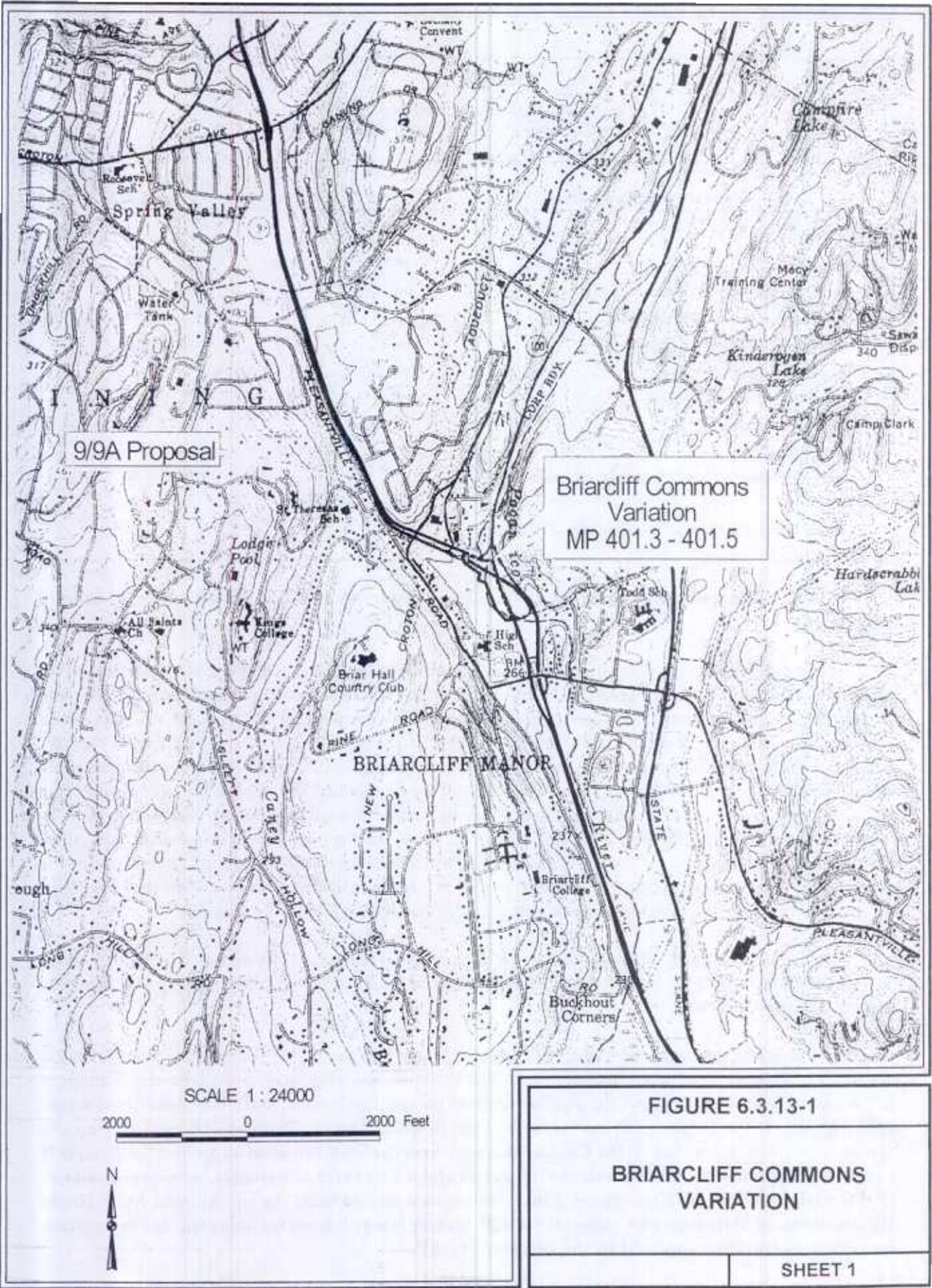
The Briarcliff Commons Homeowners Association identified a route variation in Westchester County to minimize construction impacts on the Briarcliff Commons condominium complex located near the State Routes 9A and 100 interchange. The proposed route follows a sewer line through a wooded area that includes forested wetlands. In alignment sheets filed in December 2000, Millennium shows this variation as part of its proposal. The Briarcliff Commons Variation would deviate from, but basically parallel, the 9/9A Proposal between MPs 401.3 and 401.5. However, near MP 401.3, it would cross the southbound State Route 100/northbound State Route 9A ramp with an open cut, opening half of the road surface at a time. Then it would cross the Pocantico River (MP 401.35) for the first time within the highway median along the north side of State Route 9A. State Route 9A would be crossed by shifting into the center lane of State Route 100 for a short distance to pass under an overpass. The pipeline would then be placed in the shoulder of the west side of State Route 100. Another shift would be made to leave the shoulder to make the second crossing of the Pocantico River (MP 401.45). It would then rejoin the shoulder of State Route 100 until it rejoins the proposed route at MP 401.5 (see figure 6.3.13-1).

