IROQUOIS GAS TRANSMISSION SYSTEM, L.P.

08/09 EXPANSION PROJECT

DRAFT
RESOURCE REPORT 8

LAND USE, RECREATION AND AESTHETICS

PUBLIC

Prepared for:

Iroquois Gas Transmission System, L.P.
One Corporate Drive, Suite 600
Shelton, CT 06484

JULY 2007

RESOURCE REPORT 8 – LAND USE, RECREATION AND AESTHETICS

FERC ENVIRONMENTAL CHECKLIST

Part 380 – Minimum Filing Requirements for Environmental Reports	Company Compliance or Inapplicability of Requirement
Classify and quantify land use affected by (§ 380.12 (j)(1)). • Pipeline construction and permanent rights of way (§ 380.12 (j)(1)); • Extra work / staging areas (§ 380.12 (j)(1)); • Access Roads (§ 380.12 (j)(1)); • Pipe and contractor yards (§ 380.12 (j)(1)); and • Aboveground facilities (§ 380.12 (j)(1)).	Section 8.1.1 and 8.1.2 Table 8.1-1,8.1-2, 8.1-4, 8.1-5
Identify by milepost all locations where the pipeline right-of-way would at least partially coincide with existing right-of-way, where it would be adjacent to existing rights-of-way, and where it would be outside of existing right-of-way. (§ 380.12 (j)(1)).	Section 8.1.1.1.1 Table 8.1-3
Provide detailed typical construction right-of-way cross-section diagrams showing information such as widths and relative locations of existing rights-of-way, new permanent right-of-way, and temporary construction right-of-way. (§ 380.12 (j)(1)).	Volume II – Appendix H
Summarize the total acreage of land affected by construction and operation of the Project (§ 380.12 (j)(1)).	Table 8.1-2, 8.1-5
Identify by milepost all planned residential or commercial/business development and the time frame for construction (§ 380.12 (j)(3)).	Section 8.2.1.1, 8.2.2.1.1 and 8.2.2.2.1
Identify by milepost special land uses (e.g. sugar maple stands, specialty crops, natural areas, national and state forests, conservation land, etc.). (§ 380.12 (j)(4)).	Section 8.3
Identify by beginning milepost and length of crossing all land administered by Federal, state or local agencies, or private conservation organizations. (§ 380.12 (j)(4)).	Sections 8.3.1.1 and 8.3.2.1 Table 8.3-1
Identify by milepost all natural, recreational or scenic areas and all registered natural landmarks crossed by the Project. (§ 380.12 (j)(4 and 6)).	Section 8.3.1.2
Identify all facilities that would be within designated coastal zone management areas. (§ 380.12 (j)(4 and 7)).	Section 8.3.2.1.1

RESOURCE REPORT 8 – LAND USE, RECREATION AND AESTHETICS

FERC ENVIRONMENTAL CHECKLIST (continued)

Part 380 – Minimum Filing Requirements for Environmental Reports	Company Compliance or Inapplicability of Requirement
Identify by milepost all buildings that would be within 50 feet of the construction right-of-way or extra work area. (§ 380.12 (j)(5)).	Section 8.2.1.1, 8.2.1.2 8.2.2.1 and 8.2.2.2 Table 8.2-1
Identify all designated or proposed candidate National or State Wild and Scenic Rivers crossed by the Project. (§ 380.12 (j)(6)).	Section 8.3.1.3, 8.3.2.1, and 8.3.2.2
Describe any measures to visually screen aboveground facilities, such as compressor stations. (§ 380.12 (j)(11)).	Section 8.4.2
Demonstrate that applications for rights-of-way or other proposed land use have been or soon will be filed with federal land-managing agencies with jurisdiction over land that would be affected by the Project. (§ 380.12 (j)(12)).	Section 8.5

RESOURCE REPORT 8 – LAND USE, RECREATION AND AESTHETICS

TABLE OF CONTENTS

RESOURCE REPORT 8 – LAND USE, RECREATION AND AESTHETICS

TABLE OF CONTENTS (CONTINUED)

RESOURCE REPORT 8 – LAND USE, RECREATION AND AESTHETICS

TABLE OF CONTENTS (CONTINUED)

LIST OF TABLES

LIST OF FIGURES

Non Internet Public Information – Please Refer to Volume III – Appendix J

8.0 LAND USE, RECREATION AND AESTHETICS

Resource Report 8 characterizes the land use in areas affected by the 08/09 Expansion Project; identifies potential construction and operation impacts on these uses and addresses mitigation measures that will be utilized to minimize or avoid impacts. Section 8.1 describes the existing land uses impacted by the Project and quantifies impacts according to land use type. Section 8.2 provides information on existing and planned residential areas. Section 8.3 identifies special land use areas, including public lands, recreational lands and designated conservation areas, and summarizes consultations with federal, state and local agencies. Visual resources are described in Section 8.4, a description of other applications is set forth in Section 8.5 and a list of references used in preparation of this resource report is provided in Section 8.6. The information used in this report has been compiled using USGS topographic quadrangle maps, aerial photography, field reconnaissance, published information, and consultations with Federal, state and local officials.

The assessment of project-related effects on land use, scenic resources and conservation areas presented in this resource report are the professional opinion of ENSR and are based on the assumption that the FERC Plan and Procedures and Iroquois' Spill Prevention, Containment, and Control ("SPCC") Plan would be properly implemented during construction and operation of the Project facilities. Copies of these documents are available as appendices in Volume III of this ER filing.

8.1 LAND USE

Characterization of land use was completed using information gathered from field surveys conducted in 2006 and 2007 as well as through interpretation of recent aerial photographs of the Project area. Land use types along the proposed pipeline route were divided into six broad classifications: agricultural, forest/woodlands, open land (existing right-of-way), roadways, residential, and industrial / commercial land, as defined in the FERC *Guidance Manual for Environmental Report Preparation* (2005). Resource Report 3 provides a detailed description of the cover types affected by the Project. Table 8.1-1 identifies the total linear distance the Project will traverse through each land use category, and Table 8.1-2 details the construction and operation impacts associated with the Project on identified land uses. Figures showing land use / land cover types affected by the 08/09 Expansion Project Pipeline Facilities and Aboveground Facilities are included in Volume III – Appendix J (Figures 8.1-1a through 8.1-1e).

- **Agricultural:** Active croplands or hay fields;
- **Forest / Woodland:** Forested upland and wetland areas dominated by trees 20 feet or greater in height with a diameter at breast height ("DBH") of four inches or greater. As discussed in Resource Report 3, the forest cover types present in the project area: spruce forest, spruce – fir swamp, oak – hickory forest;
- **Industrial/commercial:** Developed land occupied by the Boonville Compressor Station Facility (Boonville, NY), Boonville Sales Meter Station (Boonville, NY), Hayes Road Gravel Pit (Boonville, NY), and the Wright Compressor Station Facility (Wright, NY);
- **Residential:** Residential properties with existing dwellings or planned new residential developments. This land use category includes residential lawns with or without trees, landscaping, and driveways. This land use category does not include the existing Iroquois mainline pipeline permanent easement where it extends through or adjacent to residential subdivisions or areas where residential property owners have encroached onto the Iroquois ROW;

- **Roadways:** Existing road surfaces, including dirt access roads and paved road shoulders;
- **Open Land**: Non-residential, non-forested upland and wetland areas. This category includes shrub land and grass areas within the roadway ROW, the Iroquois mainline pipeline ROW, the Niagara Mohawk Power Corporation ("NMPC") powerline ROW, the New York Power Authority ("NYPA") powerline ROW; and,

The 08/09 Expansion Project does not cross other common land uses such as open water, schools, parks, recreational fields or cemeteries.

8.1.1 Pipeline Facilities

The proposed 08/09 Expansion Project involves the construction of three sections of new, 36-inch outside diameter ("OD") pipeline looping and associated aboveground facilities along Iroquois' existing main line in New York and Connecticut with associated ancillary facilities such as extra workspace areas and pipe and equipment storage yards. The pipeline facilities and alignment, as well as aboveground facilities are described in detail within Resource Report 1 (General Project Description) and depicted on aerial alignment sheets in Volume III – Appendix M.

8.1.1.1 Construction and Permanent Right-of-Way

Iroquois is proposing a typical construction workspace ranging in width from 100 feet to 120 feet and anticipates maintaining a 50-foot wide permanent easement for the new proposed pipelines, to facilitate operation and maintenance of the pipeline. This is a combination of existing permanent easement and proposed permanent easement (the total existing Iroquois permanent easement will be wider than 50 feet due to the existing pipelines/permanent easement). Upon completion of the project, temporary workspace within the construction ROW will be allowed to revert to its pre-existing land use. Details of typical workspace configurations along the pipeline alignment are provided in Volume II – Appendix H.

