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March 2, 1979

ROBERT C. STOVER  
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RELATED CORRESPONDENCE  
Hon. Edward Cohen  
Presiding Examiner  
State of New York  
Public Service Commission  
Empire State Plaza  
Albany, New York 12223

Chairman Andrew Goodhope  
Atomic Safety & Licensing Board  
3320 Estelle Terrace  
Wheaton, Maryland 20906



Re: CASE 80006 and NRC Docket 50-549  
Power Authority of the State of New York  
Greene County Nuclear Generating Facility

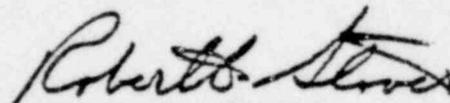
Dear Sirs:

Enclosed please find the prepared testimony of Harvey K. Flad, Alan Gussow and David C. Huntington on the topic of aesthetic impacts.

This testimony is submitted on behalf of the following parties to the above proceedings:

Columbia County Historical Society  
Friends of Olana  
Greene County, the Town and Village of Catskill,  
and the Town and Village of Athens  
The Hudson River Conservation Society  
Hudson River Sloop Clearwater.

Respectfully submitted,

  
ROBERT C. STOVER

RCS/jl  
Enclosure

cc: All active parties.

7904060422<sup>7</sup>

RELATED CORRESPONDENCE



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NEW YORK STATE BOARD ON ELECTRIC  
GENERATION SITING AND THE ENVIRONMENT

U.S. NUCLEAR REGULATORY COMMISSION

-----x  
POWER AUTHORITY OF THE STATE OF  
NEW YORK

GREENE COUNTY NUCLEAR PLANT  
-----x

Prepared Testimony of

ALAN GUSSOW  
Congers, New York

on

Aesthetic Impact of Greene  
County Nuclear Power Plant  
March 2, 1979

Submitted on behalf of Columbia  
County Historical Society, Inc.;  
Friends of Olana, Inc.; Greene  
County, New York and associated  
municipalities; The Hudson River  
Conservation Society, Inc.; and  
Hudson River Sloop Clearwater,  
Inc.

Case 80006

Docket No. 50-549

GUSSOW

1 Q. Please state your name and address.

2 A. Alan Gussow, 121 New York Avenue, Congers, New York.

3 Q. What is your present occupation?

4 A. I am an artist, teacher and author and an environmental con-  
5 sultant. My specialty is artistic perception of the environ-  
6 ment.

7 Q. Will you please describe briefly your career as an artist?

8 A. After studying in New York City, I was awarded the Prix de  
9 Rome in painting and worked abroad between 1953 and 1955.  
10 From 1956 to 1968 I taught drawing and painting courses at  
11 the Parsons School of Design. I presently have works in nine  
12 public collections both here and abroad including the  
13 Corcoran Gallery of Art in Washington, D.C. In 1977 I was  
14 presented with an award for creative work in art by the  
15 American Academy and Institute of Arts and Letters.

16 Q. What has your prior experience been as an environmental  
17 consultant?

18 A. I testified as an expert witness in September 1973  
19 before the Federal Power Commission on the effect of power  
20 lines on the natural landscape of Durham Valley in Greene  
21 County, New York. I also testified as an expert witness in  
22 1969 concerning the Hudson River Expressway. I testified in  
23 October 1976 before a hearing examiner of the New York State  
24 Public Service Commission on the probable impact of a trans-  
25 mission line facility in the vicinity of Riverhead on Long  
26 Island and, in January of 1978, I testified before a State  
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1 Review Board in Connecticut, evaluating the probable visual  
 2 impact of a proposed microwave relay tower in the vicinity  
 3 of Bethel, Connecticut.

4 Q. Has any of your published work been related to your specialty  
 5 as an environmental consultant?

6 A. Yes, it has. In 1972 I edited a book entitled The Sense of  
 7 Place, The Artist in the American Land, published by The  
 8 Saturday Review Press. It deals with the artist's response  
 9 to the natural environment. In 1973 I was invited to submit  
 10 a chapter on visual pollution under the heading "We Are What  
 11 We See" for The North American Publishing Company Reference  
 12 Encyclopedia of Ecology and Pollution. In 1977, Landscape  
 13 Magazine, a professional journal published in California  
 14 for landscape architects and geographers, printed extended  
 15 excerpts from my testimony on the impact of a transmission  
 16 line on agricultural land under the heading "In the Matter  
 17 of Scenic Beauty." I was the associate consultant on a  
 18 special project done for the State of New York called "The  
 19 Hudson River Valley Study" prepared under the direction of  
 20 the New York State Department of Environmental Conservation  
 21 for submission to the legislature. My role was to prepare  
 22 memoranda on and make evaluation of scenic resources in the  
 23 Hudson River valley.

24 Q. Are there any other activities which you have engaged in by  
 25 reason of your specialty?

1 A. Yes. Apart from serving as a visiting artist, I have been  
2 critic and lecturer in The Department of Landscape Archi-  
3 tecture at the University of Minnesota and the University of  
4 Wisconsin. I was visiting critic and lecturer in the Depart-  
5 ment of Environmental Design at the University of Georgia.  
6 I will be giving a workshop for landscape architects at the  
7 University of Minnesota in March of this year. I taught a  
8 seminar in 1975 at the University of California in Santa  
9 Cruz on the topic "Self and Place." This course explored  
10 the effect of topography on character formation and how in  
11 general landscape effects people. I was appointed by  
12 Governor Hugh Carey shortly after he took office to a task  
13 force of experts which assessed parks, parklands and historic  
14 preservation in order to formulate state policy. For these  
15 years I served as a member of an advisory panel to the New  
16 York State Council on the Arts, evaluating funding proposals  
17 in architecture and environmental arts. I have been invited  
18 by the state-funded Educational Facilities Laboratory to  
19 serve as one of five jurors giving design awards to archi-  
20 tects. I was asked to serve on this jury particularly  
21 because of my sensitivity to the relationship between archi-  
22 tecture and the physical environment.

23 Q. Mr. Gussow, am I correct in understanding that you will  
24 testify regarding the aesthetic impacts of the proposed  
25 Greene County Nuclear Power Plant?  
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1 A. Yes. I will discuss the aesthetic impact of that facility  
2 if it were to be constructed at either the preferred  
3 Cementon site or at the alternate Athens site.

4 Q. Have you seen the proposed sites and surrounding areas?

5 A. Yes. I have visited and observed both of the specific sites,  
6 nearby areas and viewpoints within a radius of approximately  
7 ten miles. My recent visits were in July 1978 and January  
8 1979. It also happens that I am a resident of the valley,  
9 having lived in Rockland County, New York, a half a mile from  
10 the Hudson River, for almost twenty years. During the spring  
11 semester in 1978 I was a Fellow at Bard College at Annandale-  
12 on Hudson and regularly commuted through the Hudson Valley.  
13 I also have traveled extensively on the Hudson by boat and  
14 along both shores by car in connection with my participation  
15 during 1978 as associate consultant on the state-sponsored  
16 Hudson River study to which I alluded earlier. I have also  
17 sailed on the Hudson River in the sloop Clearwater, and slept  
18 on board, in connection with Creative Artist Public Service  
19 Program fellowship that I had in 1971. As an artist and  
20 author I have visited various sites in the Catskill region  
21 painted by nineteenth century artists, specifically around  
22 Saugerties and Palenville, and, of course, visited Olana  
23 prior to 1978. Frederic Church is one of the artists I  
24 selected for my book The Sense of Place. All in all, I am  
25 very familiar with the region, and have been for a number of  
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1 years, as well as having made specific site visits in con-  
2 nection with this application of the Power Authority.

3 Q. Are you familiar with the architectural design and exterior  
4 dimensions of the principal structures of the proposed Greene  
5 County facility?

6 A. Yes.

7 Q. Are you also aware of the proposed exterior color of these  
8 structures, the plans for site landscaping, and the predicted  
9 appearance of the cooling tower plume?

10 A. I am.

11 Q. You have testified that your specialty is artistic perception  
12 of environment. What about the visual impacts on non artists?

13 A. The question is an important one. If I come in as an artist  
14 and express a point of view about aesthetic impacts the  
15 tendency would be to isolate my testimony from the norm. I  
16 am thought of as a person with a trained eye and highly  
17 developed aesthetic sense, a person whose observations may  
18 not be typical of residents, visitors or travelers in the  
19 impacted areas. Aesthetics, however, has to do with the way  
20 we perceive the environment through our senses, through our  
21 sense of sight, through our sense of touch and taste and  
22 smell. It is important to underscore that we are all endowed  
23 with sense capabilities -- the hunter, the fisherman, the  
24 pedestrian, the walker, the driver, and so on. What you  
25 perceive as being satisfying is what you draw from the  
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1 environment through your senses. I am talking about the  
 2 satisfaction people get when they see things, the pleasures  
 3 they get when smells are good, when sounds are good and so  
 4 forth.

5 Q. What do you, as an artist, look for in evaluating the  
 6 aesthetic impact of projects such as the Greene County  
 7 Nuclear Plant?

8 A. First of all I would like to emphasize that we are dealing  
 9 here with landscape as an aesthetic or more properly a scenic  
 10 resource. We must jettison the idea that a scenic resource  
 11 is merely a view or even a series of views. It is all the  
 12 landscape we see, not merely pre-selected, pre-arranged  
 13 views. If we allow ourselves to define scenic resources  
 14 solely in terms of pretty and satisfying views we are saying,  
 15 in fact, that scenery has to do only with ornamentation,  
 16 something nice to see once in a while but certainly not  
 17 central to life. If we permit ourselves such a definition  
 18 we do both scenic resources and ourselves a great disservice.  
 19 Aesthetics relates to the way we see the world, the way we  
 20 smell and taste and touch. It has to do with our physiolo-  
 21 gical interaction with the world. So that when we talk about  
 22 aesthetics we are talking about a fundamental qualitative  
 23 dimension of our lives. We are talking about the quality of  
 24 life. The objects and forms which surround us shape our  
 25 lives, influence our attitudes and determine, at least in  
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1 part, the quality of our relationships. When we tamper with  
2 what we see we are, in effect, changing the world we inhabit  
3 and that changed world, for better or for worse, will change  
4 us. In making an assessment of the aesthetic impact of a  
5 proposed project there are a number of criteria or conside-  
6 rations that I would be guided by. As a practicing artist my  
7 methodology may differ from a more academic approach. One  
8 basic consideration is visibility: how visible is the project  
9 from what vantage points and under what viewing conditions.  
10 In the present case, for purely factual data on the extent  
11 of visibility from certain locations, I am relying on the  
12 testimony of Dr. Harvey Flad submitted together with mine  
13 on behalf of the same parties to this proceeding. A second  
14 criterion is fitness. Given the extent and nature of the  
15 visibility of the project the central issue is: Would the  
16 project fit into its environment? The key here lies in  
17 understanding and appreciating what already exists. The  
18 more we can discern the intrinsic character of any scenic  
19 resource the better we can gauge the extent of threatend  
20 scenic impairment. A project must be evaluated in relation  
21 to the specific place or region where it would be located,  
22 not against the background of abstractly imposed criteria.  
23 So that in establishing the framework for a judgment, it is  
24 essential to make assessment of the region itself, to  
25 characterize the area which would provide the visual context  
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1 of the project. Whether or how well a project fits into its  
2 environment depends on considerations of integrity, scale and  
3 and coherence. Integrity has to do with the absorptive  
4 capacity of the specific landscape. Is the project consis-  
5 tent with the character of its surroundings? Will it feel  
6 right in that location? Scale has to do with the perceived  
7 size of the project in relation to existing landscape  
8 features and is one of the determining factors of integrity  
9 in context. Coherence is concerned with expectations, with  
10 whether the parts of the landscape will make sense, work  
11 together. Other criteria for purposes of aesthetic evalua-  
12 tion are the texture of surfaces, fineness of detail, unique-  
13 ness and variety. Then there is the important cultural and  
14 historical dimension of landscape. We learn of our cultural  
15 roots and history not only from books or movies but also by  
16 experiencing at first hand the sights and smells of a  
17 resonating landscape which mirrors an earlier time. The  
18 problem for aesthetic evaluation here is to keep alive the  
19 integrity of existing landscapes, preserving the best or  
20 most evocative of the visible past, while at the same time  
21 preserving the adaptive capacity of the landscape, allowing  
22 it to change, to express new values and emerging tastes. In  
23 evaluating aesthetic impacts I believe there are two ways  
24 that landscapes are viewed. One is the viewing of landscapes  
25 from special vantage points which by general consensus or  
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1 or public designation are determined to be exceptionally  
 2 scenic. Such views warrant protection on their own merit.  
 3 The other is random viewing of landscape by the people who  
 4 live or work in an area, by tourists drawn to the area because  
 5 of its scenic qualities, or by people who chance to be  
 6 passing through. I think all of these have a legitimate  
 7 interest in maintaining the visual quality of a region.  
 8 Scenic resources, after all, enrich our lives. The strongest  
 9 impact in my judgment is on those persons who see the land-  
 10 scape most frequently, that is on those who reside in the  
 11 area or regularly work there.

12 Q. As a first step in evaluating aesthetic impact you have  
 13 emphasized the importance of characterizing the area where  
 14 the project is to be located. Have you done that for the  
 15 proposed Greene County facility?

16 A. Yes, I have.

17 Q. What did you find?

18 A. The first point I would make is that locating the facility  
 19 at either the Cerenton or Athens site would impact the  
 20 Hudson River valley. From an aesthetic point of view, the  
 21 river valley should be broadly defined, not limited to the  
 22 actual viewshed, although the relevant aesthetic context  
 23 does not include the entire Hudson River watershed either.  
 24 We are talking about a kind of culture shed. We are talking  
 25 about communities that share a certain sense of scale. We  
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1 are talking about certain typical use patterns having to do  
2 with small, essentially rural, agricultural villages and  
3 country estates, all of which have the river for their prime  
4 focus. This culture shed extends roughly from north of the  
5 Hudson Highlands up river to the southern boundary of Albany  
6 and Rensselaer counties. I will refer to this culture shed  
7 as the mid-Hudson region, the designation used by Dr. Harvey  
8 Flad in his testimony. It is very important to recognize  
9 that not just the Hudson River within this region but sur-  
10 rounding land areas as well are unquestionably an extra-  
11 ordinarily valuable scenic feature of New York State. We  
12 are dealing not with just any place. We are dealing with  
13 an area that over a long period of time has gained what I  
14 call cultural importance. We are dealing with geography, but  
15 we are dealing also with a geography that has a history, a  
16 history of sensitive, human intervention and what I would  
17 call appreciative perception. The land forms of the mid-  
18 Hudson valley region and, in particular, the land forms in  
19 the region of the Cementon and Athens sites, became an  
20 archetype for natural beauty, a model for parkland  
21 acquisition and for landscape architecture. The artists  
22 that we associate with the Hudson River School came to this  
23 very area and the landscape they identified as beautiful,  
24 the scale they found, the quality of the shrubbery, the  
25 clusterings, the groupings, the hills, the slopes, the  
26 contours, the full dimensions of the physical landscape  
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1 became a prime example of what would be considered attractive  
2 in nature. Their works provided the images that people had  
3 before them in terms of reproductions, images of a kind of  
4 pastoral ideal. This mid-Hudson region is a land area that  
5 has a broad cultural and national significance. Though there  
6 is no single view that I would regard as typical, the valley  
7 does possess a visual character, a thematic thread which  
8 allows us to say with some assurance what features are  
9 characteristic. These visual qualities may exist, in other  
10 locations, but they do not occur elsewhere in the state with  
11 such consistency and in a setting of such grandeur. Clearly,  
12 the overriding scenic theme is the presence of the river  
13 itself, in some places broad and expansive, at others angular  
14 and confined. The river is the binding natural element. The  
15 general impression to a traveler in the region, either riding,  
16 driving, walking, hiking or sailing, is that the mid-Hudson  
17 region is still surprisingly natural. So far it has been  
18 able to absorb the forms that have been placed there so  
19 that, speaking generally, I would say it is still very  
20 beautiful. It is essentially rural in feeling; a languid,  
21 horizontal landscape with the mountains presenting an  
22 occasional backdrop. Generally, the region is characterized  
23 by long vistas, with a relaxing effect and a sense of  
24 tranquility. Most of the more negative visual characteristics  
25 are man-made elements. These detract from the scenic in-  
26 tegrity or at best have a neutral effect. The railroad  
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1 tracks, for example, are often not visible from the river or  
2 from surrounding hillsides, although these track beds have  
3 influenced the appearance of the river valley by isolating  
4 coves. When trains are there, of course, they draw attention  
5 to themselves and detract from the sense of contemplation  
6 and repose which would enhance the perception of the scenic  
7 resources of the valley. The mid-Hudson valley is character-  
8 ized by the periodic presence of major industrial facilities  
9 at the water's edge, and I am thinking of power generating  
10 stations, cement production installations, fuel storage tanks,  
11 rock crushing machinery and so forth. In some areas, for  
12 example around Fishkill these industrial uses actually  
13 add interest and variety to an otherwise undistinguished  
14 shoreline. At other locations, at Cementon for instance,  
15 the presence of massive man-made forms detracts significantly  
16 from what is surely one of the most scenic reaches of the  
17 river. One has to accept the idea that the valley is a  
18 living landscape. It is not a museum place, not locked up  
19 in time, not pristine. It would be inappropriate to try to  
20 restore the valley as a whole. This is not like colonial  
21 Williamsburg. What is remarkable, however, about the Hudson  
22 River valley and especially relevant to aesthetic assessment,  
23 is the fact that the scale for the most part has been main-  
24 tained. To a surprising extent, considering what has been  
25 inflicted upon it, the landscape is absorptive and resilient,  
26 retaining its overall aesthetic integrity. The issue, then is  
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1 to provide for change while at the same time preserving  
2 quality where quality exists.

3 Q. What is your conclusion about the capacity of this Hudson  
4 River valley landscape to accommodate the proposed power  
5 plant?

6 A. I think it is clearly incompatible with the desirable  
7 aesthetic qualities of the landscape. Its presence would be  
8 so overwhelming that it would seriously diminish the Hudson  
9 River valley as a scenic resource. It is simply beyond the  
10 capability of the valley landscape to absorb those forms.

11  
12 CEMENTON SITE

13 Q. What is your specific assessment of the aesthetic impacts of  
14 the proposed facility if it were located on the Cementon  
15 site?

16 A. At least five exceptional scenic viewpoints will be affected:  
17 Frederic Church's home, Olana; two other historical proper-  
18 ties on the eastern shore of the river, Oak Hill and  
19 Northwood; the view from the escarpment at North Lake State  
20 Campsite near the former site of the Catskill Mountain House;  
21 and the so-called Livingston Manor scenic overlook on the  
22 Taconic Parkway. I have recently visited and assessed the  
23 visual impact from the first three of these viewpoints.

24 The cultural-historical importance of Olana and the  
25 original significance of the views from the house and grounds  
26 are extensively discussed in other testimony in these  
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1 proceedings. Suffice it to say that Frederic Church had  
2 travelled the world over and selected the vista from the  
3 Olana hill as the emblematic scenic view. In other words, it  
4 was the archetypal nineteenth century idea of what was beauti-  
5 ful in landscape, with particularly noteworthy long views to  
6 the south and west, almost in the manner of staged tableaux.  
7 There have been intrusions since Church's day. One does see  
8 radio towers and, particularly on clear days, one is aware of  
9 the cement plant structures and plumes, but the principal  
10 views remain marvelously intact. There is little or nothing  
11 that breaks the distant viewlines, nothing discordant that  
12 galvanizes our attention. So we are able to look out and  
13 have something of the pleasures and associations of the  
14 nineteenth century. To look concentratedly on Cementon and  
15 say there are already factories there is being insensitive to  
16 the view that stretches out before one's eyes. Moving out-  
17 ward from the Cementon site itself into a broader visual  
18 context we have the expanse of river and the backdrop of the  
19 Catskill Mountain range, presenting us with a landscape  
20 which has been recognized for over one hundred years as the  
21 quintessential scenic, pastoral vista, one that has a very  
22 special place it seems to me in the American sensibility.  
23 If the cooling tower were placed as proposed, that tower and  
24 plume would become a controlling focus of the view from  
25 Olana, thoroughly destroying what is still largely a scenic  
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1 vista by its size, scale and plume. It would function like  
2 a billboard of enormous dimension, degrading this exceptional  
3 scenic resource.

4 Q. Since you attach particular importance to Olana as a scenic  
5 viewpoint, will you analyze the aesthetic impact in terms of  
6 the various criteria you utilize for that purpose?

7 A. The present context is pastoral, horizontal, and nineteenth  
8 century. The frame of reference has the mountains to the  
9 south, producing a languorous effect, almost as though you  
10 are over the river. You look down the river rather than at  
11 it from one side, which in itself is unusual. The cooling  
12 tower would be out of character with the general vista. From  
13 an aesthetic point of view, the impact of the cooling tower  
14 would be to introduce the scale and structural quality of an  
15 essentially urban form in a rural setting. If you put this  
16 kind of thing in New York City on 42nd Street, people would  
17 see it as a work of sculpture, reinforcing existing tall  
18 buildings, similar to the effect of the sloping side of the  
19 Grace building on West 44th Street. It isn't that the  
20 cooling tower form is intrinsically ugly but that it would  
21 seem jarringly out of place. In terms of visibility, the  
22 cooling tower would be inescapably apparent even under hazy  
23 conditions which tend to screen out the cement plant struc-  
24 tures. As to the integrity of the landscape and whether  
25 the facility could be accommodated into the landscape it is  
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1 clear to me that the cooling tower will not fit. In terms  
2 of scale, there is nothing of comparable density or weight.  
3 There are some other smoke stacks, but there is nothing of  
4 comparable mass, so it is not only the overwhelming size of  
5 the towers but it is the weight of the tower that offends  
6 aesthetically. In terms of details, because of the tower's  
7 size and incongruity there really is not much that could be  
8 gained visually from the treatment of detail. Certainly the  
9 proposed site landscaping is not going to mitigate the  
10 impact on Olana. I do think the choice of off-white color  
11 is less damaging than if it were to be painted dark but  
12 basically if the finest architect imaginable were hired  
13 problems would still remain because the location is wrong.  
14 In terms of uniqueness, that Olana view is one of the very  
15 finest nineteenth century vistas of the Hudson River valley.  
16 Its degradation would diminish the value of a state-preserved  
17 nationally recognized scenic resource. In terms of variety,  
18 I would say, yes, the proposed power plant adds an element  
19 of variety to the landscape, but it is so alien and so  
20 separate from the landscape that it is a kind of variety  
21 which would not enrich experience but detract from it. It  
22 would be unexpected. Let me put it this way, the Hudson  
23 valley is surprisingly resilient, capable of absorbing a lot,  
24 but to put this cooling tower at the Cementon site would so  
25 threaten the coherence of the landscape that people would  
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1 suddenly feel they had lost a treasured resource. In terms  
2 of the cultural and historical dimension of aesthetic impact,  
3 the cooling tower would have a negative impact. If you went  
4 to Olana specifically to participate in the mood and the  
5 evocations of a nineteenth century sensibility, then stepped  
6 out on the front porch and were confronted with the cooling  
7 tower and plume the historical and cultural tone and temper  
8 of the experience would be severely diminished.

9 Q. What would be the aesthetic impact on Oak Hill and Northwood?

10 A. Let me focus on Oak Hill. The view from Northwood is  
11 basically similar in quality, looking up river toward the  
12 Cementon site instead of down. The impact on both would be  
13 substantially the same, adverse, and significantly so,  
14 because of the cultural and historical value of these pro-  
15 perties which have both been recommended by the state of New  
16 York for inclusion on the National Register of Historic  
17 Sites. A major part of the beauty and the pleasure of being  
18 at Oak Hill has to do with the way in which the landscape itself  
19 had been managed and designed. In another words, this is  
20 not a wild site or even totally natural site. It is a  
21 consciously, deliberately landscape-architected site. Views  
22 are arranged, trees have been placed according to topography  
23 and distances. Choices have been very carefully orches-  
24 trated. If the cooling tower were to be put at Cementon,  
25 the effect would be to destroy much, if not all, of the  
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1 justification for the choices that have been made at Oak Hill.  
2 Over a century or more the view toward Cementon had been  
3 brought into focus and beautifully framed. Suddenly the  
4 picture which has been slowly created -- nostalgic, rhapsodic,  
5 pastoral, evocative, distant, beautifully framed -- would be  
6 shattered. It would be particularly grievous.

7 Q. In summary then, is it your opinion that siting of the Greene  
8 County Nuclear Power Plant at Cementon would introduce  
9 visual elements that are out of character with Olana, Oak  
10 Hill and Northwood and adversely alter their setting?

11 A. The answer is clearly yes.

12 Q. Have you assessed the impact on the view from the escarpment  
13 and from the Taconic Parkway?

14 A. I have not personally visited either of these viewpoints for  
15 purposes of this testimony. I am familiar with the escarp-  
16 ment view from earlier visits, however, and I have travelled  
17 the Taconic Parkway. I have examined the NRC staff photo-  
18 graphs showing both views with cooling towers and plumes  
19 superimposed, which appear as Figures M.12 and M.13 in the  
20 Final Environmental Statement (NUREG-0512) on the Greene  
21 County plant. I agree with the conclusions in the Final  
22 Environmental Statement, at pages M.33 and M.36. In my own  
23 terminology, from both viewpoints the facility sited at  
24 Cementon would seriously compromise the integrity of the  
25 existing, high quality, scenic landscapes, adding a discor-  
26 dant element and essentially destroying exceptional coherent  
27 vistas.

1 Q. What is your assessment of the impact on other views of the  
2 Cementon site in relation to existing scenic quality?

3 A. Beginning with the residential area most directly impacted, it  
4 strikes me that from an architectural or aesthetic point of  
5 view the community of Cementon itself does not have great  
6 visual integrity. The landscaping and quality of the natural  
7 site is not exceptional. A number of industrial facilities  
8 exist in the immediate area and my impression is that if the  
9 power plant and cooling tower were to be built there, while  
10 it inevitably would impact on the Cementon residential area  
11 as viewed from highway 9W toward the south, it would be  
12 tolerable because the landscape is already degraded by the  
13 presence of these industrial sites. The views to the north  
14 and the east from the vicinity of Cementon are much less  
15 interesting and inherently much less aesthetic than the view  
16 from say Olana looking down toward Cementon. Although it  
17 will have an impact that is not desirable, it could be  
18 tolerated. The view from the Rip Van Winkle Bridge is signi-  
19 ficant to evaluate because it provides the public with long  
20 views comparable in extent to those experienced from Olana,  
21 Oak Hill and Northwood. In connection with the Hudson River  
22 study for the Department of Environmental Conservation it  
23 became clear to me that some of the best views of the Hudson  
24 River Valley are to be had from Hudson River bridges. In  
25 fact I suggested in a memorandum during the course of the  
26  
27  
28

1 study that there be pull-outs at the ends of the bridges  
2 allowing people to park their cars and to walk out on the  
3 bridges to viewing platforms which should be constructed on  
4 the bridges. Views from the bridges are potentially one of  
5 the best ways of enjoying the vista views. If the cooling  
6 tower were to be built at Cementon, even though it would be  
7 some six miles away from the Rip Van Winkle Bridge, it would  
8 become the focal point of what would be a very langourous,  
9 very horizontal, classically typical Hudson River valley view.  
10 The proposed plant would destroy the view by causing us to  
11 focus on it instead of the scene. I think it will have a  
12 very harmful effect on the aesthetics from the Rip Van Winkle  
13 Bridge.

14 There are areas on both sides of the river considerably  
15 closer to the Cementon site, far enough away from the cement  
16 plants to offer views of high scenic quality but close enough  
17 to be seriously impacted by the massive structures of the  
18 power plant at the Cementon location. On the western shore  
19 I was particularly impressed by Greene Point, just north of  
20 the Cementon site. Notwithstanding the existing industrial  
21 development to the south, this area is surprisingly natural.  
22 It is a beautiful, undeveloped natural area located at the  
23 river's edge, aesthetically well-suited for parkland. If  
24 the facility were to be located just to the south, it would  
25 have very damaging effects on the visual quality of that  
26 scenic resource.