The Briarcliff Commons Variation would affect about 1.5 acres of forest, 0.1 acre of open land, and 0.7 acre of industrial/commercial land during construction. It would also affect an additional 0.18 mile of the North County Trail that would not be affected by the proposed route. The variation would require about 2.3 acres of land for construction (0.4 acre more than the corresponding segment of the 9/9A Proposal) and 1.7 acres of land for the permanent right-of-way (the same acreage as the corresponding segment of the 9/9A Proposal). The total length of the variation would be about the same length as the corresponding segment of the 9/9A Proposal (see table 6.3.13-1). The proposed route would require one road bore across State Route 9A just to the north of the ramp from southbound State Route 100 onto northbound State Route 9A. No road bores are proposed for the variation.

The variation would require two crossings of the Pocantico River near MPs 401.3 and 401.4. The Pocantico River is a warmwater fishery, has a state water quality classification of B (fresh surface water: best usages are primary and secondary contact recreation and fishing, and water is suitable for fish propagation and survival), and is about 25 feet wide at both crossing locations. Millennium would complete both of these crossings using dry crossing techniques. This would replace one 8-foot-wide crossing of the tributary of the Pocantico River near MP 401.4.

The Briarcliff Commons Variation would not affect any wetland and would replace proposed construction, which would affect a total of 1.04 acres in two wetlands. Wetland W05WCR at MP 401.37 has a wetland classification of PEM, would have a crossing length of 45 feet, and 0.05 acre would be affected. Wetland W06WCR at MP 401.38 has a wetland classification of PFO/PEM, and would have a crossing length of 860 feet (0.99 acre affected).





| Milepost/Environmental Factor | Unit | 9/9A Proposal | Briarcliff Commons Variation |
|---|------|---------------|---------------------------------|
| MPs 401.3 to 401.5 | | | |
| • Total length | ft. | 1,460 | 1,450 |
| • Estimated land required for construction | ac. | 1.9 | 2.3 |
| • Estimated land required for operation | ac. | 1.7 | 1.7 |
| • Length adjacent to existing right-of-way | mi. | 0.28 | 0.27 |
| • Length within road right-of-way | feet | 0 | 1,300 |
| • Length along North County Trail | mi. | 0 | 0.18 |
| • Waterbodies crossed | no. | 1 | 2 |
| • Wetlands affected | ac. | 1.04 | 0 |
| • Residences within 50 feet of the construction work area | no. | 0 | 0 |
| • Road bores | no. | 1 | 0 |
| • Landowners affected by the permanent right-of-way | no. | 2 | 2 |

The advantage of the variation is that it would not require construction though about 1.04 acres of wetlands.

The disadvantages of the variation are that it would require two crossings of the Pocantico River where the waterbody is of intermediate size (both 25 feet wide) at both locations, whereas the proposed route would require crossing a tributary to the Pocantico River that is narrower (8 feet). Also, the variation would require construction along about 1,300 additional feet of road right-of-way, thereby adding to the total amount of roadside construction. The variation would require about 0.18 mile of additional construction along the North County Trail, and an open cut crossing of the southbound State Route 100/northbound State Route 9A ramp. At this location, the open cut of the State Route 100 southbound ramp would be at the point where the ramp enters northbound State Route 9A. As proposed, the ramp would be open cut, but half of the ramp would remain open for use. Motorists driving from State Route 100 are about to merge into traffic going northbound on State Route 9A and may be distracted by construction activity. Our traffic analysis recommends closing the ramp and detouring traffic or boring the crossing if it is feasible.

Along both the proposed route and the variation, there is one previously reported cultural resource site, and a survey is pending. No additional landowners, or federally or state listed threatened or endangered species, would be affected.

