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### **3.0 ALTERNATIVES**

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In considering Guardian's application, the FERC will review both the environmental and non-environmental record in deciding whether it is in the public convenience and necessity to issue any authorization for the Project. The EIS addresses alternatives to the proposed actions before the FERC. The proposed action before the FERC is to consider issuing to Guardian a Section 7 Certificate for a new natural gas pipeline.

In accordance with NEPA and FERC policy, a number of alternatives to the G-II Project have been evaluated to determine if any are reasonable and environmentally preferable to the proposed action. Alternatives described in the following sections include the no action alternative, system alternatives, and major and minor route alternatives, variations, and modifications.

The evaluation criteria for selecting potentially reasonable and environmentally preferable alternatives include whether they:

- are technically and economically feasible and practical;
- offer significant environmental advantage over the proposed Project or segments of it; and
- meet the Project objectives of increasing the physical pipeline capacity serving Wisconsin and expand access to a competitive supply of natural gas for the benefit of the LDCs' utility customers in Wisconsin.

With respect to the first criteria, it is important to recognize that not all conceivable alternatives are technically and economically practical and feasible. Some alternatives may be impracticable because the sites are unavailable and/or incapable of being implemented after taking into consideration costs, existing technologies, constraints of existing system capacities, and logistics in light of the overall Project objectives. In conducting a reasonable analysis, it is also important to consider the environmental advantages and disadvantages of the proposed action and to focus the analysis on those alternatives that may reduce impacts and/or offer a significant environmental advantage.

Through the application of evaluation criteria and subsequent environmental comparisons, each alternative was considered until it was clear that the alternative was not reasonable or would result in significantly greater environmental impacts that could not be readily mitigated. Those alternatives that appeared to be the most reasonable with less than or similar levels of environmental impact are reviewed below.

#### **3.1 No Action or Postponed Action Alternative**

The Commission has three courses of action in processing an application. It may: (1) deny the proposal; (2) postpone action pending further study; or (3) authorize the proposal with or without conditions.

If the Commission denies the proposal (effectively selecting the no action alternative), the short- and long-term environmental impacts identified in section 4.0 of this EIS would not occur. If the Commission postpones action on the application, the environmental impacts identified in

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section 4.0 would be delayed, or if the applicant decided not to pursue the Project, the impacts would not occur.

If the Commission selects the no action alternative, the objectives of the proposed Project would not be met and Guardian would not be able to provide an expansion of pipeline capacity or a competitive supply of natural gas for the benefit of Wisconsin natural gas consumers.

To understand the potential effects of the no action or postponed action alternative, it is important to understand the source and use of natural gas in Wisconsin. Over the last 15 years, the state-wide consumption of natural gas has increased by more than 25 percent and now totals nearly 400 billion cubic feet annually (WDOE, 2005, 2006). During this same period, the number of residential and commercial/industrial gas customers in Wisconsin has grown by approximately 40 and 43 percent, respectively (WDOE, 2005).

Although it would be purely speculative and beyond the scope of this analysis to attempt to predict what actions might be taken by policymakers or end users in response to the no action or postponed action alternatives, it is likely that potential end users would make other arrangements to obtain natural gas service (e.g., natural gas from another project), or make use of alternative fossil-fuel energy sources (e.g., fuel oil or coal), other traditional long-term fuel source alternatives (e.g., nuclear power or hydropower), and/or renewable energy sources, such as wind power, to compensate for the reduced availability of natural gas that would be supplied by the proposed Project. It is also possible that energy conservation practices would be used to offset the demand for natural gas in the markets that would be supplied by the proposed Project.

Denying or postponing a decision on the proposed Project would result in reduced natural gas availability in the targeted market regions. Such shortages would in turn lead to an increased reliance on fuel oil and other non-renewable fuel supply sources for power generating facilities. However, because petroleum product consumption is also projected to increase (EIA, 2006a), it is unlikely that fuel oil would provide a readily available or cost-effective alternative to natural gas. Further, natural gas is the cleanest burning of the fossil fuels. Relative to natural gas, reliance on coal or fuel oil to power electric generation would likely result in greatly increased emissions of pollutants, such as nitrogen oxide (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and carbon dioxide (CO<sub>2</sub>), and associated reductions in air quality. In addition, increased reliance on other fossil fuels would also result in secondary impacts associated with their production (e.g., coal mining and oil drilling), transportation (e.g., oil tankers, rail cars, and pipelines), and refinement. The use of fossil fuels like coal also results in higher emission of pollutants such as mercury into both the atmosphere and surrounding environment through deposition. In addition, unlike natural gas, other fuels result in spent fuel wastes (e.g., coal ash and nuclear waste) that require disposal and/or long-term management.

Other long-term fuel source alternatives to natural gas include nuclear power, hydropower, and the development of renewable energy sources. Although there has recently been renewed interest in nuclear power production, growth in nuclear generating capacity is expected to account for about 10 percent of total United States generating capacity by 2019, and is expected to remain at that level through 2030 (EIA, 2006a). Additionally, regulatory requirements, cost considerations, and public concerns make it unlikely that new nuclear power plants would be sited and developed to serve the markets targeted by the proposed Project within a timeframe that would meet the objectives of the proposed Project. The EIA (2006a) does not anticipate that any new nuclear power plants will begin operation before 2014.

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Renewable energy projects and energy conservation measures would likely play an increasingly prominent role in meeting the United States' energy demands in the coming years. Though efficiency upgrades at existing hydropower facilities are expected to produce incremental additions of power production in the coming years, it is unlikely that new and/or significant sources of hydropower would be permitted and brought online as reliable, energy source alternatives to the proposed Project. Federal, state, and local initiatives would likely contribute to an increase in the availability and cost-effectiveness of non-hydropower renewable energy sources such as wind, solar, tidal, geothermal, and biomass. However, the percentage of electricity generated from non-hydropower renewable energy sources at the national level is only projected to increase to 3.2 percent by 2025 (EIA, 2006a), which would offset only a small part of the projected national energy demands.

In light of the preceding analysis, we do not recommend the no action or the postponed action alternative.

### **3.2 System Alternatives**

System alternatives are alternatives to the proposed action that would make use of other existing, modified, or proposed pipeline systems to meet the stated objectives of the proposed Project. A system alternative would make it unnecessary to construct all or part of the proposed Project, although some modifications or additions to other existing pipeline systems may be required to increase their capacity. These modifications or additions would result in environmental impacts that may be less than, similar to, or greater than those associated with construction of the proposed Project. The purpose of identifying and evaluating system alternatives is to determine whether or not potential environmental impacts associated with construction and operation of the proposed facilities would be avoided or reduced by using another pipeline system while still meeting the objectives of the proposed Project.

The analysis below examines the existing and proposed natural gas systems that currently serve or would eventually serve the markets targeted by the proposed Project, and considers whether those systems would meet the proposed Project objectives while offering an environmental advantage over the proposed Project. Specifically, the system alternatives considered in our analysis include:

- expansion of existing overland natural gas pipeline systems (Existing Pipeline System Alternatives); and
- construction of other natural gas pipeline systems (New Pipeline System Alternatives).

#### **3.2.1 Existing Pipeline System Alternatives**

Five existing pipeline systems operated by the ANR Pipeline Company (ANR), Natural Gas Pipeline Company of America (NGPL), Viking Gas Transmission Company (VGTC), Northern Natural Gas Company (NNG), and Great Lakes Gas Transmission Company (GLGT) occur in the general geographic area of the proposed Project. Using these systems or a combination of these systems as an alternative to the G-II Project are discussed in further detail in the following sections. Figure 3.2-1 depicts the location of these alternative pipelines in relation to the proposed G-II Pipeline Route.

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### **3.2.1.1 ANR Pipeline Company (ANR)**

ANR currently operates a pipeline system within the state of Wisconsin, including pipelines near the proposed G-II Project. ANR could be capable of providing the same or similar transportation capacity as the proposed Project; however, as ANR has historically and currently dominates much of the natural gas transmission market in eastern Wisconsin, doing so would not fulfill one of the objectives of the proposed Project, that of providing access to a competitive supply of natural gas for the benefit of the Wisconsin local distribution companies' utility customers.

For the ANR system to meet the energy market demands it would more than likely require the addition of compressor and meter stations, pig launcher/receiver facilities and beyond that, possible looping of the existing system, with a similar or greater environmental impact than the proposed G-II Project.

Several stakeholders have suggested that collocating the proposed G-II Pipeline with the existing ANR Pipeline Route in eastern Wisconsin would decrease environmental impacts. To the extent possible, Guardian has collocated the proposed pipeline within existing utility rights-of-way (see section 2.2.1); however, to collocate the G-II Pipeline solely within the ANR right-of-way from its proposed starting point at Guardian's existing Ixonia Meter Station in Jefferson County, Wisconsin would require the construction of over 30 miles of additional pipeline eastward towards the ANR system. Collocating the G-II Pipeline with the ANR system would also likely result in greater impacts on waterbodies, wetlands, and forest lands (see figure 3.2-2).

For the reasons discussed above, both the expansion of the ANR Pipeline System and/or collocation of G-II Project facilities adjacent to its existing right-of-way corridor in eastern Wisconsin are not considered to be an environmentally preferable alternative to the proposed G-II Project and, therefore, the alternative has been eliminated from further consideration.

### **3.2.1.2 Natural Gas Pipeline Company of America (NGPL)**

The NGPL system extends across Iowa and northern Illinois into the Chicago area. A portion of the system also extends northward to the Illinois/Wisconsin state line. To transport the volumes of natural gas proposed by Guardian to eastern Wisconsin, NGPL would likely need to construct over 240 miles of new pipeline. It is likely that NGPL would also need to expand its existing system through looping and/or new compression. The required extension and expansion would result in a much larger project than the G-II Project and, as such, NGPL's system is not a viable system alternative and has been eliminated from further consideration.

### **3.2.1.3 Viking Gas Transmission Company (VGTC)**

The existing VGTC system extends southeast from the Canadian border near Noyes, Minnesota, through the northern regions of Minnesota and Wisconsin, to an interconnection with ANR near Marshfield, Wisconsin, over 100 miles west of Green Bay. VGTC receives western Canadian gas from TransCanada Pipeline at the United States-Canada International Border and does not have direct access to the eastern Wisconsin markets. VGTC also does not have direct access to the diversity of supply and upstream service providers at the Chicago Hub. Access to the

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Figure 3.2-1 Existing Pipeline System Alternatives

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Chicago Hub is a major benefit of the G-II Project. Without such access, a pipeline company cannot provide the same diversity of supply and access to upstream service providers as the G-II Project. To access Guardian's customers and proposed delivery points in eastern Wisconsin would likely require VGTC to construct more than 200 miles of new pipeline. In order to provide direct access to the same diversity of supply as the G-II Project, this new pipeline would also have to extend another 140 miles or so to the Chicago Hub in Illinois. In total, this new pipeline would be over 300 miles long. It is likely that VGTC would also have to expand its existing system through significant looping and/or new compression. The required extension and expansion would result in a much larger project than the G-II Project and, as such, VGTC's system is not a viable system alternative and has been eliminated from further consideration.

#### **3.2.1.4 Northern Natural Gas Company (NNG)**

NNG's existing system extends from the supply basins of the southwestern United States to western Wisconsin. The closest large diameter NNG pipeline to the market to be served by the G-II Project terminates near Bluff Creek, Wisconsin. NNG does not have direct access to the eastern Wisconsin markets or the Chicago Hub. To access Guardian's customers and delivery points in eastern Wisconsin would likely require NNG to construct about 140 miles of new pipeline. Additionally, NNG would need to construct another 100 miles or so of new pipeline to connect NNG's existing system to the Chicago Hub. It is also likely that additional looping or compression would be required on NNG's existing pipeline system to transport the volumes proposed by Guardian. The required extension and expansion would result in a much larger project than the G-II Project and, as such, NNG's system is not a viable system alternative and has been eliminated from further consideration.

#### **3.2.1.5 Great Lakes Gas Transmission Company (GLGT)**

The GLGT system consists of several large diameter pipelines that extend across northern Wisconsin from Superior to Hurley. At its closest point, this system is over 100 miles north of Green Bay. To serve the eastern Wisconsin market area, GLGT would need to construct over 200 miles of new pipeline from northern Wisconsin across the eastern half of the state. In order to provide direct access to the same diversity of supply as the G-II Project, this new pipeline would also have to extend another 140 miles or so to the Chicago Hub in Illinois. In total, this new pipeline would be over 300 miles long. It is likely that additional looping or compression would also be required on GLGT's existing pipeline system to transport the volumes proposed by Guardian. The required extension and expansion would result in a much larger project than the G-II Project and, as such, the GLGT system is not a viable system alternative and has been eliminated from further consideration.

#### **3.2.1.6 Existing System Combinations**

While it would be possible to achieve the desired capacity that the proposed Project would deliver through looping and additional compression of existing lines, the third Project criterion—expansion of access to competitive supplies and services for the benefit of Wisconsin's utility customers—would remain unmet.

The most obvious system combination would be an interconnect between the GLGT and ANR pipeline systems. It is likely that a combination of the GLGT and ANR pipeline systems could transport the volumes proposed by Guardian to eastern Wisconsin with additional looping and/or

compression (via GLGTs’ system to its interconnect with ANR’s pipeline system near Crystal Lake, Michigan, and then via ANR’s system). However, the combination of these two systems would require no less construction and associated environmental impacts than the proposed Project.

Furthermore, the complexity of negotiations between joint project sponsors would inevitably delay a joint proposal, putting it on a slower timeline than the G-II Project, such that the new joint facilities would begin operations significantly after the time the marketplace desires the new capacity to be available. For these reasons, a combination of existing systems has been eliminated from further consideration.