GUSSOW

1           On the eastern shore significant views for assessment  
2 are those from Route 9G, from the railroad, and from the  
3 areas of Germantown and North Germantown. For all practical  
4 purposes, Germantown is at ground zero with respect to the  
5 visual impact of the proposed cooling tower. The landscape  
6 on the west shore of the Hudson immediately visible to the  
7 Germantown area is not at the moment a pristine landscape.  
8 There are a number of fully visible industrial facilities in  
9 the Cementon vicinity that residents of Germantown obviously  
10 have to contend with. What interests me, however, is that  
11 from the water's edge in Germantown, standing near the rail-  
12 road tracks and looking to the west, the existing man-made  
13 forms do not break the ridge lines and contours. Although in  
14 the aggregate the detail is unnatural and although the forms  
15 themselves are less than visually harmonious with the other-  
16 wise predominantly rural landscape, the forms still manage to  
17 be absorbed within the general view. The general impression  
18 still has some of the typical characteristics of contours of  
19 the Hudson River valley. By contrast, if this cooling tower  
20 were to be placed there, it would rise up through the contour  
21 lines that presently exist and overwhelm the views from the  
22 Germantown area. The net effect would be thoroughly jarring  
23 and unfortunately would drastically reduce the scale of the  
24 mountains visible to the west and to the south. These  
25 adverse effects on the existing quality of the Germantown  
26 landscape are essentially the same effects as would be  
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GUSSOW

1 experienced by north or south bound railroad passengers on  
2 the Amtrak route and by boating recreationists on the river  
3 itself. Those same impacts are characteristic also of the  
4 effect on views from other points in Germantown, especially  
5 from the playground area in front of the Germantown School  
6 and from Route 9G. The view of the facility from the river  
7 or near the river's edge at the lowest elevation would be  
8 the most grossly disturbing. But the size of the tower is  
9 such that even from the vantage point of Germantown Central  
10 School located just to the east of and slightly above Route  
11 9G it would absolutely overwhelm the visual field. If it  
12 does at that point from the higher elevation then I have no  
13 doubt that from along 9G itself and randomly throughout the  
14 community of Germantown the cooling tower would be extremely  
15 disruptive visually. In fact, looking at photographs Fig.  
16 M.6 and M.11 with superimposed cooling tower and plume in the  
17 NRC's Final Environmental Statement, these two photographs  
18 alone, showing the view to Cementon from the Germantown  
19 Central School grounds and from Olana, seem to me to depict  
20 such severe aesthetic impacts as to make siting the facility  
21 at Cementon unthinkable.

ATHENS SITE

- 1
- 2 Q. What is your specific assessment of the aesthetic impacts of
- 3 the proposed facility if it were to be located at the Athens
- 4 site?
- 5 A. Because the Athens site is further back from the river, parts
- 6 of the facility and much of the actual structures themselves,
- 7 would be obscured by intervening ridge lines for viewers east
- 8 of those ridges. However, the cooling tower and plume would
- 9 be significantly visible from the river itself, from Amtrak
- 10 passenger trains, from many places in nearby riverfront com-
- 11 munities, which include two historic districts, as well as
- 12 from Olana and the Rip Van Winkle Bridge, and they would have
- 13 impact on scenic vistas from the Taconic and Route 9H. Of
- 14 course the entire facility would be fully visible from the
- 15 West Athens area, from Route 9W west of the site and other
- 16 nearby state and county roads and this is not inconsequential.
- 17 While the Cementon site impacts more directly on the river
- 18 itself, siting the facility at Athens would no less directly
- 19 impact the river valley area surrounding the Athens site.
- 20 Q. How would you assess the aesthetic impact of the facility on
- 21 important scenic viewpoints?
- 22 A. I would begin with Parade Hill at the waterfront directly
- 23 opposite in the City of Hudson. The proscenium or staged
- 24 view from Olana has its counterpart here, with the village
- 25 of Athens at stage center. The Parade Hill view does not
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GUSSOW

1 have equal importance in the history of American painting to  
2 the view from Olana but it is integral to the national  
3 Historic Site area in Hudson and has its own considerable  
4 importance in terms of American town planning as set forth  
5 in testimony of Dr. Harvey Flad. It is true that from the  
6 City of Hudson you do not have the same sweeping view  
7 of river and mountains that Olana offers to the south and  
8 west, partly by reason of its higher elevation, but, on the  
9 other hand, at Parade Hill one has the advantage of a view  
10 both to north and south, with mountain backdrop, and the  
11 exhilarating feeling of being practically on the river.  
12 Hudson has shown respect for the proportions and traditions  
13 and the surrounding visual environment by renewing much of  
14 the downtown area in a way that is sympathetic with nineteenth  
15 century values. There are islands in the river between Hudson  
16 and Athens and I am aware that the state is now taking steps  
17 to preserve all of the islands in the river as possible park  
18 sites. The view from Parade Hill, would be very seriously  
19 impacted in a negative way if the power plant were to be  
20 sited at Athens. It would be impossible to look out at the  
21 scene without first seeing the tower. It would intrude in  
22 every season, standing out like an exclamation mark or  
23 enormous pyramid, the overriding visual feature of the view  
24 from this choice location. The tower wou'ld dwarf everything  
25 else; I think it would be aesthetically damaging beyond words.

1 The Hudson community, having committed itself as being in  
2 favor of nineteenth century scale, would have to accept forms  
3 which conflict with and effectively ridicule the aesthetic  
4 values presently embodied in the Hudson historic district.  
5 In terms of my criteria for impact assessment and beginning  
6 with context, what is particularly interesting about the  
7 context from Parade Hill is that you have two elements which  
8 while not always present in Hudson River landscapes are  
9 characteristic of the valley and are not always so visually  
10 accessible. One is that you have a string of islands in the  
11 river which add enormous interest. They provide a near  
12 ground with a visual richness. The second element in terms  
13 of context is that you have an attractive man-made,  
14 primarily residential community just across the river, almost  
15 like a town in miniature. The general impression is of a  
16 picturesque, nineteenth century proportioned village at the  
17 river's edge. And beyond that you have unbroken ridge lines  
18 and the distant Catskill mountains to the south and to the  
19 west so that the general context is horizontal, natural,  
20 variegated in terms of the islands, and the man-made forms  
21 are absorbed. In terms of visibility, the cooling tower, even  
22 though it would be behind the nearer ridge, would be suf-  
23 ficiently high to be clearly visible from the Parade Hill  
24 and would be visually polluting. The tower would attract  
25 attention to itself and would be a misplaced element. At  
26 present the existing land contours have an  
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1 integrity -- a sense, soundness, wholeness -- which the tower  
2 would break. It would be like a crash of thunder in the  
3 midst of a flow of music. In terms of scale, there is  
4 nothing in the view from Parade Hill that even begins to  
5 suggest the size and the impact of that tower. As for  
6 details, the present view has great fineness of detail. The  
7 trees have a kind of tactility which is very seductive; the  
8 buildings in Athens can be appreciated as a group if not as  
9 wholly independent structures; and there is a nice archi-  
10 tectural flow from one structure to the other; so that there  
11 is nothing in the field of view that matches the monolithic  
12 quality of the tower. In terms of uniqueness, as I suggested  
13 earlier, islands in the Hudson River are not common and they  
14 are special wherever they occur. So there is an aspect of  
15 uniqueness which is reinforced by the fact that Parade Hill  
16 itself was designed to be a scenic viewing point. With  
17 respect to the coherence, the landscape now is anticipated.  
18 What we see we expect to see, the water, the community, the  
19 hills, they are all to some extent predictable. The variety  
20 makes the view interesting and everything makes sense to the  
21 viewer. I think the effects of the tower would be like a  
22 sudden and almost cancerous growth on the landscape. It  
23 would cause a sense of uneasiness that would be psycholo-  
24 gically unacceptable. Last but most significantly Parade  
25 Hill has been recognized as having cultural and historic  
26 value. It has been preserved not simply as a hill, but a  
27

1 hill from which something could be visually experienced. The  
2 location of the cooling tower at the Athens site, would directly  
3 contravene the functional intention of the design and pre-  
4 servation of Parade Hill. The aesthetic impact would be such  
5 as to defeat the purposes and affront the judgment of those  
6 who have acted to identify and preserve the Hudson River  
7 District.

8 Q. Then it is your opinion that the siting of the Greene County  
9 Nuclear Power Plant at Athens would introduce visual elements  
10 that are out of character with the historic site area within  
11 the City of Hudson and would adversely alter its setting?

12 A. Unquestionably.

13 Q. Do you think that there would also be significant visual  
14 impact on Olana if this facility were built at the Athens  
15 site?

16 A. The answer is that there would be, but it would not be as  
17 significant as the Cementon site. The primary Olana views  
18 are to the south and west, making the Cementon location  
19 particularly bad. The public coming to Olana would, however,  
20 under the present conditions of the landscape not be unaware  
21 of the power plant if it were built at Athens. The cooling  
22 tower and plume would be plainly visible from Routes 9G and  
23 23 as one approached Olana and, at least during the time the  
24 leaves were off, tower and plume could be seen through the  
25 trees from the parking area, also from the second floor of  
26 house if this is included in the public tour. The Office of  
27

1 Parks and Recreation may decide to modify the landscaping by  
2 cutting back trees to the north, in accordance with the way  
3 Church himself saw and planned views to the west and north.  
4 That would expose the visiting public to an unobstructed view  
5 of most of the cooling tower as well as the plume at all  
6 seasons of the year. Under existing viewing conditions I  
7 think that even the semi-obstructed peripheral  
8 incidental view one would have of tower and plume from the  
9 Athens site would introduce visual elements clearly out of  
10 character with Olana and adversely altering its setting.  
11 Although these introduced elements would not dominate the  
12 visitor's visual field, their presence would be felt and  
13 would be negative. With an unobstructed view toward Athens,  
14 created by cutting back second growth, this adverse effect  
15 would be greatly reinforced and more objectionable. Its  
16 impact would be difficult or impossible to suppress and  
17 disregard even when one was engaged in contemplating the  
18 principal vista in the opposite direction.

19 In addition to Parade Hill and Olana the Taconic Parkway  
20 scenic overlooks are scenic viewpoints which should be con-  
21 sidered. Specifically, I would expect that the Athens site  
22 impact on the northernmost overlook ("Columbia County") to  
23 the west, just south of Philmont, would be comparable to the  
24 Cementon site impact on the "Livingston Manor" overlook which  
25 I have already considered. In short, the facility sited at  
26 Athens would seriously compromise the integrity of this  
27  
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1 planned and selected, very accessible and popular, high  
2 quality scenic viewpoint.

3 Q. What is your opinion of aesthetic impacts on the Village of  
4 Athens itself if the facility were sited at the Athens site?

5 A. In order to make a judgment of the probable impact, I think  
6 it is worth spending just a little time characterizing the  
7 Village of Athens. Athens, located at the river's edge, is  
8 a visually harmonious community, so much so that it could  
9 serve as a movie set for another period. There are no  
10 highway interchanges running through the community, there  
11 are no large bulldozed areas that have fallen to urban  
12 renewal, no shopping plazas, no large, unsightly commercial  
13 or industrial structures or activity, and no fast food  
14 franchises. The village has an exceptional number of very  
15 attractive houses of high architectural quality and a few  
16 that are quite old having a special historic interest. It  
17 would appear to be still very much a community where pedes-  
18 trians rather than cars are dominant. There are sidewalks  
19 everywhere; streets are quiet and intimate. The village  
20 makes us think of a Norman Rockwell illustration. In all  
21 probability there are any number of places where one could  
22 stand in the Village of Athens and by virtue of the topo-  
23 graphy and physical structures not see the cooling tower  
24 structure even when the leaves are off the trees. It is  
25 equally true, however, that there are numbers of places  
26 within that village where more or less of the cooling tower  
27

1 structure and most or all of the plume would be visible. For  
2 example, Dr. Flad has determined that part of the cooling  
3 tower together with the plume would be visible from the  
4 Athens Elementary School, from along Church Street, from the  
5 south entrance to the village in the vicinity of some of the  
6 most prized historic homes, from Vernon Street north of  
7 Second Street, and in all probability from a number of upper  
8 story windows. As I have already testified, the cooling tower  
9 structure and form are essentially urban. The visual dis-  
10 ruption caused by the cooling tower in Athens would be  
11 greater than in Cementon which already has the cement plant  
12 structures in the proximity. Even though views of the tower  
13 would be partial and discontinuous within the village, its  
14 adverse impact would be serious. Tower and plume would be  
15 effectively omnipresent -- an ominous, looming,  
16 psychologically imposing, experientially demanding, cauldron-  
17 like physical form stirring up all kinds of discordant  
18 associations. What is particularly grievous, it seems to  
19 me, is that the community of Athens now is ripe for redis-  
20 covery precisely for the characteristics that apply at the  
21 present time. In another words, what makes Athens attractive  
22 today are the proportions, the scale, the quality of the  
23 houses, the pedestrian nature, the size of the community,  
24 the location on the river. These exceptional aesthetic  
25 values would be seriously and adversely impacted by placing  
26 a cooling tower west of the village.

1 Q. What is your assessment of visual impact on the Athens site  
2 itself?

3 A. Well, to establish a context, the immediate area of the  
4 proposed plant is not of especially high visual quality. It  
5 is transected by a railroad line. There is some high  
6 industry, a substation and power lines. It is not an area  
7 that one would look to for rewards of natural scenic beauty.  
8 Nevertheless, the overriding quality of the area is still  
9 predominantly natural and rural. It is not unattractive.  
10 But if the only aesthetic impact of a landscape occurred at  
11 the time it was being observed, without any carry-over  
12 effects and if the only view of the facility and plume was  
13 the one from Route 9W looking north and east to the Athens  
14 site, then I would not be particularly troubled about having  
15 the power plant located there because of the indifferent  
16 scenic quality of the terrain. The fact is, however, that  
17 we retain landscape impressions as we move from place to  
18 place. Our ability to respond to aesthetic experiences of  
19 what is immediately in front of us is likely to be condi-  
20 tioned by the landscape we saw shortly before and which we  
21 know to be just back down the road or just over the hill.  
22 I am a great believer that the physical environment creates  
23 a setting like background music for the appreciation of  
24 certain kinds of events. If, approaching the City of  
25 Catskill, for example, in order to see the house of Thomas  
26  
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1 Cole, founder of the Hudson River School of painting, or to  
 2 experience something of nearby Catskill Creek where Thomas  
 3 Cole painted, one went along Route 9W adjacent to the Athens  
 4 site, and had to contend with the power plant it would  
 5 diminish one's ability to fully respond to the historic and  
 6 cultural sites. Another important consideration is that  
 7 there are rather spectacular views of the Catskills from  
 8 many points north of Athens. I have particularly in mind  
 9 the views from along Route 385, from the vicinity of the  
 10 Sleepy Hollow residential development, and from the Cocksackie-  
 11 Athens Central School in Cocksackie. In addition there are  
 12 impressive views to the east toward the Taconic mountains  
 13 from higher elevations west of the Athens site. The cooling  
 14 tower and plume at the Athens site would tend to dominate  
 15 and spoil those views. So, although the area in the imme-  
 16 diate vicinity of the proposed site is indifferent n scenic  
 17 quality, backing off three or four miles and looking to the  
 18 south east, the present context is essentially scenic.

19 Q. Are there other viewing areas which you have considered in  
 20 your estimation of the aesthetic impact of the facility if  
 21 sited at Athens?

22 A. Yes. I think it should be pointed out that the impact on  
 23 the view of Amtrak passengers will be adverse to about the  
 24 same extent, and for similar reasons, as the impact on the  
 25 Parade Hill outlook in Hudson. The Amtrak route is certainly  
 26 widely known for the attractive views it affords of river  
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1 scenery and it constitutes an important viewpoint certainly  
2 in terms of accessibility and sheer number of viewers even  
3 though it is not an historic, planned view on the order of  
4 Parade Hill.

5 In addition there would be frequent random impacts from  
6 many points within the City of Hudson besides Parade Hill.  
7 The cooling tower and plume would probably be more randomly  
8 visible from Hudson than from within the Village of Athens.  
9 So while you have the mitigating factor of distance you have  
10 higher visibility. Hudson, much like Athens, retains  
11 structures very much within the human scale. Although  
12 legally a city it is not visually characterized by dis-  
13 tinctively urban forms. The impact of the cooling tower --  
14 even without the plume -- can be seen in the Power Authority's  
15 Article VIII Application photographs, Figures 6.1-15 and  
16 6.1-16 from Part IV, volume 3, which depict the views from  
17 two vantage points within Hudson. The cooling tower stands  
18 out starkly as a massive industrial structure, a misplaced  
19 element in the existing context.

20  
21 CONCLUSION

22 Q. You have testified that the Greene County nuclear facility  
23 would have adverse aesthetic impacts if located at the  
24 Cementon site or at the Athens site. Would you summarize  
25 your opinion as to how serious you think these adverse  
26 impacts would be.

RELATED CORRESPONDENCE



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NEW YORK STATE BOARD ON ELECTRIC  
GENERATION SITING AND THE ENVIRONMENT

U.S. NUCLEAR REGULATORY COMMISSION

-----X

POWER AUTHORITY OF THE STATE OF  
NEW YORK

GREENE COUNTY NUCLEAR PLANT

-----X

Case 80006

Docket No. 50-549

Prepared Testimony of

David C. Huntington  
Professor of Art History  
Department of the History of Art  
The University of Michigan  
Ann Arbor, Michigan

on

Aesthetic Impact of Greene  
County Nuclear Power Plant  
March 2, 1979

Submitted on behalf of Columbia  
County Historical Society, Inc.;  
Friends of Olana, Inc.; Greene  
County, New York and associated  
municipalities; The Hudson River  
Conservation Society, Inc.; and  
Hudson River Sloop Clearwater,  
Inc.

HUNTINGTON

1 Q. Please state your name and address.

2 A. My name is David C. Huntington. My address is  
3 2037 Geddes Avenue, Ann Arbor, Michigan.

4 Q. What is your present occupation and title?

5 A. I am Professor of Art History in the Department of the  
6 History of Art at the University of Michigan, Ann Arbor,  
7 Michigan.

8 Q. Please indicate your education after high school, and your  
9 professional experience, activities and publications.

10 A. This information is set forth in the Curriculum Vitae which I  
11 prepared and which is attached to my testimony.

12 Q. Are you familiar with the proposal of the Power Authority of  
13 the State of New York to construct a nuclear-fueled electric  
14 power generating facility in Greene County, New York?

15 A. I am familiar with the size and physical appearance of the  
16 principal structures of the proposed facility. I am also  
17 familiar with the proposed Cementon site and with the  
18 alternate site proposed by the Power Authority in its  
19 application for New York State certification.

20 Q. Is it correct that you will offer testimony on the aesthetic  
21 impact of the Greene County plant?

22 A. Yes. I will testify regarding the aesthetic impacts of the  
23 proposed plant on Olana, formerly the home of the painter  
24 Frederic Edwin Church and now a National Landmark.

25 Q. Will your testimony include any photographic documentation?

26 A. Yes. In the course of my testimony I shall refer to photo-  
27 graphs of Olana, of Church's Plan of Olana, and of landscape  
28

1 views from Olana; also to photographic reproductions of a few  
2 of Church's paintings. Xerox color copies of these photo-  
3 graphs --all 35mm. color transparencies -- are attached to my  
4 testimony. The photographs of Olana and of views from Olana  
5 were taken by me personally.

6 Q. Will you please describe how you first became interested in  
7 Frederic Church and Olana.

8 A. My introduction to Olana dates back to December of 1953. At  
9 that moment I was beginning research on an artist whose name  
10 I had not even known six months before. A quarter of a  
11 century ago scholarship on the Hudson River School was  
12 virtually non-existent. Nineteenth century American painting  
13 was largely ignored in college curriculums. Prompted by some  
14 excellent undergraduate and high school courses in American  
15 history, a lot of travel about the United States, and an  
16 appetite for the great out-of-doors, I felt certain that there  
17 must be exciting discoveries that awaited the student of  
18 nineteenth century American art. I was especially interested  
19 in the period of Manifest Destiny, a period in which our  
20 culture was inspired by influences unknown in any previous  
21 age. There was the belief -- it was almost a national  
22 article of faith -- that nature had determined that the United  
23 States should span the continent from coast to coast. And  
24 the grand vision did not stop at the edges of the Atlantic  
25 and the Pacific. Spreading between the globe's two great  
26 oceans, America seemed pre-ordained to make real the age-old

HUNTINGTON

1 dream of the meeting of east and west. Natural history  
2 appeared to be revealing the previously elusive Design of the  
3 Universe. The prophecies of the distant biblical past were  
4 finally being clarified by science. The consummation of  
5 history was imminent: the Millennium was at hand. Such was  
6 the state of the American mind when Olana was created. It  
7 was an interest in the art of Manifest Destiny that led me to  
8 Olana, the home of the most popular, most respected American  
9 painter of the 1850s and 1860s. No painter had succeeded as  
10 had Frederic Church in seizing the images that were to  
11 inspire the adherents of that great national vision. To  
12 Church's public the scenes which he transferred to canvas were  
13 "real", were "alive." They gave the spectator "room to  
14 breathe." Before Church's "continental" landscapes "one's  
15 soul might expand." His pictures "showed what the world is  
16 worth," they "realized the finest imaginings of the mind,"  
17 they captured "the spirit of the age." Church's paintings  
18 partook of the same power and authority as the essays of  
19 Emerson, the journals of Thoreau, the poems of Whitman. His  
20 heroic landscapes resonated with the patriotic zeal of "The  
21 Battle Hymn of the Republic," with the sense of messianic  
22 mission of Abraham Lincoln.

23 Q. Would you comment upon Church's success and reputation as an  
24 artist?

25 A. Church's public would anticipate a new production from his  
26 easel as much as it anticipated a new novel by a famous  
27 author. Display of a new painting by him would be a cultural  
28

HUNTINGTON

1 event. Some forty newspapers and magazine reviews of "The  
2 Heart of the Andes" were pasted into the artist's scrapbook.  
3 That same painting also generated three explanatory pamphlets,  
4 one of them 43 pages long. "The Heart of the Andes" inspired  
5 any number of poems, and at least one musical composition.  
6 When the painting was shown at a studio on Broadway a police-  
7 man had to be stationed on duty to direct traffic on the  
8 sidewalk outside. The painting travelled as far east as  
9 London and as far west as St. Louis, which is where Mark  
10 Twain came upon it. Enchanted, he went twice again to see it.  
11 It is estimated that Church's "Niagara" (Fig. DH-1) was seen  
12 by a hundred thousand people when it was first presented to  
13 the New York public in 1857. No painting had ever made such  
14 an impression on American viewers. It was immediately hailed  
15 as one of the greatest paintings ever painted on either side  
16 of the ocean. No work by Church can explain the significance  
17 his art had to his generation as vividly as does his "Niagara."  
18 This extraordinary painting vibrated with the dynamic of  
19 Manifest Destiny. Before it the spectator felt himself in the  
20 very presence of the actual scene. His mind traveled more  
21 than a thousand miles to the west where the continental divide  
22 separates the waters that flow into the Atlantic from the  
23 waters that flow into the Pacific. The very composition of the  
24 painting itself was instinct with the energetic spirit of  
25 expansionism. Zig-zags in the rapids and the sky race into  
26 the distance. A cloud disappears beyond the horizon line to  
27 tell of the earth's curve. The complementary spirit, the

## HUNTINGTON

1 spirit of union, is suggested with equal deliberateness as  
2 the waters converge around the tight ring of the Horseshoe,  
3 there majestically to descend with invincible force. To the  
4 right in the painting all is flux, to the left all is peace.  
5 Nature's power and nature's repose, man's strength and woman's  
6 gentleness, are poised in equilibrium, united. Answering  
7 the terrestrial arc of the Falls' profile is the celestial arc  
8 of the rainbow. Reconciliation between heaven and earth, God  
9 and Man, is consummated before the spectator who mythically  
10 stands as a New Noah before a New World. America's covenant  
11 with the Creator is symbolically commemorated on the canvas.  
12 The painting hence became a means of psychic self-discovery  
13 for the would-be regenerate American Adam. "Niagara" was in  
14 effect an icon of Manifest Destiny. As we rediscover the  
15 original significance of the painting the great achievement  
16 of the artist becomes apparent. Church is recognized as the  
17 central figure of the Hudson River School in the 1850s and  
18 1860s. Not since the prime of his career, more than a century  
19 ago, has Church's reputation been greater than it is today.  
20 Touring the country right now, showing in a half dozen  
21 museums from Boston to Kansas, is an exhibition of 112 of  
22 his sketches. In 1980 Church's "Twilight in the Wilderness"  
23 (Fig. DH-2) is to be the fulcrum of the National Gallery of  
24 Art's exhibition on American luminist painting, the largest  
25 exhibition of American landscape painting ever organized.  
26 Suggestive of Church's prominence within the larger panorama  
27 of American painting is the fact that a color reproduction of

1 his "Niagara" served as the cover to the catalogue of the  
2 Museum of Modern Art's bicentennial exhibition, "The Natural  
3 Paradise," an exhibition of American works of art dating from  
4 the early nineteenth century to the 1970s. All of Church's  
5 major paintings are now valued in six digits. In 1977 the  
6 Detroit Institute of Arts purchased his "Cotopaxi" for  
7 \$450,000. "Chimborazo," the last of the artist's major  
8 paintings still in private hands, is insured for \$600,000.  
9 The William Rockhill Nelson Gallery in Kansas City reputedly  
10 paid \$650,000 in 1978 for Church's "Jerusalem." This past  
11 fall a small painting by Church, "Our Banner in the Sky,"  
12 measuring some 8 by 11 inches sold for \$45,000. Within the  
13 academic and museum communities the paramount importance  
14 of Church's art can be assumed. His emergence from temporary  
15 oblivion has been spectacular. The public is bound to catch  
16 up.

17 Q. Please describe your visits to Olana and your present involve-  
18 ment with Church and his work.

19 A. In 1954 and 1955 I spent almost four months carrying on re-  
20 search at Olana. In the mid-sixties, during the campaign to  
21 preserve Olana, I spent many weeks there. Almost every year  
22 since then I have returned for a matter of days if not weeks.  
23 My last visit to Olana was in October, 1978. Olana's sig-  
24 nificance in the field of American art and culture continues  
25 to grow in my estimation. I have just finished giving for  
26 the fourth time a whole course devoted to comparing the art  
27 and ideas of Frederic Church and Frank Lloyd Wright. A  
28

## HUNTINGTON

1 consideration of Olana -- the house, its contents, its grounds,  
2 its views -- claims an entire month of the course.

3 Q. How would you describe Olana, its location and significance?

4 A. At Olana all is of a piece. The house is intimately related  
5 to its setting. The east facade and its lawn are bound by an  
6 equal measure of concentrated formality. The south facade  
7 (Fig. DH-3) and the great lawn descending from it and the  
8 still greater prospect beyond (Fig. DH-4) are reciprocal in  
9 their sense of openness and expansiveness. Here the transition  
10 from near to far, from Olana's lawn, hill and lake, to the  
11 Hudson Valley's woods, mountains and river has been conceived  
12 with the same deliberateness that distinguishes Church's  
13 landscape compositions on the canvas (Fig. DH-5). That same  
14 deliberateness accounts for the strategic placing of Maine  
15 birches (Fig. DH-6) on Olana's knoll. Here "expressive  
16 character trees" (to borrow A.J. Downing's terminology) play  
17 a role comparable to that of the foreground trees in Church's  
18 "Twilight in the Wilderness" (Fig. DH-2).

19 To the west, in the little gazebo perched on top of the  
20 studio, Church could feel himself on the most intimate terms  
21 with nature's vastness (Fig. DH-7). From southeast to north-  
22 west spreads a 180 degree panorama. In this eyrie the painter  
23 might watch the spectacle of a storm front sweeping across the  
24 earth's surface. J. Fennimore Cooper thought of the Catskills  
25 as a "great weather factory." So too, we can be sure, did  
26 Church. Today, the visitor at Olana can still watch the

## HUNTINGTON

1 drama of changing clouds and patterns of light over the  
2 Catskills and the Hudson.

3 As views have been incorporated into the house so also  
4 have they been incorporated into the more than three hundred  
5 acres of landscaped grounds over which Church sometimes in  
6 consultation with Olmsted laid out seven and a half miles of  
7 roads to reward the sight with countless glimpses and vistas  
8 (Fig. DH-8). Some of the views have today been obscured by  
9 second growth. In Church's time, for example, there was a  
10 road to "the north view" which opened up onto the northern  
11 crest of Mt. Merino and the west bank of the Hudson at Athens.

12 One point that might easily be missed by today's visitor,  
13 unfamiliar with the world view of Church, is the way in which  
14 ideas about man's relationship to nature are embodied in the  
15 detailing and massing of the exterior of the house. In "The  
16 Heart of the Andes" the great soaring peak of the snow-dome  
17 and the spreading expanse of the mountain to the right in the  
18 painting have their analogue in the facade of the village church.