8.1.1.1.1 Existing Right-of-Way

To further minimize land use impacts, the proposed pipeline and associated facilities are proposed to be constructed within or adjacent to Iroquois' existing natural gas transmission ROW. Table 8.1-3 provides information on the width of the existing known ROWs paralleled or crossed by the Project and the extent of the existing ROWs to be used during construction.

8.1.1.1.2 Additional Temporary Workspace Locations

Table 8.1-4 lists all the additional temporary workspace areas by loop segment according to approximate milepost that Iroquois anticipates using during the construction phase of the project. The total land requirements for these areas, including dimensions and locations, are also shown in Table 1.2-1 of Resource Report 1. The additional temporary workspace locations for all of the combined pipeline loop segments total approximately 6.8 acres. Disturbed areas will be restored upon completion of the project in accordance with the 2003 FERC Plan. The locations of proposed extra workspace areas are shown on the aerial alignment sheets in Volume III – Appendix M.

8.1.1.2 Access Roads

Iroquois is currently proposing to use existing public roadways, existing private access roads and proposed access roads for the project. Access roads are required for construction so the contractor may move personnel, equipment and material to the pipeline ROW. Public roads would be used for access

roads to the greatest extent possible. The majority of the access roads would require minimal modification. Table 8.1-4 provides a listing of the access roads by loop segment.

8.1.1.3 Pipe and Equipment Storage Yards

Iroquois anticipates requiring approximately 40.2 acres of pipe/contractor storage yards for the construction of the 08/09 Expansion Project pipeline facilities. Pipe yards are traditionally finalized as the proposed project moves closer to construction. For the Boonville Loop Segment, Iroquois is proposing to use:

- 10.1 acres of agricultural land adjacent to the Boonville Compressor Station facility (within existing Iroquois fee property);
- 3.9 acres of commercial/industrial land consisting of a sand pit located of Hayes Road; and
- 14.1 acres of open land adjacent to the existing ROW northwest of Millers Woods Road / Kerwin Road (See Table 8.1-5)

For the Wright Loop Segment, Iroquois is proposing to use a single pipe/contractor storage yard consisting of 5.1 acres of commercial/industrial land within the existing Iroquois Wright Compressor Station fee property in Wright, New York.

For the Newtown Loop segment, Iroquois anticipates the use of an off-site pipe/contractor storage yard that has not been secured as of the filing of this report. Iroquois will provide additional information to the Commission when pipe/contractor storage yard sites are identified for the Newtown Loop Segment.

Iroquois is seeking FERC approval for the pipe yards detailed above; however, it would make available to the Commission all documentation and mapping required, including clearances and permits if applicable, should other viable options become available that may involve less clearing.

8.1.1.4 Facility Abandonment / Replacement

This project does not involve the abandonment or replacement of existing pipeline facilities.

8.1.2 Aboveground Facilities

8.1.2.1 Milford Compressor Station

The land requirement for construction of the Milford Compressor Station is approximately 3.86 acres and would occur on Iroquois-owned property. The demarcation of the project limits, permanent new workspace, and temporary workspace areas are shown on the aerials (Volume III – Appendix M) and site plans (Volume IV – Appendix N). Table 8.1-5 provides a summary of land requirements.

The proposed Milford Compressor Station would be located within an Iroquois-owned parcel totaling 4.6 acres in size. It consists of a mix of successional habitat types, including successional old field habitat and successional scrub/shrub habitat and a maintained area consisting of the Milford Sales Meter Station. In addition, the site also contains Iroquois' 50-foot wide pipeline ROW (24-inch mainline). The Iroquois property is located in an industrialized region of the City of Milford. The surrounding properties include a railroad and landfill to the east, D & G Industries Milford Asphalt Plant No. 13 to the south and Oronoque Road and Connecticut Resource Recovery Authority to the west and north.

The total land requirement to construct the Milford Compressor Station modifications is estimated at 4.76 acres (see Table 8.1-5). The operational land component is approximately 3.11 acres and includes all of the existing meter station. The estimated 1.66 acres of temporary workspace are proposed within existing disturbed areas within and adjacent to the site where old field habitat exists. It would be restored in accordance with the 2003 FERC Plan. No workspace is proposed in wetland areas.

8.1.2.2 Brookfield Compressor Station

The land requirement for the 08/09 Expansion Project Brookfield Compressor Station modifications are approximately 0.76 acres and would occur on Iroquois-owned properties. The demarcation of the project limits, permanent new workspace, and temporary workspace areas are shown on the aerials (Volume III – Appendix M) and site plans (Volume IV – Appendix N). Table 8.1-5 provides a summary of land requirements.

The proposed Brookfield Compressor Station modifications would be located on portions of two Iroquois-owned parcels totaling 68.3 acres in size. One parcel is 3.3 acres in size and contains the Brookfield Sales Meter Station. This station has several buildings, paved and grass areas, a gated entrance, and perimeter fencing. The second parcel is approximately 65-acres in size and is the location of the Brookfield Compressor Station approved in Docket No. CP02-31-002 (to be constructed in 2007-2008). It consists of a mix of successional habitat types, mature forest, wetlands, an intermittent channel/watercourse, a ponded area along the railroad tracks, a dirt drive from High Meadow Road, and a dilapidated building structure. In addition, the site also contains Algonquin's 90-foot wide pipeline ROW (for 26-inch and 30-inch mainlines) and Iroquois' 50-foot wide pipeline ROW (24-inch mainline).

A 1963 aerial photograph shows that the entire 68.3-acre site was actively being excavated and/or used for gravel processing/asphalt productions (ENSR 2000). Iroquois purchased the 3.3-acre parcel in 1991 and constructed the existing meter station. Iroquois purchased the 65.0-acre parcel in 2003, following the removal of subsurface debris as part of an agreement with the previous landowner.

The total land requirement to construct the Brookfield Compressor Station modifications is estimated at 0.76 acres (see Table 8.1-5). The operational land component is approximately 0.44 acres, and the perimeter fencing of the previously certificated compressor station would be expanded to include the new facilities. The estimated 0.32 acres of temporary workspace is proposed within previously disturbed areas of the property. It would be restored in accordance with the 2003 FERC Plan. No workspace is proposed in wetland areas.

8.1.3 Impact and Mitigation

The primary impacts to land uses are anticipated to be associated with widening existing ROW through forested areas; temporary impacts to existing land uses, including displacement, inconveniences and encumbrances; and restrictions of future land uses within the new permanent ROW. As detailed in Table 8.1-2, a combined total of approximately 86.9 acres will be utilized for temporary workspace, additional temporary workspace or access during construction of the pipeline. No trees or structures are to be allowed within the permanent ROW to ensure operational safety and allow for routine maintenance of the facilities. Land used as temporary ROW and extra workspace will revert to pre-construction condition.

A listing of the land uses crossed by the pipeline centerline is included in Table 8.1-1. Figures showing land use / land cover types affected by the 08/09 Expansion Project Pipeline Facilities and Aboveground Facilities are included in Volume III – Appendix J (Figures 8.1-1a through 8.1-1e). The acreage of each

land use affected both temporarily and permanently by the construction and operation of the proposed pipeline facilities is presented in Table 8.1-2.

8.1.3.1 Pipeline Facilities

Agricultural

A total of 0.6 miles (7.0%) of the Project traverse agricultural lands including croplands (consisting primarily of corn fields), hayfields and pastures. A total of approximately 18.6 acres of agricultural land will be used for temporary workspace during construction, and approximately 6.7 acres will be used as permanent ROW. The agricultural land to be included as permanent ROW will not be taken out of production, as Iroquois will allow the individual landowners to maintain the pre-construction use after completion of construction. Impacts associated with construction and operation of the Project through agricultural land will be limited to the growing season in which construction occurs. Landowners will be compensated as appropriate for lost crop production and all crop damages resulting from construction activities.

To preserve soil productivity in agricultural lands, topsoil will be segregated and stored separately during construction. During the backfilling and restoration phases, topsoil will be replaced, and any stones greater than four inches in diameter uncovered during construction will be removed. Any drain tiles damaged during construction will be repaired or replaced, and a crop-monitoring program will be implemented to ensure that crop productivity is restored to pre-construction conditions. Iroquois shall also adhere to the provisions of the NYS Department of Agriculture and Markets guidance documents that provide additional impact minimization and mitigation measures that will be utilized during construction in agricultural land.