Millennium states that the Village of Briarcliff Manor opposes the 9/9A Proposal in general and is not likely to support a reroute in this corridor. The variation was proposed by the Briarcliff Commons Homeowners Association to move the pipeline farther from the development and more adjacent to the road right-of-way. If the Commission approves the ConEd Offset/Taconic Parkway Alternative, then this variation would not be needed. **If the Commission approves the 9/9A Proposal and, since the Briarcliff Commons Variation would eliminate the impact on about 1.04 acres of wetlands, we recommend use of this variation. We also recommend that Millennium should bore the southbound State Route 100/Northbound State Route 9A ramp (MP 401.3) or explain why it is not feasible prior to construction for review and written approval by the Director of OEP.**

6.3.14 Persico Variation (MP 408.7 to 409.0)

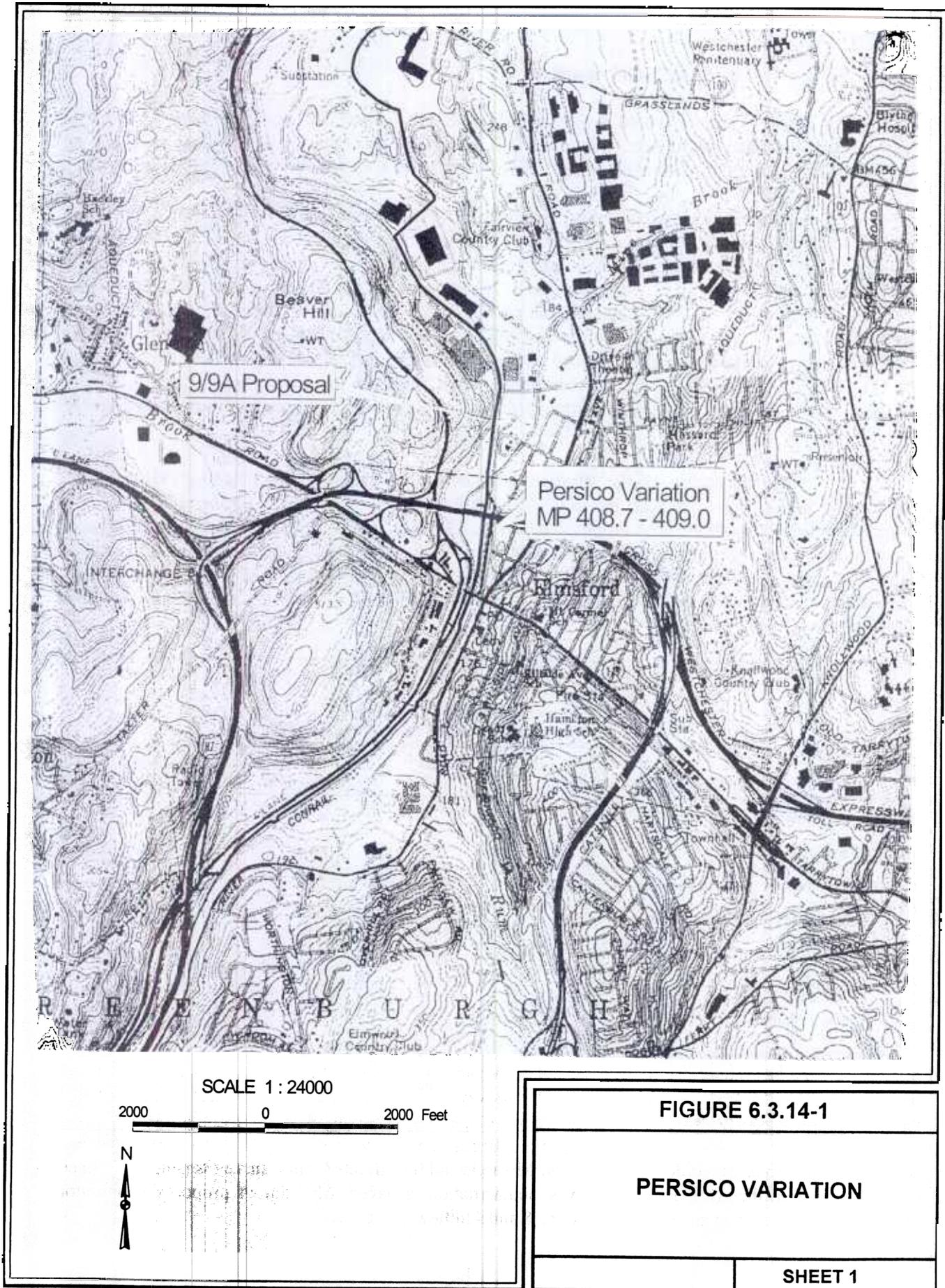
The Persico Variation would deviate slightly from, but be basically parallel to, the 9/9A Proposal between MPs 408.7 and 409.0. According to Mr. Persico, installation of the pipeline as originally proposed could impede plans for future use of his commercial property in the Village of Elmsford (see figure 6.3.14-1).

