

State of New Jersey
Department of the Treasury, Division of
Building and Construction

Department of Environmental Protection
Division of Parks and Forestry

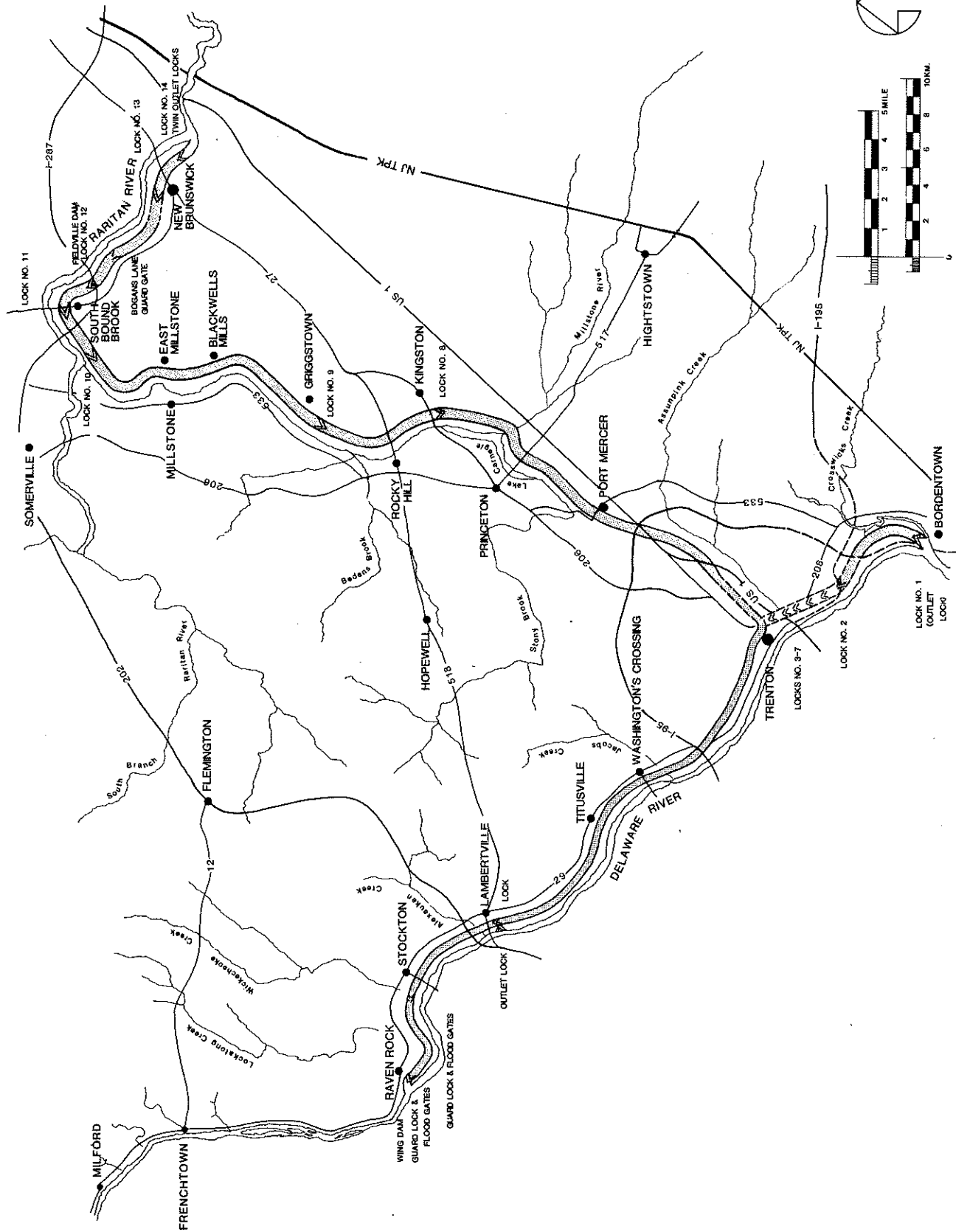
DELAWARE & RARITAN CANAL STATE PARK

HISTORIC AND RECREATIONAL DEVELOPMENT PLAN DBC 317

SEPTEMBER 1984

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DELAWARE & RARITAN CANAL

PREFACE

In order to envision what the D&R Canal State Park should become, one must know it as it is and as it was. The learning process involves becoming familiar with a vast body of details on places, things, dates, boundaries, etc. Fortunately, much useful information is available from earlier studies and books on the Canal's history. To place this information in context and to begin to understand the Canal's true nature one must experience it directly in all its moods and seasons. It is complex and appealing in many different ways and on many levels.

History and the natural environment have grown together over the years, each enhancing the other, and together providing a unique setting for a wide variety of recreational pursuits.

The term "development" as used in the context of this study means enhancement of what exists now and in some cases restoration of historic elements. Introduction of new elements has been limited to access facilities at selected locations and necessary housing for maintenance and administrative functions.

The recommended interpretive program can greatly increase the enjoyment and educational value derived from the park. History can be brought alive and natural systems given a deeper meaning.

Many agencies and individuals in New Jersey contributed knowledge of the canal park and its surroundings that has proven essential in preparing this plan. Agencies that operate other canal parks in this country and Canada have given freely of their experience and hosted tours of their facilities. Particular note should be made of contributions by the Division of Parks and Forestry, the Bureau of Capital Improvements and the D&R Canal Commission of the Department of Environmental Protection and the New Jersey Water Supply Authority.

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MAPS

(Bound Separately)

I. Path Segment Maps

The Canal Commission Visual Impact Review Area maps (listed as a, 7 in Appendix A, 3.) have been used as a base; additions and corrections have been made based on other sources and field observations.

II. Site Maps

Maps are based on aerial photographs, primarily a, (1) and a, (2) (as listed in Appendix A, 1.) with additions and corrections based on other sources and field observation. Existing conditions are indicated in SE drawings; proposed development is indicated in SP drawings.

III. Miscellaneous Maps

Sections based on the Reutter Survey Maps.

I. INTRODUCTION

A. Background

Since its official opening in 1834, the Delaware and Raritan Canal has served three vital but quite different functions. The first, and its reason for being, was to provide an inexpensive means of moving freight and bulk materials between the Delaware and Raritan Rivers. The canal performed this function for nearly 100 years until it could no longer compete with the railroads in the early 1930's. By this time, the surrounding country side was changing rapidly. Central New Jersey was developing as a primary transportation corridor and attracting industry which needed large quantities of water. Again, the canal satisfied a vital function and is continuing to do so today. The third function and the subject of this study will be its most lasting and possibly important to the people in the region it traverses. This function is to provide recreational opportunities, a sense of history and a place to immerse oneself in natural surroundings in a wide variety of forms.

Much has been written about the canal and its history. This study will be concerned with the present and future and will describe courses of action designed to meet the goals defined by the Master Plan for the Delaware and Raritan Canal State Park, prepared by the Delaware and Raritan Canal Commission and adopted in 1977 and the accompanying Delaware and Raritan Canal State Park Design Guide also prepared by the Commission and published in 1980. These documents define goals and development guidelines for the three primary concerns of this study: Recreation, history and natural conservation. Opportunities for all three exist in the canal park now and are being used and enjoyed. Through careful planning, the region's population can be better served, resources enhanced and the unique and valued qualities of the canal park preserved for future generations.

The key concept underlying this plan is to create a continuing balance between sometimes conflicting objectives. For example, development of too many recreational opportunities could adversely impact sensitive natural areas or historic sites. Also, a plan that concentrated development resources in a single area or responded to only one or two of the three primary concerns would unfairly deprive many potential users of their share of the opportunity to use and enjoy the canal park.

A balance must also be struck between the scope and timing of desirable development and the availability of funds to create and maintain it.

B. Purpose

The purpose of this development plan is to take one more step in the process that began with the creation of the canal as a State park. Because of the size and complexity of the development project, it will take many years to implement. During this period, it is entirely likely that new and different needs will arise and that potentials will be found in the canal park to fill them. The development process therefore may never have a clearly defined ending. This plan considers the following questions:

- What is there now?
- How can it be enhanced to serve a larger and broader population segment?
- What is the highest and best use of the Park's unique resources?
- How can the quality of present resources be improved?
- How can the use and enjoyment of future generations be assured?
- What are the priorities?

In trying to answer them, we must maintain a sense of the true nature of the canal itself. It is not just a place to go, in fact as a moving ribbon of water, it has virtually no sense of place or time. It is a connector between places, a medium in which we can travel in both space and time. It is always moving, we can stand and watch it move and imagine where it came from and where it is going or we can move with it at its speed or our own. It is defined in our minds by the places and events that we experience along its course. The canal is the vital string which holds these experiences together, relates them and gives them a broader meaning.

This contextual quality must be maintained above all. This plan, therefore, will not only focus on places and how to define and enhance them but also on maintenance of continuity of the canal and its adjacent path system.

With the goals defined in the Master Plan as a basis, the development plan will establish specific guidelines and an implementation process to ensure that each individual development project reinforces the whole and strenghtens the basic concept of the canal park.

C. Summary of Recommendations

1. Administration:

In addition to its importance as the central feature in the canal park, the canal itself is a vital source of water supply for central New Jersey. In serving its various functions, the canal comes under the jurisdiction of three separate agencies: park administration under the Division of Parks and Forestry of the Department of Environmental Protection, water supply administration under the New Jersey Water Supply Authority and planning, review and approval (within the Canal State Park as well as the adjacent review zones) under the Delaware and Raritan Canal Commission. The

responsibilities and authority of each agency relative to the canal have been defined principally under two separate laws: principally, the Delaware and Raritan Canal State Park Law of 1974 and the New Jersey Water Supply Act of 1981. The provisions of these laws appear in some cases to be inconsistent. A further study should be made to review all relevant legislature and to clarify the role of each agency.

Administration of the Canal State Park should be divided into three main functions; operations, maintenance and historic interpretation.

Currently the Park is substantially understaffed; increases in personnel and facilities are required in order to provide the necessary levels of maintenance and security even without further development. Proposed development will increase further the need for additional personnel and facilities.

Over the 20 year implementation period, bringing staffing up to current needs and proposed park development will require nearly a tripling of operating and maintenance personnel above current levels. During this period, three administrative zones should be established under the direction of the Superintendent who will operate from a headquarter facility at the present Blackwells Mills site. The three administrative zones, each with its own Chief Ranger, would be: 1. The Feeder Canal (Bulls Island to Scudders Falls), 2. The Trenton Segment (Scudders Falls to Route 1 Crossing including Duck Island) and 3. The Main Canal (Route 1 Crossing to Landing Lane). Operating and maintenance facilities for each zone would be located at Belle Mountain, Whitehead Road and Blackwells Mills respectively. The Belle Mountain facility would be constructed during the first implementation stage and would handle heavy vehicular maintenance and repair for all zones.

During the second implementation stage, the Blackwells Mills facility would be upgraded and expanded; the Trenton facility constructed in the third stage.

Early in the first implementation stage, a chief interpreter for historic interpretation would be brought on to oversee this aspect for the entire canal park.

2. Time Frame:

The aggregate potential for beneficial development in the canal park is very large and the total cost of implementation high. This plan therefore assumes that implementation will be staged over a 20 year period commencing in 1986. A priority system has been developed to determine approximate staging of individual projects according to need and importance relative to overall Park goals, as follows:

Priority I - Implementation Period 1986-1991
Priority II - Implementation Period 1991-1996
Priority III - Implementation Period 1996-2006

3. Additional Recommendations:

- Protection:

Its narrow, linear configuration makes the canal park particularly vulnerable to adverse impact from adjacent incompatible development and pollution and siltation carried in from remote locations via feeder streams.

With the projected dynamic growth of development and population in the counties traversed by the canal, the effectiveness of protective measures will be a critical factor in achieving the canal park goals. The Review Zone provision of the 1974 Law should be strengthened wherever possible and vigorously enforced.

- Coordination With County and Local Government:

In certain key areas, the development plan suggests incorporation of additional contiguous land to laterally expand canal park boundaries both for enhancement and protection of existing resources. Beyond any program for continuing acquisition, a great opportunity exists to enhance the park through assistance to counties and municipalities who may be planning compatible development on lands bordering the canal park. The State should assume a leadership role in identifying opportunities and providing planning assistance to localities to ensure maximum benefit to the Park and conformance with design guidelines.

4. Priority I - Projects:

Several individual projects have been assigned the highest priority due their immediate need, unusually high cost-benefit ratio or status as the final element needed to complete an existing system. The following projects are in this category:

- Construction of multi-purpose trail along feeder canal.
- Development of a staging area at Belle Mountain and facilities at Lambertville for the canal boat ride.
- Construction of the Belle Mountain administration/maintenance facility.
- Provide parking and canal access at Whitehead Road.
- Provide parking and canal access and construct a pedestrian bridge at Pinewood Landing.
- Develop an interpretive center at Griggstown.
- Organize, staff and implement the overall interpretive program.

- Stabilize, renovate and develop adaptive reuse for bridgetenders' houses at East Millstone and Weston.
- Construct pedestrian bridge and canoe landing in Calwalader Park, Trenton.
- Develop nature trail system at Bulls Island.
- Clear path and develop parking and access to historic and natural features at Duck Island.
- Sanitary facilities.

II. General

A. Development Plan Principles:

The design principles stated in the Canal Commission's Design Guide (p. 11-17) have been accepted as basic principles for this project where applicable; those principles are:

1. The chief role of the Canal Park is to serve as a connector.
 - a. If the Canal Park is to connect it must remain unbroken.
 - b. Differences must be fostered or else there will be no need to connect things.

(Note: The park is to connect not only places, but people, time, culture, nature etc.)
2. Development should respect and enhance the existing environment.
 - a. The goal of the planner must be to integrate adjacent elements within and near the park, not to isolate them.
 - b. New development must rely on the least intrusive means of achieving its ends in order to perpetuate the ambiguous image of the canal as being man made yet natural.
3. The introduction of new design elements should be limited.
 - a. When new features must be introduced into the park they should rely upon historic design elements and solutions wherever possible.
4. Architectural and landscaping materials should be suitable for their intended use and appropriate for their intended site environment.
5. Daily maintenance and management of the Canal Park should reflect the guidelines set forth here for park development.
6. Any development in or immediately adjacent to the Canal Park becomes, in effect, a part of the park and should reflect the park's amenities.

The development of the area beyond the Park is also beyond scope of the Development Plan; however, the context of the canal has been carefully considered and respected in this project. The Development Plan does assume that the Canal Commission will protect the Canal Park through the enforcement of its visual review regulations.

Where control of the development in an adjacent area is critical, additional recommendations have been made.

B. Study Method and Process:

1. We have studied not only the sites indicated in the DBC project descriptions, but also, as had been requested, the entire canal. As a result we have added several sites to the list. In addition the entire length of the canal was studied with respect to path systems; as the study progressed some of the smaller sites were incorporated in the path segments and several path segments as well as several sites were combined.

The scope of this project includes only existing park property; however, during the course of the study numerous other opportunities/problems/critical areas became apparent. These have been indicated as additional recommendations.

Emphasis has been upon the canal park itself and its context; field observation and aerial photographs have been used extensively. In addition numerous other maps and studies have been used (including the Vegetation and Aquatic Buffer Zone study, Zoning maps, Visual Impact Review Area maps and the draft Historical Survey and the various other items noted in Appendix A.) In addition informal contacts have been made with numerous organizations and individuals in order to maximize potential connections and minimize future conflicts.

C. Path:

1. In keeping with the park's chief role as a connector, primary consideration has been given to the development of path continuity, both of passage and visual; major consideration has been given to establish links with other path systems. Major consideration has also been given to the need define and, where required, provide buffers and security. The linear nature of the park makes its unity often imperceptible; thus the reinforcement of the identity of its major connecting element, the canal and its towpath is particularly important.

2. Different paths are noted in the proposal:

- a. Towpath - the old path formerly used by mules; usable by maintenance vehicles except as noted under the individual path segments.

Access and parking is provided at intervals generally where an existing road crosses the canal (e.g. Route 1 Crossing to Landing Lane).

- b. Multi-purpose path - suitable for walking, jogging, family bicycling; usable by maintenance vehicles.

Access and parking is provided at intervals generally where an existing road crosses the canal (e.g. Bull Island to Scudders Falls); in urban areas parking is generally not provided.

- c. Bridle path - for equestrian use only.

Access and parking provided at the ends of the trail utilizing access/parking for general path use. It is assumed that much of the usage will be by local persons (e.g. Griggstown/Blackwells Mills).

- d. Pedestrian path/trail - for pedestrian use only.

Access is from the towpath or a multi-purpose trail, no specific parking provided (e.g. loop trails in flood plain areas).

- e. Urban path - paved path for pedestrian use including jogging except where very narrow; path generally would include lighting, benches and trash cans. In many areas railings or bollards would be provided between the path and the canal.

Frequent access, parking is not provided within the park (e.g. Trenton).

D. Structures:

1. The canal structures, particularly the historic lock and bridgetender's houses, but also numerous other structures including the various historic and modern engineering works associated with the canal (locks, culverts, aqueducts, spillways, bridges, etc.) are important visual and historic elements in the park. They serve to punctuate the path, to define nodes and other areas, to provide variety and not least to form connections. They also have considerable interpretive potential.
2. A major consideration is that all historic structures should be stabilized as soon as possible and most should be at least partially restored. Structures are listed in Appendix B and major structures are also noted under individual sites or path segments.

E. Sites:

1. Most sites are access points; some sites are defined as nodes in the Master Plan; in fact, most others are also minor nodes. As such they they should be developed so that they provide variety and punctuation for the path system as well as access.
2. Major factors in determining the development of a site and the uses proposed for it include:
 - a. The existing resources and the general character of the site (including the adjacent area).
 - b. The impact of the proposed development upon the surrounding area and the park.
 - c. The site in the context of the overall development of the canal.

F. Recreational Development:

1. The activities listed in the Design Guide and the Master Plan formed the basis for the activities considered appropriate for each site or path segment both in terms of general principles and specific activities. Particular attention has been give to linear activities and to establishing camping and picnicking areas so as to permit day and overnight trips for canoeists and hikers.
2. In many cases it has not been possible to include all activities; the most common reasons are:
 - a. Conflict with other activities.
 - b. Inability of the site to withstand the impact of a particular activity or combination of activites.
 - c. Inappropriateness to the character of the site or Canal State Park on a whole.
3. In selection the following criteria are most important:
 - a. Activities that best relate to the unique qualities of the Canal State Park.
 - b. Activities that relate to the unique qualities of the site/path segment.
 - c. Activities for which the demand is high.
 - d. Activites for which demand is not met in nearby areas.

G. General Programs:

1. Several programs are treated best as general programs applicable to the entire canal rather than being incorporated into individual sites/path segments these include:
 - a. Identification.
 - b. Design vocabulary.
 - c. Interpretive programs.
 - d. Operation and maintenance.
 - e. Documents.

H. Additional Recommendations:

1. General: Additional recommendations have been included where work beyond the scope of this Project, generally not on existing Park

land, would substantially enhance the Park by providing additional protection or connections.

2. Easements: The additional recommendations are not meant to include all desirable areas for which easements are required, but only those which are most important. Any easements which preserve the historical character of the Canal State Park are desirable. Preservation of adjacent farmland and natural areas is particularly important. In addition, the character of adjacent roads and structures is extremely important.
3. Historic Districts: Many Historic Districts, and proposed Districts, are adjacent to the Park. These give some protection from government and government funded projects, but little else. If any real protection is to be afforded the Park, ordinances need to be implemented which will control revisions and new development in these Districts.
4. Roads: The roads parallel to the canal and also the parallel rivers as well as those roads which traverse the Park are very important in the character of the Park and its adjoining visual corridor. For many people the Park is largely seen from these roads. Adequate control over the development of these roads is critical.
5. Utility Lines: Many utility lines cross the canal or Park and still more follow the roads noted in 4. above. These lines and the maintenance (e.g. tree cutting) and development associated with them have a heavy impact on the Park and its adjacent areas. Adequate control over future development and long term elimination of some lines is important.

I. Other Projects:

A great many projects under construction and proposed will have an impact on the Canal State Park. These projects are described in Appendix F; they include the following:

1. Water Supply:
 - a. Dredging.
 - b. Repair/rebuilding/maintenance.
2. Highway construction.
3. Reservoirs.
4. Industrial development.
5. Residential/commercial development.

J. Terms and Abbreviations:

1. Bank: left and right bank is generally determined by the direction of flow; assumption is always that the viewer is looking downstream.
2. Flow (Assumed)
 - a. Main and Feeder Canal: from Bulls Island to Landing Lane.
 - b. Duck Island: from Bordentown to Trenton.
3. Abbreviations
 - a. General

D & R - Delaware and Raritan

NJDOT - New Jersey Department of Transportation

NJWSA - New Jersey Water Supply Authority
 - b. Bibliographical

(Refer to Appendix A, Bibliography, for full description)

DG - Design Guide: (D&R Canal Commission).

HS - Historic Survey: (D&R Canal Commission).

McK1 - McKelvey: The Delaware and Raritan Canal.

McK2 - McKelvey: Champlain to Chesapeake.

MP - Master Plan: (D&R Canal Commission).

VS - Vegetation Study: (D&R Canal Commission).

K. Milage:

1. General: Milage is used to locate sites, structures and other items for convenience and ease of reference. Milage given for sites is usually that of the access point (usually a bridge or road).
2. Feeder Canal and Main Canal north of the old Summit.
 - a. Milage is calculated from Bulls Island (0.0) to Landing Lane; Duck Island milage is discussed under that section.
 - b. Milage indicated in the report is based on the stations indicated in the maps by John G. Reutter Associates entitled "Photogrametric and Topographic Mapping, Delaware and Raritan Canal" (1967) where possible. This system has been adopted by the New Jersey Water Supply Authority and the Canal Commission in its more recent work.

- c. Appendix B gives both old (used in the Master Plan reports) and new milage based on the Reutter Survey.
3. Main Canal south of Old Summit
- a. Milage for the Duck Island Section is calculated from the (Bordentown) outlet lock and indicated with the prefix "B".
 - b. Remaining canal in Duck Island Section is subject to tidal flow, but considered as flowing Bordentown to Trenton for the basis of defining direction and right and left bank. Historically, the flow of water in the canal, in the Duck Island portion, was from the summit, in Trenton, to Bordentown; however the "navigational flow" in the main canal was considered to be from Bordentown to New Brunswick. Locks and bridges were numbered starting from the Bordentown end.
4. Railroad and former Railroad Beds
- a. Milage for some sections which are not along the canal is given the prefix "R"; such milage is usually taken from a common base along the canal. (e.g. 20.56 + R0.44)

III. Sites/Path Segments

A. General

1. Site/Path Segment Order:

Insofar as possible, the site and path segments have been placed in order so as to approximate a trip down the canal from Bulls Island to Landing Lane. Duck Island has been inserted after the Feeder Canal.

2. The Maps are an integral part of this report. The Path Maps also provide an overall view of the project and the location of the Site Maps.

3. In addition to the elements proposed under the individual sites/path segments certain items will also be considered on a general basis as well as being incorporated into the design of the sites/path segments. Such elements include:

a. Signage:

- (1) Identification of Park.
- (2) Traffic and other control signals.
- (3) Orientation.
- (4) Interpretive.

b. Trash disposal cans (most sites would include cans; except in urban areas most path segments would not include disposal cans).

c. Milemarkers (Main Canal): Missing milemarkers would be replaced. Where the canal is underground or buried milemarkers would be placed as near the original site as possible.

d. Handrails would be provided at large culverts and aqueducts. They would also be provided in certain urban areas as noted in this report. No handrails (or fencing) would be provided at any locks.

4. Items not included, but recommended:

a. Towpath Maintenance:

- (1) Filling ruts and holes.
- (2) Thinning of brush between towpath and canal.

(3) Stabilization and erosion control of bank at secondary access points (fishing spots, minor paths, etc.) where needed.

(4) Control of poison-ivy along the towpath.

b. Canal Bank Maintenance:

(1) Restoration of rip-rap.

(2) Removal of vegetation in stonework.

5. Definitions/Amplifications

a. Canoe docks: Unless specifically noted otherwise, of the type shown in the Canal Commission's Design Guide:

(1) Design "A" would be used at bridges.

(2) Design "B" used in other areas.

b. "Definition of Parking": Use of a combination of grading, landscaping rubble stone walls, treated timber or fencing to confine parking areas.

c. "Definition of Occupants' Area": Use of a combination of grading, landscaping, hedges, fencing or walls; used to provide privacy for occupants and also to confine and screen the occupants' inevitable clutter.

d. Fencing:

(1) Security: 8' high black vinyl-coated galvanized steel chainlink fencing (without barbed wire).

(2) General: Three rail, split rail fence (the type most frequently shown in historical photographs).

Note: At lock/bridgetenders' houses special fences (e.g. picket fences) would be used where appropriate.

(3) No fencing or safety barriers would (or should) be provided around locks and other similar structures (except as noted in (4) below).

Note: On almost all other canals, those developed as parks, locks are not provided with safety barriers or fencing; occasionally handrails are provided at stairs. Aside from detaching from the historical character and beauty of the structures, such barriers, provide an "attractive nuisance," create additional safety problems.

- (4) Handrails would be provided at certain culverts and aqueducts, often augmented at the ends by thorny bushes, to provide safety.
 - (5) Thorny bushes would also be used to control access at critical areas where erosion control or natural areas are important.
- e. Interpretive Definition: The use of various elements (low stone walls, stones set flush, concrete, timber posts, grading, paving) to define the locations of former structures. Often this would be combined with other uses particularly seating.
- f. Different paths are noted in the proposal:
- (1) Towpath - the old path formerly used by mules; usable by maintenance vehicles except as noted under the individual path segments: Unpaved.
 - (2) Multi-purpose path - suitable for walking, jogging, family bicycling; usable by maintenance vehicles: Crushed stone and compacted quarry dust (generally on former railroad beds.
 - (3) Bridle path - for equestrian use only.
 - (4) Pedestrian path/trail - for pedestrian use only: Unpaved unless otherwise noted.
 - (5) Urban path - paved path for pedestrian use including jogging except where very narrow; path generally would include lighting, benches and trash cans.

Note: Also see II. C. above.

- g. Picnic Area, Informal: A cleared space without tables.
- h. Primitive Camping: Cleared areas, Type C-1 sanitary facility, water, place for fire.
- i. Sanitary Facilities: Several types and sizes would be required.
- (1) Type "A": Structure would be a small building of the type indicated in j. below; floors would be ceramic tile, walls glazed block; structure would be stuccoed or clad with clapboards or other siding. Fixtures would be standard (water flush) with lavatories. The number of sanitary fixtures (water closets/urinals) is indicated by a prefix (e.g. "Type A-4").

Note: At least one fixture for each sex would be accessible to the handicapped.

- (2) Type "B": Not used.
- (3) Type "C": A simple roofless enclosure with a concrete slab on which a standard prefabricated chemical toilet within an integral housing. The number of prefabricated units is indicated by a prefix (e.g. "Type C-1").

Note: Costs for sanitary facilities include sitework.

- j. Small Buildings: Simple, generally wood frame clapboard or stuccoed concrete block. Building would be similar in design to that of the simple out-buildings shown in historical photographs.
- k. Storage: For occupants (at lock/bridgetenders' houses); size of a one car garage - see small buildings also.
- l. Vehicular Barrier: Typically a large gate, but also bollards, fences, walls, berms, vegetation, etc.
- m. Recommendations given in the text for structures use the terminology of the U.S Department of the Interior (1979):
 - (1) Protection: The act or process of applying measure designed to affect the physical condition of a property by defending or guarding it from deterioration, loss or attack, or to cover or shield the property from danger or injury. In the case of buildings and structures, such treatment is generally of temporary nature and anticipates future historic preservation treatment; in the case of archeological sites, the protective measure may be temporary or permanent.
 - (2) Stabilization: The act or process of applying measures designed to reestablish a weather resistant enclosure and the structural stability of an unsafe or deteriorated property while maintaining the essential form as it exists at present.
 - (3) Preservation: The act or process of applying measures to sustain the existing form, integrity, and material of a building or structure, and the existing form and vegetative cover of a site. It may include initial stabilization work, where necessary, as well as ongoing maintenance of the historic building materials.
 - (4) Rehabilitation: The act or process of returning a property to a state of utility through repair or alteration which makes possible an efficient contemporary use while preserving those portions or features of the property which are significant to its historical, architectural, and cultural values.

