

**FOR LIBRARY USE ONLY
DOES NOT CIRCULATE**

**DRAFT FEDERAL
ENVIRONMENTAL ASSESSMENT/SECTION 4(f) STATEMENT**

Prepared pursuant to 23 CFR 771.119 and 771.135

**CONNECTICUT
FINDING OF NO SIGNIFICANT IMPACT**

Prepared pursuant to
the Regulations of Connecticut State Agencies
Sections 22a-1a-1 to 12, inclusive

RECONSTRUCTION OF ROUTE 66

MIDDLETOWN AND MIDDLEFIELD, CONNECTICUT

State Project 81-83

Prepared by
CONNECTICUT DEPARTMENT OF TRANSPORTATION
in cooperation with
THE FEDERAL HIGHWAY ADMINISTRATION

Approved for Circulation:

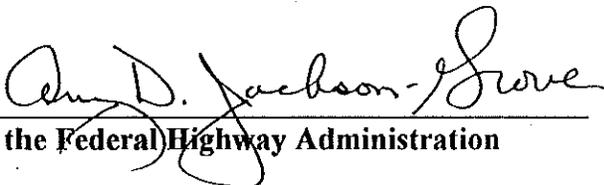


for the Connecticut Department of Transportation

6/3/96
Date

MIDDRM
388.1
DRA

Approved for Circulation:



for the Federal Highway Administration

6/24/96
Date



Russell Library
Middletown, CT 06457



A2140 293168 1

EXECUTIVE SUMMARY

MIDDORM
388.1
DCA

Existing Condition

The project will begin just east of Jackson Hill Road in Middlefield and end just west of Plaza Drive in Middletown. The existing Route 66, in the project area, is a two lane roadway with left turn lanes at Route 217 and Peters Lane. The existing roadway does not have adequate capacity for existing or future traffic volumes and is geometrically substandard in several areas. Alternative 2 (proposed 4 lanes), the proposed alternative, is a four lane roadway with turning lanes at major intersections. The proposed project will have adequate capacity for present and future traffic volumes and will comply with current geometric standards.

IMPACT SUMMARY MATRIX

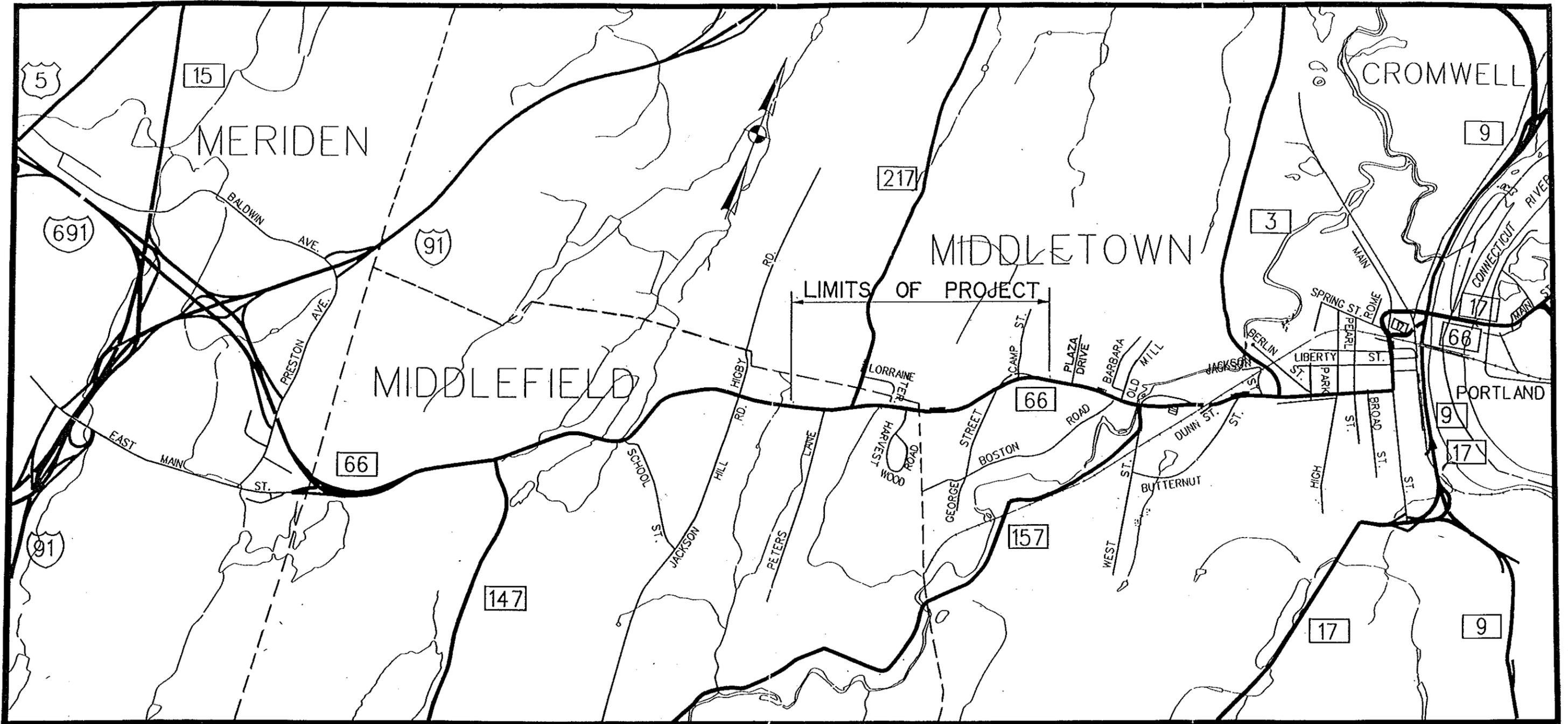
<u>Impact</u>	<u>Alternative 1 No-Build</u>	<u>Alternative 2 Proposed 4 Lanes</u>
Noise	No net adverse impact	No net adverse impact
Air Quality	No measurable change	No measurable change
Water Resources	No impact	No major impact
Wetland	No effect	Impact to 0.12± hectares (0.31± acres).
Wildlife Habitat	No effect	Small loss of habitat from additional pavement. Small change in habitat from wooded to grass.
Endangered Species	None	None
Farmland	No effect	Complies with Public Act 83-102
Socio-Economic	No effect	0 - Business take 1 - Residential take 14 - Partial takes 16 - Easements No effect on community, emergency services, land use, employment or minorities
Historic and Archaeological	No effect	No effect
Parkland	No effect	No effect
Scenic Road	No effect	No effect
Energy	No effect	Gas equivalent 1, 211, 200 liters (320,000 gal.) Long term small decrease with improved traffic flow.
Construction	No effect	Effect will be minimized with required construction methods.
Hazardous and Contamination Risk	No effect	Moderate risk sites will be investigated.

<u>Impact</u>	<u>Alternative 1 No-Build</u>	<u>Alternative 2 Proposed 4 Lanes</u>
Land Use	No effect	No effect
Cumulative Impact	No effect	No effect
Aesthetic	No effect	No effect
Section 4(f) Historic Significant House	No effect	No effect

Permits

The following is a summary of the permits that will be required for this project:

1. U.S. Army Corps of Engineers, Section 404 permit.
2. Connecticut Department of Environmental Protection, 401 Water Quality Certificate.
3. Connecticut Department of Environmental Protection, Storm Water Discharge Permit.
4. Connecticut Department of Environmental Protection, Inland and Wetland, Watercourse Permit.
5. Connecticut Department of Environmental Protection, Flood Management Certification.
6. Air Quality - Indirect Source Permit.



RECONSTRUCTION OF ROUTE 66	
MIDDLEFIELD & MIDDLETOWN, CONNECTICUT	
PROJECT LOCATION	
SCALE: 1" = 31000'	02/01/96
LUCHS ASSOCIATES INC. ENGINEERS, PLANNERS, SURVEYORS GLASTONBURY, CT	

TABLE OF CONTENTS

	Page No.
I. PURPOSE AND NEED	1
A. Objectives	2
B. Transportation Needs	5
C. Existing Traffic Conditions	6
D. Traffic Projection	7
E. Compatibility with Regional Plans and State Policies Plan for Conservation	8
F. Compatibility with Other Route 66 Projects	9
II. ALTERNATES AND PROPOSED ACTION	12
A. Alternatives and Project Description	12
B. Description of Proposed Project	13
III. ENVIRONMENTAL CONSEQUENCES	18
A. Noise	19
B. Air Quality	31
C. Water Resources and Wetlands	44
D. Wildlife Habitat	68
E. Endangered and Threatened Species	69
F. Farmland	70
G. Socio-Economic	71
H. Historic and Archaeological Resources	78
I. Parkland	78
J. Scenic Road	79
K. Energy Consumption	79
L. Construction Impacts	80
M. Hazardous and Contamination Risk	82
N. Land Use Impacts	87
O. Aesthetic Impacts	90
P. Public Utilities	90
IV. COORDINATION	92
A. Coordination	93
V. SECTION 4 (F) STATEMENT	95
A. Historic House	96
B. Cemetery	99

APPENDIXES

- Appendix A - D.E.P. Letter regarding Endangered and Threatened Species
- Appendix B - Connecticut Historical Commission Letter
- Appendix C - D.E.P. Letter regarding Natural Area Inventory Sites
- Appendix D - Report of Town Road Meeting

FIGURES

1. Location Map	3
2. Project Location	4
3. Status of Route 66 Projects	11
4. Noise Analysis Site Locations	25
5. Noise Analysis, Receptor Locations, Route 66, Residential Areas, Sta. 1+200 to 1+400	26
6. Noise Analysis, Receptor Locations, Route 66, AJ's Putt Putt/Crestline Motel, Sta. 2+000 to 2+320	27
7. Noise Analysis, Receptor Locations, Route 66, Woodgate Condo, Sta. 2+400 to 2+560	28
8. Noise Analysis, Receptor Locations, Route 66, Sutton Towers, Sta. 2+560 to 2+760	29
9. Noise Analysis, Receptor Locations, Route 66 & George Street Area, Sta. 2+840 to 3+080	30
10. Air Quality Analysis Site Locations	40
11. Air Quality Analysis, Receptor Locations, Route 66 & Peters Lane	41
12. Air Quality Analysis, Receptor Locations, Route 66 & Route 217 (Ballfall Road)	42
13. Air Quality Analysis, Receptor Locations, Route 66 & Camp Road.	43
14. Wetlands Site Locations	61
15. Wetland Area No. 1 - West End of Project	62
16. Wetland Area No. 2 - Peters Lane Area	63
17. Wetland Area No. 3 - Lorraine Terrace Area	64
18. Wetland Area No. 4 - Apartment Complex	65
19. Wetland Area No. 5 - Apartment Complex	66
20. Wetland Area No. 6 - Comp Street Area	67
21. Property Impacts	76
22. Property Impacts	77
23. Hazardous And Contamination Map	85
24. Hazardous And Contamination Map	86
25. Existing Land Use	88
26. Existing Land Use	89
27. Historic House 1066 Washington Street	98

TABLES

1. Noise Abatement Criteria For Activity Categories	23
2. Measured and Predicted Peak Traffic Noise Levels (Leg) for Areas In Route 66 Project Corridor	24
3. National Ambient Air Quality Standards	38
4. Microscale Analysis of Carbon Monoxide Concentrations In Route 66 Corridor	39
5. Wetland Impact Areas and Function Values	60
6. Summary of Hazardous and Contamination Study Areas	84

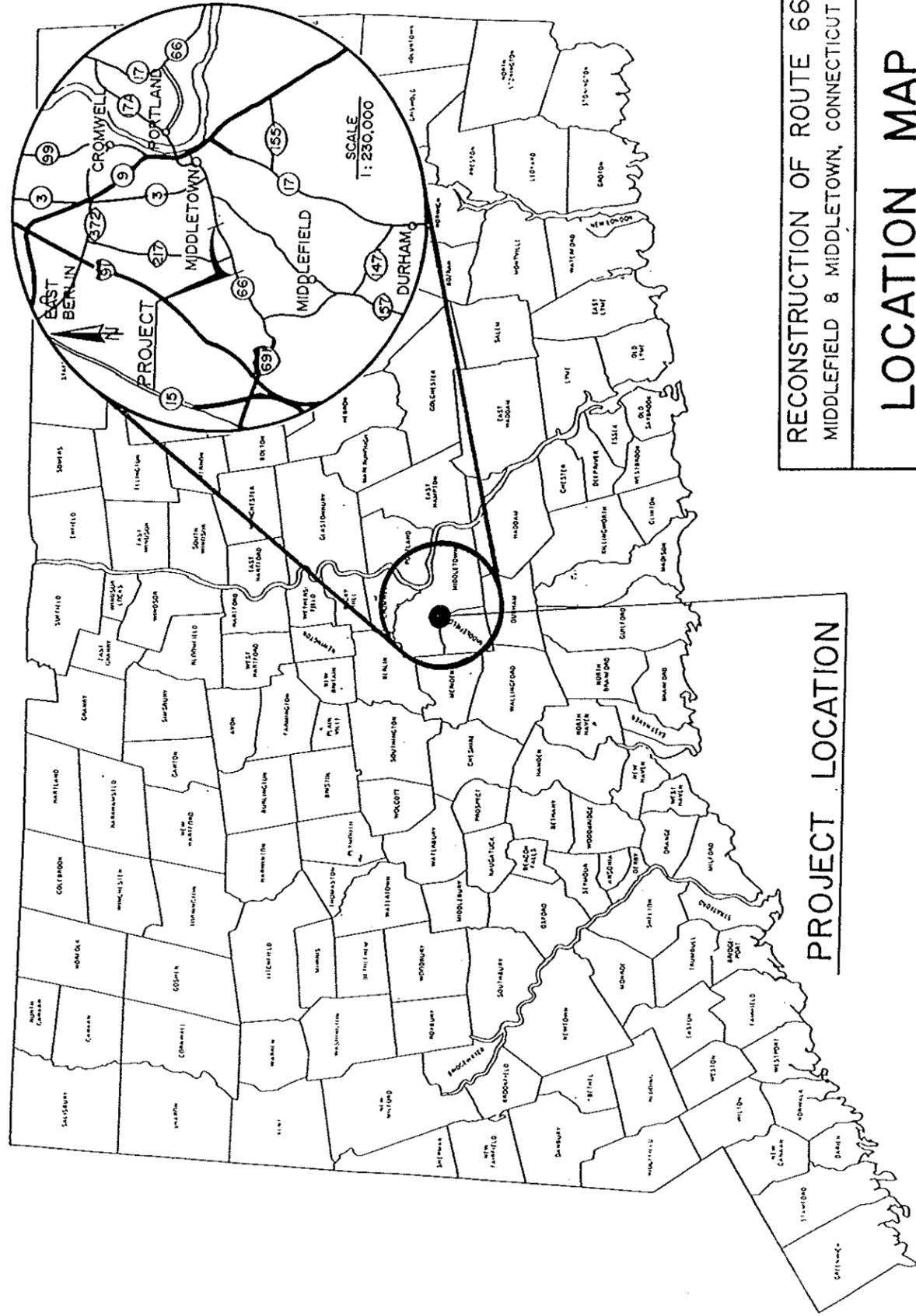
SECTION 1
PURPOSE AND NEED

A. OBJECTIVES

The purpose of this environmental assessment is to assess the social, economic and environmental impacts associated with the proposed reconstruction of Route 66 in the Towns of Middlefield and Middletown, Connecticut as shown on Figure 1 and 2.

The study is being prepared in accordance with Section 22a-1a-1 to Section 22a-1a-12 inclusive of the Regulations of Connecticut State Agencies and Federal Regulations 23 CFR 771.119.

This document is being circulated to the public and to government agencies in order to solicit comments regarding the environmental impacts of the proposed action. Following the receipt of responses to this document, the Connecticut Department of Transportation (ConnDOT) and the Federal Highway Administration (FHWA) will review and respond to all substantive comments and will make final decisions and findings toward the implementation of the project.



RECONSTRUCTION OF ROUTE 66
MIDDLEFIELD & MIDDLETOWN, CONNECTICUT

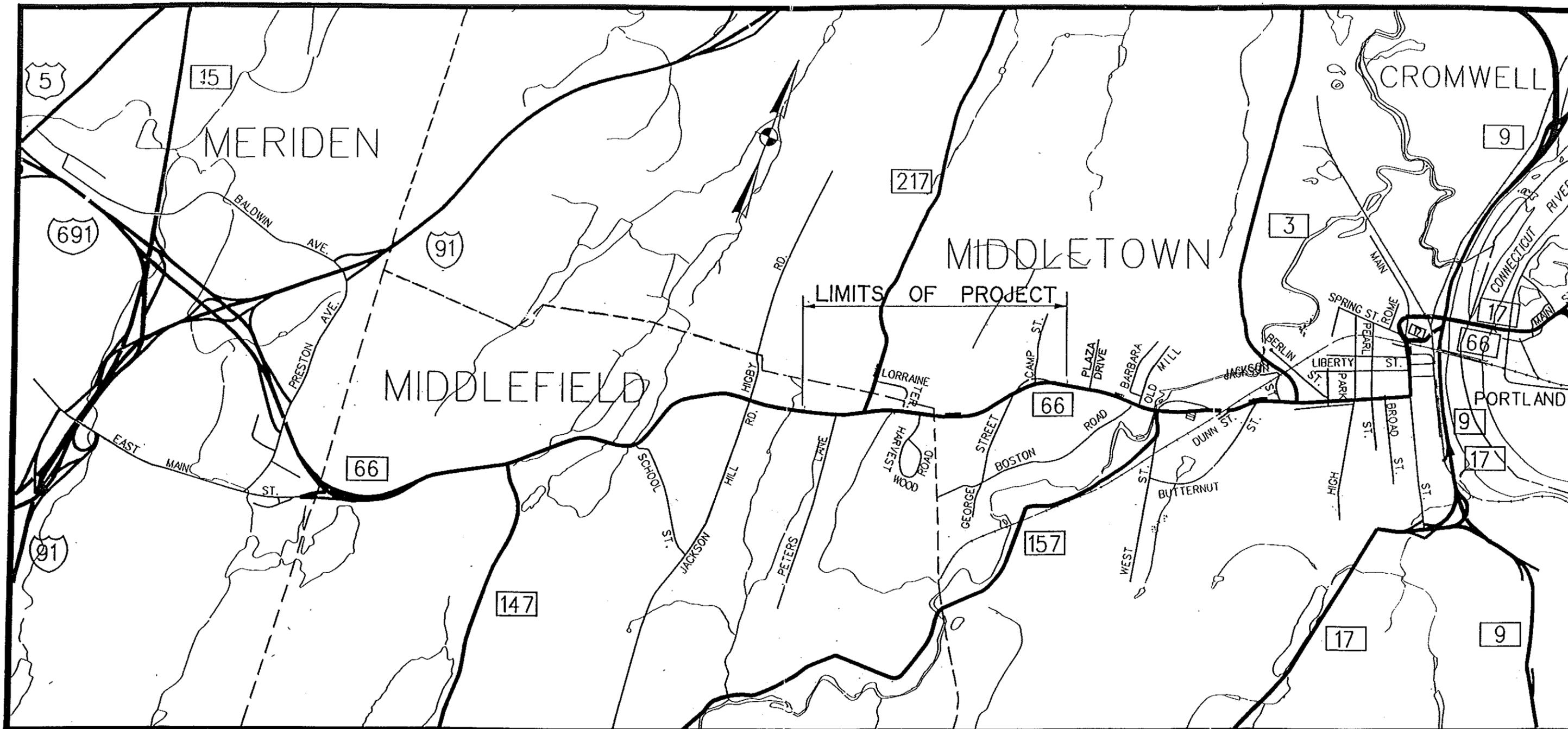
LOCATION MAP

SCALE: NONE 02/01/96

FIGURE

LUCHS ASSOCIATES INC.
ENGINEERS, PLANNERS, SURVEYORS
GLASTONBURY, CT

1



RECONSTRUCTION OF ROUTE 66 MIDDLEFIELD & MIDDLETOWN, CONNECTICUT		
PROJECT LOCATION		
SCALE: 1: 31000±	02/01/96	FIGURE
LUCAS ASSOCIATES INC. ENGINEERS, PLANNERS, SURVEYORS GLASTONBURY, CT		2

B. TRANSPORTATION NEEDS

Route 66 is also known as Meriden Road in Middlefield and Washington Street in Middletown. The proximity of Route 66 to several rural and urban centers requires this roadway to serve as an inter-regional connector. Route 66 is a major midstate regional east-west roadway that provides direct access to the Route 66 Connecticut River Bridge and Route 9 in Middletown, and connects I-91 in Meriden. Since Route 66 is the only direct east-west roadway in this area, it is of high importance that this facility be improved so that a well balanced roadway system will be provided in this area.

The Route 66 corridor is being examined for improvements because accidents potential, traffic congestion and substandard roadway geometry continue to cause concerns. Analyzing the accident rates statistically is not reasonable since the accident statistics that are available are from studies for general roadway classifications and geometry where as this project has a specific classification and geometry. The accident potential will be reduced since any improvements will comply with current standards including the American Association of State Highway and Transportation Officials, (AASHTO) standards. AASHTO design values have safety as their primary objective.

The reconstruction and realignment of Route 66 is in the ConnDOT's 1994 Master Transportation Plan, recognizing the need to improve Route 66 to an acceptable level of service and reasonable level of safety. The Master Transportation Plan typically provides for a 20 year projection

of variables for design and operation. The design year for this area of Route 66 is 2015.

The Midstate Regional Planning Agency's September 1994 Regional Transportation Plan has identified this area of Route 66 as approaching or over its roadway capacity.

A number of minor modifications to improve the safety, correct geometric deficiencies and increase the roadway capacity have been made along the corridor. These improvements are short term and do not, in most cases, completely correct the deficiency. These improvements included the following:

- Installation of a flashing light at Peters Lane.
- Installation of an overhead sign, eastbound, before the Route 217 traffic signal that indicates when the light is red.
- Installation of a traffic signal at Route 217.
- Provided a westbound left turn lane for Peters Lane.
- Installation of a westbound climbing lane.

C. EXISTING TRAFFIC CONDITIONS

The existing roadway is a two directional roadway with one 3.6 meters (12 ft.) lane in each direction. The shoulders vary from 0.6 meters (2 ft.) to approximately 2.4 meters (8 ft.). Left turn lanes have been installed at Peters Lane and Route 217 Ballfall Road. West of this project the roadway consist of one lane in each direction with shoulders that vary from 0.6 meters (2 ft.) to about 2.4 meters (8

ft.). Plans are presently being prepared to reconstruct that section of Route 66 to a four lane roadway with two 3.6 meters (12 ft.) lanes in each direction and 2.4 meters (8 ft.) shoulders. East of the project the roadway has been reconstructed to present standards and is a two directional roadway with two 3.6 meters (12 ft.) lanes in each direction and 0.6 meter (2 ft.) shoulders.

The geometric features of the road combined with the existing speed of the vehicles result in unsafe conditions. The existing traffic is moving at a speed of approximately 50 miles per hour (85th percentile), whereas the geometric condition of some sections of the roadway are only suitable for a speed of less than 30 miles per hour. The difference between the existing design speed of the roadway and the traffic speed is unsafe. The intersection sight distance is not adequate at the intersection of Peters Lane and Route 217 for the traveling speed of the vehicles. This section of roadway is adequate for a speed of less than 30 miles per hour. The vertical curve, near the intersection of Route 217, is not adequate for the speed at which vehicles are traveling.

D. TRAFFIC PROJECTION

The level of service is a measurement that is used to determine the adequacy of capacity of a roadway. The level of service ranges from A through F. Level of service A represents high level of efficiency. The level of service F is the lowest level of service and represents increased travel time, restricted freedom to maneuver, reduced driver comfort and increased number of accidents. The level of service of A

through C provides an adequate level of service whereas level of service D through F do not provide an adequate level of service and do not comply with acceptable design standards. The existing traffic volume of approximately 20,000 ADT (Average Daily Traffic) and related criteria result in an overall level of service of E for the total project area. Traffic projections, for the year 2015 indicate that the traffic volume will be about 30,000 ADT. This traffic volume would cause the overall level of service for the total project area to deteriorate to Level of service F. Levels of service E and F are substandard. The proposed project will provide an overall level of service for the total project area of B in the year 2015.