Forest/Woodland

A total of 5.7 miles (67.8%) of the Project crosses forested land, and a total of 56.8 acres of forest will be impacted during construction. Of this area, approximately 39.0 acres will be utilized as permanent ROW. As a primary mitigation measure, the route has been co-located with Iroquois' existing mainline pipeline ROWs where possible to minimize impacts to forest cover. By using this co-location to the extent practicable, construction workspace will overlap with the existing maintained ROW, thereby decreasing the total amount of forested areas that must be cleared.

Iroquois will follow the FERC Plan and applicable land owner requirements to restore the construction workspace and mitigate for temporary impacts. No old growth forests, sugar maple (*Acer saccharum*) stands or Christmas tree farms were identified within the Project area. See Resource Report 3 for more information regarding vegetation in the project area.

Industrial/commercial

None of the proposed pipeline for the Project crosses commercial/industrial land. Approximately 16.4 acres of commercial/industrial land will be temporarily impacted during construction. The commercial/industrial use in the Project area consists of Iroquois' existing compressor station facilities and the proposed pipe/contractor storage yard at the Hayes Road sand pit in Boonville, NY. The project is not expected to have a permanent impact on these commercial and industrial properties relative to a change in land use. Iroquois owns the compressor station facilities, while the Hayes Road sand pit is owned by the Town of Boonville. Iroquois anticipates restoring the property following use in accordance with the FERC Plan and applicable agreements with the Town of Boonville.

Residential

A total of 0.06 miles (0.7%) of the preferred pipeline alignment crosses property in active residential use. Approximately 0.4 acres of residential land will be used for temporary workspace during construction, and an additional 0.3 acres will be used for permanent ROW. Section 8.2 provides additional detail relative to existing and planned residences within the Project area as well as potential measures to be implemented by Iroquois to minimize impacts where the proposed workspace is located on land in active residential use.

Roadways

The Project will cross a total of 0.08 miles (0.9%) of existing roadways and associated ROW that will result in a temporary impact of 1.1 acres during construction. Potential temporary impacts associated with roadway crossing include disruption of traffic flows, identification and construction around existing underground utilities such as water and sewer lines and maintenance of emergency vehicle access; there are no anticipated permanent effects on existing use. Iroquois may reduce potential impacts associated with road crossings by utilizing conventional boring techniques to install the pipeline under major arterial roadways along the project route. The bore technique would generally be conducted for crossings of state and county roadways to the extent possible. Local roads would likely be open-cut due to workspace constraints. Resource Report 1 provides a preliminary list of proposed road crossings and a description of road construction and mitigation procedures. Iroquois is likely to incorporate measures to ensure that construction activities do not prevent the passage of fire and emergency vehicles. Traffic lanes and residential access will be maintained except for the temporary periods essential for laying pipeline.

Open Land

This category includes non-residential, non-forested upland and wetland areas, including Iroquois' mainline pipeline ROW, the Niagara Mohawk Power Corporation ("NMPC") powerline ROW, the New York Power Authority ("NYPA") powerline ROW. Approximately 2.0 miles (23.6%) of the pipeline alignment traverses open land primarily consisting of co-location within the existing Iroquois ROW. Areas of upland and wetland scrub-shrub and herbaceous vegetation are present within this land use category. Approximately 27.0 acres of this land will be used for temporary workspace during construction. An additional 18.0 acres will be used for permanent ROW, with the majority of this acreage already being maintained in an herbaceous / shrub condition through regular maintenance of the Iroqouis ROW. The use of a portion of the existing Iroquois easement allows for Iroquois to minimize impacts to forest land along the pipeline route. Iroquois will follow the FERC Plan and applicable land owner requirements to restore the construction workspace and temporary impacts. See Resource Report 3 for more information regarding vegetation in the project area.

8.1.3.2 Aboveground Facilities

The primary impacts to land uses are anticipated to be associated with clearing and widening existing disturbed areas within the meter station site; temporary impacts to existing land uses, including displacement, inconveniences and encumbrances; and restrictions of future land uses within the property. No trees or structures are to be allowed within the proximity of the new compressor station to ensure operational safety and allow for routine maintenance. Land used as temporary and extra workspace will revert to pre-construction condition.

TABLE 8.1-1

LAND USES CROSSED BY THE
08/09 EXPANSION PROJECT PIPELINE FACILITIES

Loop Segment	Roadways[a]		Forest [b]		Open Land [c]		Agricultural		Com./Ind.		Residential		Wetlands		Total
	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	
Boonville, NY	0.07	0.83	3.80	45.24	0.33	3.92	0	0	0	0	0.06	0.71	1.54	18.31	1.62
Wright, NY	0.01	0.12	0.27	3.24	0.10	1.19	0.59	7.02	0	0	0	0	0.01	0.12	5.81
Newtown, CT	0	0	1.62	19.29	0	0	0	0	0	0	0	0	0.37	4.40	0.98
Total	**0.08**	**0.95**	**5.69**	**67.77**	**0.43**	**5.11**	**0.59**	**7.02**	**0**	**0**	**0.06**	**0.71**	**1.92**	**22.83**	**8.41**

a: Includes Federal, State and local roadways
b: Upland forest only
c: Includes only those wetlands directly crossed by pipeline, maintained utility easement (railroad, electric transmission, etc.) crossings and co-locations..
Note: Total indicates the percentage of land crossed by each use type over the entire alignment.

TABLE 8.1-2

ACREAGE AFFECTED BY CONSTRUCTION AND OPERATION OF THE 08/09 EXPANSION PROJECT PIPELINE FACILITIES

Town	Roadways [a]		Forest [b]		Wetlands [d]		Residential		Com./Ind. [e]		Open Land[f]		Agricultural		Total	
	Temp[c]	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm
Boonville, NY	0.97	0	13.82	20.88	11.36	9.52	0.42	0.34	4.33	0	25.78	14.12	10.53	0.45	67.21	45.31
Wright, NY	0.14	0	1.33	3.45	0.01	0.03	0	0	5.07	0	1.17	3.48	8.11	6.23	15.83	13.17
Newtown, CT	0	0	2.65	14.67	0.89	3.54	0	0	7.0	0	0	0.35	0	0	10.54	18.56
Total	**1.11**	**0.00**	**17.80**	**38.98**	**12.26**	**13.09**	**0.42**	**0.34**	**16.40**	**0.00**	**26.95**	**17.95**	**18.64**	**6.68**	**93.58**	**77.04**

a: Includes both State and local roadways.

b: Upland forest only

c: Temporary includes the temporary workspace and additional temporary workspace (variable width and length) and does not include the permanent easement.

d: Refer to alignment sheets for total workspace within wetlands. Temporary acreage affected does not include the permanent easement.

e: No impacts to Commercial/Industrial land for pipeline facilities. Temporary impacts to Commercial/Industrial land associated with Staging Areas and Pipe / Equipment Yards only.

f: Includes maintained utility easement (railroad, electric transmission, etc.) crossings and co-locations.

TABLE 8.1-3

CO-LOCATION OF 08/09 EXPANSION PROJECT PIPELINE FACILITIES WITH EXISTING TRANSPORTATION AND UTILITY RIGHTS-OF WAY

Loop Segment	MP	Type of ROW	Width of Existing ROW (ft)	Width Used for Temporary ROW (ft)	Width Used for Operation (ft)
Boonville, NY	0.0-5.8	Existing IGTS 30-inch Pipeline	60	60	40
Boonville, NY	3.2-3.3	Existing NMPC & NYPA Overhead Powerline	60	60	40
Wright, NY	0.0-1.0	Existing IGTS 30-inch Pipeline	60	40	40
Newtown, CT	0.0-1.6	Existing IGTS 30-inch Pipeline	50	35	20

Note: For purposes of this table, average ROW widths are used. Actual dimensions vary in specific sections of the respective segments.