### 3.3 Pipeline and Aboveground Facility Alternatives

#### 3.3.1 Initial Siting

During its initial siting process Guardian evaluated three potential pipeline routes, the Eastern Route, the Western Route, and the Central Route (see figure 3.3-1). These preliminary routes were evaluated with the intent to avoid or minimize potential impacts on environmentally sensitive resources and stakeholders. Table 3.3.1-1 contains a summary of the preliminary pipeline route options. Each is discussed in further detail in the following sections.

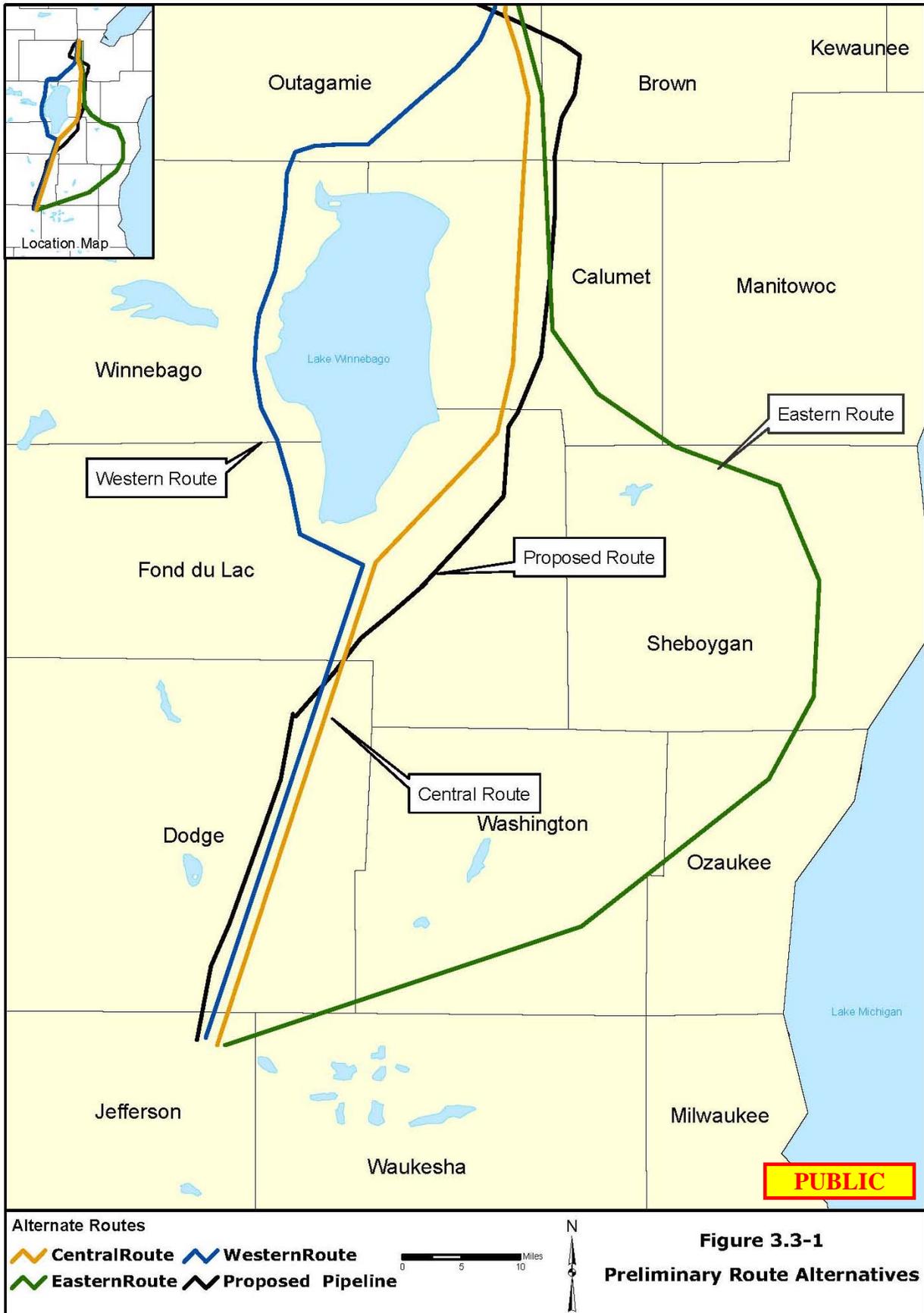
##### 3.3.1.1 Western Route

The Western Route was identified because it crosses fewer perennial waterbodies than either the Central Route or the Eastern Route. A comparison of the relevant environmental characteristics of the Western Route Alternative with the Eastern and Central Route Alternatives is included in table 3.3.1-1.

TABLE 3.3.1-1

<b>Guardian Pipeline Expansion and Extension Project Summary of Preliminary Pipeline Routes</b>			
<b>Environmental Factor</b>	<b>Eastern Route</b>	<b>Western Route</b>	<b>Central Route</b>
Route Length (miles)	124.2	111.2	103.5
Total Wetlands Crossed (miles)	2.1	2.9	3.0
Forested Wetlands (miles)	1.8	2.0	2.1
Waterbody Crossings (number)	95	97	84
Perennial Waterbody Crossings (number)	29	23	24
Forest Land Crossed (miles) <u>a/</u>	11.4	9.9	8.3
Agricultural Land Crossed (miles)	110.9	90.2	94.0
Open Land Crossed (miles)	1.0 <u>b/</u>	4.4	1.0 <u>b/</u>
Commercial/Industrial Land Crossed (miles)	0.1 <u>c/</u>	3.2	0.1 <u>c/</u>
Residential Land Crossed (miles)	0.4	2.8	0.1
Open Water Crossed (miles)	0.2	0.5	0.1

a/ Forest Land Crossed includes all Forested Wetland Crossed.  
b/ The Eastern Route crosses 19 feet more Open Land than the Central Route.  
c/ The Eastern Route crosses 34 feet more Commercial/Industrial Land than the Central Route.



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The Western Route Alternative would be shorter than the Eastern Route by 13.0 miles (118.2 fewer acres of construction disturbance) but longer than the Central Route by 7.7 miles (70.0 more acres of construction disturbance). The disadvantages of this alternative include higher impacts on forested wetlands, waterbodies and open water, open lands, commercial or industrial lands, and residential lands. For these reasons, Guardian did not select the Western Route. We agree that the Western Route is not the better alternative due to the greater environmental impacts.

### **3.3.1.2 Eastern Route**

The Eastern Route was identified because it crosses fewer forested wetlands and fewer total wetlands than either the Central or Western Route Alternatives. A comparison of the relevant environmental characteristics of the Eastern Route with the Western and Central Route is included in table 3.3.1-1.

The Eastern Route is the longest of the three initial routes considered at a total length of 124.2 miles, with 1,129.1 acres of land disturbance, 118.2 acres more than the second longest route alternative (Western Route). In addition to the general environmental impacts of constructing and maintaining a longer pipeline, the disadvantages of this initial route were numerous, including more impacts on perennial waterbodies, forested lands, and agricultural lands. For these reasons Guardian did not select the Eastern Route. We agree that the Eastern Route is not the better alternative due to the greater environmental impacts.

### **3.3.1.3 Central Route**

The Central Route is the shortest of the initially studied routes, at 103.5 miles overall, with an estimated construction disturbance area of 940.0 acres, 70.0 acres less than the Western Route. This route proceeds generally north, northeast from Ixonia toward Fond du Lac, Wisconsin. From the Fond du Lac area, the pipeline route continues in a northeasterly direction toward Chilton, Wisconsin. From Chilton, the route proceeds generally north to the terminus of the Project at the West Green Bay Meter Station.

At the time it was identified, the Central Route was the most direct route between Guardian's existing pipeline terminus in Ixonia, Wisconsin and the final proposed delivery point west of Green Bay, Wisconsin. Guardian's engineering and economic analysis of the Central Route indicated that it was the most economically feasible. In addition, because it was the most direct route between Ixonia and Green Bay, it minimized the amount of land that would be disturbed, and reduced the crossing of residential areas, waterbodies, forested lands, open lands, commercial/industrial lands, and open water. It also avoided sensitive areas such as the extensive wetland areas within the Rock River floodplain. For these reasons, Guardian selected the Central Route as the Preliminary Route and we agree that this route has the least potential for environmental impact.

### **3.3.2 Preliminary Route**

After the initial selection of the Central Route as the Preliminary Route, Guardian began the iterative process of conducting environmental evaluations and stakeholder outreach. As a result, numerous modifications were made to the Preliminary Route. These initial modifications were

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in response to environmental, stakeholder, and engineering concerns including the following:

- avoidance of major wetland complexes including forested wetlands;
- minimization of impacts on residential areas, planned developments, and incompatible zoning;
- minimization of perennial waterbody crossings;
- avoidance of national parks, state parks, forest, and scenic areas, specifically the Ice Age National Scenic Trail and Kettle Moraine State Forest; and
- establishment of the most appropriate area for major waterbody crossing (greater than 100 feet), specifically the Fox, Rubicon, and Rock Rivers.

As a result of this initial siting process, Guardian re-evaluated the proposed Project area and established an alternative route (see figure 1.1-1 in section 1.0) as the proposed route, which was filed with the Commission on October 13, 2006. Since its initial filing with the Commission, Guardian stated that it has continued to modify its proposed route to minimize impacts to environmental resources such as wetlands, waterbodies, and forest lands, as well as landowners and other stakeholders where possible.

### **3.3.3 Pipeline Route Alternatives**

Route alternatives, within the context of the proposed Project, were identified to determine if impacts could be avoided or reduced on environmentally sensitive resources, such as population centers, scenic areas, and wildlife and natural habitat management areas that would be crossed by the proposed route. While the origin and delivery points of route alternatives are generally the same as for the corresponding segment of a proposed pipeline route, the alternatives could follow significantly different alignments.

FERC regulations (18 CFR 380.15[d][1]) give primary consideration to the use, enlargement, or extension of existing rights-of-way to reduce potential impacts on sensitive resources. Installation of new pipeline along existing, cleared rights-of-way (such as pipelines, powerlines, roads, and railroads) may be environmentally preferable to construction along new rights-of-way, and construction effects and cumulative impacts can normally be reduced by use of previously cleared and maintained rights-of-way. Long-term or permanent environmental impacts can be reduced by avoiding the creation of new rights-of-way through undisturbed areas.

We evaluated various route alternatives to determine if the alternatives would avoid or reduce impacts on environmentally sensitive resources that would be crossed by the proposed pipeline, as well as in response to suggestions by landowners and the public. Each of these major route alternatives are discussed further in the following sections.

#### **3.3.3.1 Weber Alternatives A and B**

Beginning at MP 1.2 and ending at MP 2.6, Guardian identified two potential routes, Weber Alternative A and Weber Alternative B.

As shown on figure 3.3-2, Weber Alternative A begins at approximately MP 1.2 and crosses County Highway CW slightly east of the entrance to the Summer Hill Subdivision. From there

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Figure 3.3-2 Weber Alternatives A and B

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the variation continues northward, passing to the east of the Summer Hill Subdivision, until it returns to the proposed G-II Pipeline Route near MP 2.6. Weber Alternative B begins at approximately MP 1.2 and tracks generally north for approximately 1.1 miles close to a ridge-like hill just south of the Jefferson/Dodge County line, the route then turns northeast for an additional 0.2 mile and rejoins with the proposed G-II Pipeline Route at MP 2.6. A comparison of the relevant environmental characteristics of these two alternatives is included in table 3.3.3-1.

TABLE 3.3.3-1 Comparison of Weber Alternatives A and B		
Environmental Factor	Weber Alternative A (Proposed Route)	Weber Alternative B
Total Length (miles)	1.2	1.2
Length Adjacent to Existing Rights-of-way (miles)	0.0	0.0
Length of New Right-of-way (miles) <u>a/</u>	1.2	1.2
Construction Disturbance – Total (acres) <u>b/</u>	16.0	15.1
Major Waterbodies (>100 feet) Crossed (number)	0	0
Length of Wetland Crossed (miles) <u>c/</u>	0.0	0.2
Construction Disturbance – Wetlands (acres) <u>b/</u>	0.0	1.8
Landowners Crossed (number)	4	5

a/ For the purpose of this analysis new right-of-way is pipeline right-of-way that is not immediately adjacent to an existing utility or road easement or right-of-way.  
b/ Based on construction right-of-way width of 75 feet in wetlands and 110 feet in uplands.  
c/ Estimated from WWI mapping.

As shown in table 3.3.3-1 the two Alternatives are virtually identical; however, Alternative A would avoid impacts on approximately 1.8 acres of wetland. In addition, Alternative A would satisfy a landowner’s request to site the pipeline along the eastern side of his property to avoid an area he plans to use as a future home site. The only disadvantage of Weber Alternative A is that it would cross one more landowner than Alternative B.

After reviewing the potential environmental impacts associated with these two alternatives, we believe that the environmental benefits of Weber Alternative A, including less impacts to wetlands and the avoidance of one less landowner, outweigh its limited disadvantages as well as the minor advantages of Alternative B. Therefore, we prefer that Weber Alternative A be incorporated as part of the proposed route as filed by Guardian in Supplement No. 1 to their Application on December 14, 2006.

### 3.3.3.2 Neuberg Alternatives A and B

Beginning at MP 16.4 and ending at MP 17.7, Guardian identified two potential routes, Neuberg Alternative A and Neuberg Alternative B.