The Persico Variation would deviate from the 9/9A Proposal at about MP 408.7, moving southeast for about 300 feet through a salvage yard. It would then turn south and cross under the Cross Westchester Parkway (I-287) beneath a bridge, and would then continue south down Vreeland Avenue to a parking lot on the north side of White Plains - Tarrytown Road. A bored crossing would be used to cross White Plains - Tarrytown Road which would be staged in the parking lots on both sides of the road. Construction on Vreeland Avenue would be confined to the road right-of-way (the area between the curbs only) with the pipeline being placed under the existing road surface. Portions of this section of Vreeland Avenue would be closed to through traffic as construction moves down the street for a distance of 1 and ½ blocks. Millennium states that access to businesses along Vreeland Avenue would be maintained during construction.

All of the land affected by the variation would be industrial/commercial including a salvage yard, streets, and parking lots. The total length of the variation would be 1,730 feet (120 feet longer than the corresponding segment of the 9/9A Proposal) (see table 6.3.14-1). The variation would require 1.8 acres of land for construction (0.2 acre more than the corresponding segment of the 9/9A Proposal) and 2.0 acres of land for the permanent right-of-way (0.2 acre more than the corresponding segment of the 9/9A Proposal). No wetlands, waterbodies, or protected species would be affected by either the variation or the 9/9A Proposal.

| Milepost/Environmental Factor | Unit | 9/9A Proposal | Persico Variation |
|---|------|---------------|-------------------|
| MPs 408.7 to 409.0 | | | |
| • Total length | ft. | 1,610 | 1,730 |
| • Estimated land required for construction | ac. | 1.6 | 1.8 |
| • Estimated land required for operation | ac. | 1.8 | 2.0 |
| • Length adjacent to existing right-of-way | mi. | 0.22 | 0.28 |
| • Waterbodies crossed | no. | 0 | 0 |
| • Wetlands affected | ac. | 0 | 0 |
| • Residences within 50 feet of the construction work area | no. | 0 | 0 |
| • Road bores | no. | 1 | 1 |
| • Landowners affected by the permanent right-of-way | no. | 3 | 3 |

No previously recorded cultural resource sites would be affected, but a survey is pending. Since most of the area that would be affected by the variation is paved, Millennium proposes to monitor construction in the street and parking lots for possible cultural resources.



The major difference between the proposed route and the variation is that the proposed route would use the parking area at the edge of the Persico property, and the variation would require the use of Vreeland Avenue for construction.

The advantage of the variation is that it would minimize impact on the Persico property, which the landowner states is going to be developed. Millennium states that it and Mr. Persico discussed the variation with Mr. Charles DeAngelis, the Mayor of the Village of Elmsford, and that Mr. Persico explained that the proposed pipeline alignment could impede his future development plans. Millennium states that the Mayor continued to express overall support for the original alignment along the ConEd corridor, but that the village probably would not oppose the variation.

The disadvantages of the Persico Variation are that it would temporarily close portions of Vreeland Avenue to through traffic during installation of the pipeline. This may impact businesses along the avenue. One additional landowner would be affected directly by construction of the variation. Eighteen additional landowners would be located directly adjacent to the construction right-of-way and would be affected by street closings.

We conclude that the Persico Variation would result in additional impacts on landowners and businesses located along Vreeland Avenue that would not be affected by the 9/9A Proposal. Because we have no evidence of future expansion plans on the Persico property and the Persico Variation would affect additional landowners and business entities, we do not recommend the Persico Variation. However, during easement negotiations between Millennium and Mr. Persico, future expansion plans could be identified and potentially accommodated during the final design phase.