TABLE 8.1-4

ADDITIONAL TEMPORARY WORKSPACE, ACCESS ROADS, AND PIPE/EQUIPMENT STORAGE YARDS FOR THE 08/09 EXPANSION PROJECT PIPELINE FACILITIES

Facility	Loop Segment	MP	Dimension of Work Area (feet)	Description	Existing Land Uses (Acres) [1/]					
					Com. /Ind.	Res.	Agric.	Forest	Open Land	Total
ADDITIONAL TEMPORARY WORKSPACE AREAS										
ATWS	Boonville, NY	-0.10	325 x 57	Staging Area/Begin Project			0.4			0.4
*ATWS	Boonville, NY	-0.02	210 x 25	Staging Area/Begin Project				0.1		0.1
*ATWS	Boonville, NY	1.14	25 x 200	Route 61 Crossing				0.1		0.1
*ATWS	Boonville, NY	1.14	160 x 90	Staging Area/Road Crossing	0.3					0.3
*ATWS	Boonville, NY	1.18	25 x 140	Road/Wetland Crossings				0.1		0.1
*ATWS	Boonville, NY	1.18	50 x 60	Road Crossings				0.05		0.05
*ATWS	Boonville, NY	1.22	25 x 130	Kirk Road Crossing				0.05		0.05
*ATWS	Boonville, NY	1.22	25 x 205	Kirk Road Crossing				0.1		0.1
*ATWS	Boonville, NY	1.93	25 x 220	Lachausse Road Crossing				0.1		0.1
ATWS	Boonville, NY	2.01	25 x 200	Lachausse Road Crossing				0.1		0.1
*ATWS	Boonville, NY	5.72	25 x 200	Kerwin Road Crossing				0.1		0.1
ATWS	Boonville, NY	5.77	25 x 200	Kerwin Road Crossing				0.1		0.1
ATWS	Wright, NY	0.14	25 x 1870	Topsoil Segregation			1.1			1.1

TABLE 8.1-4

ADDITIONAL TEMPORARY WORKSPACE, ACCESS ROADS, AND PIPE/EQUIPMENT STORAGE YARDS FOR THE 08/09 EXPANSION PROJECT PIPELINE FACILITIES

Facility	Loop Segment	MP	Dimension of Work Area (feet)	Description	Existing Land Uses (Acres) [1/]					
					Com. /Ind.	Res.	Agric.	Forest	Open Land	Total
ATWS	Wright, NY	0.52	25 x 365	Topsoil Segregation			0.2			0.2
*ATWS	Wright, NY	0.59	50 x 200	Topsoil Segregation/Route 26 Crossing			0.3			0.3
ATWS	Wright, NY	0.59	12 x 200	Route 26 Crossing			0.1			0.1
ATWS	Wright, NY	0.63	50 x 200	Route 26 Crossing			0.3			0.3
ATWS	Wright, NY	0.63	12 x 200	Route 26 Crossing			0.1			0.1
ATWS	Wright, NY	0.66	25 x 175	Topsoil Segregation			0.1			0.1
ATWS	Wright, NY	0.71	50 x 345	Topsoil Segregation/Stream Crossing				0.4		0.4
*ATWS	Wright, NY	0.81	50 x 1150	Topsoil Segregation/Stream Crossing				0.5		0.5
ATWS	Wright, NY	0.97	12 x 205	Staging Area			0.1			0.1
ATWS	Wright, NY	0.98	130 x 540	Staging Area			2.0			2.0
Total:					**0.3**	**0.0**	**4.7**	**1.8**	**0.0**	**6.8**

TABLE 8.1-4

ADDITIONAL TEMPORARY WORKSPACE, ACCESS ROADS, AND PIPE/EQUIPMENT STORAGE YARDS FOR THE 08/09 EXPANSION PROJECT PIPELINE FACILITIES

Facility	Loop Segment	MP	Dimension of Work Area (feet)	Description	Existing Land Uses (Acres) [1/]					
					Com. /Ind.	Res.	Agric.	Forest	Open Land	Total
ACCESS ROADS										
Access Road	Boonville, NY	2.84	12 x 2,780	AR 1-1					0.8	0.8
Access Road	Boonville, NY	3.17	12 x 1,930	AR 1-2					0.5	0.5
Access Road	Boonville, NY	5.23	12 x 2,156	AR 1-3					0.6	0.6
Access Road	Boonville, NY	5.81	12 x 200	AR 1-4					0.05	0.05
Access Road	Wright, NY	0.98	12 x 2,220	AR 2-1 (Permanent/Valve Site Access)			0.4		0.3	0.7
Access Road	Newtown, CT	0.0	12 x 80	AR 3-1 (Permanent/Valve Site Access)					0.02	0.02
Access Road	Newtown, CT	0.47	12 x 1,180	AR 3-2					0.3	0.3
Access Road	Newtown, CT	1.64	12 x 85	AR 3-3 (Permanent/Valve Site Access)					0.02	0.02
Total:					**0.0**	**0.0**	**0.4**	**0.0**	**2.59**	**2.99**

TABLE 8.1-4

ADDITIONAL TEMPORARY WORKSPACE, ACCESS ROADS, AND PIPE/EQUIPMENT STORAGE YARDS FOR THE 08/09 EXPANSION PROJECT PIPELINE FACILITIES

Facility	Loop Segment	MP	Dimension of Work Area (feet)	Description	Existing Land Uses (Acres) [1/]					
					Com. /Ind.	Res.	Agric.	Forest	Open Land	Total
PIPE YARDS AND EQUIPMENT STORAGE AREAS [2/]										
Pipe Yard	Boonville, NY	N/A	550 x 800	Pipeyard/Boonville Compressor Station Fee Property			10.1			10.1
Pipe Yard	Boonville, NY	N/A	535 x 335	Pipeyard/Hayes Road	3.9					3.9
Pipe Yard	Boonville, NY	5.34	610 x 1000	Pipeyard/Staging Area off Millers Woods Road					14.1	14.1
Pipe Yard	Wright, NY	N/A	540 x 410	Pipeyard/Wright Compressor Station Fee Property	5.1					5.1
Pipe Yard	Newtown, CT	N/A	TBD	Pipeyard (Location TBD)	7.0					7.0
Total:					**16.0**	**0.0**	**10.1**	**0.0**	**14.1**	**40.2**
Project Total (ATWS, Access Roads, and Yards):					**16.3**	**0.0**	**15.2**	**1.8**	**16.64**	**49.99**

* Denotes ATWS within 50 feet of a wetland or waterbody due additional workspace required for road or waterbody crossing . Variance from FERC Plan and Procedures required.

TABLE 8.1-5

LAND REQUIREMENTS FOR THE 08/09 EXPANSION PROJECT ABOVEGROUND FACILITIES

Proposed Facility	Land Use	Temporary/Extra Workspace During Construction (acres)	Land Affected During Operation (acres)	Total (acres)
Compressor Station (Milford, CT)	Open Land	0	0	0
	Forestland	0	0	0
	Other Undeveloped Lands (i.e. old field, shrubland, dirt road) [1/]	1.65	3.11	4.76
SUBTOTAL		1.65	3.11	4.76
Compressor Station Modifications (Brookfield, CT)	Open Land	0	0	0
	Forestland	0	0	0
	Other Undeveloped Lands (i.e. old field, shrubland, dirt road) [1/]	0.32	0.44	0.76
SUBTOTAL		0.32	0.44	0.76
TOTAL		**1.97**	**3.55**	**5.52**

8.2 RESIDENTIAL AREAS

8.2.1 Pipeline Facilities

8.2.1.1 Planned Residential and Commercial Areas

Planned development means any development that is included in a master plan or is on file with the local planning board or the county. All towns with portions of the proposed Project within in their municipal limits have been notified either by phone or consultation letter to identify any proposed future development within a quarter mile radius of the Project. Copies of all correspondence are located within Volume II - Appendix B. Vacant land and existing construction sites were also noted during ENSR's field surveys conducted in 2006 and 2007.

8.2.1.1.1 Boonville Loop Segment

Correspondence from the Village of Boonville Planning Board (Stabb 2007) has indicated that they have not received any plans or been contacted regarding any planned developments within 0.25-miles of the Boonville Loop Segment Project area. Further, the Village of Boonville Planning Board stated in their correspondence that they would notify ENSR should any applications or motions be made regarding any developments within the vicinity of the Project area. Any future correspondence with the Boonville Planning Board subsequent to the filing of this Environmental Report shall be forwarded to the Commission for review.

8.2.1.1.2 Wright Loop Segment

Correspondence has been initiated with the Town of Wright Supervisor relative to any planned residential or commercial developments within 0.25-miles of the Project area, however no response has been received to date. Any future correspondence with the Town of Wright subsequent to the filing of this Environmental Report shall be forwarded to the Commission for review.

8.2.1.1.3 Newtown Loop Segment

Consultation with the Town of Newtown Planning and Zoning Commission indicated that while several parcels crossed by the Newtown Loop Segment alignment were capable of being developed, there were no approved developments on file or pending before the Planning and Zoning Commission for the referenced parcels (O'Neil 2007, Mazur 2007).