19 As the great forms of nature preside over the entire scene,  
20 so do the spire and nave of the church preside over the  
21 idyllic hamlet which rests in the lap of the life-giving  
22 Andes. The church in effect becomes a symbol of the divine  
23 in nature: it sanctifies the scene. The same massing  
24 characterizes Olana's entrance facade. Here in this Church  
25 house (itself a sort of sanctified pun) nature is again  
26 abstracted in architectural form. The tower and the dining-  
27 room nursery block not only suggest spire and nave, they also

## HUNTINGTON

1 conrote nature's power and nature's repose, masculine strength  
2 and feminine gentleness. Here we are reminded of the  
3 divinely ordained equilibrium of "Niagara." Indeed, nature's  
4 action and nature's repose are suggested in the patterns on  
5 the walls and roofs. Instinct with nature's life, the house  
6 stands dominant in the landscape, an exultant gesture of the  
7 human spirit.

8 Olana's exterior presents an amalgam of the architectural  
9 idioms current in the United States of the early 1870s --  
10 Italianate, Ruskinian Venetian Gothic, French Second Empire --  
11 glossed with Saracenic arches and vaguely "Moorish" poly-  
12 chrome ornament executed in stone, brick, slate and tile  
13 (Fig. DH-3). The eastern touch might be characterized as  
14 "personal Persian." Church styled it: "the orient adapted  
15 to the occident."

16 Without, Olana celebrates a sanctified union of the east  
17 and west, nature and civilization, man and woman. Within,  
18 the same archetypal themes are celebrated in the decoration  
19 of the structure, in furnishings and bric-a-brac, in books  
20 and photographs, in works of art and specimens of natural  
21 history. Through the numerous views that are built into the  
22 house (Fig. DH-4), and especially the great window between  
23 the court hall and the adjoining porch, the "ombra," interior  
24 and exterior are united. Outdoor vistas are caught in  
25 mirrors, daylight invading the house is captured here and  
26 there on a gilded idol, a brass fire mantel, an iridescent  
27 surface. On the keystone of the arch that frames the "ombra,"  
28

## HUNTINGTON

1 is inscribed the Star of David. Early in his career Church  
2 had painted "Moses Viewing the Promised Land." Later,  
3 spectators standing before his "Heart of the Andes" had  
4 fancied themselves in the presence of a New World Promised  
8 Land. On his Hudson Valley Sinai the painter might have  
6 fancied himself a modern Moses. Here Church could look out  
7 upon the same body of water that Henry Hudson sailed in  
8 quest of the Northwest Passage. Inside the house Church  
9 symbolically staged the fulfillment of the navigator's quest.  
10 As Whitman's "Passage to India" celebrates the meeting of  
11 east and west in terms verbal, Church celebrates that meeting  
12 in terms visual.

13 In a theater of nature and artifact at Olana are mingled  
14 signs and images of Buddhism, Hinduism, Islam, Judaism,  
15 universal symbols of regeneration (the peacock, the locust,  
16 the butterfly) and last, but hardly least, the sacred person-  
17 ages and the cross of Christianity. A sort of ecumenical  
18 millennium takes place in Olana's court hall and stairwell.  
19 Continuous with the space which houses this spectacle is  
20 the "ombra" which at sundown looks off to the west beyond the  
21 grand sweep of the Catskills. Facing the darkening sky  
22 Church could watch the earth's turn and sense the orient half  
23 way round the globe. At such a moment, with the right sky  
24 (Fig. DH-7), he could almost be standing inside his own great  
25 painting, "Twilight in the Wilderness (Fig. DH-2)," witnessing  
26 a meteorological apocalypse, portent of a great future that  
27 was dawning in the west.

HUNTINGTON

1 Church declared Olana "the Center of the World," In his  
2 art, his travels, his home, he sought to encompass the globe.  
3 Olana is a life style. Olana is a world view. Olana's  
4 integrity is inseparable from its surroundings. It can no  
5 more be separated from its surroundings than Thomas Jeffer-  
6 son's Monticello can be separated from its hill and its view.  
7 Each site, in fact, implies the idea of prospect in its very  
8 name. Monticello means "little mountain." Olana means "our  
9 place on high." These two monuments tell us as much about  
10 former states of American mind as Versailles -- the palace and  
11 its gardens -- tells us about the Sun-king and the concept  
12 of the divine right of kings in seventeenth century France.  
13 As Monticello and Versailles make visible their moments in  
14 the flux of western civilization, so does Olana make visible  
15 its moment. For Olana tells us not only of Frederic Church  
16 but of a mind that resonated with the spirit of Manifest  
17 Destiny.

18 Q. What is your opinion as to the aesthetic impact on Olana of  
19 the siting of the proposed Greene County nuclear plant at  
20 either the Cementon or Athens site?

21 A. Olana is a monument and a site whose significance will be  
22 increasingly appreciated by the American people as the world  
23 moves on. In the last twenty-five years I have seen the  
24 market value of Church's paintings multiply twenty times over  
25 and his reputation rise to a position of pre-eminence. Olana,  
26 also an artistic creation, will follow suit. Hence I am  
27 deeply concerned about the impact on Olana's integrity of any

HUNTINGTON

1 alteration of its environment such as would attend the intro-  
2 duction of a nuclear power plant at Cementon or Athens. I  
3 have seen montage photos showing what the visual consequences  
4 of one, two or four cooling towers and plumes would be at  
5 those sites. I have visited the neighborhood of Three Mile  
6 Island to get some notion of the reality of cooling towers and  
7 plumes. Slides taken there at distances ranging from a few  
8 hundred yards to two or three miles have been very helpful  
9 in suggesting what the impact of such an installation might  
10 be on the views from Olana. The introduction of one, two or  
11 four cooling towers, rising possibly as high at 450 feet and  
12 emitting a plume or plumes trailing hundreds of yards down  
13 wind would, at the Cenenton site, be disastrous to Olana. At  
14 the Athens site, all but disastrous.

15 That the Rip Van Winkle Bridge, the oil tanks, the cement  
16 mills have already compromised Olana's panorama beyond repair  
17 is a dubious argument. The bridge is the only one of these  
18 features that is effectively topographical, but it lies low  
19 in the landscape. As for the mills and the tanks, they are as  
20 easily absorbed by the landscape as is the power plant on the  
21 Canadian shore above the Horseshoe Falls at Niagara. Imagine  
22 there the effect of even a 250-foot high cooling tower to  
23 dwarf Niagara's 160-foot high facade, and an accompanying  
24 plume of vapor to dwarf Niagara's column of mist. As such  
25 alterations of the site would subvert the integrity of the  
26 great natural landmark whose spirit Church portrayed on  
27 canvas, so would comparable alterations of the site subvert

1 the integrity of Olana's wholeness. At Cementon or at Athems  
2 a nuclear plant, built and operating, would be an inescapable  
3 topographical and meteorological feature.

4 Olana is the world view, literally as well as figura-  
5 tively, of the painter of the America of Manifest Destiny.  
6 For Church the combination of Hudson River and Catskill  
7 Mountains corresponded to the vision of an ideal not only  
8 desired by the artist, but also desired by his time, for when  
9 Church bought his property in 1860 there were some six hundred  
10 guests at the Mountain House, enjoying the landscape from  
11 across the valley. Had there been then the spectacle of  
12 cooling towers and plumes occupying the great scene in 1860. I  
13 cannot believe that Church would have bought his hill or  
14 built his house. He even winced to see tin roofs invading  
15 Mexico in the 1890s. He was happiest in the thought that  
16 he was the only representative of the present in the landscape.

17 We owe it to ourselves, to posterity and to the past to  
18 protect from despoliation a landscape so special in the  
19 history of American culture. Only the most compelling cir-  
20 cumstances, circumstances that prevail against every objection,  
21 those raised in behalf of Olana and of every other contin-  
22 gency, would warrant the construction of a nuclear power  
23 plant at the Cementon or Athens site.

24 Q. Does that conclude your testimony?

25 A. Yes, it does.

Curriculum Vitae

Name: David C. Huntington

Address: 2037 Geddes Avenue  
Ann Arbor, Michigan 48104

Professor, Department of the History of Art  
The University of Michigan  
Ann Arbor, Michigan 48109

Education: B.A. Princeton University, 1947  
M.A. Yale University, 1953  
Ph.D. Yale University, 1961

Positions Held:

Yale University: Department of History of Art; Assistant  
in Instruction, 1951-52

Smith College: Art Department; Instructor, 1955-56,  
1957-61; Assistant Professor, 1961-66; Associate  
Professor, 1966

The University of Michigan: The History of Art Department;  
Associate Professor, 1966-73; Professor, 1973-present

National Humanities Institute: Yale University; Fellow,  
1975-76 (Sponsored by the National Endowment for the  
Humanities.)

Major Areas of Instruction at the University of Michigan:

Courses in American Art from the 17th century to World  
War I; British Art, 1600-1860.

Courses in the American Studies Program.

Course in the Environmental Studies Program.

Survey courses on Renaissance and Modern Art.

Grants:

New York State Historical Association Dixon Ryan Fellow-  
ship: for research on Frederic Edwin Church, 1963-64

Smith College Faculty Research Grant: for research on  
Frederic Edwin Church, 1963-64

University of Michigan Faculty Research Grant: for research  
on Thomas Cole, 1968-69

National Endowment for the Humanities: for interdisciplinary  
course on the World's Columbian Exposition (1893),  
1978/1980

Public Lectures:

Kent State University, Ohio; The College Art Association  
of America; Associates of the Rhode Island School of Design;  
Dartmouth College; Society of Architectural Historians;  
Vassar College; Los Angeles County Museum; Herron Museum,  
Indianapolis; Yale University; Detroit Institute of Arts;  
American Studies Association; Mount Holyoke College; Indiana  
University; University of Delaware; Victorian Society in  
America; Friends of Olana; Smith College; University of

Public Lectures (con't):

Maryland; The Michigan Academy; Henry Ford Museum; Michigan State University; Hartford Art School; Wellesley College; Boston Museum; Denver Art Museum; Columbia University; City University of New York; Cleveland Museum of Art; University of North Carolina; National Gallery of Art; Rhode Island Historical Society; Amon Carter Museum of Art.

Publications: "Canaletto and Today's Cityscape," Smith College Alumnae Quarterly, November, 1963, pp. 4-7.

"Landscape and Diaries: The South American Journals of Frederic Edwin Church," Brooklyn Museum Annual for 1964, pp. 65-98.

"Olana--'The Center of the World,'" Antiques, November, 1965. pp. 656-662.

"Threatened Monument of Millennialist America," Smith Alumnae Quarterly, Winter, 1966, pp. 81-84.

With James Biddle, "Our Place on High, Olana," Historic Preservation, March-April, 1966, pp. 76-81

"Introduction," Frederic Edwin Church: An Exhibition Organized by the National Collection of Fine Arts. Washington: Smithsonian Institution, 1966, pp. 15-20.

The Landscapes of Frederic Edwin Church: Vision of an American Era. New York: George Braziller, Inc., 1966, xii, 210 pp., illus.

"Robert Adam's Mise-en-Scene of the Human Figure," Journal of the Society of Architectural Historians, Vol. XXVII, No. 4, December 1968, pp. 249-63.

Art and the Excited Spirit: America in the Romantic Period. Ann Arbor, The University of Michigan Museum of Art, 1972, ix, 93pp., illus.

Publications in Progress:

"Thomas Cole, 1801-48: American Poet-Painter," (A monograph on the painter)

"Frederic Edwin Church and the Aesthetic of Luminism," (An essay to appear in catalogue for exhibition on American Luminism, the National Gallery of Art, 1980).

Unpublished Work:

Master's Thesis: "Frank Lloyd Wright and the Japanese Print," (Yale, 1953)

Unpublished Work (con't):

Ph.D. Thesis: "Frederic Edwin Church, Painter of the  
Adamic New World Myth," (Yale, 1961: copyrighted)

Course Syllabus: "The White City- A Collective American  
Dream, Chicago, 1893," (for and circulated by the  
National Endowment for the Humanities, 1977).

Exhibitions Organized:

"Master and Pupil: Thomas Cole and Frederic Edwin Church,"  
Smith College Museum of Art, 1958.

"1761: The Year Revisited," Smith College Museum of Art,  
1961.

"Frederic Edwin Church" (in collaboration with Dr. Richard  
Wunder), The National Collection of Fine Arts, The  
Albany Institute, and Knoedlers, New York, 1966.

"Art and the Excited Spirit," The University of Michigan  
Museum of Art, 1972.

Consultant for projected exhibitions:

"America's Quest for Unity: Between World's Fairs, 1876 to  
1893," to be held at the Detroit Institute of Arts,  
1981.

"Church's 'Niagara'," (Church's masterpiece of 1857 as an  
expression of pre-Civil War American culture: an exhi-  
bition to be held at the Corcoran Galley of Art, 1982).

Professional Consulting:

New York State Historic Trust; Olana Historic Site; The  
University Press of Virginia; Yale University Press; National  
Endowment for the Humanities; Samuel H. Kress Foundation.

Awards:

New York State Council on the Arts Citation, 1967, for work  
as Vice-Chairman of Olana Preservation, Inc., in 1964-66.

Professional Organizations:

College Art Association of America (Member, Millard Meiss  
Publication Fund Committee)  
Society of Architectural Historians  
American Studies Association

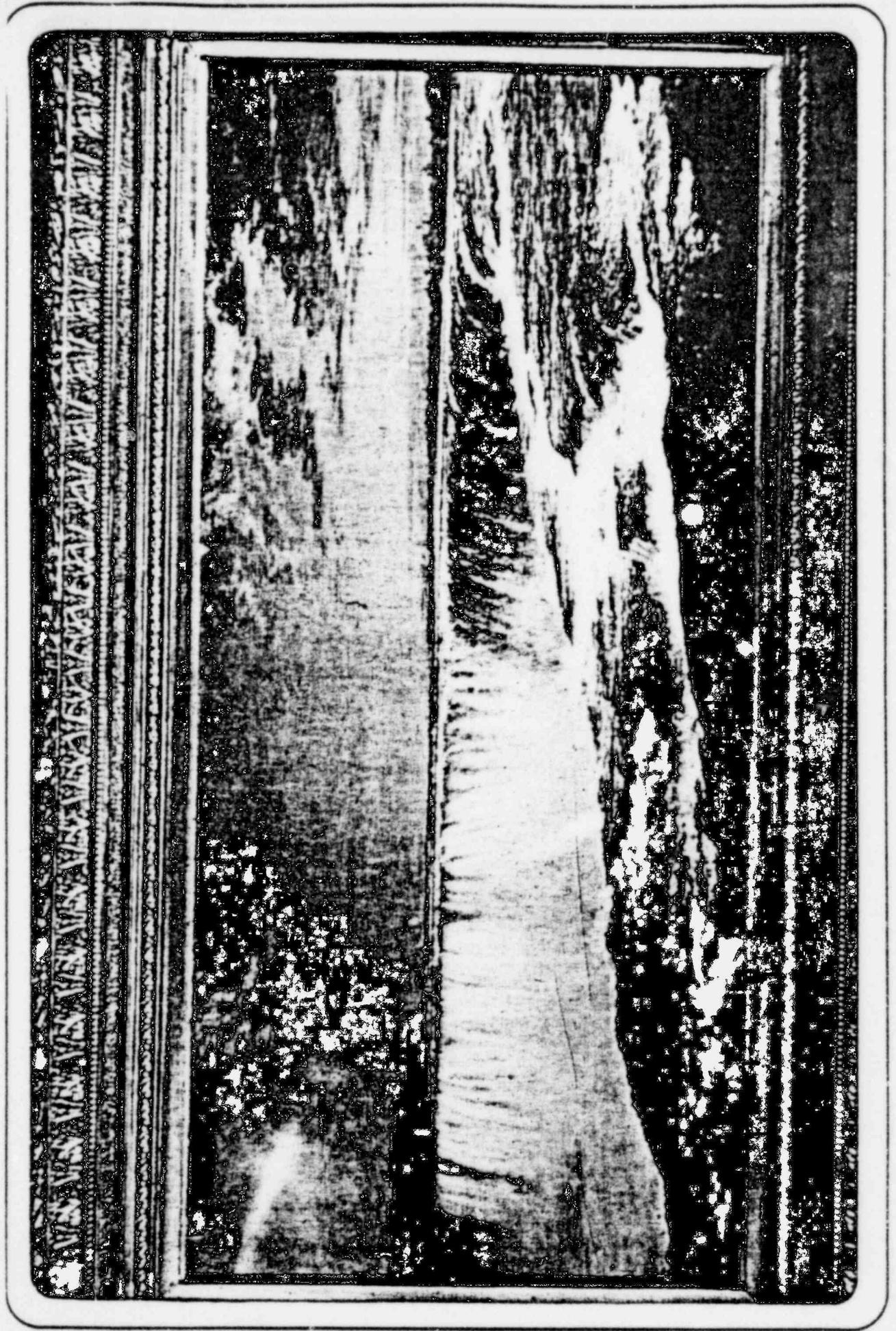


Fig. DH-1 "Niagara" - oil on canvas. First exhibited 1857

POOR ORIGINAL



Fig. DH-2 "Twilight in the Wilderness" - oil on canvas, 101.6 x 162.5 cm. 1867

POOR ORIGINAL

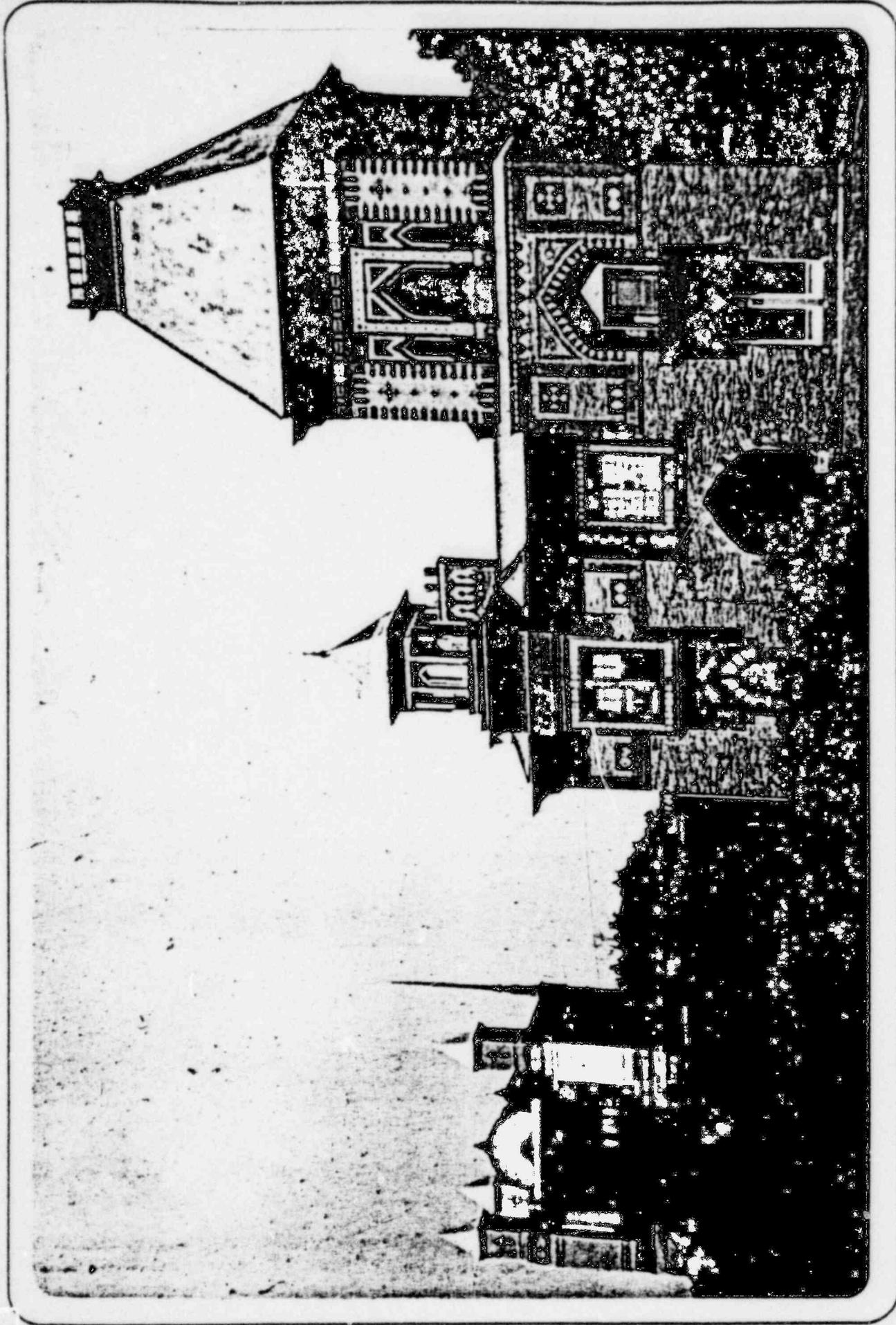


Fig. DH-3 Olana - South facade

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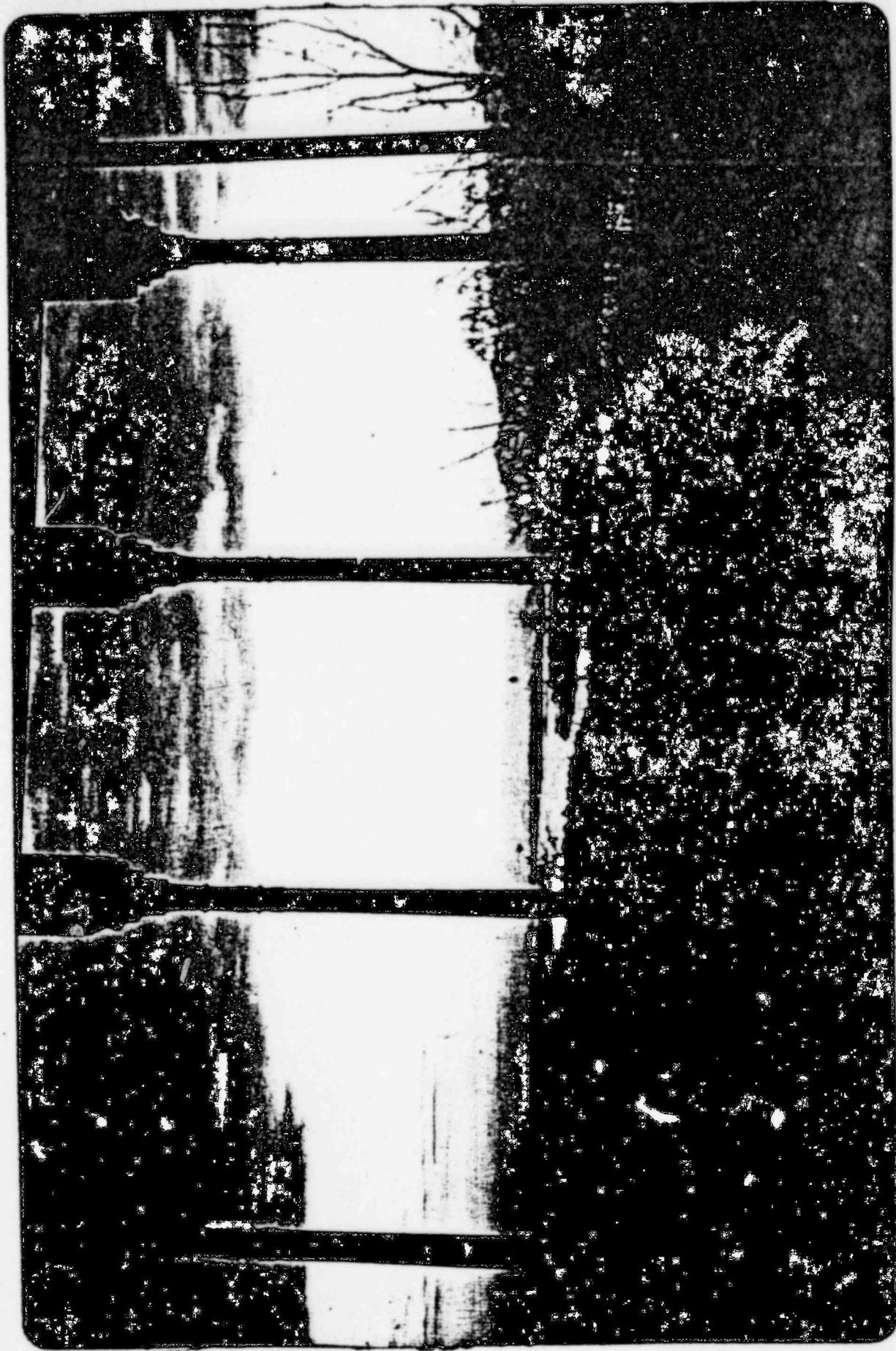


Fig. DH-4 OLANA - View south from connecting gallery loggia

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Fig. DH-5 "Olana in Winter" - oil on canvas. C.1870-75

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Fig. DH-6 OLANA - View to south from south terrace, with Lake and birches



Fig. DH-7 OLANA - View southwest from gazebo

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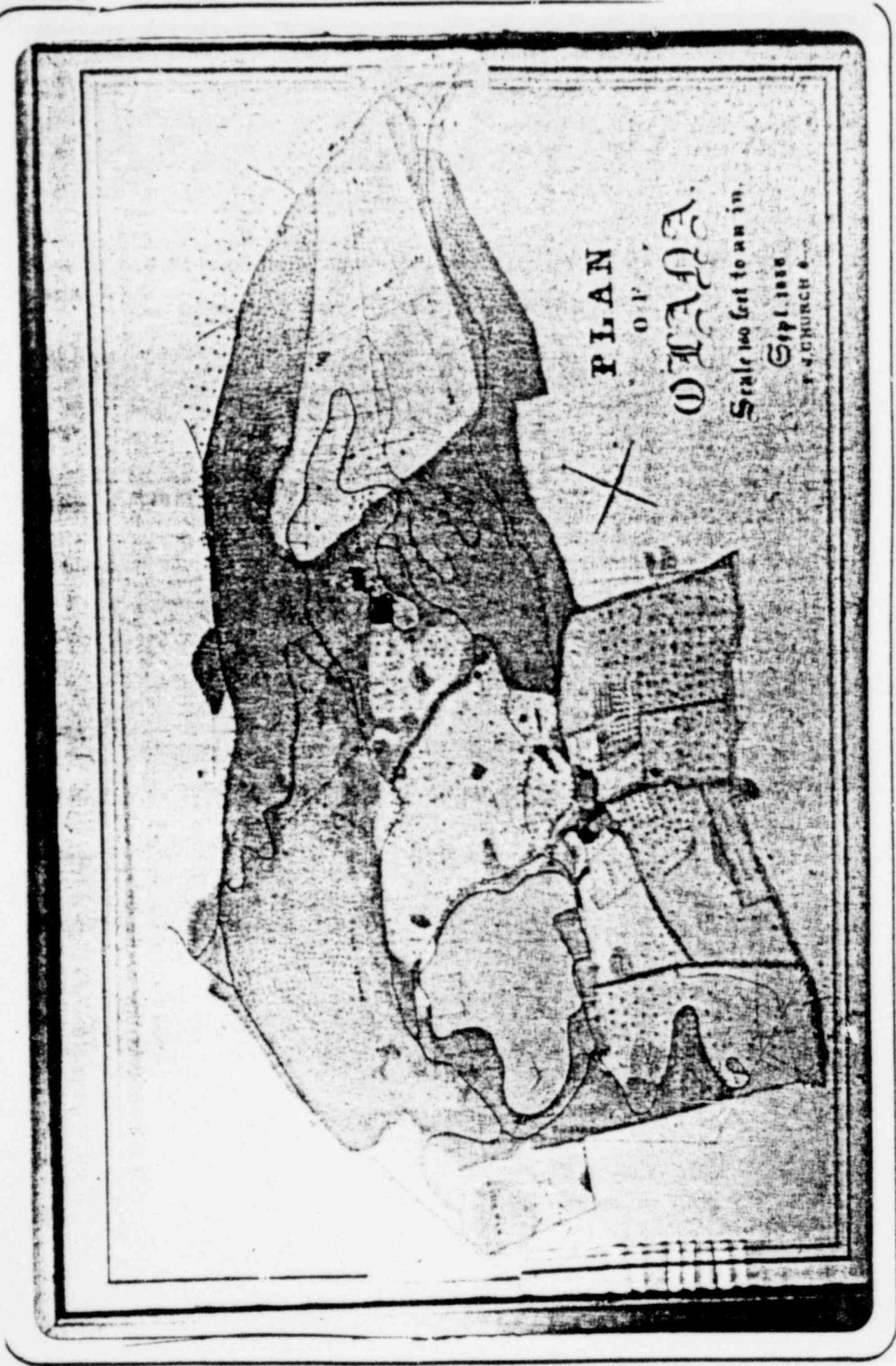


Fig. DH-8 "Plan of Olana" - F. J. Church, Sept. 1886

POOR ORIGINAL

RELATED CORRESPONDENCE



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NEW YORK STATE BOARD ON ELECTRIC  
GENERATION SITING AND THE ENVIRONMENT

U.S. NUCLEAR REGULATORY COMMISSION

-----X

POWER AUTHORITY OF THE STATE OF  
NEW YORK

GREENE COUNTY NUCLEAR PLANT

-----X

Prepared Testimony of

HARVEY K. FLAD  
Assistant Professor of Geography  
Vassar College  
Poughkeepsie, New York

on

Aesthetic Impact of Greene  
County Nuclear Power Plant  
March 2, 1979

Submitted on behalf of Columbia  
County Historical Society, Inc.;  
Friends of Olana, Inc.; Greene  
County, New York and associated  
municipalities; The Hudson River  
Conservation Society, Inc.; and  
Hudson River Sloop Clearwater,  
Inc.