E. COMPATIBILITY WITH REGIONAL PLANS AND STATE POLICIES PLAN FOR CONSERVATION AND DEVELOPMENT

The Conservation and Development Policies Plan for Connecticut was established by the Connecticut General Assembly in accordance with sections 16a-24 through 16a-33 of the General Statutes. This plan serves as a guide to state agencies in planning infrastructure investments and public expenditures. The Plan describes policies and planning guidelines for decisions which affect growth and development in the state. It addresses human, environmental and economic needs of Connecticut, now and for the future. Safe and efficient traffic flow is basic to this goal. It also states that traffic congestion and delay must be controlled or it will limit Connecticut's ability to compete for economic development. The plan pays special attention to restoration of bridges, resurfacing of roadways as well as general widenings and bridge replacements where necessary. The plan proposes

that improvements to existing highways are preferred to the construction of new highways, with the intention that the capacity and safety of existing highways are improved. In addition, where environmentally and financially feasible, roadway widenings must occur and be used as efficiently as possible. The proposed reconstruction of the Route 66 is in conformance with the Conservation and Development Policies Plan, including the following sections of the plan;

Policy D-1

"Identify and undertake improvements to reduce accident frequency and severity within the transportation system".

Policy D-9

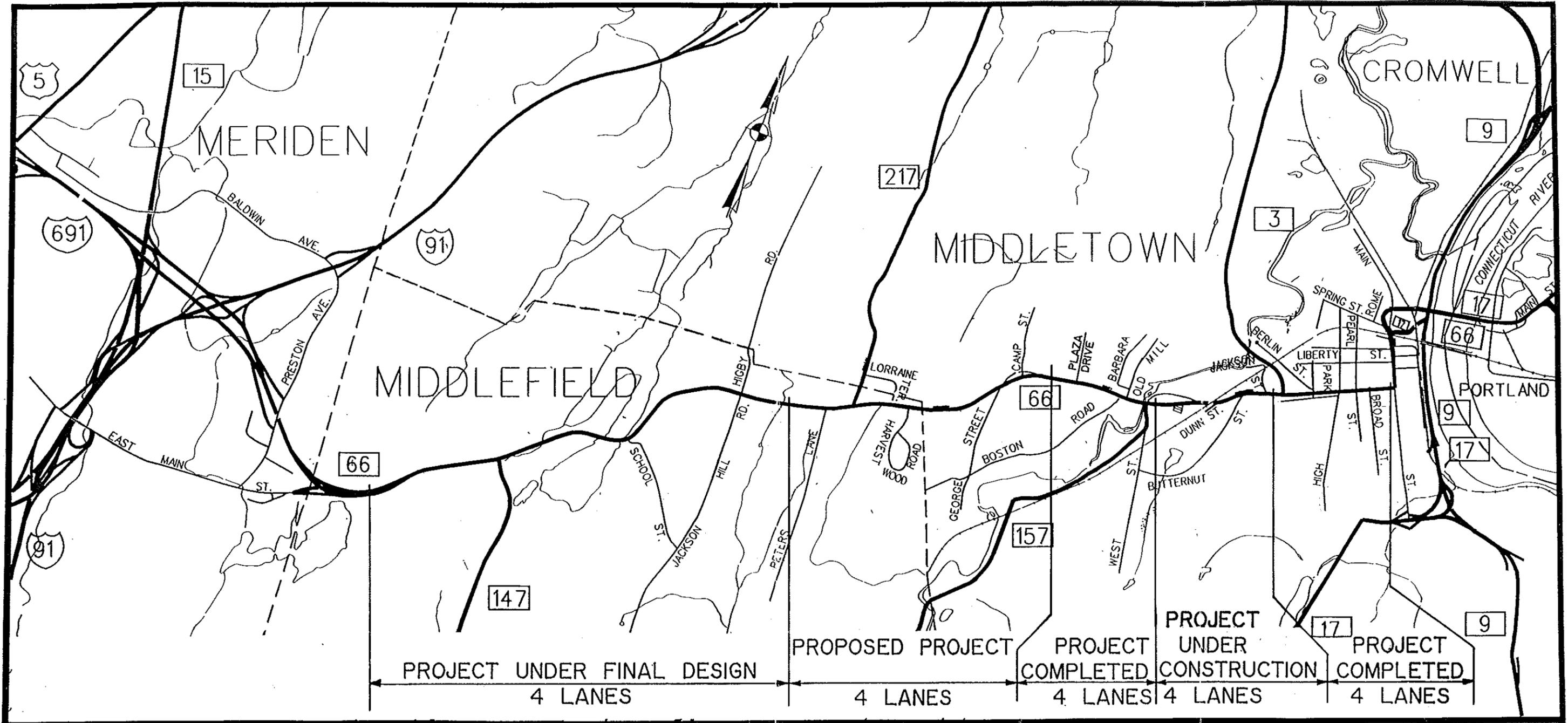
"Complete major transportation proposal as identified in the Connecticut Master Transportation Plan if the environmental review substantiates that benefits outweigh the costs of routes included evaluation of secondary growth impacts that are induced by the highway.

The Midstate Planning Region's 1994 Regional Transportation Plan supports the improvements to highways that are over capacity and this section of Route 66 is included in their list of roadways that are over capacity.

F. COMPATIBILITY WITH OTHER ROUTE 66 PROJECTS

This project is one of five improvement projects for Route 66 that have been completed, are under construction or under design. See Figure 3. The Route 66 improvements will begin near I-91 in Meriden and end in the center of Middletown. These projects will not increase the traffic volume. They will increase the level of traffic service and improve the safety of Route 66. Two of the three projects that are east of this project have been completed and the third one is under construction. These projects will provide for two lanes in each direction and turning lanes at major intersections.

The one project that is west of this project is under final design and will provide two lanes in each direction. This project is the final project for the Route 66 improvements and therefore will not induce additional construction on Route 66. The improvements are consistent with regional and state policies as discussed in the Purpose and Need section of this report.



RECONSTRUCTION OF ROUTE 66 MIDDLEFIELD & MIDDLETOWN, CONNECTICUT		
STATUS OF ROUTE 66 PROJECTS		
SCALE: 1" = 31000±	02/01/96	FIGURE
LUCAS ASSOCIATES INC. ENGINEERS, PLANNERS, SURVEYORS GLASTONBURY, CT		3

SECTION II
ALTERNATIVES AND PROPOSED ACTION

A. ALTERNATIVES AND PROJECT DESCRIPTION

Two alternatives for improving the traffic conditions in this area of Route 66 have been considered. The alternatives are Alternative 1 (no-build) and Alternative 2 (proposed 4 lane roadway). Alternative 2 (proposed 4 lanes) would include the minimum amount of improvements that would provide an acceptable level of service and comply with current standards.

Alternative 1 (No-Build) - Alternative 1 is the no-build alternative. This alternative would only provide normal maintenance of the existing roadway. The traffic volume will increase with or without improvements to the existing roadway. When the traffic volume increases the level of service will decrease thereby causing additional traffic delays. The air, noise, wetlands and water resources impacts resulting from this alternative are evaluated in the environmental consequences section. The other environmental issues that were evaluated in this assessment will not be effected by Alternative 1 (no-build), since Alternative 1 (no-build) does not include any construction.

Alternative 2 (Proposed 4 Lanes) - This was the recommended alternative and is described in Description of Proposed Project.

B. DESCRIPTION OF PROPOSED PROJECT

The project as proposed is referred to, throughout the report, as Alternative 2 (proposed 4 lanes). This project is a complete roadway

reconstruction with two lanes in each direction and turning lanes at major intersections.

The proposed reconstruction will constitute a project roadway length of approximately 2.3 kilometers (1.4 miles), and encompass work within the Town of Middlefield and the City of Middletown, Connecticut.

The proposed reconstruction will widen the present roadway from two lanes to a four lane bi-directional roadway from approximately 270 m (885 feet) east of Jackson Hill Road in Middlefield to approximately 214 m (700 feet) west of Plaza Drive in Middletown. This will provide a roadway width of 19.2 m (63 feet) consisting of two 3.6 m (11.8 feet) lanes and one 2.4 m (7.9 feet) shoulder in each direction of travel. Additional left turning lane will be provided on westbound Route 66 at the intersection of Peters Lane, eastbound on Route 66 at the intersection of Ballfall Road (Route 217), and eastbound at the intersection of Camp Street. Also additional right turning lane will be provided on westbound Route 66 at the intersection of Camp Street and at the intersection at Ballfall Road (Route 217).

The proposed profile will require that the existing roadway in the vicinity of Peters Lane be filled by approximately 3 m (10 feet) and a cut of approximately 2 m (6.5 feet) in the vicinity of Ballfall Road (Route 217). The proposed profile will only require cuts and fills of approximately a meter (3 feet) or less in other areas of the project. The cuts and fills are the minimum required to provide a roadway profile and cross section that will provide an acceptable level of service and comply with current standards. The grading along the sides

of the roadway will vary from less than 4:1 in landscaped areas to a maximum of 2:1 in undeveloped areas.

The existing intersection at Camp Street has three access points to Route 66, which are not at 90°. The project will eliminate this substandard intersection by realigning Camp Street to make one 90° "T" intersection with Route 66. The existing driveways that will be effected by the realignment will be reconstructed to connect to Camp Street or Route 66. The traffic volumes at this intersection required a new traffic signal.

The existing traffic signal at the Route 66 and Ballfall Road (Route 217) will be upgraded. As requested by the Town of Middlefield, a traffic capacity analysis will be performed at the Route 66 and Peters Lane intersection to determine if a signal is warranted. The traffic signal at the intersection of Peters Lane and Route 66 will be installed when the traffic signal warrants justify a traffic signal.

Sidewalks will be provided on the south side of Route 66 from the Middlefield/Middletown town line east to the end of the project, and on the north side of Route 66 from the intersection of Camp Street east to the end of the project. The sidewalk will connect to existing sidewalks at the east end of the project.

The proposed reconstruction of Route 66 has been designed in accordance with the latest ConnDOT standards dated January 1990 supplemented by the current American Association of State Highway and Transportation Officials (AASHTO) 1994 standards where their application is warranted,

and Interim Selected Metric Values For Geometric Design (AASHTO) 1993. The roadway has been classified as an urban principal arterial roadway with a design speed of 80 km/h (50 mph).

The roadway pavement will be composed of bituminous concrete. Each driveway and intersection has been reviewed to ensure that there is adequate approach sight distance. Each intersection was reviewed using ConnDOT Guideline for Highway Design dated January 1990. The proposed reconstruction of Route 66 has been designed to provide the minimum disruption to each property owner.

Most of the proposed widening of Route 66 will occur within the existing right of way. There will be some small partial property takes for the widening and at some intersections for sight line requirements and curb radius returns. A partial take is required at the St. Sebastian Roman Catholic Cemetery property. The proposed taking area and limits of the proposed grading within the cemetery property were reviewed with Rev. Joseph Sibilano O.S.J., Pastor, St. Sebastian Church on January 12, 1996. Rev. Sibilano indicated that there are no graves within the proposed taking or within the proposed project slope limits. The partial takes include the taking of a garage at a historically significant property at 1066 Washington Street. The Connecticut Historical Commission has indicated that the garage could be relocated without effecting the historical significance of the property, since the garage is not historically significant. There is one property, which includes a residence, proposed for a total take. The property is located at the northwest corner of Route 66 and Ballfall Road (Route 217). The total property taking is required because of the proposed

vertical grades modification at the intersection of Route 66 and Ballfall Road. These modifications will increase the grade of the driveway above acceptable standards and there a total take is proposed. Rights to grade and easements will also be required for this project.

Erosion and sedimentation controls will be designed for this project. The controls will be shown in detail on the construction plans and described as needed in the project special provisions.

The erosion controls will consist of temporary protection on exposed slopes and the use of temporary pipes or lined channels. Sedimentation controls will include hay bales or filter fabric fences. The specific areas of concern will be identified in the final design stage and the control methods will be chosen as required for these special needs. The erosion and sedimentation control plans will be developed with input from the permitting agencies.

The maintenance and protection of traffic during construction will be developed to minimize any interruption of traffic patterns or any major delays. Access to driveways and local side roads will be provided and maintained at all times. All traffic signals in this project will be kept in operation at all times through the use of existing or proposed signals.

SECTION III
ENVIRONMENTAL CONSEQUENCES

A. NOISE

Noise Analysis Procedures and Criteria

The analysis of traffic noise impacts and noise abatement measures is performed for highway construction or reconstruction projects following the specific steps outlined below:

- identification of existing activities, developed lands, and undeveloped lands for which development is planned, designed and programmed, which may be affected by noise from the highway;
- determination of existing noise levels;
- prediction of future traffic noise levels;
- determination of traffic noise impacts; and
- examination of evaluation of alternative noise abatement measures for reducing or eliminating the noise impacts.

The developed areas of the project site are characterized by industrial, commercial, and residential development (single/multi-family houses and apartments). Five areas were chosen for noise analysis (Figures 4 to 9):

1. Area 1: single family residences and seasonal vegetable stand, stations 1+200 to 1+400 (Figure 5);
2. Area 2: AJ's Putt-Putt and Citgo Gas Station and several residences/ businesses, stations 2+000 to 2+320 (Figure 6);
3. Area 3: a condominium complex (Woodgate Condominiums) along south side of highway, stations 2+400 to 2+560 (Figure 7);
4. Area 4: an apartment complex (Sutton Towers) along south side of highway, stations 2+560 to 2+760 (Figure 8); and
5. Area 5: several single family residences near George St., stations 2+840 to 3+080 (Figure 9).

Within each noise analysis area, 4-8 locations near residences and other outside use areas were chosen at which to analyze noise levels because they were most likely to experience change. Measurement of existing noise levels were performed using General Radio (No. 1945) Community Noise Analyzer. These noise levels were monitored for 30 minute periods during peak traffic conditions.

Future traffic noise levels were modeled for peak traffic volumes using the Federal Highway Administration approved STAMINA 2.0 computer model. All measured and model-predicted noise levels are reported as noise equivalent levels (Leq). All Leq values were measured or modeled using the "A" weighted scale which closely approximates the response of the human ear to noise.

The Federal Highway Administration has established noise abatement criteria (NAC) for various land uses (Table 1). The Activity Category "B" characterizes most land uses in the project area and gives an exterior design noise level of 67 dBA (Leq) for residences, hospitals, and schools. Other types of development in the project area (e.g., commercial and industrial facilities) would fall under Category "C" with an exterior design noise level of 72 dBA (Leq). If predicted noise levels due to the proposed action approach (within one decibel) or exceed the NAC, then noise impact occurs. In addition to the noise abatement criteria, the Connecticut Department of Transportation considers that a noise impact occurs if future noise levels exceed existing noise levels by 15 dBA (Leq) or more.

Alternative 1 (No-Build) Condition

Table 2 lists the results of the noise monitoring and modeling for each of the selected areas and the specific receptor locations during peak traffic periods. Under existing conditions, approximately one-half of the receptor locations approach (within 1 dBA) or exceed the applicable NAC of 67 dBA Leq(h). For the Alternative 1 (no-build) condition in the year 2015, the NAC of 67 dBA Leq(h) was exceeded at all but one receptor location (R20, Area 4; Table 2). These noise levels have increased over existing conditions primarily due to the projected increased traffic levels. The noise associated with the increased traffic is somewhat offset by the slower operating speeds associated with the increased traffic congestion. However, the duration of the peak traffic and higher noise levels is typically expanded as traffic congestion is unabated under the Alternative 1 (no-build) condition.

Alternative 2 (Proposed 4 Lanes) Condition

Under Alternative 2 (proposed 4 lanes), the applicable NAC of 67 dBA Leq for Activity Category B will be approached (within 1 dBA) or exceeded at all noise evaluation areas for all but one individual receptor locations (R20, Area 4; Table 2). This result is essentially unchanged from the Alternative 1 (no-build) condition, resulting mostly from increased traffic predicted for either condition. The higher potential operating speeds and lane additions also contribute to increased noise levels at some of the receptors. At most receptor locations, there is no projected change between the Alternative 1 (no-build) and Alternative 2 (proposed 4 lanes) conditions. However, in

two cases (Area 1, R4; Area 2, R9), Alternative 2 (proposed 4 lanes) shows a 1 dBA increase and in three cases (Area 2, R11 & R12; Area 3, R16), a 1 dBA decrease (primarily due to lane shifts towards or away from the receptor). Although the Leq values are higher in two cases under the Alternative 2 (proposed 4 lanes) conditions, the maximum increase of 1 dBA is not readily detectable by the human ear.

Determination of Significance of Impacts

The preceding noise analysis indicates that the proposed reconstruction of Route 66 is without significant adverse impact to the noise environment of the corridor area. About one-half of the existing noise levels currently exceed Federal Highway Administration design criteria and most areas will exceed these levels with or without highway reconstruction. There is no significant difference between predicted noise levels for the Alternative 1 (no-build) and Alternative 2 (proposed 4 lanes) conditions. The greatest increase in noise levels between existing and future Alternative 2 (proposed 4 lanes) conditions is 5 dBA.

Noise Abatement Measures

Noise barriers are a common noise abatement measure implemented which in certain applications can significantly reduce highway related noise levels to sensitive receptors. To be effective, such barriers must be continuous, have no gaps, and be of sufficient height with respect to each potential sensitive receptor. On limited access highways, such noise abatement measures can be highly effective. However, for an

uncontrolled access highway such as Route 66, such a barrier, to be effective, would prevent access to residential homes and businesses. Therefore, noise abatement is not being considered with this project.

TABLE 1: NOISE ABATEMENT CRITERIA FOR ACTIVITY CATEGORIES

<u>Activity Category</u>	<u>Design Noise Levels Leq(h) dBA</u>	<u>Description of Activity Category</u>
A	57 (Exterior)	Tracts of land which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheatres, particular parks or portions of parks, open spaces, or historic districts which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas and parks which are not included in Category A and residences, motels, hotels, public meeting rooms, schools, churches, libraries and hospitals.
C	72 (Exterior)	Developed lands, properties or activities not included in Categories A or B above.
D	--	For requirements on undeveloped lands see paragraphs 11a and c. FHPM 7-7-3.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

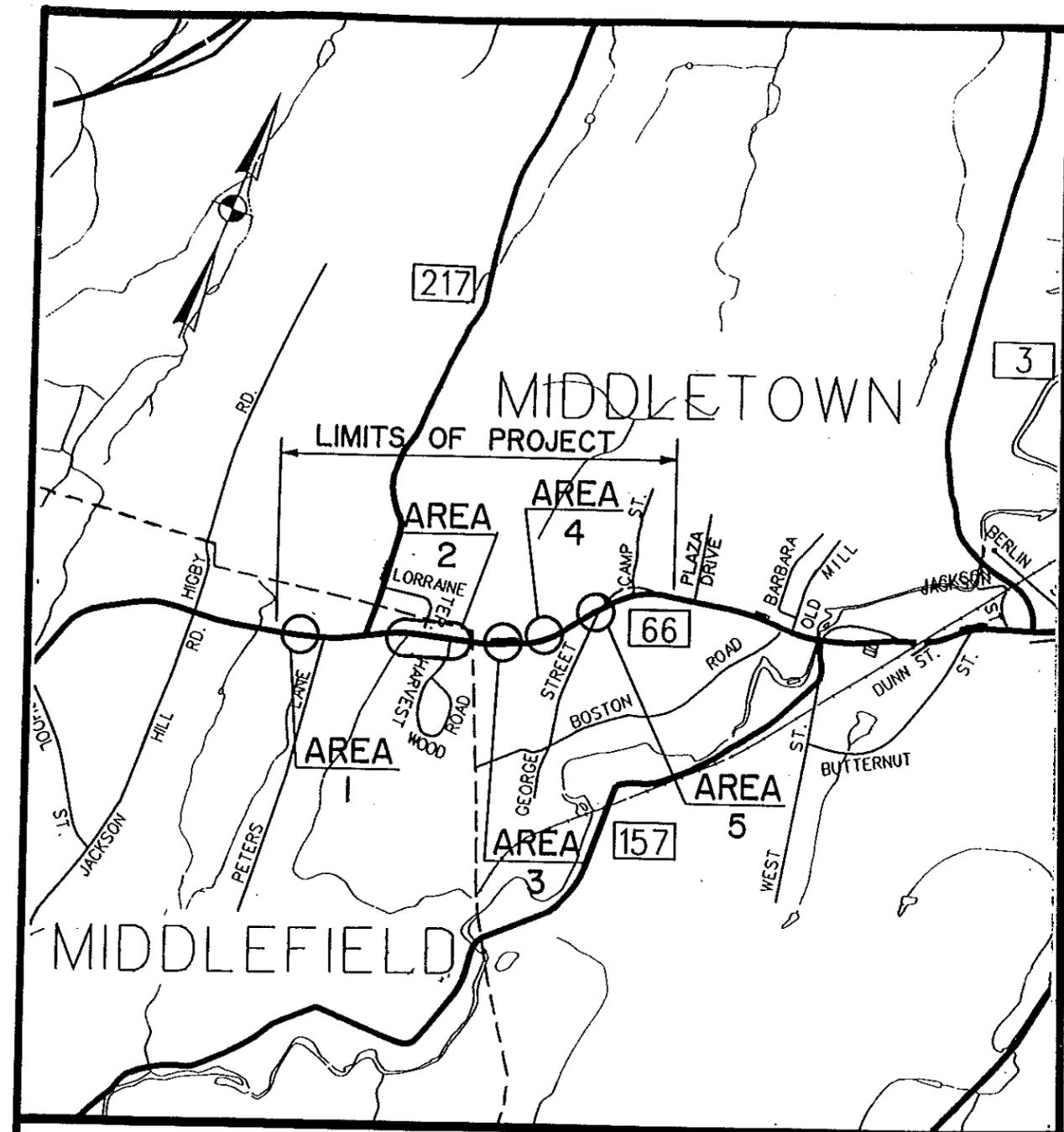
Source: Procedures for Abatement of Highway Traffic Noise and Construction Noise, Federal Aid Highway Program Manual, Vol. 7 Ch. 7. Sec., FHWA, 1982.