8.2.1.2 Existing Residences and Buildings

All residential dwellings and buildings located within 50 feet of the proposed construction ROW are listed in Table 8.2-1 and identified on the aerial alignment sheets. A total of one structure (residential) is located within 50 feet of the construction ROW. Iroquois is currently preparing site-specific mitigation plans for these structures and will be forwarding them upon completion. These plans describe the construction techniques to be used to minimize workspace requirements on these residential/commercial properties, contain a dimensional site plan showing the relation of the residence to the pipeline centerline and workspace areas, and detail restoration plans.

Iroquois anticipates adherence to the residential mitigation measures contained in the FERC Plan. Certain trees, shrubs, dense herbaceous growth, and other obstructions may be cleared or removed from the construction ROW. During construction in areas where the Project alignment is located in proximity to existing residential development, all open ditches may be secured with orange safety fencing to ensure the safety of the public. All residences adjacent to the construction ROW are anticipated to be fenced (either orange snow fencing or chain-link fencing) for a length of 100 feet to ensure that construction equipment and materials stay within the confines of the construction ROW. Proper dust controls will be used. Iroquois anticipates having its land agents coordinate the proposed work activities, including restoration measures, with landowners who would be directly affected by construction during easement negotiations.

Landowners are to be notified of planned construction activities well in advance of the scheduled construction. Traffic control personnel may be employed during construction activities to allow for traffic flow and local access for emergency vehicles, if required. All pipeline trenching, installation, and backfill activities are anticipated to be completed on a timely basis, and no open trench will be left during extended periods of no construction activity. Dust control will be maintained with the use of water trucks

to spray down the construction area as needed, and the strict enforcement of speed limits for construction equipment and associated vehicles.

A minimum of 25 feet would be maintained between the residence and the construction workspace area for a distance of 100 feet of either side of the residence where possible as a buffer to construction activities. Iroquois is currently reviewing the structures located within 25 feet of the construction corridor to minimize impact on these properties. Special construction methods will be developed for these landowners who will allow the contractor to limit construction activities between the pipe and the structures. Iroquois anticipates that mature trees and landscaping would not be disturbed within the edge of the construction work area unless it is necessary for the safe operation of equipment. When landscaping and mature trees require removal, the areas will be fully reclaimed and restored as soon as is practical following completion of backfill in accordance with individual landowner agreements. Fencing will be maintained through the open trench phases of pipeline installation.

TABLE 8.2-1

RESIDENCES AND BUILDINGS WITHIN 50 FEET OF THE 08/09 EXPANSION PROJECT PIPELINE FACILITIES CONSTRUCTION WORK SPACE

Project Component	Loop Segment	MP	Number of Structures & Type	Distance (feet)		Proposed Mitigation[a]
				Edge of Construction ROW	Pipeline Centerline	
Pipeline	Boonville, NY	1.85	1 – Residential	20	84	a

a: Mitigation Key:
- a: Avoid removal of mature trees, immediately restore all lawn areas after backfilling trench, fence construction work area throughout the open fence phase of construction
- b: Use stove-piping or drag-section construction techniques
- c: Fence the edge of the ROW in accordance with landowner agreements
- d: Restore pavement and sidewalk following pipe installation, backfill to road construction standards
- e: See site-specific work plan.

8.2.2 Aboveground Facilities

8.2.2.1 Milford Compressor Station

8.2.2.1.1 Planned Residential and Commercial Development

The Town of Milford has been notified either by phone and consultation letter to identify proposed future development within a quarter mile radius of the project. Copies of all correspondence are located within Volume II - Appendix B. Vacant land and existing construction sites were also noted during ENSR's field surveys conducted in 2007. No response has been received to date.

8.2.2.1.2 Existing Residences and Buildings

No residences or buildings (excluding Iroquois facilities and abandoned buildings to be removed) are located in or within 50 feet of the proposed workspace at the Milford Compressor Station site. All of the

proposed facilities and associated workspace areas are proposed within the limits of Iroquois' property and, thus, no access permission from nearby private or public property owners is expected to be required.

8.2.2.2 Brookfield Compressor Station

8.2.2.2.1 Planned Residential and Commercial Development

Planned development means any development that is included in a master plan or is on file with the local planning board or the county. The Town of Brookfield has been notified either by phone or consultation letter to identify proposed future development within a quarter mile radius of the project. Copies of all correspondence are located within Volume II - Appendix B. Vacant land and existing construction sites were also noted during ENSR's field surveys conducted in 2005, 2006 and 2007.

8.2.2.2.2 Existing Residences and Buildings

The proposed Brookfield Compressor Station would be located in proximity to one existing residence (67 High Meadow Road), which is located across High Meadow Road from the existing meter station. A second residence next door to this existing home (to the east) is currently under construction. Clearing has already begun. Iroquois estimates that the existing house is located approximately 90 feet from Iroquois' property line. The residence under construction appears to be located approximately 100 feet from Iroquois' property. The southern boundaries of the two residential properties along High Meadow Road are about 30 feet from the fence line of the existing meter station.

Iroquois estimates that there are approximately 196 houses located within ½-mile of the proposed compressor building. Attachment A of this resource report contains an aerial based figure that shows the distribution of houses within ½-mile of the proposed compressor building emission stack, differentiating between those in existence in 2002 and those built after 2002. The year 2002 was used because that is the year that the Commission issued its certificate for the Brookfield Compressor Station as part of the CP02-31 proceedings. Based on Iroquois' estimates, 166 houses existed in 2002 (85 percent) and 30 houses (15 percent) have been built since 2002 (including the house under construction on High Meadow Road). All but 6 of these new homes are within the "Carriage Homes on the Pond" subdivision located on Black Swan Court southeast of the project site across the railroad tracks. Iroquois estimates that the closest residential property in this subdivision to the proposed turbine exhaust stack is approximately 1,000 feet. At its closest point, the distance between this residential property and the proposed station fence line is approximately 670 feet.

Iroquois is designing the compressor station with noise-reduction technology discussed in Resource Report 9 and maintaining existing vegetative buffers around the work areas to minimize noise impacts on residences due to construction and operation of the compressor station. It is not expected that trees along High Meadow Road would be removed. Vehicle trips on High Meadow Road associated with the operation of the compressor station would be minimal, as the station is designed to be operated remotely.

Except for the house under construction on High Meadow Road, Iroquois is not aware of any planned developments near the proposed Brookfield, CT project site (Zazon 2005). The 65.0-acre parcel was previously the location of a proposed residential subdivision known as Low Meadow Estates. This project consisted of constructing ten new single family building lots. Each lot was to be served by a well and septic system. This subdivision plan is no longer under consideration and Iroquois purchased the property in June 2003.

Noise sensitive receptors ("NSA's") proximate to the Brookfield, CT site are discussed in Section 9.4.2.1 in Resource Report 9. The seven nearest NSA's, their descriptions and distances between the NSA property line and the turbine/compressor building are summarized in Table 9.4.3.1-1 in Resource Report 9. Also, attachment E in Resource Report 9 provides an aerial based drawing showing the distances of NSA's from associated property limits to the proposed station's emission stack (this figure is Critical Energy Infrastructure Information ("CEII") and has been moved to Volume IV – Appendix N).

8.3 PUBLIC LAND, RECREATION, AND OTHER DESIGNATED AREAS

8.3.1 Pipeline Facilities

8.3.1.1 Public Land

Public lands, recreation areas and other special land uses located within the proposed Project area are identified in Table 8.3-1, which also details location, distance crossed, acreage affected and proposed impact minimization measures to be used during construction and operation. Figures showing public and recreational lands crossed by the 08/09 Expansion Project Pipeline Facilities and Aboveground Facilities are included in Volume III – Appendix J (Figures 8.3-1a through 8.3-1c).

The proposed loop segments in Boonville and Wright, New York will not cross any National forests, State forests or land administered by federal, State or local agencies such as Native American reservations, designated wilderness areas, nature preserves or registered natural landmarks.

The proposed loop segment in Newtown, Connecticut is partially located within the Paugussett State Forest. Iroquois has contacted CTDEP regarding the potential acquisition of temporary workspace and permanent easement as well as methods for minimizing impacts to the State Forest.