(5) Restoration: The act or process of accurately recovering the form and details of a property and its setting as it appeared at a particular period of time by means of the removal of later work or by the replacement of missing earlier work.

(6) Reconstruction: The act or process of reproducing by new construction the exact form and detail of a vanished building, structure, or object, or a part thereof, as it appeared at a specific period of time.

6. Costs

- a. Costs are in June 1986 dollars: Escalation is not included.
- b. A design contingency (20%) has been included.
- c. The cost of furniture is only included where specifically noted.
- d. Costs for interpretive displays include only the cost of the final material, not whatever research and design is required.
- e. A/E fees, which would vary from 5% to 20% depending upon the size and scope of the project, are not included.
- f. Miscellaneous project expenses (legal, printing, etc.) are not included.
- g. Construction contingencies are not included.
- h. Costs for borings, topographical surveys and permits are not included.
- i. Costs of land or easement acquisition are not included.

B. Sites/Path Segments

NORTH OF FEEDER CANAL

-12.6 Milford to (0.0) Bulls Island (Guard Lock)

Milford Borough/Alexandria Township/
Frenchtown Borough/Kingwood Township/Delaware Township
area downstream of (-0.7) Intake designated as a natural environment
MP/p. 9; area upstream of (-0.7) Intake

Existing:

1. Roadbed of abandoned Delaware and Belvidere Railroad on left bank tracks have been removed. A single track is active north of (0.0-R11.5) for (11.8) Paper Mill. An improved surface has been provided on the roadbed downstream of (-0.83) Byram. There are views of Delaware River, although frequently obscured by vegetation. The canal exists only downstream of -0.7 Intake.
 - a. (0.0-R9) Frenchtown: A small riverside town of considerable character. A public parking area is adjacent to the old railroad station (and also the river and Bridge Street).
 - b. (0.0-R9) Frenchtown North; a river access is maintained by the Division of Parks and Forestry.
 - c. (0.0-R12.6) Milford: A small town with a number of interesting older buildings including several old mills near the old railroad station.
 - d. (0.0-R8.10) Kingwood Access; a river access maintained by the Division of Fish and Game.
 - e. (0.0-R1.73) Former Byram Foot Bridge site; a viewpoint.

Note: Both Milford and Frenchtown have bridges across the Delaware River to Pennsylvania thereby providing access to the Delaware Division Canal and facilitating loop trips.

Proposed:

1. Multi-purpose trail on bed of abandoned railroad. North of (0.0-R11.5) for (11.8) Paper Mill, parallel to active line.
 - a. Surface improvement.
 - b. Clearing of some vegetation to provide views.
 - c. Occasional informal rest areas with provisions for simple seating.
 - (1) (0.0-R9) Frenchtown Station Area.

(2) (0.0-R8.10) Kingwood Access.

(3) (0.0-R1.73) Byram Foot Bridge Site.

d. Safe catwalk on existing railroad bridge.

e. Mile markers.

Note:

1. Concept: A link in providing bicycle/pedestrian path continuity along the Delaware (major use would be as a bicycle path).
2. Such a path enhances the park by providing an additional link; however, it could well be constructed/maintained by others; particularly if extended further than Milford, maintenance and operation by others is recommended.
3. The extension of the path beyond the canal to Milford should in the longterm not be part of the Canal State Park, but rather another linear park along the Delaware north of the Canal State Park linkages to other areas are highly desirable but the focus of the Canal Park would be lost if extended to include areas remote from it which, unlike the parallel road, river visual corridors have little buffering effect on it. In addition the maintenance/administration of such areas becomes difficult. The Canal Park is complex, and, indeed, is made better by its complexity, but will be viable only if the area has a strong focus of the Canal.

Activities:

Typical path.

Additional Recommendations:

Should additional trackage be abandoned, the multi-purpose path along route of old railroad bed should be extended as far north as possible.

Analysis:

- | | |
|---------------------------|---|
| 1. Project Objectives: | (N.A.) |
| a. Path continuity | (N.A.): Extends path beyond canal. |
| b. Structural restoration | (N.A.) |
| c. Recreational need | Links existing and proposed trails; bicycle path demand high; also jogging; much safer than Route 29. |

2. Impact:
 - a. Natural environment

Minimal; almost all development in previously disturbed railroad corridor; preserves a considerable length of riverfront as a largely natural area.
 - b. Historical

Preserves historic railroad corridor as a recreational corridor; preserves much riverfront.
 - c. Recreational potential

Path activities; river access; since river access already exists, no additional access proposed now.
 - d. Immediate neighbors

Less privacy; impact minimized by vegetation screen. Note: Few immediate neighbors.
 - e. Local community

Safe recreational use; minimal increase in traffic.
 - f. Visual

Maintains most existing vegetation and river edge while providing increased views of the driver.
3. Interpretive Potential

Minor; natural (similar to other areas); local history.
4. Access:
 - a. Path system

Links to proposed Canal Park paths.
 - b. General

Easily accessible from Route 29, (parking readily available at Bulls Island Frenchtown and Milford).
 - c. Public transportation

None.
5. Maintenance

Relatively simple, but over a long distance; similar to adjacent Canal Park path.
6. Security/Vandalism

Increased access, but also less isolated.
7. Conflicts

Railroad; one track (of two) active for one mile south of Milford, however railroad corridor wide enough and traffic minimal.

8. Compatibility - Master Plan Link Park to other areas/trails.
- a. Connector:
- (1) Unbroken (N.A.); but provides extension.
- (2) Unique character Corridor, natural area along river.
- b. Respect and enhance existing Yes.
- c. Limit new elements Yes.
- d. Appropriateness of materials Yes.
- e. Maintenance Yes.
- f. Surrounding area Yes.
9. Compatibility: Water Supply (N.A.)
10. Cost:

	I	II	III	Total
1: Multi-purpose trail	---	---	514,000	514,000
TOTAL			514,000	514,000

11. Priority Low; important to preserve corridor for future use; actual development at this time is not critical. Little direct relationship to Canal. Note: While priority in terms of the D&R Canal State Park is low, its priority in terms of overall State recreational needs may well be higher. Certainly the preservation of the railroad corridor is very important to the preservation of the character of the Delaware Corridor.

FEEDER CANAL

0.00 Bulls Island, Delaware/Kingwood Townships
area designated natural MP/p. 9

Existing:

1. Canal:

- a. Floodgates and remains of (Raven Rock) guard lock (require stabilization). Scheduled for revisions by NJWSA.
- b. Wing dam in Delaware River.
- c. Bridge: Stone abutments, steel beams with wood deck.

2. A group of historic structures on opposite side of Route 29 at Raven Rock (HS p. 49-50) including the former Saxtonville Tavern. The group has been nominated as an historic district. Also nearby is an old quarry.

3. Pedestrian Bridge (Delaware River Joint Bridge Commission) across Delaware River to Lumberville, Pennsylvania provides access to:

- a. The Delaware Division Canal (Theodore Roosevelt State Park, Pennsylvania) which closely parallels the right bank of the Delaware River; restored Lock #12 and the Paunacussing Creek Aqueduct are nearby.
- b. Lumberville itself, a small settlement with numerous historic buildings and considerable character. Among the historic structures is the Black Bass Hotel.

4. Roadbed of abandoned Delaware and Belvidere Railroad on left bank; (generally more than 50 feet from the Canal) tracks have been removed. Remains of old Raven Rock Station platforms upstream and downstream of (0.0) access road. Open area upstream of access road used for parking.

5. Existing Park Facilities:

- a. Camping Facilities - approximately 75 sites; Water, Sanitary Facilities provided. Area is a "drive-in" camping facility.
- b. Day Use Area:
 - (1) Open Field for games.
 - (2) Picnic area (at wooded edge of open area).
 - (3) Parking.
- c. Boat launching area (Delaware River).

- d. Canoe launching area, (canal) on left bank downstream of guard lock, needs improvement; Canoe dock (1982).
 - e. Ranger contact station.
 - f. Maintenance/storage facilities (Maintenance facility for entire Feeder Canal).
 - g. In addition to the facilities on Bulls Island proper, another boat launching area together with parking areas (24 cars minimum) is located at (-0.8) Byram just above the intake.
 - h. Ranger's residence.
6. The southern part of Bulls Island is a Designated Natural Area; area was designated to demonstrate northern flood plain habitat; area is excellent for bird watching.

Proposed:

- 1. Simple inconspicuous seating at the northern end of island.
- 2. General Park Facilities:
 - a. Camping Area: Minor grading and landscaping.
 - b. Existing Day Use Area:
 - (1) Expand parking: 50 cars.
 - (2) Provide a few additional picnic tables.
 - (3) Provide minor seating.
 - (4) Sanitary facilities: Type A-4.
 - c. Boat Launching Area (On River Below Bridge):
 - (1) Improve access road.
 - (2) Define and stabilize launching area.
 - (3) Provide a defined parking area: 15 cars with trailers.
 - (4) Provide adequate buffer (trees) particularly at Natural Area.
 - d. Canoe Launching Area (On Canal):
 - (1) Improve access road.
 - (2) Provide a few additional picnic tables.
 - (3) Provide minor seating.

- e. Ranger Contact Station: Improve appearance and provide some privacy. Provide temporary parking area.
 - f. Maintenance/Storage: Minor repairs only; new main maintenance facility for the Feeder Canal proposed for (9.24) Belle Mountain.
 - g. (-0.83) Byram:
 - (1) Improve/expand boat launch.
 - (2) Expand and define parking area: 20 cars and 20 cars with trailers; limit vehicles with barrier.
 - (3) Picnic areas (with tables and informal).
 - (4) Maintain area at head of intake as open area.
 - (5) Sanitary facilities: Type C-2.
 - h. Ranger's residence: No change.
3. Stabilization of remaining portions of lock.
Note: Coordination required with NJWSA.
 4. Entrance Area/Path Access:
 - a. A pedestrian or multi-purpose path parallel to the access road (including separate catwalk, at bridge, over canal) from Route 29 to the pedestrian bridge over the Delaware.
 - b. Interpretive definition of former railroad station/platforms.
 - c. Definition of parking (12 cars) for path users.
 - d. Landscaping.
 5. Interpretive display: relation to Pennsylvania Division Canal, guard lock, historical, Raven Rock, natural.
 6. Designated Natural Area South of Guard Lock: Nature trails (simple: without markers). Existing trails to be used where possible. Provide a few blinds.
Note: A management plan for the designated area must be provided prior to development.
 7. Selective landscaping. Buffers and also at park entrance (old railroad platforms).
 8. Canoe dock (and portage path) on left bank upstream of guard lock.

9. Paths in area between old railroad and canal upstream of (0.0) Guard Gate to provide loops and connection to (-0.83) Byram.

Note:

1. The site (aside from the designated natural area) is already fairly intensively developed; interpretation, particularly of the canal, but also of the natural area needs to be implemented.
2. Concept:
 - a. Existing camping to continue.
 - b. Existing day recreational uses related to river generally transferred to (-0.83) Byram; (existing boat launch would continue since it provides access to the pool below the Wing Dam). Path access would be at entrance.
 - c. Day use facilities on Bulls Island proper to serve more as a support for activities focused primarily on historic and natural resources.

Activities:

Canoeing: Stop, access (river and canal), camping;
Typical path;
Boating, (other than canoeing) (river);
Picnicking;
Fishing;
Vehicle/trailer camping (established use to remain);
Historic: canals (D&R and Delaware Division of the Pennsylvania Canal)

Analysis:

1. Project Objectives:
 - a. Path continuity (N.A.): See adjacent path segments, but note improved portage.
 - b. Structural restoration Guard lock remains.
 - c. Recreational need Path, canal and river access; historic site and nature observation.
2. Impact:
 - a. Natural environment Minimal; natural areas preserved; development in areas already developed/disturbed. Increase in use of natural area, however

- recreational uses restricted and screened.
- b. Historical Restoration; interpretation facilitated.
 - c. Recreational potential High; however further development would severely impact natural areas and degrade the historical/natural experiences; river access and canal access provided and segregated as much as possible.
 - d. Immediate neighbors Minimal change; Note: No neighbors on Park side of Route 29.
 - e. Local community Better park facilities.
 - f. Visual Minimal, but possible; definition and screening of parking and landscaping.
3. Interpretive Potential.
4. Access:
- a. Path system Yes.
 - b. General Good; Route 29. River (two pools), canal and park access.
 - c. Public transportation None.
5. Maintenance Increased slightly.
6. Security/Vandalism No change.
7. Conflicts Different uses; conflict minimized by separation of activity areas.
8. Compatibility - Master Plan
- a. Connector:
 - (1) Unbroken (N.A.)
 - (2) Unique character Intake, feeder canal; river; link to Pennsylvania side of river, natural area, adjacent historic district.
 - b. Respect and enhance existing Yes.

- | | |
|---------------------------------|--|
| c. Limit new elements | Few new elements; most in developed/disturbed areas; others inconspicuous. |
| d. Appropriateness of materials | Yes. |
| e. Maintenance | Yes. |
| f. Surrounding area | Yes. |
| 9. Compatibility: Water Supply | Restoration of former lock remains must be coordinated with NJWSA (which has plans to rebuild head gates). |

10. Cost:

	I	II	III	Total
1. Seating north end				
2. a. Camping area		14,500		14,500
b. Day use area	135,000			135,000
c. Boat launch (river)	47,000			47,000
d. Canoe launch (canal)	15,000			15,000
e. Ranger station	36,000			36,000
f. Maintenance building	6,000			6,000
g. Byram	76,000			76,000
3. Lock stabilization (Note 1)	24,000*			24,000*
4. Entrance/Path Access	26,000	12,000		38,000
5. Interpretive display	Part Minor 3,500	Part Major 12,000		15,500
6. Natural area	12,000			12,000
7. Landscaping		12,000		12,000
8. Canoe portage	4,000			4,000
9. Additional paths		6,000		6,000
TOTAL	384,500	56,500		441,000

Note 1: Responsibility shared with NJWSA; allocation of * costs not determined.

11. Priority

Stage I: Stabilization of guard lock remains. Expansion of Byram access area: Emphasis on recreational use; improve existing day use with increased emphasis on historical natural observation. Screening and defining of Bulls Island boat launch to prevent incursions on the natural area (boat launch should be retained since it provides access below dam).

Stage II: Improvements to existing camping area.

0.0 Guard Lock to (2.85) Prallsville (Smiths Mills)

Delaware Township/Stockton Borough
area designated as natural MP/p. 9

Existing:

1. Left Bank: Roadbed of abandoned Delaware and Belvidere Railroad distance from canal varies from 40 to 360 feet; tracks have been removed; a path surface has been provided on roadbed (1984).

Note: Canal is not always visible from the roadbed, Route 29 is almost always visible from the roadbed.

2. Pleasant unmanaged area, generally wooded, between canal and roadbed.

Note: (.72) Groin wall(?) from canal to roadbed.

3. (1.30) Lockatong Creek enters canal; small access area.

- a. Left bank: (Abandoned) Railroad Bridge over creek.

Note: Additional planking and handrails required; some planking added (1984).

- b. Right bank: spillway.

- c. Roadside rest area on opposite side of Route 29.

- d. Lockatong Nature Preserve (Hunterdon County facility) approximately 1 mile upstream on Lockatong Creek (also on Raven Head - Rosemont Road).

4. (2.84) Wickecheoke Creek:

- a. Abandoned railroad bridge.

- b. See (2.85) Prallsville.

5. Right Bank:

- a. Bulls Island: Existing narrow foot path.

- b. Downstream of Bulls Island:

(1) Spillways at (1.3) Lockatong and (2.84) Wickecheoke Creeks prevent continuous passage.

(2) Berm relatively fragile.

Proposed:

1. Left Bank: Multi-purpose path on the bed of the abandoned railroad.

- a. Minor improvements of path surfaces.
 - b. Selective clearing and buffer landscaping.
2. Left Bank: Pedestrian trail generally along canal; some clearing and minor stabilization required.
- a. Guard lock (0.0) to (0.9).
 - b. Lockatong Creek (1.3) to (1.8).
3. (1.30) Lockatong Creek:
- a. Provide additional new planking and guard rail on existing structure of (abandoned) railroad bridge.
 - b. Provide canoe docks: Right bank: Downstream of spillway. Left bank: Downstream of creek.
 - c. Provide: A few cleared areas for informal picnics on left bank; stabilized access from path.
 - d. Provide: Roadside pull-off with space for a few cars on canal side of road. (To facilitate maintenance/occasional parking) [Parking area would not be marked as such].
4. (2.84) Wickecheoke Creek:
- a. Repair/replace guard rails.
 - b. See (2.85) Prallsville.
5. Right Bank (Guard Bank): No trail (except on Bulls Island where existing path would be incorporated into nature trail).
- a. Spillways at (1.3) Lockatong and (2.84) Wickecheoke Creeks prevent continuous passage.
 - b. Pedestrian trail along canal and parallel to multi-purpose trail provides varied route and loop trails.
 - c. Berm relatively fragile; path would not contribute to stability of berm.
 - d. Without a path it becomes a special place accessible only to those in boats.

Note: Concept: Path continuity.

- | | |
|---------------------------------|--|
| 4. Access: | |
| a. Path system | On road side of canal. |
| b. General | Route 29; parking at Bulls Island,
local access at Prallsville. |
| c. Public transportation | None. |
| 5. Maintenance | Increased, but of a relatively
simple type. |
| 6. Security/Vandalism | No change; little to be vandalized;
area very close to Route 29. |
| 7. Conflicts | None. |
| 8. Compatibility - Master Plan | |
| a. Connector: | |
| (1) Unbroken | Yes. |
| (2) Unique character | (Natural area.) |
| b. Respect and enhance existing | Yes. |
| c. Limit new elements | Very few new elements; all minor
and in character with previous
(railroad corridor) development. |
| d. Appropriateness of materials | Yes. |
| e. Maintenance | Yes. |
| f. Surrounding area | Yes. |
| 9. Compatibility: Water Supply | Yes. |

Activities:

Canoeing
Typical path
Fishing

Additional Recommendations:

Protection by scenic and access easement of the Lockatong Creek at least far as the Lockatong Nature Preserve and encourage the provision of a simple trail (by others), to the preserve, along the creek.

Analysis:

1. Project Objectives:

- | | |
|---------------------------|--|
| a. Path continuity | Major. |
| b. Structural restoration | (N.A.) |
| c. Recreational need | Fills high demand for bicycling and multi-purpose trail. |

2. Impact:

- | | |
|---------------------------|---|
| a. Natural environment | Minimal change; increased use, but mostly in previously disturbed area (railroad corridor). Guard berm most fragile: Left relatively inaccessible to all but canoeists. |
| b. Historical | No adverse impact; aside from canal itself, few historic monuments; Note: Links historic areas. |
| c. Recreational potential | Typical path, fishing, canoeing; river access not feasible: Bridge(s) required, adverse natural impact, terrain not suitable. |
| d. Immediate neighbors | Virtually none; only neighbor on Park side of Route 29 well screened. Few neighbors on opposite side. |
| e. Local community | Provides safe recreational access/trail. |
| f. Visual | Minimal change. |

3. Interpretive Potential

Minor; largely natural.

10. Cost:

	I	II	III	Total
1. Multi-purpose path	62,000			62,000
2. Pedestrian trails	49,000			49,000
3. a. Railroad bridge repairs	29,000			29,000
b. Canoe docks (2)	4,000			4,000
c. Clear areas; path access stabilization	5,000			5,000
d. Roadside pull-off	4,500			4,500
4. Railroad bridge repairs	29,000			29,000
TOTAL	182,500			182,500

11. Priority

High; provides path continuity and meets demand for path activities particularly bicycling, jogging and walking.

- 2.85 Smiths Mills (Prallsville Mills), Borough of Stockton/Delaware Township designated special "node" MP/p. 9, p. 25
area upstream designated natural
area downstream designated suburban

Existing:

1. Complex of old mill (and mill related) buildings. The complex is an historic district. The complex is leased to the Delaware Valley Mill Society.
 - a. The mill complex includes the following:
 - (1) Flour Mill: (2 1/2 story) stuccoed stone structure; machinery largely intact.
 - (2) Granary: (3 story) corrugated steel clad timber frame structure; bins, chutes, etc., still intact.
 - (3) Linseed Oil Mill: (1 story) (18th c.) stone; very early and unusual; later revised and used as grist mill; no machinery. (Fall 1982) new roof.
 - (4) Saw Mill: (1 1/2 story) wood siding on timber frame; no machinery.
 - (5) Weigh Station: (1 story) wood frame and adjacent pit.
 - (6) Stables: (1 - 1 1/2 story) wood siding on timber frame.
 - (7) Wagon Shed: (1 story) wood siding (ends) on timber frame.
 - (8) Bunkhouse: Small stone building (at corner of Route 29 and Lock Access Road). Building originally a bunkhouse connected with the nearby quarry.
 - (9) Sanitary Facilities (Summer 1983) for use by leasee: (1 story) wood siding on timber frame shed.
 - b. The complex is outstanding and has high interpretive potential particularly in regard to the development of mills. The site has high interpretive potential. Mills, including the existing oil mill existed on the site prior to the canal. The site contains several types of mills and a complete set of ancillary buildings which present an excellent history of the development of milling. The various revisions required to accommodate the construction of the canal add further interest and interpretive potential. In addition, the complex not only provides outstanding visual historical context as well as strong visual identity to the "node".
2. (2.95) Prallsville (Stockton) Guard Lock Area.
 - a. Remains of Guard Lock.

- b. Floodgates.
 - c. Access roads to Guard Lock Area.
 - d. Parking left bank (1984) (between Route 29 and abandoned railroad bed).
3. Wickecheoke creek and spillway.
 4. (Abandoned) railroad bridge (1913).
 5. Adjacent historic buildings.

Proposed:

1. Mill Area:

- a. Stabilize all buildings immediately; restore buildings ultimately at least part of the mill should be restored to working condition and operated; some buildings might be put to adaptive use. Mill race system should be restored insofar as possible, and otherwise it should be defined as an interpretive aid.
 - (1) Flour Mill: Stabilize and restore. Use, together with Granary, to house a permanent display on milling (including site specific and general material with special reference to the canal and local history). The main floor can continue to be used as a small (seasonal) meeting place for local groups as well as in connection with the interpretive program for the complex.
 - (2) Granary: Stabilize and preserve; see above (1).
 - (3) Linseed Oil Mill: Stabilize and restore exterior. Archaeological investigation and eventual use as a place for additional historical exhibits.
 - (4) Saw Mill: Stabilize; preserve exterior to provide context; renovate interior to provide seasonal (no heating) display space (art, craft, historical, etc.) for temporary exhibitions. In addition some interpretive definition of former items should be incorporated into the renovation.
 - (5) Weigh Station: Restore exterior.
 - (6) Stables: Stabilize and preserve exterior; renovate interior to provide maintenance shop/storage and a small office area (heated) for use in connection with the mill complex administration.

- (7) Wagon Shed: Preserve; use for open but covered temporary display areas (in conjunction with special events, benefit sales, temporary exhibits, etc.).
- (8) Bunkhouse: Remove adjacent large tree, stabilize and rehabilitate exterior.
- (9) Sanitary Facilities (in old shed): Preserve exterior.

Note: Restoration and preservation work should be carefully supervised by a person with similar experience. Work on the mills should be in consultation with an expert on historical mills. Linseed oil mill is unusual and early; a careful archaeological study (supervised by a competent archaeologist in consultation with an expert on mills) is required.

- b. Interpretive displays in buildings: milling, operation of guard lock, specific: mills and mill races, development of the mills, in particular revisions required by the canal, local history.
- c. Landscaping: A few shade trees; fencing and trees at upstream (next to adjacent house) access road.
- d. Organize parking (20 cars).
- e. Lighting (minimal).
- f. Some seating; a few tables.
- g. Improve access to Route 29.

Note: The complex is most significant historically as a mill complex quite aside from its relation to the canal.

The complex is, however, also very important to the canal. It provides historical context and a fine example of not only a typical canal era industrial complex complete with ancillary buildings, but also a very specific example of the impact of the canal on the complex. At the same time it provides strong visual identity to the Prallsville node and the adjacent community.

The complex should definitely remain part of the Canal State Park, but its continued lease to the Mill Society is recommended; such a group is more easily able to concentrate on the specific mill related concerns important to the site.

Recommended assignment of responsibilities:

- 1. State: Stabilization and exterior restoration; sitework development.

2. Leasee: Preservation of structures; maintenance of area; specific development plan for mill complex; development of interpretive programs and information., Interior restoration (Flour Mill, Oil Mill, Granary) and renovation (Stables and Saw Mill). (Restoration should be considered a long term goal.)

2. Guard Lock Access Area:

- a. Define small parking area (8 cars) landscaping near floodgates ("lock") (for activities not related to mill area).
- b. Seating and landscaping.
- c. Provide access to proposed pedestrian path below floodgates ("lock") on right bank.
- d. Stabilize bank for fishing access (left bank upstream of railroad bridge).
- e. Sanitary facilities: Type A-3.
- f. Also see adjacent Path segments.

3. Canoe Related Facilities:

- a. Improve portage around floodgates ("lock").
- b. Provide canoe docks:
 - (1) At mill.
 - (2) At portage around lock on right bank upstream and downstream of lock.
 - (3) Right Bank: Upstream of spillway.

Note: Object is to facilitate stop and portages, not to provide access.

Note:

1. Concept: A site with two use areas:
 - a. A major historic site (operated by a local group) which also is a stop for path users.
 - b. A minor access point for local use (fishing, typical path activities).
2. No path access will be provided to right bank upstream of Smith Mills, but it will be accessible to canoeists.

Additional Recommendation:

Historic District for adjacent buildings.

Activities:

Canoeing: Stop, minor access;
Hiking, bicycle riding, jogging: Stop, access;
Picnicking: Minor-associated with other uses and largely informal;
Fishing;
Historic: Mill complex; guard lock remains;
Meeting place for small local groups (seasonal);

Analysis:

1. Project Objectives:

- | | |
|---------------------------|--|
| a. Path continuity | (N.A.) |
| b. Structural restoration | Major: Primary stabilization of mill complex; stabilization of lock remains. |
| c. Recreational need | Path access; fishing access; historic site access and interpretation. |

2. Impact:

- | | |
|---------------------------|--|
| a. Natural environment | Minor; development on previously developed/disturbed areas. |
| b. Historical | Stabilization/restoration of historic structures; recreational access kept separate so as not to conflict with historic mill complex and related activities. |
| c. Recreational potential | Access for canal, path and fishing use developed (primarily for local community use). River access not developed: Conflict with historic related uses and neighbors, space insufficient. |
| d. Immediate neighbors | Potential privacy; noise, access problems. Impact minimized by small scale of access, provision of parking area on Route 29 side of Canal and screening. |
| e. Local community | Some benefit to local restaurants, particularly if mill complex developed. Recreational access; |

mill complex also provides seasonal meeting place and focus for local activities.

- f. Visual
Stabilization of mill complex will preserve unique visual character of the area.
- 3. Interpretive Potential
High; mill complex and its development, particularly in relation to the Canal. Canal guard lock; water supply/resources; local history.
- 4. Access:
 - a. Path system
Yes.
 - b. General
Good; Route 29.
 - c. Public transportation
None.
- 5. Maintenance
Mill complex will require considerable maintenance, but leasee can provide much of the annual maintenance (probably not major items).
- 6. Security/Vandalism
Visibility (mill complex readily visible from Route 29 and nearby neighbors) and use by leasee and local community very helpful.
- 7. Conflicts.
- 8. Compatibility - Master Plan
 - a. Connector:
 - (1) Unbroken
Downstream pedestrian path facilitated.
 - (2) Unique character
Stabilized and restored buildings essential element.
 - b. Respect and enhance existing
Yes.
 - c. Limit new elements
Yes.
 - d. Appropriateness of materials
Yes.
 - e. Maintenance
Yes.
 - f. Surrounding area
Yes.

9. Compatibility: Water Supply

Lock area requires periodic maintenance, but should be no problem.

