VIEWSHED ANALYSIS REPORT

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TABLE OF CONTENTS

LIST OF FIGURES

A. METHODS USED TO CREATE THE VIEWSHEDS

The viewsheds consist of two primary components: photographs obtained from a field survey, and a 3D model of the proposed facility. These two components were merged to show the future visual impacts of the proposed facility.

B. VIEWSHED FIELD SURVEY

A field survey of potential viewsheds for the Waterbury Generation, LLC facility was conducted on August 28, 2007. The objective of the survey was to collect representative photographs of the plant location from surrounding potential viewpoints. Figure 1 shows the potential viewpoint map for a proposed 213 foot tall stack at Waterbury Generation, LLC. The potential area from which a view of the stack tip would not be blocked by intervening terrain is shown in yellow in the figure. In reality, the actual viewshed area is significantly smaller because the sightlines are blocked by trees, buildings and infra-structure (e.g., the Interstate 84 overpass and urban core buildings block much of the view from the north).

The location of the proposed Waterbury Generation, LLC facility was marked using a portable Global Positioning System (GPS). The GPS was subsequently used to determine the geographic position of potential sight lines and the direction and distance to the proposed facility. Photographs along the sight lines were taken using a Canon 35 mm camera with a 50 mm fixed focal length lens and a databack that recorded the day of the month and time that each photograph was taken. The camera was mounted on a tripod at a fixed height and a two axis

bubble level was used to ensure that the film plane was vertical. A data form was used to record the photograph time, GPS indicated elevation, geographic coordinates, bearing and distance to the proposed facility and comments regarding each photograph (e.g., nearest street intersection).

Figure 2 shows the locations of the proposed Waterbury Generation, LLC facility (black triangle) and the view point photographs (blue dots with military time indicated, i.e., 1600 equals 4 PM local daylight savings time). Figure 2 also shows that much of the community surrounding the industrial zone consists of high density housing landscaped with mature trees. Photographs were taken along the streets from various directions around the proposed facility, however houses, trees and infrastructure blocked views of the facility location in most areas. Views were obtained across industrial areas which have open lots and few trees and along streets that align with the sight lines.

Figure 3 provides an illustration of the existing land cover in the vicinity of the stack together with an overlay of the potential visibility blockage due to terrain only. The figure depicts areas where forest will block views of the stack, even if the terrain will not do so. The figure also indicates where the density of the industrial, commercial and residential structures is likely to block most views of the stack, unless the sight line to the stack aligns down a street, across a relatively short structure, or across a vacant area such as a parking lot.

C. CREATING THE 3D MODEL

The digital 3D model is created with AutoCAD using dimensioned drawings from the manufacturers of components used for the facility, and drawings done by the consulting engineers. The completed digital 3D model is then imported into the lighting emulation software. The lighting software is LIGHTSCAPE, last published by Autodesk. For over a decade, Lightscape was the finest radiosity software available. Aside from accurate lighting and texture visibility, the camera in Lightscape can be set to emulate any focal length lens desired. The software also permits setting the observers altitude as well as the target altitude.

D. MODEL SETTINGS

The 3D software camera was set to 35mm with a 50.1 millimeter lens. For the various viewsheds, the height of the software camera was set equal to the heights of the field camera at each location. The target height was always set to the same height as the camera's height.

To assure that the field image would properly align with the software image, the field camera was always level, this would produce a photo with the target and camera height being equal, thus the horizon line would always be in the center of the image. The angle and position of the sun is also set in Lightscape.

E. MERGING THE SOFTWARE IMAGE WITH THE FIELD IMAGE

The final step in merging the software image with the field image is done with digital adjustment. The aspect ratio of a 35mm image establishes the proportion for the images. Both the computer image and the field image must be set to the same size and pixel density. This is done with Photoshop. Once the size and densities are equal, the images can be merged.

F. RESULTS

The final merged images are presented and described in order of increasing distance from the proposed Waterbury Generation, LLC facility:

- Photo 9:37 (Figure 4) is taken from the south of the proposed facility from a parking lot across Washington Street, visible in the mid-foreground. The photo shows the view a passerby might have transiting Washington Street.
- Photo 9:46 (Figure 5) is taken from southeast of the proposed facility, opposite 20 Railroad Hill Street. This shows the view someone approaching Washington Street traveling north on Railroad Hill Street might have.
- Photo 14:26 (Figure 6) is taken approximately 0.2 miles west of the proposed facility on Charles Street just to the south of Washington Street with a Route 8 overpass in the mid-foreground. Here only the stack is visible as the view of the rest of the plant is blocked by trees and infrastructure. Note the brick stack to the left (northeast) of the proposed Waterbury Generation, LLC stack.
- Photo 10:18 (Figure 7) is taken from the top of the front steps of St. Patrick's

Church on Charles Street, approximately 0.2 miles southwest of the proposed facility. Vegetation blocks most of the view, however the stack may be visible through breaks in the treeline.