Table 2: MEASURED AND PREDICTED PEAK TRAFFIC NOISE LEVELS
(Leq) FOR AREAS IN ROUTE 66 PROJECT CORRIDOR

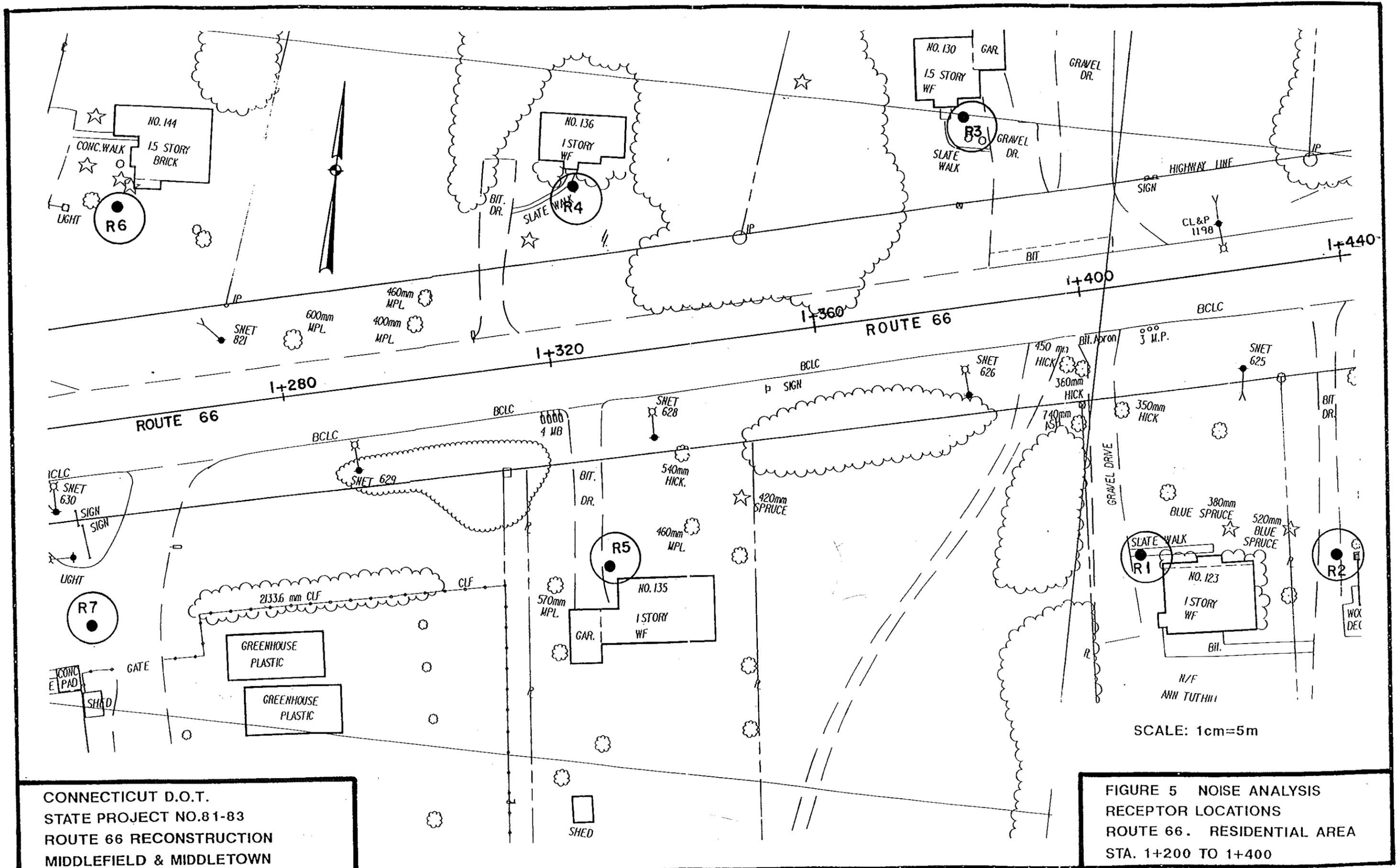
AREA (Fig. 4)	RECEIVER	EXISTING NOISE LEVELS (Measured/Predicted)	PREDICTED NOISE LEVELS FOR YEAR 2015	
			No Build	Build
Area 1: Residential Area Stat. 1+200 to 1+400. Fig. 5.	R1	63	67*	67*
	R2	61	66*	66*
	R3	65	70*	70*
	R4	66*	70*	71*
	R5	64	69*	69*
	R6	64	68*	68*
	R7	64	68*	68*
Area 2: AJ's Putt Putt/ Crestline Motel Stat. 2+000 to 2+320. Fig. 6.	R1	68*	72*	72*
	R2	69*	72*	73*
	R3	64	67*	67*
	R4	69*	73*	72*
	R5	68*	72*	71*
	R6	69*	72*	72*
	R7	70*	73*	73*
	R8	66*	69*	69*
Area 3: Woodgate Condominiums Stat. 2+400 to 2+560. Fig. 7.	R1	66*	70*	69*
	R2	67*	71*	71*
Area 4: Sutton Towers Stat. 2+560 to 2+760 Fig. 8.	R1	66*	70*	70*
	R2	62	66*	66*
	R3	60	64*	64*
Area 5: George St. Area Stat. 2+840 to 3+080. Fig. 9.	R1	65	69*	69*
	R2	67*	71*	71*
	R3	65	69*	69*

See Figures 4 through 9 for locations.

Numbers with an asterisk indicate that values approach or exceed Federal Highway Administration criteria.

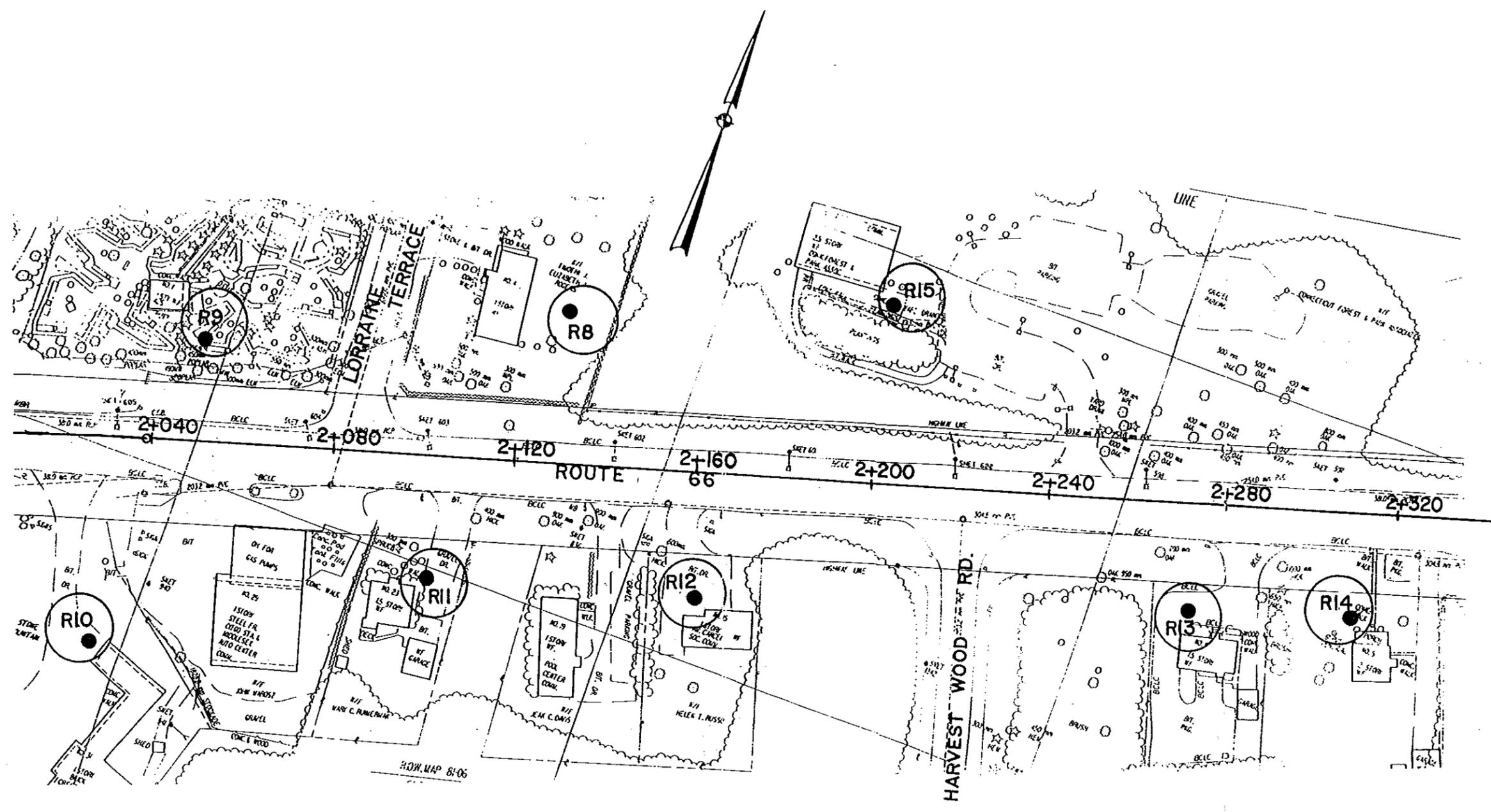


RECONSTRUCTION OF ROUTE 66		
MIDDLEFIELD & MIDDLETOWN, CONNECTICUT		
NOISE ANALYSIS SITE LOCATIONS		
SCALE: 1: 31000±	02/01/96	FIGURE
LUCHS ASSOCIATES INC. ENGINEERS, PLANNERS, SURVEYORS GLASTONBURY, CT		4



CONNECTICUT D.O.T.
STATE PROJECT NO.81-83
ROUTE 66 RECONSTRUCTION
MIDDLEFIELD & MIDDLETOWN

FIGURE 5 NOISE ANALYSIS
RECEPTOR LOCATIONS
ROUTE 66. RESIDENTIAL AREA
STA. 1+200 TO 1+400

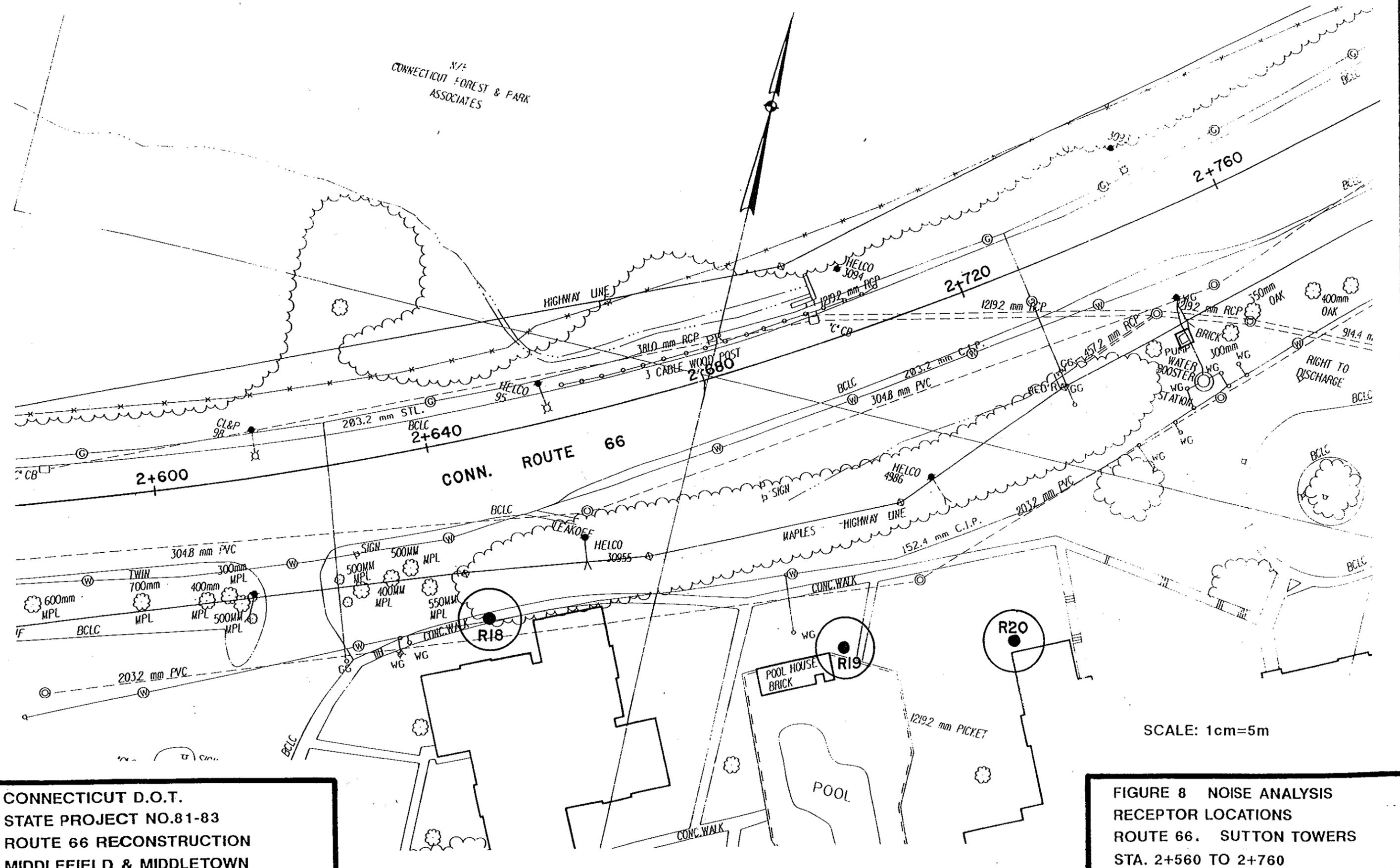


SCALE: 1cm=10m

CONNECTICUT D.O.T.
 STATE PROJECT NO.81-83
 ROUTE 66 RECONSTRUCTION
 MIDDLEFIELD & MIDDLETOWN

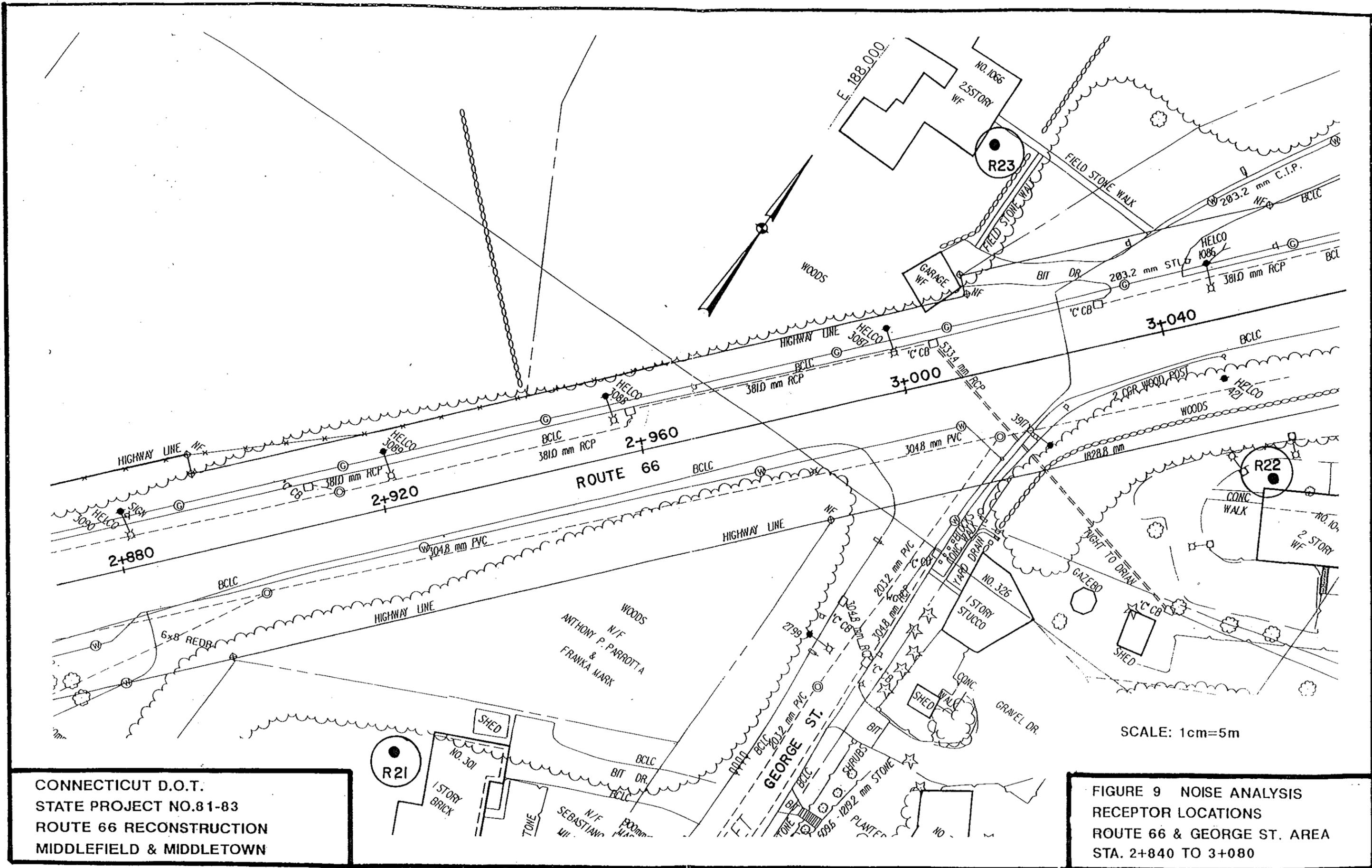
FIGURE 6 NOISE ANALYSIS
 RECEPTOR LOCATIONS
 ROUTE 66. AJ'S PUTT PUTT /
 CRESTLINE MOTEL STA. 2+000 TO 2+320

N/E
CONNECTICUT FOREST & PARK
ASSOCIATES



CONNECTICUT D.O.T.
STATE PROJECT NO.81-83
ROUTE 66 RECONSTRUCTION
MIDDLEFIELD & MIDDLETOWN

FIGURE 8 NOISE ANALYSIS
RECEPTOR LOCATIONS
ROUTE 66. SUTTON TOWERS
STA. 2+560 TO 2+760



CONNECTICUT D.O.T.
 STATE PROJECT NO.81-83
 ROUTE 66 RECONSTRUCTION
 MIDDLEFIELD & MIDDLETOWN

FIGURE 9 NOISE ANALYSIS
 RECEPTOR LOCATIONS
 ROUTE 66 & GEORGE ST. AREA
 STA. 2+840 TO 3+080

B. AIR QUALITY

Existing Conditions

The National Ambient Air Quality Standards (NAAQS) are established by Environmental Protection Administration (EPA) for carbon monoxide, ozone, nitrogen dioxide, sulphur dioxide, lead and particulate matter (≤ 10 um). Table 3 reports the NAAQS concentrations for carbon monoxide, photochemical oxidants (ozone producing), and nitrogen dioxide. The project area is within Air Quality Control Region (AQCR) No. 43 which encompasses the New York-New Jersey-Connecticut area. According to the most recent Connecticut Annual Air Quality Summary, the Middlefield/Middletown area is considered to be in "serious non-attainment" for volatile organic compounds (VOCs; the primary photochemical oxidants producing ozone). (There are five levels of non-attainment for VOCs: extreme, severe, serious, moderate, and marginal). The project area is also within a region of the State which has recently been re-designated from moderate non-attainment to attainment for carbon monoxide (CO). Under the Clean Air Act (as amended 1990), all areas classified as non-attainment must reach attainment status (one or less violations per year) within a time frame established under agreement between the State and EPA. Emissions must be reduced from the sources of pollution in order to achieve attainment status which would include vehicles, utilities, industrial and commercial facilities, and other sources. Attainment dates are established by the State of Connecticut and multiple programs are in the process of implementation to achieve and maintain these Federal air quality standards.

The atmospheric pollutants in automotive emissions can result in local or regional pollution effects. Nitrous oxides (NOx) and VOCs from automotive emissions react in the atmosphere in the presence of sunlight to form photochemical smog, including ozone. Automotive emissions tend to affect ozone levels on a regional (mesoscale) basis because the reaction is not instantaneous. However, the effects of carbon monoxide are more appropriately examined on a local level (microscale) because automotive emissions and potential impacts are most concentrated immediately adjacent to the traffic corridors. Due to its relative inertness, CO is used as a tracer compound to define the dispersion of pollutants.

Impacts due to automotive emissions are most typically measured at the mesoscale level for NOx and hydrocarbons, applying average emission rates for vehicles to the total number of vehicle distance traveled (VDT) in a project corridor area. Where a transportation project is likely to affect the total VDT's for different emission rates in a regional area, such analysis may be appropriate. At the regional level, projects are incorporated into the State Transportation Implementation Plan (STIP) if they are judged to not result in significant mesoscale air quality impacts. The Route 66 reconstruction project has been included in the STIP.

The potential local impacts due to CO concentrations are analyzed at the microscale level. Such impacts might be affected by not only changes in the number of vehicles traveling in the project area, but also by changes in roadway alignment relative to potential sensitive receptors. The most current EPA approved models for calculating

emission factors and analyzing microscale automotive air quality impacts are Mobile 5A, CAL3QHC, and Version 2.

Potential Impacts

Alternative 1 (Proposed 4 Lanes): The reconstruction of Route 66 within the Middlefield/Middletown area (State Project No. 81-83) is identified within the Mid-State Region Planning Agency Transportation Improvement Program (TIP), and determination of conformity with the Clean Air Act requirements has been made by the Metropolitan Planning Organization and the U.S. Department of Transportation Federal Highway Administration (FHWA) and the Federal Transit Administration, (FTA).

Because the reconstruction of Route 66 will not independently increase or decrease peak hourly flows, there is no expected difference in peak traffic levels between Alternative 1 (no-build) and Alternative 2 (proposed 4 lanes) conditions. However, the Level of Service (LOS) at the signalized intersections will be improved. Although there is no anticipated major alteration of overall local concentrations of CO, minor shifts in the alignment of the highway and the improvements in the LOS could cause limited alterations in local CO concentrations at any specific point adjacent to the roadway.

Typically, microscale impacts are analyzed at signalized intersections only if the current or projected build LOS is "C" or worse. Under Alternative 1 (no-build) condition, LOS "B" will not be met at the intersections (see Traffic Section). The full implementation of the Alternative 2 (proposed 4 lanes) will maintain LOS "B" at all three

signalized intersections. The Peters Lane traffic signal will not be initially installed as part of the project, but will be added in the future when traffic volumes justify a traffic signal.

The three signalized intersections were analyzed under peak hourly traffic conditions to ensure a conservative examination of the potential for impact. The three sites (Figure 10) include the intersections of Route 66 with:

- Peters Lane (Area 1; Figure 11),
- Ballfall Road/Route 217 (Area 2; Figure 12), and
- Camp Road (Area 3; Figure 13).

CAL3QHC is a line source computer model used for analysis of CO concentrations under traffic conditions. The model takes into account both continuous flow and idling of vehicles in queue (stop lights). All input data used in this model reflected worst-case meteorological conditions to ensure that modeling estimates of CO levels would not be understated. Assumptions included an ambient CO concentration of 1.5 ppm, a surface roughness of 3 cm (1.2 in.) for grassed areas, and an atmospheric stability class "E". The automotive emission rates of CO used in the CAL3QHC model were estimated using EPA Model Mobile 5A for the build year 1996 and the future condition of the year 2015.

For each model-analyzed location, receptor sites were identified outside of the mixing zones (3 meters (9.8 ft.) beyond the traffic lane limits) at positions on the landscape where individuals would be potentially be likely to be exposed to airborne traffic related

contaminants. The selected locations were in immediate proximity to single family homes (entry ways, outside perimeter, walkways), commercial establishments (motel entrance, miniature golf facility, or other public areas (e.g., cemetery)).

The results of the microscale modeling for peak hourly traffic conditions are presented in Table 4. Results from the microscale modeling showed no differences between Alternative 1 (no-build) and Alternative 2 (proposed 4 lanes) conditions for the 1996 and future year 2015 traffic conditions. This result is primarily due to the insignificant shifts in roadway alignments necessitated by the proposed reconstruction. None of the estimated peak hour traffic CO concentrations exceeded the NAAQS one-hour standard of 35 ppm. The peak hourly estimated CO concentrations were also less than the 8-hour CO standard of 9 ppm. Therefore, no separate 8-hour analysis was necessary since the 8-hour value would be less than the peak hourly value. The year 2015 CO concentrations showed a decrease over 1996 values due to projected improvements in automotive emissions, despite the expected increase in total traffic levels.

Although not indicated by the computer models, to some extent, the future Alternative 2 (proposed 4 lanes) pollutant emissions might be significantly less than the no-build emissions. Such a result would occur if Alternative 1 (no-build) condition causes a significant increase in the incidence of traffic accidents and "stop & go" traffic situations which increase the duration of much higher pollutant emissions from idling vehicles.

During the period of construction, there will be a temporary effect on local air quality due to several sources including fugitive dust emissions, automotive exhaust from construction vehicles and through-traffic delays, and volatile petroleum hydrocarbons from asphalt. Fugitive dust is a potential impact in any construction project which requires grading and earth removal. Pursuant to Connecticut General Statutes (CGS) Section 22a-174-18(b) and ConnDOT project specifications, the contractor will be required to implement mitigative measures to control this temporary impact. Such mitigation measures may include the application of calcium chloride or other stabilizing agent to the working and haulage area, covering or stabilization of stockpiled materials, the use of covered haul trucks, and the utilization and maintenance of tracking pads at all points of access.