10. Cost:

	I	II	III	Total
1. Mill Complex				
a. Stabilize/restore buildings	120,000	240,000	282,000	642,000
b. Interpretive	12,000	18,000	24,000	54,000
c. Landscaping		15,000		15,000
d. Improve parking		9,000		9,000
e. Lighting		14,500		14,500
f. Seating, tables	2,000	5,500		7,500
g. Access		18,000		18,000
2. Guard lock access				
a. Parking, landscaping		9,000		9,000
b. Seating, landscaping		6,000		6,000
c. Path access (& lock)	Note 1			----
d. Stabilize bank		5,000		5,000
e. Sanitary facility			60,000	60,000
3. a. Canoe portage, etc.	Incl. 2c			----
b. Canoe docks	5,000			5,000
TOTAL	139,000	340,000	336,000	815,000

Note: 1. Included in Downstream Path Segment.

11. Priority

Stabilization of structures is important for safety and to prevent further damage; recreational access parking area has been provided by leasee; improvements can be delayed to Phase II as can further development of guard lock area, except for the stabilization of the guard lock remains, which is included in the downstream path segment and combined with facilitating downstream park access on the right bank.

Note: The preservation of all buildings is important in order to maintain the context of the complex. Never-the-less both visually and historically some buildings are more important. Priorities are as follows:

1. Oil Mill Stabilization:
Due to its historic significance.
2. Flour Mill Preservation:
Preservation of interior machinery very important. Of greatest visual importance to the canal.
3. Granary Preservation:
Preservation of machinery very important.
4. Saw Mill: Exterior preservation - important also as an element on the water courses for which interpretive delineation is proposed.
5. The remaining mill complex elements.
6. Bunkhouse.

- 2.85 Prallsville (Smiths Mills) to (5.72) Jimison Farm Bridge
in area designated suburban MP/p. 10 upstream of (3.93) Brookville
(Railroad bridge)
area downstream of (3.93) Brookville and upstream of Route 202 bridge
designated transportation MP/p. 10
area below Route 202 bridge designated urban MP/p. 10

Existing:

1. Roadbed of former Delaware and Belvidere Railroad:

- a. Above (3.93) on left bank side. The roadbed is not along the bank, but rather separated from the canal (except at 2.85 and 3.93). Abandoned railroad tracks have been removed.

Note: Milage along railroad bed is 1.0 miles.

- b. Between (3.93) Brookville and (4.93): Roadbed on right side, generally immediately adjacent to the canal; the abandoned portion extends to (4.93) opposite quarry; tracks have been removed.

- c. Tracks (active) of Black River and Western Railroad on right bank downstream of (4.93) quarry.

2. Right Bank:

- a. From (2.95) Prallsville Lock to (2.98) passage along canal is difficult. Private house and garden adjacent.

- b. (2.98-3.93) Guard Levee/berm bank closely parallels canal; existing pedestrian path on top of bank requires some clearing particularly upstream of 3.27. Natural wooded floodplain area between levee and river.

Note: Berm includes several dry-laid stone walls in the area between 2.98 and 3.15. Vegetation, in and adjacent to walls, a problem; utility crossings have also disrupted the original stonework at several points.

- c. Below (3.93) Brookville (railroad bridge) railroad tracks are on top of the guard levee. Between 3.93 and (4.31) Floodgate the former roadbed is not immediately along the canal. Below 4.31 the area between the roadbed and canal narrows; below 4.48 roadbed is generally immediately along the canal. Natural wooded floodplain area generally between the roadbed and the river.

Note: Railroad track (active) on right bank downstream of (4.93) quarry.

3. Left Bank:

- a. From (2.85) Prallsville to (3.93) Brookville generally residential uses abut the canal. Exceptions include (3.06-3.23) Borough of Stockton Playground and an (3.63-3.93) open field area upstream of Brookville Railroad Bridge.
- b. Backyards of houses (Brookville) abut the canal from (3.93) railroad bridge to (4.08) Brookville Creek.
- c. Route 29 is very close to the canal from (4.08) Brookville Creek to (5.30) below Ireland Bridge.
- d. (5.04) Railroad Bridge across Canal to quarry on left bank nearby. Stone from the quarry was once shipped by canal boat.
- e. (5.53) Roadside Rest Area (North of Lambertville Cemetery): Small roadside parking area with a trash barrel set fairly high above the old towpath and immediately adjacent to Route 29, and immediately north of cemetery.
- f. (5.41-5.63) Lambertville Cemetery is adjacent to canal. (5.58) old steps provide access from former towpath.
- g. (5.70) Route 202 bridge across the Delaware River. Passage along canal unimpeded; no pedestrian passage on bridge.

Note: Towpath known to have existed on left bank of feeder from Brookville downstream to Old Rose.

4. (3.38) Stockton:

- a. Bridge (Bridge Street) (concrete, 20th c: c. 1924?).
- b. Bridge (steel c. 1924) across Delaware River to Centre Bridge, Pennsylvania. The Delaware Division Canal is adjacent to the river.
- c. A town with numerous historic houses; much of its character from the canal era remains. The town has several stores and restaurants including the historic Colligan's Inn.
- d. (3.06-3.23) Borough of Stockton Playground is located in the area between the canal and the abandoned railroad road bed. The Playground, a large open area, includes childrens play equipment, an open-sided shelter, a baseball field, tennis courts and some seating. (A fence extends along the canal for about half the length of the Playground.)
- e. Abandoned Delaware and Belvidere Railroad roadbed (part of the Park) is approximately 400 feet from the canal bridge at Bridge Street.
- f. The canal is also accessible at the end of (3.27) Ferry Street, but this access is suitable only for local use.

5. (3.93) Brookville: A small cluster of houses, including a number of old houses, near Brookville Creek's entrance into the Canal.

a. (Abandoned) railroad bridge over canal.

b. Abandoned railroad road bed and path along canal join; access to river from path; small open area along river.

Note: 1. No access to canal from road.

2. Brookville was the site of the Dietz Plow Company (the Dietz House remains). The towpath existed at least as far as Brookville (canal boats brought sand for the Dietz foundry).

6. (5.18) Irelands Bridge: Access available; see Jimison Farm Area.

Proposed:

1. Multi-purpose trail:

a. On abandoned railroad bed (not generally along canal) from Prallsville to (3.93) Brookville Railroad Bridge. Also occasional landscape screen.

b. On bed of abandoned railroad (and along canal) from (3.93) Brookville Railroad Bridge to (4.93) end of rails.

c. On right bank roughly parallel to railroad tracks from (4.93) end of rails to (5.72) Jimison Farm bridge.

2. Right bank pedestrian trail:

a. From (2.95) Prallsville Lock to (3.93) Brookville Railroad bridge (above Brookville Creek): Pedestrian path on top of ground levee (right bank). Pedestrian path requires:

(1) Minor clearing of path and removal of vegetation from stonework.

(2) Occasional stabilization.

(3) Considerable improvement adjacent to the private house on the right bank (2.95) Prallsville Lock.

b. From (3.93) Brookville (railroad bridge) on bank of canal to (4.09) Brookville Creek then crossing the abandoned railroad bed (at about 45°) and following the River to (4.31) Floodgate; from (4.31) Floodgate, continuing on the river side of the railroad bed to (5.72) Jimison Farm Bridge with links to (5.18) Irelands Bridge.

3. Left bank pedestrian path: From (5.18) Irelands Bridge to (5.72) Jimison Farm Bridge on bank of canal (on site of former towpath).

- a. Removal of brush.
- b. Selective cutting of trees.
- c. (5.53) Roadside Rest Area:
 - (1) No access to restored canal towpath (on left bank).
 - (2) Removal of trash from bank.
 - (3) See Jimison Farm Area.
 - (4) Selected clearing to provide view.

Note: Existing development (largely residential and the closeness of Route 29 to the canal (below Brookville) makes a left bank path along the canal not feasible above Irelands Bridge.

- 4. (3.38) Stockton:
 - a. Vehicular restriction at towpath access (Bridge Street).
 - b. Minor seating just upstream of Bridge Street.
- 5. (3.93) Brookville:
 - a. Stabilize path to River as required (provide steps with railroad ties).
 - b. Maintain small clearings between river and canal for informal picnicking.
 - c. Some inconspicuous seating.

Note: Backyards of houses generally not particularly attractive.

- 6. (5.18) Irelands Bridge: Included in Jimison Farm Area.

Note: Concept: Path continuity.

Additional Recommendations:

- 1. Easement to prevent development of (3.63 to 3.93) open area between former railroad bed and canal in Brookville area.
- 2. Repair (by others) of (5.58) steps to cemetery.

Analysis:

- 1. Project Objectives:

- a. Path continuity Major.

- b. Structural restoration (N.A.)
 - c. Recreational need Path activities, particularly bicycling, walking; local access.
2. Impact:
- a. Natural environment Construction minimal, almost entirely on previously disturbed areas. Area will be opened-up, but impact light.
 - b. Historical No negative impact.
 - c. Recreational potential Linear and related activities; area to narrow for other development; along river, but river access not feasible.
 - d. Immediate neighbors Canal usually separates neighbors from Park. Along former railroad corridor vegetation would provide privacy.
 - e. Local community Recreational access provided; additional traffic minimal; some benefit to restaurants, etc.
 - f. Visual.
3. Interpretive Potential Not major and not particularly canal oriented; natural and local history.
4. Access:
- a. Path system At ends; local pedestrian access in Stockton.
 - b. General Good; Route 29.
 - c. Public transportation Poor; weekdays only (basically for commuters).
5. Maintenance Typical path.
6. Security/Vandalism Not a serious problem; little to be vandalized.
7. Conflicts Active railroad downstream of (4.93) Quarry; should not be a serious problem: Traffic not frequent and space exists for parallel/alternate route area of

greatest conflict used only for storage.

8. Compatibility - Master Plan

a. Connector:

(1) Unbroken Yes.

(2) Unique character Natural area.

b. Respect and enhance existing Yes.

c. Limit new elements Yes; general minor development of existing corridor/paths.

d. Appropriateness of materials Yes.

e. Maintenance Yes.

f. Surrounding area Yes.

9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Multi-purpose path	151,000			151,000
2. Pedestrian path				
a. (1) Clearing	29,000			29,000
(2) Stabilization	6,000			6,000
(3) Path at lock	29,000			29,000
b. Alongside railroad		4,000		4,000
3. Leftbank path		55,000		55,000
4. Stockton	7,000			7,000
5. Brookville	7,000			7,000
TOTAL	229,000	59,000		288,000

11. Priority

Path continuity.

5.72 Jimison Farm Area, Delaware Township/City of Lambertville area upstream of Route 202 bridge designated transportation and area Downstream of Route 202 bridge designated urban MP/p. 10

Existing:

1. Adjacent Jimison Farm - historic structures belonging to the Hunterdon County Historical Association.
2. (5.72) (Barbers) Bridge across canal provides access to river.
3. Adjacent to (5.70) Route 202 bridge across the Delaware River. Passage along canal unimpeded; no pedestrian passage on bridge (Delaware River Joint Bridge Commission bridge).
4. (5.87) Alexauken Creek Aqueduct nearby downstream.
5. (Black River and Western) Railroad (active) tracks along Canal on right bank upstream to (4.93) opposite quarry and downstream to below Lambertville.
6. (5.18) Irelands Bridge:
 - a. Bridge (typical wood) provides access to Delaware River.
 - b. Route 29 very close to Canal on left bank.
 - c. Pleasant Farm (Irelands) on left bank (on opposite side on Route 29)
 - d. (5.04) Railroad Bridge across Canal to quarry on left bank nearby. Stone from the quarry was once shipped by canal boat.

Proposed:

1. Parking:
 - a. At canal: 20 cars.
 - b. At river: 20 cars and 20 cars with trailers.
2. Picnic Areas.
3. Canoe Dock (Left Bank):
 - a. (5.72) Jimison Farm Bridge.
 - b. Primitive Camping Area.
4. Boat ramp on river.
5. (5.18) Irelands Bridge:
 - a. Vehicular barrier.

- b. Restoration of towpath on leftbank downstream to Jimison Farm Bridge. (See path segment.)
- 6. Primitive campsites for canoeist's/hikers.
- 7. Sanitary facilities: Type A-4 with maintenance storage.
- 8. Road improvements.
- 9. Field game area(s).
- 10. Provide Trails:
 - a. Multi-purpose trail, generally along river from (5.18) Irelands Bridge to (5.72) Jimison Farm Bridge.
 - b. Pedestrian trail: Loop from (5.72) Jimison Farm Bridge to (5.87) Alexauken Creek (following the river, creek and railroad).
 - c. Also see path segments.
- 11. Selective landscaping.

Activities:

Typical path: Access;
 Canoeing: Access (canal and river), stop;
 Picnicking;
 Fishing

Additional Recommendations:

- 1. A scenic easement preserving Irelands Farm would be desirable.
- 2. A scenic easement preserving the land northeast of the canal, between Alexauken Creek, the canal and the railroad.
- 3. Interpretive exhibits by local Historical Society (Hunterdon County Historical Society) at Jimison Farm.

Note: Numerous opportunities for development including demonstration farm.

Analysis:

- 1. Project Objectives:
 - a. Path continuity (N.A.)
 - b. Structural restoration (N.A.)

- c. Recreational need
 - River, canal, path access; also fishing and related activities (picnicking, field play, canoeists' primitive camping).
- 2. Impact:
 - a. Natural environment
 - Minimal; most of area has been previously disturbed.
 - b. Historical
 - Jimison Farm adjacent, but Park area to be developed has been thoroughly disturbed by highway and utility construction.
 - c. Recreational potential
 - River access, fairly large open area.
 - d. Immediate neighbors
 - Jimison Farm and Cemetery; plans for Jimison Farm and Park compatible (indeed reinforce on another); minimal impact on Cemetery.
 - e. Local community
 - Recreational access provided.
 - f. Visual
 - Landscaping; screen for parking areas.
- 3. Interpretive Potential
 - Jimison Farm (main interpretation, by others, at Farm) otherwise minor.
- 4. Access:
 - a. Path system
 - Yes.
 - b. General
 - Very good; Routes 202 and 29.
 - c. Public transportation
 - Poor; only weekday commuter service along Route 29.
- 5. Maintenance
 - Increased, but typical.
- 6. Security/Vandalism
 - Inspite of highways, area remains isolated from surveillance; but development will be relatively vandal resistant. No serious problems foreseen.
- 7. Conflicts.
 - No, but coordination required with Delaware River Joint Bridge Commission.

8. Compatibility - Master Plan

a. Connector:

(1) Unbroken

(N.A.)

(2) Unique character

Adjacent farm; riverside.

b. Respect and enhance existing

Yes.

c. Limit new elements

The few proposed elements will be on disturbed areas, screened from the Canal and generally away from it.

d. Appropriateness of materials

Yes.

e. Maintenance

Yes.

f. Surrounding area

Yes.

9. Compatibility: Water Supply

Yes.

10. Cost:

	I	II	III	Total
1. a. Parking at canal		14,500		14,500
b. Parking at river		14,500	14,500	29,000
2. Picnic areas		17,000		17,000
3. a. Canoe dock - bridge	2,500			2,500
b. Canoe dock - camping			2,000	2,000
4. Boat ramp		7,000		7,000
5. a. Vehicular barriers	2,500	2,500		5,000
b. Leftbank path		Note 1		----
6. Primitive camp sites			7,000	7,000
7. Sanitary facilities		77,000		77,000
8. Road improvements		108,000		108,000
9. Field game area	Note 2	6,000		6,000
10. Foot trails		27,000		27,000
11. Landscaping		36,000		36,000
12. Interpretive		2,500		2,500
TOTAL	5,000	312,000	23,500	340,500

Note: 1. Included in previous Path Segment as Proposed Item 3.
 2. Field should be kept mowed as part of current maintenance.

11. Priority

Development generally deferred to Phase II, since river access is available at Lambertville and Bulls Island. Existing conditions permit sufficient parking (with minor maintenance grading) for current demand for canal access. Demand for primitive canoeist's camping anticipated to increase.

5.72 Jimison Farm Bridge to (6.67) Bridge Street Bridge, Lambertville
in area designated urban MP/p. 10

Existing:

1. Right Bank: Black River and Western railroad tracks (active).
2. Left Bank: Towpath.
 - a. From (5.72) Jimison Farm to (6.00) Railway Bridge: Typical towpath, but removal of catwalk on (5.87) Alexauken Aqueduct interrupts passage.
 - b. Disintegration of old catwalk under (6.00) railroad bridge necessitates crossing railroad tracks.
 - c. Unpaved road from (6.00) railroad bridge to (6.15) lumber yard (Niece's).
 - d. Below (6.32) Lumberyard: Pleasant narrow pedestrian path between canal and backyards, upstream of (6.51) Delavan Street, and Buildings, downstream of Delavan Street.
3. (5.87) Alexauken Creek and Aqueduct:
 - a. (Left Bank) Supports for catwalk, but no planks (or hand rail).
 - b. (Right Bank) Passage possible along railroad tracks.

Note: Utility poles along canal in Lambertville.

Proposed:

1. Left Bank: Along bank to (6.67) Bridge Street. Existing towpath to Alexauken Creek; across the creek by means of a catwalk to (6.00) railroad bridge; path along bank, under (6.00) railroad tracks (on a catwalk) continuing on existing pedestrian path along bank (behind industrial and residential areas) to (6.67) Bridge Street. Typical towpath uses including bicycle use to (6.26) Buttonwood Street. Path for pedestrians only, along canal to Bridge Street. Bicycle route using existing (left bank) streets to Bridge Street.
 - a. Restoration of (5.87) catwalk across Alexauken.
 - b. New catwalk on existing supports under (6.00) railroad bridge.
 - c. New surfacing for path from (6.00) railroad bridge to (6.15) lumber yard (left bank: Niece's).
 - d. Selective landscaping (visual buffer and shade).

1. Downstream of (6.26) Buttonwood Street towpath width is not sufficient for bicycles (particularly given the more intensive pedestrian use in this area). Increasing the width of the path to accommodate bicycles is not recommended.
 - a. Historic character of the path would be altered.
 - b. Proposed bicycle route through a historic district and traffic is not heavy.
2. Right Bank:
 - a. Pedestrian path from (5.72) Jimison Farm Bridge to (5.87) Alexauken Creek by pedestrian path parallel to railroad tracks; across the railroad bridge catwalk (safety devices would be required including railings); continuing between Island Creek and the railroad tracks to (6.49) factory/warehouse complex and from there between the factory/warehouse complex and the railroad tracks to (6.64) Coryell Street.
 - b. Selective landscaping to create buffer.
 - c. No path along railroad tracks (a dangerous condition).
 - d. Alternate route by means of Lambert Street (which does not abut the canal).

Additional Recommendation:

Removal of utility poles along canal.

Analysis:

1. Project Objectives:

- | | |
|---------------------------|------------------------------------|
| a. Path continuity | Major. |
| b. Structural restoration | (N.A.); (except for catwalks). |
| c. Recreational need | Path access and path improvements. |

2. Impact:

- | | |
|---------------------------|---|
| a. Natural environment | Minimal; improvement of existing paths, geneally not in natural areas. |
| b. Historical | Opens access to historical area. |
| c. Recreational potential | Downstream of (6.32) Buttonwood Street, space for path very narrow; most suited for walking; conflict with bicycle use; therefore |

- bicycles routed through quiet street.
- d. Immediate neighbors

Additional use will mean some loss of privacy, however even now path is used, therefore most yards well screened.
 - e. Local community

Positive; increase and improve access to path, benefit to local tourism.
 - f. Visual

Improvement.
3. Interpretive Potential

Considerable; local history including canal related former industries and structures.
4. Access:
 - a. Path system

Municipal parking available in Lambertville, frequent pedestrian access for local use.
 - b. General

Good; nearby: Route 29, bridge to New Hope (Pennsylvania), Route 578.
 - c. Public transportation

Very poor; weekday commuter service on Route 29.
5. Maintenance

Higher use of path will require more frequent maintenance.
6. Security/Vandalism

Inspite of higher path use situation should remain unchanged.
7. Conflicts

On right bank; railroad active, but path still possible. Coordination with municipality concerning bicycle route on local streets.
8. Compatibility - Master Plan
 - a. Connector:
 - (1) Unbroken

Yes; major.
 - (2) Unique character

Historic urban character.
 - b. Respect and enhance existing

Yes.
 - c. Limit new elements

Yes; basically minor improvement of existing condition.

- d. Appropriateness of materials Yes.
- e. Maintenance Yes.
- f. Surrounding area Yes.
- 9. Compatibility: Water Supply Yes.
- 10. Cost:

	I	II	III	Total
1. Left Bank				
a. Aqueduct catwalk	14,000			14,000
b. Railroad bridge catwalk	26,500			26,500
c. Path improvements	48,000			48,000
d. Landscaping	18,000			18,000
2. Right Bank				
a. Path			24,000	24,000
b. Landscaping			24,000	24,000
TOTAL	106,500		48,000	154,500

11. Priority

Major Priority: Towpath continuity. Due to space and anticipated high use (by tourists and local inhabitants) path downstream of 6.32 restricted to pedestrians. Alternate bicycle route on Clinton and North Union Streets (pleasant and with only minor traffic) is available. Right bank pedestrian path would permit loop walks; desirable, but not essential for path continuity (alternate use of sidewalk is also possible), therefore placed in Phase III.

- 6.67 Lambertville, City of Lambertville (5.85 - 7.25)
area upstream of Lambertville lock designated urban MP/p. 10
area downstream of Lambertville lock designated transportation MP/p. 10

Existing:

1. Lambertville is a tourist oriented town with (restaurants, shops, parking etc.) infrastructure capable of handling tourists. The town as numerous historic structures (HS p. 51-59); the town has been nominated as a historic district.

Note: Marshall House, a state owned historic building is on (6.67) Bridge Street as is Lambertville House (c. 1812) still a privately run hotel and restaurant.
2. Pleasant towpath both above and below Bridge Street retains much of its historical character, (also see path segments).
3. (6.67) Bridge across Delaware River (bridge 0.05 mile from canal and 0.2 mile long) to New Hope, Pennsylvania. Town of New Hope is also tourist oriented; it contains numerous restaurant, shops and historic structures and other items of historical interest. Of particular interest is the Delaware Division Canal including a flight of lift locks and the outlet lock.
4. (6.70) Former bridgetender's house.
5. (6.71) railroad station being restored and put to adaptive use as a restaurant.
6. Black River and Western Railroad (sometimes with live steam trains) runs between Lambertville and Ringoes and is a tourist attraction. Railroad runs parallel to canal, throughout Lambertville, on right bank. Railroad track extends to (7.57) old bridge piers south of turning basin.
7. (6.75) Site of Perserverance Paper Mill, on left bank, now supermarket parking area.
8. (6.80) Ferry Street contains several houses which once belonged to the Canal Company.
9. (6.88) Swan Creek spillway.
10. (6.88 - 7.18) Site of former Belvidere Railroad shops, roundhouse and yards.
11. (7.15) Small park (on land leased from the State) and adjacent pond, lock bypass and millrace.
12. Lock Area:
 - a. (7.19) Lambertville lock (c. 1831)

- b. (7.19) Lambertville Locktender's house (c. 1847 masonry).
 - c. (7.22) Lambertville outlet lock (1847-1848) (use of the outlet lock discontinued in 1913). Site of former Toll House adjacent on upstream side.
13. (7.25) Turning basin and adjacent factory buildings (several now being used as outlet stores).
14. Bridges
- a. (6.64) Coryell Street (wood).
 - b. (6.67) Bridge Street (concrete); passage by canoes difficult.
 - c. (7.25) Bridge across lock bypass channel (typical wood).
15. Several streets end at the Canal
- a. (6.19) Elm Street.
 - b. (6.26) Buttonwood Street.
 - c. (6.32) Perry Street (unpaved between Clinton and the canal).
 - d. (6.39) Delaware Avenue.
 - e. (6.51) Delavan Street (unpaved between Clinton and the canal).
 - f. (6.58) York Street.
 - g. (6.80) Ferry Street.
 - h. (6.99) Mt. Hope Street.
 - i. (7.07) Feeder Street (ends at the control gate to the millrace).
16. Picnic area and boat ramp to River (on land leased from State) located along river south of Bridge Street is maintained by the Delaware Valley Power Boat Association.
17. Public toilets and boat ramp built as part of agreement with sewer authority; road access to Lock area on right bank has been blocked off. A path has been built in the Sarrow Park area between the treatment plant and the river which connects to the Outlet Lock area.
18. Lambertville Sewage Plant (on land leased from State) located between the (Canal State Park) riverside path and railroad tracks in the Lock area.

Proposed:

1. Path:
 - a. Improved walk from Bridge Street to York Street.
 - b. Definition of walk between Bridge Street and locks.
2. Improvement of portages, canoe docks.
3. York Street: develop ramp, steps from street to towpath; provide canoe dock, minor landscaping.
4. Improvement of Road:
 - a. Right bank.
 - b. (Left bank) to locktender's house.
5. (7.19) Lambertville lock area.
 - a. Small picnic area south of outlet lock.
 - b. Parking:
 - (1) Definition of Parking: Upstream of sewage treatment plant (right bank). Interpretive definition of former railroad complex as part of the parking area insofar as possible.
 - c. Improvement of portages, canoe docks on canal.
 - d. Restoration of lift lock to operating condition.

Note: The Lambertville lock is the most suitable for restoration and inclusion in a canal boat ride (detailed site selection considerations are given in Appendix C):

 - a. The bypass channel is intact and substantial in size therefore there would be no disruption in the canal's water supply function.
 - b. The impact on the community is desirable. The necessary facilities (restaurants, shops, etc.) needed to complement the ride exist in the community.
 - c. Adequate area for staging exists at the proposed terminal.
 - d. No major bridges are interrupted by the ride.
 - e. Staging area for (see Appendix C also) mule drawn canal boat ride (using a replica of an old boat) (North of lock).

f. Outlet lock:

- (1) Stabilization and eventual restoration.
- (2) Establishment of cable ferry.
- (3) Pedestrian link under railroad tracks (similar to former towpath) and across canal (similar to former towpath swing bridge).

g. New facilities:

- (1) Sanitary facilities: Type A-4 (left bank).
- (2) Interpretive Center.
- (3) Museum.

h. Locktender's house:

- (1) Exterior restoration.
- (2) Definition of occupants area:
 - (a) Landscaping.
 - (b) Storage building.

i. Seating.

Notes:

1. (Proposed Items 5, d and h): Responsibility for the lift lock and the locktender's house has been assigned to NJWSA; careful coordination is required particularly with respect to the lock and its bypass channel.
 2. It is important that further development of the locks be in conjunction with a careful study by a specialist skilled in historical lock technology.
6. Island below (7.07) millrace/lock bypass entrance (on left bank).
- a. Bridge across (7.07) millrace/lock bypass entrance, (also see path segments).
 - b. Picnic areas.
 - c. Canoe dock.
 - d. Improve access from Feeder Street (including stabilization of bank).
 - e. Canoe portage at control gates.

7. Bridge Street Bridge: remove existing railing and replace with a more open type railing.
8. Selective landscaping to provide buffers and shade.
9. Restoration of towpath: See path segments.
10. Lambertville Basin:
 - a. Canoe launching area.
 - b. Towpath restoration (see path segments).
 - c. Selective landscaping.
 - d. Seating.
11. (7.15) Small Park (on Mount Hope Street):
 - a. Small parking area (15 cars) along street, minor interpretive delineation of former basin.

Note:

1. Concept: A major area with an emphasis on the canal and its operation and history.

Access to the river is available; however, the boat ramp (provided by the sewer authority as part of its lease agreement) and the facilities provided by the Delaware Power Boat Association (also through a lease agreement) should serve the primary recreational needs; the facilities proposed herein are basically to serve as an adjunct to the historical/educational activities.

Typical path activities are also provided for general use as well as those related to historical/educational activities.

Lambertville has the necessary resources: restaurants, shops, historic buildings, historical significance and community facilities (e.g. parking) to permit such activities which would indeed reinforce local efforts and resources.

2. As the Park is developed, additional parking should be provided in the vicinity of the upstream area; the right bank road downstream of the sewage plant should be closed to vehicular traffic and the lower parking area abandoned;
3. Coordination:
 - a. New Jersey Water Supply Authority, particularly in connection with proposed items 5, c and d.

- b. Black River and Western Railway, particularly in connection with proposed items 5, d and f.