- Photo 16:00 (Figure 8) is taken from Liberty Street (seen in the foreground) to the west of Benedict Street and south of the Home Depot store. The photo is looking south about 0.2 miles to the proposed facility. The open industrial area in the foreground provides a view of the proposed stack.
- Photo 11:21 (Figure 9) is taken from the west lawn of St. Anne's Church at the corner of South Main Street (visible in the foreground) and East Dover Street. The photo is from approximately 0.4 miles northeast of the proposed facility and shows both the closer brick stack and the proposed facility stack to its right.
- Photo 14:01 (Figure 10) is taken from the corner of Wilson Street and Seymour Street (shown going into the photo from the foreground to the mid-foreground), where Seymour Street becomes steeper to the east. The photo is approximately 0.5 miles southwest of the proposed facility. The proposed facility location is near the bottom of the Naugatuck River Valley and views from higher on the valley wall, such as Photo 14:01 place the proposed stack below the opposing ridgeline.

At larger distances than represented by these photographs, the proposed facility appears even less prominent. As noted above, the closely spaced housing and mature trees hide views of the facility from most street locations and it is difficult to find locations with clear sight lines to the proposed facility.

Figure 1: Potential Viewshed of Waterbury Generation, LLC
Stack Height = 213 '

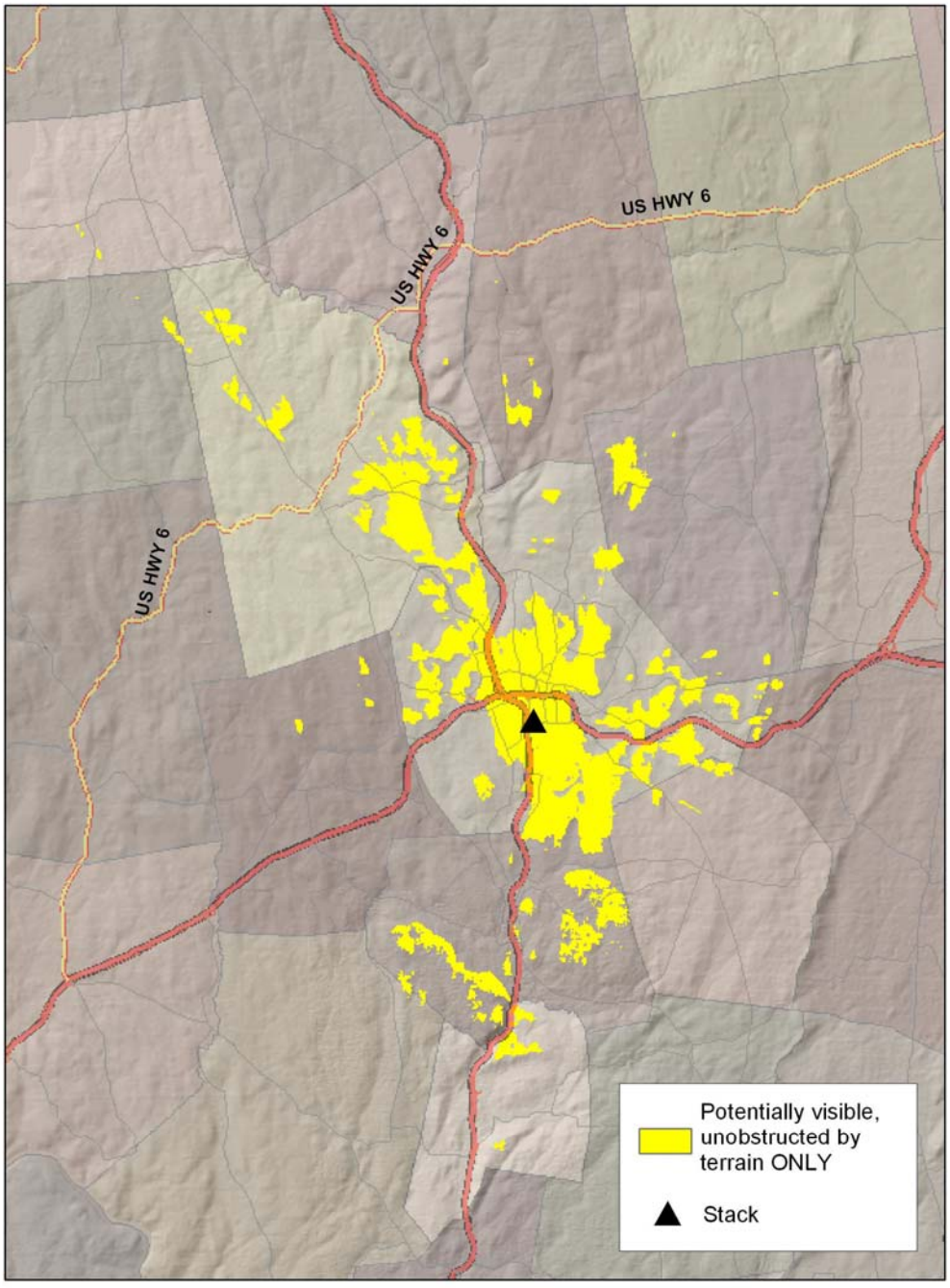

Figure 2: Waterbury Generation, LLC - Locations Photographed for Viewshed Analysis

Figure 3: Potential Viewshed of Waterbury Generation, LLC and Land Cover Categories