Case 80006

Docket No. 50-549

1 Q. Please state your name and address.

2 A. My name is Harvey K. Flad. My home address is 20 Watson Road,  
3 Poughkeepsie, New York.

4 Q. What is your present occupation and position?

5 A. Since 1972 I have been a member of the faculty of Vassar  
6 College, Poughkeepsie, New York in the Geology-Geography  
7 Department. My current position is Assistant Professor of  
8 Geography.

9 Q. Please summarize your graduate education, professional expe-  
10 rience and publications.

11 A. I pursued graduate studies at Syracuse University, specializing  
12 in social geography, receiving a Masters degree 1972 and a  
13 Ph.D. degree in 1973. Prior to joining the faculty at Vassar  
14 College I held the following positions: teacher and field  
15 assistant in Nigeria with the Peace Corps (1962-64),  
16 Assistant Map Curator at the American Geographical Society  
17 (1965-68), and Adjunct Instructor, Onondaga Community College,  
18 Syracuse, New York (1971-72). In 1977-78 I was a Research  
19 Fellow at the Institute of Man and Science, Rensselaerville,  
20 New York. In 1968-71 I held an NDEA Fellowship at the  
21 Department of Geography, Syracuse University and in 1971-1972  
22 a Ford Foundation Fellowship in Ethnic Studies. I received  
23 a grant from the New York State Council of Environmental  
24 Advisors in 1973-1974 under which I served as Principal  
25 Investigator in preparing a report on visual blight in New  
26 York State. This report was published in 1975 under the

27

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1 title Blighted Empire: The Visual Environment of New York  
2 State. In addition to scholarly articles on Africa and  
3 American Indians my published work includes "Visual Blight:  
4 a report and its recommendations to the State of New York" in  
5 Visual Quality and the Coastal Zone, edited by Harper and  
6 Warback, SUNY College of Environmental Scenic and Forestry  
7 (1976), "Visual Pollution of the Proposed Nuclear Reactor Site  
8 in the Town of Lloyd, Ulster County, New York" and "Walking  
9 Tour of Historic Fishkill" in Guidebook to Field Excursions  
10 at the 48th Annual Meeting of the New York State Geological  
11 Association, edited by J. H. Johnsen, Vassar College (1976),  
12 "Hoosuck: A Community Story", with Mary M. Flad, in Craft  
13 Horizons (April 1977), and I am the author of a paper, "The  
14 Country and the City," which is part of a symposium in honor  
15 of Lewis Mumford to be published by the Bard College Center  
16 on the Hudson Valley. I participated as researcher and  
17 interviewer in the production of a film, Hyde Park, Ralph  
18 Arlyck Films (1977), which has been nationally televised  
19 (1978) and received first prize at the annual film festival  
20 of the National Trust for Historic Preservation (1977). In  
21 1976 I assisted the Dutchess County Planning Department in  
22 preparing a slide presentation on "The Cultural Resources of  
23 Dutchess County. I am serving as principal geographic editor  
24 and coordinator of a film strip project entitled United States  
25 Geography for the Encyclopedia Britannica Educational Corpo-  
26 ration. I am a member of the following professional societies:  
27  
28

1 American Geographical Society, Association of American  
2 Geographers, and National Council for Geographic Education.  
3 Other professional activities related to environmental  
4 aesthetics include membership on the Visual Environment  
5 Committee, Dutchess County Cooperative Extension Association,  
6 1974 to the present (chairman 1976-77); Poughkeepsie Area  
7 Open Space Action Committee, 1976-77 (chairman); Faculty  
8 Advisor for a community use study of Bowdoin Park, a county  
9 recreational facility, edited by Philip S. Tresch and pub-  
10 lished by Cornell University School of Landscape Architecture  
11 (1976); a lecture on "Envisioning the Environment: Criteria  
12 for Aesthetic Judgment," Community and Regional Studies  
13 Colloquium on Planning for the Hudson Valley Region, Bard  
14 College (1976); Faculty advisor on student project, Dutchess  
15 County Appalachian Trail Relocation, published by Dutchess  
16 County Cooperative Extension Association and the National  
17 Park Service (1977); invited conference participant, "Where  
18 We Live - Improving Community Design and Development in New  
19 York State," held at Rensselaerville, New York (1977), under  
20 a grant from the New York State Council on the Arts; session  
21 chairman on problems of strip development and zoning in small  
22 towns, New York State Planning Federation Annual Meeting  
23 (1978); site visit interviewer and evaluator of citizens'  
24 planning efforts in five urban pilot neighborhood revitali-  
25 zation projects coordinated by the State of Pennsylvania  
26 Department of Community Affairs under a federal "innovative"  
27  
28

1 planning grant; member of the Hudson River Valley Study  
2 Advisory Committee in connection with the study report on  
3 scenic, recreational and ecologically important resources  
4 authorized in 1978 by the New York State legislature to be  
5 carried out under the direction of the Department of Environ-  
6 mental Conservation, completion date, March 1979.

7 Q. Are you familiar with the proposal of the Power Authority of  
8 the State of New York to construct a 1200 MW electric power  
9 generating facility in Greene County, New York?

10 A. Yes.

11 Q. How did you become familiar with this proposal?

12 A. I was asked jointly by several parties to Case 30006 to analyze  
13 the aesthetic impacts that would result from locating the  
14 Greene County facility either at the applicant's preferred  
15 Cementon site or at the applicant's proposed alternate site  
16 west of the Village of Athens.

17 Q. Have you prepared such a report?

18 A. Yes, I have. It is attached hereto and bears the title  
19 "Analysis of Aesthetic Impacts Of A 1200 MW Greene  
20 County Nuclear Power Plant Proposed By the Power Authority  
21 Of The State of New York." The analysis includes a view-  
22 scape map and photographs with graphically superimposed  
23 images of the proposed power plant and cooling tower plume.  
24 These were prepared under my supervision.

25 Q. Does that document fully and accurately set forth the sub-  
26 stance of your analysis and your conclusions with respect  
27

1 to aesthetic impacts?

2 A. Yes.

3 Q. Do you adopt that report as your testimony in connection with  
4 the joint hearings in connection with Case 80006 before the  
5 New York State Board on Electric Generation Siting and the  
6 Environment and Docket 50-549 before an Atomic and Licensing  
7 Board of the Nuclear Regulatory Commission?

8 A. Yes, I do.

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ANALYSIS OF AESTHETIC  
IMPACTS OF A 1200MW  
GREENE COUNTY NUCLEAR  
POWER PLANT PROPOSED  
BY THE POWER AUTHORITY  
OF THE STATE OF NEW  
YORK

Prepared on behalf of the Columbia  
County Historical Society, Inc.;  
Friends of Olana, Inc.; Greene  
County, New York and associated  
municipalities; The Hudson River  
Conservation Society, Inc.; and  
Hudson River Sloop Clearwater, Inc.

February 26, 1979

By

Harvey K. Flad, Ph.D.  
Vassar College  
Poughkeepsie, N.Y. 12601

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## INTRODUCTION

The Power Authority of the State of New York (PASNY), as applicant for a Certificate of Environmental Compatibility and Public Need pursuant to Article VIII of the New York State Public Service Law, was required under the implementing regulations, 16 NYCRR Part 77 (Land Use and Aesthetics), to include in its application the following information: Exhibit Q: Present Land Use and Aesthetic characteristics (§77.2); Exhibit R: Facility Conceptual Design; Construction, Operation; and Maintenance Characteristics Affecting Land Use and Aesthetics (§77.3); and Exhibit S: Impact of Facility Design, Construction, Operation and Maintenance on Land Use and Aesthetics. This information is required for at least two site locations: §70.20(c).

Part III, volume 3, of PASNY's application in Case 80006 is intended to supply the required information for the alternate site in the Town of Athens, Greene County, New York. Part IV, volume 3, of the application is intended to contain the required information for the preferred site near Cementon in the Town of Catskill, New York.

The analysis in this report is based upon the applicant's Exhibit R material for the two sites contained in these two volumes supplemented by testimony in support of the application.

PASNY maintains that the proposed Greene County Nuclear Power Plant (the GCNPP, the plant, or the facility) would be aesthetically preferable if located at the Cementon site but aesthetically acceptable at either site.

The conclusion reached in this report is that, on grounds of serious adverse aesthetic impacts, neither the Cementon site nor the Athens site is acceptable for certification.

The body of this report consists of two parts. Part I deals with aesthetic impacts upon the cultural and historical resources of the so-called Mid-Hudson Valley. The material presented in Part I, although crucial to an aesthetic assessment of the impact of the proposed facility was largely omitted from the applicant's Exhibit Q for both the Cementon and the Athens sites.

Part II, with the heading View Analysis, analyzes the impact of the facility upon specific vantage points or areas from which it will be visible. Part II significantly supplements the discussion of the visual and aesthetic impact of the facility upon viewpoints or viewing areas mentioned in the application. Part II provides additional relevant information on the context, frequency and extent of views from these viewing locations in order to provide the basis for more adequate aesthetic assessments. Part II also identifies and describes impacted viewing locations that were omitted from the application and assesses these impacts.

PART I

AESTHETIC IMPACTS UPON THE CULTURAL  
AND HISTORICAL RESOURCES OF THE MID-  
HUDSON VALLEY REGION

A. CULTURAL LANDSCAPE

The cultural landscape of the Hudson River Valley reflects, to a greater extent than most other regional environments, the varied relationships between visual elements that describe the American Landscape. It is a complex in which the sense of place is everywhere apparent, in which the historic, social and scenic aspects of "placeness" come together, and in which one can study the relationships between man and nature, and among men. The sense of place of a region links the observable physical and cultural landscape to the spiritual landscape of the mind (Flad, 1978). Memory, experience, and imagination combine to shape one's perception of a region (Lowenthal, 1961). The essence of a place, Lowenthal asserts, lies in its symbolic and mythic implications as they relate to the personal history or psychology of the viewer. These relationships and implications are built up over time in a continuous series of interactions between cultural groups and their environment, interactions called "sequent occupance" by cultural geographers. Studying changes to the topography, vegetation, spatial organization, or cultural artifacts reveals the imprint of past landscapes on the present observable landscape (James, 1954). Historians, too, have acknowledged the role of the past in creating the contemporary social landscape (Briggs, 1968). Philosophers (Langer, 1954) and writers (Durrell, 1969) have dealt with the aesthetic experience that underlies the spiritual and behavioral responses of cultural groups to their environment. Yi-fu Tuan coined the term "topophilia" to express this man-environment relationship. In his work as a cultural geographer, he examines many world-views, their spatial and environmental implications, and their capacity to shape perspectives on world, regional and local environments (Tuan, 1974). Topophilia is a love of landscape, an intimate relationship that exists because of the physical and cultural aspects of a place and the social meanings attached to the created complex.

A number of studies have examined landscape from the perspective of the aesthetic relationship between the viewer and the cultural environment. Christopher Tunnard's A World With a View discusses numerous examples of cultural impact

upon the landscape in a variety of regions throughout the world (Tunnard, 1978). He specifically notes instances where man, through artifice and design, has shaped the landscape, places where beautiful culturally formed and integrated landscapes are being threatened by technologies out of harmony with the regional environment. David Lowenthal's article on the changing American landscape, "The American Scene," points to various contemporary landscape images as documentation contributing towards understanding changing values in American culture (Lowenthal, 1968). Carl O. Sauer, J.B. Jackson and George R. Stewart have written works on aspects of the visible heritage found in landscape artifacts (Sauer, 1969; Jackson, 1970; Stewart, 1953). Through them and other writers, such as Harry Caudill and John Steinbeck, one can grasp the role of landscape in shaping and being shaped by American regional cultures.

Certain studies by cultural geographers interested in the historical development and contemporary perception of American landscapes make particular reference to the landscape of the Hudson Valley. Both Professors Donald Meinig (Syracuse University) and Peirce Lewis (Penn State University) have used examples of this region in their examinations of landscape aesthetics and the social evaluation of visual blight (Meinig, 1971; Lewis, 1973). Also, both Professors Yi-fu Tuan (University of Minnesota) and David Lowenthal (University of London) have discussed aspects of the regional aesthetic environment while at Vassar College at my invitation. It is clearly the opinion of these four eminent professors of cultural geography, who are internationally renowned for their contributions to studies of landscape aesthetics, that the Hudson Valley region contains historical depth, cultural and physical detail, textural richness and a balance of landscape diversity and pattern and so exhibits a visual textural harmony which is a manifestation of placeness. When combined with the genius loci of specific places within the region, a very real "sense of place" can be described for the region.

The Hudson River runs from the wilderness of the Adirondacks, along the edge of the scenically significant Catskills, through the pastoral countryside of the upper and middle Hudson and then through the awe-inspiring grandeur of the Highlands, past the industrial riverscapes and residential suburbs of the lower Hudson and with the sheer rock face of the Palisades on the west bank to emerge in one of the busiest harbors alongside one of the world's largest urban conglomerations. Along its 315-mile path, the Hudson brings to view a variety of imagery: the conflicting

relationships between man and nature in the wilderness, or man's exploitation of the land or river; the inherent capability of re-creation through husbandry or contemplation; the gains or losses of individualism or community, innovation or tradition; or the deeper meanings of progress and the quality of life. Such philosophic questions have been at the very heart of the creation of an American national character; they were broached by some of the earliest travelers to the American colonies, by major writers like Alexis de Tocqueville and Crèvecoeur, by eighteenth and nineteenth century artists and scholars, and by twentieth century thinkers concerned with humanistic approaches to understanding and caring for the American environment.

The study of and care for the environment of the Hudson River region has resulted in conservation legislation important in American legal history. A number of the early leaders of the conservation movement were concerned with the forests and waters of the region, and some of the early laws dealing with land use regulation related to aspects of the river. Legal precedents have been set in environmental matters with respect to various activities along the river as a result of actions taken on the part of private conservationist organizations, while at all levels of government there has been an interest in planning for aspects of the river valley's development consonant with its inherent natural beauty. The early establishment of the Adirondack Forest Preserve and the inclusion of the "forever wild" clause in the New York State Constitution (Graham, 1978); concern shown for the Hudson River shoreline in the early 20th Century by the American Scenic and Historic Preservation Society and the subsequent creation of the Palisades Interstate Park Commission (Nash, 1976: 74-8); the visual corridor concept developed during the decade of tenure of the Hudson River Valley Commission (1965-76) (HRVC, 1976); the provision of hiking trails, such as the Appalachian Trail, that survey the beauty of the river and its valley (ATC, 1973); and the Town and County zoning provisions which take into account scenic values in shoreline development (Raymond et al., Hudson River Valley Study, 1978: 13-16) illustrate some of the ways in which governmental and private bodies responded to need for protection of the unique visual aspects of a regional environment. The most recent study under the aegis of the Department of Environmental Conservation was authorized by the New York State legislature through enactment of the Hudson River Study Bill of 1978 out of regard for "the need to protect the scenic, recreational and ecologically-important resources of certain designated areas of the Hudson River valley..." This study strove to identify specific places and issues with respect to "aesthetic resources" among

others. The report concludes that both the river itself and its viewshed, or "those portions of the adjacent lands that provide a scenic backdrop to the river", are unique and worthy of protection.

The central thesis of this study... is that the entire Hudson River Valley is a scenic resource and worthy of protection...

Considered together, as they must be, these two flowing ribbons of form [river and its surroundings] make of the valley an aesthetically uniquely impressive corridor. Majestic in the Tappan Zee, dramatic in the Highlands, languorous and restful along its upper reaches, the Hudson River and its valley are everywhere scenic resources of extraordinary beauty. Every river view ... refreshes our spirit and adds resonance to our lives.

In assessing the Hudson Valley as a scenic resource, the overwhelming, indisputable fact is that the river itself, together with its viewshed, in their entirety, are unique and priceless aesthetic features of the New York landscape, fully deserving of protection ...

(Raymond et al. 1978, pp. 38, 44-5)

What was implicit in most of these studies and commissions was the assumption that the river valley as a whole was a matter of concern; what happened to any component (water, timber, or urban waterfront) affected the entire ecosystem. This "systems paradigm" leads to the ecological assumption that forms the very basis for the Environmental Impact Statement (EIS) required under the National Environmental Policy Act (NEPA), in which Congress recognized "the profound impact of man's activity on the interrelations of all components of the natural environment." §101(a). In this sense then, impacts upon aesthetic resources as a result of the proposed nuclear power plant in Greene County at either Cementon or Athens will be studied in this report as they impinge upon both specific resources and upon the sense of place of the entire region.

#### B. THE MID-HUDSON VALLEY

For the purposes of this report, the Mid-Hudson region can be considered to extend from the area north of the Highlands at about the Ulster-Orange county line on the west shore and Wappingers Creek on the east bank to a boundary slightly to the north of the Albany-Greene and Rensselaer-Columbia county lines. (These boundaries correspond to the Hudson River Valley Commission's "Mid-Hudson North" and "Mid-Hudson South" regions; HRVC, 1966: 42-45). This section of the

report, will show how the sense of place of the Mid-Hudson Valley region serves as a context for analysis of the aesthetic impact of the proposed power plants. The view analysis in Part Two deals more specifically with that part of the Mid-Hudson Valley within the viewsheds of the Cementon and Athens sites.

The settlement landscape of the Mid-Hudson Valley consists of a relatively open countryside interspersed with rather small nucleated settlements. The economic landscape of the countryside is a mixture of varied agricultural pursuits, such as orchard, vineyard, and field, along with some other primary activities engaged in sand and gravel or woodland extraction. Dispersed homesteads of both large and small residential structures are scattered alongside the meandering roadsides. There is a sense of visual openness, which is further enhanced by the flow of the river itself in the middleground, and the enclosure of the scene to the west and east by rising hills. For most of the Mid-Hudson's lineal distance from south to north, the western prospect is especially noteworthy with the dominating massive forms of the Catskill Mountains. Furthermore, these visual elements become even more pleasing to the eye through the variability of color, as expressed in autumn foliage and in the sunsets of all seasons. Human settlement and natural environment mix together well; there is a temporal patina which comes from the centuries of husbandry in the region, combined with the variety and excitement of landform and wilderness.

The openness of the countryside is a result of an agrarian past and a care for the land which has continued to the present. Many of the early travelers up the Hudson River remarked at the beauty of this settled shoreline, Peter Kalm, a visitor in the mid-eighteenth century, remarked on the "fine plowed fields, well-built farms and good orchards in view," while John Fowler, an early nineteenth century English traveler, noticed the agricultural landscape, the awe-inspiring mountain scenery, and even the sunsets, to conclude, "I should have thought myself repaid for crossing the Atlantic to have passed up and down this river...." (Fowler, 1931:185). The agricultural landscape has continued into the present with orchards, vineyards, and other open spaces allowing extensive visual access to the river and the valley environs. In this way the valley has continued to be a living landscape in which man, interacting with the natural environment, has created a cultural landscape.

The small farms, larger estates riverine hamlets, and even small cities, have shown a concern and sensitivity for scale, creating a harmonious balance between the natural forms of river, forest and mountains and the cultural artifacts of buildings, farmsteads, or street layouts. The past 250 years have seen many changes to this settled and humanized landscape: ferry slips and ice houses have come and gone, bridges and railroad lines have been built. Nevertheless, along the shorelines of northern Dutchess and Columbia counties on the east bank and the shorelines of Ulster and Greene on the west bank, and scale and harmony have survived to a remarkable degree. The visual environment remains much as it has been since the time of the earliest settlers. It is a landscape that has been able to withstand the tensions and conflicts between bucolic romanticism on the one hand and industrial progress on the other, and between the imperatives of population and economic growth on the one hand and concern for the quality of life on the other. Trees have been felled and marshes filled; skyscape, townscapes and landscapes of the region have been visually polluted (Flad, 1975). Yet the landscape of the Mid-Hudson Valley has by and large been able to absorb these changes and has retained its integrity and dignity; indeed, its beauty is due in large measure to the variety and balance of these many elements.

Landscape aesthetics has had a long and important history in this region and this history should be examined if the aesthetic impact of a major visual change upon the Mid-Hudson River valley landscape is to be understood. The following five specific aspects of this history will be seen as having state and national significance: (1) concern for scenic views; (2) landscape architecture; (3) the Hudson River School of painting; (4) architectural history and design; (5) and town planning.

### C. SIGNIFICANT ASPECTS

#### 1. Concern for Scenic Views.

A concern for scenic views has been important since the earliest settlement in the Mid-Hudson region. River frontage, with vistas of the Hudson River landscape in the background were much prized, and buildings were sited with regard to such views. On the east bank in the viewshed area, many early residences and settlements showed a sensitivity towards the natural beauty of the specific area now under consideration in the GCNPP application. They were often sited specifically with respect to views of the river or the mountains, often in contrast to the then prevalent concerns about potential environmental hazards associated with water supply or wind chill, or

proximity to fuel supply or water transport. Many of the Livingston family estates built on the east bank of the Hudson in what is now northern Dutchess and southern Columbia counties chose to site their estate houses with special focus on the view. Robert Livingston's Clermont, built originally in 1730 as one of the first Georgian style mansions in the Hudson Valley, and burned by the British in 1777, took advantage of such views. When Mrs. Livingston rebuilt it in 1778, on the very foundations of the previous building, she made sure that it continued to command a view of the river and the mountains.

Such views were then becoming an important example of the growing concern for natural beauty that was beginning to be felt in the newly independent nation. Horatio Gates Spafford, in his gazeteer of New York in 1813, pointed towards this emerging aesthetic consciousness. The Catskill mountains, he wrote, provided an "elegant display of light and shade occasioned by their irregularity, their fine blue color, the climbing of the mists up their sides, the intervention of the clouds which cap their summits or shroud their sides only, with their occasional reflections from the surface of the Hudson, succeeded by the bursting terrors of their thunder-gusts, all combined from this point of view, associate a mass of interesting, picturesque and sublime object, nowhere exceeded in this country" (Evers, p. 286). Clermont, now a State Historic Site and listed in the National Register of Historic places, had been the source for many of the early accounts of scenic views. Perhaps the most important early writer who was enthralled by the view was Washington Irving, who in 1812 saw the Catskill Mountains from Clermont and was later to write the legends of Sleepy Hollow and Rip van Winkle. Irving's work was an important early example of regional literature, and his writings on the Catskills and Hudson Valley brought the region into the American aesthetic consciousness. Visual impact analysis needs to take into consideration the totality of associations that make up the aesthetic landscape, as well as the specific visible impacts upon national historic sites such as Clermont.

Clermont is but one of a number of architecturally interesting estates built on the former Livingston manor lands. These estates have been nominated for inclusion in the National Register of Historic Places as the "Clermont Estates Historic District" (See map, Fig. HF-1). The district covers a roughly rectangular area that is approximately two miles long and one-half mile wide. It borders the present Clermont Estates Historic District to the south and complements the "Sixteen-Mile District" further south in Dutchess County, another nominated historic district with federal approval pending.

All of the estate complexes in the Clermont District were carved from Clermont, the lower section of the original Livingston Manor, in 1845, after the death of Edward P. Livingston who had inherited it from his wife, the daughter of the late Chancellor Livingston. According to the nomination form (pp. 3-5), the Clermont Estate Historic District is significant:

not only because of its connection to the Livingstons, one of the leading families of New York state, but also because it consists of a collection of nineteenth century country estates that cohesively retain both structurally and environmentally the original intents of their wealthy style-conscious builders.

The main houses of these estates were designed with two thoughts in mind -- to build a residence and support complex in the latest, most tasteful manner and to take advantage of the extravagant natural surroundings. Built in Greek Revival, Renaissance Revival, Colonial Revival and Eclectic styles, the main houses contain spacious first floor rooms with large double parlors, carved marble fireplaces, and, usually, French doors or windows ... The bluff along this section of the river retains its wooded character and woodland approaches all the houses on the perimeters of their lawns. These grounds were cleared around each house by the original owners and landscaped in an English park manner with rolling lawns and selected trees. Just as the owners of these country estates were conscious of architectural fashion, they were also aware of contemporary taste in landscape design, and they landscaped their grounds to complement their views of the Hudson and the Catskills. Today, the estates retain these features....

This string of substantial country estates along the Hudson River remains almost as it stood one hundred years ago when the main houses and their support structures were constructed ... because of the impossibility of duplicating the Livingston family link in ownership and development, the cohesive nature of the architecture, and the unparalleled panoramas of the Hudson River and the Catskill Mountains, the Clermont Estates district is unique in the nation (Emphasis added).

The northernmost estate, Northwood, was built by Robert E. Livingston, one of the original five children to divide the Clermont estate. It is a stuccoed Renaissance Revival mansion with seven other structures on the property. The approximately 165 acres include landscape lawns, a waterfall, reflecting pond, and excellent vistas of the river and the mountains. Outside the district but in the same ownership is a large and prosperous commercial orchard which was started in the eighteenth century and serves as a reminder of the important role played by serious agricultural operations on these estates.

Seven miles further north, outside of the proposed historic district but still within the original 1686 Livingston Manor lands, lies Oak Hill, built ca. 1793 by John Livingston, the First Lord's great-grandson. Inclusion of Oak Hill on the National Register of Historic Places is now pending and the property is still owned by a direct descendent of the original proprietor. According to the National Register nomination, Oak Hill is significant because:

... of its association with the Livingstons of Livingston Manor and because it is an exemplification of high Federal architecture as seen in a mid-Hudson Valley country estate.

John Livingston constructed Oak Hill shortly after the death of his father in 1790. Most wealthy gentlemen of his day played a personal role in the design of their dwellings and environment, so it is most likely that John served as his own architect. The structure dates to the height of the Federal style, and, in addition to following the dictates of severe smooth surfaces and attenuated apertures, it displays many of the prescribed ornamental details as well. These include a Palladian window, fanlights, plain sills and lintels, and French windows on the first floor facade. The structure is monumental in composition and certainly ranks among the most substantial for this period in the Hudson Valley....

Oak Hill is located in a large landscaped clearing above a wooded bluff that descends to the Hudson River. It faces westward towards a panoramic view of the river and the Catskill Mountains. On the south side of the clearing is a woodland and a southwesterly vista of the Hudson. To the east, in the same clearing, are a number of support structures. To the north, there is more woodland and a northwesterly vista of the river. (emphasis added)

As can be detected from these statements, both Northwood and Oak Hill exemplify the concern for architecture and landscape of the period. They are important historic resources because of their association with the famous Livingston family, because individually they are superb examples of period building, and because they are nationally significant models of early landscape architecture. They were sited with concern for vistas of the river and the mountains, and their lawns and plantings were designed to focus these views. Trees were planted and limbs were trimmed to frame the views of river and mountains; such planting enhanced scenic perspective by directing a viewer's eye towards desired midground and background vistas. They are examples of early experiments in the creation of landscape architecture in America.

## 2. Landscape Architecture.

Early developments in landscape architecture owe much to private efforts in the mid-Hudson Valley region. A number of estates boasted the design of beautiful gardens with plantings of exotic flora. More interestingly, the regional landscape itself was used as an integral part of the overall design by the careful siting of the manor house and by the creation and maintenance of panoramas and vistas. During the middle and late 18th century, houses built on the Livingston lands were important examples of the use of viewscapes to enhance the estate setting.