6.3.15 Sprain Ridge Variations

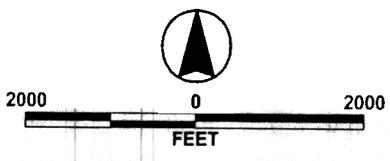
Two variations were identified in the Sprain Ridge Park/Grassy Sprain Reservoir area. These are shown on figure 6.3.15-1 and described below.

Ridge Hill Variation (MPs 416.6 to 416.8)

The Ridge Hill Variation was identified by the City of Yonkers to avoid crossing through the center of the Ridge Hill site, one of the few remaining developable sites that has the potential to create upwards of a million square feet of much needed job producing development for the City of Yonkers. The site allows the ability to induce development with relatively little impact on the community due to the direct access to the New York State Thruway. The City of Yonkers does not contest the location of the pipeline, only that it be moved to the extreme eastern edge of the site. This would cause the least impact on potential future development of the site, while still maintaining separation from the ConEd powerlines. **We have no objection to the realignment of the pipeline on this property.**

Mosiello Variation (MP 416.8 to 417.0)

The Mosiello Variation was identified by Westchester County Legislator Louis Mosiello who represents a district that borders the Sprain Brook Parkway, including a residential area just to the east of the Parkway (see figure 6.3.15-1). This variation was developed by the landowner and Millennium to minimize impacts on the residential area adjacent to the Sprain Brook Parkway by increasing the distance between the community and the construction work area. The Mosiello Variation would deviate from the proposed route by remaining within the Sprain Brook Parkway median for a greater distance before crossing to the east side of the Sprain Brook Parkway between MPs 416.8 and 417.0.



Base: USGS 7.5 Minute Topographic Quadrangles: White Plains, and Mount Vernon, New York.

FIGURE 6.3.15-1
MILLENNIUM PIPELINE PROJECT
SPRAIN RIDGE
ROUTE VARIATIONS

The variation would affect approximately 1.1 acres of forest, 0.5 acre of open land, and 0.1 acre of industrial/commercial land during construction (see table 6.3.15-1). The permanent right-of-way would require 0.7 acre of forest land, 0.2 acre of open land, and 0.1 acre of industrial/commercial land. The forest land would be within the area bounded by the northbound and southbound lanes of the Sprain Brook Parkway. The industrial/commercial land would consist of the bore under the northbound lanes of the Sprain Brook Parkway.

| County | Mileposts/ Environmental Factor | Unit | Proposed Route | Persico Variation |
|--|------------------------------------|------|-------------------|----------------------|
| Westchester | MPs 416.8 to 417.0 | | | |
| | • Total length | ft | 970 | 890 |
| | • Estimated land requirements | | | |
| | Construction right-of-way | ac | 1.3 | 1.7 |
| | Permanent right-of-way | ac | 1.1 | 1.0 |
| • Length adjacent to existing right-of-way | mi | 0.18 | 0.16 | |
| • Residences within 50 feet of the construction work area | no | 0 | 0 | |