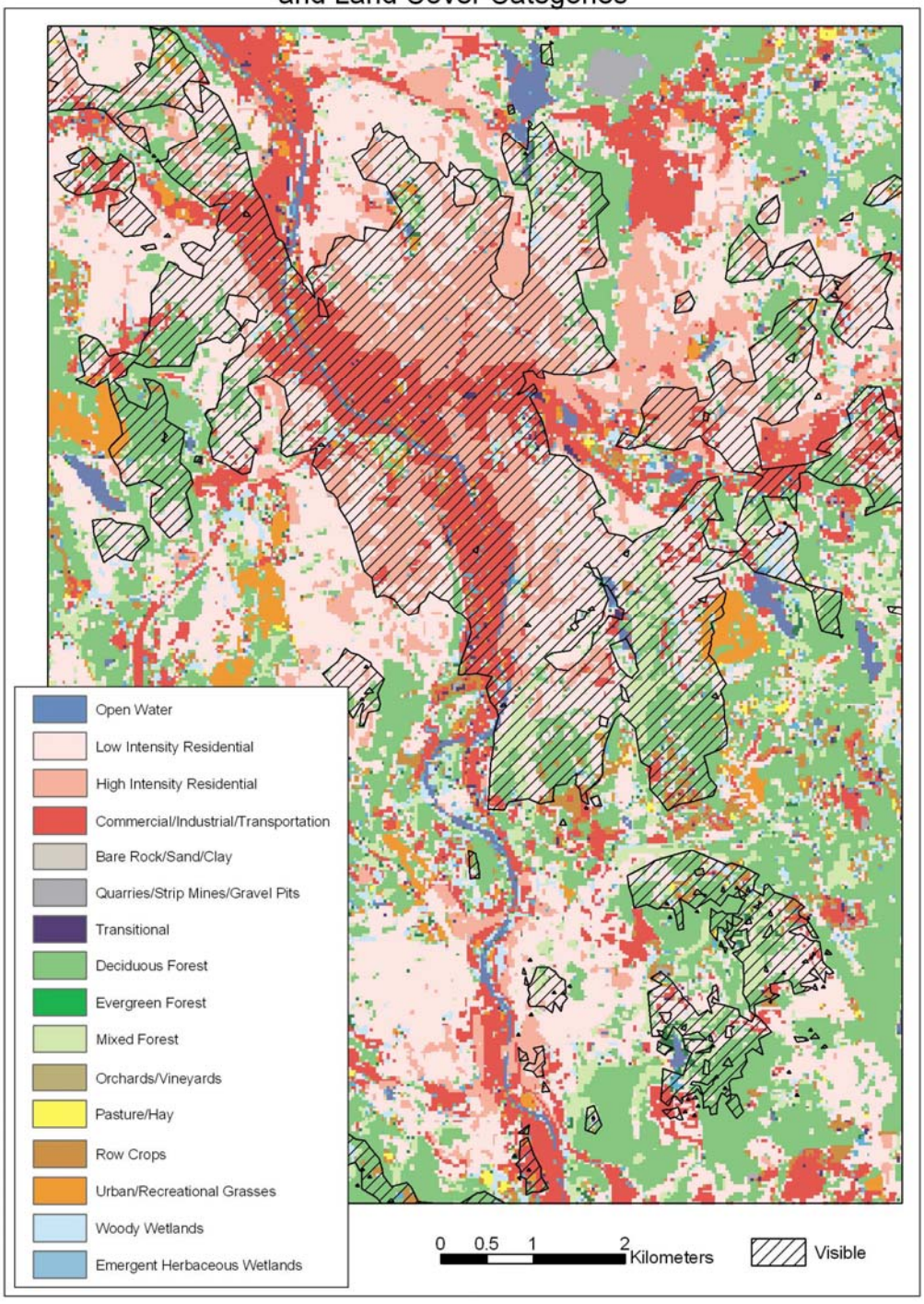

Figure 4: Photo 9:37, Across Washington Street

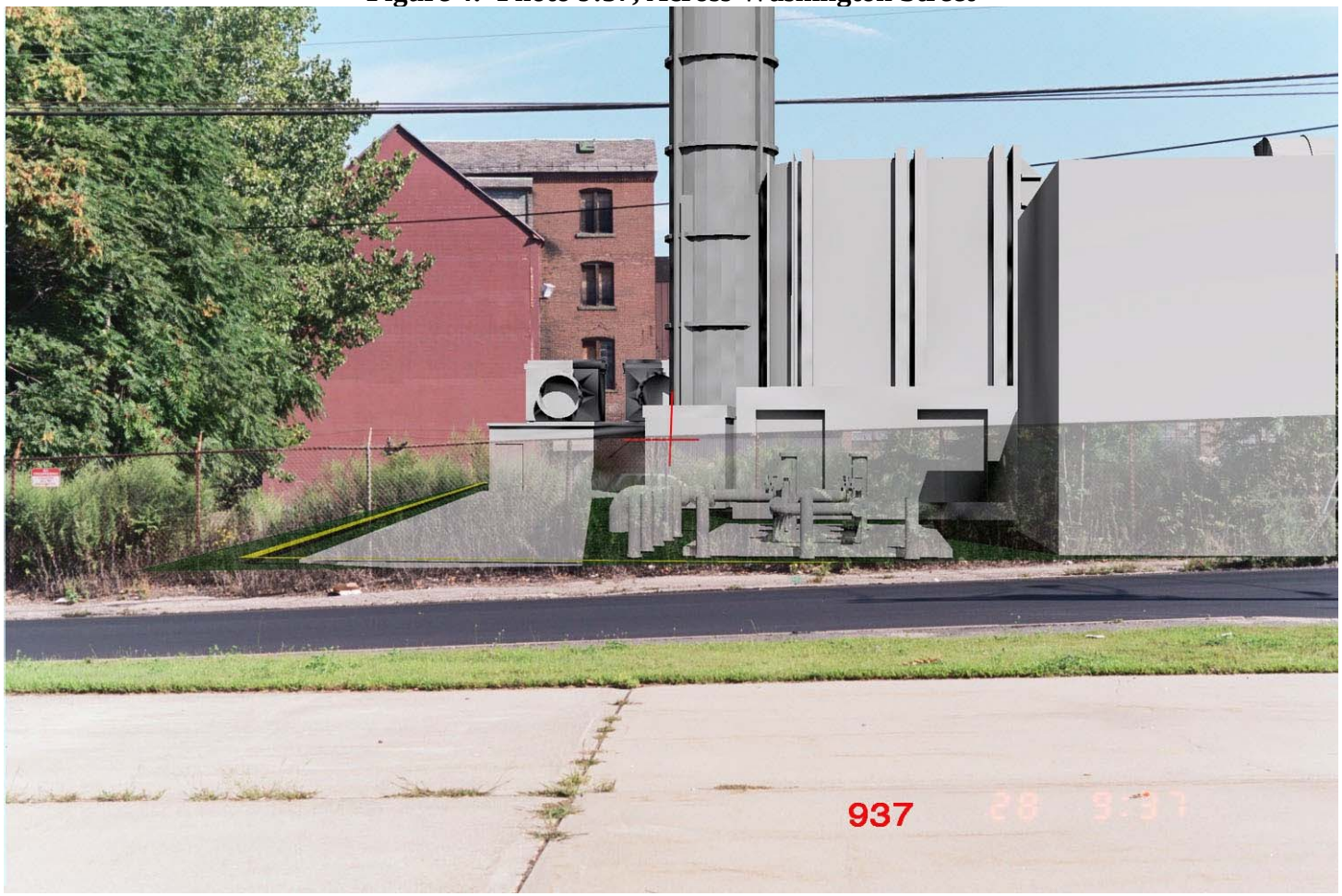

Figure 5: Photo 9:46, from 20 Railroad Hill Street

Figure 6: Photo 14:26, near the intersection of Charles Street and Washington Street

Figure 7: Photo 10:18, from the Steps of St. Patrick's Church

Figure 8: Photo 16:00, from Liberty Street

Figure 9: Photo 11:21, from the Lawn of St. Anne's Church

Figure 10: Photo 14:01, from Intersection of Wilson Street and Seymour Street