In his gazetteer of 1813, Spafford admired the way that such landscape gardening blended the areas of nature and man through the plantings of trees, shrubs, lawns and flowers, and how they and their associated winding trails revealed vistas of the Hudson and the Catskills to admiration. Much of the early history of American landscape architecture can be found today on these estates of the Hudson Valley. Early critics who expressed an admiration for this work included the Knickerbocker circle of Irving, Verplanck, Cooper and N.P. Willis. (Callow, 1967: 215-18) During the middle of the 19th century the two most important practitioners of the art -- Andrew Jackson Downing and Frederick Law Olmsted -- shaped the landscapes and the views of this region's estates. Downing had a further impact on the Hudson Valley landscape as he and his brother became pioneers in early horticulture in the valley, with many of the orchards and vineyards remaining as visible testimony to their work.

One of the most celebrated estates on the Hudson that has views of both the Cementon and Athens sites is Olana, home of the famous landscape artist Frederic E. Church in the latter part of the 19th century. Olana, built from 1870-74 and then enlarged from 1880-90 by a studio wing on the west side, commands one of the most spectacular views of the Hudson Valley, the Catskills, and the Berkshires. The famous architect Calvert Vaux assisted Church in his designs.

Scholars of the Hudson River School of painting have expressed admiration for the way the architectural design elements open up the magnificent panoramic views to the observer into the house. For example, in The Landscapes of Frederic Edwin Church: Vision of An American Era, Professor David C. Huntington asserts:

"The climax of Olana's interior ... is reserved for the court hall. Stepping into this area from the entrance vestibule, the visitor is overwhelmed with a surprise which greets him like a revelation. To the left, or south, through an enormous plate-glass window set at the back of the recessed porch, one suddenly comes upon a great vista of the Hudson Valley --- on a crisp clear day, some sixty miles away. It is the view of expansionist America, an earthscape" (Huntington, 1966: 21-24).

Both Vaux and Olmsted, famous for their work on Central Park in New York City and on other examples of urban open space, helped Church plan Olana's landscape. Ponds are shaped to reflect the natural bends of the Hudson River, trails are placed so as to lead one to surprises and views, and shrubs and trees are planted to give texture to the rolling landscape.

According to the N.Y.S. Office of Parks at Recreation, Church laid out over 7 1/2 miles of carriage roads and trails. These trails were designed to engage the traveller in an aesthetic experience, with concern shown for differences of intimate and expansive views, light and shade, and topography and water. That these were a measure of Church's artistic talent is attested to by a quotation from his letter to Erastus Dow Palmer in 1884: "I have made about one and three-quarters miles of road this season, opening entirely new and beautiful views -- I can make more and better landscapes in this way than by tampering with canvas and paint in the Studio." (quoted in Huntington, p. 116, footnote 4). As a National Historic Landmark and State Historic Site, Olana receives an impressive number of visitors annually: during 1978 88,000 people visited the grounds (Jan.-Dec.) and over 25,000 toured the house (May-Oct.). For these people the interior and exterior of the house, the landscaping of the lawns and vegetation, and the views of the surrounding environment could constitute a total aesthetic experience. The house is an outstanding example of Moorish Victorian and demands attention as an example of architectural eclecticism.

Photographs and plans of the outside and inside of the house are found in David C. Huntington, The Landscapes of Frederic Edwin Church; Peter L. Goss, "Olana - The Artist as Architect", Antiques Magazine; and Ruth Piwonka and Roderic H. Blackburn, A Visible Heritage. The house, its interior, and its view have often been used as enticements to tourism in the Mid-Hudson Valley region. Life magazine pictured it among "The Castles of the 'American Rhine'" in the mid-1950's and subsequently (May 13, 1966, volume 60, number 19) devoted an entire article to Olana; DEC's March-April 1979 issue of The Conservationist and three photographs of the building and the views, and the most recent official tourist booklet published by the Division of Tourism of the New York State Department of Commerce, I Love New York Travel Guide [1978], describes the "Persian Palace" in these terms:

South of the city [of Hudson] near the intersection of Route 9G and 23, a Moorish castle rises from a wooded hillside overlooking the river. This seemingly transplanted slice of the Arabian Nights was called OLANA by its owner, Frederic Edwin Church, a noted artist of the Hudson River School. Works by Church and other artists decorate the elegantly furnished mansion. Church's individualism walks with the tourist through every room, and his eye for scenic beauty is plainly evident in the Persian-style windows that frame views of the Hudson River Valley.

(I Love New York Travel Guide, p. 79) (emphasis added)

Views in all compass directions from Olana point to the importance that Church and Olmsted put on the art and artifice of landscape design, with special plantings, the creation of a lake to correspond to the bend in the Hudson in the same viewing perspective, and in the trails along the hillside with their vantage points up and down river and across the Hudson towards the Catskills.

As the New York State Office of Parks and Recreation has put it, "At Olana, Church created a three-dimensional extension of the artistry and ideas he so masterfully expressed on canvas. Combining his ideas with those of Frederick Law Olmsted, designer of New York City's famous Central Park, Church meticulously planned and landscaped his entire estate." They have also stated that certain plantings, such as hemlock, were to create special aesthetic effects:

"The dense hemlock forest creates a mysterious darkness dappled with shafts of light. Compare this lighting effect with the soft glow in the deciduous woods and the brightness of the open field. These differently lighted areas add depth and texture to the overall effect of Olana's landscape.

"The use of contrasting light patterns was a central element in the landscape theory of Frederick Law Olmsted ... In planning the ground of his estate, Frederic Church relied heavily on Olmsted's ideas." (OPR, Pamphlets, "The Victorian Garden Trail" and "The Hemlock Trail," 1977).

This man-influenced landscape has not yet become a man-dominated one, and the interaction of man-made and natural forms that inspired Church and his visitors can still inspire the artist or the recreationist today.

### 3. Hudson River School of Painting

Frederic Edwin Church (1826-1900) was one of a group of landscape painters known as the Hudson River School, which has been called

"America's first homegrown, coherent, and sizeable group of landscape artists ... It grew rapidly, developed its own theories, and occupied the center of the national art stage until it faded in the 1870's and 1880's ... The development and wide success of the Hudson River School came as close as any American art movement to being willed into existence as a concrete gesture and contribution to national life." (Howat, pp. 27-28).

James Biddle, President of the National Trust for Historic Preservation, termed the work of the Hudson River School "one of the most important contributions to the development of American artistic tradition" and noted that its creative energy came from the aesthetic richness of the river valley landscape after which it was named:

"Throughout history the natural landscape has inspired the artistic expression of a man. Thus it is not surprising that a region so richly endowed with great natural beauty as the Hudson River Valley should have produced countless individual works of art, poetry, and music." (Biddle, in Howat, p. 15).

In his sketches from Olana done in 1870's Church catches the combinations of light and shadow on the mountains and the river valley that made this school of art so famous. Plates 74, 75, 76, and 77 from John K. Howat, The Hudson River and its Painters (NY:Viking, 1972) are examples of similar sketches that he did from vantage points on his hill; many of which would be seriously impacted by the Cementon and Athens site proposals.

Thomas Cole (1801-1848) is known as the founder of the Hudson River School, and his house, too, is in the area impacted by the proposals. Although the views from his carefully preserved house and studio in Catskill would not be specifically destroyed by use of either of the two sites, his presence is everywhere felt in the viewing of the scene.

One historian has dated the birth of American landscape painting as October 1825 when Cole, the young immigrant artist, first journeyed up the Hudson by boat. Disembarking at Catskill and making his way up to the newly opened inn later renowned as The Catskill Mountain House, Cole became possessed by the spectacle of the untrammelled wilderness and panoramic vistas of the Hudson Valley, and the sketches made at that time were soon developed into major oil paintings which changed America's view of fine arts and her own landscape. The Mountain House went on to become the landmark symbol of a new and significant enterprise -- mountain resorts and wilderness recreation, and as such played a role in fostering nineteenth century America's romantic ethic through more prosaic and "popular" means than landscape paintings (Van Zandt, 1966; Evers, 1972).

Cole's 1835 Essay on American Scenery was considered a fundamental treatise on the art of landscape painting. In it he pointed to certain components that were essential to the proper variety in such art; three of the four (mountains, water, and forests) were available to the overall Hudson River Valley scene, while the fourth (waterfalls) could be found within the Catskills. Nonetheless, it was the total aspect of the valley, its manmade as well as natural elements, that drew his praise. Of the latter he declared: "The Hudson for natural magnificence is unsurpassed.... The lofty Catskills stands afar -- the green hills gently rising from the floor, recede like steps by which we may ascend to a great temple, whose pillars are those everlasting hills, and whose dome is the boundless vault of heaven" (Howat, p. 177). From his "Trip to Windham Mountain" he notes his delight in the fit that certain small agrarian or pastoral pursuits made with the wildness of nature (Flad, 1978).

Other artists associated with this school of landscape painting also made homes in the vicinity. Sanford Robinson Gifford (1823-1900) was born and brought up in the City of Hudson within view of the Athens site, and painted pictures of South Bay, Mount Merino and the western shoreline from the Hudson riverfront (figure 31, Piwonka, 1978). Henry Ary (ca. 1807-1859) lived in Hudson most of his productive life and painted many pictures of Mount Merino, South Bay and the Catskills beyond. Various examples can be found in Piwonka, 1978.

The Hudson River school of landscape artists were not the first to capture the beauties of this landscape on canvas or in their writing. Many early travelers up the Hudson remarked on the pastoral scenes along the shore and the magnificent wilderness in the mountains that enclosed the view. It was scenery that included both the grandeur and sublimity of the forests and mountains and the romanticism and beauty of the bucolic, well-husbanded farmlands. The ships and settlements of the small villages like Athens or the bustling small cities like Hudson added to their paintings while keeping man and nature in harmonious balance. The view of Hudson and the Catskills in Jacques Gerard Millbert's (1766-1840) Amerique Septentrionale (ca. 1820) documents this careful balance.

#### 4. Architectural History

Important early American architectural styles as well as art styles are found in the Hudson Valley, and excellent examples of these styles are found within the viewsheds of the proposed facilities. Federal style architecture is well represented in the region, three excellent examples being Oak Hill, previously mentioned, the Robert Jenkins House in Hudson, and the Haight-Gantly-Van Loan House in Athens. The former house would be visually impacted by the Cementon site, while the latter two would be visually impacted by the Athens site proposal. The Robert Jenkins House, built in 1811, is elegantly restored and now houses the Hendrick Hudson Chapter of the DAR. It is situated in the middle of the Warren Street Historic District of Hudson as "a fully developed example of the type of Federal style house found frequently in the Hudson valley. It compares with the Vanderpoel house in Kinderhook in its proportions and in the arrangement of features on the front facade." (Piwonka and Blackburn, p. 76). The Vanderpoel House, ca. 1816-20, has been called "one of the most sophisticated Federal Period houses in the Hudson River valley" and since 1942 has been owned by the Columbia County Historical Society

and known as the "House of History," a restored house museum of the Federal Period (Piwonka and Blackburn, p. 69). The Jenkins House is also a museum of Hudson and Town of Greenport history. The Haight-Gantly-Van Loan House is situated in the Athens Historical District (Fig. HF-3) and commands "a sweeping view" of the Hudson River and Mount Merino on the eastern shore (Van Loan and Smith, 1973, p. 5). The house was begun by General Samuel Haight in 1811 who left it unfinished for a while to return to active duty in the War of 1812. Van Loan and Smith, authors of An Elegant Mistake, describe the early architecture of the building:

Samuel Haight was not averse to grandeur. Indeed, there is little doubt that he had employed Barnabas Waterman, architect of such an imposing dwelling as that of Judge Vanderpoel at Kinderhook ... to design a great house for him. Of brick, it was a structure of imposing dimensions in the style we look back upon as Federal: large rooms, high ceilings, parquet floors, superb woodwork throughout..., a handsomely executed hanging staircase circling up from a grand reception hall ... more than forty feet in depth. The entrance portal ... prepared the arriving guest for the manner of life to be expected within. Steps, arch and keystone were of white marble, finely worked complemented by exquisite leaded glass fan-light and side panels.

(Van Loan and Smith, 1973: p. 5)

General Haight's wife was a Van Loan, descended from Jan Van Loan whose original stone house of 1706 sits down the hill from this imposing home. Jane Haight added the grand ballroom, measuring 56 by 22 feet in an oval design after the fashion of New York City elegant houses. Thomas Van Loan, a descendent of the original Jan, purchased the place in 1905, and after 1911 lived in it with a vast collection of paintings, including ones by Church, Kensett and Cropsey of the Hudson River School.

The Oliver Wiswell house (built in 1836-7) is a fine example of Greek revival architecture with a columned portico and commanding magnificent views westward and northward from Mount Merino. The Greek revival period demonstrated a concern for a "democratic" architecture that might be representative of the new republic, as well as a response to the Greek interpretation of nature and natural surroundings for its important public buildings. The house and Mount Merino are documented in many 19th century paintings of South Bay,

Mount Merino, the Hudson River and the Catskills. Mount Merino got its name from the early sheep raising by Wiswell and others in the area. Clermont's Livingston is credited with bringing the first Merino sheep into America and thereby establishing the American textile industry on a firmer economic footing, since its fleece greatly improved the quality of American-made woollens. Wiswell was engaged in other pursuits as well, being credited with being Fulton's first steamboat captain. The view from the Wiswell house also includes the marvelous Victorian Hudson City Lighthouse in the river between Athens and Hudson which has been nominated for inclusion on the National Register of Historic places, and which is documented in photographs in the Athens Bicentennial History p. 181) and most recently in The Conser- vationist (March-April, 1979), p. 2. The lighthouse was begun in 1873 and finished in 1874. It is built of red brick following plans found useful in the construction of the Esopus Meadows lighthouse, and is given special character by its stone lintels and quoins. The last lighthouse keeper retired in 1949. It remains prominently in the Hudson River as a reminder of shipping history, and as an extraordinary visual resource on the river.

William Guy Wall (1792-ca. 1864) painted a view of the Hudson and the Athens site area from a spot near the house of Samuel Plumb in ca. 1819. In 1839 Dr. Oliver Bronson of Hudson owned the house and employed Alexander Jackson Davis to refit the house in what later came known as the famous Hudson River "bracketed" style. It has been pointed out that "with these alterations, the Bronson house is an early example of innovative work by Davis to adapt an earlier house to a more rural aspect in accord with romantic theories of country-house design which were then just beginning to emerge in America. These theories emphasize the importance of architectural irregularities and picturesque details in achieving a harmony of buildings with their natural landscape settings." (Piwonka and Blackburn, p. 77).

Many houses, of course, do not show pure styles, but rather a combination of two or more styles according to the whim, fashion, or abilities of the owners or builders. Often too, original styles were supplanted by additions or other changes. The William W. Van Ness residence, known as Talavera, was built ca. 1807-1816. An "audacious break with earlier forms ... its most significant feature is its symmetry, achieved by balanced entrances in each wing rather than the usual central doorway and hall ... the curved interior elements reflect innovations introduced into America by architects like Bulfinch, Latrobe, and L'Enfant" (Piwonka and Blackburn, p. 66). Situated on Route 9H, there are extensive

views of the surrounding rural countryside and the Hudson valley. The Alexander Jenkins House is located on Joslyn Boulevard in the Town of Greenport just north of the city of Hudson. It has a clear view across the Hudson River towards Athens and the west. It was built in 1799, with renovations ca. 1818 and ca. 1830. "The most interesting aspect of the house is its remarkable combination of Dutch and New England features, to which were later added Federal style details and Greek Revival renovations" (Piwonka and Blackburn, p. 80). It has a full verandah on the back facing the westward view, with traces of an old road leading down to a former dock on the river. Jenkins was associated with the whaling trade in Hudson, coming from Providence and Nantucket, and the siting of his house shows an apparent concern for the Hudson River and views westward towards the Catskill.

It is equally important to recognize that although these estates and architected houses were for the local elite, the local vernacular style was also respectful of the environment and reflected folk perspectives on the role of a shelter's shape, style, form and symbol. Early "Dutch" colonial farm-houses such as the Van Loon Houses in Athens and others in rural roadside settings in the town of Catskill and Saugerties and near Germantown show an almost direct connection with the stone of the area and even today blend inconspicuously into the natural setting. The sawn wood ornamentation of the middle and late 19th century was created by local carpenter-craftmen; its scrolls and sunbursts brightened both humble rural dwellings and more pretentious urban residential structures (Karp, 1966). The Peary house in North Germantown, the Clarkson Memorial Chapel along Route 9-G in the Town of Clermont and numerous outbuildings in the Clermont Estates Historic District exemplifying the "Carpenter Gothic" style, all within the Cementon viewshed. Settlement reached into the Mid-Hudson region during the 1660's and 1680's Dutch, English and French-speaking peoples came to populate the patroonships, manors and patents along the river-banks; communities sprang up as groups left the Fort Orange area and moved with their churches southward to Kinderhook, Claverack and Lunenburg. In 1710 Livingston was involved in a scheme to resettle Palatine Germans on his lands in an ill-fated attempt at a ships stores industry (Meinig, 1966). The first Lutheran congregation in America was begun in what is now Athens; the pastor from this church's congregation oversaw Lutheran activities throughout the Hudson, Mohawk, and Schoharie river valley settlements (Berkenmeyer, The Albany Protocol). Throughout the late seventeenth and early eighteenth century these settlers built in a vernacular fashion which combined medieval European forms with material and structural considerations of the New World. Fine examples of early Dutch-style buildings remain in the area, a number of which will be seriously visually

impacted by either the Cementon or Athens proposals. Some specific examples document their importance as architectural artifacts in the cultural-historical landscape. The Abraham Staats House (ca. 1660's) is considered the oldest existing house in Columbia County and contains early eighteenth century woodwork (Piwonka and Blackburn, p. 27). Situated at the mouth of Stockport Creek, it has a relatively unimpeded view of the Athens site. The Van Hoesen House (ca. 1690-1730) is an early Dutch stone house located north of Hudson on Joslyn Boulevard with views of Athens similar to the Jenkins House noted above. In Athens itself there are a few early stone houses which would be visually impacted by the Athens site, such as the Jan Van Loon House (1706) near the Haight-Gantly-Van Loan House and the Albertus Van Loon House (1724) on Route 385, both of which have been nominated for inclusion on the National Register. Fieldstone structures that would be impacted that would be impacted by the Cementon facility include the Katsbaan Church, built in 1732 with a polygonal spire sensitively added in 1867. This structure appears to be eligible for inclusion in the National Register. There are four early 18th century stone houses along King's Highway in the Asbury-Katsbaan area that also merit nomination to the National Register. The most important of these is the Trumbour House, built in 1732 on land granted in a 1720 patent and continuously owned and farmed by the Trumbour family for almost 250 years. The Sebring House (ca. 1760), Katsbaan church parsonage (1735), and the Cornelius Persen House (mid-18th century) are other cultural-historical resources within the Cementon viewshed. West Camp contains two stone houses that merit attention, including the West Camp House (1759) along Route 9W, and the Derick House (1742). The Derick House has been carefully restored by the present owner, D.J. Hanzl, and appears to be eligible for inclusion in the National Register of Historic Places. There is a direct view of the Cementon site from this house. In the Town of Catskill the Overbaugh farms in the environs of Kykuit (lookout) Hill contain two late 19th century stone farmhouses and a 1743 barn, perhaps the oldest surviving barn structure in Greene County. On the east bank of the Hudson, in the East Camp area of the Palatine German settlement south of Germantown along Route 9-G, the Old Stone Jug (1752) supposedly held Tory prisoners during the Revolutionary War. There are views of the Cementon site area from the back of this house and along 9-G at this point. The structure is listed on the National Register.

Wooden frame buildings were equally important as local vernacular architecture during the 18th centuries. The old Red Church near Tivoli on Route 9-G was built ca. 1752 amidst a burying ground on a high hill with an open prospect toward the Cementon site. This severely simple building is believed to be the oldest surviving house of worship in Dutchess County, and would be adversely impacted by use of the Cementon site.

As important as the individual stylistic interpretations are in terms of understanding the elements that make up the built environment of the middle Hudson, it is perhaps more integral to this discussion that so many of the buildings that are excellent individual examples of these styles can be found complementing each other in one comparatively small area. Both Athens and Hudson, for example, have whole blocks which have been granted or nominated for National Register status due to this fact: they display unique aesthetic resources in the blending of architectural forms and social patterns. Criteria established by the Secretary of the Interior under the National Historic Preservation Act of 1966 for use in evaluating and determining the eligibility of properties for listing in the National Register include:

"The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling and association." 36 CFR §800.10, Federal Register, vol. 39, no. 18, Friday, January 25, 1974, emphasis added).

Thus, an historic district is defined as: "a geographically definable area, urban or rural, possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united by past events or aesthetically by plan or physical development. A district may also comprise individual elements separated geographically but linked by association or history." According to William J. Murtagh's "Aesthetic and Social Dimensions of Historic Districts," (National Trust for Historic Preservation, Historic Districts, 1975) significance can be ascribed when some or all of the following are present:

1. Location. Areas with linkages of buildings, structures, sites, objects and spaces, a majority of which continue to exist where they were first created in traditionally accepted relationships.
2. Design. Areas that convey a sense of cohesiveness through the similarity and/or dissimilarity of their details relatedness (architectural or otherwise). Based on the abstracts of aesthetic quality, these include scale, height, proportion, materials, colors, textures, rhythm, silhouette, siting, etc.

3. Setting. Areas that are readily definable by man-made or natural boundaries and/or contain at least one major focal point.
4. Materials. Areas that convey a sense of cohesiveness through the similarity and/or dissimilarity of their material relatedness, based on traditional material use that contributes to a sense of locality.
5. Workmanship. Areas that convey a sense of homogeneity through the high quality of aesthetic effort of the periods represented by the majority of the units composing the district.
6. Feeling. Areas that impact human consciousness with a sense of time and place.
7. Association. Areas that are related -- on national, state, or local levels -- to the lives of individuals or events and/or have visual aesthetic qualities that convey a feeling of time and place.

Both Athens and Hudson historic districts amply fulfill the requirements of eligibility as stated above, and have been recognized for their uniqueness in documents noted in the view analysis in Part II of this report. Moreover, it appears that the architectural fabric of significant portions of river port Villages of Catskill and Saugerties are of a character to meet these exacting criteria, and therefore merit nomination to the Register.

Both the Hudson and Athens districts are important in another way: they combine a sense of the past with a concern for the present. Athens and Hudson are not historic "Williamsburgs" where the social fabric takes a back seat to aesthetics or history (Lowenthal, 1966); nor are they similar to such examples of historic urban restoration as Savannah, Georgia, or Waterford, Virginia where the local tenants (composed mainly of the elderly or poor) are displaced. Plans for Athens spell out the concerns for the existing social fabric, while the Warren Street district of Hudson has won a national recognition award for its innovative facade-easement program which has been very effective in combining aesthetic rehabilitation within a social context. (See Part II).

## 5. Town Planning

The histories of both Athens and Hudson include key innovations in certain aspects of town planning in the United States combining a concern for streetscape, vista and the commonwealth. Three particular facets are worthy of note. First, the architectural design as noted above showed an aesthetic sensibility to scale, detail, rhythm and overall design as well as "feeling" and "association." The importance and relevance of this lies in the fact that these original structures by and large still exist today and continue to present an urban aesthetic worthy of preservation.

Secondly, both Athens and Hudson are noteworthy examples of the early use of the grid-iron pattern of street layout. The early proprietors who settled Hudson in 1783 were from the New England whaling towns of Providence and Newport, Rhode Island, and Nantucket and Edgartown, Massachusetts. These towns exhibit the "bastidal" layout of the emerging merchant towns of New England which was essentially copied in its format in the laying out of the new town of Hudson. The early plat maps of 1785 and 1790 point to this land use plan, and the grid-iron street layout can be clearly discerned on the 1799 Penfield map (Fig. HF-2). The New York State Historic Trust staff report on the Front Street - Parade Hill - Lower Warren Street Historic District nomination (1969) noted the planning history of the street pattern:

Cotton Gelston reputedly drew the first map of the city in the fall of 1783. Gelston later became the first surveyor and drew up the first deeds. Most likely, the plan for the city reflected the ideas of Thomas Jenkins, the wealthiest of the Proprietors, for Gelston was a close friend of Jenkins. The blocks and streets must have been at least roughly laid out as far as Second Street early in the Spring of 1784, for the Proprietors' meeting held on May 17, 1784, mention was made of the "lower square", the "second square", as well as the "Warehouse lots."

The grid plan of streets and gangways adopted by the Proprietors reflected the topography of the area. Warren Street, originally called Main Street, clearly indicated and considered from the beginning of the settlement as the most important throughfare, was to follow, between the bluff overlooking the river and the hill at the east end of town, a natural ridge of land which extended to Third Street where it was interrupted by several hollows. From Main Street, the cross streets sloped down

toward the North and South Bays. An interesting feature of the design was the narrow passageways designated between the westernmost lots facing on the west side of Front Street ... Vestiges of these spaces are still visible today.

More members of the Association arrived during the spring and summer of 1784. At their first meeting, held in Hudson on May 14, several provisions toward planning the city were adopted. It was agreed that "no person shall be permitted to extend the steps from his door or cellarways more than four feet on the Street," an interesting resolution in that it suggests that buildings would be sited with their facades close to the street line, rather than set back at some distance. At the same meeting, seven proprietors were appointed as a committee to have jurisdiction "for regulating streets, and in particular manner to attend to the fixing of buildings uniformly." Equally important was the resolution that the approval of a majority of this committee was necessary before any building could be sited. Another committee of three was appointed "for viewing the fences and to give such directions for repairing them as they shall think proper."

(NYS Historic Trust, 1969: 12-13)

Meanwhile, the visual aspects of the settlement were further developed along early New England lines by the importation of some of the first settler's houses from their former residences. Sperm candle manufacturing and, later, textile milling were to continue to place Hudson's economic interests in the same league with many of the early manufacturing centers of the northeast.

Across the river, the settlement pattern of Athens was initiated in the latter part of the 18th century from the abortive plans for Esperanza, a speculative scheme of Chancellor Livingstone's brother Edward to build the State capitol on this site. Among other speculative town plans of the period, such as Pittsburgh and Cincinnati, the Esperanza scheme followed the Philadelphia model and allowed for broad avenues and public squares (Reps, pp. 352-354; maps in Athens Bicentennial appendix pp. 208-211). Although little remains from this planning venture, the Lower Village (for which inclusion on the National Register is pending) does present an almost intact early 19th century grid-iron town layout. (See Fig. HF-3).

The third and by far the most important aspect of the city of Hudson's town planning, with regard to proposals under review, was the early interest in the viewscape. The Hudson settlement plan oriented its views outward from the city. This was in contrast to the bastidal town plans of the New England towns or the most important model for the American grid-iron settlement pattern -- Philadelphia. Both of the others tended towards an inner-directed aesthetic design: the New England villages towards the town common; while the Philadelphia plans followed the post-London-fire Baroque planning, favoring large public "circuses", squares, or parks. Hudson, however, left its common ground to be known as "Parade Hill" or "Promenade Hill" at the entrance of the city with its views westward across the Hudson towards Athens and the Catskills beyond. As the staff report of the New York State Historic Trust puts it, this aspect of environmental planning showed that the Proprietors were interested in aesthetics as much as economic success:

While Hudson was founded as a financial venture, it is evident from planning features still extant that the Proprietors were concerned with beauty and the quality of the environment as well as on [sic] commercial gain. Because of careful planning by the proprietors which provided for a wide central street leading up to the bluff with its spectacular views of the Hudson, Hudson became one of the few cities along the river not to turn its back upon the river, where scenic beauty was to be enjoyed by all, not merely by a few or not at all.

(NYS Historic Trust, 1969: p. 11)

Very few towns planned during the 18th century concerned themselves with their environmental or aesthetic resources. As the illustrious Timothy Dwight of Yale pointed out in his visit to Boston in 1796, that city lacked a concern for beauty in its street pattern and design. Noting this tendency, Tunnard and Reed, in their sweeping review of American town planning and architectural history, argued that "Americans, by neglecting to break up the grid with squares and open spaces ... and by ignoring the advantages of magnificent natural sites, have let too many opportunities slip through their fingers." (Tunnard and Reed, 1956: p. 56) Later, in the same work, Tunnard and Reed specifically call attention to the Hudson, New York, plan, although they mislocate it in the chapter dedicated to the period 1825-1850 and mislabel Promenade Hill as "Paradise Hill": "With such unusual sites,

many of the river towns could not fail to take advantage of the scenery. Paradise Hill in Hudson, New York, provides a terrace with a sweeping view of the river." (Tunnard and Reed, 1956: p. 70) The authors can only point to three other towns that similarly take advantage of their sites: New Richmond, Ohio; Keokuk, Iowa; and Bellevue, Missouri, presumably all at least a quarter century later than Hudson, New York.