The construction-related air emission impacts of Alternative 2 (proposed 4 lanes) would be expected to be directly correlated with the degree of construction activity required.

The preceding air quality analysis indicates the proposed reconstruction of Route 66 is without significant adverse impact to the local or regional air in the corridor area. State Project No. 81-83 is identified within the Mid-State Regional Planning Agency Transportation Improvement Program (TIP), and determination of conformity with the Clean Air Act requirements has been made. The reconstruction of Route 66 will not independently increase or decrease traffic within the greater project area or greatly affect travel speeds. Therefore the local emission rates for automotive pollutants will not change between the Alternative 1 (no-build) and Alternative 2 (proposed 4 lanes)

conditions. Computer modeling analysis of carbon monoxide (CO) concentrations with CAL3QHC indicated no increase in CO at potential local receptors and no exceedence of NAAQS standards. However, the project will add greater than 1.6 kilometers (one mile) of new lane connecting signalized intersections. Therefore, additional air quality analysis will be prepared during the design stage of this project, with the anticipated submission of an application for a permit for the construction of an indirect source (indirect source permit).

TABLE 3: NATIONAL AMBIENT AIR QUALITY STANDARDS

POLLUTANT	CONCENTRATION	
	<u>ug/m3</u>	<u>ppm</u>
Carbon monoxide		
maximum 8-hr. concentrations*	0.01	9
maximum 1-hr. concentrations*	0.04	35
Photochemical oxidants (ozone)		
maximum 1-hr. concentrations*	235	0.12
Nitrogen dioxide		
annual arithmetic mean	100	0.05

* Not to be exceeded more than once a year

Source: Environmental Protection Agency, "National Primary and Secondary Ambient Air Quality Standards", (Federal Register, 36 (84), April 30, 1971) p. 8187.

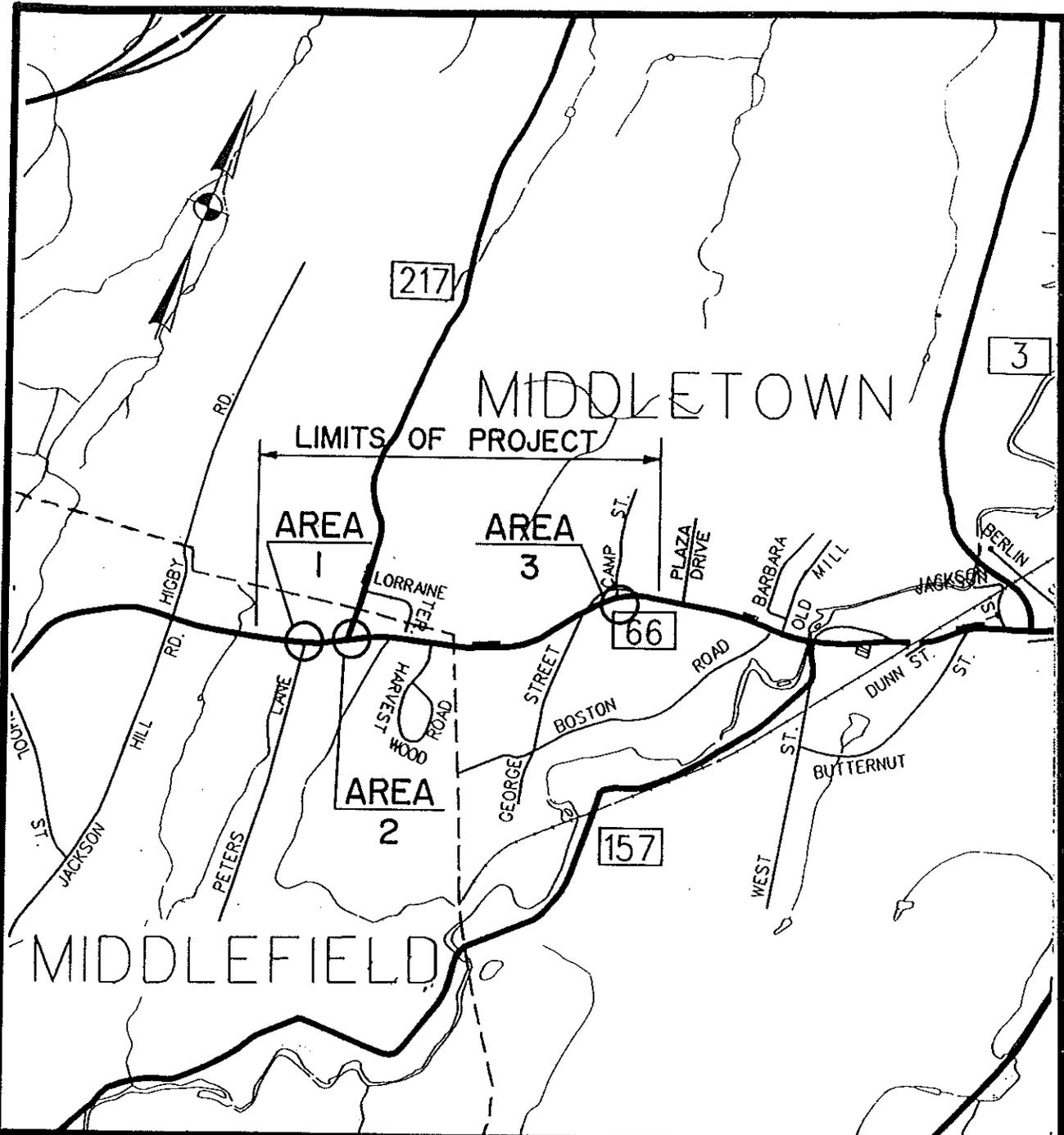
**TABLE 4: MICROSCALE ANALYSIS OF CARBON MONOXIDE CONCENTRATIONS
IN ROUTE 66 PROJECT CORRIDOR**

<u>LOCATION</u>	<u>YEAR</u>	<u>CONDITION</u>	<u>MAXIMUM ONE-HOUR CARBON MONOXIDE CONCENTRATIONS (PPM) AT RECEPTORS*</u>						
			<u>R1</u>	<u>R2</u>	<u>R3</u>				
Peters Lane	1996	1	1.9	1.6	1.9				
		2	1.8	1.6	1.9				
	2015	1	1.8	1.5	1.9				
		2	1.8	1.5	1.9				
Route 217	1996		<u>R4</u>	<u>R5</u>	<u>R6</u>	<u>R7</u>	<u>R8</u>	<u>R9</u>	
		1	1.8	1.8	1.7	1.6	1.8	1.6	
	2	1.8	1.7	1.7	1.6	1.8	1.6		
	2015	1	1.8	1.7	1.5	1.5	1.6	1.6	
		2	1.8	1.7	1.5	1.5	1.6	1.6	
	Camp Road	1996		<u>R10</u>	<u>R11</u>	<u>R12</u>	<u>R13</u>		
1			1.7	1.6	1.7	1.7			
2		1.9	1.7	1.9	1.8				
2015		1	1.7	1.5	1.6	1.6			
	2	1.8	1.6	1.7	1.7				

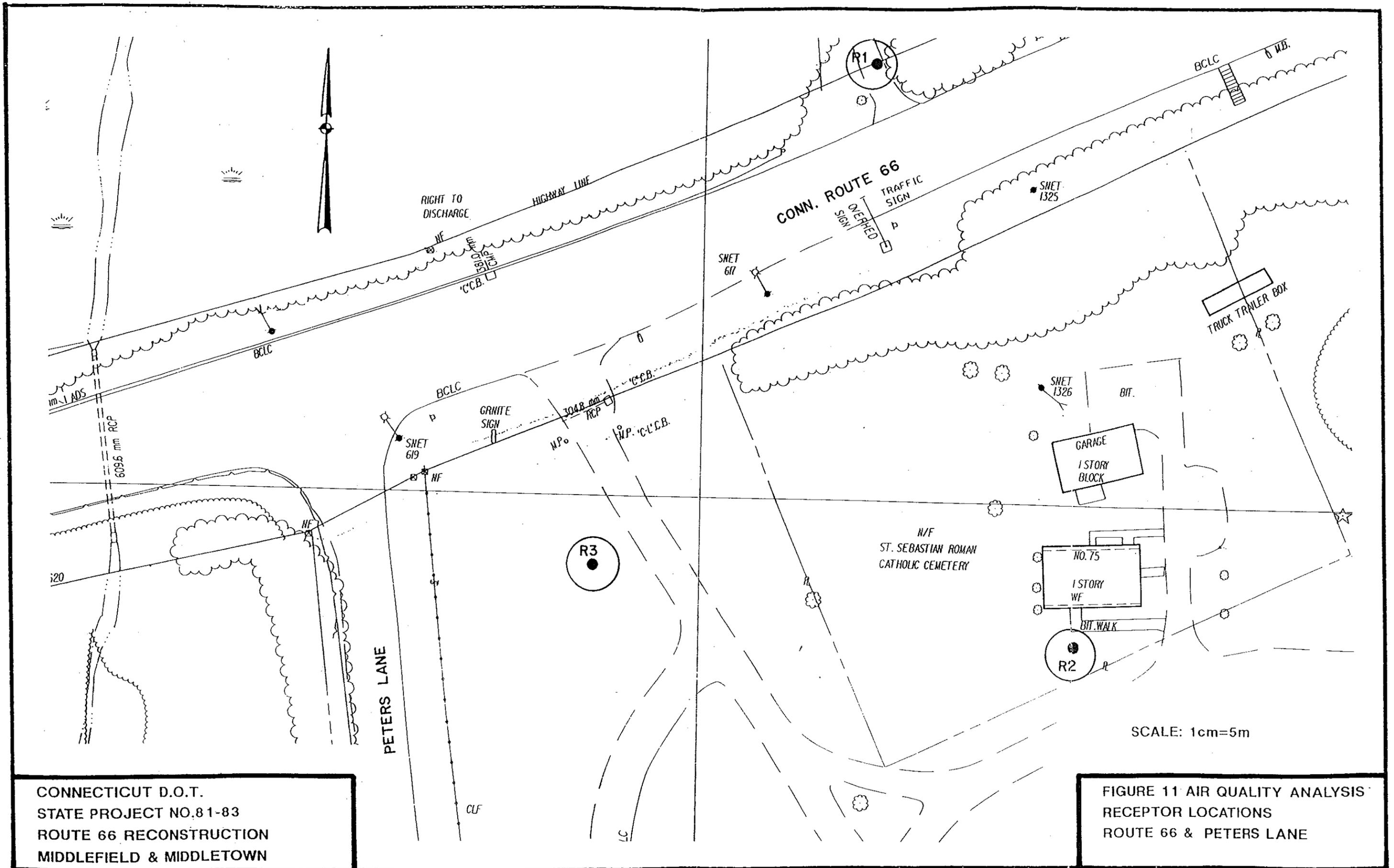
*Includes background concentration of 1.5 ppm and maximum concentration for 360° wind angles at 10° increments.

Alternative 1 = No Build Condition

Alternative 2 = Proposed 4 Lanes

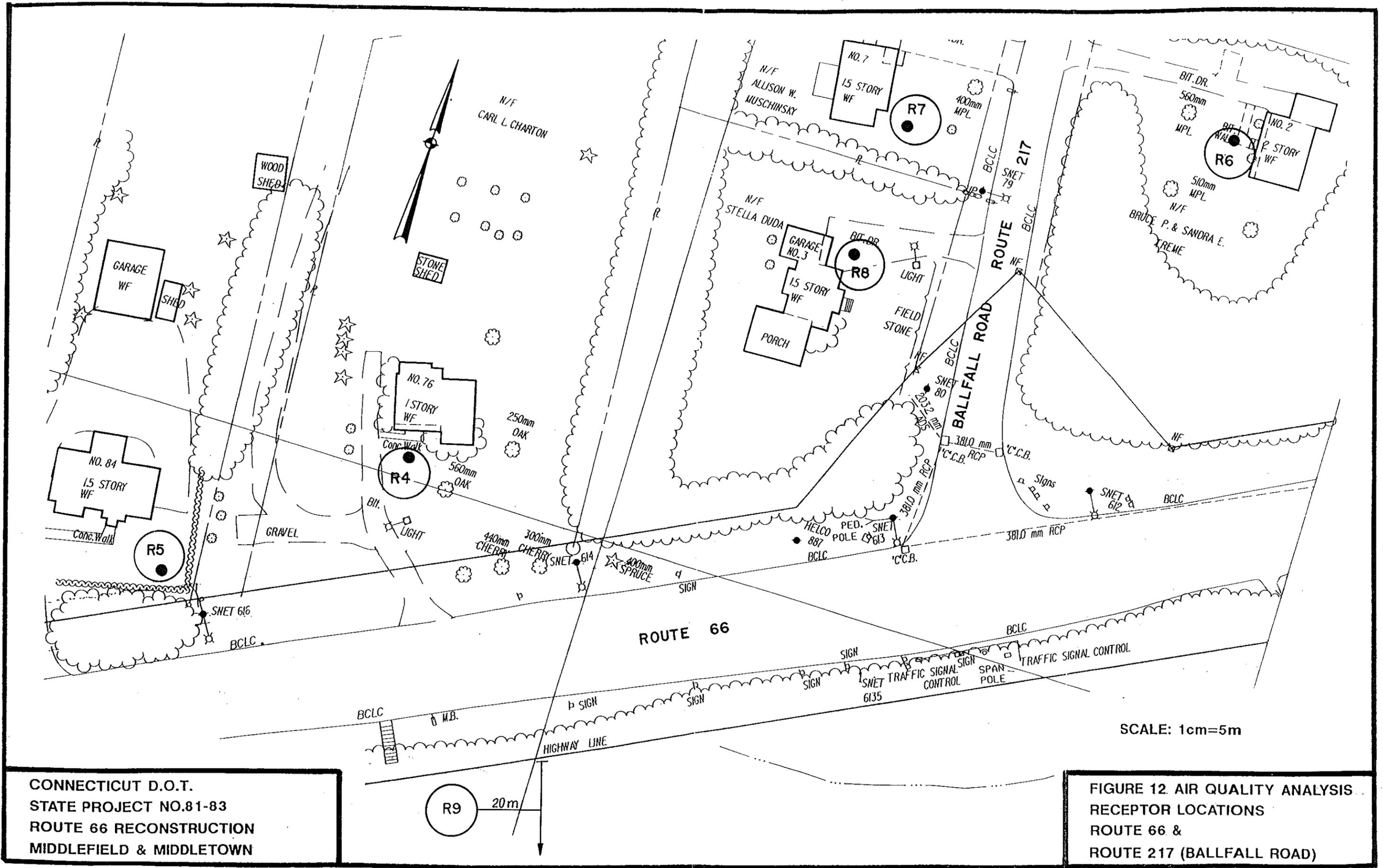


RECONSTRUCTION OF ROUTE 66 MIDDLEFIELD & MIDDLETOWN, CONNECTICUT		
AIR QUALITY ANALYSIS SITE LOCATIONS		
SCALE: 1: 31000±	02/01/96	FIGURE
LUCHS ASSOCIATES INC. ENGINEERS, PLANNERS, SURVEYORS GLASTONBURY, CT		10



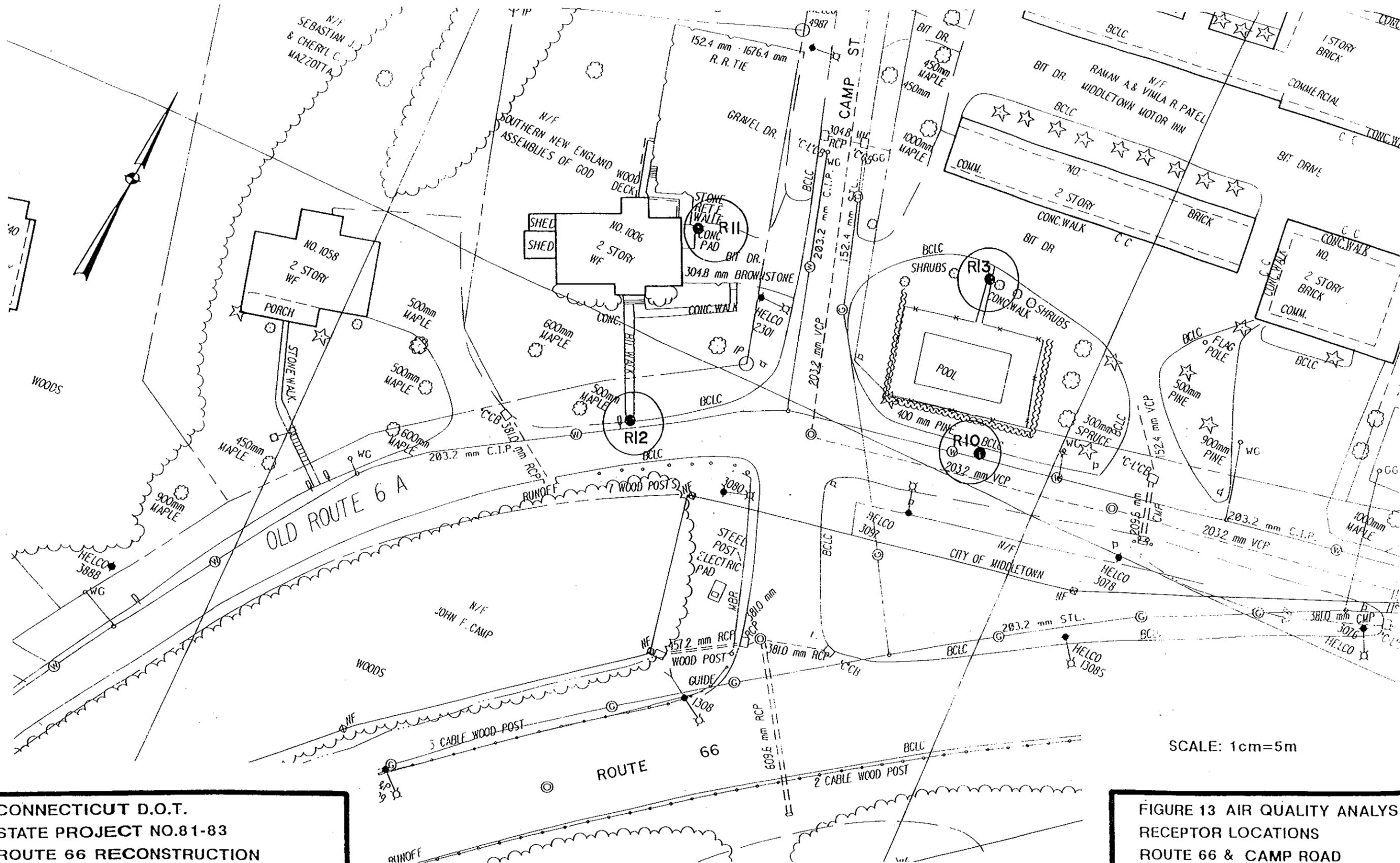
CONNECTICUT D.O.T.
 STATE PROJECT NO.81-83
 ROUTE 66 RECONSTRUCTION
 MIDDLEFIELD & MIDDLETOWN

FIGURE 11 AIR QUALITY ANALYSIS
 RECEPTOR LOCATIONS
 ROUTE 66 & PETERS LANE



CONNECTICUT D.O.T.
 STATE PROJECT NO.81-83
 ROUTE 66 RECONSTRUCTION
 MIDDLEFIELD & MIDDLETOWN

FIGURE 12 AIR QUALITY ANALYSIS
 RECEPTOR LOCATIONS
 ROUTE 66 &
 ROUTE 217 (BALLFALL ROAD)



CONNECTICUT D.O.T.
 STATE PROJECT NO.81-83
 ROUTE 66 RECONSTRUCTION
 MIDDLEFIELD & MIDDLETOWN

FIGURE 13 AIR QUALITY ANALYSIS
 RECEPTOR LOCATIONS
 ROUTE 66 & CAMP ROAD

C. WATER RESOURCES AND WETLANDS

Water Resources

Existing Conditions

The entire Route 66 project corridor is located within the watershed of the Coginchaug River. This sub-watershed is within the Mattabeset Regional Basin (Department of Environmental Protection Basin No. 4607). Water flow within the project corridor is from north to south or southeast, via six streams: two permanently flowing and four intermittent watercourses (see Figure 14-20). All of the streams are unnamed with relatively narrow associated wetland resources (See Wetlands Section). Water flows from the Coginchaug River to the northeast about 7 kilometers (four miles) to its confluence with the Mattabeset River, which then flows to the southeast about 1.5 kilometers (less than one mile) to its confluence with the Connecticut River.

The six watercourses all flow north to south, perpendicular to the orientation of the highway. The streams are relatively evenly distributed along the project corridor. One of the permanent streams is located at the western end of the project corridor between Higby Road and Peters Lane. The other permanent stream is located immediately east of Route 217 (Ballfall Road). The permanent streams are both extremely small in size with a stream width varying between 0.6 - 1.5 meters (2-5 feet) and an estimated mean annual flow of less than 14 liters per second (0.5 cfs).

According to the Water Quality Classification Map of Connecticut, none of the six streams have an identified surface water quality classification. Therefore, these areas are presumed to have a surface water quality of "A". Each stream is tributary to the Coginchaug River which has a surface water quality rating of "Bc". Given the existing discharge of roadway drainage and the encroachment on these water bodies by development, a water quality classification of "B" may be more appropriate. Using the criteria for the classification of water company-owned land (Public Health Code of the State of Connecticut, PHC 25 - 37c-2), there are no Class I watershed lands within the project area.

The project corridor does not overly any significant aquifers (Groundwater Availability in Connecticut, Department of Environmental Protection, (CTDEP), 1978; Groundwater Yields for Selected Stratified Drift Areas in CT, CTDEP, 1986). The entire project corridor is comprised primarily of glacial till with relatively low expected groundwater yield. The Town of Middletown has municipal water service along Route 66 to the Middlefield town line. However, there is no municipal water service in Middlefield along Route 66 to the western project limits. Therefore, the residences and commercial establishments along the Middlefield project corridor are serviced by local wells, presumably driven into bedrock.

According to the Water Quality Classification Map of Connecticut (1987), there are two community well systems in the general project corridor: one located east of Route 217, north of Route 66, presumably in association with a subdivision; and a well system associated with

the Crestline Motel. The community well system associated with the subdivision has been replaced by town water service in Middletown which extends southward on Ballfall Road to the corporate limits, north of Route 66. The motel's well head is located approximately 150± meters (500± ft.) south of the existing roadway (see Figure 17). The well field areas are rated as "Gaa" for groundwater quality (suitable for human consumption without treatment).

Potential Impacts

The potential impacts to water quality by the proposed reconstruction of any highway fall into two major types: short-term construction related impacts and long-term impacts associated with vehicle traffic and maintenance activities.

Potential Long-Term Impacts

Long term impact to water quality would potentially result from an increase in stormwater runoff and associated pollutants from a highway surface. However, such impacts are expected to be extremely limited. Although, the amount of impervious surface will increase with the proposed road widening, therefore, increasing the volume of surface runoff, traffic flow (the primary source of the pollutants) is not expected to change due to the proposed road reconstruction, although it will increase with time under either the Alternative 1 (no-build) or Alternative 2 (proposed 4 lanes). Residence time per car within the highway corridor will likely decrease during peak traffic hours due to the increased efficiency of the new road design which lessens the

potential for "back-ups". Lower residence time will lessen the amounts of some contaminants (e.g., oil and grease) deposited to the road surface by vehicles. Run-off of storm water from the surface will continue to input some amounts of heavy metals, de-icing chemicals, and petroleum and synthetic organics. Overall, the hydrocarbon and metal contaminants would be expected to be roughly proportional to traffic volume, which is expected to increase with general population growth in the area, but not as a direct result of the roadway improvements. However, the runoff of salt and sand is more proportional to the surface area of the travel lanes. Therefore, the amount of salt and sand in highway storm water runoff would be expected to increase due to the project.