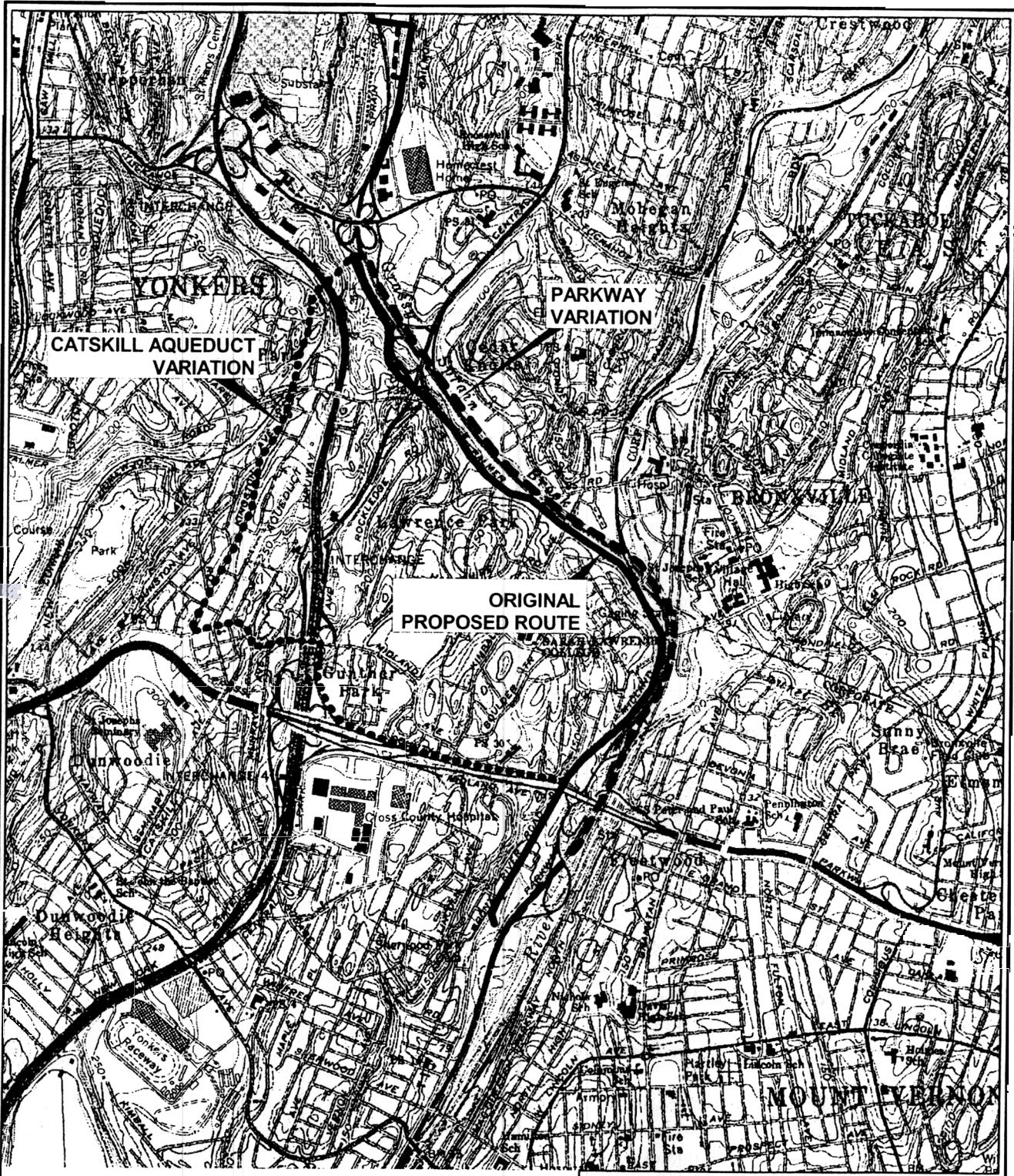
Note: Acreage calculations are based on a 75-foot-wide construction right-of-way and a 50-foot-wide permanent right-of-way.

The total length of the variation would be 890 feet (80 feet shorter than the corresponding segment of the proposed route). The variation would require 1.7 acres of land for construction (0.4 acre more than the corresponding segment of the proposed route) and 1.0 acre of land for the permanent right-of-way (0.1 acre less than the corresponding segment of the proposed route). No wetlands, waterbodies, federally listed species, or additional landowners would be affected. While we note that the Mosiello Variation would increase the distance between the residences on the east side of the Sprain Brook Parkway and the proposed pipeline by about 75 feet, we have not identified any significant environmental disadvantage associated with the Mosiello Variation as compared to the proposed route. **Therefore, we concur with Millennium's proposal to incorporate the Mosiello Variation into its proposed route.**

6.3.16 Yonkers Variations (MPs 417.2 to 419.9)

Catskill Aqueduct Variation (MP 418.3 to 420.1)

The Catskill Aqueduct Variation was identified by the NYCDEP and would deviate from the proposed route just north of the Catskill Aqueduct at MP 418.3 (see figure 6.3.16-1). The variation would continue southwest for approximately 0.2 mile, cross the New York State Thruway, and then continue in Bobolink and Kingston Roads for about 1 mile. The variation would then turn east in Midland Road for 0.4 mile, cross the New York State Thruway a second time, and continue roughly east-southeast for 1.1 miles along the New York State Thruway/Cross County Parkway ramps and the Cross County Parkway. The variation would rejoin the proposed route at MP 420.1. This route variation would be approximately 0.6 mile longer than the corresponding segment of the proposed route.



Base: USGS 7.5 Minute Topographic Quadrangles: White Plains, and Mount Vernon, New York.