Additional Recommendations:

1. Encourage the development of the old factory buildings (adjacent to the canal) including renovation and adaptive uses compatible with the Park.
2. Encourage restoration/adaptive use of warehouse/old mill on Canal upstream of York Street; in particular canoe rental facility in basement.

Analysis:

1. Project Objectives:

- a. Path continuity (N.A.); see path segments.
- b. Structural restoration Major: Lift lock to operating condition; outlet lock; locktender's house exterior.
- c. Recreational need Path use; emphasis placed upon historical activities and related support activities. Note: River access has already been provided.

2. Impact:

- a. Natural environment Minor; almost entire development is on land previously disturbed and occupied.
- b. Historical Restoration of historic canal structures, however area is the site of early railroad and industrial structures.
- c. Recreational potential Path, canal and river access: River access not developed since access already exists. Emphasis placed upon historical interpretation and support activities.
- d. Immediate neighbors although the number of users will increase, the problem of privacy exists now and is largely solved on existing screens (fences, hedges, etc.).

- e. Local community
 - Positive; reinforces local efforts to attract visitors to the area; should have a positive economic impact on restaurants and stores. Also, better local access to the Park.
- f. Visual
 - Improved appearance of historic canal area.
- 3. Interpretive Potential
 - Major: Canal, locks, cable ferry, relation of canal/railroad, local historic structures, local history.
- 4. Access:
 - a. Path system
 - Good; municipal parking available; pedestrian access at numerous places.
 - b. General
 - Good; nearby: Routes 29, 518, 179 and bridge to New Hope (Pennsylvania).
 - c. Public transportation
 - Poor; only weekday commuter service on Route 29. Note: Black River and Western Railroad provides train service to Flemington/Ringoes on Sundays.
- 5. Maintenance
 - Maintenance of operating lock, ferry, etc., substantial and unusual; considerable ordinary maintenance required also.
- 6. Security/Vandalism
 - Locktender's house is occupied and should remain so to discourage vandalism.
- 7. Conflicts
 - Operation of lock must be coordinated with water supply function; Note: By-pass channel does exist.
- 8. Compatibility - Master Plan
 - a. Connector:
 - (1) Unbroken
 - (N.A.); see path segments.
 - (2) Unique character
 - Historic urban character, canal structures and riverside.

- b. Respect and enhance existing Yes.
- c. Limit new elements Some new facilities required, but will be screened and generally designed to be in character with earlier structures.
- d. Appropriateness of materials Yes.
- e. Maintenance Yes.
- f. Surrounding area Yes.
- 9. Compatibility: Water Supply Yes; but requires careful cooperation.

10. Cost:

	I	II	III	Total
1. a. Path	Note 1			----
1. b. Path	12,000			12,000
2. Portages, canoe docks	7,000			7,000
3. York Street	19,000			19,000
4. Road improvements	86,500			86,500
5. Lock area				
a. Picnic area	12,000			12,000
b. Parking	26,500		24,000	50,500
c. Portages	5,000			5,000
d. Lock restoration (Note 2)	540,000*			540,000*
e. Staging area	14,500			14,500
f. Outlet lock				
(1) Stabilization, etc.	14,500		29,000	43,500
(2) Cable ferry			72,000	72,000
(3) Pedestrian link			152,000 Note 3	152,000
g. (1) Sanitary facilities	70,000			70,000
g. (2) Interpretive Ctr Museum (Note 4)			1,200,000	1,200,000

10. Cost: (Continued)

	I	II	III	Total
h. (1) Locktender's house (Note 2)	18,000*			18,000*
(2) Occupant's area (Note 2)	21,000*			21,000*
i. Seating and miscellaneous	7,000			7,000
6. Island				
a. Bridge	Note 5			----
b. Picnic areas	14,500			14,500
c., d. and e. access, portage, etc.	12,000			12,000
7. Bridge improvements			7,000	7,000
8. Landscaping	42,000		6,000	48,000
9. Towpath	Note 5			----
10. Basin	14,500			14,500
11. Mt. Hope Street parking	18,000			18,000
TOTAL	954,000		1,490,000	2,444,000

- Note: 1. Included in previous Path Segment.
 2. Responsibility shared with NJWSA; allocation of *costs not determined.
 3. Assumed railroad active below lock; if not cost 72,000.
 4. Lambertville location preferred if land available; alternate location at Belle Mountain.
 5. Included in next Path Segment.

11. Priority

High priority on restoring lift lock and implementing canal boat ride. Improvement of lock area, development of island picnic area

and other Stage I items to provide support and additional visual/historic interest to canal boat ride.

6.67 Bridge Street Bridge, Lambertville to (9.24) Belle Mountain Valley Road
area upstream of Lambertville lock designated urban MP/p. 10
area downstream of Lambertville lock designated transportation MP/p. 10

Existing:

1. Right Bank:

- a. Tracks (active) of Black River and Western Railroad upstream of 7.57 on right bank.
- b. Roadbed of abandoned Delaware and Belvidere Railroad downstream of 7.57 on right bank; track has been removed.
- c. From (7.41) Wells Falls (Union Mill) Dam across the Delaware to 7.86 railroad bed is very close to both the River and the Canal; massive stone retaining walls protect the berm bank (and the railroad bed on its top); good views of the canal and; especially, the River are provided.

2. Left Bank:

- a. Towpath to (7.07) entrance to canal bypass.
- b. Remains of towpath, downstream of (7.07) entrance to canal bypass.
- c. From 7.53 downstream of Route 29 is close, some places very close, to the canal.

Proposed:

1. Left Bank:

- a. Towpath on left bank from (6.67) Bridge Street.
 - (1) Bridge required at (7.07) entrance to canal bypass.
 - (2) Existing catwalk over Swan Creek Spillway would have to be enlarged to allow for mule traffic if canal boat ride starts above Swan Creek.
 - (3) Cutting of trees and brush required.
 - (4) Improvements to path surface.
 - (5) Other path improvements including occasional retaining walls.
 - (6) Catwalk in the area of (8.42) Old River Road as part of the proposed new swing bridge. Also see Belle Mountain site.

2. Right Bank:

- a. Multi-purpose path on right bank from Railroad Station area (path within Railroad Station area is dependant upon plans of the group restoring the station) between river and railroad tracks to (7.57) downstream end of railroad tracks.
 - b. Multi-purpose path from (7.57) downstream of railroad tracks to (9.24) Valley Road on abandoned railroad bed:
 - (1) Removal of some ballast from the abandoned railroad bed (to top of retaining wall or even below it).
 - (2) New surfacing.
 - (3) Removal of any vegetation from the retaining wall.
 - c. Pedestrian path loop to river and return to canal from (7.19) lock area to (7.35) floodgate.
 - d. Pedestrian path loop to river and return to canal from (8.42) Old River Road to (9.24) Valley Road.
3. Selective landscaping and removal of trees to provide buffers and permit views. (Left bank and right bank).

Note: Towpath not possible on right bank where railroad tracks parallel canal. Separation of mule and bicycle traffic desirable.

Additional Recommendations:

- 1. Goat Hill, a large tract and prominent land form extending along the opposite side of Route 29 (left bank) from (7.42) Wells Falls Wing Dam to (8.30) just north of (8.42) Old River Road and continuing downstream a short distance from Route 29 to 8.75 has been a boy scout reservation which has remained largely undeveloped. The tract is in the process of being sold to a group for use as a rock quarry. The area is extremely visible from not only the canal, but also Route 29 and Lambertville as well as from the opposite side of the Delaware River. The preservation of this tract in its undeveloped state is strongly recommended.

Analysis:

1. Project Objectives:

- | | |
|---------------------------|---|
| a. Path continuity | Major. |
| b. Structural restoration | (N.A.); but see Lambertville site. |
| c. Recreational need | Path use; canal boat ride and related support facilities (also see Appendix C). |

2. Impact:
 - a. Natural environment Minimal impact; area previously disturbed.
 - b. Historical Restoration of towpath; no adverse impact.
 - c. Recreational potential Linear path use, canal boat ride compatible with canoe use; mule traffic and bicycles not compatible, therefore separate.
 - d. Immediate neighbors Very few neighbors (only in Lambertville); screening can provide necessary privacy.
 - e. Local community (N.A.)
 - f. Visual Canal made more interesting and attractive; however visual screen between Route 29 and Canal will be reduced. Improved view of river.
 3. Interpretive Potential Major; Canal Boat Ride: Operations swing bridge, lock, etc.; otherwise; minor (largely natural).
 4. Access:
 - a. Path system At ends and Old River Road; parking at Belle Mountain.
 - b. General Good at ends.
 - c. Public transportation Poor.
 5. Maintenance Swing bridge will require special maintenance; increase in path maintenance, but typical.
 6. Security/Vandalism Fortunately swing bridge occurs near several houses. Much of area isolated, but vandalism should not be a problem.
-
7. Conflicts None foreseen; only swing bridges are on Park property and serve only Park.

8. Compatibility - Master Plan

a. Connector:

(1) Unbroken Yes.

(2) Unique character River views.

b. Respect and enhance existing Yes.

c. Limit new elements The few new elements (e.g. bridge) would be in keeping with historical character of canal.

d. Appropriateness of materials Yes.

e. Maintenance Yes.

f. Surrounding area Yes.

9. Compatibility: Water Supply

No problems foreseen; both canal boat ride and water supply function require a watered canal. Coordination with NJWSA required.

10. Cost:

	I	II	III	Total
1. a. Towpath				
(1) Bridge	56,000			56,000
(2) Catwalk Improvement	7,000			7,000
(3)-(5) Path, etc.	240,000			240,000
2. a. and b. Multi-purpose Path	132,000			132,000
c. Pedestrian path	5,000			5,000
d. Pedestrian path	Note 1			----
TOTAL	440,000			440,000

Note: 1. Included in (9.24) Belle Mountain site.

11. Priority

Towpath development necessary for canal boat ride.

Development of multi-purpose path important for path continuity.

9.24 Belle Mountain, West Amwell/Hopewell Townships
in area designated transportation MP/p. 10.

Existing:

1. Large area of park land between canal and river:
 - a. Area upstream of Old River Road is wooded.
 - b. Area along the River is also wooded.
 - c. A large portion of the site consists of open fields.
2. (8.42) Old River Road Access:
 - a. Access: Firemans Bridge (typical wood).
 - b. (8.42) Access road to area on river suitable for boat launching.
 - c. (8.41) Historic (G.L. Larrison) house (HS p. 34) adjacent on left bank on opposite side of Route 29.
3. (9.24) Valley Road Access:
 - a. Access: Workhouse Bridge (typical wood).
 - b. Site of bridgetender's house? (Left bank downstream of bridge.)
4. (8.48-8.76) Area on opposite side of Route 29 downstream is the site of two flea markets.
5. Belle Mountain Ski and Picnic area (Mercer County facility) is nearby (Valley Road) on the opposite side of Route 29.

Proposed:

1. (8.42) Old River Road Bridge:
 - a. Convert bridge to swing bridge.
 - b. (8.42) Bridge tender's shack (also parking control).
2. Recreation Access, Boat Launch Area (Near Old River Road):
 - a. Parking: 20 cars and 20 cars with trailers.
 - b. Stabilize field area (upstream of bridge) to allow for overflow parking.
 - c. Road improvements.
 - d. Boat launching ramp on river.
 - e. Add 5-10 small picnic areas.

- f. Canoe dock on canal (right bank downstream of bridge).
 - g. Sanitary facilities: Type C-2.
3. Improve (Valley Road) access from highway.
- Note: Coordination with NJDOT is required.
4. Road improvements including link (largely near top or river bank) between bridges.
5. Trail along river (also see path segments).
6. (9.15) Canal boat ride staging area (downstream terminus of canal boat ride to Lambertville) and related facilities.
- a. Parking (general, staff, bus):
 - (1) General: 80 cars.
 - (2) Overflow: 80 cars.
 - (3) Bus: 16 buses.
 - (4) Staff/Visitor: 20 cars.
 - b. Dock, ticket booth etc.
 - c. Sanitary facilities: Type A-10 with storage.
 - d. Small concession area (400 square feet).
 - e. Interpretive display: Canal (technical and historical), orientation.
 - f. Picnic areas.
 - (1) Pavillions (and tables and grilles).
 - (2) Tables (some with grilles).
 - g. Field game area.
 - h. Screening.
 - i. Lighting.
 - j. Mule barn (800 square feet) and paddock.
 - k. Maintenance/storage building (600 square feet).
7. Canoeists/hikers camping area at downstream end of site.
- a. Primitive campsites.

- b. Canoe dock right bank.
- 8. Residence for ranger.
- 9. Maintenance Facility: The facility would serve the feeder canal sites and path segments and provide vehicle service for the entire Canal State Park. The facility would include:
 - a. Office.
 - b. Garage (12 bays) for storage of vehicles and equipment.
 - c. Maintenance garage (4 bays) including 2 lifts.
 - d. Fuel storage (for vehicles):
 - (1) Gasoline.
 - (2) Unleaded gasoline.
 - (3) Diesel fuel.
 - e. Carpentry shop - 2000 square feet.
 - f. Storage:
 - (1) Heated - 600 square feet.
 - (2) Unheated - 600 square feet.
 - (3) Flammable materials (paints, solvents, etc.) - 200 square feet.
 - g. Employees locker room, lunch room, sanitary facilities.
 - h. Fenced in yard for storage of additional vehicles, equipment and supplies.
- 10. Landscaping.

Note: Concept: A major area with emphasis on:

- 1. Canal Boat Ride and related support activities.
- 2. River activities.

The site would also be the maintenance center for the Feeder Canal Section of the Park.

Activities:

Typical path: access, (primitive) camping;
Canoeing: Stop, access, (primitive) camping;
Canal boat ride: Staging area;
Boating: River access;
Fishing;
Picnicking (formal, group, informal)

Additional Recommendation:

A row of shade trees should be planted, on the opposite side of Route 29, in front of the flea markets in order to partially screen them and to reinforce the row of trees along the canal. Coordination with NJDOT is necessary.

Analysis:

1. Project Objectives:

- a. Path continuity (N.A.)
- b. Structural restoration (N.A.)
- c. Recreational need Path, canal and river access. Canal boat ride combines recreational with historical. (Also see Appendix C.)

2. Impact:

- a. Natural environment Minimal; most of area to be developed has been used as farmland; a majority of the field area will remain thus accommodating the field and edge habitats. No habitat types will be lost although some areas will be diminished slightly. Usage will increase considerably, but no adverse impact is foreseen.
- b. Historical Minimal: A reduction in the amount of open field area (historically the adjacent use), but much of the area will be left open.
- c. Recreational potential Area is large, includes much open, flat, easily developed land and has considerable frontage on the river.

Emphasis on unique characteristics; three separate areas to minimize conflicts.

1. Recreational access to river and canal provided (separated from the canal boat ride area).
 2. Primitive camping to facilitate overnight trips down the Feeder Canal (approximately midway between Byram and Hermitage Avenue).
 3. Activities related to the canal boat ride: picnic areas (including facilities for groups), (unstructured) fields for play. Area can also be used for an occasional large camp groups (Boy Scouts, etc.). Frequent large scale or general camping not compatible. Plan preserves large part of open field area, historically characteristic during the canal era.
- d. Immediate neighbors
- Minimal; none on park side of Route 29; a few residences and two large flea markets on the opposite side of the road. Developed area will not be near neighbors.
- e. Local community
- (N.A.)
- f. Visual
- Additional trees to help screen road and flea markets; character of developed area will be much less open than existing.
3. Interpretive Potential
- Major in connection with canal boat ride; also natural; otherwise minimal.
4. Access:
- a. Path system
 - b. General
 - c. Public transportation
- Good; two bridges.
- Good, along Route 29; (specific access from Route 29 to be improved as part of proposal).
- Poor; only weekday commuter service on Route 29.

- | | |
|---------------------------------|--|
| 5. Maintenance | Substantially increased; a new major maintenance facility proposed for the site. |
| 6. Security/Vandalism | Recommended ranger's residence essential for security and prevention of vandalism. Site is not readily visible even though very close to Route 29. |
| 7. Conflicts | None foreseen. But note coordination with the N.J. State Department of Transportation is required for the improvements recommended to the access from Route 29 at Valley Road. |
| 8. Compatibility - Master Plan | |
| a. Connector: | |
| (1) Unbroken | (N.A.) |
| (2) Unique character | Open field area, river edge. |
| b. Respect and enhance existing | Yes. |
| c. Limit new elements | Major new elements are introduced, but they will be well screened. |
| d. Appropriateness of materials | Yes. |
| e. Maintenance | Yes. |
| f. Surrounding area | Yes. |
| 9. Compatibility: Water Supply | No conflict. |

10. Cost:

	I	II	III	Total
1. Swing bridge, etc.	50,000			50,000
2. Recreational access	104,500			104,500
3. Access (Note 1)	120,000*			120,000*
4. Road improvements	281,000			281,000
5. Pedestrian paths	38,000			38,000
6. Boat ride staging, etc.	612,000			612,000
7. Primitive camping	12,500			12,500
8. Ranger's residence	108,000			108,000
9. Maintenance facility (Note 3)	2,376,000			2,376,000
10. Landscaping (Note 2)	168,000			168,000
TOTAL	3,870,000			3,870,000

- Note: 1. Responsibility shared with NJDOT allocation of *costs not determined; includes "jug handle" which could possibly be by others.
 2. Additional landscaping included in above items.
 3. Includes furniture.

11. Priority

Development of Canal Boat Ride:
 Expensive, but unique; combines recreational with historical interpretation focusing on the canal. Highly visible.

Development of support facilities and separates other recreational activities to avoid conflict. Primitive camping at approximate midpoint of feeder canal.

Maintenance facility to serve
feeder canal very important to
serve additional facilities
established in Phase I and also
take some of the load off the
aging facility at Blackwells
Mills.

9.24 Belle Mountain Bridge (Valley Road) to (16.01) Scudders Falls
Hopewell/Ewing Townships

area upstream of Upper Ferry Road designated transportation MP/p. 10
area downstream of Upper Ferry Road designated rural MP/p. 10

Existing:

1. Right Bank:

- a. Roadbed of abandoned Delaware and Belvidere Railroad alongside the canal; track has been removed. Multi-purpose trail has been constructed from (13.60) Washington Crossing to (16.01) Scudders Falls.
- b. Except in the Titusville area, the canal is quite close to the river and the area between the canal and the river is usually wooded with flood plain species; the area varies in width, but is generally not wide.

2. Left Bank:

- a. Route 29 parallels the canal; area between road and the canal varies in width, but is never very wide. Generally, the area permits vegetation.
- b. Pedestrian path (existing) from (13.06) Grant Street to (13.60) Washington Crossing along towpath.
 - (1) Some clearing required between Grant Street and Washington Crossing State Park.
 - (2) Existing path discontinuous at embankment at base of pedestrian ramp for Route 29 pedestrian overpass.
- c. Between (13.60) Washington Crossing and (15.05) Jacobs Creek sections of the towpath remain, but are discontinuous. (There are several ditches where small bridges have disintegrated.)
- d. From (15.05) Jacobs Creek to (16.79) Upper Ferry Road the area between road (Route 29) and canal is very narrow and does not permit a path on the left bank.

3. (9.91) Abandoned Railroad Bridge (Opposite Mercer Work Farm):

- a. Abandoned railroad swing bridge (c. 1898).

Notes:

1. Bridge is of considerable importance; probably the only significant remains of a (formerly typical) "A" frame swing bridge on the Canal.
 2. Clearance is poor.
- b. Small bridgetender's (?) shanty.

4. (10.24) Pleasant Valley Road, (Moore's Station):
 - a. (10.24) Abandoned railroad bridge.
 - b. Stretch of gravel road parallels Route 29 for about .2 mile providing parking and picnic spots.

Note: Truck with food service frequently parked along roadside. Area is used as a roadside rest area.
 - c. Canal dock on left bank.
 - d. Quarry on the opposite side of Route 29 downstream of Pleasant Valley Road. Quarry operation is undergoing considerable expansion. Berm and pine tree buffer along opposite side of Route 29.
 - e. Site of road bridge and bridgetender's house on left bank(?).
 - f. (10.22) Moore's Creek Culvert.
 - g. Howell Living Historical Farm (National Register) (Mercer County Facility) approximately 2 miles from the Canal. Other old buildings in general area. Local residents desire an historic district.

5. (11.7-13.0) Titusville (Also See Map SE-6):
 - a. Several bridges (typical wood).
 - (1) (11.91) River Drive (Clayhans). (Site of former bridgetender's house on left bank upstream of bridge.)
 - (2) (12.45) Church Street. (Site of former bridgetender's house on left bank downstream of bridge.) Former hotel structure adjacent.
 - (3) (13.06) Grant Street. (Site of former bridgetender's house on left bank downstream of bridge.)
 - b. A group of buildings, many of them historic, forming a pleasant small village between the canal and the river. Historic district has been proposed.

Note: HS p. 61-65.
 - c. (13.20) Culvert (1831-1834 stone).
 - d. Canoe rental facility (Abbotts) upstream of Church Street; dock on left bank, buildings on opposite side of Route 29. Tackle/bait for sale also.

6. (13.6) Washington Crossing (Also See Map SE-6):
 - a. Bridge across canal (typical wood).
 - b. Spillway (series of concrete pipes set in concrete wall) (1915).
 - c. Washington Crossing State Park upstream of bridge on right and left banks: a well developed state park with numerous resources including:
 - (1) Pedestrian bridge across Route 29.
 - (2) Parking and picnic facilities:
 - (a) Between canal and river; (5 areas each with approximately 12-14 tables and 6-7 grilles or fireplaces).
 - (b) Between Route 29 and canal; (6-8 tables, 3 grilles).
 - (3) Sanitary facilities.
 - (4) Historic Houses:
 - (a) (13.41) McKonkey Ferry House (18th c) on left bank.
 - (b) (13.58) Nelson House (18th c?) on right bank.
(Operated by the Washington Crossing Association.)
 - (5) A Designated Natural Area; area was designated to demonstrate successional growth in old field and mixed hardwood forest.
 - (6) Numerous other facilities east of Route 29 including a flag museum, a wildlife sanctuary, a natural center and an outdoor theater.
 - d. Bridge across the Delaware River. Bridge makes possible a connection to Pennsylvania's Washington Crossing Park; the park contains several historic houses and several others are nearby; in addition the park abuts Roosevelt Park which includes the Delaware Division Canal.
 - e. Adjacent roadside restaurant on left bank downstream of bridge.
7. (14.3) "Maddock Rest", (Near Maddock Road):
 - a. Small pull off area exists and a dirt road continues to canal level. Area presently used for dumping etc.
 - b. Access from Route 29 is relatively dangerous.
 - c. The canal is substantially below Route 29 creating an area which is much quieter than most areas along route 29 as well as one visually removed from the highway. Upper area permits a good

view of the canal and the Delaware. Towpath (left bank), largely intact, in large part cut into stone.

8. (15.05) Jacobs Creek:

- a. Adjacent Jacobs Creek gristmill (18th c.) and house (c. 1739).
- b. Culvert (1831-1834 stone).
- c. Site of former Mercer and Somerset Railroad bridge across the canal; remains of abutment visible.
- d. (14.99-15.24) Relatively open area where track diverges slightly from canal including (15.18) site of former pump house and water tank for railroad.

- Note:
1. (15.11) Site of a former road bridge across the canal just downstream of Jacobs Creek Road. Possibly on site of earlier railroad bridge.
 2. Jacobs Creek Road is built upon part of the former road bed of the Mercer and Somerset Railway (1872-1880). A railroad bridge once crossed the canal just downstream of the road.
 3. Culvert passage is possible, but no access is available east of Route 29.

9. Adjacent areas are generally not objectionable or seriously out of character with the historical canal, however visual screening would be desirable in some areas.

- a. In the Titusville area.
- b. Upstream of Scudders Falls (particularly from 15.62 to 16.01).

Proposed:

1. Right Bank:

- a. Multi-purpose path on bed of abandoned railroad on from (9.24) Valley Road to (13.60) Washington Crossing connecting with existing multi-purpose trail (on former railroad bed) from (13.60) Washington Crossing to (16.01) Scudders Falls.
- b. Occasional pedestrian paths to river and return to canal.
 - (1) From (9.24) Valley Road to (9.53) Spillway.
 - (2) From (14.7) to (15.05) Jacobs Creek.
 - (3) From (15.05) to (16.01) Scudders Falls.

2. Left Bank: Pedestrian path along old towpath from (13.06) Grant Street to (13.60) Washington Crossing.

- a. Clearing as required.
 - b. Short retaining wall along embankment (for base of pedestrian bridge over Route 29) to permit towpath continuity.
3. (9.91) Abandoned Railroad Bridge (Opposite Mercer Work Farm)
- a. Provide planks on bridge.
 - b. Canoe docks on right bank upstream and downstream of bridge.
 - c. A few informal picnic areas (clearings, no tables) on right bank.
 - d. Inconspicuous seating.

Notes:

- 1. Concept: A canoe and path stop.
 - 2. this bridge is of considerable importance (see entry in Appendix B) and should be preserved.
4. (10.24) Pleasant Valley Road, (Moores Station)
- a. Access requires some improvement.
 - b. Abandoned Railroad Bridge: Make safely passible (hand rails, planking, structural repairs).
 - c. Provide a few picnic tables.
 - d. Provide canoe docks left bank and right bank (near abandoned railroad bridge).

Notes:

- 1. Concept: A small canoe and path stop. Existing roadside stop use would be permitted to continue.
 - 2. This bridge is visually important and should be preserved.
5. (11.7-13.0) Titusville
- a. Selected vegetation buffer.
 - b. (11.91) River Drive (Clayhans) Bridge:
 - (1) Canoe docks at bridge.
 - (2) (11.91) Small parking area: 8 cars.
 - (3) (11.91) Portage to river and landing on river.

- c. (12.45) Church Street:
 - (1) Definition of site
 - (2) Selective landscaping.
 - (3) Canoe dock.
 - (4) Small parking area: 8 cars.
 - (5) Interpretive delineation combined with seating.
- d. (13.06) Grant Street: Canoe dock.

Note: Concept: Canoe and walking stop with historical interest and a small pleasant place for historic related path activities.

- 6. (13.6) Washington Crossing:
 - a. Canoe docks rightbank upstream and downstream of bridge.
 - b. Canoe portage to river.
 - c. Minor graphics/identification devices.
 - d. Interpretive panel; orientation (including reference to Delaware Division canal) - major interpretation would remain part of the Washington Crossing Park.
 - e. Short retaining wall along embankment (for base of pedestrian bridge over Route 29) to permit towpath continuity.
 - f. Stabilization of old railroad embankment at access points to towpath from picnic areas and trails below. (In general, by use of Railroad tie steps.)

Note: Concept: A stop for path activities; minor reinforcement of the link to the canal.

- 7. (14.3) "Maddock Rest", (Near Maddock Road):
 - a. Block vehicular access from Route 29 (except for maintenance vehicles).
 - b. Selected cleaning of brush.
 - c. A few posts or other means (iron rings, etc.) of securing a canoe on the left bank.
 - d. Selective clearing of towpath (upstream and downstream of site on left bank where possible.
 - e. Inconspicuous seating in the area on top of the cliff.

Note:

1. Concept: A small area (relatively removed visually from Route 29); a canoe stop and small area for local (pedestrian only) use.
8. (15.05) Jacobs Creek:
 - a. Canoe dock right bank.
 - b. Trail to permit view of culvert and access to river; local stabilization of bank (probably including steps).
 - c. Clear part of area between (proposed) multi-purpose path (on bed of abandoned railroad) and canal in area opposite the mill.
 - d. Railing on riverside of culvert.
 - e. Interpretive delineation/seating at former railroad water tower area.

Note: Concept: A stop for path activities.

9. Selective landscape screen/buffer, particularly:
 - a. In the Titusville area.
 - b. Upstream of Scudders Falls (particularly from 15.62 to 16.01).

Activities:

Typical path;
Canoeing;
Fishing;
Picnicking

Additional Recommendations:

1. (12.45) Church Street, Titusville: A small food store/concession near the canal would be desirable.