Many towns platted during the late 18th and early 19th century were built with a grid-iron stretching away from the river's edge, but none were to take into account the role of aesthetics in river frontage common ground as much as Hudson, New York. As Professor James Vance (p. 266) notes about Pittsburgh in 1784: "The original plat had 94 blocks, but only one open space was left, even the spectacular riverbanks were given no visual design." Cincinnati, platted in 1790 on the Ohio River, left only a small common ground, and by 1815 Drake was to report that it had been sold out on perpetual lease and the city had therefore lost the little public space it had. Only two towns platted in Ohio along the Muskingum River (Marietta, 1788, and Zanesville, 1799) took advantage of the riverbanks for common grounds (Reps., 218-227); and none seem to have demonstrated so early, so much concern with the vistas afforded by these parklands, as did the Hudson Proprietors.

In the earliest plat maps from Hudson's founding, the proprietor's minutes of 1785, land on the bluffs overlooking the Hudson is left open. In 1790 the minutes note that the land is described as "left for Parade"; this decision was adopted for approval at the March 12, 1790, meeting. (Document from xerox of late 19th century copy of the "Hudson Proprietor's Minutes," certified as a "True Copy" of the original in the State Library, Albany.) The maps agreed to by the Proprietors on February 21, 1791, also indicated the Parade. (NYS Historic Trust, 1969: p. 15). By 1795 the minutes voted to give the "Parade or Mall" to the city common council forever for the purpose of its being a common public ground for walking and other forms of passive recreation (Ellis, 1873: p. 176; Miller, 1862:14).

Ellis goes on to note: that Promenade Hill:

... is a public ground, much frequented for the purpose which its name indicates, by the people of Hudson, who have always held it in high and deserved estimation as a place of popular resort.

It is a grassed and graded spot of about one and a half acres, upon the summit of the high promontory which rises from the river bank, opposite the foot of Warren Street, and is the western end of the ridge on which the city is built.

It has been in use as public walk or promenade nearly or quite as long as Hudson has been a city. On the 9th of March, 1795, the proprietors resolved by vote "that the certain piece of land known by the name of the Parade, or Mall, in front of Main [former name of Warren] Street, be granted to the common council forever, as a public walk or Mall, and for no other purpose whatever;" by which it is made sure that it had been in use as a promenade ground for a considerable time before 1795, long enough to have acquired the name mentioned in the resolution above quoted....

The finished landscapes of Mount Merino on the one hand, and of Stockport upon the other, with the shining river between and beyond them, the village of Athens in front, and the fields and woods and slopes of Greene County stretching away to the base of the Catskills, whose summits stand in dark grandeur against the sky, -- all these which are visible from a single point on Promenade Hill, from a picture which is rarely equaled, even among the famed scenery of the Hudson river.

(Ellis, 1878: p. 176)

Various documents point to the importance that this common land on the bluffs held for Hudson residents and for travellers to the area. Piwonka asserts that "'ancient custom' from at least the arrival of the Proprietors in 1783/4 must have made this a common walk or parade by public custom and that the handful of Dutch who lived at Claverack Landing might have used it for the same purpose, as it is especially suited to watching for boats up and down river as well as watching the mountains" (Piwonka [personal communication to the author] 1979). Indeed, by the time it came officially under the aegis of the city common council one early traveller, William Strickland, in his Journal of a Tour in the United States of America, 1794-1795, describes the grid-iron of the street layout and then notes that "on the banks of it [Hudson River] below the town is a high natural terrace several hundred yards in length which is judiciously

preserved, as a walk for the inhabitants." He then goes on to describe the view from this vantage point: "The City commands an extensive view of the river particularly to the Northward, and for a variegated, irregular, well settled and well cultivated country on this side of the river, and of a wooded country on the opposite, broken by a few settlements, and backed by the Kaatskill, a chain of stupendous mountains of a bold and strong-featured outline, from hence distinctly seen, by preserving [observing?] the constant deep blue of the distant horizon of this climate." (Strickland, reprint 1971, pp. 122-3)

Various travellers up the Hudson during the early mid 19th century point to wonderful views westward from the city of Hudson. Jacques Gerard Milbert travelled up the Hudson and drew pictures for his book of travels; there is a drawing from Promenade Hill of the Catskills and part of Hudson by Milbert ca. 1820 in Piwonka, 1978 (plate 3). In 1837 the geologist Freeman B. Hunt can point to its human comforts: "In front of the principal street is a promontory of silicious slate, projecting in the Hudson a bold cliff, whose summit, more than sixty feet from the surface of the water, has been formed into an agreeable promenade, by the corporation, and commands a beautiful view of the river, and the country on the opposite shore, bounded by the towering Kaatsbergs; being planted with trees and shrubs, and furnished with a house for refreshment it has become a pleasant resort during the summer, and will repay the visitor for his pains at all seasons."

In 1839, the Rural Repository, a local Hudson newspaper, described a "well-known and favorite" hotel with respect to Parade Hill and its associated views:

It is situated in the principal street, near the Parade Ground, so justly celebrated for its beauty, overlooking the river and the adjacent country, and affording a fine promenade, unsurpassed by any other, for extent, richness, variety and magnificence of prospect and scenery.

A piazza extends along the entire front of the hotel, commanding a view of the City of Hudson, the Village of Athens, the noble river, and an unbroken chain of the Catskill Mountains, among which may be discovered the far-famed Mountain House.

From the rear, the eye stretches over a vast extent of country, embracing in its view the rough outlines of the Berkshire and Catskill Mountains, gradually receding, until the eye can trace them no longer, when it is left to wander with infinite delight, over rich and ever varying landscapes. To add to the beauty and variety of the scene, the noble Hudson lies in full view, her bright waters, dancing and sparkling in the sun, and her bosom covered with fleets of vessels, sluggishly beating in all directions, as fancy or interest moves the helm, -- and, as if in rebuke for their tardiness -- the proud and noisy steamer, may be seen driving and splashing along, leaving all behind her, in defiance of wind or waves, forming altogether, a scene of unrivaled beauty and interest. (RR, Aug. 3, 1839, p. 1)

By the time of the Hudson River school of painters, Promenade Hill became a favorite spot from which to view the western bank of the river and the Catskills beyond. Paintings by Henry Ary (ca. 1850) and engravings by Benson Lossing (1961) show both the parkscape of the hill and the river and mountains beyond. (plates 28 and 29, Piwonka, 1978).

Promenade Hill was not the only vantage point within the city of Hudson from which to view the western landscapes. Prospect Hill is shown on the Penfield map of 1799 (see Fig. HF-2) with the potential views from its summit. For a while it was known as "Windmill Hill" due to the fact that a mill, as shown on the Penfield 1799 map, was located there. This hill played a small role in the aesthetic landscape of the period where it was used as the locale for a short story published in *The Rural Repository* (Oct. 25, 1834, pp 31-32). Titled "Real Life," it is an interesting example of the "morality" genre of the period, as it purports to be a true story of a certain Catherine" Oct. 1796. William Ashley purchased the hill sometimes between 1790 and 1800 renamed it Prospect Hill for the magnificence of views from its slopes. By the early 19th century it, too, was pointed out to travellers for the views it afforded. In 1818 William Darby wrote:

Behind the town of Hudson, to the eastward, the ground rises into considerable elevation, overlooking from its summit a vast expanse of country, including the towns of Hudson and Athens; the river for many miles; its variegated shores, and perhaps the best prospect that exists of the Catskill

Mountains. To point out the charming views included in this elegant picture, would be to describe every hill, dale and slope within its limits. In every direction to which the eye can be turned, a new and elegant landscape opens, and presents its beauties, its character of distinctive attraction, and an outline that renders it a little whole in itself.

It may indeed be considered as peculiar to the Hudson scenery, that almost all the variety that the face of the earth can afford, is often condensed into a compass of very limited extent.... From the city of New York this elegant variety greets the voyager, above the highlands it becomes more frequent and striking, and in no extent of the Hudson River, does its peculiar trails [views?] arrest attention with more force, than near the town of Hudson.

(Darby, 1819, reprint 1962, p. 28)

### Summary

The landscape of the Mid Hudson Valley, and the views of the landscape, have formed an aesthetic experience from the earliest days of settlement. Viewscapes of the Hudson River in the foreground, the western shoreline in the mid-ground and the Catskill mountains on the horizon in the background have always been an important facet of house siting, town planning, and artistic accomplishment. It is clear that any change to this visual field that destroys or impairs the total aesthetic experience of the inhabitants or travellers to the region would be culturally and environmentally detrimental.

PART II  
VIEW ANALYSIS

A. VIEWS OF THE CEMENTON SITE.

Olana.

There can be no doubt that the proposed facility located at Cementon would have its greatest adverse aesthetic impact on Olana. As noted in Part I, Olana is the former home of landscape artist Frederic Church. It is included in the National Register of Historic Places and designated as a National Historic Landmark. The 450-foot cooling tower together with its vapor plume would, under a wide-range of meteorological conditions, be a dominating visual focus in the most important views from Church's home, those to the south and west. Numerous paintings document these prime views, notably Church's own "Winter Scene," circa 1870, as well as others from virtually the same vantage point by other artists of the period, such as "View from Church Hill" 1864(?) by Arthur Parton (Piwonka, Blackburn, p. 150). The southern and western prospect from Olana was so important to Church that he oriented his studio accordingly and placed his windows in such a way that they would "frame" the scene continuously.

This viewscape from Olana fits within a number of the subsections of the term "visually sensitive", as the land use itself is an historical site designated as such which accommodates a large number of visitors on an annual basis. (See Part I.) Most important, these visitations encompass a complex aesthetic experience; in contrast the applicant's testimony on this point (J-10115, J-20293), visitors to Olana focus on the various views from the hill as much as they do the interior and exterior of Church's house. Indeed, guides who take visitors around the house to see the interior furnishings point out the views from the windows, especially the view from Church's studio and compare it to his paintings and comment upon the fact that he took the same care in composing the building as he might have in composing a painting. Picnickers and strollers around the parkscape also experience the landscaping and the views from the hill.

Photo documentation in the NRC Final Environmental Impact Statement, Fig. 5.16, clearly demonstrates the visual impact of the proposed facility on the view from Olana. Comparison with color slides and photographs taken from Olana during the past year, as well as numerous site visits, demonstrates the continued semi-rural nature of the landscape that was meaningful to Church and his contemporaries. The dominance of the cooling tower and plume would change this impression to a more industrialized, urban scene.

From Olana the stacks and plumes of the Cementon cement factories are not as visually interruptive of the total scene as the height and mass of the projected cooling tower and plume. Such a facility is far more visually demanding on the viewer, focusing his eye on the man-made object rather than on the natural landscape. Additionally, the ridge line created by the Catskill Mountains receding towards the horizon and which forms the background to the entire vista would be broken by the tower, while the plume would tend to obscure the ridge line further from the site.

### North Lake

The North Lake State Campsite and Escarpment Trail, like Olana, has more than regional significance. Campers, picnickers, cross country ski enthusiasts, hikers, and travellers come from all over to enjoy the natural beauty of the trails, the view of the Hudson River Valley, and visits to the sites of the Catskill Mountain House and Kaaterskill Falls. It is an all-season facility, with panoramic views of the valley as important to the summer picnickers as to those interested in Autumnal foliage or those who traverse the well kept cross-country ski trails. As such a natural resource facility, it is a visually sensitive land use under subsections ii, v, and vi of Section 77.1 of the Public Service regulations (16 NYCRR 77.1).

Department of Environmental Conservation statistics on the use of North Lake facilities show over 30,000 hikers, 30,000 campers, and 50,000 day users. (Benas, prepared testimony, p. 35). Many of these visitors come from outside the region. The ability of a place to draw from a wide geographic area is as important an aspect of its significance as are the total numbers of users served. Yet, as important as the visitor statistics are to the questions of frequency or spatial range for understanding the impact upon the visual environment, it should be stressed that the aesthetic experience cannot be so simply quantified. Tunnard, Lynch, Tuan, Lowenthal, Lewis and others have pointed out that the ways in which people perceive their environments and create meaningful sense out of a region is through a complex cognitive process which includes memory, experience, and personality of the viewer as well as the specific visual elements of the place and its associated historical or cultural context. Articles that address the concept of a "sense of place" are noted in Part I of this report. The cognitive processes of understanding one's spatial environment have also been studied by geographers and planners (Downs and Stea, 1977; Lynch, 1960); as well as the variations in feelings about particular regions or local places (Gould, 1966; Flad, 1973). Firey (1947) discussed "sentiment" and "symbolism" as they reflected particular behavioral responses to special locales in the cultural landscape, while Nash (1967) examined them in the context of American cultural perspectives of the natural environment. This literature suggests that certain

landscapes are deemed meaningful and worthy within the expression of the society's culture. In this respect, Professor Tuan suggests that certain landscapes "command our respect"

if we perceive them to be serious. What can "seriousness" mean as a term of landscape appraisal? Seriousness, first of all, is an aesthetic quality of natural environments. Nature is deemed serious because mountains and plains, forests and grasslands are moulded by necessity operating through geological time, and are not the works of capricious wills. As to human environments, those which cater to the biological processes are deemed serious. Thus modest homes, country roads, and well-cared fields have traditionally appealed to our sentiments. Artifacts that are evidently made with care, under the constraint of limited material means, have often seemed to us serious and beautiful ....

(Tuan, 1973:p.26)

Tuan goes on to explain that to understand and care for the present landscape, one must be aware of the past which gives these landscapes the seriousness that is necessary in order to care for them. He ends by quoting a novelist, Julian Mitchell, who has his protagonist claim:

...they are aware of the past, all of them, and they are aware of the present, too. And for me this awareness is an important part of the quality of life, of living, rather. And I care for that awareness wherever I can find it.

(Tuan, 1973, quoting  
Julian Mitchell,  
Imaginary Toys, London,  
1961, p. 178)

To many visitors to North Lake, the aesthetic experience of the place includes a contact backwards in time to Thomas Cole and other Catskill artists, while to others it is a recreative experience towards nature in the manner of the naturalist philosophers Muir, Thoreau, or Burroughs (whose own cabin was but a few miles away). For many, then, the clear, though distant, views of a massive cooling tower plus plume would be both a personal and a collective experience. In the manner of the paintings of Cole and his contemporaries, the man-made artifact would symbolize industrial progress and the further breakdown of the tenuous links between man and the natural environment.

## Hudson River Estates

The Cementon viewshed includes the eastern shore estate area, yet this has not been addressed in the treatment of cultural-historical resources in the PASNY's application or in supporting testimony.

As noted in Part I, Robert Livingston's Clermont is a National Historic Landmark and State Historic Site and is within the spatial boundaries of the study area. Clermont draws thousands of visitors annually for tours of the building and for picnics and hikes on the grounds. Although less used than the Norrie Point-Mills Estate parkgrounds further south along the river, its visitations have increased and New York State has recently been active in major restoration of the property; as a result, a significant increase of usage is projected.

Viewscapes from estates on the eastern shoreline other than Clermont have not been presented in the PASNY material. Nonetheless, as discussed above in Part I, this area in both Dutchess and Columbia counties is of primary interest for understanding the cultural landscape of the Hudson Valley. Recent interest in these estates has created proposals for historic districts along the shore of both counties because of the unique quality of this landscape. These historic preservation activities embrace many aspects of the landscape, including outbuildings, landscaped grounds, agricultural and forest lands, and views of the Hudson River and the Catskill Mountains, as well as concern for the architectural heritage of the mansions themselves. This contextual approach is discussed in the criteria for historic preservation in the draft report of the Hudson River Study (Raymond et al., 1978). Some of these estate properties will perhaps become accessible to the public over the next few decades, while others will remain in private hands. Whatever the outcome of each estate property, the importance of the landscape mosaic to overall planning of the aesthetic resources of the valley is foremost, and is recognized as such in the recommendations to the State Legislature contained in the Hudson River Study report.

The views from Northwood and Oak Hill are examples of the viewscapes from these estates. Seen from two and a half to five miles away, the cooling tower would impose its mass on the very views which particularly influenced the siting and landscaping of the estates themselves.

This is apparent in Figure HF-5 which shows the carefully framed and landscaped down river view from the front lawn of Oak Hill under winter foliage conditions with cooling tower and plume graphically superimposed. The plume would appear more or less extensive, depending upon wind direction; graphic simulation depicts the plume resulting from the prevailing north-northwest wind of the winter months and of a height and length expected to occur 50% of the time.

### Greene Point

This high, largely unforested property forms a headland directly across Inbocht Bay from the Cementon site and is at present used for some grazing of livestock. The Greene Point land area of the Van Orden farm, the Livingston-Audubon Marsh Sanctuary and Ramshorn marshes that interface between the land and the river, and Inbocht Bay itself have been specifically declared a high priority for State protection in the draft Hudson River Study Report. (Raymond et al., 1978) The marshes have been declared an ecologically significant area by many studies directed at the ecological resources of the Hudson River, including those undertaken by The Nature Conservancy, the Hudson River Valley Commission, and the Hudson River Basin Level B Study of fish and wildlife. This area is also within the boundaries of the coastal area under New York State's Coastal Zone Management program (draft), and would come under program guidelines for aesthetic shoreline management policies that deal with preservation of open space for recreation or ecological diversity (Department of State, 1978).

An important paleo-Indian site on Greene Point is clearly documented in Ritchie, 1944. It is one of only two significant "Coastal" sites along the Hudson River as shown on the map (fig. 2) in Ritchie (n.d.) published by the New York State Museum. (Ritchie, 1944:106-8) For the last few years, the Van Orden farmland on Greene Point has been considered for acquisition as potential public open space and recreational river access.

The severe visual impact of the GCNPP at Cementon upon Greene Point, less than 2-1/2 inches away, is clearly illustrated in Figure HF-6. By contrast, the present cement plants, although about the same distance away, have comparatively little visual impact. The only present structure that breaks the skyline is the Alpha stack (270 feet high, top diameter less than 20 feet). It is concealed by the superimposed GCNPP cooling tower in Figure HF-6. The stick-like profile of the Alpha stack is visually intrusive, appearing somewhat less high than the top of the superimposed domed containment building, but its negative impact is minute compared with that of the structures of the proposed facility which would substantially reduce or wholly jeopardize the present parkland potential of Greene Point.

### Rip Van Winkle Bridge

Similar to the view from Olana, the distant view of the Cementon site from the Rip Van Winkle Bridge would be focused upon the cooling tower and its plume. For many tourists to the Catskill region and to other travellers, the present prospect from the bridge is one of extraordinary beauty. According to the NRC survey (NRC Final Environmental Impact Statement, p. M-9), "the bridge is a favorite (15% of respondents) spot of local residents for viewing the Hudson River." Travelling west across the bridge the view from the road (Appleyard et al., 1967) is impressive in its sweep of the surrounding landscape. The element of surprise is there as one passes from the intersection of routes 23 and 9-G and travels between scenic orchard groves and through a ridge which initially blocks one's view of the valley. The entrance upon the bridge opens up the scene to the viewer in a panoramic sweep, with varieties of landscape texture due to foliage, topography, riverscape, skyline, and shifts in light and shadow. Adding further drama is the birds-eye glimpse of Rogers Island, a State-owned natural area, far below. From the west travelling eastward across the bridge, the entrance to the valley scenery is similarly blocked, but opens up with an initial focus upon Church's Hill and Olana, and then southward past Oak Hill and northward past Mt. Merino. These views are shared by an increasing number of travellers each year. PASNY estimates of 6200 average annual daily trip volume only consider the Department of Transportation's estimate for that part of Route 9-G closest to the eastern entrance to the bridge for 1977. According to 1978 estimates, this traffic had increased by 9 percent to 6800 AADT. Even this estimate may be too low, however, for the 1978 total count for annual traffic across the bridge was 2,618,904 or approximately 218,242 per month or 7,175 per day. The 1978 annual traffic volume across the Rip Van Winkle Bridge was up over five percent from the previous year, being second only to the 7.47% increase on the Kingston-Rhinecliff span according to the New York State Bridge Authority (1/5/79 "News"). The increase in the annual totals was particularly apparent for the monthly traffic volume of September and October which were over eight percent and nine percent respectively; November and December figures also showed increases of over six percent. It could be expected that some of this increase in traffic volume was accounted for by an increasing tourist trade in the Catskill region during the Fall foliage season as well as increased interest in winter sports. It is especially during the Fall and Winter season that atmospheric conditions would be more apt to produce extensive plume formation (Schaefer, 1979).

### Taconic State Parkway

The Taconic State Parkway, and in particular the panoramic vista from the scenic overlook "Livingston Manor", would be severely visually impacted, notwithstanding that the Cementon site is more than five miles away. The Taconic Parkway is an important thoroughfare for traffic from the New England extension of the New York State interstate Thruway towards Westchester County and New York City. It is also a scenic highway (1977 AADT:4,371) was one of the first to relate effectively to its environs by developing turnoffs and designated overlooks for viewing the rural countryside of Columbia County and the Catskill Mountains off to the west as documented in The Conservationist photograph noted in Part I. Such vistas would be visually impacted by locating the GCNPP at Cementon.

### Other Significant Views

In addition to vantage points enumerated in the preceding paragraphs, the potential aesthetic impact on other views must not be underrated. As noted in Part I, there are at least five structures in the Ulster County-Greene County area southwest of Cementon that are clearly eligible for inclusion in the National Register of Historic Places. All would be visually impacted to a degree, with the severest impact seen from the Dederick House.

Residential locations, particularly Cementon (1970 pop. 600), Germantown (1970 pop. 1782) and Catskill (1970 pop. 5,317) as well as transient views from the river, highways, and railroad will be visually impacted by the plant facilities, at Cementon. The view from Route 9-W would be even more apparent if the highway is relocated closer to the site to reduce traffic congestion. This nearhand dominant view would be seen by over 3100 daily travellers along 9-W. Meanwhile, the clear view across the river in the vicinity of Germantown would be the dominant focus of the western shoreline for the 1782 residents of Germantown, the 900 students attending Germantown Central School, over 1750 automobile travellers along route 9-G who have a clear view of the facility from the Germantown area, and the estimated 60,000 monthly travellers on the Amtrak line.

Figure HF-7 simulates the principle structures of the proposed facility as seen from the shoreline at Germantown, a few feet from the railroad tracks. The scale of the GCNPP structures contrasts with the Alpha conveyor visible at the extreme left, the various buildings visible to the left and right of the cooling tower and the dwarfed Catskill mountains at the left horizon line.

It should be noted that ever since this landmark rail line was put into operation in 1851, the "Water-level route" has proved to be an enormous attraction to tourists traveling by rail -- not least because of the continuously unfolding view-scape in the mid-Hudson River, boats, far shore, fields, mansions, woodlands, hamlets and distant mountains. This appeal evidently persists and will persist as long as the service is offered.

Figures for the road traffic are from NYS DOT AADT's compiled for 1977, while for Amtrak the figure represents a monthly estimate from the annual figures for fiscal 1977-78, and the first two months of fiscal 1979. This figure represents a 5,000 passenger increase over PASNY's figure and takes into consideration the percentage change over the last two fiscal years. Travellers on the Hudson River, whether on tourist boats or personal pleasure craft, will have a similar view. Recreational boat usage continues to grow in area boat basins and marinas, as does the excursion boat business in the Hudson River.

The judgment of the potential aesthetic impact that a change to the existing cultural landscape should take into consideration includes visual design elements as well as the historical ones noted above in Part I. On both counts the concern is for relationship to the whole and the realization that the various elements fit into a harmony with one another. (Flad, 1974) Beautiful landscapes are those that combine the variety and surprise of diversity with the perceived regularity of a large pattern. Certain elements such as texture, color, symbolic imagery, and horizontality or verticality combine to create a pleasing visual impression on certain landscapes. In other instances, however, the scale of the elements may seriously disrupt the existing fabric in such a way that one or another element overpowers the other to create a chaotic impression; while, on the other hand, too little variety may present a landscape image that has very little meaning. Thus, an analysis of the visual scene attempts to integrate the various elements at appropriate scales to the foreground, middleground, and background to give identity to the particular landscape. The Cementon site is, within a limited focus, an industrial landscape with some rather strong vertical elements such as the cement plant stacks and the Marquette barge loading dock. Seen from 9-W, 9-G, the Amtrak trains passing Germantown, or from the boats on the Hudson River, one is conscious of the industrial nature of the Cementon setting.

At most, the determination of visual blight or visual incompatibility of land use is an attempt to take into account social and economic perception as well as aesthetic appreciation. Nonetheless, the visual texture of an environment can be distorted by the overwhelming presence of a particular dominating element. In this case, the scale of the project produces a dominating force in the visual field from all of these intensive land use sites; it is not a unifying force. From both a narrow visible compass of a viewscape within the five mile radius, or from the distant viewscape encompassing a wider visual perspective, the result is similar in the dominating effect of the cooling tower upon the viewer.

B. VIEWS OF THE ATHENS SITE.

Olana

The view of the Athens site from Olana, although not as open and focused as that of the Cementon site previously discussed, would nevertheless impact the aesthetic experience of a visitor to this National Landmark and State Historic Site. Many of the visitors hike along the 7-1/2 miles of trails that Church originally laid out on his property. The New York State Office of Parks and Recreation maintains these trails for walking and has prepared booklets which detail the natural and aesthetic experiences along these trails. The "Ridge Trail" booklet published by the department and available to hikers at Olana notes a number of aesthetic aspects of the trail that commands both northern and western views of the Hudson Valley, including an unobstructed view toward Athens. Pertinent quotations from this booklet follow:

1. Eastern Hemlocks

Frederic Church was first introduced to the Hudson Valley by his teacher Thomas Cole, a famous Hudson River School painter whose outdoor studio was the Catskill Mountains. Eastern Hemlocks. . . thrive in that cool, rocky, mountainous terrain and during the nineteenth century, artists and naturalists called it "the tree of the Catskills". . . .

Hemlocks do not naturally grow as abundantly on this side of the river. The density and age of this grove of hemlocks has led researchers to believe that Frederic Church planted the trees. Perhaps he wanted to create his own Catskill Mountain atmosphere along the carriage

trails, where in his later years he could enjoy the cool, dark setting.

## 2. Trail Contrasts

As Church planned Olana's grounds he followed the design concepts of famed 19th-century landscape architects Downing and Olmstead [sic] as well as his own artistic sense. In keeping with Olmstead's design philosophies, Church magnified contrasts of light and texture in the natural setting to heighten the overall beauty. As you walk the trail in this area, you can experience the remnants of one such planned contrast as you travel from the dark, cool hemlock forest into the brightness of an open field.

## 5. Old Field

This area has been maintained as an open field. It is a remnant of the clearing that once covered this entire hillside. Most of the field has reached the later stages of plant succession, with evergreens and young hardwoods. . . .

## 6. Red Cedar

In the woods, marked with a station indicator, is a red cedar. . . thought to be of near record size for New York. It has been struck by lightning and damaged by wind, but still it survives, a testament to its hardness. . .

Frederic Church was fascinated with unusual natural phenomena like this gnarled, misshapen tree. What we see as deformed and perhaps even grotesque, Church's artistry converted to striking centers of attention with the appropriate setting and presentation in his sketches and paintings.

## 8. Vista

This area is entering the first stage of plant succession. Vines and red cedars cover what may have been a delightful picnic area looking out over the Catskill Mountains and the Hudson River.

The apple tree to your right was probably planted to frame the view from this spot, and to balance the visual effect of the mountains. Imagine yourself at this spot on an early spring walk among the fragrant apple blossoms.

## 9. The Catskill Mountains and the Hudson River

Frederic Church was a naturalist as well as an artist. He used his in-depth knowledge of nature in his paintings and later in the creation of "living landscapes" when crippling arthritis prevented him from expressing his artistic talents on canvas. Church carefully planned the plantings at Olana to create or highlight scenes of beauty. Where natural vistas could be seen, he had trees planted, pruned, or cut to frame the scene and enhance the natural beauty for his own enjoyment and that of his visitors.