FIGURE 6.3.16-1
MILLENNIUM PIPELINE PROJECT
YONKERS
ROUTE VARIATIONS

The NYCDEP promoted this variation as an alternative to the Catskill Aqueduct crossing proposed by Millennium. The NYCDEP stated that the variation would reduce the risk associated with the aqueduct crossing by moving the crossing to a location where the aqueduct is within a deep pressure tunnel. Such a crossing would increase the vertical distance between the aqueduct and the pipeline. While crossing the aqueduct at a deep pressure tunnel section may be preferable to the proposed crossing, the Catskill Aqueduct Variation would be within high-density residential streets. Many commenters on the DEIS, including elected officials, representatives of the City of Yonkers, and Yonkers residents, voiced a strong preference for minimizing the amount of pipeline within high-density residential areas (see section 5.8.2). Since construction of the variation would be counter to many of the concerns raised by the residents of the City of Yonkers, we do not recommend the Catskill Aqueduct Variation.

Parkway Variation (MPs 418.3 to 420.5)

In October 1998, Millennium incorporated a line change in the City of Yonkers between MPs 418.3 and 420.5 as a result of consultations with the Westchester County Department of Planning. This line change placed the proposed route within Palmer Road and Desmond Avenue/Bronx River Road. At that time, the City of Yonkers commented that Millennium's proposed route would adversely affect residential areas on these roads. Specifically, the City of Yonkers identified the Sherwood House (a NRHP-listed property located about 500 feet west of the proposed route on Tuckahoe Road at approximate MP 418.3) and two residential areas of concern: the first (beginning at about MP 418.4) would be where the pipeline would be placed within Palmer Road between Central Park Avenue and the crossing of Sprain Brook Parkway; and the second (beginning at about MP 419.5) would be where the pipeline would be placed within Desmond and Midland Avenues and Bronx River Road.

The proposed route would parallel the Sprain Brook Parkway corridor in this section (east of the parkway), crossing through the Sprain Brook Parkway interchange at the intersection with Tuckahoe Road. We believe this location provides sufficient distance (about 500 feet) between the Sherwood House and the pipeline to minimize impact on this historic property (the Sherwood House is west of the Parkway). While we evaluated use of the original proposed route (e.g., one that did not require placement of the pipeline in Palmer Road and Desmond Avenue/Bronx River Road) in the DEIS, we did not recommend it because it would require removal of existing trees and screening vegetation. In its comments on the DEIS, the City of Yonkers emphatically stated that the impact of construction and operation of the pipeline within the residential streets was of far greater concern than the loss of vegetative screening.

Following comments regarding an additional route alternative raised at the May 18, 1999, DEIS comment meeting in Yonkers, Millennium filed a route variation between about MPs 418.3 and 420.5 (see figure 6.3.16-1). The Parkway Variation would deviate from the proposed route south of the Tuckahoe Road/Sprain Brook Parkway interchange continuing south on the east side of the Sprain Brook Parkway. This variation would then enter the Sprain Brook Parkway near the northbound Tuckahoe Road on/off ramp and continue within the roadbed for about 1.9 miles to a point south of the Cross County Parkway on/off ramp with the Bronx River Parkway. After crossing under the Cross County Parkway, the Parkway Variation would leave the roadbed but continue parallel along the east edge of the roadway corridor.

South of the Cross County Parkway Reservation interchange at about MP 420.4, the Parkway Variation would enter the Bronx River Reservation, turn east across the Bronx River, and then south through the park to the intersection with the proposed route at about MP 420.9. Millennium states that construction along the Parkway Variation would take approximately 6 weeks, completing about 200 feet per crew per day within the roadway.

The Parkway Variation would place the majority of the construction within the existing road corridor, eliminating impacts on residential and commercial areas located on Palmer, Dewitt, Midland, and

Bronx River Roads along the currently proposed route. No residences or businesses would be located within 50 feet of the construction work area along the variation. In addition, comments were received regarding the potential for the proposed route to impact street trees located along Bronx River Road. Because Millennium proposes to trench in Bronx River Road and confine all construction activity to the street proper, removal of existing street trees from the sides of the road would not be required. However, use of the proposed route through Yonkers could result in root disturbance and associated damage to trees located along Bronx River Road. The Parkway Variation would avoid all construction along Bronx River Road, eliminating any potential for damage to street trees in this area.