Analysis:

1. Project Objectives:
 - a. Path continuity Major.
 - b. Structural restoration (N.A.)
 - c. Recreational need Path activities.
2. Impact:

- a. Natural environment Minimal: Development largely in existing disturbed railroad corridor.
- b. Historical No adverse impact; access provided to historic sites.
- c. Recreational potential Linear activities, fishing.
- d. Immediate neighbors (Only immediate neighbors in Titusville area.) Backyards: Screening will provide privacy.
- e. Local community Parking provided for park users; minor increase in traffic; improved recreational facilities.
- f. Visual Improved by screening of unattractive (or historically out of character) areas.
- 3. Interpretive Potential Good: Local historical buildings; local history; Washington Crossing, etc.
- 4. Access:
 - a. Path system Good; parking at ends of segment and Washington Crossing State Park; several small access points for local use.
 - b. General Route 29; also Route 95 at end of segment.
 - c. Public transportation Poor; only weekday commuter service (on Route 29).
- 5. Maintenance Typical path.
- 6. Security/Vandalism No problems foreseen, although some sections rather isolated and not readily visible (inspite of closeness to Route 29), increased use will be helpful. Little to be vandalized. Note: Canal and road generally separates Park from neighbors.
- 7. Conflicts No real conflicts exist.
- 8. Compatibility - Master Plan
 - a. Connector:

- | | |
|---------------------------------|---------------------------------|
| (1) Unbroken | Yes. |
| (2) Unique character | Yes; (linear with river views). |
| b. Respect and enhance existing | Yes. |
| c. Limit new elements | Yes. |
| d. Appropriateness of materials | Yes. |
| e. Maintenance | Yes. |
| f. Surrounding area | Yes. |
| 9. Compatibility: Water Supply | No conflict. |

10. Cost:

	I	II	III	Total
1. a. Multi-purpose path	240,000			240,000
b. Pedestrian paths		30,000		30,000
2. Pedestrian path		Note 1		----
3. (9.91) Railroad swing bridge	12,000			12,000
4. (9.24) Pleasant Valley Road			43,000	43,000
5. Titusville				
a. Landscape buffer	25,000			25,000
b. Clayhans Bridge		11,000		11,000
c. Church Street	26,000			26,000
d. Grant Street			2,500	2,500
6. Washington Crossing	6,500	42,000	12,000	60,500
7. Maddock Rest	7,000	5,000		12,000
8. Jacobs Creek	6,500	18,500	9,000	34,000
9. Landscape	24,000			24,000
TOTAL	347,000	106,500	66,500	520,000

Note: 1. Included in Item 6.

11. Priority

High: Path continuity. Emphasis for Phase I on path continuity and buffer landscaping. Phase II and III items less essential, more minor improvements; some items are

small and should be reviewed later
for possible economies if included
in Stage I or maintenance.

16.01 Scudders Falls, Ewing Township
in area designated transportation MP/p. 10

Existing:

1. Access bridge opposite Bernard Drive (typical wood) canoe clearance slight. Site of former bridgetender's house on left bank upstream of bridge(?).
2. Abandoned section of old road (temporarily blocked off).
3. Upstream of access, area of small cottages etc. with access drive parallel to river; one building used as a canoe club; land is owned by the State, but most houses are privately owned, (assume most cottages will be removed).
4. Scudders Falls and remains of wing dams etc.

Note: Falls and chute, formed by remains of (Trenton Delaware Falls Company) power canal, create a good area for canoe training.

5. (15.56) Spillway and related overflow area; overflow passes over large rocks and into river.
6. Canoe dock (right bank upstream of bridge).

Proposed:

1. Downstream of (16.01) Access:
 - a. Reuse abandoned section of road for occasional parallel parking (15 cars).
 - b. Provide a few picnic areas (individual) and tables adjacent to the abandoned road.
 - c. Inconspicuous seating at river end of road.
2. Provide loop trail to river, along river and return to canal. Steps/ramp at (15.56) Spillway required.
3. Sanitary facilities: Type A-4 with maintenance storage.
4. Provide small parking areas (total 36 cars) upstream of access in area existing of houses (between houses and where houses demolished).
5. Provide clear areas for picnicking along river.
 - a. Informal (without tables).
 - b. With tables and some with grilles.

6. Provide facilities for canoe racing and training.
 - a. Parking:
 - (1) General: 20 cars.
 - (2) Overflow: 10 cars.
 - b. Launching Areas.
 - c. Observation Area.
 - d. Club House (new structure).
7. Overnight accommodations for groups (scouts, school groups, etc.) on a rental basis to facilitate canoe training programs.
8. Existing Structures:
 - a. Demolition of most structures; renovation of those not demolished.
 - b. Adaptive Reuse: Housing for Park Personnel (housing most upstream and house at 15.89).
9. Access Road:
 - a. Improvement and paving.
 - b. Lighting - subdued lighting along road.
10. At Canal:
 - a. Canoe dock (right bank downstream of bridge).

Note: To facilitate portage around bridge (minimal clearance).

Notes:

1. Concept: An area which provides a stop for canoeists on the canal, but of which the primary focus is on the canoeing related to the river.

The area also will provide for picnicking (both related and unrelated to canoeing).
2. The area is particularly suitable for canoeing. It is reportedly one of the best areas for white water practice/training in this region.

Activities:

Typical path: Access (major);
Picnicking: Developed; informal;
Canoeing: Access (major) to river and canal; stop; canoe club;
Observation of canoe racing/practice on river;
Fishing
"Tubing"

Analysis:

1. Project Objectives:

- a. Path continuity (N.A.)
- b. Structural restoration (N.A.); Note: Existing buildings are not historic.
- c. Recreational need Canoeing: Canal and (particularly) river; path access; fishing; related uses (e.g. picnicking, observation).

2. Impact:

- a. Natural environment Little change. Area has been extensively disturbed previously; natural/man-made spillway area preserved.
- b. Historical Scudders Falls Dam and remains of former intake for Trenton Power Canal.
- c. Recreational potential Considerable. Emphasis placed on canoeing, particularly on river, due to unique characteristics of site. Facilities for swimming and conventional boat launch not considered due to possible conflicts in use and probable demand in excess of possible capacity.
- d. Immediate neighbors Minimal change; traffic change minimal; developed area would be generally not visible by neighbors. Note: All neighbors on opposite side of Route 29 (and Canal).
- e. Local community Concerned in past about security. Resident Ranger will provide protection; (also, clarification of jurisdiction will make Ranger's task easier). Group (i.e. canoe

- club) use of facilities, on a continuing basis, should add to stability of area. Improved park access should benefit the community.
- f. Visual Improved appearance; provides alternate, and more attractive, route for path users.
3. Interpretive Potential Dam, former Trenton (Delaware Falls Company) Power Canal; minor natural; historical: boating on the river. Canal related minimal (overflow).
4. Access:
- a. Path system Improved; parking provided.
- b. General Very good; Route 29 and Route 95.
- c. Public transportation Poor; only weekday commuter bus service (on Route 29).
5. Maintenance Considerable due to building; buildings will be designed to minimize maintenance.
6. Security/Vandalism Resident Ranger would provide security.
7. Conflicts
1. A number of houses on the site are still occupied by tenants. Tenants will be dislocated.
 2. Past concerns concerning security should be resolved by Ranger's residence, continuing group use and simplification of jurisdiction.
8. Compatibility - Master Plan
- a. Connector:
- (1) Unbroken (N.A.)
 - (2) Unique character Yes; although uniqueness is related more to the river than the canal.
- b. Respect and enhance existing Existing structures have little historic significance or relationship to canal; otherwise characteristics of site respected and enhanced.

- c. Limit new elements New elements, but in area not directly related to the canal and generally not visible from the canal. Also, new elements would be as unobtrusive as possible and screened from the canal.
- d. Appropriateness of materials Yes.
- e. Maintenance Yes.
- f. Surrounding area Yes.
9. Compatibility: Water Supply Overflow area requires periodic maintenance, but should be no problem.

10. Cost:

	I	II	III	Total
1. Downstream area		18,000		18,000
2. Loop trail		21,500		21,500
3. Sanitary facilities, etc.		77,000		77,000
4. Parking areas	29,000			29,000
5. Picnic areas		18,000		18,000
6. River canoe area				
a. Parking	Note 1			----
b. Launching	6,000			6,000
c. Observation	7,000			7,000
d. Club house	66,000*			66,000
7. Overnight facilities	24,000			24,000
8. a. Demolish homes	36,000			36,000
b. Renovate houses (2)	57,500			57,500
9. a. Road improvements	86,500			86,500
b. Lighting	14,500			14,500
10. Canoe dock		2,500		2,500
TOTAL	326,500	137,000		463,500

Note: 1. Included in 4 above.

11. Priority

Phase I. Demand for facilities high. Area will be more secure if developed and used.

16.01 Scudders Falls to (18.12) Lower Ferry Road, Ewing Township
area upstream of Upper Ferry Road designated transportation MP/p. 10
area downstream of Upper Ferry Road designated rural MP/p. 10

Existing:

1. Right Bank:

- a. Roadbed of abandoned Delaware and Belvidere Railroad along the canal; track has been removed. Multi-purpose trail has been constructed from (13.60) Washington Crossing to (16.01) Scudders Falls.
- b. (16.12) Route 29 crosses the canal and continues along the river while the canal diverges slightly from the river. A narrow band of trees and bushes separates the river and the road.
- c. The strip of land between the canal and the river is broader than above Scudders Falls; most of the land is not part of the park. Recent developments along the canal have comprised the character of the area in some sections.
- d. (17.48-17.65) Site of former mill pond adjacent to the canal; most of area has been filled in for a housing development.
(17.65-17.95) Old mill race parallels canal (approximately 200 feet from canal).

2. Left Bank:

- a. From (16.01) Scudders Falls to (16.79) Upper Ferry Road the area between road (River Road) and canal does not permit a path on the left bank. (Site of former towpath generally unsurped by road.) Row of oaks, between canal and River Road, in the area between Scudders Falls and Upper Ferry Road (also memorial plaque).
- b. Between (16.79) Upper Ferry Road and (17.98) Keelers Bridge the site of the old towpath remains, but has become partly overgrown with vegetation; small bridges which previously permitted passage over small streams have disintegrated thus further breaking continuity of the path.

3. (16.79) Upper Ferry Road:

- a. Bridge (concrete) clearance minimal; passage for canoeists not possible. (Site of former bridgetender's house on left bank?)
- b. Canoe Dock.

4. (17.25) Wilburtha Road:

- a. Bridge (typical wood)
- b. Bridgetenders' house (c. 1852 wood frame) on left bank upstream?

- c. Stone cutting yard on right bank; stone stored along right bank upstream and downstream.
 - d. Group of old houses including several along canal on left bank downstream bridge; condition fair.
5. (18.12) Lower Ferry Road:
- a. (18.12) Bridge (typical wood with asphalt wood deck). (Site of former bridgetender's house on rightbank upstream, between canal and railroad tracks.)
 - b. (18.10) Sluiceways and (18.09) spillway upstream.
 - c. Small parking area right bank upstream.
 - d. Parallel parking possible along Lower Ferry Road (left bank)
 - e. Right bank area (belonging to N.J. Manufacturer's Insurance Co.) upstream of road with trees, stream and open space.
 - f. Old basin located on right bank upstream.
 - g. (17.97) Reading Railroad Bridge: Concrete arch bridge with remains of earlier stone abutments.
 - h. (17.89) Keelers Farm Bridge (typical wood) - damaged by fire.
 - i. (18.05) Gold Run Culvert 1830-1834 stone arch.
 - j. Trenton Contry Club golf course downstream of road on left bank and right bank.
 - k. Traffic light at intersection of Route 29 and Lower Ferry Road.
6. Landscape buffers required:
- a. Right bank downstream of Upper Ferry Road.
 - b. Right bank downstream of Wilburtha Road.
7. In addition to the access points at (16.79) Upper Ferry Road, (17.25) Wilburtha Road, (18.12) Lower Ferry Road and (17.98) Keelers Bridge, several bridges cross the canal without access and with impeding passage.
- a. (16.12) Route 29.
 - b. (16.38) Route 295.
 - c. (17.97) Reading Railroad.

Proposed:

1. Right Bank: Multi-purpose trail [previously planned by Division of Parks and Forestry] from (16.01) Scudders Falls to (18.12) Lower Ferry Road.
2. Left Bank:
 - a. Pedestrian path from (17.89) Keelers Bridge to (18.12) Lower Ferry Road.
 - (1) Repairs to Keelers Bridge.
 - (2) Improve path surface.
 - b. Possible path from (17.25) Wilburtha Road to (17.89) Keelers Bridge. Some small bridges required. Not recommended at this time, but should be reconsidered if adjacent land use changes.
 - c. Possible path from (16.79) Upper Ferry Road to (17.25) Wilburtha Road. Not recommended at this time, but should be reconsidered if adjacent land use changes.
3. (16.79) Upper Ferry Road:
 - a. Canoe dock to facilitate portage around bridge.
 - b. Organize parking for 2-3 carsNote: Concept: A small access point for local use.
4. (17.25) Wilburtha Road:
 - a. Parking area (2-4 cars).
 - b. Canoe dock.
 - c. Bridgetenders house:
 - (1) Exterior restoration (minor).
 - (2) Definition of occupant area.Note: Concept: A small access point for local use.
5. (18.12) Lower Ferry Road:
 - a. Define parking.
 - b. Interpretive definition/seating on site of bridgetender's house.Note: A rather long portage to the river is possible.
6. Selected landscape buffers to screen housing developments.

Additional Recommendations:

1. Extension of pedestrian path along Delaware River from (16.01) Scudders Falls to (18.12) Lower Ferry Road; linking path along Lower Ferry Road from the Canal to Route 29 (traffic light) and necessary link to path on opposite side of Route 29.
2. Linking pedestrian path from (18.12) Lower Ferry Road to Delaware River along Lower Ferry Road (.25 mi.) or, along Reading Railroad right of way (.2 mi).
3. (17.25) Wilburtha: Encourage restoration of old houses fronting on canal on left bank downstream of bridge.
4. Easements on adjacent State owned land on the left bank between Wilburtha and the Reading Railroad Bridge are important in order to protect the rural character of the area.
 - a. A few picnic tables.
 - b. Some seating.
 - c. Parking area.
5. (18.12) Lower Ferry Road: Acquisition of upstream left bank area including basin and the following improvements.
6. The preservation of the rural character of the area is presently largely dependent upon the Canal Commission's visual review regulation. Where possible scenic easements are recommended.

Analysis:

1. Project Objectives:

- | | |
|---------------------------|---|
| a. Path continuity | Major. |
| b. Structural restoration | Minor: Wilburtha Road, Bridgetender's house - exterior restoration. |
| c. Recreational need | Path and local access for path activities and fishing. |

2. Impact:

- | | |
|------------------------|---|
| a. Natural environment | Minimal; development within previously disturbed railroad corridor. |
| b. Historical | No adverse impact; path use preserves historic railroad corridor. |

- c. Recreational potential Multi-purpose path, fishing, canoeing.
- d. Immediate neighbors Some loss of privacy, but most areas are well screened; additional screening will be provided.
- e. Local community Provides a safe multi-purpose recreational path. There have been concerns about security; actually increased use will probably make the path safer.
- f. Visual Landscaping used to screen unattractive areas.
- 3. Interpretive Potential Minor; former stone quarries (Wilburtha), former Mill pond, Bridgetender's house and sites of bridgetenders' homes.
- 4. Access:
 - a. Path system Good; several small access points.
 - b. General Good; Route 29 nearby.
 - c. Public transportation Very poor.
- 5. Maintenance Typical path.
- 6. Security/Vandalism Increased use should compensate for increased access.
- 7. Conflicts Some opposition in past to Park development due to fears concerning security.

Stone yard (Wilburtha Road): Some confinement and minor relocation required, but yard can remain (and even provide interest).
- 8. Compatibility - Master Plan
 - a. Connector:
 - (1) Unbroken Yes.
 - (2) Unique character Landscape screening used where historic character has been lost.
 - b. Respect and enhance existing Yes.
 - c. Limit new elements Yes.

- d. Appropriateness of materials Yes.
 - e. Maintenance Yes.
 - f. Surrounding area Yes.
9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Multi-purpose path	116,500			116,500
2. a. Pedestrian path		14,500		14,500
3. Upper Ferry Road	6,000			6,000
4. a. and b. Wilburtha Road	6,000			6,000
c. Bridgetender's house		18,000		18,000
5. Lower Ferry Road	17,500			17,500
6. Landscape buffer	30,000			30,000
TOTAL	176,000	32,500		208,500

11. Priority

Phase I; major element in path continuity.

18.12 Lower Ferry Road to (20.30) Hermitage Street
Ewing Township (Upstream of Golf Course)/
City of Trenton (Downstream of Golf Course)
in area designated Urban MP/p. 10

Existing:

1. Right Bank:

a. Roadbed of abandoned Delaware and Belvidere Railroad along side canal; tracks have been removed.

b. Adjacent Areas:

- (1) Golf course upstream of 18.32.
- (2) Residential area downstream of 18.32 to (19.70) Westfield Street (small commercial areas at 19.05 and 19.29).
- (3) (19.70-19.87) Calwalader Park (active recreation area).
- (4) Residential area farm (19.87) Parkside Avenue to (20.13) Hermitage Neighborhood Shopping Area.

Note: The residential neighborhoods are stable; it is important that they remain so. Security and privacy are real issues of concern. Paths and steps provide evidence that some neighbors use the canal: Fences without gates provide evidence, others ignore it.

c. The Delaware River is approximately 0.2 to 0.4 miles from the canal. Mahlon Stacy Park (City of Trenton facility), extends along the river from [18.22] small park area immediately north of junction of Riverside Drive and Clearview Avenue to [20.85] Perdicaris Over Channel.

2. Left Bank:

a. Remnants of old towpath. The site of the towpath remains, but it is overgrown and, in places, discontinuous.

b. Adjacent Areas:

- (1) Golf course upstream of 18.78.
- (2) Trenton State Psychiatric Hospital downstream of 18.78 to 18.89.
- (3) Residential area downstream of 18.89 to (19.06) Sullivan Way.
- (4) (19.06-19.87) Cadwalader Park; Park is in residential area.
- (5) Residential area with some institutional use from (19.87) Parkside Avenue to (20.30) Hermitage Street.

3. (18.94) Schoolhouse Lane/Mills Drive:
 - a. Pedestrian bridge (wood).
 - b. Pleasant small group of houses on the LB and a small apparently stable neighborhood on the right bank.
 - c. An old school house (19th C. stone) and adjacent open area.
 - d. Adjacent area was former site of mills.

4. (19.81) Cadwalader Park (Also See Map SE-8):

- a. Cadwalader Park (City of Trenton facility), the park, designed (c. 1888) by Fredrick L. Olmstead, was opened in 1902; it contains:
 - (1) Elarslie, the former McCall House (c. 1845), now being restored as the Trenton City museum.
 - (2) Parking.
 - (3) Facilities for both active (generally right bank) and passive (generally left bank) recreation.
- b. Aqueducts (Concrete):
 - (1) (19.06) Sullivan Way.
 - (2) (19.87) Parkside Avenue.

Note: Park extends along canal:

1. Left Bank: (19.06) Sullivan Way to (19.87) Parkside Avenue.
2. Right Bank: (19.70) Westfield Street to (19.87) Parkside Avenue.

5. (20.30) Hermitage Street:

- a. Bridge (wood). (Site of former bridgetender's house on left bank downstream of bridge?)
- b. (20.13-20.30) Hermitage Neighborhood Shopping area adjacent.
- c. Small childrens play area adjacent to shopping area and parking area.
- d. Parking area (former gas station site) on adjacent right bank area upstream and downstream of bridge.

Proposed:

1. Right Bank:

a. Multi-purpose path on bed of abandoned railroad:

- (1) Path.
- (2) Selective landscaping/buffer. Buffer should be dense and largely evergreen in order to provide privacy for neighbors and screening for path users.
- (3) Fencing 8' high (black vinyl chain link) (with gates) in residential areas. Fencing will provide more security than exists now. Gates should be provided to those property owners wanting access (with owners providing padlocks).
- (4) Stabilized access at various points (steps, ramped paths).
 - (a) (19.06) Sullivan Way: Stairs, minor seating, landscaping and gates.
 - (b) Other access points if desired by the local neighborhood.
- (5) Removal of existing chain link fencing (both sides of canal).
- (6) Bridge at Calwalader Park - See proposal below.

2. Left Bank:

- a. Upstream of (19.06) Calwalader Park restoration of the former left bank towpath as a possible alternate path to 1,a. above is not recommended at this time due to possible conflict with golf course use and additional cost; views are better from right bank as well. No left bank path is recommended at this time however should the usage or intensity of development in the areas adjacent to the canal change, a path on the site of the former towpath should be considered again. In the meanwhile, scenic easements are desirable. Such a path would require:
 - (1) Path: Clearing; stabilization.
 - (2) Small bridges at several locations (spans less than 10 feet).
 - (3) Selective landscaping/buffer; fencing (in residential areas).
- b. Pedestrian path from (19.06) Sullivan Way to connect with Calwalader Park path system. The Sullivan Way Aqueduct permits passage, along Sullivan Way, under the canal. (Paths within the Park recommended to be the responsibility of the City of Trenton). (See also 4, d.)

- c. Downstream of (19.87) Calwalader Park, no left bank path is recommended at this time however should the usage or intensity of development in the areas adjacent to the canal change, a path on the site of the former towpath should be considered again. In the meanwhile, scenic easements are desirable.

3. (18.94) Schoolhouse Lane/Mills Drive:

- a. Minor clarification of pedestrian path from schoolhouse lane.
- b. Canoe docks to facilitate portage around bridge.

Note: Concept: A small neighborhood area for local use with no facilities.

4. (19.81) Calwalader Park (Also See Map SP-8):

- a. Pedestrian bridge across canal.
- b. Stabilization of grass bank.
- c. Canoe landing area left bank.
 - (1) Landing area for general public.
 - (2) Canoe rental concession.
 - (a) Canoe storage area.
 - (b) Launching area.
 - (c) Food concession.
 - (3) Removal of existing chain link fencing. (Included in 1, a, (5).)
 - (4) Water steps.
 - (5) Sanitary facilities.
 - (6) Interpretive panel: maps, park, canal as a connector, Trenton/canal.
 - (7) Seating.

d. Upstream End:

- (1) (19.15) and (19.51) complete missing links in sidewalk and use areas also as points to view the canal; handrails.
- (2) (19.06) Sullivan Way (right bank) provide access (see 1, a, (4), (a)).

Note: Permits pedestrian loop.

Note: Work at Cadwalader Park requires coordination with the City of Trenton.

5. (20.30) Hermitage Street:

- a. Seating right bank upstream.
- b. Lighting right bank upstream.
- c. Canoe dock right bank upstream.
- d. Landscaping left bank upstream and right bank.

Note:

1. Concept: A small neighborhood area and an access for canoeists ending or starting a trip (upstream) on the feeder.
2. Generally canoeing would not be encouraged below Calwalader Park, however the closeness of the canal to the road makes Hermitage Street a better place than Calwalader Park for ending a canoe trip down the feeder and also eliminates confusion with any future canoe rental operation in Calwalader Park.
3. A pedestrian bridge over Route 29 exists at the foot of Hermitage Street (0.4 mi. from canal) permitting pedestrian access to Mahlon Stacy Park and the river.

Activities:

Typical Path: Access;

Canoeing: Stops, access, rental facilities (Calwalader Park) terminus (Hermitage Avenue);

Continuation of existing active and passive Park uses (Calwalader Park);

Historical (Calwalader Park)

Additional Recommendations:

1. Extend pedestrian path along Delaware River from (18.12) Lower Ferry Road to [18.22] existing pedestrian path in Mahlon Stacy Park.
2. (18.94) Schoolhouse Lane/Mills Drive: Schoolhouse should be restored, privately or publicly, adaptive use essential.
3. (19.06-19.87) Calwalader Park:
 - a. Restoration of the park and continuing maintenance by the City of Trenton is extremely important.
 - b. Continuation and clarification of path and visual connections to river.

4. (20.30) Hermitage Street: Either by others or upon acquisition of additional land adjacent to the canal (right bank upstream of bridge).
 - a. Small parking area for canoeists.
 - b. Seating.
 - c. Landscaping.
 - d. Small play area (for small children).

Analysis:

1. Project Objectives:

- | | |
|---------------------------|----------------------------|
| a. Path continuity | Major. |
| b. Structural restoration | (N.A.) |
| c. Recreational need | Path activities, canoeing. |

2. Impact:

- | | |
|---------------------------|--|
| a. Natural environment | Minimal, development in area previously disturbed (railroad corridor); existing edge habitat continued and improved. |
| b. Historical | Minimal, except for Cadwalader Park. Cadwalader Park: Development designed to be compatible with existing; canoe launch area will be built into side of slope so as not to be conspicuous. Both canoe area and bridge are revivals of previous elements in approximately the same locations. |
| c. Recreational potential | Typical path, fishing, canoeing. |
| d. Immediate neighbors | Privacy will be maintained by dense landscape screens; security provided by high fence; private access available to owners who want it; increase in noise level should be slight. (Also see next Item 2. e.) |
| e. Local community | Prime concerns: Security and neighborhood stability. Security provided by high fence which should provide more security than exists now. Additional use as additional |

crime deterrent. Definition given by canal (and reinforced by development as an aid to stability).

Note: Security and neighborhood stability also very important for the Park.

- f. Visual
Improvement: Removal of unsightly fence on edge of canal; screening of backyards. Additional trees; bank stabilization and overlooks in Cadwalader Park area.
- 3. Interpretive Potential
Principally Cadwalader Park and general Trenton historical; also former crossings of the canal, etc., opportunities for display at Cadawalader Park; principal interpretation of the Park and the City would be by others at Ellarslie (hopefully in part coordinated through the Canal Park interpretive program). Orientation and specific canal material at canoe area.
- 4. Access:
 - a. Path system
Restricted to a few points (for security). Private access available to immediate neighbors. Parking available at ends; pedestrian access at several intermediate locations.
 - b. General
Good.
 - c. Public transportation
Yes.
- 5. Maintenance
More maintenance (litter and vandalism expected to be problems) required.
- 6. Security/Vandalism
Frequent use of Park will help, but more frequent use of rangers will be necessary. Park elements will be as vandal-proof as is reasonable.
- 7. Conflicts
None, providing community fears concerning security can be allayed. Note that coordination with the

City of Trenton is required particularly for the work at Cadwalader Park.

8. Compatibility - Master Plan

a. Connector:

(1) Unbroken

Yes.

(2) Unique character

Open spaces (Cadwalader Park, golf course), vegetation and canal in the midst of an urban area.

b. Respect and enhance existing

Yes.

c. Limit new elements

Yes; new elements will be designed to be in character with the existing.

d. Appropriateness of materials

Yes.

e. Maintenance

Yes.

f. Surrounding area

Yes.

9. Compatibility: Water Supply

Yes.

10. Cost:

	I	II	III	Total
1. a. Multi-purpose path	534,000			534,000
2. Left bank	Note 1			----
3. Schoolhouse Lane	7,000			7,000
4. Cadwalader Park				
a. Bridge		69,500		69,500
b. Bank stabilization (Note 2)	300,000*			300,000*
c. Landing area (Note 2)		547,000*		547,000*
d. Upstream end	45,000	36,000		81,000
5. Hermitage Avenue	39,000			39,000
TOTAL	925,000	652,500		1,577,500

- Notes: 1. Removal of fencing included in 1. a.
 2. Responsibility shared with the City of Trenton, allocation of * costs not determined.

11. Priority

High Priority: Path continuity and neighborhood stability. Proper precautions for security; stability of neighborhood essential for Park as well as the residents.

Secondary priority given to developing a minor neighborhood access area which will also improve an unattractive area (and hopefully give the adjacent areas definition and assistance in stabilization), as well as provide some access at the downstream terminus for canoeing.

20.30 Hermitage Avenue to (21.92) Old Rose Street
City of Trenton in area designated Urban

Existing:

1. Roadbed of abandoned Delaware and Belvidere Railroad:

- a. On right bank along side canal upstream of (20.74) abandoned railroad bridge.
- b. (20.56) Abandoned Railroad Bridge across canal.
- c. On left bank, but not along side canal from (20.56) abandoned railroad bridge to (21.50) abandoned railroad bridge in "North 25" Project.
 - (1) Drainage very poor.
 - (2) Trash accumulations (dumping a severe problem).
 - (3) Some bank erosion particularly where paths have been made.
 - (4) [20.74] (20.56 + R0.14) Prospect Street Overpass.
 - (5) [21.06] (20.56 + R0.44) Calhoun Street Overpass.
 - (6) Adjacent Areas:
 - (a) Area upstream of Winter Street generally well below the surrounding area; steep banks (part of Park land) on each side of the former roadbed.
 - (b) Area downstream of Winter Street is approximately level with the adjacent (Belvidere and Summer) Streets.