The project does not propose to significantly alter drainage patterns (i.e., all existing watersheds will be maintained). Infiltration to ground water will be slightly reduced due to an increase in the amount of impervious surface (pavement). However, no measurable changes to groundwater quantity or quality are anticipated. The reconstruction of the Route 66 drainage system will replace existing structures with new stable outlets to reduce exit velocities of stormwater and prevent downgradient erosion.

Potential Short-Term Impacts

For Route 66, short-term construction impacts to water quality are primarily limited to the following:

- 1) Siltation due to demolition of old road, bridges and stream crossings;

- 2) Siltation due to new construction and road grading;
- 3) Siltation due to reconstruction of tributary crossings (headwall construction, culvert placement, fill); and
- 4) Accidental spillage of fuels,, hydraulic fluids, or lubricating oils.

Construction of Alternative 2 (proposed 4 lanes) would require several mitigation measures to ensure the protection of water quality from short-term impacts. Such mitigation measures will include modification to catch basins, such as gross particle separators to reduce sedimentation and turbidity impacts to surface waters. Erosion and sedimentation controls monitored throughout the period of construction are the standard feature of all road reconstruction projects. Such mitigation measures will be developed in coordination with DEP during permit acquisition and granting processes. Adherence to erosion and sedimentation control guidelines described in Connecticut Department of Transportation's, Form 815, Standard Specifications for Roads, Bridges, and Incidental Construction, Section 1.10 Environmental Compliance, will assure that no adverse effects to water quality or wetlands habitat will occur as a result of this project. These requirements will provide for protection of surface water quality as well as minimizing the possibility of siltation and sedimentation within regulated wetlands and watercourses. These provisions will minimize the likelihood of accidental spillage of fuel, oil, or other hazardous substances during construction. No concrete truck washings will be disposed of in the project area.

Wetland Resources

Existing Conditions

Associated with each of the two permanent and four intermittent streams, which flow from north to south beneath Route 66, are six regulated wetland resources areas (Figures 14-20) including State regulated inland wetlands and watercourses, and Federally regulated Waters of the U.S. and Wetlands. The wetlands were delineated using the methodology specified in the 1987 Federal Manual for Identifying and Delineating Jurisdictional Wetlands. For purposes of description and analysis, these wetlands have been sequentially numbered from west to east within the project corridor in association with each stream.

The wetland areas were qualitatively evaluated according to several general parameters: wildlife habitat, fisheries habitat, sediment trapping potential, nutrient removal/retention, food chain support, flood control, groundwater recharge or discharge, shoreline anchoring and dissipation of erosive forces, and socio-economic factors. The results of this qualitative functional evaluation is summarized in Table 5. The analysis approach is based upon CTDEP (1991) evaluation techniques.

Wetland Resource No. 1 (Stations 1+000 to 1+220)

Wetland resources in this area, immediately west of the beginning of the project corridor, border on a small permanently flowing stream of approximately 1 to 2 meters (3 to 6 ft.) breadth, oriented

perpendicular to the highway. North of Route 66, the stream is somewhat less well defined, broadly meandering through a deciduous forested wetland, dominated by red maple. The swamp has a canopy height of roughly 20 meters (65 ft.) comprised primarily of red maple saplings and small trees with a diameter at breast height (dbh) rarely exceeding 15 to 28 centimeters (6 to 11 inches). Shrub cover is frequently dense including red maple saplings, silky dogwood, and highbush blueberry. Groundcover is dense due to some open areas in the canopy with tussock sedge, soft rush, jewelweed, goldenrods and sensitive fern. There were small areas of standing open water in close proximity to the stream.

South of Route 66, the stream continues through a relatively narrow band of trees and wooded wetland which is immediately bordered on the west side by a modified wetland/detention basin, apparently constructed to service the adjacent Meriden Gun Shop. Drainage from both the stream and the detention basin is to the south.

The primary functional values associated with this wetland area are wildlife habitat, sediment/nutrient removal, and flood control. These values are best expressed in the wooded wetland north of Route 66. Runoff from Route 66 discharged to the wetland system is mitigated by the wetland resources by the likely removal of some stormwater associated contaminants. South of Route 66, sediment/nutrient removal and flood control functions are associated with the detention basin. However, the stream is channelized and would provide reduced pollutant attenuation functions. Close to the highway the channelized stream and narrow vegetated wetland provides little wildlife habitat value.

Wetland Resource No. 2 (Stations 1+460 to 1+600)

This wetland resource borders on an intermittent stream immediately west of Peters Lane. To the north of Route 66, the wetland area is a red maple swamp with a canopy height of 20 to 30 meters (65 to 98 ft.) and percent coverage approaching 90%. Near the roadway the shrub cover is reasonably dense (50-80%) with silky dogwood and red maple saplings in abundance. Groundcover includes tussock sedge and jewelweed. The wetland is located at the base of the roadway slope. Drainage from this relatively broad deciduous forested wetland is culverted beneath Route 66 to the stream channel on the south side of the highway.

South of Route 66, the wetland resources include a defined stream channel bordered by a mix of shrub/scrub wetlands with some mature and immature red maples. Dominant shrub species include silky dogwood and multi-flora rose. These wetland areas provide moderate wildlife habitat characteristics and some flood storage potential, but minimal aquatic habitat or groundwater recharge.

Wetland Resource No. 3 (Stations 1+920 to 2+000)

Approximately 100 meters (330 ft.) east of the intersection with Route 217 (Ballfall Road), a small permanent stream flows from north to south beneath Route 66. North of Route 66, the stream is deeply channelized between developed properties on either side separated by a narrow strip of woods. Dominant vegetation along the stream includes cottonwood, red maple, ash, dogwood, staghorn sumac, and locust. South of Route 66 the stream continues in a shallow swale through an area of lawn

Wetland functional values are limited and low in value. The frequency and duration of surface inundation is very low, thus restricting the use of the wetland by wetland-dependant wildlife. However, the area does provide good overall habitat for small mammals and birds. Soil saturation within the A-horizon appears to be non-existent or short-lived thus reducing the pollutant removal ability.

Opposite this wetland on the north side of Route 66, there is a depression between the short remaining segment of old Route 6A and the existing Route 66. The area within this depression includes two intermittent watercourses with little or no vegetated wetland or hydric soils. Non-wetland species comprise greater than 50% of the vegetative assemblage. This area receives intermittent storm drainage inputs which exit the site via a culvert at the intersection with Camp Street. The woody species include sugar maple and black cherry.

East of the intersection of Route 66 with Camp Street, there is a small additional intermittent stream channelized into the adjacent landscaping and emerging in and out of Route 66 drainage conduits. An open channel emerges on the north side of Route 66 immediately east of the intersection, travels in a ditch for a distance of approximately 15± meters (50 ft.) where it is picked up by Route 66 drainage culvert which re-emerges on the south side of the highway. The storm water discharge continues in an open ditch paralleling the south side of Route 66 where it is again reintroduced to the highway drainage system. Most of this stream is a grassy herbaceous swale which receives frequent mowing. At the southern terminus the swale is ripped

before it is picked up by highway drainage along this well developed portion of the highway.

Potential Impacts

The Alternative 2 (proposed 4 lanes) will impact the six watercourses and associated wetland resources along the project corridor. The estimated impact for the preferred Alternative 2 (proposed 4 lanes) is identified in Table 5 for each resource area and the qualitative functional values of each. Overall, the total estimated wetland impacts are 0.12± hectares (0.31± acres) of state regulated wetland and federal wetland. In addition, there is a total impact to watercourse of 215± meters (705± feet), over 90% of which is road-side ditches. The remainder of impacts to watercourses results from the extension of culverts associated with the highway widening/reconstruction.

The existing functional values of the wetlands and watercourses to be affected (based upon DEP 1991 evaluation concepts) are, for the most part, in the low to moderate range and take place over long linear extent of roadway improvement affecting only a narrow margin in each individual area. The higher functional value rankings of Wetland Areas 2 & 4 are largely due to the wetland features further away from Route 66 which will not be directly impacted by the roadway.

The period of construction activity will likely impose some limited short-term limited impact due to the temporary disturbance of the soil surfaces within the project area. However, all work will be done consistent with Section 110 of Form 815, Connecticut Department of

Transportation's Standard Specifications for Roads, Bridges, and Incidental Construction which will minimize erosion and sedimentation impacts to wetland resources.

The project design has minimized wetland impacts to the loss of 0.12± hectares (0.31± acres) along the approximately 2300 meters (7500 feet) of reconstructed highway. The wetland impact occurs in a narrow strip over a long linear length at the base of the existing roadway embankment, and does not affect the highest quality areas of the wetlands bordering on the roadway. Therefore, this unavoidable impact to wetlands and their functional values is minimal, only marginally affecting each wetland area.

Permits and Other Regulatory Requirements

Due to the potential impacts to wetland and water resources within the project corridor, several environmental permits will need to be obtained:

- State Inland Wetland and Watercourses Permit Connecticut Department of Environmental Protection (CTDEP);
- State Water Quality Certification under Section 401 of the Clean Water Act (CTDEP);
- Section 404 Permit (Corps of Engineers);
- Storm Water Discharge Permit (CTDEP); and
- Flood Management Certification (CTDEP).

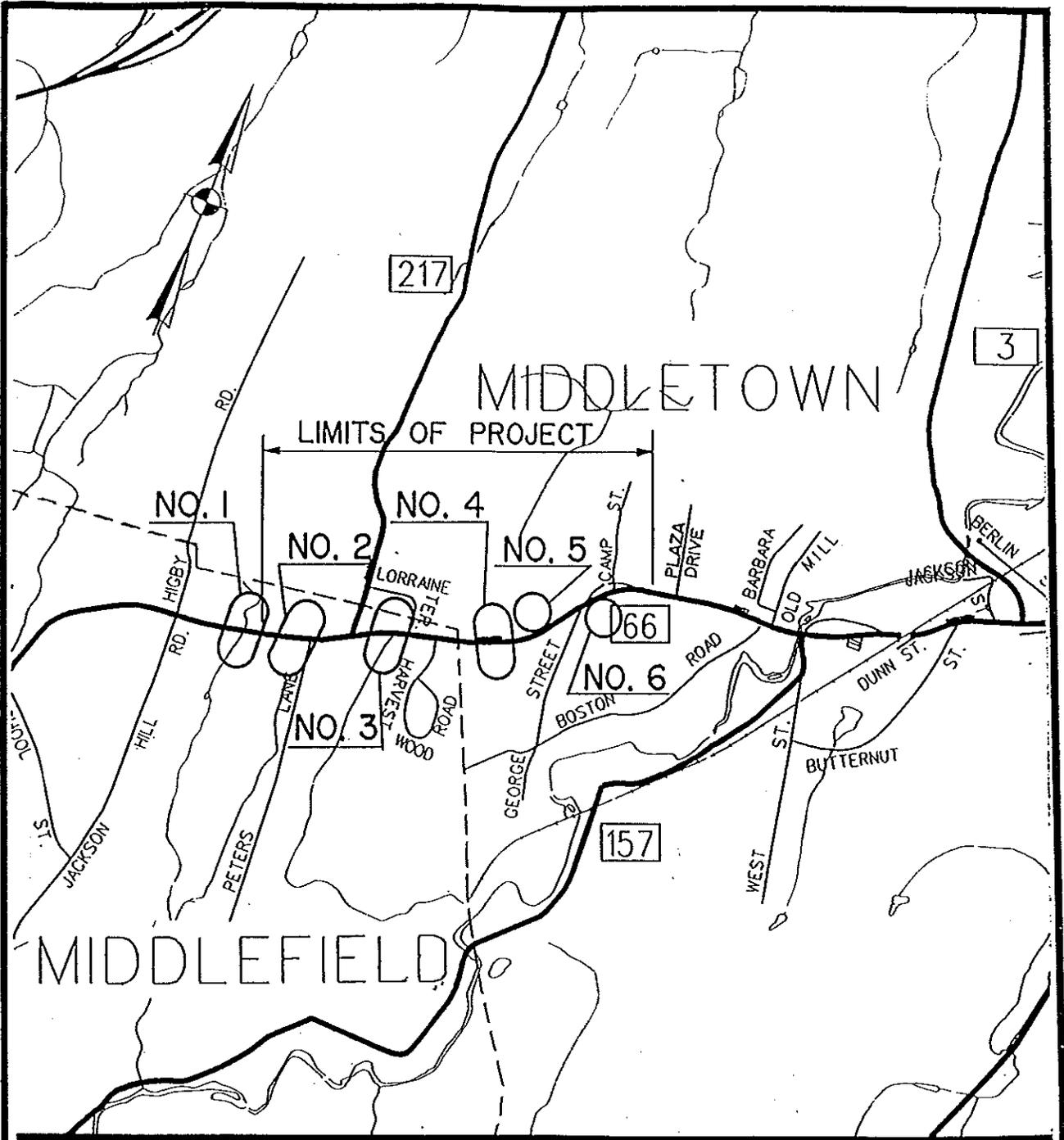
TABLE 5: WETLAND IMPACT AREAS AND FUNCTIONAL VALUES

Area 1**	WETLAND AREAS*						Total
	Area 2 Meriden Gun Shop/ Agway	Area 3 Peters Lane	Area 4 AJ's/ Crest- line	Area 5 Woodgate Condo's	Area 6 Sutton Apts.	Camp Street	
<u>Impacts</u>							
Wetlands (hectares)	0.0	0.084	0.0	0.015	6.0	0.025	0.124 ha 0.31 ac)
Watercourses (Meters)	0.0	15	15	5	50	130	215 M (707 lf)***
<u>Functional Values</u>							
Flood Control	Mod	Mod	Low	Low	Low	Low-Mod	
Wildlife Habitat	Low-Mod	Mod-High	Low	Low	Low	Low	
Aquatic Habitat	Low	Low	Low	Low	Low	Low	
Food Chain Support	Low	Mod	Low	Low	Low	Low	
Nutrient Trapping/ Removal	Low-Mod	Mod	Low	Low	Low	Low	
Shoreline Anchoring	Low	Low	Low	Low	Low	Low	
Groundwater Recharge	Low	Low	Low	Low	Low	Low	
Groundwater Discharge	Low	Low	Low	Low	Low	Low	
Socio- economic	Low	Low	Low	Low	Low	Low	

* See Figures -- for Area Locations

** Located immediately west of project limits in Project Area No. 80-81; no direct impacts

*** 200 M (660 ft.) of Watercourse is roadside ditch; 15 M (50 ft.) is permanent stream. The functional values are based on CTDEP (1991) evaluation techniques.



LEGEND
(FIGURES 15-20)

AREA OF CUT / FILL



APPROXIMATE
WETLAND BOUNDARY



RECONSTRUCTION OF ROUTE 66
MIDDLEFIELD & MIDDLETOWN, CONNECTICUT

WETLAND SITE LOCATIONS

SCALE: 1 : 31000±

02/01/96

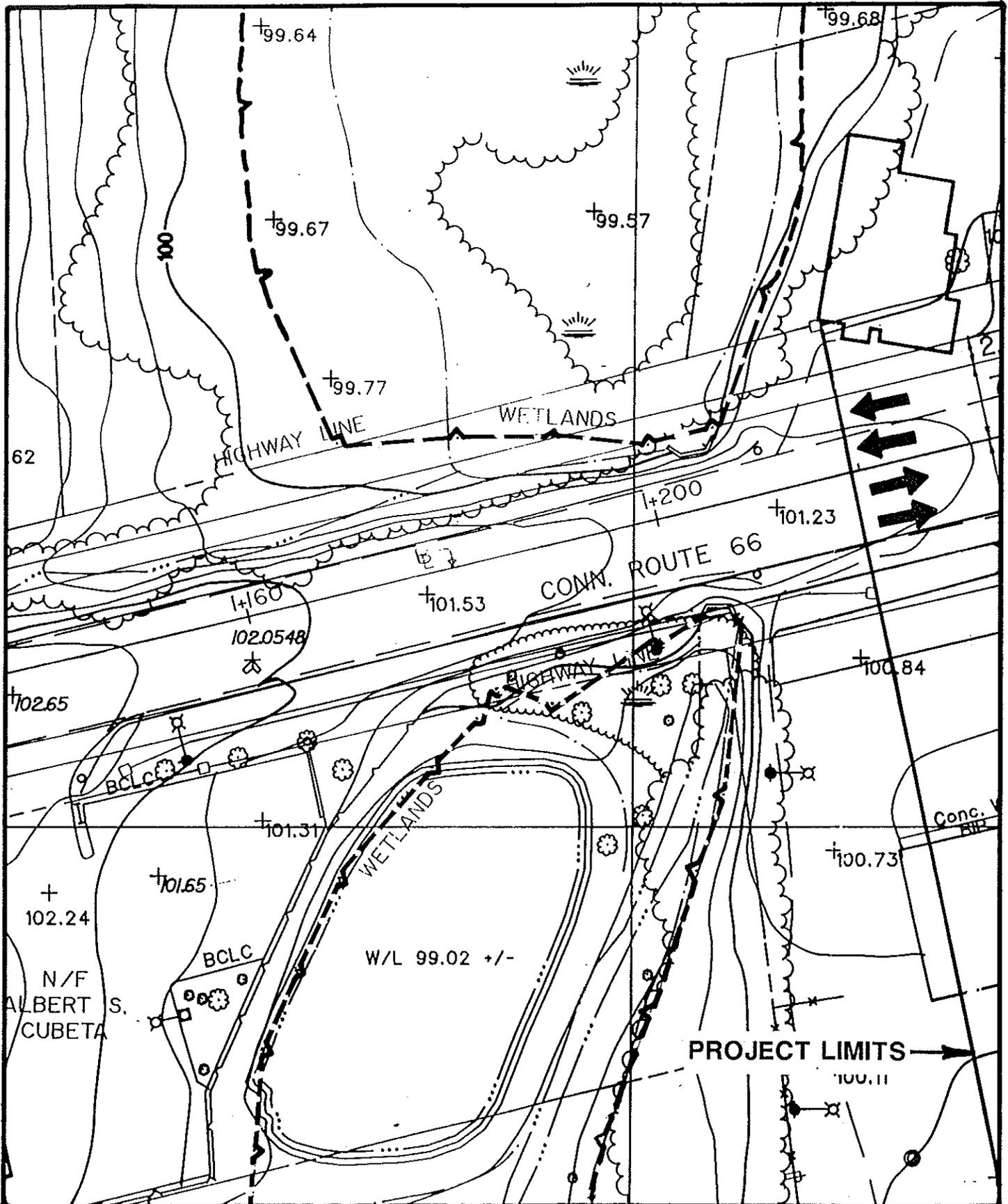
FIGURE

LUCHS ASSOCIATES INC.
ENGINEERS, PLANNERS, SURVEYORS
GLASTONBURY, CT

14

The State Inland Wetland and Watercourses Permit, Water Quality Certification, and Section 404 Permit are required due to the proposed fill in the wetland resources. Because the project will disturb greater than 2 hectares (5 acres), a Storm Water Discharge Permit will be required. In addition, conformance with Federal Executive Order 11990 is required due to Federal funding involvement with the project. Executive Order 11990 requires that all potential impacts to wetland resources be avoided and minimized. This project appears to be consistent with this mandate because there is no reasonable or practical alternative which would allow the reconstruction of Route 66 which would simultaneously fulfill the design objectives and avoid or further minimize impact to wetland resources.

It is not anticipated that a Water Diversion Permit will be required (pursuant to CGS Section 22a-369). The project areas are entirely outside of the coastal zone and well upstream of any tidally influenced area. Therefore, no review is required under the Coastal Area Management Program as per CGS Sect. 22a-100. No wild or scenic rivers will be affected.