As shown on figure 3.3-3, the Neuberg Alternative A begins at approximately MP 16.4 and proceeds generally northeast for approximately 0.5 mile, crossing the W&S Railroad and County Highway WS. It then proceeds generally north for another 0.8 mile, crossing County Highway S and paralleling a Wisconsin Wetland Inventory (WWI) mapped emergent wetland for several thousand feet before returning to the proposed route at approximately MP 17.7. Neuberg Alternative B also begins at about MP 16.4 and tracks northeast for approximately 1.1 miles

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Figure 3.3-3 Neuburg Alternatives A and B

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crossing the W&S Railroad and then reconnecting with the proposed G-II Pipeline Route at MP 17.7. A comparison of the relevant environmental characteristics of these two alternatives is included in table 3.3.3.2-1.

TABLE 3.3.3.2-1 Comparison of Neuburg Alternatives A and B		
Environmental Factor	Neuburg Alternative A (Proposed Route)	Neuburg Alternative B
Total Length (miles)	1.3	1.3
Length Adjacent to Existing Rights-of-way (miles)	0.0	0.0
Length of New Right-of-way (miles) <u>a/</u>	1.3	1.3
Construction Disturbance – Total (acres) <u>b/</u>	17.3	17.3
Major Waterbodies (>100 feet) Crossed (number)	0	0
Length of Wetland Crossed (feet) <u>c/</u>	0.0	0.0
Construction Disturbance to Wetlands (acres) <u>b/</u> ; <u>c/</u>	0.0	0.0
Roads Crossed (number)	1	2
Landowners Crossed (number)	3	4

a/ For the purpose of this analysis, new right-of-way is pipeline right-of-way that is not immediately adjacent to an existing utility or road easement or right-of-way.  
b/ Based on construction right-of-way width of 75 feet in wetlands and 110 feet in uplands.  
c/ Estimated from WWI mapping.

A comparison of Neuburg Alternative A and B reveals that the two routes are similar in many respects. Neither route crosses any mapped or delineated wetlands or forested lands. The primary differences between Neuburg Alternative A and B is that Alternative A addresses landowner concerns by reducing the potential impact on a future planned development and by avoiding two septic systems. Alternative A also crosses one less landowner and one less road.

After reviewing the potential environmental impacts associated with these two alternatives, we believe that the environmental benefits of Neuburg Alternative A, including the crossing of one less road and one less landowner, outweigh the advantages of Alternative B. Therefore, we prefer that Neuburg Alternative A be incorporated as part of the proposed route as filed by Guardian in Supplement No. 1 to their Application on December 14, 2006.

### 3.3.3.3 Lomira Alternatives A, B, and C

Guardian evaluated three potential routes for the G-II Pipeline to traverse northeastern Dodge County between MPs 21.8 and 38.8, including Lomira Alternatives A, B, and C.

As shown on figure 3.3-4, Lomira Alternative A would begin at MP 21.8 and track northeast for just under 1.0 mile then turn north for an additional 4.8 miles. The route would then turn northeast for another 5.7 miles where it would rejoin with the proposed route at MP 33.8. In general, Lomira Alternative A would pass about 2 miles to the west of the Village of Theresa and about 2.5 miles to the west of the Village of Lomira. Lomira Alternative B travels in a north-northeasterly route similar to Alternative A; however, Lomira Alternative B would pass about 1.5 miles to the west of Theresa, and less than 1.0 mile to the west of Lomira.

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Figure 3.3-4 Lomira Alternatives A, B, and C

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Figure 3.3-4 Lomira Alternatives A, B, and C

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Figure 3.3-4 Lomira Alternatives A, B, and C

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Lomira Alternative C would also follow a similar north-northeasterly path as Alternatives A and B; however, Alternative C would pass about 1.0 mile to the west of the Towns of Theresa and Lomira. A comparison of the relevant environmental characteristics of Lomira Alternatives A, B, and C is included in table 3.3.3.3-1.

TABLE 3.3.3.3-1  
Comparison of Lomira Alternatives A, B, and C

Environmental Factor a/	Lomira Alternative A (Proposed Route)	Lomira Alternative B	Lomira Alternative C
Total Length (miles)	16.1	15.2	15.2
Length Adjacent to Existing Rights-of-way (miles)	0.0	0.0	0.3
Length of New Right-of-way (miles) a/	16.1	15.2	14.9
Construction Disturbance – Total (acres) b/	214.2	199.6	199.6
Total Waterbodies Crossed (number)	8	9	14
Major Waterbodies (>100 feet) Crossed (number)	1	1	0
Length of Wetland Crossed (miles) c/	<0.1 c/	0.5 c/	0.7
Construction Disturbance – Wetlands (acres) b/; c/	<1 c/	4.5 c/	6.4
Landowners Crossed (number)	52	58	59

a/ For the purpose of this analysis, new right-of-way is pipeline right-of-way that is not immediately adjacent to an existing utility or road easement or right-of-way.  
b/ Based on construction right-of-way width of 75 feet and 110 feet in uplands.  
c/ Estimated from WWI mapping.

As indicated in table 3.3.3.3-1, the Lomira Alternative A is 0.9 mile longer and would require 14.6 and 13.0 acres of additional disturbance during construction than Lomira Alternatives B and C, respectively. However, Lomira Alternative A has numerous advantages over Alternatives B and C. Specifically, Lomira Alternative A crosses 2,625 feet less wetland and 650 feet less forest land than Alternative B, and 3,525 feet less wetland and 2,700 feet less forest land than Alternative C, thereby substantially reducing the amount of potential wetlands and forest lands crossed by the proposed pipeline. Lomira Alternative A would also cross the fewest number of streams and would provide a better location to cross both Kummel Creek and the West Branch of the Milwaukee River. Unlike Alternative C, this alternative would also avoid a second crossing of the West Branch of the Milwaukee River. Additionally, Alternative A would avoid a tree nursery that would be crossed by Alternative B.

Several stakeholders expressed concerns that the proposed pipeline would interfere with the properties that have been designated for high density residential, commercial, or industrial development within the Villages of Lomira and Brownsville, Wisconsin. Based on a review of the Dodge County Planning and Development maps, Lomira Alternative A would avoid the future planned residential development in the Village of Lomira and would not likely interfere with the future development within the Village of Brownsville, which appears to be planned primarily on the northwest side of town.

Stakeholders also expressed concern over the G-II Proposed pipeline’s potential impact on proposed wind farm projects. Two of the proposed Lomira Alternatives (Alternatives A and B) would cross the site of the Forward Wind Energy Center (Forward Energy) Project. However, as currently planned, all three alternatives would avoid locations of the proposed wind turbines. Guardian has also indicated that through proper consultation and siting, the two facility structures would be able to collocate.

After reviewing the potential environmental impacts associated with these three alternatives, we believe that Lomira Alternative A is environmentally preferable to either Alternative B or C in terms of minimizing impacts to wetlands, waterbodies, forest lands and landowners. Therefore, we prefer that Lomira Alternative A be incorporated as part of the proposed route as filed by Guardian in their Application to the FERC on October 13, 2006.

### 3.3.3.4 Byron Alternatives A and B

Beginning at MP 35.5 and ending at MP 37.8, Guardian identified two potential routes, Byron Alternative A and Byron Alternative B.

As shown on figure 3.3-5, Byron Alternative A begins on the west side of State Highway 175 at approximately MP 35.5 and proceeds east for approximately 0.8 mile, crossing the Wisconsin Central Railroad and U.S. Highway 41. Approximately 0.2 mile east of U.S. Highway 41, the route turns and proceeds generally northeast for 1.6 miles until it rejoins the proposed route at approximately MP 37.7. Byron Alternative B also begins at MP 35.5 and proceeds northeast for approximately 0.6 mile crossing the Wisconsin Central Railroad and then turning east over U.S. Highway 41 for an additional 0.3 mile. Alternative B then tracks northeast for another 1.3 miles before it once again returns to the Proposed Route at MP 37.7. A comparison of the relevant environmental characteristics of these two alternatives is included in table 3.3.3.4-1.

TABLE 3.3.3.4-1 Comparison of Byron Alternatives A and B		
Environmental Factor	Byron Alternative A (Proposed Route)	Byron Alternative B
Total Length (miles)	2.3	2.4
Length Adjacent to Existing Rights-of-way (miles)	0.0	0.0
Length of New Right-of-way (miles) <u>a/</u>	2.3	2.4
Construction Disturbance – Total (acres) <u>b/</u>	30.7	32.0
Major Waterbodies (>100 feet) Crossed (number)	0	0
Length of Forest Land Crossed (feet)	<0.1	<0.1
Length of Wetland Crossed (feet) <u>c/</u>	0.0	0.0
Construction Disturbance – Wetlands (acres) <u>b/</u> ; <u>c/</u>	0.0	0.0
Agricultural Land Crossed (miles)	2.2	2.3
Landowners Crossed (number)	7	6

a/ For the purpose of this analysis, new right-of-way is pipeline right-of-way that is not immediately adjacent to an existing utility or road easement or right-of-way.  
b/ Based on construction right-of-way width of 75 feet in wetlands and forest lands and 110 feet in uplands.  
c/ Estimated from WWI mapping.

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Figure 3.3-5 Byron Alternatives A and B

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As shown in table 3.3.3.4-1, environmental impacts associated with Byron Alternatives A and B are substantially the same, with Alternative A only crossing about 25 feet more forest land and affecting only one more landowner. However, discussions with stakeholders in the Town of Byron indicated that Byron Alternative B could potentially conflict with planned development in the Town of Byron at MPs 35.5 through 36.2, and a permitted future gravel pit located at approximately MPs 36.3 through 36.5. Byron Alternative A avoids these potential impacts by proceeding east from State Highway 175 and passing to the north of a wetland complex bordered by U.S. Highway 41 and the railroad.

After reviewing the potential environmental impacts associated with these two alternatives, we believe that the environmental benefits associated with Byron Alternative A, including its reduced area of construction disturbance and length of new right-of-way, as well as its ability to minimize impacts on the planned development area and avoid a permitted gravel pit outweigh its minor disadvantages and the advantages of Byron Alternative B. Therefore, we prefer that Byron Alternative A be incorporated as part of the proposed route as filed by Guardian in Supplement No. 1 to their Application on December 14, 2006.

### **3.3.3.5 Fox River Trail Alternatives A, B, and C**

Guardian evaluated three options for the G-II Pipeline to utilize the existing Fox River State Recreational Trail (Fox River Trail) corridor, including Fox River Trail Alternatives A, B, and C.

Fox River Trail Alternatives A and B would pass to the northwest of the Village of Forest Junction and then travel directly through the Village of Greenleaf close to several residences. To clarify, Fox River Trail Alternatives A and B follow the same geographical path, but Alternative A runs adjacent to the existing Fox River Trail (except in a few locations where construction width requirements would require that the pipeline be placed within the trail itself), whereas Alternative B places the pipeline within the trail itself for a much longer distance, 1.5 miles and 10.4 miles, respectively. Because the two alternatives follow the same geographical route, they are discussed here simultaneously.

Fox River Trail Alternatives A and B would begin at MP 78.5 where it would deviate from the proposed route and travel northeast following the ATC powerline towards Forest Junction for about 4.0 miles to meet the Fox River Trail. This portion of the route would run diagonally across several properties and avoid the town of Forest Junction. Both alternatives would follow the Fox River Trail to the north-northeast for about 10.8 miles through the town of Greenleaf, at which point they would turn abruptly to the west and proceed for 1.9 miles to rejoin the proposed route at MP 84.0, just before crossing the Fox River (see figure 3.3-6). Fox River Trail Alternative C would run about 0.25 mile to the northwest of the Village of Holland, and then between the Villages of Wrightstown and Greenleaf, proceeding to the north-northeast until MP 84.0, ending at the southeast bank of the Fox River. A comparison of the relevant environmental characteristics of the Fox River Trail Alternatives is included in table 3.3.3.5-1.

Fox River Trail Alternatives A and B would be 3.7 miles longer than Fox River Trail Alternative C. Fox River Trail Alternative A would result in an additional 75.5 and 51.0 acres of disturbance than Alternatives B and C. The primary advantages of Fox River Alternatives A and B are that they would make significant use of an existing right-of-way, would affect fewer landowners, and would cross fewer properties in a diagonal pattern, which is opposed by local landowners.

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Figure 3.3-6 Fox River Trail Alternatives A, B, and C

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TABLE 3.3.3.5-1

## Comparison of Fox River Trail Alternatives A, B and C

Environmental Factor <i>a/</i>	Fox River Trail Alternative A	Fox River Trail Alternative B	Fox River Trail Alternative C (Proposed Route)
Total Length (miles)	17.3	17.3	13.6
Length Adjacent to Existing Rights-of-way (miles)	15.2	15.2	0.0
Length of New Right-of-way (miles) <i>a/</i>	2.1	2.1	13.6
Construction Disturbance – Total (acres) <i>b/</i>	191.5	116.0	140.5
Major Waterbodies (>100 feet) Crossed (number)	0	0	0
Length of Wetland Crossed (miles)	0.2	0.2	0.0
Construction Disturbance – Wetlands (acres) <i>b/</i>	1.8	0.7	0.0

*a/* For the purpose of this analysis, new right-of-way is pipeline right-of-way that is not immediately adjacent to an existing utility or road easement or right-of-way.

*b/* The acreage calculations are based on standard right-of-way widths (110 or 80 feet) for the portions of each alternative that is not within the Fox River Trail. For portions of each route that is within the trail, a 30-foot right-of-way was utilized (even during wetland and forest land crossings). Alternative A is only within the trail for 1.4 miles (through Greenleaf), and Alternative B is within the trail for 11.0 miles. Additionally, this variation spans the Fox Valley Meter Station, therefore, some portions of each route's standard construction is 110 feet and 80 feet in width, respectively.