TABLE 8.3-1

PUBLIC RIGHTS-OF-WAY CROSSED BY THE 08/09 EXPANSION PROJECT PIPELINE FACILITIES

Project Facility	Loop Segment	Milepost	Total Public ROW Crossing Length (ft)	Acreage Affected by Construction (acres)		Total
				Temp.	Perm.	
Pipeline/ Route 61	Boonville, NY	1.18	63	0.14	0	0.14
Pipeline/ Kirk Road	Boonville, NY	1.21	65	0.25	0	0.25
Pipeline/ Lachausse Road	Boonville, NY	2.00	68	0.23	0	0.23
Pipeline/ Kerwin Road	Boonville, NY	5.76	60	0.14	0	0.14
Pipeline/ Route 26	Wright, NY	0.63	30	0.14	0	0.14
Total:				**0.9**	**0**	**0.9**

8.3.1.2 Natural, Recreational, or Scenic Areas

A review of property owners performed by Iroquois identified that the majority of the project area, aside from the Paugussett State Forest in Newtown, CT, is in private ownership. Iroquois has had verbal contact with all landowners and has not identified any conflicts with landfills, golf courses, racetracks, airfields, special agricultural products or privately owned nature preserves. Public lands and designated recreation and scenic areas crossed by the proposed pipeline are documented in Table 8.3-1. Figures showing public and recreational lands crossed by the 08/09 Expansion Project Pipeline Facilities and Aboveground Facilities are included in Volume III – Appendix J (Figures 8.3-1a through 8.3-1e). Please refer to Resource Report 4 for information regarding the presence of land of local historical or cultural significance (i.e., Native American religious sites, historic districts, etc.).

8.3.1.3 Federal and State Wild, Recreational, and Scenic River System

The project area is not located within 0.25-mile of the Federal Wild, Scenic, and Recreational River System. The Wild and Scenic Rivers Act, Public Law 90-542, October 2, 1968, provides for the establishment of a system of rivers to be preserved as free-flowing streams accessible for public use and enjoyment. Components of the system, which may include only a portion of a river, are classified as wild, scenic, or recreational rivers according to the degree of development on the river, shorelines, and adjacent lands. Lands within the Wild, Scenic, and Recreational Rivers System are designated by Congress and administered by the National Parks Service ("NPS"). The Upper Delaware River is the only Wild and Scenic River in New York (NPS 2004).

8.3.1.4 Coastal Zone Management Area

All of the proposed pipeline loop segments are located outside of the designated coastal zones in New York and Connecticut.

8.3.1.5 Hazardous Waste Sites and Landfills

Environmental Data Resources (EDR) of Southport, Connecticut, provided regulatory information on potential sources of soil and groundwater contamination within the project area using available federal and state database searches. The EDR regulatory database search performed as part of FERC reporting requirements researched properties listed on 50 different environmental regulatory databases (as set forth in the ASTM Standard for Phase I Environmental Site Assessments) up to a 0.25 mile radius from the Project facility locations.

Boonville Loop Segment

No mapped sites were identified within the 0.25 search radius; however, 51 "orphan" sites were identified. Orphan sites are those with incomplete or unmappable addresses. ENSR reviewed the list of Orphan sites to determine if any of these sites had the potential to impact the project. In ENSR's opinion, based on the available address information, none of the Orphan sites are likely to impact the project.

Wright Loop Segment

No mapped sites were identified within the 0.25 search radius; however, 62 "orphan" sites were identified. Orphan sites are those with incomplete or unmappable addresses. ENSR reviewed the list of Orphan sites to determine if any of these sites had the potential to impact the project. In ENSR's opinion, based on the available address information, none of the Orphan sites are likely to impact the project. It should be noted that Iroquois was listed on the NY Spills, NY Historic Spills, Facility Index System (FINDS), Resource Conservation and Recovery Act Small Quantity Generator (RCRA-SQG), and NY Manifest databases. Two incidental releases (less than one gallon) of oil have occurred at the Wright

Compressor Station. The remaining Iroquois database listings are not contamination-related databases, and simply indicate that the property generates small quantities of hazardous waste, which are contained, labeled, stored and disposed in accordance with applicable regulations.

Newtown Loop Segment

No mapped sites were identified within the 0.25 search radius; however, 21 "orphan" sites were identified. Orphan sites are those with incomplete or unmappable addresses. ENSR reviewed the list of Orphan sites to determine if any of these sites had the potential to impact the project. In ENSR's opinion, based on the available address information, none of the Orphan sites are likely to impact the project.

8.3.2 Aboveground Facilities

8.3.2.1 Milford Compressor Station

The construction and operation of the Milford Compressor Station is not expected to adversely affect recreational or public interest areas. A majority of the project area has been previously disturbed from commercial and industrial operations and now includes a meter station, and the project does not involve clearing mature forest habitat. The proposed station yard does not contain or appear to be located within 0.25-mile of a designated recreational or other public interest area administered by federal, State, or local government agencies; or private entities (ESRI 2005; See Figure 8.3-1d in Volume III – Appendix J). The property does not contain prime farmland soils, and is not being used for agricultural purposes (NRCS 2007).

The Federal Emergency Management Agency ("FEMA") has published Flood Insurance Rate Maps for the Town of Milford. This mapping is used to determine if any portion of the subject property is located within a special flood hazard area inundated by the 100-year flood. Based on this FEMA (1979) mapping, the compressor station site is outside of the 100-year flood zone and lies within an area of minimal flooding. The project area is not located within 0.25-mile of the Federal Wild, Scenic, and Recreational River System. The Wild and Scenic Rivers Act, Public Law 90-542, October 2, 1968, provides for the establishment of a system of rivers to be preserved as free-flowing streams accessible for public use and enjoyment.

8.3.2.1.1 Coastal Zone Management Area

The Connecticut Department of Environmental Protection ("CTDEP") Office of Long Island Sound Program ("OLISP") is responsible for ensuring that any projects or activities of federal agencies that take place within the State's coastal zone are consistent with the policies of the Connecticut State Coastal Management Program and approved Local Waterfront Revitalization Programs. The project area is located within the Connecticut State coastal zone (Resler 2006) (see Figure 8.3-1d in Volume III – Appendix J). Consultation has been initiated with OLISP regarding the approval process for siting the compressor station within the coastal zone.

8.3.2.1.2 Hazardous Waste Sites and Landfills

Environmental Data Resources (EDR) of Southport, Connecticut, provided regulatory information on potential sources of soil and groundwater contamination within the project area using available federal and State database searches. The EDR regulatory database search performed as part of FERC reporting requirements researched properties listed on 50 different environmental regulatory databases (as set forth in the ASTM Standard for Phase I Environmental Site Assessments) up to a 0.25 mile radius from the Project facility locations. Table 8.3-2 provides a listing of identified sites. It is ENSR's opinion that

none of the identified sites will affect or be impacted by the construction or operation of the Milford Compressor Station.

TABLE 8.3-2

EDR DATABASE LISTINGS WITHIN 0.25 MILESOF THE MILFORD COMPRESSOR STATION PROPERTY

Site #ID	Site Name/ Address	Relevant Database	Contamination Issues	Comments
1	D'Addario Landfill	LWDS	Active leachate discharge to ground from a "bulky" waste landfill.	Site not listed on a contamination-related database.
2	Southern CT Gas Cooling Water - Surface	LWDS	Active cooling water discharge to surface water.	Site not listed on a contamination-related database.
3	Southern CT Gas 775 Oronoque Road Milford, CT	CT Manifest	Lists waste manifest numbers for materials disposed off-site. No waste codes were provided.	Site not listed on a contamination-related database.
A4, A5, A6	Bridgeport Concrete & Asphalt / O&G Industries Milford Asphalt Plant 950 Oronoque Road Milford, CT	CT Property, SDADB, RCRA-SQG CT Manifest UST	In 1990, a Form III Transfer Act form was submitted to DEP, indicated that a release had occurred and had not been remediated OR conditions at the site were unknown. The LEP Verification / DEP Approval Date was in May 2005. No further information was provided regarding the SDADB or CT Property database listings. No RCRA violations were listed. Waste codes were not provided in the CT Manifest database listing. A 550-gallon UST with unspecified contents, and two 2,000-gallon heating oil USTs were removed from this site.	Limited information provided in database. Further information necessary in order to determine if this site is a concern.

SDADB – Site Discovery and Assessment Database
LWDS – CT Leachate and Wastewater Discharge Sites

8.3.2.2 Brookfield Compressor Station

The construction and operation of the Brookfield Compressor Station is not expected to adversely affect recreational or public interest areas. A majority of the project area has been previously disturbed from

sand and gravel operations and now includes a meter station and the project does not involve clearing mature forest habitat. The proposed station yard does not contain or appear to be located within 0.25-mile of a designated recreational or other public interest area administered by federal, State, or local government agencies; or private entities (ESRI 2005; See Figure 8.3-1e in Volume III – Appendix J). It is located outside of any State or national wild or scenic river system and Connecticut's State coastal zone (CTDEP 1995), does not contain prime farmland soils, and is not being used for agricultural purposes.