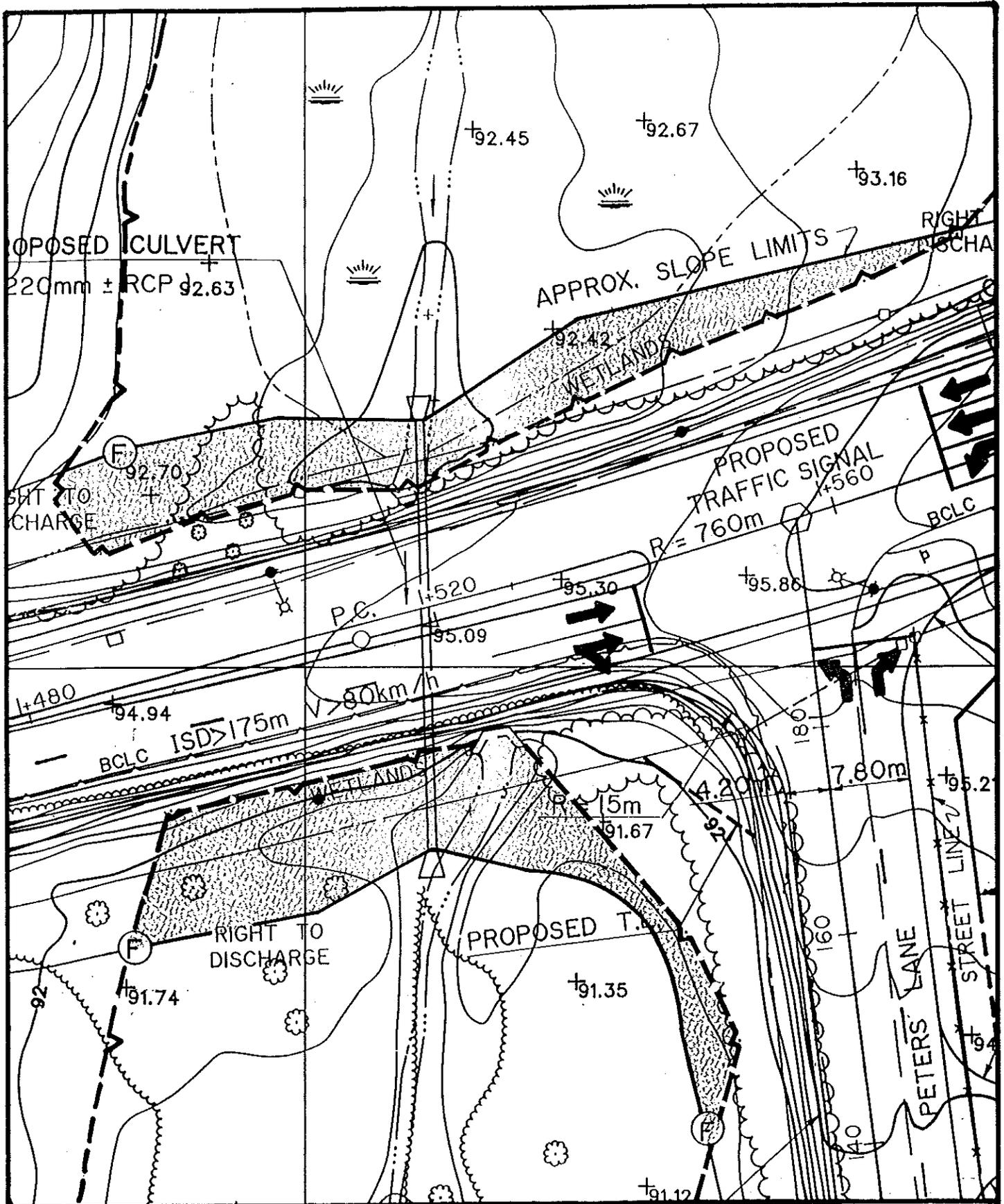


CONNECTICUT D.O.T.
 STATE PROJECT NO. 81-83
 ROUTE 66 RECONSTRUCTION
 MIDDLEFIELD & MIDDLETOWN

SCALE: 1cm = 5m



FIGURE 15
 WETLAND AREA NO. 1
 WEST END OF PROJECT
 CORRIDOR, MIDDLEFIELD, CT

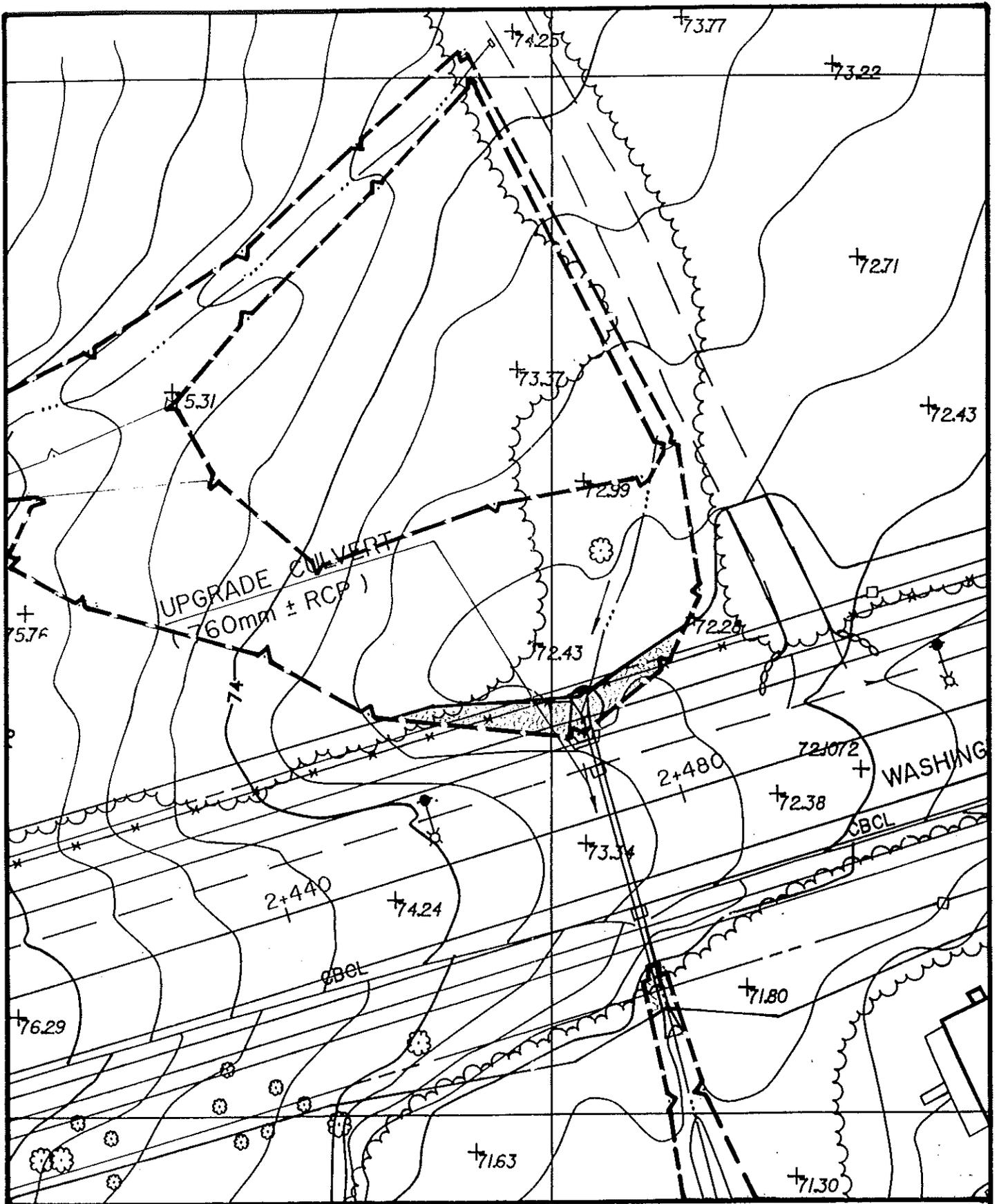


CONNECTICUT D.O.T.
 STATE PROJECT NO. 81-83
 ROUTE 66 RECONSTRUCTION
 MIDDLEFIELD & MIDDLETOWN

SCALE: 1cm = 5m



FIGURE 16
 WETLAND AREA NO. 2
 PETERS LANE AREA,
 MIDDLEFIELD, CT

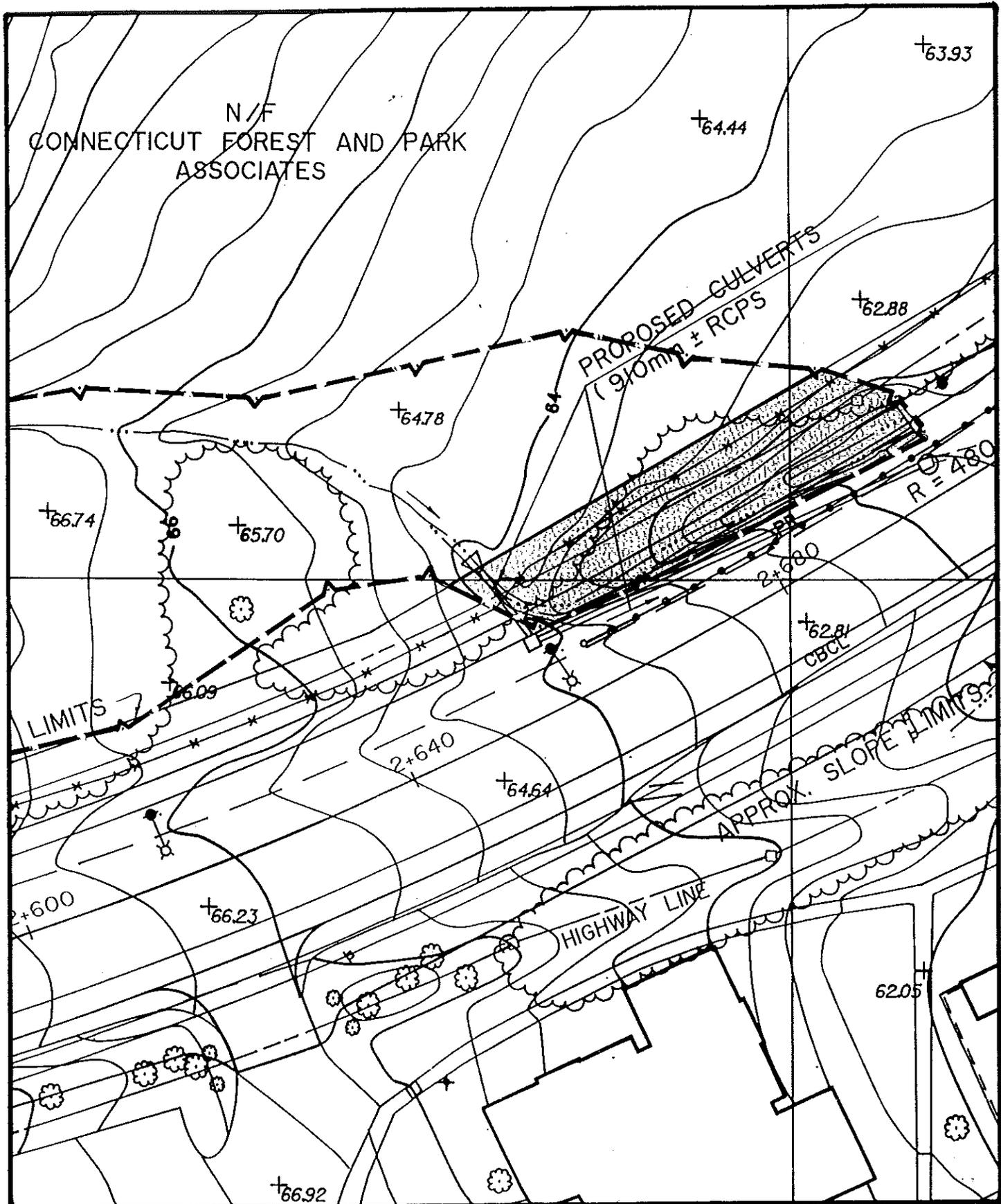


CONNECTICUT D.O.T.
 STATE PROJECT NO. 81-83
 ROUTE 66 RECONSTRUCTION
 MIDDLEFIELD & MIDDLETOWN

SCALE: 1cm = 5m



FIGURE 18
 WETLAND AREA NO. 4
 APARTMENT COMPLEX,
 MIDDLETOWN, CT

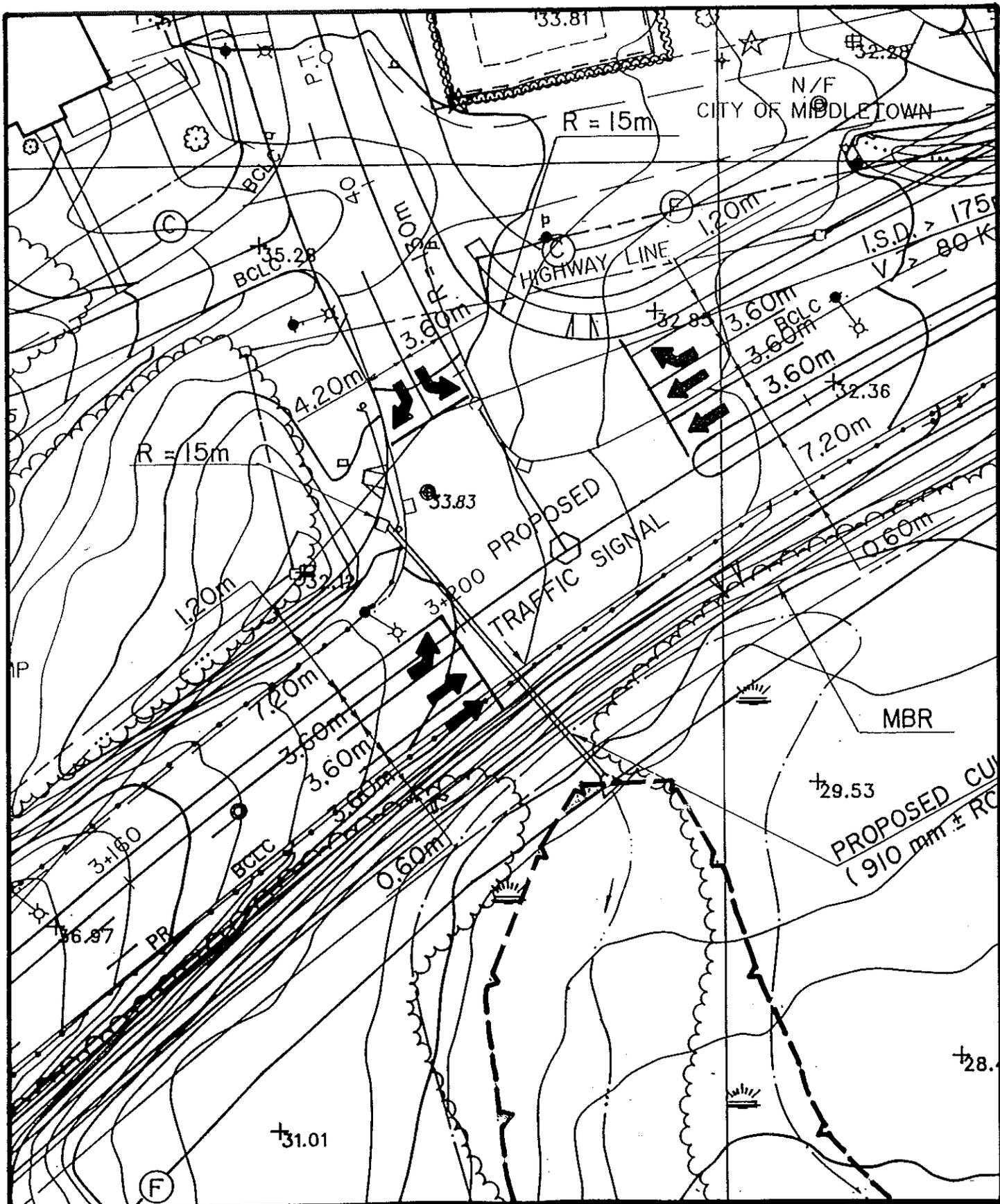


CONNECTICUT D.O.T.
 STATE PROJECT NO. 81-83
 ROUTE 66 RECONSTRUCTION
 MIDDLEFIELD & MIDDLETOWN

SCALE: 1cm = 5m



FIGURE 19
 WETLAND AREA NO. 5
 APARTMENT COMPLEX,
 MIDDLETOWN, CT



CONNECTICUT D.O.T.
 STATE PROJECT NO. 81-83
 ROUTE 66 RECONSTRUCTION
 MIDDLEFIELD & MIDDLETOWN

SCALE: 1cm = 5m



FIGURE 20
 WETLAND AREA NO. 6
 CAMP STREET AREA,
 MIDDLETOWN, CT

D. WILDLIFE HABITAT

The DEP's Natural Resources Center was contacted relative to their natural area inventory sites. The Natural Resources Center reviewed the natural diversity data base maps and files for sites within the project limits. The conclusions of their review is that there are no Natural Area Inventory Sites within the project area. See Appendix C.

The primary type of habitat within the project is landscaped areas that are associated with the existing commercial and residential properties. These landscaped areas provide habitat for suburban adapted wildlife. The existing commercial and residential properties comprise about 72 percent of the roadway frontage. The landscaped areas will be restored when the construction is completed except for the additional pavement width that is required for the proposed project.

Fields and small wooded areas comprise about 15 percent of the roadway frontage. Most of the fields are not in agricultural use and are becoming overgrown. The proposed construction will require some additional pavement width and approximately a 3.05 meter (10 ft.) wide area along each side of the roadway will be mowed periodically. However the areas that are outside of the mowed area that have been disturbed during the construction of the project will be allowed to be returned to their natural state.

There is a forest area along the north side of the roadway near the Middlefield/Middletown town line, which is owned by the Connecticut Forest and Park Associates. This area comprises about 13 percent of

the roadway frontage. This property is a large parcel of land and provides good wildlife habitat. Although no takes are required from the forest, grading will be required along this area for the construction of the roadway. The grading will require a width that varies from 0 to about 5 meters (16 ft). The woodland and wetland that will be disturbed by the grading do not have the same wildlife habitat values as other areas within the property because of recent logging, intermittent stream flow, the area dries during the summer and limited shrubs and ground cover. The area that is disturbed by the grading, within the forest, will eventually return to its natural state.

The grading (cuts and fills) that are proposed for this project are the minimum amount required to provide a profile and cross section that will have sufficient traffic capacity and comply with current standards. Slopes that are not within the right-of-way will be protected by permanent slope easements. The slopes that are outside of the 3.05 meter (10 ft.) mowed area vary in grade from 4:1 or less in landscaped areas to a maximum of 2:1 in developed areas.

E. ENDANGERED AND THREATENED SPECIES

The DEP's Natural Resources Center to provide an evaluation of the possibility of extant populations of Federal or State endangered, threatened or special concern species that may occur on the project site.

The DEP consults its natural diversity data base which consists of data collected by the Natural Resources Center's Geological and Natural

History Survey, various units in DEP, private conservation groups and the scientific community. This data base is not a result of a site-specific field survey.

The evaluation by DEP concluded that there are no known extant populations of the aforementioned species at the site in question. See Appendix A.

F. FARMLAND

The U.S. Department of Agriculture, Soil Conservation Service (SCS) has an inventory on prime and unique farmland. The purpose of this inventory is to identify and locate important farmland within the State of Connecticut.

Prime farmland in Middlesex County have characteristics of producing food, feed, forage, and fiber crops. The land may not be utilized for these purposes now, but the land does possess the qualities in which they can be grown. It has the soil quality, growing season and moisture supply needed to potentially produce high yields of crops.

The farmlands within the project were determined using the Soil Conservation Services "Important Farmlands of Middlesex County Connecticut," (1981). This report depicts the prime farmland and additional farmland of statewide importance. Urban built-up land and water areas are not included. Prime farmland is considered to be one of the most important resources of the state and nation.

The soils considered to be prime farmland in Middlesex County are Ludlow silt loam (3 to 8% slopes), Wethersfield loam (3 to 8% slopes), Cheshire silt loam (8 to 15% slopes). Both the Ludlow silt loam and Wethersfield loams are found in the project area.

Impacts to the farmland areas were calculated by combining the proposed slope limits and the prime farmland as defined by the Soil Conservation Service (SCS). Alternative 2 (proposed 4 lanes), the recommended action would impact approximately 0.27± hectares (0.67± acres). Alternative 1 (no build), will not directly eliminate farmland.

Public Act 83-102 (an act concerning state projects that affect prime farmland) states if 10.18 hectares (25 acres) or more of prime farmland are to be converted to non agricultural land use within a project, the ConnDOT must submit the project to the Connecticut Department of Agriculture for review. If the project acquires farmland in excess of 0.81 hectares (two acres) per 1609 meters (mile) the Farmland Protection Policy would require the completion and submittal of Form 1006 to the SCS. This project does not meet the criteria of either.

G. SOCIO-ECONOMIC

Property Takings and Easement

The project will include property takings and easements. The project will require the acquisition of one residential home which is located at the corner of Route 66 and Route 217, Ballfall Road and one parcel of land that is owned by the City of Middletown at the intersection of

Camp Street and Route 66. In addition the proposed project would involve 12 partial takes and acquiring 14 easements. The 12 partial takes consist of small strips and parcels of land. There will be no displacement of businesses as a result of the proposed improvements.

The total take of the residence and seven of the partial takes are located in Middlefield. The area of the partial takes is about 2600 sm (0.6 Ac.). The area of the five partial takes that are located in Middletown is about 900 sm (0.2 Ac.). Included in the easements is a garage at 1066 Washington Street. The garage is located on the property of a historically significant house and is within the proposed slope easement. The Connecticut Historical Commission has indicated that relocating this garage would not effect the historical significance of the property. See Section H Historic and Archaeological Resources for additional details. The partial takes include property at the St. Sebastian Roman Catholic Cemetery which is required for the widening of Peters Lane. The proposed taking area and limits of the proposed grading within the cemetery property were reviewed with Rev. Joseph Sibilano O.S.J., Pastor, St. Sebastian Church on January 12, 1996. Rev. Sibilano indicated that there are no graves within the proposed taking or within the proposed project slope limits.

The residential property at the intersection of Route 66 and Ballfall Road is required because the proposed roadway profile will increase the grade of the driveway above acceptable standards. These partial takes and the one residence that will be taken will not have a major impact on the tax base of the towns when compared to the total tax base of the towns. See Figures 21 and 22.

Existing driveways will require reconstruction. The amount of reconstruction will depend on the final location of Route 66 in the area of the driveway. All driveways will be constructed so that they comply with ConnDOT standards including sight distance requirements. Temporary provisions will be provided, as necessary, so that driveways remain accessible during construction.

Community

The project as proposed will not have a negative impact on the communities cohesiveness because the existing roadway presently bisects the area. No disproportionate adverse impact will be made to minorities, the elderly or protected classes.

Housing

This project will not be affecting the availability of the housing except for the one residence that will be taken and therefore, there will be no negative consequences for low income families. The type of housing in the area near the proposed project is a mix of single family and multi-family uses.

Emergency Services

Fire and other emergency services will not be negatively impacted by this project, in fact their response time will be improved with the increase in the level of traffic service and roadway safety.

Land Use

The land adjacent to the project roadway is a combination of commercial, residential, open space and wetlands. The proposed improvement will not change the existing land use. In addition, religious, educational and recreational facilities will not be affected by the project.

Employment

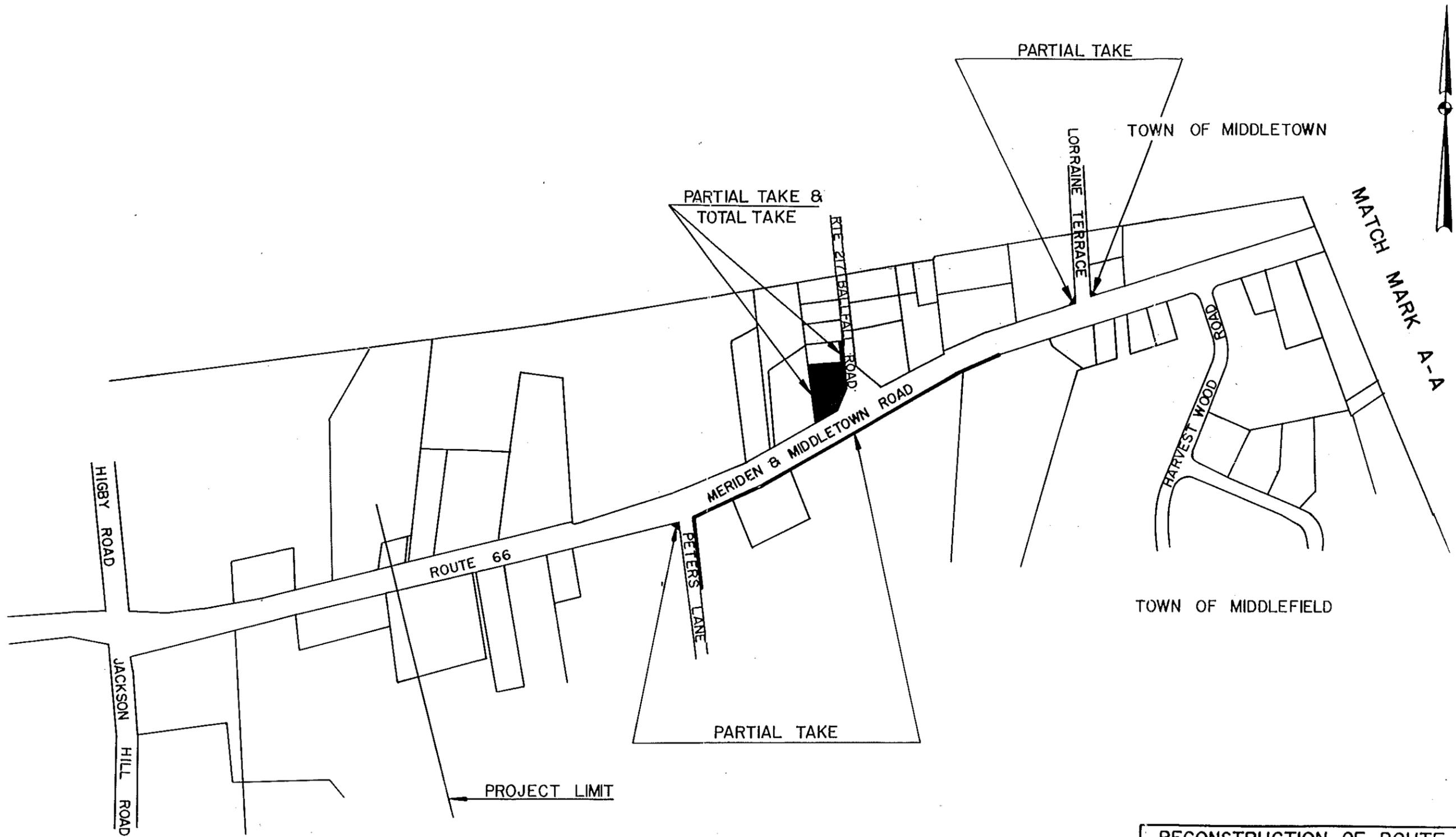
Employment would not be impacted by the project because no business will be taken for this project.