The primary disadvantage of these alternatives is the physical constraint of the trail (26 to 30 feet wide) for pipeline construction. The trail would also have to be closed to recreational use until construction and restoration were complete if Alternative B were used. Additional disadvantages associated with Alternatives A and B include the crossing of more waterbodies, forest land, and open land.

Given the physical constraints associated with the construction within the Fox River Trail as well as the additional environmental impacts on waterbodies, forest lands, and open lands associated with Fox River Trail Alternatives A and B, it was concluded in the draft EIS that Alternative C was the environmentally preferable alternative that should be incorporated as part of the proposed route. However, since the publication of the draft EIS, Guardian proposed two pipeline amendments to avoid impacts on Oneida Nation Reservation lands. These proposed pipeline amendments resulted in modifications to the Fox River Trail Alternative C route evaluated in the draft EIS (see figure 3.3-6). The overall environmental characteristics and potential impacts associated with the modifications to Alternative C are discussed in section 3.3.3.6 as part of the Outagamie Alternative B discussion.

Despite modifications to the draft EIS-preferred Fox River Trail Alternative C that resulted from Guardian's proposed pipeline amendments, we maintain that construction of the pipeline within the Fox River Trail is not feasible and would result in greater environmental impacts than Fox River Trail Alternative C and associated amendment modifications.

### 3.3.3.6 Outagamie Alternatives A and B

Despite negotiations, Guardian stated it has not been able to reach a reasonable and equitable agreement with the Oneida Nation to construct the pipeline through the Reservation, and given the unique status of tribal lands, Guardian would not be able to exercise the rights of eminent domain across the Reservation should the Project be certificated. As such, Guardian needed to evaluate potential route alternatives outside of the Reservation. The two alternatives evaluated (Outagamie Alternatives A and B) would avoid the Reservation by paralleling the boundaries outside and to the west of the Reservation (see figure 3.3-7). A comparison of the relevant environmental characteristics of the route alternatives and the route analyzed in the draft EIS are included in table 3.3.3.6-1.

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Figure 3.3-7 Outagamie Alternatives A and B

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TABLE 3.3.3.6-1

## Comparison of Draft EIS Route and Outagamie Alternatives A and B

Environmental Factor <u>a/</u>	Draft EIS Route	Outagamie Alternative A	Outagamie Alternative B (Proposed Route)
Total Length (miles)	21.9	30.1 <u>c/</u>	30.8 <u>i/</u>
Length Adjacent to Existing Rights-of-Way (miles)	10.4	2.7 <u>d/</u>	3.7 <u>j/</u>
Length of New Right-of-Way (miles)	11.5	27.4	27.1
Construction Disturbance – Total (acres) <u>b/</u>	132.4	315.5	312.1
Waterbodies Crossed (number)	27	30 <u>e/</u>	30 <u>k/</u>
Major Waterbodies (>100 Feet) Crossed (number)	1	1 <u>f/</u>	1 <u>f/</u>
Length of Wetland Crossed (miles)	0.7	0.7 <u>g/</u>	0.7 <u>g/</u>
Construction Disturbance – Wetlands (acres) <u>b/</u>	6.5	6.8	7.0
Landowners Crossed (number)	54	100 <u>h/</u>	100 <u>l/</u>

a/ For the purpose of this analysis, new right-of-way is pipeline right-of-way that is not immediately adjacent to an existing utility or road easement or right-of-way.

b/ Based on construction right-of-way width of 75 feet in wetlands and 95 feet in uplands.

c/ Value given is the sum of the mainline variation (29.4 mi.) and the West Green Bay Branch Line (0.7 mi.).

d/ Approximately 2.0 miles of the mainline variation and 0.7 miles of the West Green Bay Branch Line are adjacent to existing rights-of-way.

e/ The mainline variation crosses 30 waterbodies. No waterbodies are crossed by the West Green Bay Branch Line.

f/ The major waterbody is crossed by the mainline variation.

g/ All of the wetlands are along the mainline variation.

h/ Ninety-nine landowners are affected by the mainline variation. The entire length of the West Green Bay Branch Line is located within the existing right-of-way of County Highway VV, and is included in the table as an impact to one additional landowner.

i/ Value given is the sum of the mainline variation (27.0 mi.), the Denmark Branch Line (1.4 mi.), the Southwest Green Bay Branch Line (1.7 mi.), and the West Green Bay Branch Line (0.7 mi.).

j/ Approximately 1.2 miles of the mainline variation, 0.2 mile of the Denmark Branch Line, 1.6 miles of the Southwest Green Bay Branch Line, and 0.7 mile of the West Green Bay Branch Line are adjacent to existing rights-of-way.

k/ The mainline variation crosses 29 waterbodies and the Southwest Green Bay Branch Line crosses 1 waterbody. No waterbodies are crossed by the Denmark Branch Line or the West Green Bay Branch Line.

l/ Eighty-nine landowners are affected by the mainline variation. Four (4) additional landowners are affected by the Denmark Branch Line and six additional landowners are affected by the Southwest Green Bay Branch Line. The entire length of the West Green Bay Branch Line is located within the existing right-of-way of County Highway VV, and is included in the table as an impact on one additional landowner.

As shown in figure 3.3.7, Outagamie Alternative A would deviate from the route evaluated in the draft EIS at MP 95.3. Alternative A would then proceed west for approximately 2.3 miles to the edge of the Oneida Reservation, at which point the route would proceed southeast and then northeast parallel to the Reservation boundary for approximately 3.4 miles before turning west to avoid a forested wetland. From this point, the route alternative would proceed west and northwest for approximately 5.4 miles, crossing Duck Creek and several miles of agricultural land before returning to the Reservation boundary. For the next 11.1 miles, Outagamie Alternative A would skirt the edge of the Reservation boundary with minor diversions to avoid forested wetlands, residential areas, or isolated tribal trust lands, until reaching County Highway VV. The route would then turn and proceed east into the Reservation following County Highway VV for 0.7 mile to the proposed alternative West Green Bay Meter Station at a newly proposed location at approximately MP 118.1 (see figure 3.3-7). This last section along the highway is the only area where the route would be located within the boundary of the Oneida Reservation. However, the pipeline would not affect tribally owned lands because it will be located within the right-of-way of County Highway VV. Outagamie Alternative A would also require the construction of 0.8 mile of 20-inch-diameter pipeline referred to as the West Green

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Bay Branch Line. The branch line would interconnect to the proposed WPS West Green Bay delivery point via an existing WPS-owned ANR meter station pipeline.

Outagamie Alternative B would deviate from the route evaluated in the draft EIS at approximately MP 88.0 and would proceed north towards the Fox River, following property lines for about 2.7 miles. The Alternative would then turn and proceed northwest, crossing the Fox River at a point south of the intersection of Partridge Road and County Highway ZZ. After crossing the Fox River, Outagamie Alternative B would continue north and west, following property lines and a powerline right-of-way until connecting to the same point at which the Outagamie Alternative A would turn north to parallel the boundary of the Oneida Reservation. From this point, Alternative B would follow the route as described for Outagamie Alternative A (see figure 3.3-7), terminating at the proposed alternative West Green Bay Meter Station at MP 118.1. Outagamie Alternative B would also require the construction of 1.4 miles of 16-inch-diameter pipeline and 1.8 and 0.8 miles of 20-inch-diameter pipeline referred to as the Denmark, Southwest Green Bay, and West Green Bay Branch Lines, respectively. These branch lines would interconnect to the proposed WPS Denmark, South West Green Bay, and West Green Bay delivery points.

As shown in table 3.3.3.6-1, the route analyzed in the draft EIS would result in fewer environmental impacts than Outagamie Alternatives A and B, including less length of new right-of-way, fewer acres of construction disturbance, and a smaller number of landowners crossed. However, despite these advantages, the draft EIS route would result in direct impacts to Oneida Reservation Lands and potential resources of cultural significance.

Consultations between Guardian and the Oneida THPO regarding cultural resources along the draft EIS route indicated that there were five previously recorded prehistoric archaeological sites, four historic sites, and four culturally sensitive areas located within 1 mile of the proposed Project on Oneida Nation lands. Archaeological surveys conducted by Guardian on the reservation in 2006 resulted in the identification of five previously unknown archaeological sites. One site, site AOS8, considered to be a multicomponent prehistoric and historic archaeological site, was located within the proposed construction right-of-way draft EIS route. This site was unevaluated and was recommended as potentially eligible to the NRHP. Investigations also revealed that the proposed pipeline route could cross a portion of another previously reported prehistoric site, site 47BR146. However, this area was not accessible for survey and has not been evaluated for Project impact or NRHP eligibility. Reports of these findings were provided to the Wisconsin SHPO and interested Indian tribes on October 9, 2006.

In addition to affecting potentially historic sites, the draft EIS route would also impact Duck Creek, a waterbody considered by the tribe to be a sensitive natural and cultural resource. The draft EIS route would also cross Trout Creek, a waterbody that has been known to provide habitat for a rare fish species, the redbreast dace (date of last observance in 1975).

Despite the additional environmental impacts associated with Outagamie Alternatives A and B, the use of either of these alternatives would eliminate impacts to Oneida Reservation lands as well as the above-mentioned resources of cultural significance by avoiding the Reservation altogether. The Alternatives would also eliminate the possibility of adversely affecting culturally important species to the Oneida Nation including the black bear, timber wolf, wild bergamot, black ash, northern white cedar, and sweet flag. Also as shown in table 3.3.3.6-1, Alternative B is 0.7 mile longer than Alternative A, but disturbs 3.4 acres less during construction, is adjacent

to 1.0 mile more of existing rights-of-way, and requires 0.3 mile less of new right-of-way. Additionally, where the 20-inch-diameter pipeline differs in location along Alternatives A and B routes between mileposts 88.3 and 98.1, Alternative B would follow property boundaries for approximately 5.7 miles where Alternative A would only follow property boundaries for 1.4 miles. Alternative A would also bisect most properties, many of which would be crossed diagonally.

A number of landowners have commented that Guardian should follow property boundaries rather than bisect them. Because Alternative B has slightly less disturbance and reduces impacts to landowners by following property boundaries for a much greater distance, we find Outagamie Alternative B to be environmentally preferable.

Another aspect of Outagamie Alternatives A and B is that it would result in the relocation of the Denmark, Southwest Green Bay, and West Green Bay Meter Station sites originally evaluated in the draft EIS (see figure 3.3-7), as well as result in the construction of three branch lines. Because the meter station sites and associated branch lines are situated along mutually exclusive routes (i.e., it is not possible to select an alternative without its associated meter station site), we have evaluated them in the context of the pipeline route comparison rather than in the analysis of aboveground facility alternatives in section 3.3.4. Tables 3.3.3.6-2, 3.3.3.6-3, and 3.3.3.6-4 compare the relevant environmental characteristics of the Outagamie Alternatives A and B with respect to the potential locations of the Denmark, Southwest Green Bay, and West Green Bay Meter Stations, respectively.

Factor	Draft EIS Denmark Meter Station Site	Denmark Meter Station Alternative (Proposed Site)
County	Brown	Brown
Permanent Area (acres) <u>a/</u>	0.9	1.3 <u>b/</u>
Elevation (feet) <u>c/</u>	670	640
Topography <u>d/</u>	Flat	Gently Sloping
Visibility	Residence off Wrightstown Road and Tetzlaff Road	Partridge Road
Site Access	Wrightstown Road	Partridge Road
Vegetation	Crop	Crop
Land Use	Agricultural	Agricultural
Streams (no.)	0	0
Wetlands(acres)	0.0	0
Nearest Residence (feet)	150	700
Prime Farmland (acres) <u>e/</u>	0.9	1.5

a/ Permanent Area is defined as the total area permanently impacted to operate the facility.  
b/ Includes a 630-foot by 30-foot access road to Partridge Road.  
c/ Calculated from USGS topographic mapping.  
d/ Topography: Flat 0 to 2 percent slope; Gently Sloping 2 to 5 percent slope; Moderately Sloping 5 to 10 percent slope; Steeply Sloping 10 percent or greater slope.  
e/ Based on NRCS SSURGO soil mapping data

Outagamie Alternative A would utilize the same location for the Denmark Meter Station as the site analyzed in the draft EIS. As shown on table 3.3.3.6-2, the Alternative Denmark Meter Station site and the meter station site evaluated in the draft EIS are very similar regarding most environmental factors. Specifically, both sites are located in agricultural land classified as prime farmland, they have similar elevations, and both avoid streams and wetlands. The primary

differences between the two sites is their distance to the nearest residence, visibility, accessibility, and the need for a branch line. In contrast to the site evaluated in the draft EIS, which was located approximately 150 feet from the nearest residence, the Alternative site is about 700 feet from the nearest residence. Additionally, the Alternative site is located far off of Partridge Road in an area that is partially screened by vegetation, whereas the draft EIS site is located adjacent to Wrightstown Road at a more visible location. However, because the Alternative site is located away from the road, it will require a new 630-foot-long access road. Although this new access road will increase the permanent footprint of the Denmark Meter Station by about 0.4 acre, the road alignment will follow a property line, which will minimize its effect on farming. The Alternative Denmark Meter Station would also require the construction of a 1.4-mile 16-inch-diameter branch line.