The proposed compressor station yard would be located between 0.25-mile to 0.5-mile of the Whisconier Middle School, adjacent Town open space, and a Presbyterian church. The middle school property and the Town open space abut the northwestern extent of Iroquois' 65-acre property. The church property, which has frontage along Whisconier Road, is further separated from Iroquois' property by several residential properties (ESRI 2005). Iroquois estimates that at its closest point, the proposed compressor building emission stack is approximately 2,040 feet to the middle school property and 2,325 feet to the school's closest building. The distance between the school property line and the proposed station yard fence line, at its closest point, would be approximately 1,800 feet.

The Federal Emergency Management Agency ("FEMA") has published Flood Insurance Rate Maps for the Town of Brookfield. This mapping is used to determine if any portion of the subject property is located within a special flood hazard area inundated by the 100-year flood. Based on this FEMA (1979) mapping, the compressor station site is outside of the 100-year flood zone and lies within an area of minimal flooding. The wetlands located along the railroad south of the project area occur between the 100-year and 500-year flood boundary.

The project does not cross any other public or private conservation lands including National or State parks and forests, Native American reservations, federal or State wildlife management areas, nature preserves, National trails, or flood control lands (see Figure 8.3-1e in Volume III – Appendix J). The project area is not located within 0.25-mile of the Federal Wild, Scenic, and Recreational River System and is not located within the coastal zone.

8.3.2.2.1 Hazardous Waste Sites and Landfills

At the request of Iroquois, ENSR prepared a Phase I Environmental Site Assessment ("ESA") in March 2000 for the entire 68.3-acre property in accordance with the scope and limitations of the ASTM Standard Practice E 1527-97 for ESAs. The purpose of the ESA was to identify the presence of any hazardous substances or petroleum products affecting the subject property; establish a baseline of environmental conditions for historic and comparative purposes; identify whether any hazardous substances have been stored, released, or disposed of on the subject property. The preparation of the ESA included a review of the following five previous investigations conducted at the site since 1991:

- An environmental investigation conducted by Environmental Laboratories, Inc. (ELI) in 1991;
- An investigation of the subject property (i.e. the Former North American Rock Company) conducted by YWC Technologies, Inc. (YWC) in 1992;
- A Phase II investigation of the subject property conducted by Groundwater, Inc. (GWI) in 1994;
- A supplemental Phase II investigation performed by Marin Environmental (formerly GWI) in March of 1995; and,
- Additional samples were collected from the seven on-site groundwater monitoring wells installed by GWI/Marin by Environmental Management Geological Consultants, inc. (EMGC) in January and February, 2000.

ENSR's ESA, which summarized the above reports as well as its own updated records review and site inspection, concluded the following:

- According to previous reports prepared for the subject property, three underground storage tanks (USTs) were present at the subject site. The tanks included two petroleum tanks estimated to have a capacity of 3,000 gallons each, and a concrete waste oil tank. The presence of the USTs was evidenced by vent pipes noted in the area of the tanks at the time of ENSR's inspection. These tanks were not registered with State or local authorities and were out of compliance with Connecticut UST regulations.
- In March 1992, test pits were installed at the subject site to investigate the on-site USTs. Results of the test pit installation activities indicated the presence of subsurface soil contamination in the area of the concrete UST. In 1994, product samples from two of the three on-site USTs were collected.
- Results of the product samples obtained from two of the three USTs indicated that gasoline and diesel were stored in the two steel USTs, approximately 2,000-gallons of water was present in each of them and approximately 180-gallons of diesel fuel was present. No samples were obtained from within the concrete UST.
- In September 1994, two soil samples (SS-1 and SS-3) registered TPH concentrations above 100 ppm, the CTDEP cleanup guideline that was in effect at that time. Soil samples SS-1 and SS-2 registered a Toxicity Characteristic Leaching Procedure ("TCLP") concentration of lead above the applicable CTDEP drinking water standard of 0.015 ppm.
- In March of 1995, one well (GW-4) was installed downgradient of the USTs. Samples collected from this well had registered contaminants above applicable CTDEP groundwater protection criteria that were in use at that time. The contaminants identified were benzene and TPH, consistent with the storage of petroleum products. In January 2000, a second round of samples was collected from the seven on-site groundwater monitoring wells. Analysis of the samples indicated concentrations of cadmium, chromium, and TPH above applicable CTDEP groundwater standards in well GW-4. Finally, in February 2000, a sample was obtained from well GW-4 to confirm the results of previous sampling events. Analysis of this sample indicated concentrations of cadmium and TPH above applicable CTDEP groundwater standards. The results from GW-4 indicate that a release had likely occurred from the USTs. CTDEP UST regulations require that suspected releases from USTs must be reported within 24 hours. There was no record that such reporting was performed.
- Numerous areas of unpermitted solid waste dumping were noted at the time of ENSR's inspection. Solid waste observed on site include abandoned automobiles, automobile parts, tires, construction debris, household furniture and appliances, pails, storage tanks, and empty 55-gallon drums. Although no areas of staining or stressed vegetation were observed by ENSR, YWC's 1992 Phase I ESA had identified areas of minor staining. It was ENSR's opinion that the solid waste disposed of on site had the potential to contain hazardous wastes, lead based paint, asbestos and/or petroleum products.
- A former settling lagoon that has been filled with solid waste debris was located on the boundary of the subject property and the adjacent Iroquois meter station (former Peckham Materials) property. This lagoon was associated with the former asphalt plant that was located on the Iroquois property.

Since the completion of ENSR's ESA, EMGC has completed additional work at the site. This work has included:

- The registration and removal of the USTs and approximately 20 cubic yards of oil-impacted soil. EMGC reported a release of oil from the USTs to the CT DEP.
- The removal of surficial solid waste debris including 55-gallon drums, automobile bodies and parts, tires and solid waste.
- The installation and sampling of additional monitoring wells.

As site work progressed, six main areas of solid waste disposal had been identified. These include:

- An area of partially buried automobiles in the northern portion of the site;
- An area of surficial and buried solid waste along the site access road in the central portion of the site. Clean-up of this area was initiated but is incomplete;
- An area of buried tires near the fence line with the adjacent Iroquois meter station. This is likely the former Peckham Materials settling lagoon;
- An area of partially buried drums and automobile bodies and parts located in the southeastern portion of the site;
- An area of solid waste disposal located in the southern portion of the site; and,
- An area of metal debris located on the western side of the site just south of the Algonquin Gas right of way.

Site wide Phase II/Phase III investigations were undertaken by both EMGC and ENSR to fully characterize the site and identify potentially unknown disposal areas. The Phase II and Phase III investigations included a site-wide magnetometer survey to identify buried metal, test pits conducted in areas with magnetic anomalies, a "fence-line" groundwater investigation, and installation of additional monitoring wells in and around disposal areas and additional characterization of soil within the disposal areas. From these investigations, it was determined that no additional extensive areas of solid waste disposal were present and no groundwater contaminant plume was identified at the downgradient edge of the property, plus scattered surface debris across the property was mapped. The tires identified at the fence line with the meter station property proved to be only minor debris as evidenced by three test pits.

The former site owner undertook the clean-up of the property as a voluntary clean-up under Connecticut General Statute (CGS) 22a-133x. Since the site is located in an area where private residences utilize groundwater for potable supply and given the public's interest in the site, the Connecticut Department of Environmental Protection ("CTDEP") elected to retain oversight of the site clean-up. Debris removal continued from the fall of 2004 into the summer of 2005. As of December 2005, all known debris areas had been removed from the site.

Two reports documenting the debris removal were submitted to CTDEP for review and approval and, as of March 28, 2006, are in review. Groundwater monitoring relative to the solid waste and debris removal has not taken place as of December 2005. However, groundwater monitoring relative to the former USTs was completed as part of the CTDEP approved Work Plan for the site wide clean-up effort. Monitoring consisted of the replacement of one well that had historically low concentrations of petroleum constituents detected as well as two additional downgradient wells installed in relatively close proximity to the former USTs. Four consecutive quarters of monitoring were completed beginning in December 2004 and ending in October 2005. No petroleum related compounds were detected in any round and only

one metal, arsenic, was detected. However, this was in only one round and was not detected in a duplicate sample. It was the analytical laboratory's opinion that this detection was a likely laboratory artifact that had been introduced to the sample and was not from the site. The former site owner's consultant has requested that the CTDEP approve no further monitoring or other action for the UST area.