Relocation Assistance

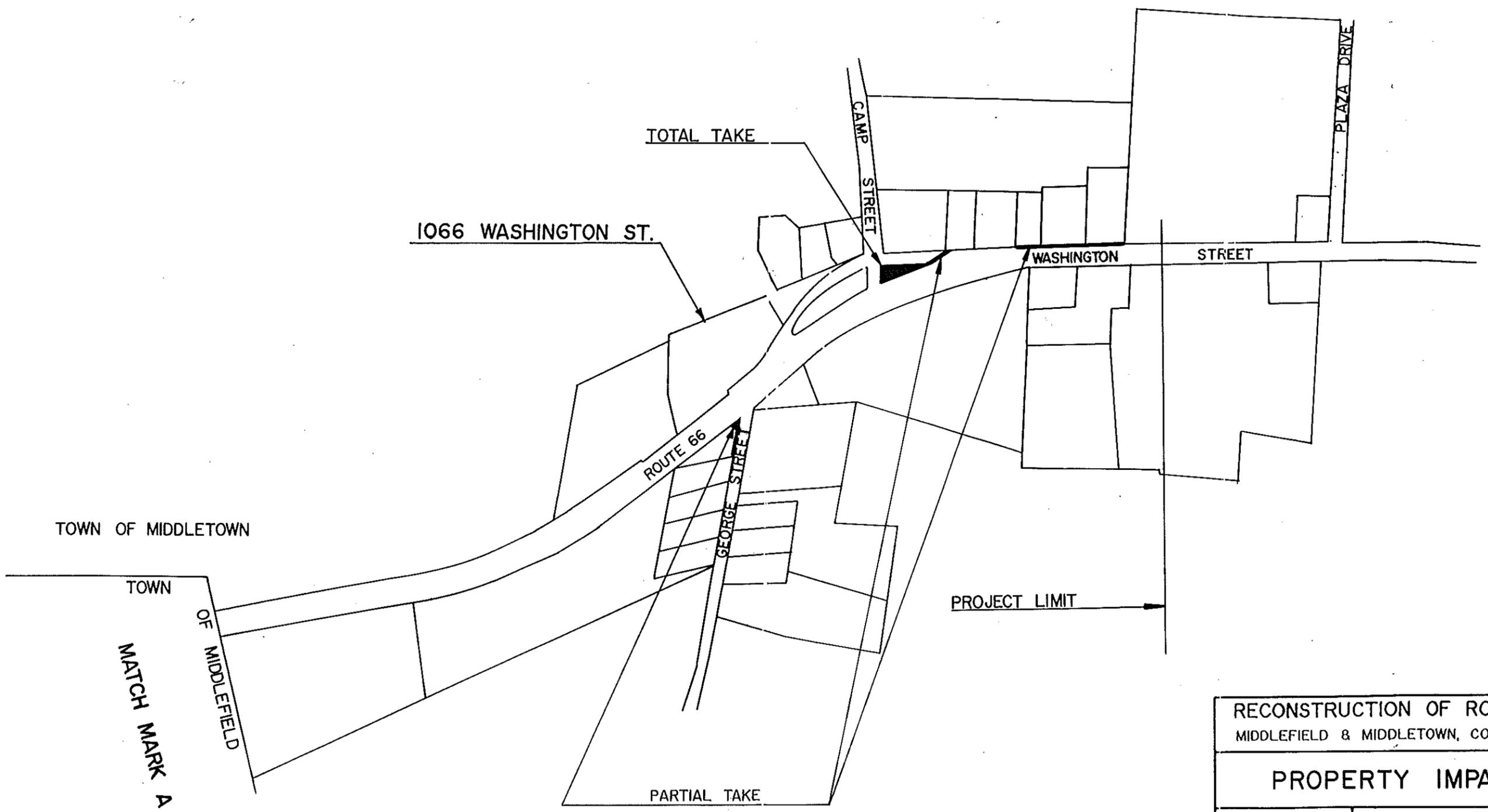
Relocation assistance will be provided to the persons being displaced in accordance with the Uniform Relocation and Real Property Acquisition Policies Act of 1970, as amended, and the Connecticut Public Act 838. The displaced family will be compensated for moving expenses and costs associated with the acquisition of a new property. Replacement housing will be sought in accordance with Federal and State guidelines to all persons regardless of race, color, religion, sex or national origin. The displaced family will be given ample notice from the ConnDOT's Rights of Way Section prior to the acquisitions of the parcel.

Regional Plans

As noted earlier, the project is consistent with the Midstate Planning Region, Regional Transportation Plan and the State of Connecticut Conservation and Development Policies Plan, both of which support roadway improvement projects in areas where congestion and delay inhibit roadway safety and efficiency.



RECONSTRUCTION OF ROUTE 66		
MIDDLEFIELD & MIDDLETOWN, CONNECTICUT		
PROPERTY IMPACTS		
SCALE: 1: 5000±	.02/01/96	FIGURE
LUCHS ASSOCIATES INC. ENGINEERS, PLANNERS, SURVEYORS GLASTONBURY, CT		21



RECONSTRUCTION OF ROUTE 66
MIDDLEFIELD & MIDDLETOWN, CONNECTICUT

PROPERTY IMPACTS

SCALE: 1:5000±	02/01/96	FIGURE
LUCHS ASSOCIATES INC. ENGINEERS, PLANNERS, SURVEYORS GLASTONBURY, CT		22

H. HISTORIC AND ARCHAEOLOGICAL RESOURCES

The Connecticut Historical Commission (CHC) was notified of the proposed improvements to Route 66. The CHC has reviewed the project and conducted an on site review of the area within the project limits. The investigation found that the house at 1066 Washington Street possesses historic and architectural significance.

Based on the preliminary design plans they concluded that the project will have no effect on historic, architectural or archeologically significant resources within the project limits. The preliminary design plans include the relocation or replacement of a garage that is located on the property at 1066 Washington Street. The Commission's finding is conditional upon their staff being provided with an opportunity to review and comment on the final plans relative to the relocation of the driveway and the impact on the historic brownstone steps and walkway at 1066 Washington Street. See Appendix B.

I. PARKLAND

The proposed reconstruction of Route 66 will not have an impact on any Town or State park, forest or recreation area. The land records in the towns of Middletown and Middlefield do not indicate any Town or State owned park, forest or recreation area within the project limits.

J. SCENIC ROAD

No Town or State roads within the construction area are designated or nominated as scenic roads.

K. ENERGY IMPACTS

Energy use for this project can be divided into three categories; construction energy, vehicle consumption energy and energy required for maintenance. Construction energy is the energy used for the production and placement of construction materials. Vehicle energy is the energy consumed by vehicles using the facility once the project is open to traffic. Maintenance energy is the energy required for routine maintenance such as patching, lighting, landscape maintenance, etc.

Appropriate techniques for energy conservation have been taken into account including the project size, materials, project location and an examination of the most efficient and feasible plan for this reconstruction. Estimates can be made for the construction energy based on the construction cost of the project. Using the construction cost method it can be estimated that the project construction will require the energy equivalent of 1, 211, 200 liters (320,000 gallons) of gasoline. Given the magnitude of the project and the fact that Connecticut uses approximately 5 billion liters (1.32 billion gallons) of gasoline per year, this is not a large amount of energy.

Traffic volumes are not anticipated to differ between the build and the no-build concepts. Alternative 2 (proposed 4 lanes) the proposed

project will have a higher level of traffic service when compared to the Alternative 1 (no-build) and therefore will have less stop and go, and idling vehicles which will consume less energy for the same traffic volume.

The maintenance energy required for the maintenance of the proposed four lane roadway will be higher than the energy required for the maintenance of the existing two lane roadway. The additional energy required for the maintenance is offset by the higher level of traffic service of the project, which results in a more efficient traffic movement, and less traffic delays.

L. CONSTRUCTION IMPACTS

There will be temporary impacts due to the construction phase of this project. These impacts are inevitable in any roadway construction. During the construction period, localized effects will be evident, but many of which will be mitigated. All construction operations shall conform to ConnDOT's Best Management Practices.

Water Quality

There are no significant adverse impacts expected on water quality. However the Contractor will be required to use measures to prevent erosion or sedimentation problems. Erosion and sedimentation control plans will be prepared in accordance with the Connecticut Guidelines for Soil Erosion and Sedimentation Control (1985) and with coordination with the permitting agencies. The Contractor shall obtain all

necessary permits and comply with state statues. The Construction will be monitored to ensure compliance to the guidelines set forth for the protection of the adjacent wetlands and waterbodies.

Noise

A temporary increase in noise level could result during construction. The noise increase will primarily be generated by heavy construction equipment used to haul material to and from the site in addition to those used to build the roadway. The potential noise increase would be limited to the duration of the construction period and within the vicinity of work in progress. The increase levels of noise will be only during the period of day that is considered to be "noise tolerant", that generally occurs during the weekday working hours. The Contractor shall mitigate the noise impacts and all complaints shall be investigated for verification. The ConnDOT's specification, Form 815, has defined the noise levels that will be permitted during the construction of the project. The specifications states that "the maximum allowable level of noise at the nearest residence or occupied building shall be 90 decibels on the "A" weighted scale (dBA). Any operation that exceed this standard will cease until a different construction methodology is developed to allow the work to proceed within the 90 dBA limit".

Air

Air quality may temporarily be impacted adversely during construction within the vicinity of the site. Fugitive dust is primarily the cause

of the impact. Fugitive dust is usually generated from excavation and earth moving, cement, asphalt, aggregate handling, heavy equipment operation, wind erosion of exposed areas and stockpile areas. This impact will be temporary however the level of impacts will depend on the local weather conditions during construction and the amount and nature of construction activity. Dust control measures will be implemented in accordance with the standards outlined in ConnDOT Roadway Construction Procedures. Some of these measures would include the use of calcium chloride, water, sweeping and temporary turf establishment.

Traffic

Local traffic will be temporarily disrupted during construction. The disruption to traffic will be limited to off peak hours. A plan for maintenance and protection of traffic will be developed in cooperation with the Towns of Middlefield and Middletown during the design of the project.

M. HAZARDOUS AND CONTAMINATION RISK

Task I, Corridor Land Use Evaluations were prepared for this project. These evaluations made recommendations based on past and present land uses. The methodology for the Task I studies for determining present and past land uses included site visits, research of Town Tax Assessor and Town Clerk records, review of the Connecticut Department of Environmental Protection aerial photographs from 1965 through 1990 and the Sanborn Fire Insurance Maps. The conclusions of the Task I

evaluation recommended several properties for Task II evaluation and Task III evaluations.

Task II (Task 120), Preliminary Site Evaluation were prepared for six properties. The evaluation methodology for Task II (Task 120) studies consisted of a site visit to observe and record existing, visible conditions and to interview persons knowledgeable of facilities and operating conditions on the property, a review of Federal, State, and local files in order to collect site information and relevant agency data, a review of the Connecticut Department of Environmental Protection records regarding oil and chemical spills, underground storage tanks, water compliance and hazardous waste permits, inspections, and enforcement reports, and Middletown and Middlefield Town officials were contacted in the following offices: Planning and Zoning, Building Inspector, Fire Marshal and Health Department. The conclusions of the Task II evaluation recommended several properties for Task III evaluations.

ConnDOT has concluded that during the design of the project the property takings, easements and limits of the excavation will be reviewed and if these activities are to be conducted on any of the properties that were recommended for additional study the study will be done as recommended. See Figures 23 and 24, and Table 6.

The Task I Corridor Land Use Evaluations and Task II (Task 120) Preliminary Site Evaluation are available for review at the ConnDOT office in Newington, Connecticut.

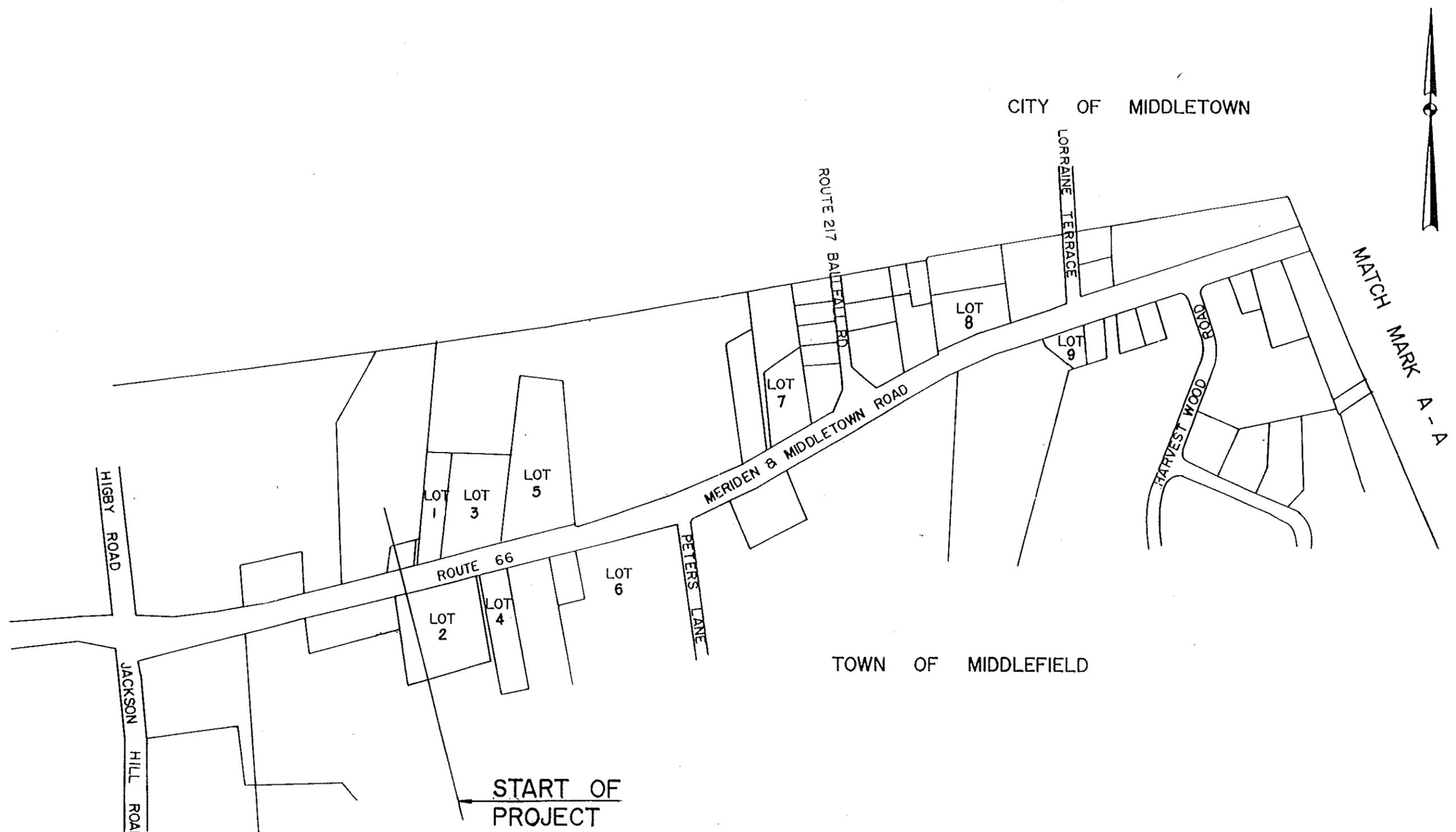
If during construction hazardous materials are encountered they will be removed in accordance with applicable State and/or Federal regulations.

TABLE 6

SUMMARY HAZARDOUS AND CONTAMINATION STUDY AREAS

PROPERTIES RECOMMENDED FOR TASK III (TASK 210/220) INVESTIGATIONS

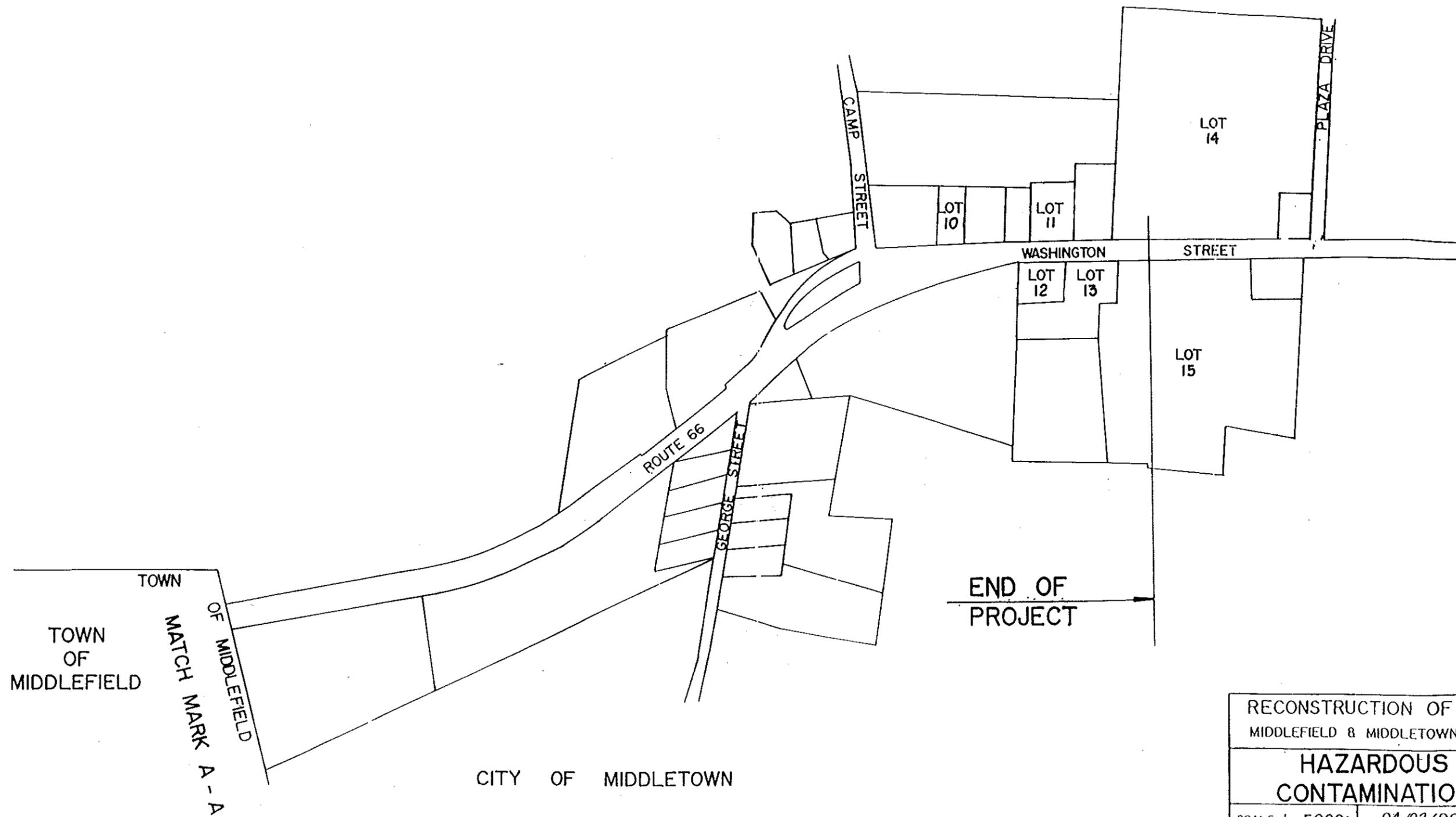
<u>Lot No.</u>	<u>Type of Use</u>
1	Farming
2	Retail, Farming Products
3	Farming
4	Farming
5	Farming
6	Farming
7	Farming
8	Automotive Repair
9	Automotive Service
10	Automotive Repair
11	Automotive Sales & Service
12	Service Station
13	Retail and Farming
14	Retail and Farming
15	Retail, Farming and Automotive Repair



CITY OF MIDDLETOWN

TOWN OF MIDDLEFIELD

RECONSTRUCTION OF ROUTE 66 MIDDLEFIELD & MIDDLETOWN, CONNECTICUT		
HAZARDOUS AND CONTAMINATION MAP		
SCALE: 1: 5000±	04/02/96	FIGURE
LUCAS ASSOCIATES INC. ENGINEERS, PLANNERS, SURVEYORS GLASTONBURY, CT		23



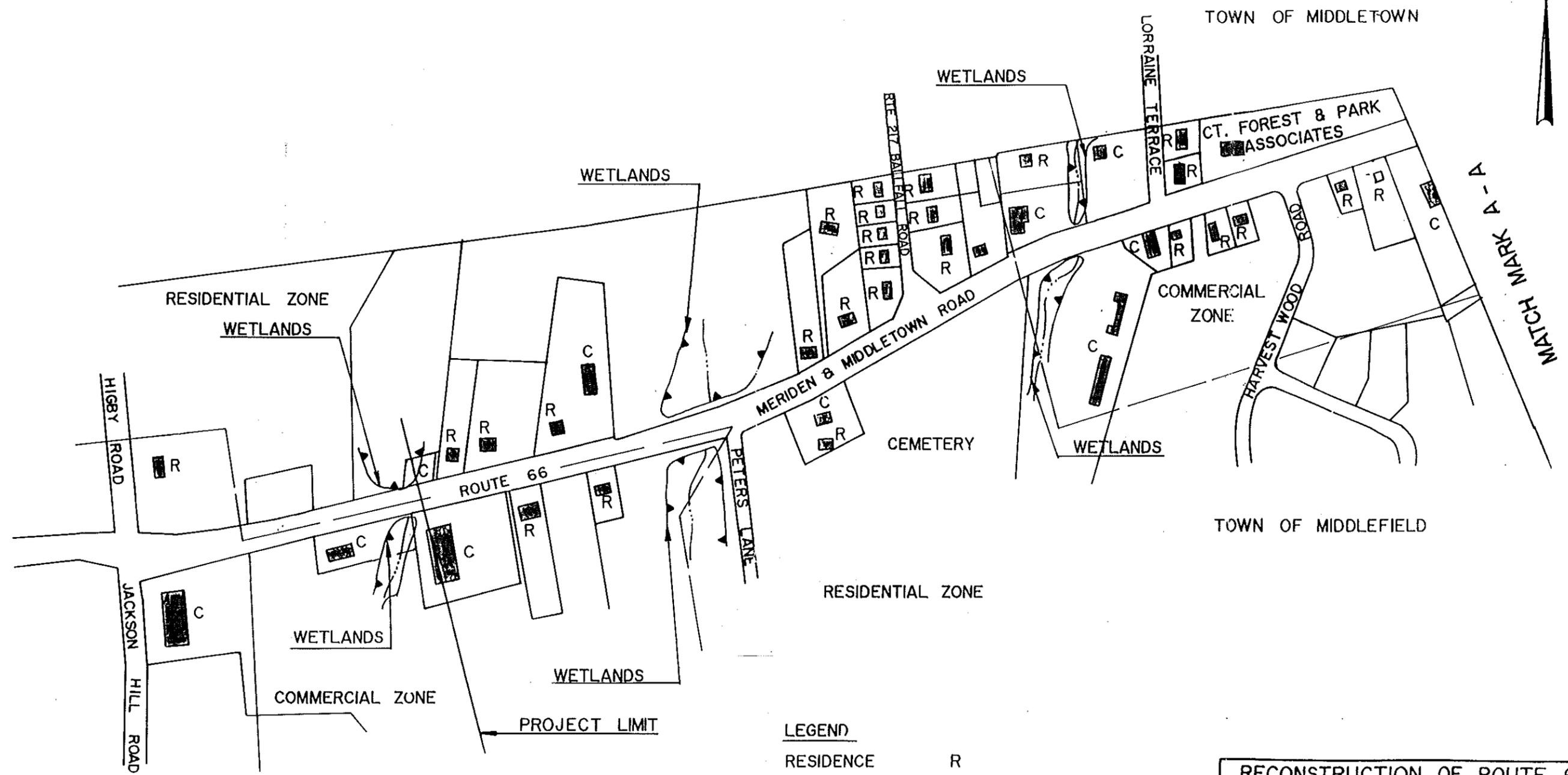
RECONSTRUCTION OF ROUTE 66 MIDDLEFIELD & MIDDLETOWN, CONNECTICUT		
HAZARDOUS AND CONTAMINATION MAP		
SCALE: 1: 5000±	04/02/96	FIGURE
LUCAS ASSOCIATES INC. ENGINEERS, PLANNERS, SURVEYORS GLASTONBURY, CT		24

N. LAND USE

The existing land use along Route 66 consists of three zones. They are residential, commercial and multiple family zones. The roadway also abuts property that is owned by the Connecticut Forest Association and several wetland areas. Forty five percent of the land along the project area is zoned residential, forty three percent is zoned commercial and twelve percent is zoned multiple family.

The amount of land that is available for future development is limited when the amount of undeveloped land is reduced by the wetlands and the Connecticut Forest and Park Associates land. See Figures 25 and 26.