Similar to the Denmark Meter Station, Outagamie Alternative A would utilize the same location for the Southwest Green Bay Meter Station as evaluated in the draft EIS. As shown on table 3.3.3.6-3, the Alternative Southwest Green Bay Meter Station and the meter station site analyzed in the draft EIS are very similar regarding most environmental factors. Both sites are located in agricultural land classified as prime farmland, they have similar elevations, both avoid streams and wetlands, and they are at least 800 feet away from the nearest residence. The primary difference between the two sites is that the draft EIS site requires a permanent access road that nearly doubles the total footprint of the facility, and the Alternative site requires the construction of a 1.8-mile 20-inch-diameter branch line.

Factor	Draft EIS Southwest Green Bay Meter Station Site	Southwest Green Bay Meter Station Alternative (Proposed Site)
County	Brown	Brown
Permanent Area (acres) <u>a/</u>	1.7 <u>b/</u>	0.9
Elevation (feet) <u>c/</u>	640	655
Topography <u>d/</u>	Flat	Flat
Visibility	Obstructed view from S. Whistling Wind Dr and associated residences	Golden Glow Road and associated residences
Site Access	Little Rapids Road	Golden Glow Road
Vegetation	Crop	Crop
Land Use	Agricultural	Agricultural
Streams (no.)	0	0
Wetlands(acres)	0	0
Nearest Residence (feet)	800	1,100
Prime Farmland (acres) <u>e/</u>	1.5	0.9

a/ Permanent Area is defined as the total area permanently impacted to operate the facility.  
b/ Includes a 1,200-foot by 30-foot permanent access road to Little Rapids Road  
c/ Calculated from USGS topographic mapping.  
d/ Topography: Flat 0 to 2 percent slope; Gently Sloping 2 to 5 percent slope; Moderately Sloping 5 to 10 percent slope; Steeply Sloping 10 percent or greater slope.  
e/ Based on NRCS SSURGO soil mapping data. The majority of the previously proposed site is located in Poygan soils, which are classified as prime if drained.

As with the other alternative meter station sites, Outagamie Alternative A would utilize the same location for the proposed West Green Bay Meter Station as analyzed in the draft EIS. As shown in table 3.3.3.6-4, the draft EIS and Alternative West Green Bay Meter Station sites are also similar in most respects. For example, both sites are located entirely within agricultural land and neither site would impact any known environmentally sensitive resources such as wetlands or waterbodies. The primary differences are that the site along the draft EIS route is located farther

from the nearest residences and is partially screened by forest land. However, this site is located on tribal land and therefore is not a practicable location for the meter station. The West Green Bay Meter Station would also require the construction of a 0.8-mile 20-inch-diameter branch line.

TABLE 3.3.3.6-4

**Comparison of the Draft EIS and Alternative West Green Bay Meter Station Sites**

<b>Factor</b>	<b>Draft EIS West Green Bay Meter Station Site</b>	<b>West Green Bay Meter Station Alternative (Proposed Site)</b>
County	Outagamie	Outagamie
Permanent Area (acres) <u>a/</u>	0.9	0.9
Elevation (feet) <u>b/</u>	760-770	785
Topography <u>c/</u>	Flat to Moderately Sloping	Gently Sloping
Visibility	Screened by forest land to the south; but is visible from the north end of Olson Road, and from County Highway VV	County Highway VV and associated residences
Site Access	Olson Road	County Highway VV
Vegetation	Crop	Crop
Land Use	Agricultural	Agricultural
Streams (no.)	0	0
Wetlands(acres)	0.0	0.0
Nearest Residence (feet)	1,000	150
Prime Farmland (acres) <u>d/</u>	0.9	0.9

a/ Permanent Area is defined as the total area permanently impacted to operate the facility.  
b/ Calculated from USGS topographic mapping.  
c/ Topography: Flat 0 to 2 percent slope; Gently Sloping 2 to 5 percent slope; Moderately Sloping 5 to 10 percent slope; Steeply Sloping 10 percent or greater slope.  
d/ Based on NRCS SSURGO soil mapping data

After reviewing the potential environmental impacts associated with Outagamie Alternatives A and B and the associated meter station and branch line locations, we believe that because Guardian has been unable to reach an equitable agreement with the Oneida Nation, the pipeline route and meter station locations evaluated in the draft EIS are currently not feasible. As such, we believe that the environmental benefits associated with Outagamie Alternative B, including its ability to avoid impacts to Reservation lands and resources of cultural significance as well as the reduced miles of increased right-of-way and overall construction disturbance compared to Outagamie Alternative A, outweigh its disadvantages. Therefore, we prefer that Outagamie Alternative B, along with the associated meter station locations alternatives and branch lines, be incorporated as part of the proposed route as filed by Guardian in their April 24, 2007 and July 2, 2007 Amendments. However, in the event Guardian is able to negotiate an agreement with the Oneida Nation prior to construction, the route through the Oneida Reservation as evaluated in the draft EIS is environmentally preferable, as it is a shorter route with less disturbance, it affects slightly less wetlands, affects less landowners, and the adoption of appropriate mitigation and monitoring techniques would avoid or minimize impacts to resources of cultural significance.

### 3.3.4 Pipeline Route Variations

Route variations differ from system alternatives or route alternatives in that they reduce impact on specific localized resource issues, including individual residences or other structures, wetlands or infrastructure, such as roadways.

Commission regulations (18 CFR 380.15[d][1]) give primary consideration to the use, enlargement, or extension of existing rights-of-way to reduce potential impacts on sensitive resources. Installation of new pipeline along existing, cleared rights-of-way (such as pipelines, powerlines, roads, and railroads) may be environmentally preferable to construction along new rights-of-way, and construction effects and cumulative impacts can normally be reduced by use of previously cleared rights-of-way. Long-term or permanent environmental impacts can be reduced by avoiding the creation of new rights-of-way through undisturbed areas.

### 3.3.4.1 Rock River South Variations A and B

Between MPs 7.5 and 9.1 Guardian evaluated two potential route variations, Rock River South Variations A and B.

Beginning at MP 7.5, Rock River South Variation A would travel in a slightly northeasterly direction for approximately 1.1 miles and then turn north for approximately 0.6 mile, rejoining the proposed route at MP 9.1. Rock River South Variation B would travel in a relatively straight line towards the northeast for 1.6 miles, passing through the manmade wetland mitigation site (see figure 3.3-8). Rock River South Variation B would travel in a slightly more northeasterly direction for approximately 1.4 miles and then turn north for an additional 0.6 mile to rejoin with the proposed route. A comparison of the relevant environmental characteristics of Rock River South Variations A and B is included in table 3.3.4.1-1.

Rock River South Variations A and B would be about the same length overall, and would require a similar area of disturbance during construction. The advantage of Rock River South Variation A is that it would reduce impacts on the wetland mitigation area, which is composed of a manmade pond and emergent wetland fringe. In addition, an active quarry located near Rock River South Variation B would be avoided by utilizing Variation A. For these reasons, the environmental advantages of Rock River South Variation A outweigh the disadvantages; therefore, we believe that the Rock River South Variation A is the environmentally preferable variation and accept it as part of the proposed route as filed by Guardian in their Application to the FERC on October 13, 2006.

TABLE 3.3.4.1-1

**Comparison of Rock River South Variations A and B**

<b>Environmental Factor</b>	<b>Rock River South Variation A (Proposed Route)</b>	<b>Rock River South Variation B</b>
Total Length (miles)	1.7	1.6
Length Adjacent to Existing Rights-of-way (miles)	0	0
Length of New Right-of-way (miles) <u>a/</u>	1.7	1.6
Construction Disturbance – Total (acres) <u>b/</u>	22.7	21.3
Perennial Waterbodies Crossed (number)	1	1
Major Waterbodies (>100 feet) Crossed (number)	0	0
Length of Wetland Crossed (feet)	0	0
Construction Disturbance – Wetlands (acres) <u>b/</u>	0	0
Landowners Crossed (number)	9	7

a/ For the purpose of this analysis, new right-of-way is pipeline right-of-way that is not immediately adjacent to an existing utility or road easement or right-of-way.  
b/ Based on construction right-of-way width of 75 feet in wetlands and 110 feet in uplands.

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Figure 3.3-8 Rock River South Variation

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### 3.3.4.2 Woodland Creek Variations A and B

Guardian evaluated two potential routes between MP 12.4 and 16.7, including Woodland Creek Variations A and B.

Beginning at MP 12.4, Woodland Creek Variation B would travel towards the northeast for about 1.6 miles, at which point it would turn sharply to the north and travel an additional 2.7 miles, rejoining the proposed route at MP 16.7 (see figure 3.3-9). Woodland Creek Variation A follows a slightly more direct path, heading generally northeast from MP 12.4 to 16.7. A comparison of the relevant environmental characteristics of the Woodland Creek Variations is included in table 3.3.4.2-1.

As shown in table 3.3.4.2-1, the two route variations are similar in many respects. However, Woodland Creek Variation A is slightly shorter, avoids forested wetlands, and crosses two-thirds less total wetland and slightly less forest land than Variation B. The variation also reduces the number of affected landowners and avoids an archaeological site.

Another aspect of Woodland Creek Variations A and B is that they would also determine the location of the Rubicon Meter Station site (see figure 3.3-9). Because the meter station sites are situated along mutually exclusive routes (i.e., it is not possible to select the variation with the original meter station site), we have evaluated them in the context of the pipeline route comparison rather than in the analysis of aboveground facility alternatives in section 3.3.4.

Environmental Factor	Woodland Creek Variation A (Proposed Route)	Woodland Creek Variation B
Total Length (miles)	4.1	4.2
Length Adjacent to Existing Rights-of-way (miles)	0.0	0.0
Length of New Right-of-way (miles) <u>a/</u>	4.1	4.2
Construction Disturbance – Total (acres) <u>b/</u>	54.2	54.7
Major Waterbodies (>100 feet) Crossed (number)	0	0
Length of Wetland Crossed (miles) <u>c/</u>	0.1	0.3
Construction Disturbance – Wetlands (acres) <u>b/</u> ; <u>c/</u>	0.9	2.7
Agricultural Lands Crossed (miles)	4.1	3.9
Landowners Crossed (number)	11	17

a/ For the purpose of this analysis, new right-of-way is pipeline right-of-way that is not immediately adjacent to an existing utility or road easement or right-of-way.  
b/ Based on construction right-of-way width of 75 feet in wetlands and 110 feet in uplands.  
c/ Estimated from WWI mapping.

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Figure 3.3-9 Woodland Creek Variations A and B

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Table 3.3.4.2-2 compares the relevant environmental characteristics of Woodland Creek Variations A and B with respect to three potential locations of the Rubicon Meter Station.

Factor	Rubicon Meter Station Alternative A (Draft EIS Site)	Rubicon Meter Station Alternative B	Rubicon Meter Station Alternative C (Proposed Site)
County	Dodge	Dodge	Dodge
Permanent Area <u>a/</u>	0.5	0.5	1.2 <u>b/</u>
Elevation <u>c/</u>	935	900-910	900-910
Topography <u>d/</u>	Flat	Moderately Sloped	Gently Sloping
Visibility	Residence and Oaklawn Road	Butler Road	Partially Screened from N. Garfield Road and associated residences
Site Access	Oaklawn Road	Butler Road	N. Garfield Road
Vegetation	Crop	Crop	Crop
Land Use	Agriculture	Agriculture	Agriculture
Streams	0	0	0
Wetlands	0.0	0.0	0.0
Nearest Residence	420	700	700
Prime Farmland <u>e/</u>	0.5	0.0	0.9

a/ Permanent Area is defined as the total area permanently impacted by construction.  
b/ To be consistent with local zoning ordinances Guardian will acquire a 420-foot by 125-foot area in addition to the land required for construction of the Rubicon Meter Station. A 30-foot wide strip of this area will be retained for a permanent access road; the remaining land will not be affected by construction or operation of the Project.  
c/ Calculated from USGS topographic mapping.  
d/ Topography: Flat 0 to 2 percent slope; Gently Sloping 2 to 5 percent slope; Moderately Sloping 5 to 10 percent slope; Steeply Sloping 10 percent or greater slope.  
e/ Based on SSURGO data.

In the draft EIS we recommended the adoption of Woodland Creek Variation A and associated Rubicon Meter Station Alternative A as the preferred location for the proposed G-II Project facilities because these alternatives would result in the construction of the Rubicon Meter Station on a flatter slope as well as avoid the need for the construction of a new access road. However, since the issuance of the draft EIS, in response to a landowner's concern, Guardian has evaluated a third potential location for the Rubicon Meter Station (Rubicon Meter Station Alternative C) along the preferred route (Woodland Creek Alternative A). As shown on figure 3.3-9, Rubicon Meter Station Alternative C would locate the proposed meter station at approximately MP 13.8. Locating the meter station at MP 13.8 would minimize impacts to the landowner by increasing the distance between the facility and existing farm and residential buildings, as well as avoid impacts on a planned barn that will be constructed near MP 13.3. The Rubicon Meter Station Alternative C would also require a slight shift in the pipeline alignment; however, the new alignment generally follows the Woodland Creek Variation A, but turns northeast slightly to increase the distance of the pipeline from the proposed barn (see figure 3.3-9).

When compared to the site evaluated in the draft EIS (Rubicon Meter Station Alternative A), Alternative C is very similar in many environmental respects. Both sites would be located on agricultural land and both would avoid streams and wetlands. The primary difference between

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the Rubicon Meter Station Alternatives A and C includes the distance of each site to the nearest residence, site visibility, and access. In contrast to the Rubicon Meter Station Alternative A site located 420 feet from the nearest residence, the Rubicon Meter Station Alternative C would be 700 feet from the nearest residence. Additionally, the Rubicon Meter Station Alternative C would be visually screened by vegetation on three sides, whereas the Rubicon Meter Station A would be located adjacent to Oaklawn Road at a location with much greater visibility. However, because the Rubicon Meter Station Alternative C is not located immediately adjacent to Garfield Road, the site would require a 420-foot-long access road. This access road would follow an existing property line, which would minimize disruptions to farming operations.