Note: Distance (along route of abandoned railroad bed) between abandoned railroad bridges (over the canal) is .73 miles.

- d. On right bank, along side canal from (21.50) abandoned railroad bridge in "North 25" Project to (21.92) abandoned railroad bridge at Old Rose Street. Tracks downstream of (21.71) Montgomery Street used by the Enterprise Railroad Line until Spring 1982.

2. Canal Corridor: (20.30) Hermitage Avenue to (20.56) Railroad Bridge:

- a. Site of former towpath remains on left bank, but it overgrown.
- b. Fence along canal on both sides.
- c. Adjacent uses generally residential and institutional.

- d. Former railroad bed on right bank (see 1. above).
 - e. (20.50) A small playground is located on the right bank.
3. Canal Corridor: (20.56) Abandoned Railroad Bridge:
- Note: Below 20.56 to (21.92) Old Rose Street there were at one time towpaths on both sides of the canal.
4. Canal Corridor: (20.56) Railroad Bridge to (20.74) Prospect Street:
- a. Site of former towpath remains on left bank; downstream of (20.62) Jarvis Place (see 5. below) towpath still remains and is usable.
 - b. Adjacent areas (left and right banks) are largely residential.
5. (20.62) Jarvis Place:
- a. A group of row houses (left bank) on a cul-de-sac which ends at the canal.
6. (20.74) Prospect Street:
- a. Bridgetender's house (c. 1860 wood frame); owned by the City of Trenton; house has been renovated.
 - b. Bridge (c. 1920 concrete).
 - c. (20.82) Pedestrian bridge across canal nearby.
 - d. Adams and Sickles Pharmacy Building (c 1900) (National Register), long a focal point in West Trenton, is nearby and being restored.
7. Canal Corridor: (20.74) Prospect Street to (21.06) Calhoun Street:
- a. On right bank, Hanover Street and sidewalk are along canal upstream of 20.87; a narrow strip of vegetation, generally grass, is between sidewalk and canal. Below 20.87 backyards of houses are adjacent to the canal, but the space for a narrow path on the site of the old towpath between the backs of houses and the canal does exist.
 - b. On the left bank, State Street and sidewalk are along the canal upstream of 20.94; a narrow strip of grass and bushes is between the canal and the sidewalk. Below 20.94 backyards of buildings are adjacent to the canal, but the space does exist for a narrow path. State Street Historic District, adjacent to the canal.
 - c. Chain link fence along the canal on both sides.
 - d. (20.82) Pedestrian Bridge, see 8. below.

- e. Adjacent area largely residential on left bank and a mixture of residential, commercial and institutional on the right bank.

Note: In several places there is a view of the State House Dome.

8. (20.82) Perdicaris Place Pedestrian Bridge and (20.85) Overflow Channel:

- a. Pedestrian Bridge (c 1920?) across canal (steps at right bank end).
- b. Overflow Channel:
 - (1) Gatehouse structure (20th C).
 - (2) Culvert (19th C).
 - (3) Channel with a considerable amount of carefully laid stonework.
 - (4) "Shaky Bridge" (1903), a miniature version of Roebling's Niagara Bridge given to the city by the Roebling family, crosses the channel in Stacy Park (the area between Route 29 and the River).
- c. Numerous houses of historic interest are nearby including several on the National Register.

9. (21.06) Calhoun Street:

- a. Canal Supervisor's House (c. 1875 wood frame) - used as the offices of the Delaware and Raritan Canal Commission.
- b. Bridge (c. 1920 concrete)
- c. Calhoun Street Bridge (1885) (pedestrian sidewalk on upstream side) across Delaware River nearby (0.2 miles from canal) provides access to Pennsylvania Delaware Division Canal (0.5 miles from Delaware and Raritan Canal) as well as views of the Delaware River. The bridge itself is on the National Register.
- d. The State House Historic District is nearby; the District includes not only the State House (1792), but also a large number of 19th Century residential buildings.
- e. 315 West State, the Rudolf Kuser Mansion (National Register) is nearby.

10. Canal Corridor: (21.06) Calhoun Street to (21.16) West Hanover Street:

- a. On right bank, adjacent area is residential; backyards of houses are adjacent to canal, but the space for a narrow path along the canal on the site of the old towpath exists.

- b. The left bank area is a generally unattractive one with a mixture of uses: an alley, the back of a hotel parking garage, several small parking areas.
 - c. Chain link fence along the canal on both sides.
 - d. Considerable slumping of the banks has occurred.
11. (21.16) West Hanover Street:
- a. Bridgetender's house (c. 1850) - State owned, renovated and occupied (under lease)
 - b. Bridge (c. 1920 concrete)
12. Canal Corridor: (21.16) West Hanover Street to (21.35) Passaic Street Bridge:
- a. Left Bank: Upstream of 21.23 a pedestrian path exists on the site of the old towpath. Downstream of 21.23 Passaic Street is immediately adjacent to the canal; there is no sidewalk (or any room for one), along the canal, but there is a sidewalk on the opposite side of the street.
 - b. Right Bank: Downstream of 21.28 a narrow strip of trees and a path exist between the canal and the adjacent parking lots. Upstream of 21.28 the space exists for a path between the various adjacent buildings and the canal.
 - c. Canal is contained between street steel piling bulkheads; bulkheads are in poor condition. As part of the NJWSA dredging project the canal will be dredged and the bulkheads stabilized.
 - d. Chain link fence along the canal except along Passaic Street; along Passaic Street there is a dilapidated concrete post and steel pipe guardrail.
 - e. Adjacent area on left bank is residential (upstream of 21.23) and commercial (downstream of 21.23). Right bank area contains a mixture of uses; a considerable area is given over to parking; much of the parking area is located on the site of a former canal basin.
13. Canal Corridor: (21.35) Passaic Street Bridge to (21.42) Willow Street:
- a. Left Bank: Pedestrian path on site of old towpath.
 - b. Car wash occupies right bank area; part of structure abuts canal blocking possibility of passage. Nearby area is largely used for parking.

- c. Canal is contained between sheet steel piling bulkheads; bulkheads are in poor condition. Canal will be dredged and bulkheads stabilized as part of the NJWSA dredging project.
 - d. Chain link fence along the canal on both sides.
 - e. Adjacent left bank area with mixed residential and commercial uses.
 - f. (21.35) Passaic Street Bridge (c. 1920 Concrete); sidewalk only on downstream side.
 - g. (21.40-21.44) Spring Street/Willow Street Bridge; Spring and Willow Streets intersect in part on a common bridge (c. 1920 concrete); the intersection includes a small traffic island. The common bridge has sidewalks on the upstream and downstream sides.
14. (21.55) Trenton Battle Monument Area: (21.42) Willow Street to (21.62) North Broad Street:
- a. Trenton Battle Monument (c. 1891).
 - b. "North 25" Project - a City of Trenton renewal project including:
 - (1) Park area alongside canal.
 - (2) New housing.
 - (3) Community center - proposed.
 - (4) Health care center.
 - c. Pennsylvania and Reading Railroad Freight Building (1888) (National Register), the sole surviving component of the 19th C railroad terminal in Trenton, is nearby.
 - d. Adjacent old commercial structures - advanced state of urban decay.
 - e. Gas station abuts canal.
 - f. "Mini-Park" on right bank upstream of North Broad Street - rather run down.
 - g. Bridges across canal.
 - (1) (21.50) Abandoned railroad bridge (concrete/steel).
 - (2) (21.59) North Warren Street (c. 1920 concrete).
 - (3) (21.62) North Broad Street (c. 1920 concrete).

Note: The City has put considerable effort into the project in hopes of revitalizing the surrounding area.

15. Canal Corridor: (21.55) Battle Monument to (21.92) Old Rose Street:

- a. Right Bank: Downstream of (21.71) Montgomery Street, tracks of former Delaware and Belvidere Railroads were used by the Enterprise Railroad Line until Spring 1982 (see 1. above).
- b. Left Bank: Holland Street is immediately adjacent to the canal downstream of (21.71) Montgomery Street; sidewalk only on the opposite side of the street. Upstream of (21.71) Montgomery Street, buildings and alley very close to canal; a path would be difficult.
- c. Adjacent uses are mixed; much of right bank area is vacant and unused; left bank includes a public school and a housing development below Montgomery Street.
- d. Part of school playground on left bank is on a canal basin which has been filled in.
- e. (21.71) Montgomery Street Bridge (c. 1920 concrete).

Note: Remains of railroad crossing gates and control tower survive.

- f. Canal lined with sheet steel pile bulkheads.
- g. Chain link fence generally on both sides of canal.

16. (21.92) Old Rose Street (Old Summit):

- a. Historic summit of the old Main Canal and junction with the Feeder Canal. Site of former towpath swing bridge across Feeder Canal. Route 1 Expressway is located in the bed of the main canal from approximately B5.5 to B6.37/21.92.
- b. (21.92) Railroad bridge (wood) across canal; part of Enterprise Railroad Line which has been abandoned.
- c. (B6.36) Railroad bridge across Route 1 in location of former swing bridge across former Main Canal.
- d. (22.05) Entrance to Trenton Conduit; canal enters enclosure for approximately one mile, Route 1 Expressway built in bed of old canal in area south of Old Rose Street.
- e. Vacant land on right bank of feeder.
- f. Vacant land on left bank of main canal; also site of Canal Company stables.
- g. View of State House Dome.

Proposed:

1. Multi-purpose path on bed of abandoned railroad
 - a. On right bank from (19.82) Calwalader Park along canal to (20.56) (abandoned) railroad bridge:
 - (1) Improvement of surface.
 - (2) Selective landscaping.
 - (3) Lighting.
 - (4) Removal of existing chain link fencing.
 - b. Across existing (abandoned) (20.56) railroad bridge:
 - (1) Repairs to bridge.
 - (2) Planking over railroad ties.
 - (3) Repair/replacement of handrails.
 - c. Continuing on (left bank) bed of abandoned railroad to (21.50) abandoned railroad bridge in "North 25" Project.
 - (1) Drainage.
 - (2) Removal of trash.
 - (3) Improvement of surface.
 - (4) [20.74] (20.56 + R0.14) Prospect Street Overpass.
 - (a) Provide access from street.
 - (b) Confine access from street.
 - (c) Repairs to bridge.
 - (5) [21.06] (20.56 + R0.44) Calhoun Street Overpass.
 - (a) Provide access from street.
 - (b) Confine access from street.
 - (c) Repairs to bridge.
 - (6) Landscaping.
 - (7) Lighting.
 - (8) Seating in selected areas.

- (9) Bollards or other devices (to provide definition and to restrict motor vehicles).
 - (10) Trash receptacles.
 - (11) Buffers: Walls/hedges/fences as appropriate to provide security and privacy.
- d. Across (21.50) Abandoned Railroad Bridge:
- (1) Repairs to bridge.
 - (2) Planking over railroad ties.
 - (3) Repair/replacement of handrails.
2. Canal Corridor: (20.30) Hermitage Avenue to (20.56) (Abandoned) Railroad Bridge:
- a. No path is recommended on the left bank. (Alternate route exists therefore low priority; also possible conflict with residential security/privacy. If uses in adjacent left bank area change, a path on the site of the old towpath should be considered again.)
 - b. Multi-purpose path on former railroad bed (see 1. above).
 - c. Removal of existing chainlink fencing.
 - d. Selective planting - generally trees.
3. (20.56) Abandoned Railroad Bridge: (See 1. above.)
4. Canal Corridor: (20.56) (abandoned railroad bridge to (20.74) Prospect Street on left bank:
- a. Removal of chain link fencing.
 - b. Stabilization of left bank.
 - c. Paved path on left bank (multi-purpose):
 - (1) Lighting
 - (2) Seating where appropriate and space available
 - (3) Trash receptacles
 - d. Selective planting - generally trees (both sides of canal)
 - e. Buffers: Walls/hedges/fences as appropriate to provide privacy and security

5. (20.62) Jarvis Place:

- a. Seating.
- b. Minor landscaping.
- c. Definition of path.

Note: Concept: Reinforce a small neighborhood focal point.

6. (20.74) Prospect Street:

- a. Vehicle barrier on left bank upstream of bridge.
- b. Interpretive definition/seating at site of bridgetender's shanty.
- c. Interpretive program dependent upon usage of house.

7. Canal Corridor: (20.74) Prospect Street to (21.06) Calhoun Street:

- a. Removal of existing chain link fencing.
- b. Dredging of canal (separate project).
- c. Stabilize banks with walls.
- d. Paved path on left bank (pedestrians only):
 - (1) Handrails, lighting.
 - (2) Seating where appropriate and space available.
 - (3) Trash receptacles.
- e. Selective planting (generally trees): Left and right bank.
- f. Buffers: Walls/fences/hedges/bushes/trees as appropriate to provide privacy and security: Left bank and right bank.
- g. Paving and seating, handrails on right bank from (20.74) Prospect Street downstream where no buildings exist (approximately 20.94).

8. (20.82) Perdicaris Place Pedestrian Bridge and (20.85) Overflow Channel:

- a. No change.

Note: Possibility of a pedestrian link between the canal and the river exists; however, Route 29 presents a major obstacle. Furthermore privacy and security problems would be created for the residents of the houses on Perdicaris Drive. The possibility does exist for a connection to Stacy Park at (21.06) Calhoun Street.

9. (21.06) Calhoun Street: Continued use as the headquarters of the D & R Canal Commission.
 - a. Restoration of house
 - b. Minor landscaping
 - c. Also see path segments.
10. (20.74) Calhoun Street to (21.16) West Hanover Street:
 - a. Removal of existing chain link fencing.
 - b. Dredging of canal (separate project).
 - c. Stabilize banks with walls.
 - d. Paved path on left bank:
 - (1) Handrails, lighting.
 - (2) Seating where appropriate and space available.
 - (3) Trash receptacles.
 - e. Selective planting (generally trees): Left and right bank.
 - f. Buffers: Walls/fences/hedges/bushes/trees as appropriate to provide privacy and security: Left bank and right bank.
11. (21.16) West Hanover Street:
 - a. Landscaping
12. Canal Corridor: (21.16) West Hanover Street to (21.35) Passaic Street (Bridge):
 - a. Removal of chain link fencing.
 - b. Paved path on left bank from (21.16) West Hanover Street to (21.35) Passaic Street:
 - (1) Handrails, lighting
 - (2) Seating where appropriate and space available
 - (3) Trash receptacle
 - c. Landscaping: Linear row(s) of trees to provide shade and reinforce identity and path of canal where space is available on right bank and left bank.
 - d. Buffers: Walls/fences/hedges/bushes/trees as appropriate to provide privacy and security.

- e. Paved path on right bank from (21.16) Hanover Street through parking area opposite Passaic Street (benches etc. have been placed in parking area alongside canal).
 - f. Street trees along Passaic Street on the opposite side of the road (no walk or space for a walk exists on the canal side of Passaic Street further more placement of existing bulkheads has already made canal very narrow in this area).
 - g. Replace existing guardrail between Passaic Street and canal.
 - h. Interpretive definition of at least part of the former canal basin (right bank).
13. Canal Corridor: (21.35) Passaic Street Bridge to (21.42) North Willow Street:
- a. Removal of chain link fencing.
 - b. Paved path on left bank from Passaic Street to Spring Street:
 - (1) Lighting, handrails.
 - (2) Landscaping.
 - c. Landscaping: Linear row(s) of trees to provide shade and reinforce identity and path of canal where space is available on right bank and left bank.
 - d. Buffers: Walls/fences/hedges/bushes/trees as appropriate to provide privacy and security.
 - e. Street trees on small street linking Spring and Willow Streets on opposite side square. Small island might be suitable as the location for a small monument relating to the canal.
14. (21.55) Trenton Battle Monument Areas: (21.42) Willow Street to (21.62) North Broad Street:
- a. Link to existing North 25 path system on right and left bank of canal;
 - b. Existing improvements should be reinforced as required.
 - c. "Mini-Park" upstream North Broad Street on right bank should be rehabilitated in a way compatible with the proposed development of Canal Park.
 - (1) Landscaping.
 - (2) Seating.
 - (3) Lighting.

d. As indicated in 1. above.

e. Interpretive devices.

Note: Concept: Tie into and reinforce existing City of Trenton projects and reinforce continuity of the canal.

15. Canal Corridor: (21.55) Battle Monument to (21.92) Old Rose Street:

a. Multi-purpose path on bed of railroad tracks if abandoned (or between tracks and canal) on right bank from (21.62) North Broad Street to (21.92) railroad bridge over canal.

(1) Paved path

(2) Lighting

(3) Landscaping

(4) Seating, trash receptacles

b. Left Bank: Trees along Holland Avenue both sides of road.

c. (21.92) Railroad Bridge:

(1) Provide planks and rails for pedestrian use.

d. Interpretive definition of the entrance to the former canal bank on the left bank.

e. Railroad Bridge across Route 1: Retain for connection to possible future bicycle path. (See Additional Recommendation 4, b under (B-0.1) Duck Island Area.)

16. (21.92) Old Rose Street (Old Summit):

a. Delineation of former canal structures.

b. Seating.

c. Landscaping.

d. Interpretive marker.

Activities:

Typical urban path along canal;
Multi-purpose path on former railroad bed;
Fishing along canal

Additional Recommendations:

1. (21.06) Calhoun Street: Improve pedestrian connection from Calhoun Street Bridge to Stacy Park (basically around water filtration plant). Also see path segments.
2. (21.92) Old Rose Street:
 - a. Provide pedestrian access from Perry Street to canal in the area near Route 1.
 - b. Abandoned railroad bridge (at B6.36) across Route 1 Expressway should be preserved to preserve future pedestrian/multi-purpose path options. Advertising should be removed from bridge.

Analysis:

1. Project Objectives:

- | | |
|---------------------------|--|
| a. Path continuity | Major. |
| b. Structural restoration | Minor; existing historic structures generally in good condition or better. |
| c. Recreational need | Path activities; small urban play areas; areas for sitting; fishing. |

2. Impact:

- | | |
|---------------------------|---|
| a. Natural environment | Minimal. |
| b. Historical | Minimal; almost all development would take place on land previously heavily disturbed. |
| c. Recreational potential | Path activities; small urban play areas, seating. |
| d. Immediate neighbors | Park development improves security and neighborhood stability (both prime concerns) both through physical elements and increased usage. Privacy and amenities (park access, visual, etc.) also vastly improved. |
| e. Local community | Trenton is the state capitol, an old industrial city with little remaining industry, considerable unemployment and poverty and numerous badly deteriorated neighborhoods including many of those adjacent to the Canal. |

The development of the Canal Park could:

1. Provide definition, borders (important stability) to neighborhoods.
2. Provide amenity, a visual focus for redevelopment.
3. Provide some physical elements to improve scenery.
4. Provide a structure to the city and reinforce the canals identity.

It is naive to think the Canal alone can revitalize Trenton: The development of the Park itself can only be successful in the context of a much larger effort; until such an effort is forthcoming, what should be a first priority unfortunately must remain low.

- | | |
|---------------------------|---|
| f. Visual | Give Canal Park identity, order, unity; improve general appearance. |
| 3. Interpretive Potential | Extensive; many historic buildings and several districts; local industrial development/canal; local, regional and national history. |
| 4. Access: | |
| a. Path system | Good; parking (not necessarily free) generally available near the canal; frequent pedestrian access. |
| b. General | Good. |
| c. Public transportation | Good; generally within a few blocks. |
| 5. Maintenance | Extensive; furthermore urban type different from most of park. |
| 6. Security/Vandalism | Serious problems; in addition to use of vandal resistant elements, additional security force required. |

7. Conflicts General urban decay (and lack of any comprehensive effort to revitalize the area) makes much of development not feasible at this time.
8. Compatibility - Master Plan
- a. Connector:
 - (1) Unbroken Yes.
 - (2) Unique character Yes; historic, urban.
 - b. Respect and enhance existing Yes; historical respected, all enhanced.
 - c. Limit new elements New elements justified in context of urban situation; area totally disturbed, very different from Canal era.
 - d. Appropriateness of materials Yes; urban situation requires very different materials.
 - e. Maintenance Yes.
 - f. Surrounding area Yes.
9. Compatibility: Water Supply Yes, but coordination with NJWSA required.

10. Cost:

	I	II	III	Total
1. a. Multi-purpose path	257,000			257,000
b. (20.56) Railroad Bridge	29,000			29,000
c. Multi-purpose path			282,000	282,000
d. (21.50) Railroad Bridge			14,500	14,500
2. Hermitage St. to (20.56) Railroad Bridge	Note 1			----
3.	Note 2			----
4. (20.56) Railroad Bridge to Prospect Street	76,000			76,000

10. Cost: (continued)

	I	II	III	Total
5. Jarvis Place	9,500			9,500
6. Prospect Street	2,500		6,000	8,500
7. Prospect Street to Calhoun Street			812,500	812,500
8. Perdicaris Bridge, etc.				----
9. Calhoun Street	3,500	24,000		27,500
10. Calhoun Street to West Hanover Street			1,124,500	1,124,500
11. West Hanover Street	6,000			6,000
12. West Hanover Street to Passaic Street Bridge			744,000	744,000
13. Passaic Street Bridge to North Willow Street			195,500	195,500
14. Battle Monument/"North 25" Area			93,500	93,500
15. Battle Monument to Old Rose Street			344,500	344,500
16. Old Rose Street			65,000	65,000
TOTAL	383,500	24,000	3,682,000	4,089,500

Note: 1. Included in above 1. a.
 2. Included above as 1. b.

11. Priority

The primary priority should be given to path continuity and reinforcement which would, at the same time provide structure to the city and definition and stability to its neighborhoods. Unfortunately the requisite demand and support for the necessary renewal to sustain such a park does

not exist at this time; therefore, major development has been placed in Stage III; if conditions unexpectedly change development should take place earlier.

Stage I: Multi-purpose trail to Prospect Street linking into existing street/sidewalk system.

MAIN CANAL SOUTH OF OLD SUMMIT

B-0.1 Duck Island Area

to below B0.0 not designated

B3.45 North of (3.45) Sturgeon Pond not designated

South of (3.45) Sturgeon Pond designated rural MP/p. 10

Existing:

1. General:

- a. The park in this area is part of a much larger area consisting of Crosswicks Creek and the adjacent Trenton/Hamilton Marshes including John Roebling Park. This area is bounded by a broad arc of high and visually prominent bluffs extending from Trenton to Bordentown and the Delaware River. A largely industrial area including tank farms, a large power plant and a sewage treatment plant are located on the area west of the canal north of B1.85; however most of the canal in the larger area is vacant and unmanaged.

The area is especially valuable in that it contains several contiguous areas containing a diversity of habitats which provide an extraordinary natural area.

The Crosswicks Creek area and Abbott Farm Historical and Archaeological District both of which adjoin the Canal State Park are to some extent protected, however the natural rim which strongly defines these areas and which is visually very prominent from the park should also be protected by easement or other means.

Note:

1. The D&R Canal Park Visual Impact Review Area generally does not extend to the rim, but rather stops short of it.
2. VS: Segment 9 (South of Sturgeon Pond).

- b. Unlike the Feeder Canal or the Main Canal north (21.92) the Old Summit, the canal is not used for water supply and has therefore been abandoned. Much of the canal has been filled in with debris and spoil material; the remaining canal in this Section is subject to tidal flow. Historically, the flow of water in the canal, in the Duck Island portion, was from the summit, in Trenton, to Bordentown; however the "navigational flow" in the main canal was considered to be from Bordentown to New Brunswick. Locks and bridges were numbered starting from the Bordentown end.

Note: Milage for the Duck Island Section is calculated from the (Bordentown) outlet lock and indicated with the prefix "B".

- c. Railroad tracks closely parallel the canal; except for (B0.0 to B0.2) Outlet Lock area, the tracks are immediately adjacent to the canal (or its former site); tracks are on the right bank. The line (Bordentown-Trenton) remains active; however, service is not frequent.
- d. Major road construction including portions of I-195, I-295, 129 and 29 are proposed for the area.

Note:

- 1. Final Environmental Impact Statement, Interstate Routes 195 and 295, New Jersey Routes 29 and 129
- 2. The Need for a Bikeway System . . in the I-195-295 Corridor (undated) by Robert P. Thomas
- e. The canal in the Duck Island area is completely detached from the other parts of the canal. There is no path continuity. In 1936 the portion of the Old Main Canal south of the Summit and lying in the City of Trenton was given over to the City; it was then filled in as part of a WPA project. A portion of the filled-in section is now part of the Route 1 Expressway the remainder of the Section is proposed for highway construction. Existing access ramps make any parallel path impractical. In addition much of the canal, at the Trenton end, which lies in Hamilton Township has been filled in with debris and spoils material (much of it from canal maintenance work).

2. (B-0.1) Bordentown:

- a. A small parcel of park land at base of bluff with creek access and pedestrian access by means of a long, relatively steep, stairway from Second Street.
- b. Crosswicks Creek
- c. Bordentown is a town containing numerous historic structures including several on the bluff overlooking the outlet lock area. A pedestrian promenade (between Second and Third Streets) and an overlook at the end of Farnsworth Avenue provide views of the waterfront area, the outlet area on Duck Island, Crosswicks Creek, Delaware River and (proposed) Route I-295 crossing. Most of the town, including the waterfront area, is an Historic District.
- d. Opposite Bordentown outlet lock.
- e. Hamilton Marshes and Duck Island easily accessible by canoe
- f. Adjacent to railroad trestle across Crosswicks Creek. Trestle formerly had a pedestrian walk.
- g. Bordentown Yacht Club adjacent; Yapewi Aquatic Club and Bordentown City Beach nearby downstream on Crosswicks Creek.

- h. Bordentown City Beach 0.4 mi. downstream on Crosswicks Creek. Launching of canoes/small boats possible.
 - i. Adjacent small furniture factory (in old railroad freight shed?).
 - j. Point Breeze, the site of the former house of Joseph Bonaparte, brother of Napoleon and exiled King of Spain lies on the Bordentown Bluff, overlooking Crosswicks Creek, immediately northeast of the town; it, too, is an Historic District, the gate house still remains.
3. (B0.0) Bordentown Outlet Lock:
- a. Lock #1 (Tidal) including remains of drop and mitre gates.
 - b. Remains of retaining and wharf structures as well as remains of old barges.
 - c. Adjacent Crosswicks Creek and Delaware River.
 - d. Proposed Interstate Route 295 including a roadside rest area is located west of lock between the lock and the river.
 - e. Railroad bridge across Crosswicks Creek (upstream of outlet).

Note:

- 1. The Delaware River and Crosswicks Creek are both tidal.
 - 2. Problems of vandalism will increase with better access.
4. (B0.2) Duck Island Nature Observation Area, South of (B1.95) Proposed I-295 Crossing:
- a. Tidal marshes left bank and right bank.
 - b. Towpath and protective berm left bank; protective berm, or guard levee, built 1841.
 - c. Canal shallow subject to tidal flow often blocked by fallen trees.
 - d. Proposed Interstate Highway 295 will traverse the area.
 - e. Abbot Farm Archaeological and Historical District are adjacent on the right bank. The area is extremely rich in artifacts some of which are thought to date from 10,000 BC.
 - f. Railroad track parallels the canal on right bank.
 - g. Remains of old brick works (kilns, etc.) on the right bank area.
 - h. The area together with the adjacent marsh areas and John Roebling Park form an excellent bird watching area.