Millennium indicated that an option on the southern end of the Parkway Variation could follow a route through the Bronx River Reservation on the east side of the Bronx River. Our review of this routing option indicates that it would require the clearing of a significant number of mature trees within the reservation. In order to reduce impacts on mature vegetation within the Bronx River Reservation, the Parkway Variation should rejoin the currently proposed route at about MP 420.5 (on the east side of the Bronx River Parkway) and continue in a southerly direction along the previously cleared eastern edge of the roadway, avoiding approximately 2,200 feet of heavily vegetated parkland.

While the Parkway Variation would minimize impacts on residences, commercial areas, and street trees, activities within the Sprain Brook Parkway and Bronx River Parkway would result in significant traffic disruptions during the construction period. Information from the NYSDOT and Westchester County indicate that the average annual daily traffic for the northbound lanes of the Sprain Brook and Bronx River Parkways is between about 39,000 and 54,000 vehicles, with peak volumes coinciding with the a.m. and p.m. commuter rush hours. Millennium states that effective mitigation measures, including construction during off-peak hours and development of a traffic control plan, would be developed with appropriate agencies and filed with the Commission prior to construction. This plan would identify appropriate detours to route traffic around active construction spreads that would require closing of portions of the affected roadways. Detours could be developed utilizing the New York State Thruway to accommodate northbound through traffic as well as use of smaller surface streets to facilitate movement of local traffic.

Because the Parkway Variation would avoid construction through the residential and commercial development along Palmer, Dewitt, Midland, and Bronx River Roads that have homes within 50 feet of the construction right-of-way, **we concur with Millennium's proposal to incorporate the Parkway Variation into the proposed route.**

6.3.17 Mount Vernon Variations (MPs 419.9 to 421.8)

Interconnection with ConEd

The City of Mount Vernon commented on the end point of the Millennium pipeline in Mount Vernon. Specifically, the city noted that the new aboveground measuring and regulating station would be located adjacent to a vital neighborhood health center, a major house of worship, and the city's largest playground. As originally proposed, the pipeline would terminate near the intersection of West 4th Street and South 8th Avenue and the measuring station would have been placed in a nearby parking lot. This would be at the same general location as the house of worship and neighborhood health center.

Insert figure 6.3.17-1 - Mount Vernon

As currently proposed, Millennium plans to relocate and install the measuring station in a parking lot of an industrial/commercial building at MP 420.6 near the intersection of MacQuesten Parkway and Oak Street. The pipeline would terminate at MP 421.8 at the intersection of West 4th Street and South 7th Avenue, one block east of the church and health center (see figure 6.3.17-1). This would allow Millennium to tie in with ConEd's existing 20-inch-diameter pipeline below the street, and would remove the aboveground measuring station from the residential neighborhood. **We believe the current proposal would address the city's initial concerns and recommend its use.**

Alternative Routes to the Interconnection with ConEd

The City of Mount Vernon also commented that alternative routes through the City should be evaluated in an attempt to reduce impacts on the area. The city included a map prepared by Millennium that showed three alternative routes.

Alternatives A and B would continue south along MacQuesten Parkway. Then, Alternative A would turn southeast on South Street, cross the railroad tracks, continue on Vista Place to South 14th Avenue, continue south on South 14th to West 3rd Street, continue east on West 3rd Street to South 11th Avenue, continue south on South 11th to West 4th Street, and then east on West 4th to South 7th Avenue. Alternative B, a minor variation on Alternative A, would use South 13th Avenue instead of South 11th Avenue between West 3rd and West 4th Streets, thereby adding another two blocks on West 4th Street. Both Alternatives A and B are about 8,000 feet in length.

Alternative C would continue south from MacQuesten Parkway through open areas to the vicinity of East 242nd Street, then cross the railroad tracks, continue south on Bronx Boulevard to East 241st Street and follow East 241/West 4th Street to South 7th Avenue. Alternative C is about 9,000 feet in length.

The proposed route is about 5,800 feet using the alternative interconnection point with Con-Ed as recommended above. Since all three of these alternatives would cross through the intersection of South 8th Avenue and West 4th Street (see above discussion) and would be between 2,200 and 3,200 feet longer (thereby increasing the potential for impact to residential, commercial, and industrial areas), we identified no advantage with either of these alternatives and do not recommend them.