The view of the mountains and the river from this spot is one of the many vistas Church had opened on the estate. Note how he used trees to frame the scene, just as he would do on canvas. (emphasis added)

Frederic Church's own "Plan of Olana" (1886) plainly shows a "North View" indicated on the Ridge Road. (See testimony of Professor David Huntington, Fig. DH-8). Thus, at Church's time views north and west were of significant interest, and that is still true today. The present view from the parking lot also would be affected during defoliate season. Considering the interest in clearing some of the secondary growth on the side of the Olana hill to more fully represent the landscaping in Church's day, the potential for visual impact of cooling tower and plume upon Olana is severe indeed, inasmuch as the tower on the Athens site would be only slightly more than three and one-half miles away.

While driving up to the mansion or back to 9G from the parking lot, there are vistas across the Hudson River towards the Catskills that take in views of both the Cementon and Athens sites. A recent example of the importance of this viewscape is found as the cover photograph of The Conservationist, March-April, 1979 (DEC, Vol. 33 No. 5, 1979). This photograph was taken from the very road that Church designed, with obvious appreciation of the beauty of the western prospect and the elements of intrigue, anticipation, and surprise that engage the viewer in a stimulating aesthetic experience (Rapoport and Hawkes, 1970). These elements of perspective which enhance the aesthetic experience are as important for the present-day 88,000 tourists as they were for Church's contemporaries.

## Hudson

Directly across the Hudson River from the village of Athens is the City of Hudson, New York (1970 census population: 8940). Views from the city itself, from Parade Hill and Prospect Hill, and from points along Route 9 north of the city near Stockport and 9-G south of the city all would be impacted by the construction of a cooling tower at the Athens site. Part I of this report documented the historical importance of Parade Hill as a planned amenity open space for the city of Hudson since the earliest times. The recent planning and revitalization of the Warren Street - Parade Hill area has similarly recognized that fact, and taken it into account in the renewal efforts in the area. These efforts have been impressive: they have physically renovated a number of buildings, focused local and national attention upon the area, and still were able to retain the social fabric of the local community in place. From 1972 to 1978 forty structures, involving 340 residents, were involved in the facade easement program. This program cost a total of \$770,000 and combined federal funds of \$450,000 with state funds (\$25,000), city funds (\$45,000) and private monies (\$250,000). Two more phases of the downtown renewal efforts in Hudson continued the efforts with a program costing \$183,163 involving 120 residents, and one costing almost one and one-half million dollars (almost two to one private monies) involving 92 merchants and between one thousand and 1500 residents. During these projects, the visual environment was a keystone to their implementation. The facade easement program recreated a lower Warren Street aspect that substantially reflected the architectural heritage of the streetscape. Rooflines, window placements, ornamental details and colors all reemphasized the original integrity of the structures. Sign improvements were made at a cost of over \$300,000, while the whale symbol was used to create a symbolic focus for certain city-owned structures along the streetscape. A city which had lost a sense of its own inheritance regained a part of its self-worth through coordinating the visual environment with social planning.

These efforts have been declared of national planning significance and have been awarded four citations of merit for design excellence. The innovative program was "the first extensive use of facade easements in the United States and the first time urban renewal funds have been applied to work done as a result of these easements" according to the citation presented by the Second Awards Program, Urban Design Case Studies. The City of Hudson and its Development Agency also received a New York State Association of Architects Award (1977), and an honor award from the Federal Department of Housing and Urban Development (1976) for excellence in design of community improvements in the Historic District.

Viewscapes taken from a number of different points in Hudson attest to the fact that the tower and the plume at the Athens site would be clearly visible from significant locations in Hudson. From Parade Hill, most significantly, over two hundred feet of the tower would be visible less than 2-1/2 miles due west. As Fig. HF-8 shows, this would severely impact an important visual prospect that established an historic precedent through its designation and maintenance as public open space. The Hudson newspaper (The Register-Star, January 18, 1979) (pictured Promenade Hill Park) and wrote:

Beautiful Promenade Hill Park, with its magnificent vistas up and down the Hudson River, has been a public area since 1785. It was officially donated to the city for use as a public park in 1795 and is one of the few examples of eighteenth century civic planning to take advantage of the majestic Hudson River scenery. Promenade Hill was restored and beautified under the Community Development program with a new, terraced entrance plaza and an adjoining play area for children.

(R-S, 1/18/79:p. PC-9)

Promenade Hill Park draws many local residents to its amenities and its views. According to the NRC survey, 43% of the respondents said they "go to enjoy the view from the Hudson waterfront at least once a year." (NRC Final Environmental Impact Statement, p. M-38). Similarly, from Academy (Prospect) Hill at the site of the reservoir, over three hundred feet of the tower would be visible some three and one-half miles due west. Other views, such as those from the hospital or high school, would be strongly impacted by the GCNPP location at Athens.

Transient views of the Athens facility from Amtrak trains would be extensive. The railroad station for the population of both Greene and Columbia counties is close to the riverbank at Hudson, within direct view of the Athens site.

The architectural and historical resources north of the city of Hudson are not examined in the application. As noted in Part I, there are at least four specific houses in that area which appear to be eligible for nomination to the National Register of Historic Places. Along with the heavily visited New York State Fireman's Museum (16,000 visitors in 1978), they have viewscapes across the river towards Athens which would be impacted by the facility.

## Athens

The impact of the cooling tower and its associated plume cannot be overstressed upon the small town atmosphere of the river hamlet of Athens. Wherever one stands in the Historic District of Athens, one would be subjected to views of the tower or the plume, looming over the everyday existence of the inhabitants of this village. Examination of the population data for Green County, New York State, and the nation as a whole point to the potential for small town renewal. Many non-metropolitan areas are being repopulated by persons seeking the amenities of human scale living and of proximity to more natural surroundings. The Green County planning department has projected this trend for the Athens area as well as other nucleated settlements in the county and is attempting to channel this phenomenon, known as "counterstream migration" (Berry, Beale, Fugitt) towards the existing villages and away from the open countryside. Athens is one such village that promises continued growth, and planning for the improvement of the existing structure has entailed a projected rivershore park and the incorporation of most of the village into a historic district.

The Athens Historic District has been approved by the State of New York for nomination to the National Register of Historic Places. In fact, the nomination actually entails two separate districts (Lower Village and Brick Row) as well as three individual structures totaling approximately 330 buildings. See Fig. HF-3 for delineation of district boundaries.

Sightline analysis of the topography within the Village of Athens and the Lower Village Historic District in particular indicates that from 50 feet to approximately 200 feet of the proposed cooling tower would be visible from throughout this area if there were no buildings or trees. Actual views within the district will depend, then, upon the viewer's position in relation to existing structures and vegetation and upon foliage conditions. In any case, the plume from the tower will be almost entirely visible over the tops of trees and buildings. It is to be expected that up to 200 feet of the tower itself will be visible within the historic district from various vantage points at all seasons, with greater visibility during the defoliate period. Views from upper floor windows can be expected to be most heavily impacted. Examples of expected visual impact under defoliate conditions are shown in Figures HF-9 and HF-10. Figure HF-9 is a view from Church Street within the Lower Village Historic District. Figure HF-10 is a view from just outside the district of Vernon Street north of Second Street, the main street of the village. It is apparent from these figures that the aesthetic impact of these locations would not be significantly less during the time when trees were in full foliage. One location in the village that would be visually impacted is the school located at Vernon Street where part of the top of the tower, together

with the plume, would be visible over the ridge to the west. Also, at the south entrance to the historic district, at 5th Street and Franklin; at least 200 feet of the tower would be visible from near the historically important Haight-Gantly-Van Loan house. Seen from the Hudson River on board pleasure craft near the Athens waterfront, the cooling tower would overwhelm an otherwise small scale townscape.

The Athens townscape is a vanishing aesthetic resource for New York State, as attested to by Mr. Larry E. Gobrecht, National Register and Survey Coordinator of the NYS Office of Parks and Recreation in a letter communication dated February 2, 1979. Mr. Gobrecht states:

"Although there are many finely designed and crafted individual structures in Athens, it is the remarkable preservation of an entire continuum from the early Dutch farm houses, to the homes of affluent river merchants, to the modest vernacular homes of factory workers and tradesmen, to the commercial structures--which together give this village a special quality.

We find here, not only the material remains of a village whose strategic geographical location spawned an exceptional variety of vernacular and high style architecture spanning a period of two hundred and fifty years, but also a humanly-scaled environment replete with both local and regional historical associations and, as well, a visual excitement generated by the variety and charm of its period architecture.

The village of Athens richly deserves the honor of having its historic district nominated to the National Register of Historic Places.

It is also useful to recognize that the village has not been torn apart visually from within by the removal of older buildings or implanting of newer plastic images as has happened throughout small town America (see the cultural landscape history of Bellefont, Pennsylvania by Peirce Lewis, 1976 or the documentation of the Hudson River small town of Hyde Park, New York, in the nationally televised film "Hyde Park" by Ralph Arlyck, 1977). Also, Athens is part of a local setting which itself has not changed much over the past one hundred years, so that residential tract development has not swallowed up the identity of the village (consider the problems of encapsulation suffered by formerly rural Long Island villages in Susannah Lessard, 1976 or of a New England sea coast town in William Dobriner, 1963). Rather, Athens has remained apart from the physical and social sprawl that has changed the social fabric and spatial pattern of small town America: but, it is a tenuous truce, at best. In this respect, the construction and placement of a nuclear plant facility, with its ever-

present tower and plume when in operation, would immeasurably change the visual amenities and aesthetic inheritance of the Athens community. It would constitute a non-reversible change, and would result in a major loss to the aesthetic resources of the State of New York.

#### Extensive Vistas

The visual impact of the GCNPP located at the Athens site would be substantially as severe on the Taconic Parkway as the impact from the Cementon site, referred to above. The cement plant stack plumes are presently visible from the northernmost scenic-overlook, "Columbia County", almost directly east of the Athens site. The upper cooling tower and plume would be visible from this state-designated scenic overlook with the same disrupting effect. Route 9-H runs north parallel to Route 9 from Hudson through Columbia County. It traverses a ridge generally over one hundred feet above sea level or more and has extensive views for six to eight miles westward towards the Hudson Valley and the Catskill range of mountains. Views from the Towns of Ghent and Claverack clearly show the Athens area and would be severely impacted by the proposed cooling tower and resultant plume. Although not intensively used according to the usual criteria (Claverack, 3150 1977 AADT; Ghent, 4550 1976 AADT), nevertheless, its ambiance of rurality would be quite changed by the visual impact of the proposal.

CONCLUSION

In assessing the aesthetic impact of a nuclear power plant at either Cementon or Athens in Greene County, judgments have been made in the foregoing discussion and analysis as to the amount of the facility, including the associated plume, which would be visible from viewpoints within the two viewsheds, as well as judgments about the aesthetic context of the region that would be impacted.

Assessment of aesthetic impacts in this report has been carried out through the use of qualitative measures. Such an analysis is a reasonable approach to an integral consideration of plant scale and design with the visual and cultural form of the landscape. (Flad, 1975; Flad, 1976)

It is my opinion based upon the foregoing discussion and analysis, that on both visual environmental and cultural-historical grounds, location of the proposed Greene County Nuclear Power Plant at either site would be aesthetically unacceptable. Measures proposed by the applicant to mitigate adverse aesthetic impacts would not significantly reduce or rectify these impacts. Richard Stein notes that such efforts usually fail in respect to major energy-producing facilities because it is the total landscape that is under review. (Stein, 1978) The remedial measures proposed by PASNY would in my opinion, be ineffectual for this reason.

APPENDIX A  
PHOTOGRAPHY AND GRAPHICS METHODOLOGY

Photographs were taken by a professional photographer, Michael Fredericks, Jr., of Ghent, New York, using a 35 mm. Mamiya 645 with 70 mm. lens. Photographs for Figures HF-5 through HF-8 were taken on February 11, 1979 between 10:00 a.m. and 1:00 p.m. under clear weather conditions. Those for Figures HF-9 and HF-10 were taken on February 28, 1979 between 10:00 a.m. and noon under clear weather conditions. 11" x 14" prints were made and the visible image of the GCNPP facility and plume were graphically superimposed. The result was then rephotographed and 8" x 10" prints were made.

The method for estimating the location and size of the visible GCNPP in each view was as follows:

1. On U.S.G.S. Map of Area concerned locate the relative positions of the proposed plant. The camera, and two clearly visible landmarks; one whose elevation and vertical dimensions are known.
2. On the photograph locate the true line of sight by drawing a vertical line through the intersection of the primary diagonals. Next draw vertical lines through the two visible landmarks. A ratio can now be established between the distances from each landmark to the line of sight.
3. On the U.S.G.S. Map connect the camera location to each landmark location with a straight line. The line of sight can now be drawn on the map by knowing that a line perpendicular to the line of sight and intersecting the lines connecting the landmarks with the camera will be divided into the same proportions established in Point 2.
4. On the U.S.G.S. Map connect the tower location and the camera location with a straight line. Through the location of the landmark of known height draw a line perpendicular to the previously established line of sight. The intersection of these two lines establishes proportional distances to the line of sight that can be transferred to the photograph. This intersection is the axis of the cooling tower.

5. From the relationships now graphically displayed on the Map we can, by the laws of perspective, transfer the known height of the given landmark to the tower location, establishing a scale to determine the height of the tower. Once the actual height of the tower is established it can be transferred, by proportion, to the photograph.
6. With the axis of the tower located and the correct proportional height of the tower established we can draw the tower on the photograph noting carefully those portions that would not be seen due to topography, buildings and vegetation.

Calculations and graphics were executed by the architectural firm of A. Symmetrics and Associates, of Poughkeepsie, New York, at my direction.

Plume renderings show a natural draft cooling tower plume of approximately the length (1300') and height (1200') expected to occur with a frequency of 50% according to data contained in Table 0.1 in the NRC Final Environmental Statement. Plumes are depicted under prevailing wind conditions for the winter season, with the wind blowing approximately from the northwest. (See Fig. 2.6-2 in the PASNY application for state certification Part III, volume 1 and Part IV, volume 1.)

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District Map Key

- |  |                                       |
|--|---------------------------------------|
| 1. Northwood                                       | 33. Chiddingstone--barn #2            |
| 2. Northwood--carriage house                       | 34. Chiddingstone--barn #3            |
| 3. Northwood--barn #1                              | 35. Chiddingstone--barn #4            |
| 4. Northwood--barn #2                              | 36. Chiddingstone--pumphouse          |
| 5. Northwood--barn #3                              | 37. Chiddingstone--new house          |
| 6. Northwood--tenant house                         | 38. Motherhouse                       |
| 6a. Northwood--tenant house garage                 | 39. Motherhouse--new building         |
| 7. Holcroft  | 40. Motherhouse--garage               |
| 7a. Holcroft--tool shed                            | 40a. Motherhouse--chicken coop        |
| 7b. Holcroft--boathouse                            | 41. Motherhouse--Assumption Hall      |
| 8. Holcroft--carriage house                        | 42. Motherhouse--St. Joseph's Cottage |
| 9. Holcroft--barn                                  | 43. Motherhouse--barn                 |
| 10. Holcroft--gatehouse                            | 44. Motherhouse--pumphouse            |
| 11. Holcroft--gatehouse garage                     | 45. Sylvan Cottage                    |
| 12. Oak Lawn                                       | 46. Sylvan Cottage--garage            |
| 13. Oak Lawn--barn/stable #1                       | 47. Livingston barn                   |
| 14. Oak Lawn--barn #2                              | 48. Clermont Cottage                  |
| 15. Oak Lawn--new residence                        |                                       |
| 16. Oak Lawn--gatehouse                            |                                       |
| 16a. Oak Lawn--gatehouse shed                      |                                       |
| 17. Oak Lawn--gatehouse garage                     |                                       |
| 18. Midwood  |                                       |
| 19. Midwood--barn/carriage house                   |                                       |
| 20. Midwood--Gardner's Cottage                     |                                       |
| 20a. Midwood--Gardner's Cottage garage             |                                       |
| 21. Midwood--bridge                                |                                       |
| 22. Midwood--storehouse                            |                                       |
| 23. Southwood                                      |                                       |
| 23a. Southwood--gazebo                             |                                       |
| 24. Southwood--dog kennel (east kennel)            |                                       |
| 25. Southwood--dog kennel (west kennel)            |                                       |
| 26. Southwood--corncrib                            |                                       |
| 27. Southwood--carriage house                      |                                       |
| 28. Southwood--barn #2                             |                                       |
| 29. Southwood--barn #1                             |                                       |
| 30. Southwood--gatehouse                           |                                       |
| 31. Chiddingstone                                  |                                       |
| 32. Chiddingstone--barn/carriage house #1          |                                       |
| 32a. Chiddingstone--barn/carriage house #1 carport |                                       |

TABLE HF-1

Building location key to Map of  
Clermont Historic District  
(Fig. HF-1)

TABLE HF-2

## VIEW ANALYSIS SUMMARY

| Legend Number<br>(Location on Fig. HF-11) | Vantage Point                                  | Distance From<br>Athens (A) or<br>Cementon (C) | Visibility<br>of GCNPP  |
|---|--|--|---|
| 1.  | Olana  | 6.2 mi. (C)<br>3.7 mi. (A)                     | Unobstructed; focuses view.<br>Cooling tower visible through trees from second floor and parking area during defoliate season. Unscreened view toward Athens site from tower and Ridge trail. |
| 2.  | Rip Van Winkle Bridge                          | 6 mi. (C)<br>3.5 mi. (A)                       | Unobstructed<br>Unobstructed.   |
| 3.  | Taconic State Parkway                          |  | Distant views:  |
| 3a.                                       | Livingston Manor Overlook                      | 11 mi. (C)                                     | Changes character of countryside  |
| 3b.                                       | Columbia County Overlook                       | 12 mi. (A)                                     | from rural to non-rural.  |
| 4.  | North Lake State Campsite                      | 7 mi. (C)<br>10 mi. (A)                        | Distant views; plume and facility undermines aesthetic experience.  |
| 5.  | Katsbaan Church and Ulster County stone houses | 3.0-3.8 mi. (C)                                | 200' of tower visible.  |
| 6.  | Clermont State Historic Park                   | 4.3 mi. (C)                                    | Facility obscured by ridge; possible plume impact.  |
| 7.  | Old Stone Jug                                  | 3 mi. (C)                                      | Partially screened.   |
| 8.  | Northwood                                      | 2.3 mi. (C)                                    | Unobstructed; view framed by landscaping.   |
| 9.  | Oak Hill                                       | 4.9 mi. (C)                                    | Unobstructed; view framed by landscaping.   |
| 10.                                       | Germantown: School; 9G; AMTRAK                 | 1.0 mi. (C)                                    | Nearhand view; unobstructed; extremely intrusive.   |
| 11.                                       | Greene Point                                   | 2.5 mi. (C)                                    | Nearhand view, lower part of structures screened by trees.  |

SUMMARY  
(continued)

| #     | Location  | Distance                   | Visibility   |
|-------|---|----------------------------|--|
| 12.   | Thomas Cole House   | 3.2 mi. (A)                | obstructed by ridge;<br>possible plume visible.                      |
| 13.   | Rogers Island   | 2.8 mi. (A)<br>6.0 mi. (C) | Nearhand, intrusive view.<br>Distant, intrusive view.                |
| 14.   | Hudson City Lighthouse                                    | 2.1 mi. (A)                | 300' of tower visible.   |
| 15.   | Oliver Wiswell House,<br>Mt. Merino                       | 2.3 mi. (A)                | Unobstructed.  |
| 16.   | Village of Athens<br>(a) Haight-Gantly- Van<br>Loan House | 1.7 mi. (A)                | Partial obstruction; 200'<br>of tower visible                        |
|       | (b) Elementary school                                     | 1.4 mi. (A)                | Top of tower visible.  |
| 17.   | Parade Hill and Warren<br>Street Historic District        | 2.5 mi. (A)                | Unobstructed view of over<br>200' of tower visually<br>intrusive.    |
| 18.   | Prospect (Academy) Hill<br>& reservoir                    | 3.7 mi. (A)                | Unobstructed view of 300'<br>of tower; urban-residential<br>context. |
| 19.   | Joslyn Blvd.<br>(a) Jenkins and Van<br>Heusen Houses;     | 3.5 mi. (A)                | 200' of tower visible.   |
|       | (b) Fireman's Museum                                      | 3.3 mi. (A)                | 200' of tower visible.   |
| 20.   | Abraham Staats House                                      | 4.6 mi. (A)                | Unobstructed.  |
| 21.   | St. Mary's Cemetery,<br>Coxsackie                         | 5.2 mi. (A)                | View of over 200' of tower.  |
| 22.   | High Hill   | 3.6 mi. (A)                | Plant fully visible.   |
| Route | 9 (Stockport<br>Columbiaville)                            | 5.3 mi. (A)                | Tower in full view.  |
| Route | 9H (Claverack, Ghent)                                     | 6.7 mi. (A)                | Rural setting; tower and<br>plume visible.                           |
| Route | 9G, 23B south of Hudson                                   | 2.7 mi. (A)                | 200' of tower visible.   |
| Route | 9G, Germantown  | 1.0 mi. (C)                | Unobstructed view of entire<br>facility.                             |

SUMMARY

(continued)

| #     | Location      | Distance    | Visibility                              |
|-------|---------------|-------------|---|
| Route | 9W, Cementon  | .5 mi. (C)  | Total facility visible.                 |
|       | 9W, Athens    | .85 mi. (A) | Tower and containment building visible. |
|       | 9W, West Camp | 1.9 mi. (A) | Intermittent views of tower and plume.  |

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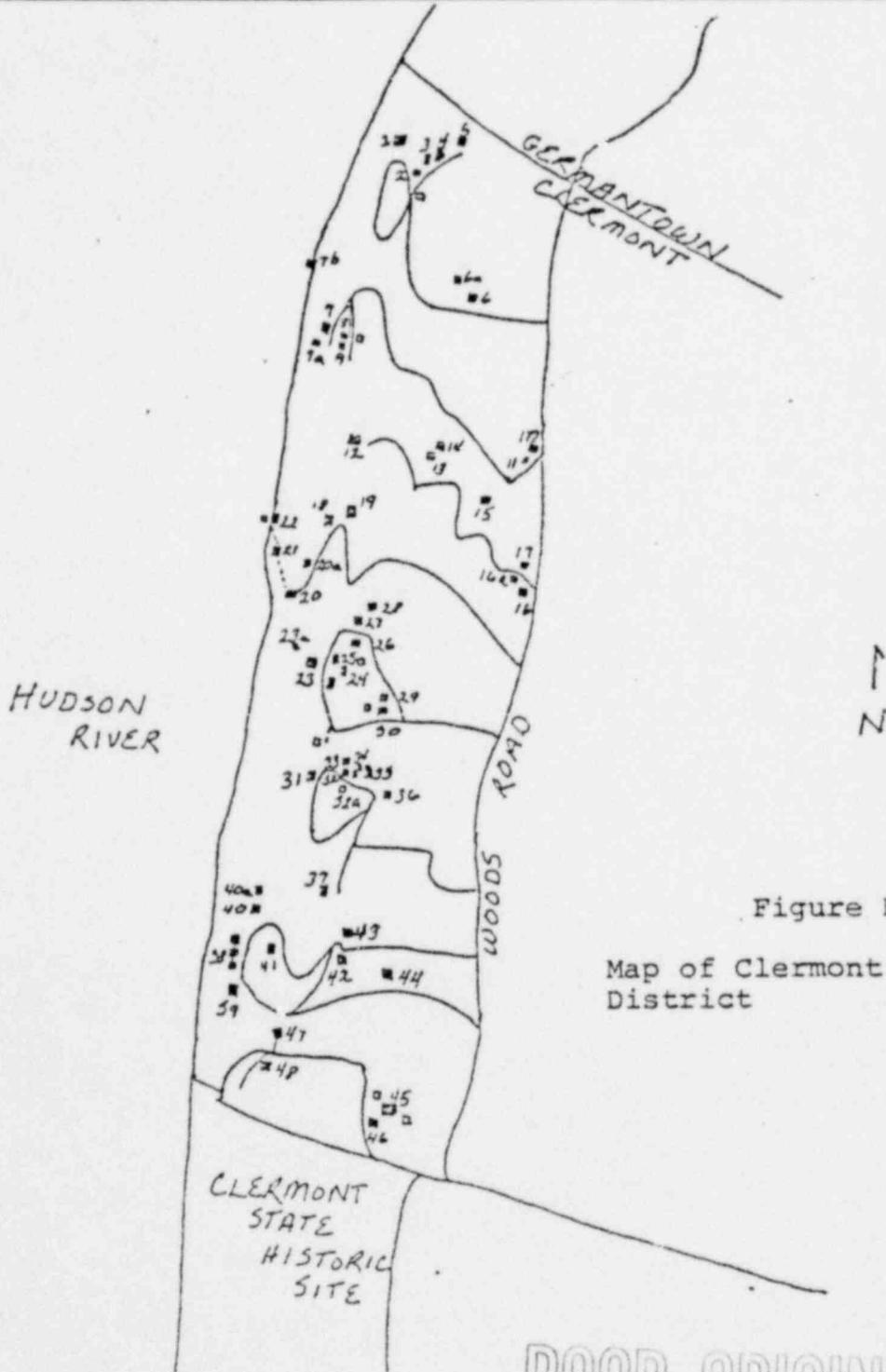