5. (B1.95) Duck Island (Trenton End), North of (B 1.95) Proposed I-295 Crossing
North of (B3.45) Sturgeon Pond not designated
South of (B3.45) Sturgeon Pond designated rural MP/p.10
- a. Canal filled with debris and spoil material.
 - b. Towpath requires clearing.
 - c. Railroad on right bank.
 - d. (B3.33) Site of Lock #2 is nearby; lock has been filled in, but still remains under fill. Also site of former locktender's house and overflow channel.
 - e. (B3.45) Sturgeon Pond lies east of the canal bed.
 - f. (B3.72) Trenton Marine Terminal located nearby on the Delaware River; the Terminal (including the "Hog Island Cranes"). (State Register) has been developed as a park by the City of Trenton. The park includes sanitary facilities, small children's play area and an exhibition hall.
 - g. Lamberton Road provides some access to the canal:
 - (1) (B2.65) The road turns inland to skirt around a large power plant (PSE&G); between B2.0 and B2.65 the road closely parallels the canal providing some access.
 - (2) Below B.20 the road turns away from the canal and continues between tank farms and between the river and the canal, for approximately .25 miles and terminates. At its termination parking for a few cars is possible; a path through a wooded area leads to the canal.
 - h. Abbot Farm Archaeological and Historical District adjacent.
 - i. John A. Roebling Memorial Park, a largely undeveloped Mercer County facility, is adjacent to the canal:
- Note:
- 1. At its Trenton and Lamberton Road begins as a continuation of Route 29 along the River; at the Trenton end there are good views of the river and, in one area, a fine row of sycamores along the road as well as the remnants (broken benches, bollards, steps to the river, etc.) of the riverside promenade/overlook.
 - 2. A realignment of Lamberton Road including the "Lamberton Road Connector" is proposed as part of the proposed highway development.

- (1) Park is located within the Abbott Farm and Historical District.
 - (2) Park is located on the site of the former (prior to 1920) White City Park, an amusement park at what was then the end of a trolley line.
 - (3) Park facilities include:
 - (a) A small picnic area (at the southeastern end) including approximately 12 tables, grilles, trash cans and a few benches.
 - (b) A large parking area (50+ cars) at the northeastern end (access from Sewell Street) with a few trash cans and benches.
 - (4) Issac Watson House (c. 1708) is connected to the Park.
 - (5) The park area was deeded to Mercer County with deed restriction that it be kept as a wildlife preserve.
- j. Roebing Park and the adjacent marsh and marsh edge areas form an excellent bird watching area. (The low lying area upstream of Roebing Park is privately owned although undeveloped.)
 - k. The area, the adjacent marsh areas and John Roebing Park form an excellent bird watching area.
 - l. Proposed Highways (Interstate 195, Interstate 295, 29 and 129) including interchanges are adjacent or nearby.
 - m. Large mound from landfill operation on adjacent area downstream of Sturgeon Pond.
 - n. Considerable trash has been dumped (particularly along railroad tracks).
 - o. High tension power lines, towers and access roads cross the area; the adjacent Duck Island plant of PSE&G spews forth smoke and the smell of coal gas.
 - p. Barnt de Klyn House (Bow Hill Mansion), c1785, (National Register; HABS: NJ-224), is located on the north rim of bluff overlooking the Trenton marshes.
6. (B3.45) Sturgeon Pond to (B6.37 = 24.18) Old Summit:
 - a. General: The route of the old main canal has been filled in, in this area. The route is owned by the State of New Jersey (DOT) and is the major part of the Proposed Route 129 Right-of-Way. The remains of the several locks lie buried in this section. Much of the area is adjacent to old industrial plants.

- b. (B3.45) Sturgeon Pond to (B4.25) Lalor Street:
 - (1) "Left Bank" Area:
 - (a) Railroad track.
 - (b) (B3.49) to (B3.78) City of Trenton Sewage Treatment Plant.
 - (c) (B3.89) to (B4.25) Lalor Street Riverview Cemetery. An old cemetery containing the graves of many early and prominent trentonians, including John Roebling.
 - (2) "Right Bank" Area:
 - (a) Railroad Tracks: Bordentown Branch (Active).
Note: While "active", usage is not frequent.
 - (b) (B3.45) to (B3.92) Unused land, but with much dumping.
 - (c) Rim.
 - (d) (B3.92) to (B4.25) Lalor Street.
 - (3) Canal Bed:
 - (a) Lock No. 3 Site.
 - (b) Lock No. 4 Site.
 - (c) Lalor Street Bridge Site.
- c. (B4.25) Lalor Street to (B5.11) South Broad Street: Chambersburg area: One of the more stable areas in the city.
- d. (B5.11) South Broad Street to (B5.58) Railroad Aqueduct Site: Eagle Tavern (18th C.) is nearby.
- e. (B5.58) Railroad Aqueduct Site to (B6.37) Old Summit:
 - (1) Route 1 Freeway in former bed of canal:
 - (a) (B5.88) State Street Lock (#7) site.
 - (b) (B5.72) Assunpink Culvert site.
 - (2) Railroad Track on "Right Bank":
 - (a) Bridge (Expressway Exits).
 - (b) State Street.
 - (c) Expressway Perry Street Access Road.

- (d) Perry Street.
- (e) Railroad Bridge Access Expressway.
- (3) "Right Bank" Adjacent Area: "Yard Avenue Historic Area"; Mercer cemetery nearby.
- (4) "Left Bank" Adjacent Areas.

Proposed:

1. A coordinated effort to mitigate the severe impact of the proposed highways and establish the necessary multi-purpose and pedestrian paths to other areas. (See Additional Recommendation 1 below.) The prime importance of such an effort would be to protect the canal context and to establish a linkage to the rest of the Canal State Park.
2. (B-0.1) Bordentown:
 - a. Rubbish removal and selective clearing.
 - b. Improved path along railroad track.
 - c. Pedestrian catwalk on railroad trestle.
 - d. Canoe Landing Area:
 - (1) Parking area: 8 cars.
 - (2) Structure containing:
 - (a) Sanitary facilities: A-3.
 - (b) Concession office and storage.
 - (c) Storage.
 - (d) Interpretive Display: Orientation; Bordentown/canal; General Bordentown historical; marsh area flora and fauna.
 - (3) Canoe storage area.
 - (4) Canoe landing area including a pier and float with gang plank.

Note: Crosswicks Creek Tidal.

 - (5) Some seating.
 - (6) Landscaping.

Note: Both Crosswicks Creek and the canal offer many possibilities for canoeing and canoeing combined with nature observation.

Note:

1. Alternatively, access could be provided without a rental concession.
2. Area better suited than that downstream due to less conflict with other boats.
3. (B0.0) Bordentown Outlet Lock:

- a. Stabilization of lock area/safety protection as required. Restoration of appearance of lock, incorporate means of regulating tidal flow so as to increase usefulness of canal for canoeing.

Note: The use of wood bulkheads (but not steel piling), such as has been done at the New Brunswick Outlet Locks, to provide both water control and access across the lock is recommended only on a temporary basis.

- b. Pedestrian bridge across lock (reproduction of former bridge).
 - c. Selective demolition, removal and stabilization of remaining ruins.
 - d. Delineation of former structures (left bank and right bank) combined, in part with seating.
 - e. Selective clearing, including delineation of former basin by clearing and paths; maintain vegetation.
 - f. Replacement of former (raised board) walk in basin area.
 - g. Canoe landing on creek (existing cove).
 - h. Paths.
 - i. Picnic area (largely informal but a few tables).
 - j. Interpretive potential: Canal historical; orientation; natural; relationship between canal construction/natural environment.
4. Route I-295 Rest/Overlook:
 - a. Connecting path.
 - b. Interpretive panel(s) at overlook.

Notes:

1. The following is proposed by NJDOT and others:

- a. Parking area (part of 295 rest area) left bank.
 - b. Sanitary facilities left bank.
2. The proposed highway rest/overlook has the potential of making the canal known to a great many casual visitors; however, the impact of many visitors on such a small area will be severe.
5. (B0.2) Duck Island Nature Observation Area, South of (B1.95) Proposed I-295 Crossing:
- a. Selective clearing of towpath (left bank) and berm (also left bank) to provide a clear path along the canal with occasional parallel loop paths on the berm; stabilization of towpath as required.
 - b. Occasional blinds (west of the berm) for nature observation.
 - c. Means by which canal can be made more navigable by canoes.
 - d. Removal of trash and spoils deposited in the canal.
 - e. Selected landscape buffers.
 - f. Canoe docks (occasional); portages to the creek areas (left bank and right bank).

Note:

- 1. A natural area to be used by birdwatchers, canoeists.
 - 2. Parking located north of B1.95: See 6, a, (1) below.
6. (B1.95) Duck Island (Trenton End), North of (B 1.95) Proposed I-295 Crossing
 North of (3.45) Sturgeon Pond not designated
 South of (3.45) Sturgeon Pond designated rural MP/p.10
- a. Parking for hikers, birdwalkers etc. at bends (on left bank) in Lamberton Road:
 - (1) (B2.0) South Bend (south of PSE&G) for path access to the canal.
 - (2) (B1.73) End of Lamberton Road near River for access to the river.
 - (a) Parking and access road.
 - (b) Landscaping.
 - (c) Sanitary facility: C-2.

- b. Remainder of canal not required for highway use (to Sturgeon Pond) approximately B3.45) should become part of the park and be re-excavated (gradually as an archaeological demonstration) to remove spoils; re-excavation would include former (B3.33) lock #2. Provide (2.23) combined maintenance/service vehicle bridge to right ban. (Bridge would also provide pedestrian connection to Roebling Park.)
- c. Lock #2 Area:
- (1) Re-excavated lock; until complete excavation would provide an on-going archaeological demonstration. Ultimately appearance of lock would be restored; control of water would be provided.
 - (2) Interpretive delineation at site of former structure; in part combined with seating.
 - (3) Structure for archaeological storage and interpretive display later would house additional interpretive displays: Historical: Canal, former structures, archaeology, orientation.
 - (4) Improve access road (approximately 0.15 mile long) to Lamberton Road.
 - (5) Parking: 20 cars.
 - (6) Sanitary facilities: Type A-3.
 - (7) Canoe dock.
 - (8) Removal of trash.
 - (9) Landscaping.
- Note: This requires relocating the proposed Lamberton Road connector for its southern portion as well as acquisition of land.
- d. Paths:
- (1) Clearing and stabilization of towpath. Improvement of surface (to that of the better sections of the main canal).
 - (2) Paths to link canal park to Roebling Park.
 - (3) Link to Lamberton Road from (3.45) Sturgeon Pond.
- e. Trash removal.

Activities:

Typical path;
Canoeing;
Picnicking;
Boating (Delaware/Crosswicks Creek);
Historical;
Nature Observation

Additional Recommendations:

1. General:

- a. The entire basin area should be protected insofar as possible. The proposed highways will have a severe impact on the area; this impact requires careful and coordinated mitigation. Certainly the vacant land not used for highway use should be preserved as natural open space and necessary links to other areas developed.
- b. The Canal Commission's visual review zone should include the rim of the basin.
- c. While numerous areas are protected in one form or another not all areas are protected and in many areas the protection is limited. Furthermore what is essential is a coordinated review which considers the basin as a whole and respects the inter-relationship of its parts.

2. (B-0.1) Bordentown:

- a. Acquisition of additional land between railroad tracks and bluff including area west of furniture factory (or including furniture factory) to provide space for parking thus allowing greater use of the small area and a more viable canoe rental facility.

3. (B1.95) Trenton End:

- a. The development, not necessarily as part of the State Park System, of a path (approximately 0.3 miles long) along Lambertson Road and the Delaware River, extending to Trenton Marine Terminal, and from there along the River to Trenton ultimately extending north, by means of existing and new paths, to Scudders Falls.

Note: Concept is to provide path linkage, through the use of a riverside path system, to the remainder of the Canal State Park. At the same time such a linkage would be a riverside amenity for Trenton.

- b. The remaining low lying area north of Roebling Park and the surrounding rim area should be preserved as much as possible in order to protect both Roebling Park and the Canal State Park as a natural area.

- c. The area along the Delaware between Trenton Marine Terminal and the Public Service Power Plant is in large partly undeveloped, but does contain several small boat yards and boat landings, areas including one public ramp. The boat yards do serve a recreational need and should, at least for now, be allowed to continue. The remaining land should become parkland. Trash should be removed.
 - d. The junk yard site adjacent to lock #2 area should be acquired and removed.
4. (B3.45) Sturgeon Pond to (B6.37/21.92) Old Rose Street paths to link the Canal State Park south of the Summit with the remainder of the Park using routes close to the lost portion of the canal.
- a. From Lock #2 to South Broad Street: Room for a pedestrian path on route approximating that of the old towpath and parallel to proposed Route 129. While at this time such a path is not recommended due to the basic industrial character of the area, it is recommended that the space be reserved so that in the future if the area is redeveloped such a connection could be made.
 - b. From Lock #2 to Old Rose Street: Multi-purpose path in place of one (the one closest to Route 1 Expressway/Route 129) of the two existing railroad tracks; such a route could make use of existing railroad bridges. While such a path is not recommended at this time, it is recommended that the space and existing bridges be preserved so that such a path could be built in the future.

Note: The preservation of bridges is especially important. Later replacement would be difficult and expensive.

Analysis:

1. Project Objectives:

- a. Path continuity Major.
- b. Structural restoration Major: Outlet lock; also (pending realignment of proposed "Lamberton Connector") possibly Lock #2.
- c. Recreational need Major: Path activities; fishing, river access, canoeing.

2. Impact:

- a. Natural environment Impact will be light: Park development will open up a presently isolated area; however, users will remain in a fairly small area; maintains as much habitat area and diversity as possible to allow for mutual reinforcement so

- as to sustain variety of species. The really serious adverse impact will come from the proposed highway construction.
- b. Historical
 - Potentially severe once area is made more accessible; Outlet area is isolated and susceptible to vandalism.
 - c. Recreational potential
 - River, canal access, path activities, nature observation, historic site visitation, picnicking.
 - River boating access provided to meet future demand. Path activities provided; Note: Link to other proposed trails.
 - d. Immediate neighbors
 - Roebing Park: Positive; reinforces existing park users. No adverse impact; additional traffic minimal and generally not at the same time as industrial/utility traffic.
 - e. Local community
 - Improved recreational access and facilities.
 - f. Visual
 - Preserve as much of historical/natural character as possible. Extends Canal Park and "canal image" as much as possible (while still allowing highway construction) so as to facilitate recreational links to the rest of the Park.
3. Interpretive Potential
- Excellent: Canal: Outlet lock and Lock #2; natural; local history; especially Bordentown.
4. Access:
- a. Path system
 - Good; parking at Trenton end; no parking (unless additional property acquired) at Bordentown end.
 - b. General
 - Numerous major highways proposed for area.
 - c. Public transportation
 - None.

5. Maintenance Isolated from rest of Canal Park; left bank area; access south of (1.57 and of Pipeline Road will be very difficult.
6. Security/Vandalism Serious; area is isolated, control is difficult; gate is recommended at highway rest area; resident ranger may be necessary inspite of poor location.
7. Conflicts Proposed highways; detailed plan and coordination required to allow maximum potential particularly in lock #2 area (conflict with proposed "Lamberton Connector") and generally minimize adverse impact (natural, historical, recreational and visual). Trenton Sewer Plant; some adjustments required to facilitate road relocation.
8. Compatibility - Master Plan
- a. Connector:
 - (1) Unbroken Yes.
 - (2) Unique character Yes.
 - b. Respect and enhance existing Yes.
 - c. Limit new elements Most elements are restorations of previous elements; others such as parking will be screened.
 - d. Appropriateness of materials Yes.
 - e. Maintenance Yes.
 - f. Surrounding area Yes.
9. Compatibility: Water Supply (N.A.): Section not used for water supply.

10. Cost:

	I	II	III	Total
1. General				----
2. Bordentown		186,000		186,000
3. Outlet lock area	563,000			563,000
4. Route I-295 rest area	Note 1	12,000		12,000
5. Nature area		266,500		266,500
6. Trenton End				
a. Access (Bl.95 area)	61,000		179,000	240,000
b. Canal excavations	Note 2		1,630,000	1,630,000
c. Lock #2 area		360,000	174,000	534,000
d. Towpath, etc.		177,500		177,500
e. Trash removal	Note 3			----
TOTAL	624,000	1,002,000	1,983,000	3,609,000

- Note: 1. Includes connecting path and minor interpretive panels only; Rest area/outlook assumed to be by others. Phase dependent upon DOT plans, but unlikely to be before II.
 2. Lock #2 excavation included in 6. c.
 3. Maintenance item; removal also in other items.

11. Priority

Phase I: Primary priority to provide access for historic and natural resources; keep natural areas as large and diverse as possible to minimize impact of proposed highways; provide structural stabilization/restoration of outlet.

Phase II: Path continuity within
this isolated portion of the Park;
start archeological demonstration/
excavation.

MAIN CANAL NORTH OF OLD SUMMIT

21.92 Old Rose Street to (24.18) Whitehead Road

City of Trenton/Lawrence Township (Downstream of 23.63)

Area upstream of (23.20) Mulberry Street designated urban MP/p. 10

Area downstream of (23.20) Mulberry Street designated suburban MP/p. 11

Existing:

1. General:

- a. The canal is enclosed in a pair of tunnels for approximately one mile; for the remainder of distance railroad tracks of the abandoned Enterprise Branch occupy the site of the towpath. Continuity of path is virtually non-existent. The Route 1 Expressway is very close to the canal (whether above or below ground).

Note:

1. In the later years of the canal's operation, the towpath was apparently shared with the railroad.
2. Status of Rail Line: Part of Enterprise Line; abandoned in Spring 1983; track removed Spring 1984.

2. (21.92) Old Rose Street to (22.12) Southard Street:

- a. Railroad tracks along left bank of Main Canal to 21.99 then diverging away from canal which enters (22.05) enclosure a short distance downstream.
- b. Downstream (22.05) a narrow strip of land between Route 1 Freeway and existing buildings and fences.
- c. Canal underground from 22.05 to 23.20.

3. (22.12) Southard Street to (22.74) Freeway Access Ramp (at railroad tracks):

- a. Narrow strip of space between the Route 1 Freeway and various aging industrial facilities.
- b. Railroad tracks and right-of-way (which run parallel to the Trenton Freeway and about .05 miles from it).

4. (22.74) Freeway Access Ramp (at railroad tracks) to (23.20) Mulberry Street:

- a. Railroad tracks and right of way on top of former towpath along canal; tracks part of the "Enterprise Line". Canal in enclosure under road right-of-way.

5. (23.20) Mulberry Street to (24.18) Whitehead Road:

- a. Railroad tracks and right-of-way on top of former towpath along canal; tracks part of abandoned "Enterprise Line".
- b. Canal and industrial buildings in juxtaposition, Trenton Freeway very close to opposite bank of canal.
- c. Steel beams span canal:
 - (1) From (23.32) to (23.42).
 - (2) From (23.66) to (23.85).

Note: Canal emerges from underground at Mulberry Street.

6. (24.09) Cherry Tree Lane:

- a. Road dead ends at canal (left bank). Site of former bridge (some timberwork remains.) (Site of former bridgetender's house on left bank downstream of bridge site.)
- b. Adjacent left bank areas.
 - (1) Downstream truck terminal with frontage also on Whitehead Road; rather run down. Site of former basin located at 24.18 (on left bank).
 - (2) Upstream undeveloped area (with considerable evidence of wildlife).

Note: Steel girders across the canal 0.2 mile upstream put a practical limit to canoeing upstream; Cherry Tree Lane is thus the practical upstream limit for starting or ending canoe trips on the canal, but since Whitehead Road is better suited for this function it will be developed as the major canoe terminus. The Cherry Tree Lane area also has the potential of providing some park space in an area with few park facilities.

Proposed:

1. General:

- a. Provide a multi-purpose path and also a more attractive entrance into Trenton.

2. (21.92) Old Rose Street to (22.12) Southard Street:

- a. Multi-purpose path on left bank from (21.99) Old Rose Street to left bank end of railroad bridge; along (or parallel to) railroad bed to (22.12) Southard Street. (Railroad bed is currently used as a pedestrian path; path desirable, even if path does not extend below Southard Street, especially if link to Perry Street can be achieved - see additional recommendations under upstream path segment).

- (1) Path - wide enough to allow for maintenance/police vehicles.
 - (2) Lighting.
 - (3) Landscaping - generally trees.
- b. Separate multi-purpose path also on left bank from (21.99), the point at which the railroad bed diverges from the canal and the canal goes under ground, along the canal and the edge of Route 1 (22.12) Southard Street.
- (1) Grading.
 - (2) Path surface.
 - (3) Selective landscaping.
 - (4) Fence repairs as required.
3. (22.12) Southard Street to (22.74) Freeway Access Ramp (at railroad tracks):
- a. Multi-purpose or pedestrian path at the edge of the Trenton Freeway (Route 1). Route is closest to that of the underground canal. Route is very narrow and squeezed between aging industrial facilities and the freeway. Route is also very close to the freeway traffic with its attendant noise and exhaust fumes, however, it is in full view of a well travelled road which is an advantage in terms of security.
- (1) Path - paved.
 - (2) Landscaping (trees) - no attempt would be made to screen most industrial structures, but rather they would be viewed as objects of interest; an attempt would be made to provide some shade. Junk yards would be buffered.
 - (3) Minor interpretive definition (partial) of site of former basin.

Note: Multi-purpose path on (or parallel to) the bed of the railroad tracks is not recommended (accept as noted in Additional Recommendations 2. below). Route is entirely through an unattractive industrial area with industrial facilities close at hand on both sides. This portion of the railroad right-of-way, unlike the preceeding upstream segment, does not appear to receive much pedestrian use. Space does exist; exosure to public traffic is low. Route would require:

- a. Path
- b. Landscaping - (trees)

4. (22.74) Freeway Access Ramp (at railroad tracks) to (23.20) Mulberry Street:
 - a. Path on railroad bed; under North Olden Avenue overpass.

In vicinity of overpass area available is very narrow. Route very close to freeway and also to old industrial facilities. Freeway very noisy, but also provides a feeling of open space and excitement.

Route would require:

 - (1) Path.
 - (2) Selective landscaping (trees).
 - (3) Minor interpretive definition (partial) of former basins.
5. (23.20) Mulberry Street to (24.18) Whitehead Road:
 - a. Path on bed of railroad tracks (on left bank). Route would require:
 - (1) Path.
 - (2) Selective landscaping.
 - (3) Fencing where required.
6. (24.09) Cherry Tree Lane:
 - a. Turnaround area.
 - b. Some seating (combined with interpretive delineation of former bridgetender's house).
 - c. Landscaping.
 - d. Also see path segments for Trenton.

Additional Recommendations:

1. General:
 - a. The industrial area north of Trenton Freeway (Route 1) is an anachronism; it is a small area with at best extremely circuituous rail service. Many of the sites are not used or under-used. At the same time it is one of the major approaches to the capitor city. As land becomes available consideration should be given to the acquisition of a wider strip of land along the Freeway between (22.05) intake of canal enclosure and (24.18) Whitehead Road. Such a wider strip of land developed as a park would:
 - (1) Improve a major entrance to the city.

- (2) Provide park areas in a section of the city generally devoid of parks.
 - (3) Allow a good pedestrian/multi-purpose link between the Main and Feeder Canals.
2. (22.74) Olden Avenue Freeway Access Ramp: Multi-purpose path on the bed of the railroad from (22.74) freeway access ramp upstream to New York Avenue and along New York Avenue (opposite Helene Fuld Hospital) to (22.63) Field Street should be encouraged to tie into the surrounding street system.
- a. Path: Grading, surface.
 - b. Landscaping.
3. Assumpink Creek:
- a. The creek runs roughly parallel to the canal from the Carnegie Road area well into Trenton (originally it passed under the canal at B5.72). Segments of the creek have been incorporated into parks including:
 - (1) Mill Hill Park, Trenton.
 - (2) Delaware and Raritan Canal (Whitehead Road to Carnegie Road area).
 - (3) Vannest Wildlife Management Area.
 - (4) Mercer County Central Park.
 - (5) Assumpink Wildlife Management Area.
 - b. Encouragement of continued park acquisition (generally by others) of land along the creek should be encouraged.

Analysis:

1. Project Objectives:

- a. Path continuity Major; in an area where even the site of the former towpath is often under the highway.
- b. Structural restoration (N.A.)
- c. Recreational need Path activities.

2. Impact:

- a. Natural environment Minimal; area has been completely disturbed by previous/present uses.
 - b. Historical Minimal; area to be developed has been thoroughly disturbed by highway, rail and other construction.
 - c. Recreational potential Path activities, particularly bicycling and jogging.
 - d. Immediate neighbors Mixture; mostly old industrial or vacant lots. Fencing would be provided where not existing. No adverse impact.
 - e. Local community Improved; more attractive edge, parts already used as informal pedestrian path. (Path used more as means of access than recreational.)
 - f. Visual Important. Path follows Route 1 Expressway; principal route into Trenton. Path and related landscaping would screen an often unattractive edge and provide a more attractive entrance to the capitol city. Path often very close to the Expressway traffic.
3. Interpretive Potential Local industrial development/canal.
4. Access:
- a. Path system At ends and at a few intermediate points; no parking would be provided (or necessary).
 - b. General Basically a link between existing and proposed path.
 - c. Public transportation (N.A.)
5. Maintenance Fairly high; litter problem, however no structures.
6. Security/Vandalism Increased use should deter crime; close proximity to Route 1 Expressway (particularly downstream of Olden Avenue) helpful.
7. Conflicts Closeness to Highway of some sections.

Note: Railroad has been abandoned.

8. Compatibility - Master Plan

a. Connector:

(1) Unbroken Yes; although path not entirely on site of former towpath.

(2) Unique character Highway corridor; openness.

b. Respect and enhance existing Yes.

c. Limit new elements Yes.

d. Appropriateness of materials Yes.

e. Maintenance Yes.

f. Surrounding area Yes.

9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. General				----
2. Old Rose Street to Southard Street			82,000	82,000
3. Southard Street to (22.74) Freeway Access			121,000	121,000
4. (22.74) Freeway Access to Mulberry Street			74,500	74,500
5. Mulberry Street to Whitehead Road			131,000	131,000
6. Cherry Tree Lane			26,000	26,000
TOTAL			434,500	434,500

11. Priority

Stage III: Low demand for path use/continuity in Segment; for much of area Canal not visible. More important is the sense of continuity and improved appearance from the road.

Route also provides alternate means of transportation (bicycle) for commuter, but at present demand is low.

24.18 Whitehead Road, Lawrence Township
in area designated suburban MP/p. 11

Existing:

1. (24.18) Bridge (c. 1978 concrete and steel).
2. Nearby parking area along Assunpink Creek - 15 cars.
3. Nearby Assunpink Creek, including dam (Whitehead Mill Pond) and bridge.
4. Existing path on right bank links to area between Assunpink Creek and Canal downstream of Sewer.
5. Ewing Lawrence Sewer Authority Plant (very large) surrounded by chain link fence.

Proposed:

1. Right Bank (Downstream of Bridge):
 - a. Parking area, right bank:
 - (1) General: 10 cars.
 - (2) Overflow: 15 cars.
 - b. Stabilized path to area under bridge (including path) (right bank).
 - c. Canoe dock (right bank).
 - d. Landscaping-primarily buffer at sewage plant (extent dependent upon ownership of land).
 - e. Sanitary facilities: Type A-4 with storage.
2. Nearby (Site to be determined; must be acquired):
 - a. Maintenance Facility: The facility would serve the Trenton area and Duck Island sites and path segments. The facility would include:
 - (1) Office.
 - (2) Garage (12 bays) for storage of vehicles and equipment.
 - (3) Secure parking area for employees and visitors.
 - (4) Fuel storage (for vehicles):
 - (a) Gasoline.

- (b) Unleaded gasoline.
- (c) Diesel fuel.
- (5) Carpentry shop - 2000 square feet.
- (6) Storage:
 - (a) Heated - 600 square feet.
 - (b) Unheated - 600 square feet.
 - (c) Flammable materials (paints, solvents, etc.) - 200 square feet.
- (7) Employees locker room, lunch room, sanitary facilities.
- (8) Fenced in yard for storage of additional vehicles, equipment and supplies.
- (9) Landscaping, including a buffer along the canal.
- b. See (24.09) Cherry Tree Lane in previous path segment.

Activities:

Canoeing: Access, terminus;
Fishing;
General path: Access, terminus

Note:

1. Concept:

- a. An upstream terminus for general path activities and canoeing on the main canal.
- b. A major maintenance facility for the Trenton area should be located nearby.

Coordination: Coordination and easements with the NJ DOT are necessary and acquisition and easements with ELSA highly desirable.