After reviewing the potential overall environmental impacts associated with the two pipeline variations and associated meter station locations, we believe that environmental benefits associated with Woodland Creek Variation A, including its reduced impacts to wetlands, forested wetlands, forested lands, and landowners, outweigh those of Wood Creek Variation B as evaluated in the draft EIS. However, given the reduction of impact to the affected landowner we believe that the benefits of Rubicon Meter Station Alternative C outweigh those of the draft EIS evaluated meter station location (Rubicon Meter Station Alternative A). Therefore, we prefer that Woodland Creek Variation A as submitted by Guardian in their Application to the FERC on October 13, 2006, utilizing the Rubicon Meter Station Alternative C filed in Guardian's April 24, 2007 Amendment, be incorporated as part of the proposed route.

#### **3.3.4.3 Brothers 4 Variations A and B**

Guardian evaluated two potential routes for the G-II Pipeline to traverse the agricultural fields between MPs 45.0 and 46.1 (Brothers 4 Variations A and B).

Beginning at MP 45.0, Brothers 4 Variation B would travel straight in a north-northeasterly directions for about 1.1 miles, rejoining the proposed route at MP 46.1 (see figure 3.3-10). In contrast, Brothers 4 Variation A would travel north-northeast for approximately 0.6 mile, and then would turn north for approximately 0.3 mile before rejoining the proposed route at MP 46.1. A comparison of the relevant environmental characteristics of Brothers 4 Variations A and B is included in table 3.3.4.3-1.

As indicated in table 3.3.4.3-1, the Brothers 4 Variations A and B are similar in most respects (e.g., they cross the same type of land uses, affect the same number of landowners, etc.). The primary differences between the routes are that Variation A is approximately 0.1 mile longer and avoids crossing through the center of agricultural fields. The disadvantage to this route, however, is that Variation A would increase the crossing of mostly emergent wetlands by about 500 feet.

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Figure 3.3-10 Brothers 4 Variations A and B

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TABLE 3.3.4.3-1		
Comparison of Brothers 4 Variations A and B		
Environmental Factor	Brothers 4 Variation A (Proposed Route)	Brothers 4 Variation B
Total Length (miles)	1.1	1.0
Length Adjacent to Existing Rights-of-way (miles)	0	0
Length of New Right-of-way (miles) <u>a/</u>	1.1	1.0
Construction Disturbance – Total (acres) <u>b/</u>	13.9	13.0
Perennial Waterbodies Crossed (number)	0	0
Major Waterbodies (>100 feet) Crossed (number)	0	0
Length of Wetland Crossed (feet)	900	400
Construction Disturbance – Wetlands (acres) <u>b/</u>	1.5	0.7
Landowners Crossed (number)	4	4

a/ For the purpose of this analysis, new right-of-way is pipeline right-of-way that is not immediately adjacent to an existing utility or road easement or right-of-way.  
b/ Based on construction right-of-way width of 75 feet in wetlands and 110 feet in uplands.

We believe the ability of Brothers 4 Variation A to avoid crossing through the center of agricultural fields, outweighs its minor impact to the emergent wetland. Therefore, we prefer that Brothers Variation A be incorporated as part of the proposed route as filed by Guardian in their Application to the FERC on October 13, 2006.

**3.3.4.4 Hass Variation**

In order to avoid crossing a farmer’s extensive drain tile system in a field to the south of County Highway Q, Guardian evaluated two potential routes for the G-II Pipeline to traverse the agricultural fields between MPs 54.9 and 56.3.

Beginning at MP 54.9, Hass Variation B would deviate from the proposed route and travel straight towards the north-northeast for about 1.4 miles, rejoining the proposed route at MP 56.3 (see figure 3.3-11). Hass Variation A would head northwards at MP 54.9 until it crossed County Highway Q, then it would turn to the north-northeast to rejoin the proposed route at MP 56.3. A comparison of the relevant environmental characteristics of the Hass Variations is included in table 3.3.4.4-1.

Overall, Hass Variation A would be about the same length as Variation B and would require a similar area of disturbance during construction. The advantage of Hass Variation A is that it avoids cutting diagonally across a drainage tiled field and would not complicate the siting of We Energies’ proposed substation in this area. In addition, Hass Variation A avoids the proposed substation site for We Energies’ Blue Sky Green Field Wind Farm Project. Hass Variation B has no substantial environmental benefits that could negate those of Hass Variation A.

Because the Hass Variation A avoids impacts to both a drainage tiled field and the siting of the We Energies proposed substation area, we believe that Variation A is the environmentally preferable variation and prefer the variation be incorporated as part of the proposed route as filed by Guardian in their Application to the FERC on October 13, 2006.

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Figure 3.3-11 Hass Variations A and B

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TABLE 3.3.4.4-1

**Comparison of Hass Variations A and B**

<b>Environmental Factor</b>	<b>Hass Variation A (Proposed Route)</b>	<b>Hass Variation B</b>
Total Length (miles)	1.4	1.4
Length Adjacent to Existing Rights-of-way (miles)	0	0
Length of New Right-of-way (miles) <u>a/</u>	0	0
Construction Disturbance – Total (acres) <u>b/</u>	18.7	18.7
Perennial Waterbodies Crossed (number)	0	0
Major Waterbodies (>100 feet) Crossed (number)	0	0
Length of Wetland Crossed (feet)	0	0
Construction Disturbance – Wetlands (acres) <u>b/</u>	0	0
Landowners Crossed (number)	5	5

a/ For the purpose of this analysis, new right-of-way is pipeline right-of-way that is not immediately adjacent to an existing utility or road easement or right-of-way.  
b/ Based on construction right-of-way width of 75 feet in wetlands and 110 feet in uplands.

**3.3.4.5 Johnsburg Variations A and B**

Prompted by public input, Guardian evaluated the potential for the G-II Pipeline to utilize an existing powerline and ANR corridors, resulting in two potential route variations between MPs 56.3 and 67.4 (Johnsburg Variations A and B).

Beginning at MP 56.3, Johnsburg Variation B would travel towards the north-northeast for several miles and then turn towards the north after crossing Highway 151. Variation B would then trend to the north and rejoin the proposed route on the northeastern side of Stony Brook, at MP 67.4 (see figure 3.3-12). Johnsburg Variation A starts at MP 56.3 and travels north, then turns northeast for its duration, rejoining the proposed route at MP 67.4. A comparison of the relevant environmental characteristics of Johnsburg Variations A and B is included in table 3.3.4.5-1.

The Johnsburg Variation B would be about 0.6 mile shorter and would require about 5.9 fewer acres of disturbance during construction than Johnsburg Variation A. The advantage of Johnsburg Variation B is that it would cross fewer waterbodies and less wetlands, forest lands, and open lands. The primary disadvantage of this variation is that it would require the creation of all new rights-of-way, which is locally unpopular and would require more land disturbance.

Given the ability of Johnsburg Variation A to utilize an existing right-of-way and minimize the creation of new rights-of-way in response to local public concerns, we believe that Variation A is the environmentally preferred alternative and accept the variation as part of the proposed route as filed by Guardian by Guardian in their Application to the FERC on October 13, 2006.

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Figure 3.3-12 Johnsburg Variations A and B

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Figure 3.3-12 Johnsburg Variations A and B

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Figure 3.3-12 Johnsburg Variations A and B

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Figure 3.3-12 Johnsburg Variations A and B

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TABLE 3.3.4.5-1

**Comparison of the Johnsborg Variations A and B**

<b>Environmental Factor</b>	<b>Johnsborg Variation A (Proposed Route)</b>	<b>Johnsborg Variation B</b>
Total Length (miles)	11.1	10.5
Length Adjacent to Existing Rights-of-way (miles)	8.9	0.0
Length of New Right-of-way (miles) <u>a/</u>	2.2	10.5
Construction Disturbance – Total (acres) <u>b/</u>	144.2	138.3
Major Waterbodies (>100 feet) Crossed (number)	0	0
Length of Wetland Crossed (feet) <u>c/</u>	0.9	0.4
Construction Disturbance – Wetlands (acres) <u>b/</u> ; <u>c/</u>	8.2	3.6
Landowners Crossed (number)	39	32

a/ For the purpose of this analysis, new right-of-way is pipeline right-of-way that is not immediately adjacent to an existing utility or road easement or right-of-way.  
b/ Based on construction right-of-way width of 75 feet in wetlands and 110 feet in uplands.  
c/ Estimated from WWI mapping.

**3.3.4.6 ANR Corridor Variations A and B**

Prompted by public input, Guardian evaluated the potential for the G-II Pipeline to utilize the existing nearby ANR corridor, resulting in two potential route variations for the proposed route between MPs 78.5 and 84.0. Beginning at MP 78.5, ANR Corridor Variation A would travel to the northeast for approximately 1.0 mile before turning to the north and traveling an additional 4.3 miles, including two right-angle jogs to the east. ANR Corridor Variation B would also begin at MP 78.5 and trend north-northeast for about 5.5 miles. Variation B would then rejoin the proposed route to the north of the Village of Holland, at MP 84.0 (see figure 3.3-13). A comparison of the relevant environmental characteristics of ANR Corridor Variations A and B is included in table 3.3.4.6-1.

As indicated in table 3.3.4.6-1, ANR Corridor Variation B would be 0.6 mile shorter and would require 12.8 fewer acres of additional disturbance during construction than ANR Corridor Variation A. The advantage of this ANR Variation A is that it would collocate the pipeline with an existing right-of-way, eliminating the need for a new greenfield corridor. Additionally, ANR Corridor Variation A would affect three fewer landowners. However, it would also cross more wetlands, forest lands, and agricultural lands.

Another consequence of ANR Corridor Variation A is that it would relocate the Fox Valley Meter Station site (see figure 3.3-13, map 2 of 2). Because the meter station sites are situated along mutually exclusive routes (i.e., it is not possible to select the variation with the original meter station site), we have evaluated them in the context of the pipeline route comparison rather than in the analysis of aboveground facility alternatives in section 3.3.4. Table 3.3.4.6-2 compares the relevant environmental characteristics of the ANR Corridor Variation locations of the Fox Valley Meter Station.

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Figure 3.3-13 ANR Corridor Variations A and B

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Figure 3.3-13 ANR Corridor Variations A and B

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TABLE 3.3.4.6-1

## Comparison of ANR Corridor Variations A and B

Environmental Factor	ANR Corridor Variation A (Proposed Route)	ANR Corridor Variation B
Total Length (miles)	5.5	4.9
Length Adjacent to Existing Rights-of-way (miles)	3.9	0.0
Length of New Right-of-way (miles) <u>a/</u>	1.6	4.9
Construction Disturbance – Total (acres) <u>b/</u>	65.2.1	57.3
Major Waterbodies (>100 feet) Crossed (number)	0	0
Length of Wetland Crossed (feet) <u>c/</u>	0.4	<0.1
Construction Disturbance – Wetlands (acres) <u>b/</u> ; <u>c/</u>	3.6	0.8
Forest land Crossed (miles)	0.3	0.1
Agricultural Land Crossed (miles)	4.9	4.6
Landowners Crossed (number)	16	19

a/ For the purpose of this analysis, new right-of-way is pipeline right-of-way that is not immediately adjacent to an existing utility or road easement or right-of-way.

b/ Based on construction right-of-way width of 75 feet in wetlands and forest lands, 110 feet for 30-inch diameter pipeline right-of-way, and 95 feet for 20-inch diameter pipeline right-of-way.

c/ Estimated from WWI mapping.

In the draft EIS, we recommended the adoption of the ANR Corridor Variation A and associated Fox Valley Meter Station Alternative A as the preferred location for the G-II Project facilities because these alternatives would result in the construction of the Fox Valley Meter Station in an area of natural screening in the form of an upland forested area (see table 3.3.4.6-2). However, since the issuance of the draft EIS, due to a change in location of We Energies' nonjurisdictional Fox Valley Interconnecting Pipeline Project (Fox Valley Project), Guardian has evaluated a third potential location for the Fox Valley Meter Station (Fox Valley Meter Station Alternative C) along the preferred route (ANR Corridor Variation A). The change in location of the Fox Valley Project, in conjunction with the adoption of the preferred route (ANR Corridor Variation A), presented Guardian with two options: to relocate the meter station or alternatively build a new branch pipeline to connect the meter station to We Energies' pipeline. Moving the meter station to a site that coincides with We Energies' new pipeline route would be the most environmentally preferable option. This new location is about 2.3 miles south of Fox Valley Meter Station Alternative A. In addition, Fox Valley Meter Station Alternative C results in a reduction of the total length of the 30-inch-diameter portion of the pipeline, reducing the acreage of affected land by approximately 4.1 acres due to the reduction in the width of the associated construction right-of-way. As shown in figure 3.3-13 (map 2 of 2), Fox Valley Meter Station Alternative C would locate the proposed meter station approximately 0.2 mile south of Dundas Road and about 0.3 mile southeast of the Town of Dundas.

When compared to the site evaluated in the draft EIS (Fox Valley Meter Station Alternative A), Alternative C is very similar in many respects (see table 3.3.4.6-2). Both sites would be located in agricultural land, would require an access road, and would avoid sensitive resources such as wetlands and waterbodies. Additionally, both sites have comparable elevations (810 feet for Alternative C and 780 feet for Alternative A) and topography (both sites having gently or gently to moderate sloping).