It is unlikely that this project would stimulate development either in Middlefield or Middletown because the condition and/or capacity of the existing roadway is not a major limiting factor for development. There are factors such as zoning, lack of sewer in most areas, amount of land that is undeveloped and access to other transportation routes that have more influence on development than the proposed improvements. The amount of land that is available for development is limited when the land that is presently developed to its best use, the Connecticut Forest Association's Forest land, the cemetery land and wetlands are considered. The project is consistent with the local zoning and would provide a safer roadway for the residential and commercial uses.



LEGEND

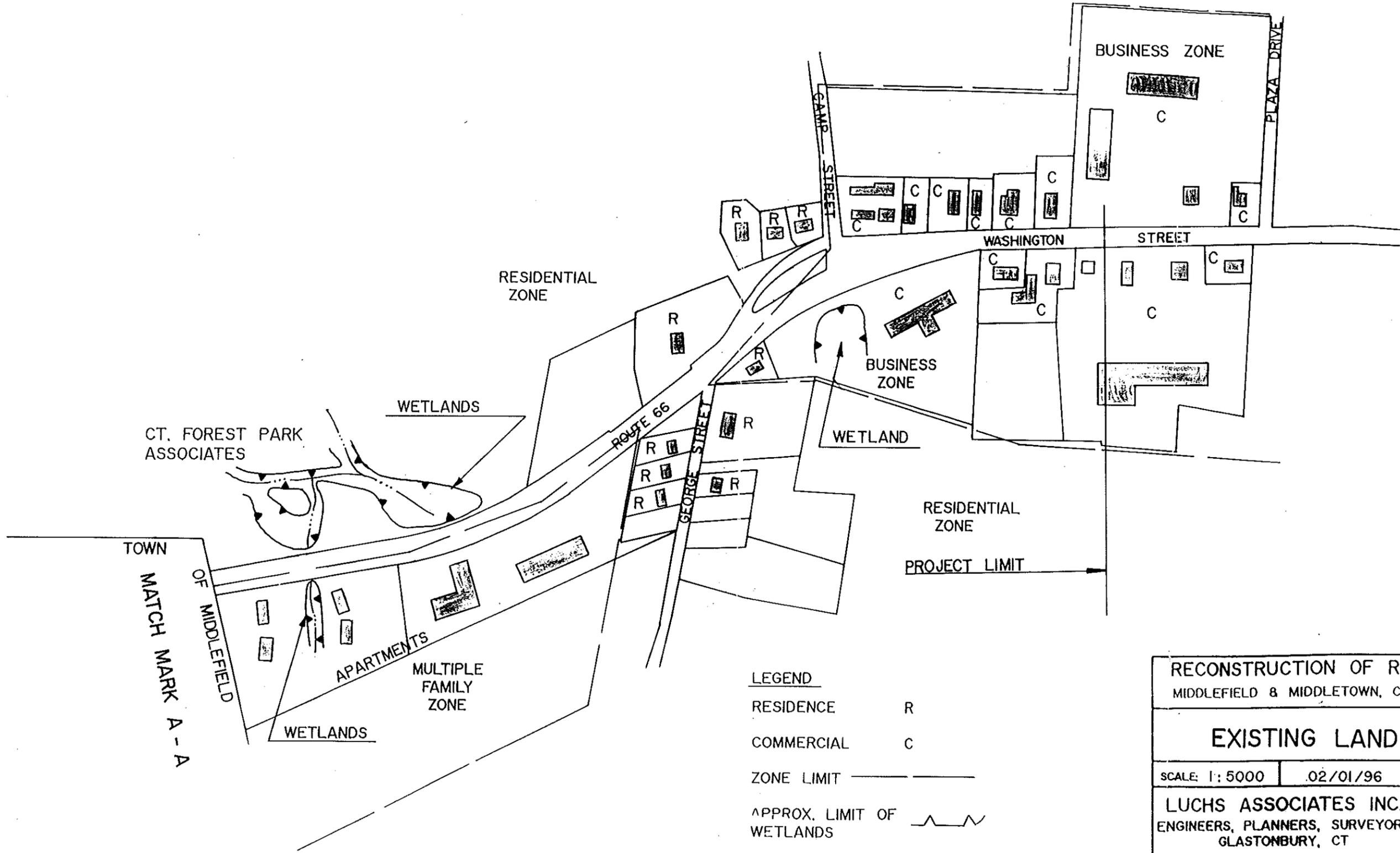
RESIDENCE R

COMMERCIAL C

ZONE LIMIT ————

APPROX. LIMIT OF WETLANDS 

RECONSTRUCTION OF ROUTE 66 MIDDLEFIELD & MIDDLETOWN, CONNECTICUT		
EXISTING LAND USE		
SCALE: 1:5000	02/01/96	FIGURE
LUCHS ASSOCIATES INC. ENGINEERS, PLANNERS, SURVEYORS GLASTONBURY, CT		25



LEGEND

RESIDENCE R

COMMERCIAL C

ZONE LIMIT ———

APPROX. LIMIT OF WETLANDS ~~~~~

RECONSTRUCTION OF ROUTE 66 MIDDLEFIELD & MIDDLETOWN, CONNECTICUT		
EXISTING LAND USE		
SCALE: 1: 5000	.02/01/96	FIGURE
LUCAS ASSOCIATES INC. ENGINEERS, PLANNERS, SURVEYORS GLASTONBURY, CT		26

O. AESTHETIC IMPACTS

The existing roadway travels through an area that is mostly developed, with some fields and forest areas. There are no vistas within the limits of the project. The largest visual impact will be the additional pavement width and the additional of a three meters (9.8 ft) mowed area along the roadway. The areas that are landscaped will be restored, other areas will be allowed to return to their natural state except the mowing strip along the roadway. The profile of the existing roadway will only require cut or fill of a few feet in most areas of the project, therefore large embankments will not be constructed with this project. The one except is the area near Peters Lane and Route 217. The profile of the existing roadway in the vicinity of Peters Lane will require a fill of approximately 3 m (10 feet) and a cut of approximately 2 m (6.5 feet) in the vicinity of Route 217.

The Connecticut Forest and Park Associates owns a forested area along the north side of the roadway near the Middletown/Middlefield town line. The forest will not be disturbed except for some grading adjacent to the roadway.

P. PUBLIC UTILITIES

Sections of the project are serviced by sanitary sewers, public water service and gas. Overhead utilities include electric, telephone and cable TV. The utilities will require modifications for the construction of the project. Based on the available information the utility modification do not pose any unusual problems. The effected

utility company's have been notified and the design of the utility modifications will be coordinated with the project design.

SECTION IV
COORDINATION

A. COORDINATION

A Town Roads meeting has been held with the public officials from Middlefield and Middletown. The officials from both towns noted that they are in favor of a four lane roadway. Both Town's officials had comments primarily relating to left turn movements from and onto Route 66. These comments will be evaluated during the design of the project and will be included in the project when there is a net benefit to the project. See Appendix D.

DEP's Natural Resources Center has reviewed their files for endanger species, threatened species, species of special concern and natural area inventory and has indicated that there are none within the proposed project. See Appendix A and C.

The Connecticut Historical Commission's staff has conducted an on site review and has concluded that the project will not significantly effect the one historic house that is located within the project area. See Appendix B.

The public will be notified of the project by news releases, legal notices and display advertisements and a public hearing will be held in accordance with ConnDOT's public participation policies. All comments from the public hearing will be evaluated and included in the final design as appropriate.

The Midstate Planning Region's Transportation Plan includes the Route 66 improvements.

The following is a summary of the permits that will be required for this project:

1. U.S. Army Corps of Engineers, Section 404 permit.
2. Connecticut Department of Environmental Protection, 401 Water Quality Certificate.
3. Connecticut Department of Environmental Protection, Storm Water Discharge Permit.
4. Connecticut Department of Environmental Protection, Inland and Wetland, Watercourse Permit.
5. Connecticut Department of Environmental Protection, Flood Management Certification.
6. Air Quality - Indirect Source Permit.

SECTION V
SECTION 4 (f) STATEMENT

property. The retaining wall would not comply with present standards because it would be too close to the roadway. The alternative that would move the roadway alignment southerly so that grading would not be required on the property was evaluated. This evaluation indicated that the property impacts on the southerly side of Route 66 would be more than the impacts on the historic property. The impacts on the southerly side of the roadway would include additional property takings, a small amount of additional wetlands impact, and the taking of as many as three additional homes.

The grading that is proposed, on the property, is the minimum required for the typical roadway cross section. The typical cross section provides for the required clear zone and then two to one slopes.

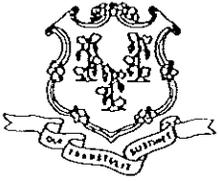
The Connecticut Historical Commission (CHC) has determined that the proposed project will have no effect on historic, architectural, or archaeological resources. (See Appendix B). Their comment is conditions upon their staff being provided with an opportunity to comment on the final plans for the proposed driveway relocation and how the driveway relocation affects the historic brownstone steps and walkway. The driveway will be located as required by CHC, the owner and minimum design standards.

B. CEMETERY

This project will impact the St. Sebastian Roman Catholic Cemetery which is located at the intersection of Route 66 and Peters Lane. The impacts include the taking of a strip of land along the roadways and grading within the cemetery. The taking and work within the cemetery is required for the roadway widening. The proposed taking area and limits of the proposed grading within the cemetery property were reviewed with Rev. Joseph Sibilano O.S.J., Pastor, St. Sebastian Church on January 12, 1996. Rev. Sibilano indicated that there are no graves within the proposed taking or within the proposed project slope limits.

APPENDIXES

APPENDIX A



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



NATURAL RESOURCES CENTER
79 Elm Street, Store Level
Hartford, CT 06106
Natural Diversity Data Base

November 7, 1994

Aija Von Richthofen
Luchs Associates, Inc.
12 National Drive
Glastonbury, CT 06033

Re: Reconstruction of CT Rte. 66, Middlefield/Middletown

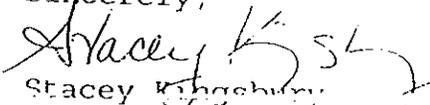
Dear Ms. Richthofen:

I have reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map you provided and listed above. According to our information, there are no known extant populations of Federal or State Endangered, Threatened or Special Concern Species that occur at the site in question.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Natural Resources Center's Geological and Natural History Survey and cooperating units of DEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions at 424-3584. Thank you for consulting the Natural Diversity Data Base. Also be advised that this is a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEP for the proposed site.

Sincerely,


Stacey Kingsbury
Environmental Analyst

APPENDIX B

STATE OF CONNECTICUT
CONNECTICUT HISTORICAL COMMISSION

January 10, 1995

Mr. Robert Johnston
Luchs Associates Inc.
12 National Drive
Glastonbury, CT 06033

Subject: Route 66 Reconstruction
Middlefield and Middletown, CT
CONNDOT #81-83

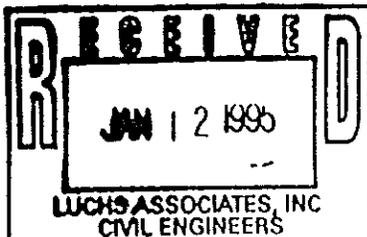
Dear Mr. Johnston:

The State Historic Preservation Office has reviewed the above-named project. In addition, Dr. David A. Poirier, our Staff Archaeologist, has undertaken an on-site review of the proposed project limits. This office notes that 1066 Washington Road (256 Meriden Road) possesses historic and architectural significance and appears eligible for the National Register of Historic Places.

However, the State Historic Preservation Office expects that the proposed undertaking will have no effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places. This comment is conditional upon our professional staff being provided an opportunity to review and comment upon any proposed relocation and/or redesign of the private driveway which would impact the historic brownstone steps and walkway associated with 1066 Washington Road (256 Meriden Road).

This office appreciates the opportunity to have reviewed and commented upon the proposed undertaking.

For further information please contact Dr. David A. Poirier, Staff Archaeologist.



Sincerely,

A handwritten signature in cursive script that reads "Dawn Maddox".

Dawn Maddox
Deputy State Historic
Preservation Officer

cc: Mr. Ralph Steadham/CONNDOT
Mr. Arthur Butzgy/CONNDOT

APPENDIX C



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



NATURAL RESOURCES CENTER
79 Elm Street, Store Level
Hartford, Connecticut 06106-5127
Natural Diversity Data Base

December 23, 1994

Aija von Richthofen
Luchs Associates
12 National Drive
Glastonbury, CT 06033

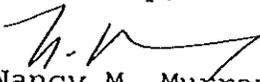
Dear Ms. Aija von Richthofen:

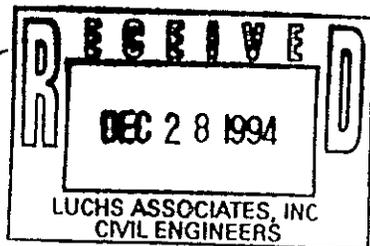
I have reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map you provided: Route 55 Reconstruction, Middlefield and Middletown, Connecticut. According to our information, there are no Natural Area Inventory sites within the project area.

Natural Diversity Data Base information includes all information regarding critical biologic resources available to us at the time of the request. This information is a compilation of data collected over the years by the Natural Resources Center's Geological and Natural History Survey and cooperating units of DEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions (424-3589). Thank you for consulting the Natural Diversity Data Base. Also be advised that this a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEP for the proposed site.

Sincerely,


Nancy M. Murray
Biologist/Environmental
Analyst III



NMM/dmt

APPENDIX D

PROJECT NO. D.O.T. #81-83; LA #93-56 DATE OF MEETING: 5-13-94

ROUTE NO. Connecticut Route 66

TOWN(S): Middlefield-Middletown

LOCATION OF MEETING: Town Hall - Middlefield

SUBJECT OF MEETING: Town Roads Meeting - Informational meeting with the
Town of Middlefield for the Proposed Reconstruction of
Connecticut Route 66

IN ATTENDANCE:

<u>Name</u>	<u>Organization</u>	<u>Title</u>	<u>Telephone</u>
David Webster	Town of Middlefield	First Selectman	349-7114
Terry Parmelee	Town of Middlefield	Fire Chief	349-7124
John Wyskiel	Town of Middlefield	Highway Foreman	349-7118
Rick Kelsey	Town of Middlefield	Town Engineer	526-9591
Trooper Francis Whelan	Town of Middlefield	Resident Trooper	349-9685
Fred Schwartz	D.O.T. - CE Design	Project Manager	594-3204
Greg Soja	D.O.T. - CE Design	Project Engineer	594-3200
Michael Clony	Midstate RPA	Transportation Planner	347-7214
Ted Johanson	Luchs Associates	Chief Engineer	633-9401
Remo Lalama	Luchs Associates	Project Engineer	633-9401

TRANSACTIONS AND DETERMINATIONS:

The meeting was called by D.O.T. to listen to comments and concerns from Middlefield's Town Officials for the proposed reconstruction of Connecticut Route 66. D.O.T. Representatives indicated to the Town that the project is at an early preliminary stage and that their comments and concerns will be addressed and investigated.

D.O.T. gave a brief description of the project. The proposed reconstruction of Connecticut Route 66 will widen the present roadway to a four lane two directional roadway from approximately 500 feet east of Jackson Hill Road in Middlefield to approximately 700 feet west of Plaza Drive in Middletown with additional right and left turning lanes as required at major intersections. The proposed roadway will be designed for 80 km/h (50 MPH). The existing traffic signal at the Route 66 and Ballfall Road (Route 217) intersection will be upgraded. The flashing light at the Route 66 and Peters Lane intersection will be either upgraded or a new traffic signal, if warranted, will be installed. A new traffic signal is proposed at the Route 66 and realigned Camp Road intersection in Middletown.

Preliminary plans, profiles and critical cross sections were displayed. An informal presentation was made by Luchs Associates. In reviewing the project Luchs Associates indicated that the intersection sight distance at all roadway and driveway intersections will be greatly improved. The profile of the existing roadway in the vicinity of Peters Lane will require a fill of approximately 3m (10 feet) and a cut of approximately 2m (6.5 feet) in the vicinity of Ballfall Road (Route 217). The profile of Ballfall Road will be reduced from 12% to 7% to lessen the steepness of the road. There are two residential properties located on Ballfall Road that will be impacted. The property at the northwest corner of Route 66 and Ballfall could be a total take. There also may be some takes from the cemetery property between Peters Lane and the Ballfall Road intersection. The existing cemetery drive to Route 66 is proposed to be relocated to Peters Lane.

D.O.T. Representatives asked the Town if they require sidewalks for this project. D.O.T. informed the Town of the Department's policy on sidewalks. The Department will pay for and reconstruct any existing sidewalks within the project. Future grading for sidewalks will be provided. If the Town wishes sidewalks at new location their participation will be 20% of the cost and they would be required to maintain them.

The following is a summary of comments and concerns as stated by Middlefield's Town Officials.

1. The Town of Middlefield is fully in favor of a four lane roadway with turning lanes at major intersections.
2. If possible an additional center lane should be considered throughout the entire project for left turns into drives without interruption of the thru traffic. Also this lane would provide a storage area for vehicles making left turn out of their driveways into the main traffic.
3. The adjacent project (No. 81-80) west of this project which includes the Jackson Hill Road and Route 66 intersection should be coordinated with this project. If the adjacent project is not scheduled for construction before this project, then the project limits for this project should include the improvements to the Jackson Hill Road, Higby Road and Route 66 intersection.
4. Vehicles would have a difficult time making left turns onto a new four lane roadway out of Lorraine Terrace and Harvest Wood Road. The Town requested that traffic signals should be considered at these locations.
5. The Town indicated that there is considerable traffic from Peters Lane onto Route 66 where a blinking light now exists and with the widening of the intersection it would be more difficult to make left turns onto Route 66. A traffic signal should also be considered at this location.
6. Consider reducing the number of curb entrances to some properties which have multiple entrances or investigate possible common drives.
7. Numerous accidents occur at Lorraine Terrace intersection and the drive to a Motel located across from the miniature golf course. These locations should be investigated to try to improve traffic flow operations.

Again D.O.T. Representatives stated that all comments received from Town Officials will be considered, reviewed and investigated.

Submitted by Remo Lalama 5/18/94
Remo Lalama
Project Engineer
Luchs Associates

Reviewed by Greg Soja 5/20/94
Greg Soja
Project Engineer
Connecticut D.O.T.

Approved by Fred Schwartz 5/20/94
Fred Schwartz
Project Manager
Connecticut D.O.T.

Concurred by David Webster 5/25/94
David Webster
First Selectman
Town of Middlefield

REPORT OF MEETING

Page 1 of 3

PROJECT NO. D.O.T. #81-83; LA #93-56 DATE OF MEETING: 5-31-94

ROUTE NO. Connecticut Route 66

TOWN(S): Middlefield-Middletown

LOCATION OF MEETING: City Hall - Middletown

SUBJECT OF MEETING: Town Roads Meeting - Informational meeting with the
City of Middletown for the Proposed Reconstruction of
Connecticut Route 66

IN ATTENDANCE:

<u>Name</u>	<u>Organization</u>	<u>Title</u>	<u>Telephone</u>
Thomas J. Serra	City of Middletown	Mayor	344-3401
John L. Robinson	City of Middletown	Council	347-7666
Salvatore C. Fazzino	City of Middletown	Public Works Director	344-3408
Craig Elkin	Middletown Police	Traffic Division	347-6941
Joe Bibisi	Middletown Police	Dep. Chief	347-4822
Richard H. Lewis	Middletown Fire	Acting Chief	346-8092
Fred Schwartz	D.O.T. - CE Design	Project Manager	594-3204
Greg Soja	D.O.T. - CE Design	Project Engineer	594-3200
Michael Chong	Midstate RPA	Transportation Planner	347-7214
Remo Lalama	Luchs Associates	Project Engineer	633-9401

TRANSACTIONS AND DETERMINATIONS:

The meeting was called by D.O.T. to listen to comments and concerns from Middletown's City Officials for the proposed reconstruction of Connecticut Route 66. D.O.T. Representatives indicated to the City that the project is at an early preliminary stage and that their comments and concerns will be addressed and investigated.

D.O.T. gave a brief description of the project. The proposed reconstruction of Connecticut Route 66 will widen the present roadway to a four lane two directional roadway from approximately 500 feet east of Jackson Hill Road in Middlefield to approximately 700 feet west of Plaza Drive in Middletown with additional right and left turning lanes as required at major intersections. The proposed roadway will be designed for 80-Km/h (50 MPH). The existing traffic signal at the Route 66 and Ballfall Road (Route 217) intersection will be upgraded. The flashing light at the Route 66 and Peters Lane intersection will be either upgraded or a new traffic signal if warranted will be installed. A new traffic signal is proposed at the Route 66 and realigned Camp Street intersection in Middletown. Old Route 6A, a one-way roadway is proposed to be eliminated.

Preliminary plans, profiles and critical cross sections were displayed. An informal presentation was made by Luchs Associates. In reviewing the project Luchs Associates indicated that the intersection sight distance at all roadway and driveway intersections will be greatly improved. The profile of the existing roadway in the vicinity of Peters Lane will require a fill of approximately 3m (10 feet) and a cut of approximately 2m (6.5 feet) in the vicinity of Ballfall Road (Route 217). The profile of Ballfall Road will be reduced from 12% to 7% to lessen the steepness of the road. There are two residential properties located on Ballfall Road that will be impacted. The property at the northwest corner of Route 66 and Ballfall could be a total take. There also may be some takes from the cemetery property between Peters Lane and the Ballfall Road intersection. The existing cemetery drive to Route 66 is proposed to be relocated to Peters Lane.

D.O.T. Representatives asked the City if they require sidewalks for this project. D.O.T. informed the City of the Department's policy on sidewalks. The Department will pay for and reconstruct any existing sidewalks within the project. Future grading for sidewalks will be provided. If the City wishes sidewalks at new location their participation will be 20% of the cost and they would be required to maintain them.

The following is a summary of comments and concerns as stated by City Officials of Middletown.

1. The City of Middletown in general is in favor of a four lane roadway with turning lanes as needed at major intersections.
2. The City of Middletown indicated that there is considerable traffic from the apartment and condominium complexes located on the south side of Route 66 between Middlefield/Middletown town line and George Street. If possible an additional center lane should be considered for left turns into the drives.
3. Vehicles would have a difficult time making left turns onto a new four lane roadway out of Lorraine Terrace. Investigate the possibility of making Lorraine Terrace one way roadway in which vehicles would exit onto Ballfall Road (Route 217) and utilize the traffic light at the Route 66 and Ballfall Road intersection.
4. The City of Middletown indicated that the George Street, Route 66 intersection is a problem. Vehicles have a difficult time making left turn onto Route 66. They requested that consideration should be given to the possibility of realigning Camp Street to face George Street where a traffic light would be installed. Properties would probably be taken for this alternate.
5. Another possible alternate is to provide a traffic signal at George Street and interconnect it with the traffic signal proposed for Camp Street.
6. Consideration should be given to cul-de-sac Old Route 6A, thus three drives would exit onto Old Route 6A and utilize the traffic light at the Camp Street, Route 66 intersection.
7. The City of Middletown requested that sidewalks be provided on the south side of Route 66 from the Middlefield/Middletown town line to the end of the project. Also provide sidewalks on the north side of Route 66 from Camp Street to the end of the project. If possible, provide a snow shelf between the curb and sidewalk.

8. Consider reducing the number of curb entrances to some properties which have multiple entrance.
9. The City of Middletown indicated that it preferred D.O.T. design standards and pavement structure for both Camp Street and George Street.
10. The City will review the need to extend the water main at Lorraine Terrace to include work in this project.

Again D.O.T. Representatives stated that all comments received from City Officials will be considered, reviewed and investigated.

Submitted by Remo Lalama
Remo Lalama
Project Engineer
Luchs Associates

Reviewed by Gregi Sofia 6/1/94
Gregi Sofia
Project Engineer
Connecticut D.O.T.

Approved by Fred Schwartz 6/8/94
Fred Schwartz
Project Manager
Connecticut D.O.T.

Concurred by Thomas J. Serra 6/27/94
Thomas J. Serra
Mayor
City of Middletown