Figure HF-1

Map of Clermont Historic District

POOR ORIGINAL

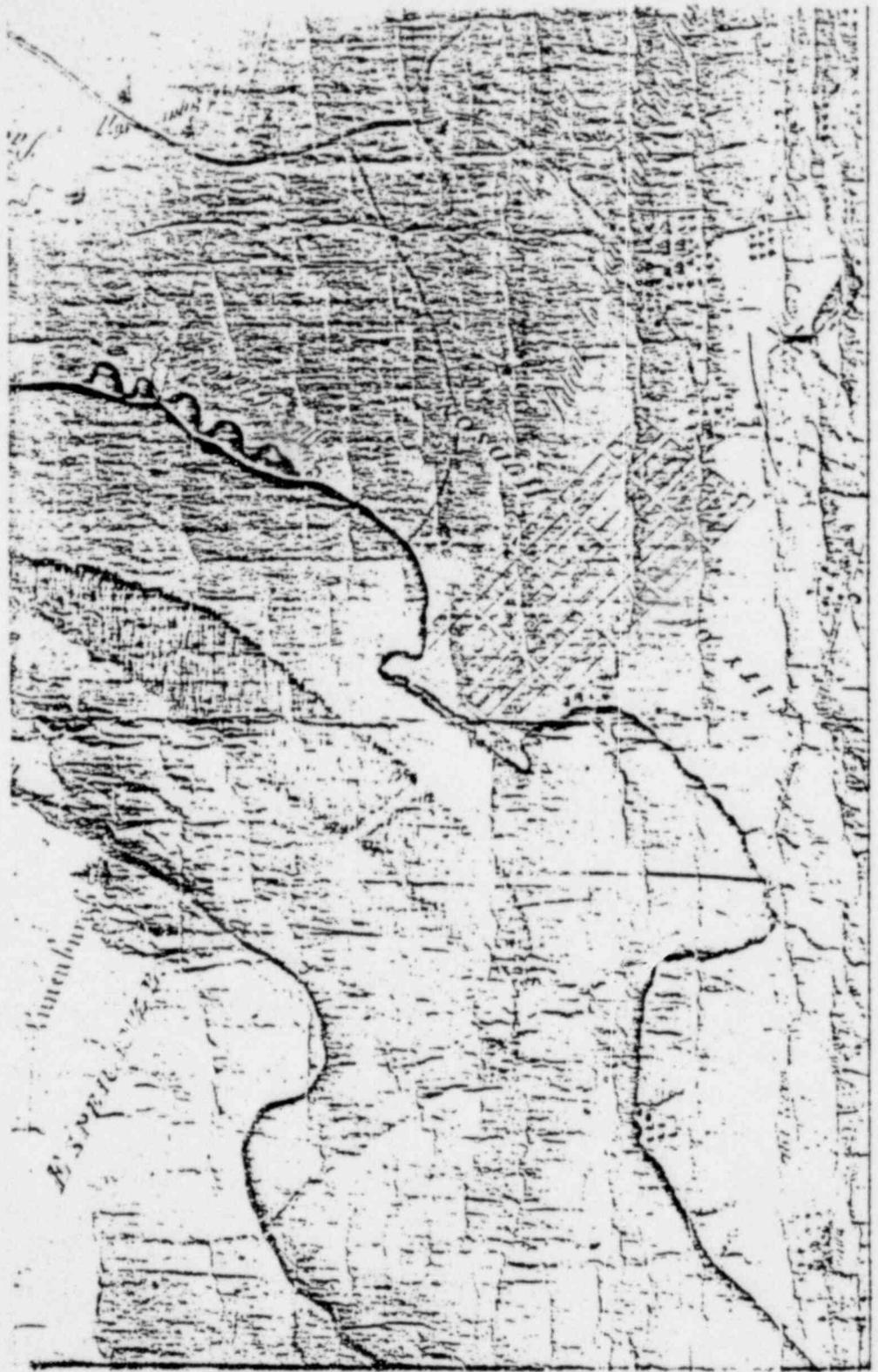
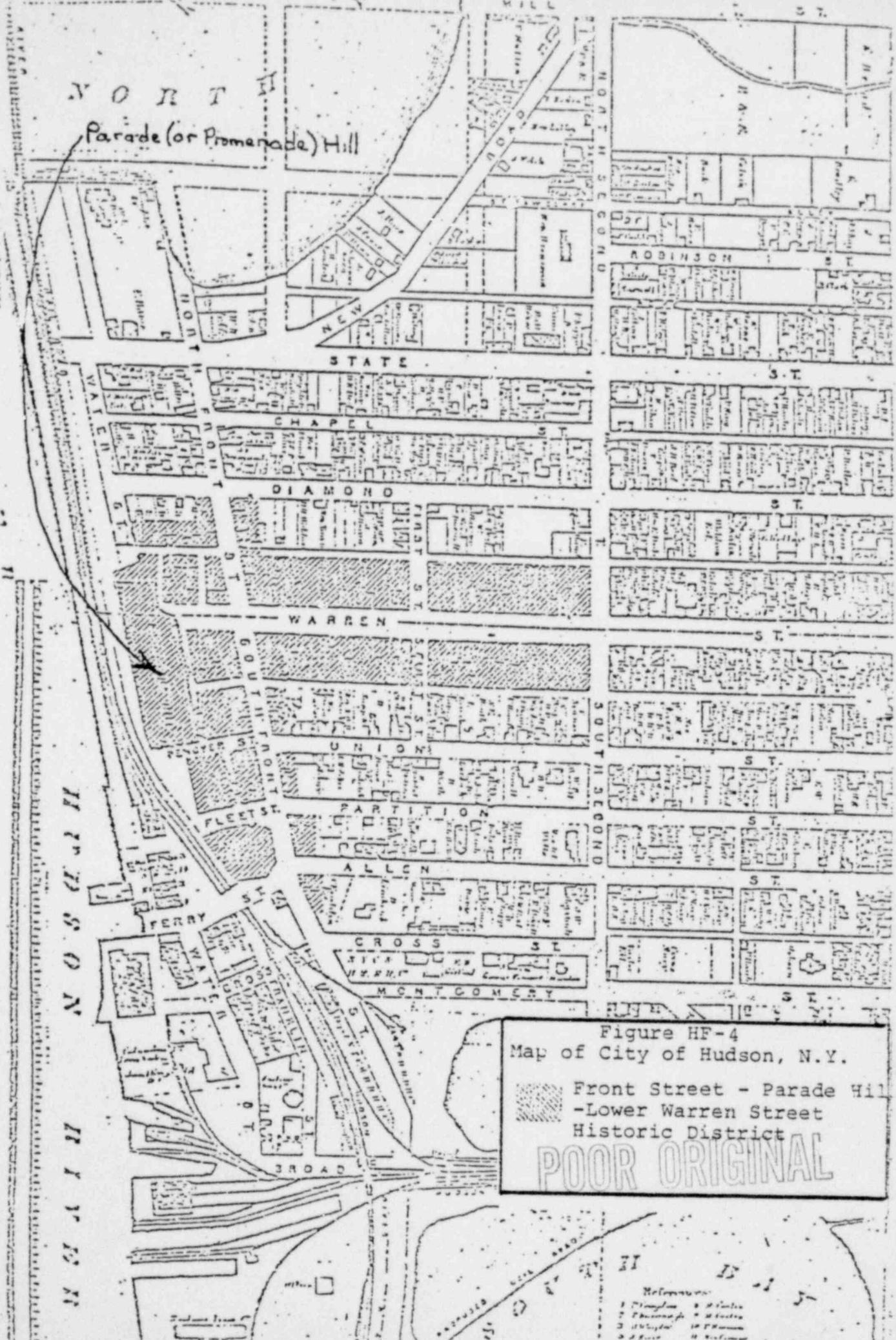


Figure HF-2

1799 Penfield Map of City  
of Hudson.

POOR ORIGINAL





NORTH  
Parade (or Promenade) Hill

Figure HF-4  
Map of City of Hudson, N.Y.

 Front Street - Parade Hill  
 - Lower Warren Street  
 Historic District

**POOR ORIGINAL**

1 Triangle    8 Circle  
 2 Square    9 Square  
 3 Circle    10 Square  
 4 Square    11 Square

VIEWSCAPE VANTAGE POINT LOCATIONS

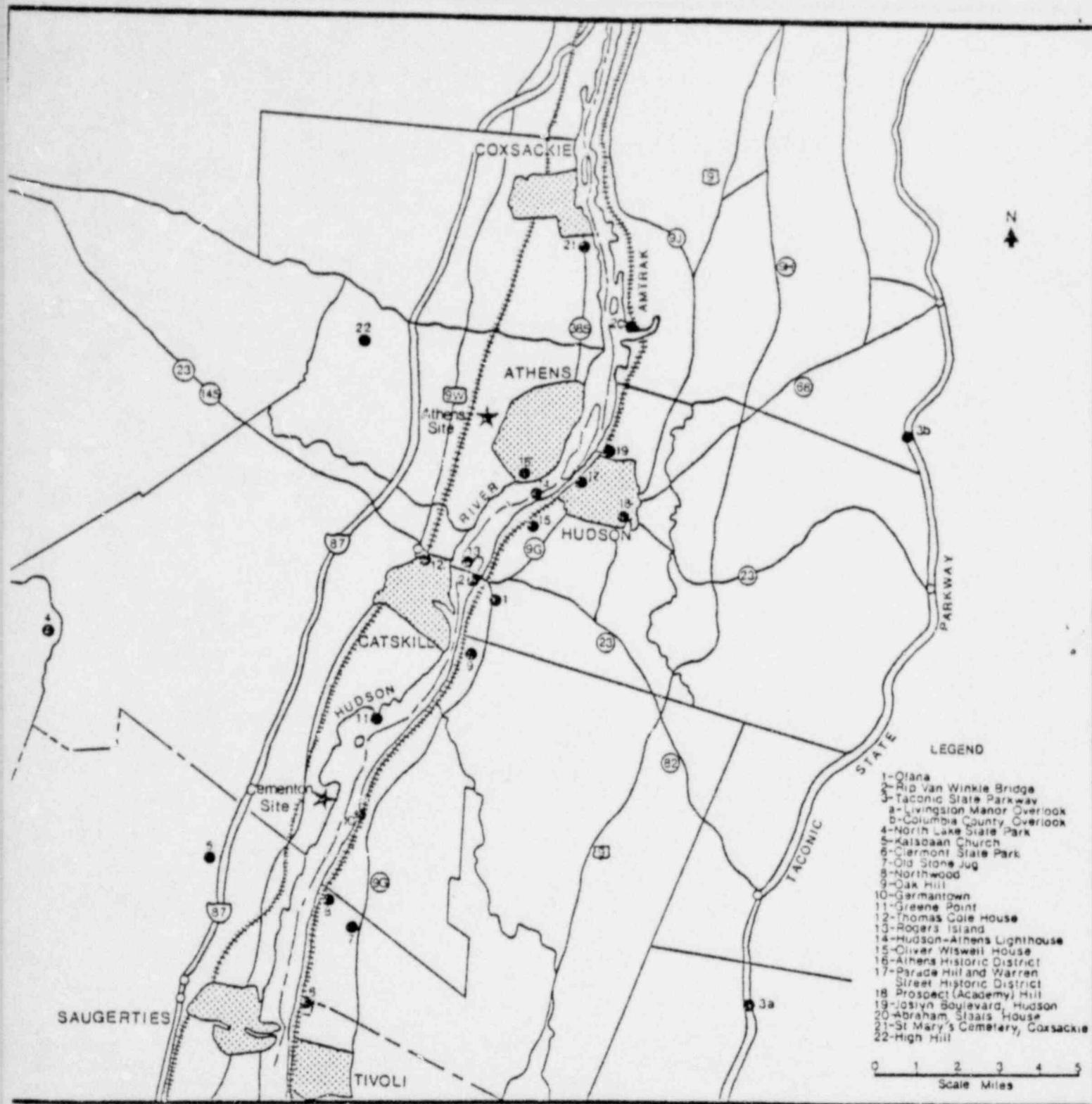


Figure HF-11

POOR ORIGINAL

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1. Lilley & Cummings (Dept. of Public Service) -  
Land Use
2. Smolinsky & Bishop (Dept. of Public Service) -  
Visual Impact
3. Benas (Dept. of Environmental Conservation) -  
Land Use and Aesthetics.



Figure HF-5  
CELESTON SITE - View from  
Oak Hill with GCNPP  
superimposed.

POOR ORIGINAL

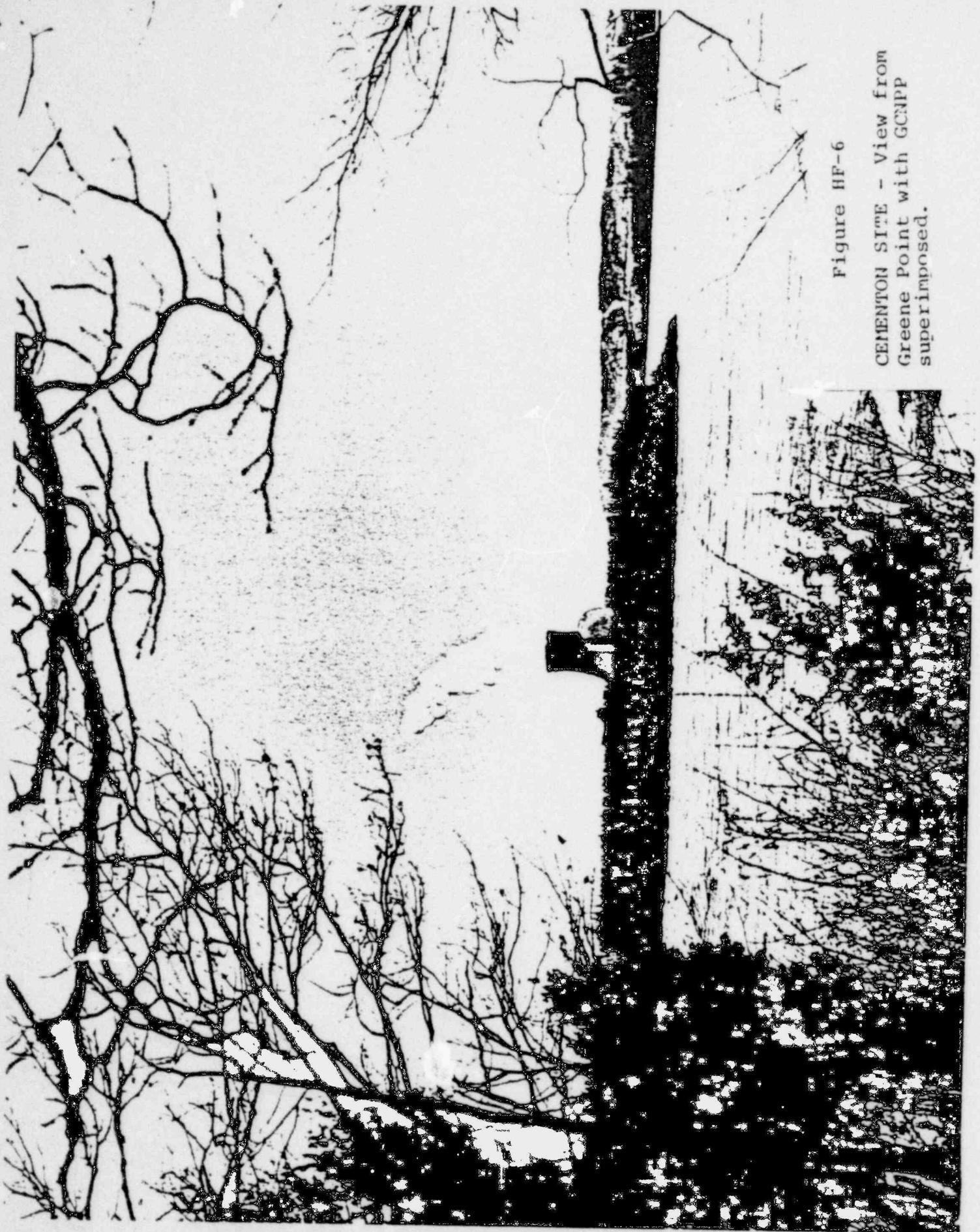


Figure HF-6

CEMENTON SITE - View from  
Greene Point with GCNPP  
superimposed.

POOR ORIGINAL

POOR ORIGINAL

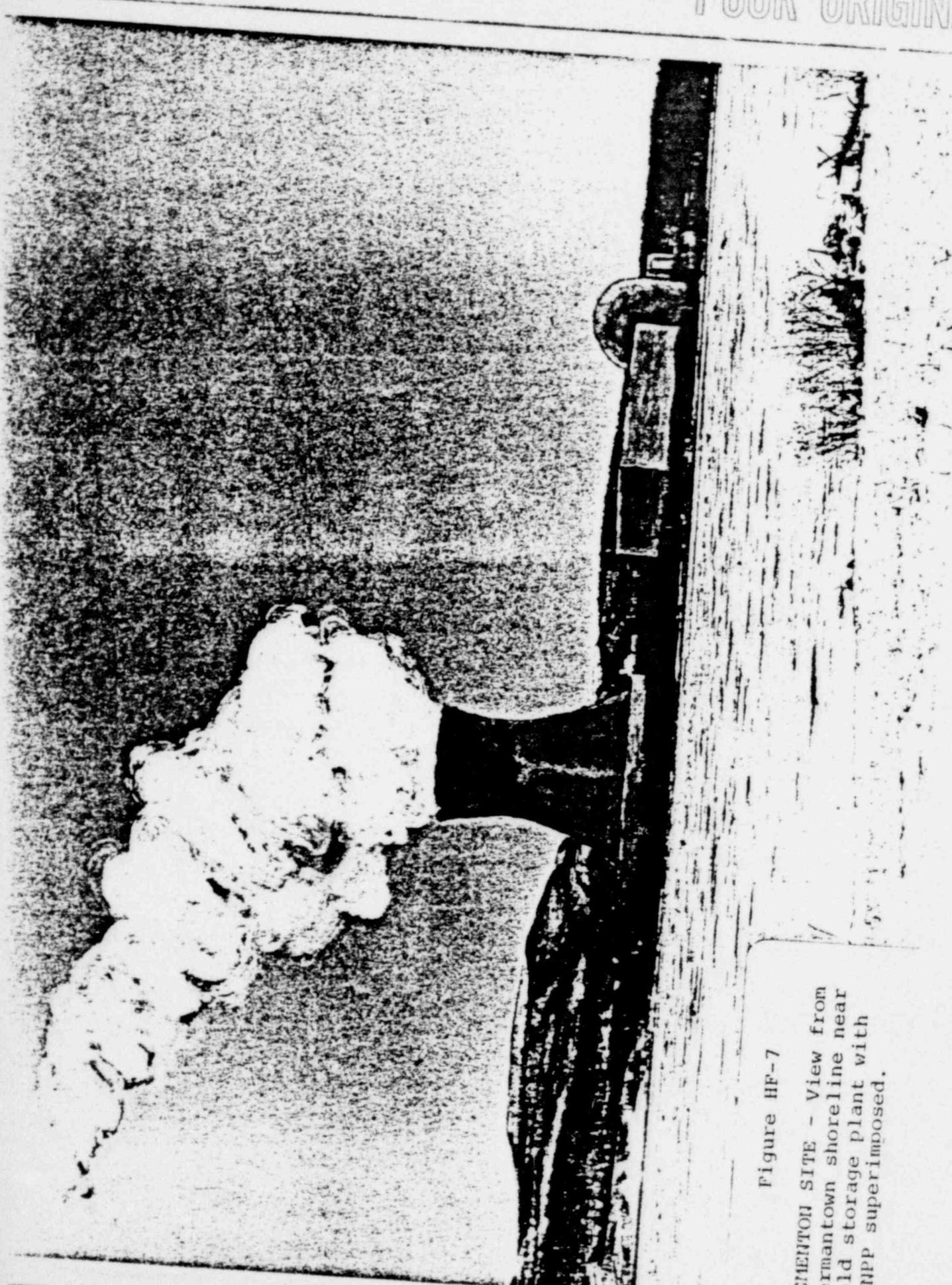


Figure HF-7  
CEMENTON SITE - View from  
Germantown shoreline near  
cold storage plant with  
GCNPP superimposed.

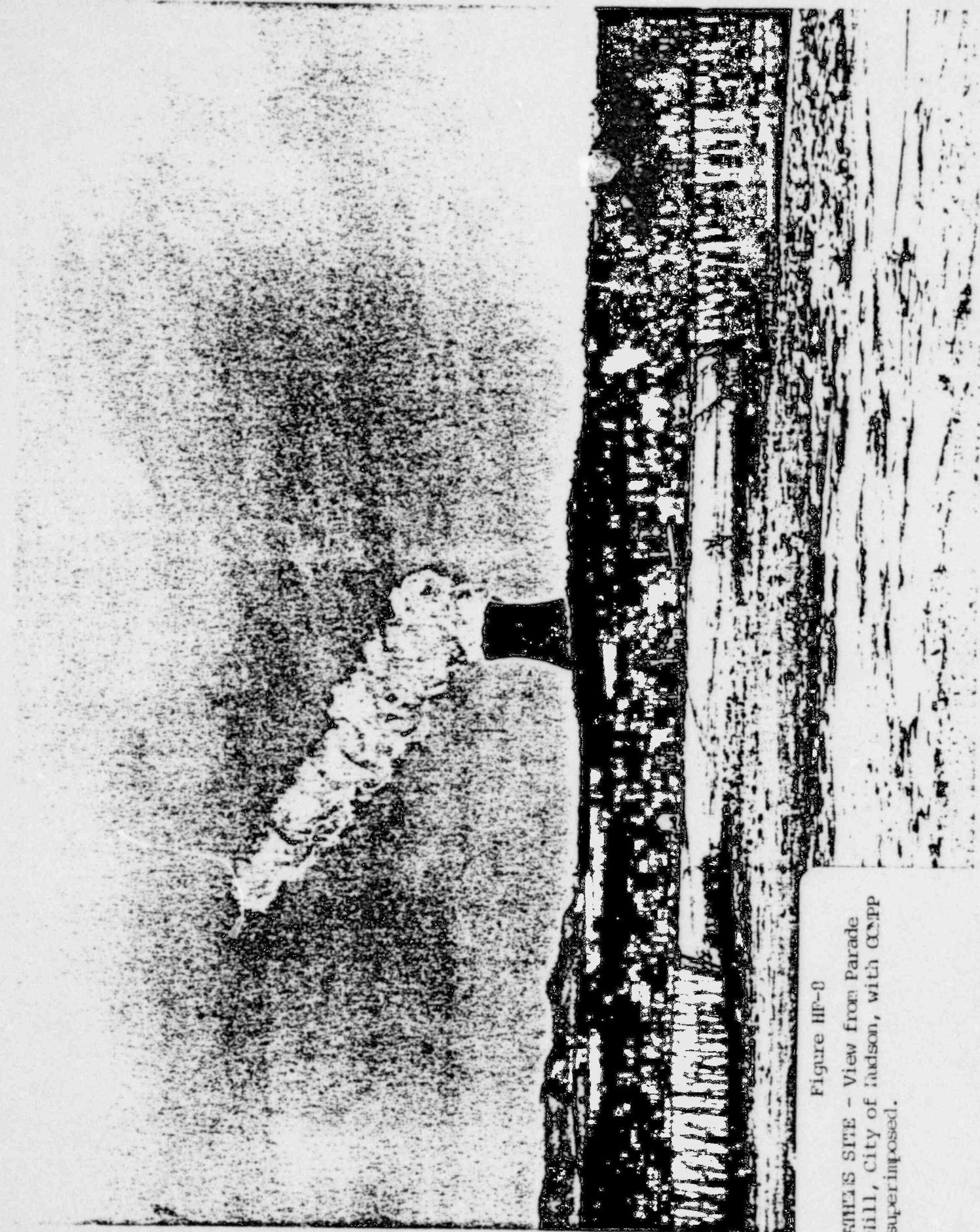


Figure HF-8

AMERIS SITE - View from Parade Hill, City of Madison, with CCPP superimposed.

POOR ORIGINAL

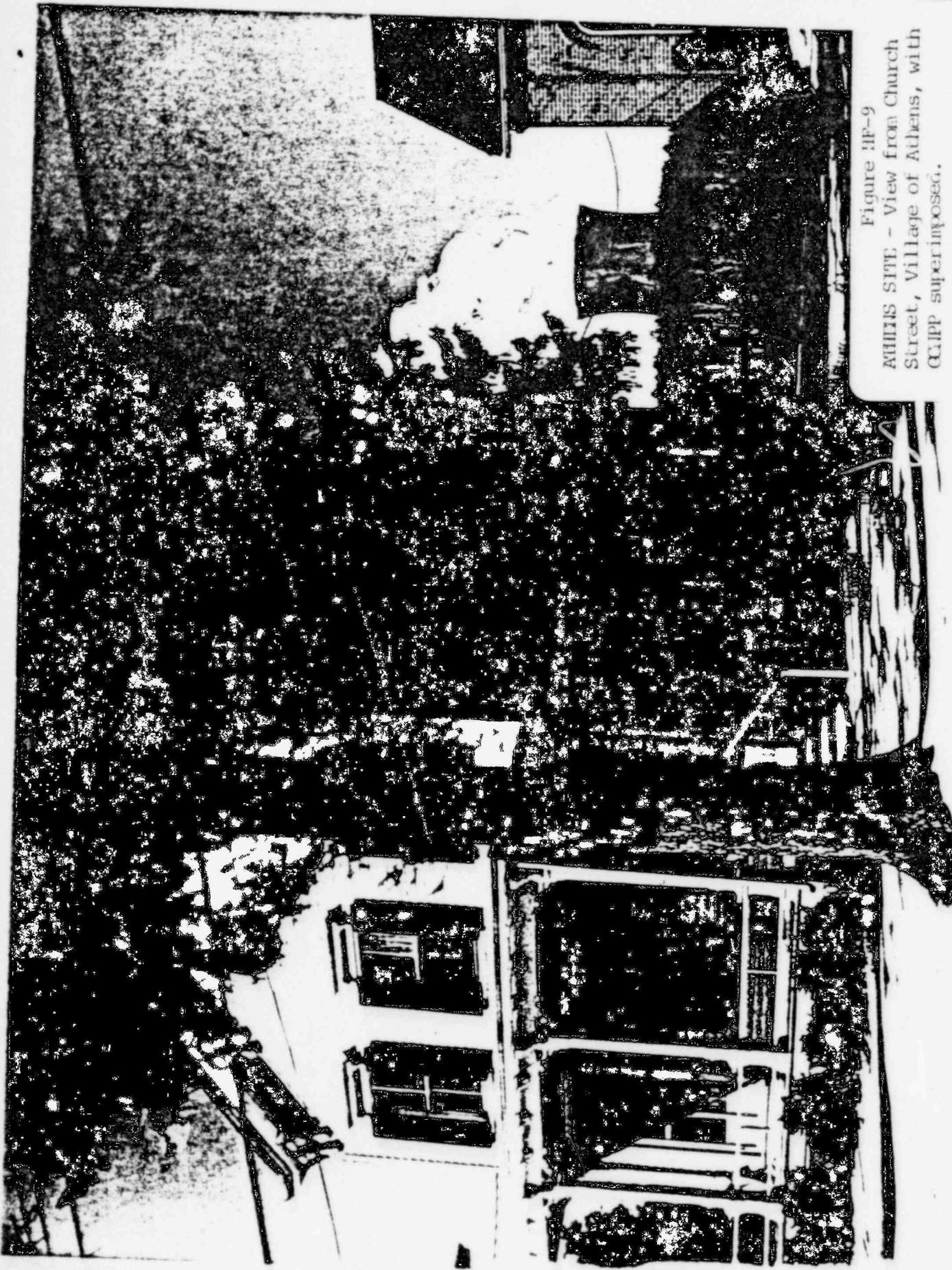


Figure 1P-9  
ATHENS SITE - View from Church  
Street, Village of Athens, with  
GAPP superimposed.

POOR ORIGINAL

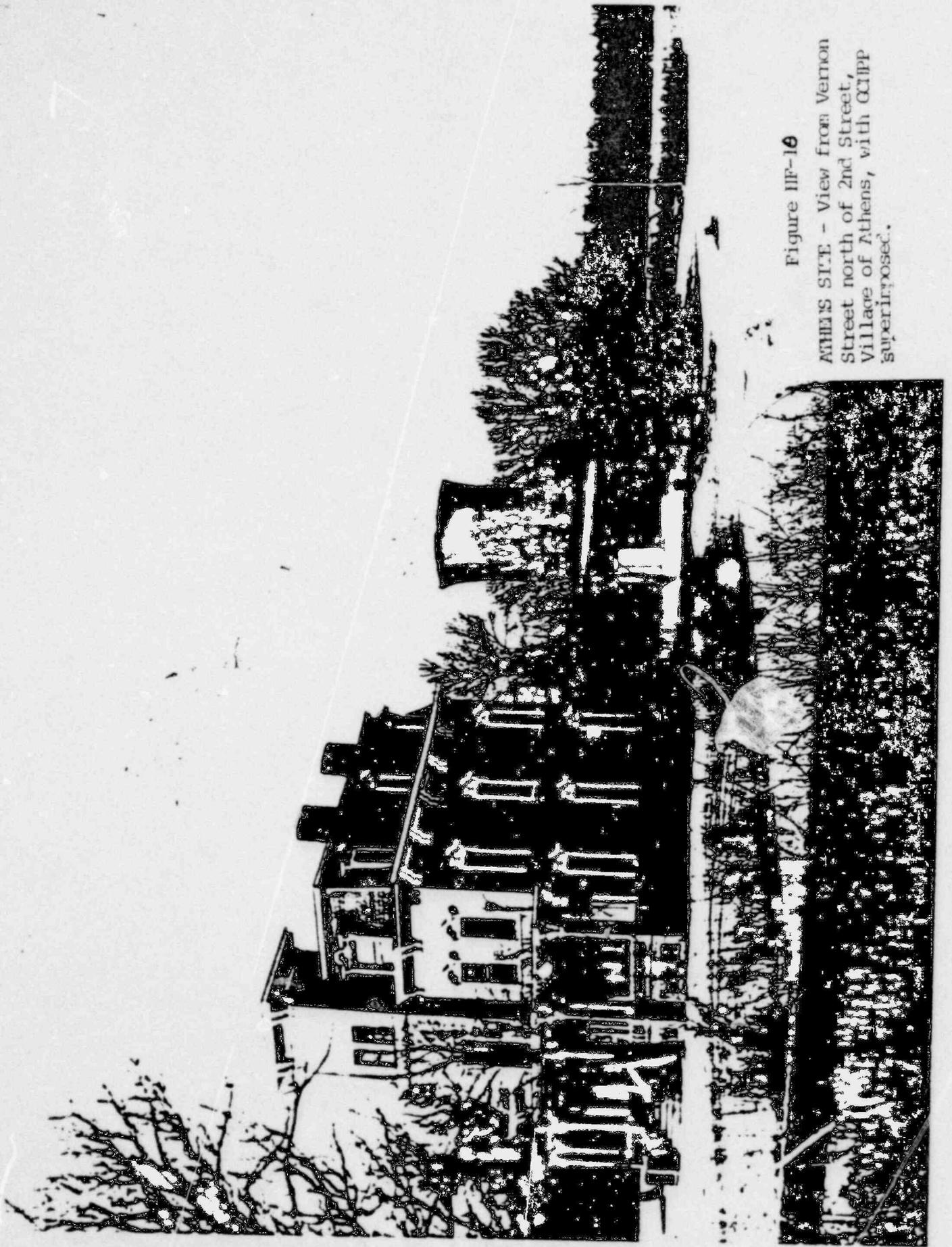


Figure IF-16

ATHENS SITE - View from Vernon  
Street north of 2nd Street,  
Village of Athens, with OCHP  
superimposed.

POOR ORIGINAL