TABLE 3.3.4.6-2

## Comparison of the Fox Valley Meter Station Sites Along ANR Corridor Variations A, B, and C

Factor	Fox Valley Meter Station Alternative A (Draft EIS Location)	Fox Valley Meter Station Alternative B	Fox Valley Meter Station Alternative C (Proposed Site)
County	Brown	Calumet	Calumet
Permanent Area (acres) <u>a/</u>	1.2 <u>b/</u>	1.2	2.7 <u>c/</u>
Elevation (feet) <u>d/</u>	780	825-830	810
Topography <u>e/</u>	Gently to Moderately Sloping	Gently Sloping	Gently Sloping
Visibility	Natural screening from nearest residence and Crestview Road (to the north), partially visible from Outagamie Road (to the west)	Visible from Dundas Road (to the north) and surrounding residences	Visible from Dundas Road (to the north) and surrounding residences
Site Access	Outagamie Road	Dundas Road	Dundas Road
Vegetation	Crop	Crop	Crop
Land Use	Agricultural	Agricultural	Agricultural
Streams (number)	0	0	0
Wetlands (acres)	0.0	0.0	0.0
Nearest Residence (feet)	500	1,100	920
Prime Farmland (acres) <u>f/</u>	0.7 <u>g/</u>	1.2 <u>h/</u>	2.7 <u>h/</u>
<u>a/</u> Permanent Area is defined as the total area permanently impacted by construction.			
<u>b/</u> Includes a 1,300-foot by 30-foot access road to Outagamie Road			
<u>c/</u> Includes a 980-foot by 50-foot access road to Dundas Road			
<u>d/</u> Calculated from USGS topographic mapping.			
<u>e/</u> Topography: Flat 0 to 2 percent slope; Gently Sloping 2 to 5 percent slope; Moderately Sloping 5 to 10 percent slope; Steeply Sloping 10 percent or greater slope.			
<u>f/</u> Based on SSURGO data.			
<u>g/</u> Prime only if drained.			
<u>h/</u> 0.6 acre of the 1.2 acres is Prime only if drained.			

Fox Valley Meter Station Alternative C would be farther from the nearest residence; however, this alternative lacks any natural screening, whereas Alternative A is located south of a forested upland area, which would screen the facility from the nearest residences and road. The primary advantage to Fox Valley Meter Station Alternative C is that it would be located at the end of We Energies' Fox Valley Project. In contrast, Fox Valley Meter Station Alternative A, located 2.3 miles upstream of the interconnect point, would require the construction of a branch line to connect the meter station to the Fox Valley Project; increasing the total length and impacts from the G-II Project.

Given the modification of the WE Energies Fox Valley Project, we accept Fox Valley Alternative C as the preferred location for the meter station location to be adopted as part of the proposed route. We also believe that, because of the added benefit of a pipeline route that requires no greenfield disturbance, the ANR Corridor Variation A as evaluated in the draft EIS is the environmentally preferable alternative. Therefore, we accept ANR Corridor Variation A as filed by Guardian in their Application to the FERC on October 13, 2006, and the corresponding Fox Valley Meter Station Alternative C filed in Guardian's July 2, 2007 Amendment as part of the proposed route.

### 3.3.4.7 Minor Variations

Following the submittal of Guardian's application, Guardian evaluated and adopted a number of other minor variations. Except as noted below, these minor variations do not affect any new

landowners and do not increase the impact on any known sensitive resources such as waterbodies or wetlands. Table 3.3.4.7-1 lists the locations and reasons why each of these minor variations was adopted.

Variation	County	Mileposts	Approximate Length (mi)	Reason for Variation
MV-Y	Dodge	10.7-11.0	0.3	This minor variation moves the alignment up to 140 feet northwest of the proposed route to avoid crossing approximately 180 feet of mapped emergent wetland. The variation adds approximately 40 feet to the overall length of the route and further refines MV-E.
MV-Z	Dodge	14.2-15.2	1.0	This minor variation shifts the alignment up to 250 feet west of the proposed route to avoid impacts on a drain tile system. The variation adds approximately 51 feet to the overall length of the route.
MV-AA	Dodge	18.9-19.3	0.4	This minor variation proceeds north from approximately MP 18.9 for approximately 1,475 feet, crossing the unnamed tributary to Lentz Creek approximately 360 feet west of the proposed route. The variation then proceeds northeast for approximately 800 feet before returning to the proposed route. The variation avoids crossing 42 feet of mapped wetland and avoids the clearing of woody vegetation associated with the wetland. The variation adds approximately 50 feet to the overall length of the route and further refines MV-J.
MV-AB	Fond du Lac	38.3-38.8	0.5	This minor variation was initiated at the request of a landowner to avoid impacts on two large oak trees on his property. The variation shifts the alignment approximately 250 feet to the east, adds approximately 65 feet to the overall length of the route, but decreases the crossing length of a wooded area by approximately 100 feet and avoids the two trees of concern.
MV-AC	Calumet	76.0-76.3	0.3	This minor variation moves the alignment of the pipeline approximately 100 feet to the east, and avoids approximately 140 feet of scrub / shrub wetland. The minor variation adds approximately 35 feet to the total length and further refines MV-S.
MV-AD	Calumet	77.3-77.8	0.5	This minor variation collocates the route with an ATC powerline (up to 425 feet west of the proposed route) for an additional 1,200 feet and decreases wetland crossing by approximately 75 feet. The variation adds approximately 130 feet to the overall length of the route.
MV-AE	Outagamie	82.2-82.4	0.2	This minor variation continues north adjacent to the ANR pipeline for an additional 1,000 feet before turning east and rejoining the proposed route near MP 82.4. The variation adds approximately 110 feet to the overall length of the route.
MV-AF	Brown	90.6-93.0	2.4	This minor variation minimizes impacts on a proposed subdivision by aligning the route within the proposed roads of the subdivision. The variation does not increase the overall length of the route and is within 150 feet east or west of the proposed route.
MV-AG	Dodge	4.1-4.6	0.5	This minor variation was initiated at the request of a landowner to avoid impact on drain tiles. The variation shifts alignment approximately 30 feet west of the proposed route.
MV-AH	Fond du Lac	41.1-41.4	0.4	This minor variation begins at approximately MP 41.3 and proceeds north for approximately 900 feet then turns northeast for about 1,100 feet before returning to the proposed route. The variation avoids crossing a 2-acre residential property diagonally and avoids impact to the Goodfellows Rod and Gun Club.

### 3.3.5 Landowner Modifications

#### 3.3.5.1 Baus Modification

A landowner between MP 49.0 and 50.0 of the proposed route raised a number of agricultural concerns, especially erosion, stones in agricultural soils, and drain tiles. Other concerns included impacts on fences, forest land, wetlands, and the economic impact of the pipeline on their land and farming operation. The property encompasses approximately 45 acres south of Cody Road. The proposed route would cross about 1,200 feet of the property between MPs 49.6 and 49.9.

Construction of the G-II Pipeline as proposed would temporarily impact about 3.0 acres of agricultural land. There are no residences or structures, wetlands, or known drain tiles in this area. The only trees that would be cut on the property are located in a narrow hedge row that borders the southern property line. A little less than half of the soils that would be affected on the property are listed as stony or highly erodible. The permanent easement would encompass about 1.4 acres, but would not preclude future farming operations. In addition, Guardian has proposed an AMP that would help mitigate potential impacts.

To address potential landowner concerns that might avoid the property, as well as measures that would minimize potential impacts, a route modification to the west was developed (see Baus Modification on Figure 3.3-14). The Baus Modification would depart from the proposed route at MP 49.0 and travel in a north-northwesterly direction for approximately 0.57 mile. The modification would follow an existing tree line and property boundary quarter-section section line to Cody Road. The proposed route modification would then turn southeast along Cody Road whereby the pipeline would reconnect with the proposed route at about MP 49.85 (see Figure 3.3-14). Table 3.3.5.1-1 compares the relevant environmental characteristics of the Baus modification to that of the proposed route.

Environmental Factor <u>a/</u>	Proposed Route	Baus Modification
Total Length (mile)	0.9	0.9
Length Adjacent to Existing Rights-of-way (mile)	0	0.3
Length of New Right-of-way (mile)	0.9	0.6
Major Waterbodies (>100 feet) Crossed (number)	0	0
Length of Wetland Crossed (mile)	0.2 <u>b/</u>	0.2
Forest land Crossed (miles)	0	0
Agricultural Land Crossed (acres)	0.6	0.7
Landowners Crossed (number)	3	4

a/ Calculated from interpretation of aerial photography, USGS topographic maps, WWI maps and WDNR 24K Hydrography database  
b/ Based on field delineations

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Figure 3.3-14 Baus Modification

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As shown in table 3.3.5.1-1, the proposed route and Baus Modification are similar in most respects; however, the Baus Modification would cross one additional landowner and place the pipeline within 100 feet of a residence; whereas the proposed route would be more than 500 feet from residences. The Baus Modification would also locate the pipeline in a swale, which may erode over time, and reduce the cover over the pipeline. An additional disadvantage associated with the proposed Baus Modification is that the route has the potential to impact existing agricultural drainage tiles, although the modification would be located mostly along the edges of agricultural fields.

Given that the Baus Modification provides no significant environmental advantages over the proposed route and impacts to farm land would be minimized through the application of Guardian's AMP, we believe that the proposed modification is not a viable alternative to the proposed route and therefore has been eliminated from further consideration.

### **3.3.5.2 Criter Modification**

As discussed in Responses to Comments (appendix P), the landowner between MP 60.8 and 61.4 of the proposed route expressed a preference for the pipeline to follow the existing ATC powerline right-of-way when crossing their property. Investigations revealed collocating the proposed pipeline within the existing ATC powerline easement would result in impacts to a forested and scrub-shrub wetland, and other small forested areas, and therefore this option is not environmentally preferable to the proposed pipeline route, which would affect agricultural lands. The landowner also asked that the pipeline be placed within road right-of-ways. Placing the pipeline within road right-of-way would place it close to many residences and through several towns that would be avoided by the proposed route. As proposed, only two residences would be located within 5 feet of the pipeline. We could determine no other practicable or environmentally preferable alternative route along this area of the proposed G-II Pipeline.

### **3.3.5.3 Kolbe Trees Modification**

In order to minimize impacts to a wooded area between MP 71.9 and 72.1 a route modification to the west of this area, referred to as the Kolbe Trees Modification was developed (see figure 3.3-15). The Kolbe Trees Modification would depart from the proposed route at approximately MP 71.9 and travel north for approximately 0.2 mile before reconnecting with the proposed route at about MP 72.1.

The primary advantages of the Kolbe Trees Modification would be that the pipeline would avoid impacts to the wooded area located at approximately MP 72.0, increase the amount of overlap within the ATC powerline easement, and reduce the number of landowners affected by the pipeline route. A potential disadvantage of the Modification is that the route would increase the crossing length of wetland 072W1 by about 150 feet. However, this wetland is a rather low quality emergent wetland dominated by reed canary grass.

After reviewing the benefits and potential environmental consequences associated with the proposed modification, we believe that the benefits associated with the Kolbe Trees Modification, including increased collocation with existing rights-of-way, avoidance of forested areas, and reduction in the number of affected landowners, outweighs the slight increase in temporary wetland impacts.

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Figure 3.3-15 Kolbe Trees Modification

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Therefore, we recommend that Kolbe Trees Modification be incorporated as part of the proposed route as filed by Guardian in the April 24, 2007 Amendment.

#### **3.3.5.4 Maxey Modification**

Landowners between MPs 87.4 and 87.9 have expressed a desire for Guardian to site its pipeline behind a wooded area east of its proposed location (see figure 3.3-16). In response to the landowners' concerns, we have evaluated a potential route modification, referred to as the Maxey Modification, between MPs 87.3 and 88.0.

The Maxey Modification would depart from the proposed route at MP 87.3 and travel in a northeasterly direction for approximately 0.4 mile. The Modification would then turn north for approximately 0.2 miles crossing both a wooded area and a stream, before turning northwest for an additional 0.2 mile and reconnecting with the proposed route at MP 88.0 (see figure 3.3-16).

The primary advantage of the Maxey Modification is that it would increase the distance of the pipeline from a residential structure from approximately 300 feet to more than 800 feet. However, despite this advantage, the Modification has a number of disadvantages. The Modification would add approximately 0.2 mile to the overall pipeline length, which would result in greater overall impacts and cost. Specifically, the modification would increase environmental impacts by moving a stream crossing to an area that would result in the crossing of approximately 300 feet of a wetland. The Modification would also result in the relocation and/or extension of the proposed temporary access road, which could also result in increased environmental impacts.

Based upon the above analysis, the advantages of the Maxey Modification do not outweigh the disadvantages. Therefore, we believe the proposed Modification is not a preferable alternative to the proposed route and therefore it has been eliminated from further consideration.

#### **3.3.6 Aboveground Facility Site Alternatives**

Guardian proposes to construct two new compressor stations, seven new meter stations, six MLVs, and two sets of launcher/receiver stations as part of the proposed Project. We have evaluated the proposed locations of the aboveground facilities to determine whether environmental impacts would be reduced or mitigated by use of alternative facility sites. All of the proposed aboveground facilities are necessary to meet the purpose and need of the G-II Project.

The search for alternatives focused on sites that would require a minimum of environmental impact, choosing agricultural lands over woodlands or streams and wetlands. Whenever possible, Guardian selected meter station sites that collocated with existing or proposed We Energies and WPS facilities. The locations of meter and compressor stations would be linked to the location of the proposed Project (with the exception of the Sycamore Compressor Station, which would be situated along Guardian's existing pipeline in northeastern Illinois).