This site has undergone soil remediation conducted under a Connecticut voluntary remediation program pursuant to CGS 22a-133x and groundwater monitoring is being completed in accordance with the Connecticut Remediation Standard Regulation ("RSR") in one area of concern ("AOC") where three underground storage tanks ("UST"s) and 15 cubic yards of associated impacted soil had been removed in 2000. As of December 2005, all known debris areas had been removed from the site and groundwater monitoring is to be conducted in the balance of the AOCs where debris and associated impacted soil had been removed. Based on four consecutive quarterly sampling rounds where no contaminants of concern were detected above GA groundwater protection criteria for the former UST AOC, the former site owner's consultant requested that the CTDEP determine that no further monitoring is needed. However, the CTDEP denied the request on the basis that two of five wells were dry in two of four consecutive quarterly groundwater monitoring events. The former UST AOC is located in the same portion of the site where the Brookfield Compressor Station is to be constructed. Any additional groundwater onitoring required for the former UST AOC will be conducted in conjunction with the groundwater monitoring to be completed in association with other AOCs where soil removal was conducted. In addition, CTDEP has requested that additional discrete soil samples be collected in areas where composite soil samples had been collected following soil removal. The additional sampling is anticipated to be conducted in the summer of 2007. In May of 2007, following a meeting at which Iroquois presented proposed construction plans as they relate to site remedial activities, CTDEP issued a letter indicating that they concurred that the construction activities at the site will not interfere with site remedial activities or groundwater monitoring efforts.

8.3.3 Impact and Mitigation

The proposed pipeline will be installed adjacent to a portion of the Paugusset State Forest associated with the Newtown, CT Loop Segment. Impacts to this area will be limited to the corridor along the existing Iroquois pipeline. Impact minimization and mitigation measures for construction of the Project in this area will be developed, and designated land uses within this area will not be permanently impacted or changed as a result of the Project.

Iroquois will provide and maintain, in a safe condition, private roads, and entrances that will be used or affected by construction of the Project. After construction and prior to leaving a work area, the contractor will be required to cleanup all surplus materials that remain on the site. Potential mitigation measures to be utilized within the state forest include selective tree removal, revegetation of temporary and permanent ROWs and timing construction to coincide with low use / activity periods. Additional mitigation measures may be developed in consultation with CTDEP.

8.4 VISUAL RESOURCES

8.4.1 Pipeline Facilities

Temporary visual impacts associated with pipeline construction include vegetation clearing, exposed soil and the presence of construction equipment along the construction ROW that creates a contrast with undisturbed, naturally vegetated areas adjacent to the ROW. These impacts are typically limited in duration and are mitigated through the restoration practices implemented by Iroquois to ensure

revegetation of the ROW in a timely manner. Permanent visual impacts associated with installation of the pipeline will not occur within non-forested areas, however tree clearing for construction and maintenance of the permanent ROW in forested areas may result in visual impacts. Siting of the proposed loop segments along the existing pipeline corridors minimizes the amount of forest and other habitats that will be impacted during construction and operation of the Project facilities. This also concentrates utilities in existing areas and reduces the degree of disturbance within previously undisturbed areas. Potential impact mitigation measures include scalloping the edge of the permanent ROW to create a non-linear line of sight that blends with the adjacent land. The proposed aboveground valve assemblies associated with the pipeline loop segments have been located within the existing maintained easement, and Iroquois does not anticipate any temporary or permanent impacts to visual resources as a result construction and operation of these facilities. Based upon discussions with adjacent landowners, Iroquois may provide vegetation screening around the valve assemblies to further minimize any visual impacts.

8.4.2 Aboveground Facilities

8.4.2.1 Milford Compressor Station

The construction and operation of the Milford compressor station is not expected to have a significant affect on visual resources due to the isolated and disturbed nature of the site. The project area has been previously disturbed and contains the existing meter station; and should therefore not be considered a significant visual resource. The trees along the perimeter of the property should help screen views of the proposed station. In general, residential views of the new station are limited based on the industrial nature of the surrounding land and lack of residential properties in proximity to the site. Iroquois is planning to design the exterior lighting for the Milford compressor station to be as non-intrusive as practicable, and to minimize illumination of the night sky. As discussed in Resource Report 1, Iroquois will prepare a landscaping plan that will incorporate features designed to optimize the aesthetic appearance of the proposed station.

8.4.2.2 Brookfield Compressor Station Modifications

The construction and operation of the Brookfield compressor station modifications are not expected to have a significant affect on visual resources due to the isolated and disturbed nature of the site. The project area has been excavated and/or used for gravel processing/asphalt productions and contains the existing meter station; and should therefore not be considered a significant visual resource. Iroquois would maintain existing trees along High Meadow Road and would also leave approximately 57 acres of that parcel undeveloped. The compressor station site is roughly 30 feet below the elevation of High Meadow Road and, therefore, the maintenance of the wooded buffer along the road should aid in screening views of the site from points along High Meadow Road.

The proposed compressor station modifications would be visible from the residence at 67 High Meadow Road, the adjacent residence to be constructed, and those residences located south of the railroad in the Dairy Farm and the Carriage Homes subdivisions. The mature oak forests along the western perimeter side of the 65-acre property should help screen views of the proposed station from that direction. In general, residential views of the station modifications would be in conjunction with the original previously certificated station (to be installed in 2007) and the existing Brookfield Sales Meter Station, with several existing aboveground structures being removed to accommodate the new station footprint. Iroquois is planning to design the exterior lighting for the Brookfield compressor station to be as non-intrusive as practicable, and to minimize illumination of the night sky. As part of the implementation

plan for the MarketAccess Project, Iroquois is developing a landscaping plan to minimize visual impacts associated with construction of the certificated compressor station, and this landscape plan also incorporates impact minimization measures for the modifications proposed in this Project.

8.5 APPLICATIONS FOR RIGHT-OF-WAY AND OTHER LAND USE

Iroquois will be coordinating and submitting an application to the CTDEP for temporary workspace and permanent ROW associated with the Paugussett State Forest property associated with the Newtown loop segment. Iroquois anticipates submitting this application during the third quarter of 2007 and will forward a copy of the application package to FERC upon submittal to the CTDEP.

8.6 LITERATURE CITED

Connecticut Department of Environmental Protection. 1995. Milford, Connecticut, Coastal Boundary and Coastal Area. CTDEP-Office of Long Island Sound Programs, Hartford, Connecticut.

ENSR. 2000. Phase I Environmental Site Assessment, Vacant Property, 60 High Meadow Road, Brookfield, Connecticut. Prepared for Iroquois Gas Transmission System. ENSR, Westford, Connecticut.

ENSR. 2000. Phase I Environmental Site Assessment, Vacant Property, 60 High Meadow Road, Brookfield, Connecticut. Prepared for Iroquois Gas Transmission System. ENSR, Westford, Connecticut.

Federal Emergency Management Agency. 1979. Flood Insurance Rate Map for the Town of Brookfield, Fairfield County, Connecticut. Community Panel No. 090003 0010 B.

Federal Emergency Management Agency. 1979. Flood Insurance Rate Map for the Town of Milford, Fairfield County, Connecticut. Community Panel No. 090003 0010 B.

Mazur, A. 2007. Personal communication on June 5, 2007 between Ann Mazur, Administrative Assistant – Town of Newtown Planning and Zoning Commission, and Chris Newhall, ENSR.

Metzler, K.J. 2005. Letter dated December 29, 2005 from Kenneth Metzler, Connecticut Department of Environmental Protection - Natural Diversity Data Base, to Phil London, ENSR. CTDEP, Hartford, Connecticut.

National Park Service. 2004. and Scenic River, State-by-State list. Website: http://www.nps.gov/upde/.

O'Neil, W. 2007. Letter dated March 30, 2007 from William O'Neil, Chairman – Town of Newtown Planning and Zoning Commission, to John Zimmer, ENSR. Newtown, CT.

Soil Conservation Service. 1981. Soil Survey of Fairfield County, Connecticut. USDA-SCS, Washington, D.C.

Stabb, K.P. 2007. Letter dated April 6, 2007, from Kenneth Stabb, Chairman of the Village of Boonville Planning Board, to John Zimmer, ENSR. Boonville, NY.