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Figure 3.3-16 Maxey Modification

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### 3.3.6.1 Meter Stations

As explained previously, the West Green Bay, Denmark, Southwest Green Bay, Rubicon, and Fox Valley Meter Stations are discussed with their associated alternative or variation routes, because the two features must be collocated. The remaining proposed meter stations and their alternatives are discussed in this section.

#### Sheboygan Meter Station

In the draft EIS, two potential sites for the proposed Sheboygan Meter Station (Sheboygan Meter Station Alternative A and B) were evaluated (see figure 3.3-17). However, because Alternative A would be collocated with an existing facility at MP 43.8, it was selected as the preferred location for this facility. However, since the filing of the draft EIS, Guardian has evaluated an additional site for the proposed Sheboygan Meter Station (see Sheboygan Meter Station Alternative C, figure 3.3-19). Table 3.3.6.1-1 compares the relevant environmental characteristics of the draft EIS evaluated meter station location (Sheboygan Meter Station Alternative A) to that of Alternative C.

As shown in table 3.3.6.1-1, the draft EIS evaluated Sheboygan Meter Station A (Alternative A) and Sheboygan Meter Station Alternative C sites are very similar. For example, the topography, elevation, and land uses at both sites are the same (i.e., gently sloping agricultural land with an elevation ranging between 1,150 and 1,160 feet above sea level). Both sites also avoid streams and wetlands, and are about the same distance from residences. Additionally, both sites require a 0.2-mile-long permanent access road. Alternative C, however, would eliminate impacts to one landowner whose property would have been crossed by the access road required for the draft EIS Alternative site. In addition, the access road to Alternative C, unlike the access road to the draft EIS Alternative site, follows the edge of an agricultural field, which will minimize disruption to existing farming operations.

The pipeline alignments to and from the draft EIS evaluated site and Alternative C meter station site are also very similar. Although the alignment for Alternative C would be approximately 40 feet longer, both routes would cross agricultural lands and avoid crossing known sensitive resources (e.g., wetlands or streams) or passing near residences.

For the reasons stated above, we believe the advantages associated with Sheboygan Meter Station Alternative C outweigh those of the site evaluated in the draft EIS. Therefore we prefer that Sheboygan Meter Station Alternative C, as filed by Guardian in the April 24, 2007 Amendment, be incorporated into the Project.

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Figure 3.3-17 Sheboygan Meter Station Alternative

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TABLE 3.3.6.1-1

**Comparison of the Draft EIS Proposed (Alternative A) and Sheboygan Meter Station Alternative C Sites**

<b>Factor</b>	<b>Sheboygan Meter Station Alternative A (Draft EIS Site)</b>	<b>Sheboygan Meter Station Alternative C (Proposed Site)</b>
County	Fond Du Lac	Fond Du Lac
Permanent Area (acres) <u>a/</u>	1.7	1.7
Elevation (feet) <u>b/</u>	1,150-1,160	1,150-1,160
Topography <u>c/</u>	Gently Sloping	Gently Sloping
Visibility	Grandview Road, County Highway UU, and associated residences	Grandview Road, County Highway UU, and associated residences
Site Access	County Highway UU	Grandview Road
Vegetation	Crop	Crop
Land Use	Agricultural	Agricultural
Streams (number)	0	0
Wetlands (acres)	0.0	0.0
Nearest Residence (feet)	750	500
Prime Farmland (acres) <u>d/</u>	0.9	0.9

a/ Permanent Area is defined as the total area permanently impacted to operate the facility including the proposed access roads.  
b/ Calculated from USGS topographic mapping.  
c/ Topography: Flat 0 to 2 percent slope; Gently Sloping 2 to 5 percent slope; Moderately Sloping 5 to 10 percent slope; Steeply Sloping 10 percent or greater slope.  
d/ Based on NRCS SSURGO soil mapping data.

**Chilton Meter Station**

Two sites were evaluated for the location of the proposed Chilton Meter Station. The alternative Chilton Meter Station site is located on the north side of Quinney Road at MP 66.5, and the proposed Chilton Meter Station site is located on the south side of Quinney Road at MP 66.4 (see figure 3.3-18). The alternative and proposed sites are both located on 0.6 acre of private, prime farmland of different owners, each at an elevation of about 980 feet, with gently sloping topography. No wetland, biological, or cultural resources would be affected on either site. Both sites are visible only from Quinney Road, which could also provide a permanent access road to either site. Neither site would require any significant length of new transmission line to be constructed.

The differences between the two sites are minor. The nearest residence is 1,000 feet from the alternative site and 900 feet from the proposed site, creating similar noise impacts.

Because the alternative and proposed Chilton Meter Station sites are nearly identical in environmental respects, and because the alternative site would be WPS' preferred transmission tie-in location, we recommend use of the proposed Chilton Meter Station at MP 66.4 as filed by Guardian in their Application to the FERC on October 13, 2006.

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Figure 3.3-18 Chilton Meter Station Alternative

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### 3.3.6.2 Compressor Stations

#### Sycamore Compressor Station

As part of the proposed Project, Guardian would need to add two compressor stations to the already existing Guardian pipeline system in order to maintain pipeline pressure. The southern station would be the Sycamore Compressor Station. Initially, Guardian identified two potential sites for the proposed Sycamore Compressor Station referred to as the Sycamore Compressor Station Alternatives A and B (see figure 3.3-19).

Given their adjacent proximity to each other, the Sycamore Compressor Station Alternative A and B sites proved to be similar in most respects with only minor differences. Specifically, both sites are located on 12.5 acres of private land at an elevation of about 900 feet with mostly flat topography. No wetland, biological, or cultural resources would be affected on either site. The land is regarded as prime farmland due to the soil type and drainage, and is planted with standard row crops of corn and soybeans in most years. Both sites would occupy more than 5 acres of prime farmland and both sites would be plainly visible from Story Road. Sycamore Compressor Station Alternative A would, however, be located a greater distance from the nearest sensitive receptor (1,320 feet rather than 1,050 feet) and the site would require a slightly shorter length of transmission line. As such, Sycamore Compressor Station Alternative A was selected as the preferred compressor station site in the draft EIS.

Following the filing of the draft EIS, Guardian continued to negotiate with the two landowners associated with the proposed Sycamore Compressor Station identified as the preferred location of the draft EIS and Sycamore Compressor Station alternative. Through these negotiations, Guardian reached a purchase agreement with the owner of the property on which Alternative B is located. During the course of its negotiations with the two landowners, Guardian also continued consultation with ComEd to further evaluate routing of the nonjurisdictional transmission line needed to provide electricity to the compressor station. During this process ComEd informed Guardian of an existing powerline easement, owned by the company that could be used to connect the compressor station property with an existing 138-kilovolt transmission line. Given this new information, Guardian evaluated an additional alternative for the compressor station that would locate the facility in the northwest corner of the property adjacent to MP 57.8 of Guardian's existing line (see Sycamore Compressor Alternative C, figure 3.3-19). A comparison of the relevant environmental characteristics of Sycamore Compressor Alternative C to the Alternative A site evaluated in the draft EIS is included in table 3.3.6.2-1.

As shown in table 3.3.6.2-1, the Sycamore Compressor Station Alternative A site as evaluated in the draft EIS and newly proposed Sycamore Compressor Station Alternative C are similar in some environmental respects. Specifically, neither site would affect wetlands or other known sensitive cultural or biological resources. Access to both sites would be from Story Road, although the Alternative C would require a longer permanent access road. USGS topographic maps identify one intermittent stream on the northern half of the proposed Alternative A site, and two intermittent streams on the Alternative C site. However, during wetland delineations for the existing Guardian pipeline, Guardian determined that these water features are agricultural grassed waterways with no defined bed or banks and thus are not jurisdictional waters of the United States pursuant to Section 404 of the Clean Water Act.

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Figure 3.3-19 Sycamore Compressor Station Alternatives

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TABLE 3.3.6.2-1

**Comparison of the Draft EIS Proposed and Alternative Sycamore Compressor Station Sites**

<b>Factor</b>	<b>Sycamore Compressor Station Alternative A (Draft EIS Site)</b>	<b>Sycamore Compressor Station Alternative C (Proposed Site)</b>
Township / County	Sycamore / DeKalb	Sycamore / DeKalb
Permanent Area (acres) <u>a/</u>	12.5	16.4
Elevation (feet) <u>b/</u>	900	870
Topography <u>c/</u>	Flat to Gently Sloping	Flat to Gently Sloping
Visibility	Story Road	1,650 feet from Base Line Road and 1,700 feet from Story Road
Site Access	Story Road	Story Road
Vegetation	Cropland	Cropland
Land Use	Agricultural	Agricultural
Streams (number)	1 (intermittent)	2 (intermittent)
Wetlands (acres)	0	0
Approximate distance to Nearest Noise Sensitive Area (NSA) (feet) <u>d/</u>	1,320	1,999
Approximate Number of Residences within 2,000 feet	2	0
Prime Farmland (acres) <u>e/</u>	12.5	16.4
Length of Powerline (miles)	2.6	2.7

a/ Permanent Area is defined as the total area permanently impacted by operation. The new alternative site includes approximately 2.0 acres of impacts associated with a new permanent access road.

b/ Calculated from USGS topographic mapping.

c/ Topography: Flat 0 to 2 percent slope; Gently Sloping 2 to 5 percent slope; Moderately Sloping 5 to 10 percent slope.

d/ Distance measured from the cooling tower location (i.e., the loudest noise source) to the nearest Noise Sensitive Area.

e/ Based on SSURGO soil data; Elpaso soils cover approximately 2.7 acres of the proposed site and 9.7 acres of the new alternative site. These soils, which are included in the total listed on the table, are considered prime farmland only if they are drained.

Despite the relative similarities between the two sites, Sycamore Compressor Station Alternative C provides some unique advantages. For example, Alternative C is located on a parcel of land for which Guardian has successfully negotiated a purchase option. In addition, when compared to the site evaluated in the draft EIS, which is located directly adjacent to Story Road, Alternative C would be less visible due to its distance from nearby structures and roads. The new alternative site would also be about 680 feet farther from the nearest Noise Sensitive Area than the draft EIS evaluated site. Collocating the nonjurisdictional powerline with the ComEd Easement would also prevent the powerline from passing within 300 feet of any residences as it would if the draft EIS evaluated corridor along Story Road was used. Additionally, the ComEd Easement would not require any turns or bends in the powerline, whereas the corridor evaluated in the draft EIS would require two 90-degree turns. Moreover, Guardian determined that a compressor station at the end of the ComEd Easement would be more than 2,000 feet away from the nearest residence as opposed to the Story Road Corridor, which is approximately 1,300 feet from the nearest residence. Another advantage afforded by the ComEd Easement is that locating the powerline within an existing easement would reduce the overall cost incurred by ComEd and further minimize impacts on future development. For these reasons, Guardian concluded that

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utilizing the ComEd Easement would be preferable to the Story Road Corridor for providing electricity to the compressor station site. For these reasons, we believe that Sycamore Compressor Station Alternative C as filed by Guardian in the April 24, 2007 Amendment is environmentally preferable to the site originally evaluated in the draft EIS, and recommend that Alternative C be incorporated into the proposed Project.

### **Bluff Creek Compressor Station**

As part of the proposed Project, Guardian would need to add a compressor station to the existing Guardian pipeline system in order to maintain pipeline pressure. The northern station would be the Bluff Creek Compressor Station. Guardian identified one alternative site for the proposed Bluff Creek Compressor Station (see figure 3.3-20). Both sites considered for the Bluff Creek Compressor Station are located on 20.0-acre parcels of land, the proposed site is held by a farming operation, and the alternative site is owned by Guardian. No streams or other wetland, biological, or cultural resources would be affected on either site. The Kettle Moraine State Forest would suffer no impacts from the Bluff Creek Compressor Station.

There are several differences between the two sites. The proposed site has only three residences within 2,000 feet of it and is 1,160 feet from the nearest sensitive noise receptor, whereas the alternative site is 840 feet from its nearest sensitive noise receptor and has 19 residences within 2,000 feet of it. The proposed site would require no new transmission line to power the compressor station, as an existing transmission line, whereas the alternative site would require the construction of a new transmission line to access the nearest existing powerline, which is located 0.8 mile to the southwest of the site. Both sites contain prime agriculture land due to the soil type and drainage; however, the proposed site contains 20 acres and the alternative site has 12 acres. Both sites would occupy more than 5 acres of prime farmland; however, because all of the soils in the Project area constitute prime farmland soils, we were unable to identify entirely non-prime farmland alternative locations. Because of design requirements, the compressor station needs to be in this general location. While visibility from residences is expected to be low, both sites are visible by people in transit via Kettle Moraine Drive, McCabe Road, and County Highway O for the proposed site, and from Highway 12, as well as the Ice Age National Scenic Trail for the alternative site.

Possibly the biggest difference between the two sites occurs from topography and the environmental impacts that would stem from the preparation of the land for the compressor station (i.e., grading). The proposed site is flat (0 to 2 percent slope), whereas the alternative site has some steeply sloping area (greater than 10 percent slope). The soils on this steeper land would be more prone to erosion if disturbed, which could lead to additional cumulative environmental impacts after Project completion.

Because of the disadvantages of the alternative site, we recommend the original site for the location of the Bluff Creek Compressor Station as filed by Guardian in their Application to the FERC on October 13, 2006.

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Figure 3.3-20 Bluff Creek Compressor Station Alternative

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