Additional Recommendation:

- 1. Acquisition of area between ELSA plant, Assunpink Creek, Canal and Whitehead Road.

Analysis:

1. Project Objectives:

- a. Path continuity (N.A); see adjacent path segments.

- b. Structural restoration (N.A.)
 - c. Recreational need Path activities (presently terminus) canoeing (terminus); fishing.
2. Impact:
- a. Natural environment Minimal; generally disturbed by previous construction.
 - b. Historical None; area already disturbed by highway overpass.
 - c. Recreational potential Improved access (path and canoe) (terminus).
 - d. Immediate neighbors Only ELSA (sewer plant); plant already fenced; no serious impact.
 - e. Local community Improved Park access.
 - f. Visual Additional screening of sewer plant; general improvement of appearance along major access to Trenton. Development relatively hidden by overpass.
3. Interpretive Potential.
4. Access:
- a. Path system Good; defined and improved at terminus.
 - b. General Very good; Route 1 Expressway (exit) Whitehead Road.
 - c. Public transportation Nearby.
5. Maintenance
- Some increase; typical on site.
- Location of major maintenance facility; well located to serve Trenton Area/Duck Island.
6. Security/Vandalism
- Parking area and sanitary facilities near ELSA entrance therefore subject to surveillance, less visible dock area, concrete to minimize possible damage.
7. Conflicts
- Coordination with ELSA required.

8. Compatibility - Master Plan

a. Connector:

- (1) Unbroken (N.A.)
- (2) Unique character Yes; although area along the Canal is hardly historic. Area at Assumpink Dam.

b. Respect and enhance existing Yes.

c. Limit new elements New elements introduced in area almost completely disturbed by highway construction.

d. Appropriateness of materials Yes.

e. Maintenance Yes.

f. Surrounding area Yes.

9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Right Bank area	200,000		18,000	218,000
2. Maintenance facility (Notes 1 and 2)			1,530,000	1,530,000
TOTAL	200,000		1,548,000	1,748,000

- Note: 1. Includes furniture.
2. Land acquisition costs are not included.

11. Priority

High Priority: Development of access/terminus in an area without much access and which would serve as a terminus for canoeing on the Main Canal (and for path use until Stage III).

Maintenance facility will be required to serve the additional projects (mostly in Stage III) in the Trenton area.

24.18 Whitehead Road to (26.93) Route 1 Crossing
in area designated suburban MP/p.11

Existing:

1. Left Bank:

a. Former railroad bed; part of abandoned Enterprise Line:

- (1) On top of former towpath along canal upstream of (25.86) Carnegie Road.
- (2) Parallel to towpath and approximately .02 miles (approximately 110 feet) from the towpath from (25.86) Carnegie Road to (26.27).

Note: Former railroad bed (on left bank) to (26.27) downstream of Bakers basin; bed is on edge of canal until (25.8) nearby Carnegie Road. Formerly part of "Enterprise Line", which was abandoned in Spring 1983. Track removed early 1984.

b. Towpath:

- (1) In part overgrown and reduced to a pedestrian path from (25.86) Carnegie Road to (26.48) Lawrence Station Road.
- (2) From (26.48) Lawrence Station Road to (26.93) Route 1 Crossing. Path in good condition.

2. Right Bank:

- a. Pedestrian path from (24.18) Whitehead Road to (26.93) Route 1 Crossing. In most parts path is wide enough for service vehicle passage.

3. Floodplain area between canal and Assunpink:

4. (25.86) Carnegie Road, Lawrence Township:

- a. Bridge (typical c. 1944 wood).
- b. Bridgetender's house (c. 1850 wood frame).
- c. (25.95) (Bakers) Turning Basin (1831-34).
- d. Assunpink Creek.

e. Floodplain area between canal and Assunpink.

5. (26.48) Lawrence Station Road:

- a. Bridge (typical c. 1944 wood).
- b. Roadside parking for 4-6 cars).

c. (26.57) Shipetauken Creek Culvert (1831-1834) and (26.52) typical spillway (1831-1834) nearby.

d. Sewage pumping station (on land leased from Park).

Proposed:

1. Multi-purpose path (original towpath) on left bank (24.18) Whitehead Road to (26.93) Route 1 Crossing.

a. (24.18) Whitehead Road to (25.86) Carnegie Road on top of abandoned railroad bed (old towpath):

(1) Path surface.

(2) Selective landscaping.

b. (25.86) Carnegie Road to (26.48) Lawrence Station Road (on old towpath):

(1) Clearing and grading (particularly upstream of 21.95).

(2) Selective landscaping buffer.

c. (26.48) Lawrence Station Road to (26.93) Route 1 Crossing (on towpath):

(1) Minor clearing.

(2) Fencing at New Jersey Water Supply Maintenance Yard.

2. Pedestrian Path on right bank: (24.18) Whitehead Road to (26.93) Route 1 crossing existing path needs only minor maintenance work.

3. Narrow loop trails to Assunpink Creek from main (right bank) path between (24.66) Big Shabakunk Creek culvert to (26.48) Lawrence Station Road (also see (25.86) Carnegie Road).

4. (25.86) Carnegie Road, Lawrence Township:

a. Define parking area, left bank:

(1) General: 12 cars.

(2) Overflow/Expansion: 12 cars.

b. Development of floodplain area as a natural area buffer required on left bank (particularly downstream of bridge.)

c. Provide trails (tied into main path system) through natural area.

d. Additional facilities at parking area:

- (1) Sanitary facilities: Type C-2.
- (2) Provide some seating.
- (3) Landscaping.

e. Bridgetender's house:

- (1) Exterior restoration.
- (2) Provide new kitchen and bathroom (including associated site costs).
- (3) Landscaping.
- (4) Small storage building.

f. Interpretive: Nature trails.

Notes:

1. Turning basin could be used for skating if demand exists (and weather permits).
2. Concept: Access to a natural area offering educational possibilities; a small access point for fishing and other activities.

5. (26.48) Lawrence Station Road:

- a. Canoe dock(s).
- b. Parking - (Small Area: 6-7 cars) right bank downstream of bridge in front of pumping station:
 - (1) Grading, minor fill, extension of existing pipe culvert.
 - (2) Landscaping.
 - (3) Inconspicuous seating at parking area.

Note:

1. Coordination required with ELSA concerning proposed item 5, b.

Activities:

General path;
Canoeing;
Fishing;
Nature observation;
Winter: Skating dependent upon conditions (Bakers Basin)

Additional Recommendations:

1. General:

- a. Acquisition of scenic easements in the area between the existing development on the opposite side of the Assumpink.

Note: Evidence of illegal filling in this area.

- b. The encouragement of a row of street trees and other landscaping to screen existing and future development along Sweet Briar Avenue (the road along the opposite side of the Assumpink).

- 2. Encouragement of planting by owner of adjacent (left bank) (26.60) motel.

- 3. Area adjacent to canal on right bank upstream of (26.48) Lawrence Station Road bridge (particularly in vicinity of Shipetauken Creek Culvert: Scenic easement highly desirable to protect canal.

Analysis:

1. Project Objectives:

- a. Path continuity Major.
- b. Structural restoration Carnegie Road bridgetender's house.
- c. Recreational need Path activities; fishing, recess.

2. Impact:

- a. Natural environment Positive; only development in areas previously developed. Maintain area free of motor bikes.
- b. Historical Restoration of bridgetender's house, otherwise minimal.
- c. Recreational potential Path use, fishing, skating (seasonal).
- d. Immediate neighbors Residential area separated by Creek; no impact. Highway and commercial areas; no change.
- e. Local community Improved access to Park; better path facilities; positive.
- f. Visual Improved appearance; areas unattractive/out of character, screened.

- | | |
|---------------------------------|---|
| 3. Interpretive Potential | Natural; Canal history, basin; previous development. |
| 4. Access: | |
| a. Path system | Good. |
| b. General | Generally good; Route 1 nearby however access to Carnegie Road site very awkward. |
| c. Public transportation. | |
| 5. Maintenance | Typical; one house. |
| 6. Security/Vandalism | Occupancy of house is essential. |
| 7. Conflicts | Due to occupancy of bridgetender's house, much of restoration might have to be postponed. |
| 8. Compatibility - Master Plan | |
| a. Connector: | |
| (1) Unbroken | Yes. |
| (2) Unique character | Natural area in close proximity to developed area. |
| b. Respect and enhance existing | Yes. |
| c. Limit new elements | Yes. |
| d. Appropriateness of materials | Yes. |
| e. Maintenance | Yes. |
| f. Surrounding area | Yes. |
| 9. Compatibility: Water Supply | Yes; security fence and gate will provide security for yard area. |

10. Cost:

	I	II	III	Total
1. Path on former towpath		324,000		324,000
2.	Note 1			----
3. Pedestrian paths			36,000	36,000
4. Carnegie Road	125,000	89,000		214,000
5. Lawrence Station Road		26,000		26,000
TOTAL	125,000	439,000	36,000	600,000

Note: 1. Maintenance only.

11. Priority

High Priority: Screening of adjacent areas and restoration of bridgetender's house.

Pedestrian path (not entirely on towpath site) exists; current demand low for improved multi-purpose path; Lack of continuity with upstream path at Route 1; no developed path downstream (segment too short to be very useful in itself).

26.93 Route 1 Crossing to (28.83) Port Mercer
Lawrence Township;
area downstream Route I-295 designated suburban MP/p. 11
area upstream Route I-295 designated natural MP/p. 11

Existing:

1. General:
 - a. Path continuity broken by (26.93) Route 1 at the beginning of the path segment (see 2., a. and b. below).
 - b. Left Bank:
 - (1) Towpath in good condition upstream of (25.58) Provinceline Road.
 - (2) Overgrown towpath downstream of (28.58) Provinceline Road.
 - c. Right Bank:
 - (1) Overgrown pedestrian path on berm (also the former ROW of the Old Camden and Amboy Railroad) upstream of approximately 28.40.
 - (2) Upstream of (28.58) Provinceline Road an unpaved road parallels the canal.
2. (26.93) Route 1 Crossing:
 - a. (26.93) Canal passes under Route 1 in a double concrete box culvert (c. 1970).

Note: Canoe passage is possible under (26.93) Route 1 bridge.
 - b. Path continuity at this point very difficult.
 - c. Access:
 - (1) Upstream from Northbound lane.
 - (2) Downstream from Southbound lane.
 - d. Adjacent Division of Water Resources Maintenance yard upstream on left bank.
 - e. Parking area on left bank downstream of bridge; area is currently used by fishermen.

Note:

1. Two streams (Shiptauken and one other) pass under Route 1, however culverts are not large enough to permit pedestrian passage.

2. Traffic light exists on Route 1 at Lawrence Station Road. Route 1 to be the subject of a study: possible widening.
3. (27.30) Diamond Shamrock Intake:
 - a. Access to right bank from southbound lane of Route 1 by means of access road roughly parallel to the westbound entrance ramp to Route 295.
 - b. Small parking area adjacent to canal.
 - c. Overgrown pedestrian path extends along right bank of canal. Access to downstream area: Brearley Landing.
 - d. Area used for fishing. Pedestrian path extends upstream.
4. (27.43) "Brearley" Landing: A large area (approximately 50 acres) of Park land extends along the left bank of the canal from 27.30 to 27.90; the area low and largely subject to flooding. Area accessible by overgrown pedestrian path from (27.30) Diamond Shamrock Intake.
5. (27.50) Brearley Park, a Lawrence Township facility. Area is largely undeveloped (contains the John Brearley House - under restoration by a local historical group). Area extends along left bank of canal from 27.30 to 27.90 and along Shipetauken Creek to Route 206.
6. (28.50) Port Mercer Conservation Area, an undeveloped Lawrence Township facility extending along the left bank of the canal from 28.00 to (25.58) Provinceline Road.

Proposed:

1. General:
 - a. Path (towpath) on left bank existing in good condition requires only normal maintenance (in some section the area between the path and the water has been cleared of trees, restoring the towpath to an approximation of its former form).
 - b. Small paths where appropriate to natural area on left bank adjacent to towpath together with small blinds to facilitate nature observation.
2. (26.93) Route 1 Crossing:
 - a. Left Bank Access Area:
 - (1) Definition of parking: 15 cars.
 - (2) Improvement of access.

- (3) Canoe dock.
- (4) Landscaping.
- (5) Relocation of fencing (right bank).
- (6) Interpretive definition of former bridgetender's house.

Note: Coordination required with NJDOT concerning relocation of fencing and, possibly, minor easement.

b. Bridge across Route 1 to allow pedestrian crossing of Route 1:

- (1) Ramps (on embankments and piers).
- (2) Bridge.
- (3) Paved path.
- (4) Retaining walls.
- (5) Landscaping.
- (6) Built-in seating.

Notes:

- 1. Projected usage does not justify a bridge in the immediate future therefore this project would have a low priority.
- 2. Coordination required with NJDOT.

3. (27.30) Diamond Shamrock Intake:

- a. Minor definition of parking: 3 cars.

Note: Concept: Small access for fishing.

4. (27.43) "Brearley" Landing:

- a. No Change: Retention of the area as a buffer area.

Activities:

Typical path;
Canoeing;
Fishing;
Nature Observation

Additional Recommendations:

Scenic easements for adjacent left bank and right bank areas.

Analysis:

1. Project Objectives:

- a. Path continuity Major; (pedestrian bridge).
- b. Structural restoration (N.A.)
- c. Recreational need Typical path; fishing access.

2. Impact:

- a. Natural environment Positive; increase path use should have little effect. Existing natural areas reinforced.
- b. Historical Minimal; only area with new development (Route 1 Crossing) totally disturbed and revised by previous highway construction.
- c. Recreational potential Path use; fishing.
- d. Immediate neighbors Adjacent area now largely undeveloped; ramp structure very close to NJWSA yard, but should not be a problem.
- e. Local community Presently isolated; much of surrounding area undeveloped, but on the verge of being developed (mixture of residential and commercial use).
- f. Visual Pedestrian bridge (Route 1) large element, but only another of many; ramp and step elements would help screen highway as would landscaping; general improvement of canal edge.

3. Interpretive Potential

Minimal: Natural; former bridges interesting, but interpreted best in a book.

4. Access:

- a. Path system At ends of segment only.
- b. General Fair; Route 1 Crossing: From Route 1 Southbound, access lane only.
Port Mercer: Route 1 nearby.

- c. Public transportation Yes (bus).
- 5. Maintenance Pedestrian bridge, otherwise typical.
- 6. Security/Vandalism
 - Route 1 Crossing: Bridge least susceptible to security problems (tunnels, etc., rejected).
 - General: Area isolated, however increased use should help.
- 7. Conflicts Pedestrian Bridge: Coordination with DOT essential. Development in surrounding areas; buffers must be maintained.
- 8. Compatibility - Master Plan
 - a. Connector:
 - (1) Unbroken Yes; major.
 - (2) Unique character.
 - b. Respect and enhance existing Yes.
 - c. Limit new elements New elements (essential for path continuity) in area already completely changed in character from canal era.
 - d. Appropriateness of materials Yes.
 - e. Maintenance Yes.
 - f. Surrounding area Yes.
- 9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. a. Path	48,000			48,000
b. Blinds			5,000	5,000
2. Route 1 Crossing				
a. Parking/access, etc.		97,000		97,000
b. Bridge, etc.			238,000	238,000
3. Diamond Shamrock		6,000		6,000
4. Dead Goose Landing	Note 1			----
TOTAL	48,000	103,000	243,000	394,000

Note: 1. Maintenance only.

11. Priority

Continuity is a high priority; however, existing demand for continuity at Route 1 not high, but cost high; therefore, low priority assigned. Minor continuity problem in Port Mercer Area given priority: Safety (Provinceline Road traffic often heavy) and convenience.

28.84 Port Mercer, (Lawrence/W. Windsor/Princeton Townships)
designated special node MP/p. 11, p. 25
area upstream designated natural MP/p. 11
area downstream designated rural MP/p. 11

Existing:

1. (28.84) Bridge (typical c. 1944 wood); junction of Province Line Road and Quaker Roads.
2. Bridgetender's house (c. 1830? wood): Restored by local group.

Note: Bridge and bridgetender's house were once located on right bank downstream of (28.59) bend in Province Line Road.

3. Adjacent area (approximately 25 acres) on opposite of left bank road area includes wet areas.
 - a. Area has been used as a spoils and trash dumping area.
 - b. Appears to be used extensively by migratory water fowl.

Note: NJWSA has been assigned responsibility for this area.

4. Small parking area (left bank) at (29.18) bend in Quaker Road.
5. Adjacent group of historic buildings. (HS p. 67-68); the group is included in the proposed revision to the Canal Historic District.
6. Former basin (privately owned) (on right bank).
7. Adjacent Left Bank Area:
 - a. The adjacent downstream area on the left bank is one of considerable historical and natural significance. It consists of a number of contiguous sites and areas which reinforce one another. The area is an outstanding one for nature observation (particularly bird watching due to the diversity of habitat). The area has retained its historic character with remarkably little change since the 18th Century.
 - b. Princeton Battlefield State Park (National Historic Landmark) and Quaker Meeting House (c. 1740) are both nearby and form part of an Historic District (National Register).
 - c. The Institute for Advanced Study had a plan to develop part of its property (left bank downstream) with 400-600 housing units. In 1984 the Institute announced it had decided not to develop the land.

Note: Pressure on existing road system due to intense development in surrounding area.

Proposed:

1. Provide dock for canoes at bridge right bank upstream of bridge.
2. (28.84) Bridgetender's House:
 - a. Interpretive Display: Port Mercer (historical) in cooperation with local group (at bridgetenders house).
 - b. Interpretive definition/seating (at site of shanty) and other minor seating.
 - c. Definition of parking.
3. Existing parking area at (29.18) bend in Quaker Road.
 - a. Define parking.
 - b. Provide bank stabilization and improve access to canal.
 - c. Inconspicuous seating.

Activities:

Typical path: Access
Canoeing: Access, stop
Historical
Fishing
Nature observation

Additional Recommendations:

1. Adjacent houses should be a small historic district.
2. Easement on land left bank downstream is highly desirable.
3. Realignment of roads in this area has been suggested and would be desirable; one possibility would be to improve Provinceline Road including a new bridge over the canal in the vicinity of the existing bend in the road and, skirting around Port Mercer, a connection to Quakerbridge Road between Route 1 and Port Mercer. The existing road bridge should then become a pedestrian bridge. The new road bridge should be constructed so as to permit continuity of passage on the existing towpath.
4. Migratory wildlife preserve on adjacent land left bank (opposite side of road) upsteam of bridge:
 - a. Clearing, removal of trash.
 - b. appropriate planting with special consideration for wildlife food.

5. See (28.83) Port Mercer to (31.45) Princeton Basin Additional Recommendation 2.

Analysis:

1. Project Objectives:

- a. Path continuity (N.A.)
- b. Structural restoration Bridgetender's house already in good condition.
- c. Recreational need Path access; fishing; Note: Adjacent area developing.

2. Impact:

- a. Natural environment Positive; existing natural areas reinforced.
- b. Historical No change.
- c. Recreational potential Path activities; fishing.
- d. Immediate neighbors Little change.
- e. Local community (Immediate neighbors); clean up of former dumping area desirable.
- f. Visual Improvement.

3. Interpretive Potential

Very good; community's history closely connected with Canal; interpretive displays in bridgetender's house in connection with local historical society. Community's historical relation to Canal; reference to earlier history (Battle of Princeton, etc.); orientation, reference to major interpretive material at Princeton Battlefield; natural also.

4. Access:

- a. Path system Yes.
- b. General Good; nearby Route 1.
- c. Public transportation None.

5. Maintenance

Bridgetender's house maintained by leasee.

6. Security/Vandalism Not a serious problem; house visible; local community protective of house.
7. Conflicts Heavy traffic on Quakerbridge Road, bridge and roads along the Canal.
8. Compatibility - Master Plan
- a. Connector:
- (1) Unbroken (N.A.)
- (2) Unique character Remains of small canal community.
- b. Respect and enhance existing Yes.
- c. Limit new elements Yes.
- d. Appropriateness of materials Yes.
- e. Maintenance Yes.
- f. Surrounding area Yes.
9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Canoe dock	3,000			3,000
2. Bridgetender's house	3,000	14,500		17,500
3. Existing access		10,000		10,000
TOTAL	6,000	24,500		30,500

11. Priority

Interpretation: Easily and quickly accomplished with interested local groups, good accessible location.

Wildlife Area: High amenity; reinforce existing adjacent wildlife areas, support other efforts. Important since many other areas being developed; low cost.

28.83 Port Mercer to (31.40) Princeton Basin (Alexander Road)
in area designated rural MP/p. 11

Existing:

1. Left Bank:

- a. Towpath; overgrown downstream of (29.18) existing parking area to (30.86) Elizabethtown Water Company.
- b. The adjacent area is one of considerable historical and natural significance. It consists of a number of contiguous sites and areas which reinforce one another. The area is an outstanding one for nature observation (particularly bird watching due to the diversity of habitat). The area has retained its historic character with remarkably little change since the 18th Century.
- c. Path passes through Princeton Country Club golf course (a Mercer County Facility); golf course has two bridges (29.71 and 29.81) over the canal.
- d. Institute (for Advanced Studies) Woods adjacent. Access from the left bank area is possible by means of a (30.58) pedestrian suspension bridge over the Stony Brook.
- e. Rogers Wildlife Refuge (Princeton Township facility) adjacent. Refuge extends along left bank of canal from 30.61 to 30.83.
- f. Stony Brook on left bank often close to canal.
- g. Princeton Battlefield State Park (National Historic Landmark) and Quaker Meeting House (c. 1740) are both nearby and form part of an Historic District (National Register).
- h. The Institute for Advanced Study once had a plan to develop part of its property with 400-600 housing units. In 1984 the Institute decided not to develop the property.

2. Right Bank:

- a. Most of undeveloped adjacent land is scheduled for development in the near future.
- b. Golf course bridge provides access to towpath for right bank residential area.
- c. Existing Canal Road on right bank (31.23 to 31.45) in Princeton Basin area.

3. (29.87) Emmons Drive:

- a. Access to right bank of canal.

- b. Princeton Country Club (Mercer County Facility) abuts the canal upstream of Emmons Drive on the right bank and upstream and downstream on the left bank. Primary facility is a public golf course, but picnic and field game areas are also provided on the right bank (not abutting the canal).
- c. Two bridges across the canal at Princeton Country Club provide access to towpath.
 - (1) (29.71) Pedestrian Bridge.
 - (2) (29.81) Maintenance Bridge.
- d. No parking specifically for canal use exists, but area is used by fishermen.
- e. Garden apartment development on right bank does not abut canal and is not visible.

Proposed:

1. Left Bank:

a. Towpath Improvement:

- (1) Clear existing towpath where overgrown (between 29.18 and 30.86).
- (2) Stabilize, particularly where adjacent Stony Brook has breached towpath.
- (3) Stabilize where construction and vehicular traffic has disturbed path - largely a maintenance matter.

2. Right Bank: No path recommended at this time.

3. (29.87) Emmons Drive:

- a. Minor definition of path to canal and along canal to bridge.
- b. Stabilization of canal banks where used by fisherman.

Note: Concept: Minor access point for neighborhood use only. No parking.

Additional Recommendations:

- 1. Scenic easements along canal to preserve rural character of the area particularly on the right bank.
- 2. The (left bank) development of the farmland belonging to the Institute for Advanced Study is not directly on the canal; it does, however, form part of a group of contiguous connecting sites of

considerable historic and natural significance therefore the development of the farmland should be discouraged.

Analysis:

1. Project Objectives:

- a. Path continuity Major.
- b. Structural restoration (N.A.)
- c. Recreational need Path uses; (bicycle passage).

2. Impact:

- a. Natural environment Minimal; increased use on path.
- b. Historical None.
- c. Recreational potential Link between existing upstream and downstream path segments.
- d. Immediate neighbors Provides separate path in golf course area.
- e. Local community Improved path.
- f. Visual Restoration of original towpath.

3. Interpretive Potential

Principally natural; reference to local history.

4. Access:

- a. Path system Good at ends (considerable parking at upstream end).
- b. General Good; nearby Route 1.
- c. Public transportation At Port Mercer end.

5. Maintenance

Typical path.

6. Security/Vandalism

Heavy path usage will discourage vandalism.

7. Conflicts

None.

8. Compatibility - Master Plan

a. Connector:

- (1) Unbroken Yes.

- (2) Unique character Pleasant natural areas.
- b. Respect and enhance existing Yes.
- c. Limit new elements Yes.
- d. Appropriateness of materials Yes.
- e. Maintenance Yes.
- f. Surrounding area Yes.
- 9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Path improvements	181,000			181,000
2. Right bank				----
3. Emmons Drive	6,000			6,000
TOTAL	187,000			187,000

11. Priority

Path continuity for typical towpath uses. High demand; links upstream and downstream. Path segments; low cost.

Note: Existing path largely on top of guard bank is for pedestrian only upstream of (30.86) Water Plant.

Emmons Drive: Low cost, provides access to adjacent residential area.

31.40 Princeton Basin to (32.96) Millstone Aqueduct
Princeton (Left Bank)/West Windsor (Right Bank)
in area designated rural MP/p. 11

Existing:

1. Left Bank:
 - a. Existing towpath in good condition. Only normal maintenance required.
 - b. The Stony Brook flows into the upper end of Lake Carnegie near at approximately (31.57) Old Railroad Bridge; downstream of the bridge the lake is adjacent to the canal.
 - c. The land between Lake Carnegie and the canal towpath varies in width and is a mixture of landscaped open space and thickets. The area is owned by Princeton University, but is easily accessible and available to the public; it is both visually and functionally a pleasant extension of the Park.
 - d. In this section most of the land on the opposite shore of the lake also belongs to the University; views of the University and activity on the lake give additional interest.
 - e. Towpath connects to several small paths in adjacent left bank area. (Some existing paths need clearing, but they are not within the Park.)
2. Right Bank:
 - a. Existing (Sun Oil Company) oil pipe line access road runs along the canal on the right bank, but (31.57) railroad embankment impedes passage between Princeton Basin and Washington Road (In addition there is no left bank passage at (32.96) Aqueduct).
 - b. The adjacent right bank area generally includes a wooded area which serves as a buffer.
3. Telephone and power lines on poles: On right bank (set back from canal) from Alexander Road to (31.57) PJ&B Railroad bridge, under bridge, and on left bank to Washington Road (also along Washington Road from canal to Route 1).
4. (31.40) Princeton Basin, (Alexander Street/Road):
 - a. Bridge (typical c. 1944 wood): Alexander Road/Street.
 - b. Area of historic significance to canal including:
 - (1) Adjacent Historic buildings (HS p. 69-70):
 - (a) Right bank: Railroad hotel - (in extremely bad condition) and a few houses upstream.

(b) Left bank: Upper Princeton Basin group of historic houses around small green area is nearby.

Note: Areas have been nominated as an Historic District.

(2) Sites of numerous historical structures, including the bridgetender's house (right bank downstream of bridge) and shanty right bank upstream of bridge.

(3) The Historical Society of Princeton has a Master Plan to restore various historic buildings in the area; this plan has been partially implemented.

Notes:

1. Area designated special node MP/p. 25, p. 11.

2. HS: p. 69-70.

c. (31.57) Old railroad swing bridge (19th c) nearby.

d. Princeton Township Turning Basic Park adjacent left bank upstream of bridge; park includes:

(1) Parking (26 cars).

(2) Benches.

(3) Grilles.

(4) Sanitary facilities.

(5) Canoe docks (on canal and on Stony Brook).

e. Princeton wildlife refuge (Princeton Township Facility) nearby; the area together with the adjacent Institute (for Advanced Study) woods form an excellent area for bird watching.

f. Stony Brook nearby.

g. Parking area (10-12 cars) on right bank downstream of bridge.

h. Canoe dock (1982) on right bank downstream of bridge at parking area.

i. Old basin on left bank downstream of bridge; entrance to basin has been filled in (except for a galvanized steel pipe culvert). Township has plans to dredge and re-open the basin (work would be accomplished at the time of the dredging of the canal).

j. Multi-purpose path along part of Alexander Street.

Former canal office building is located (approximately 1.3 miles) at the head of Alexander Steet.

Morven, originally the home of the Stockton family which was so active in the old D&R Canal Company, later the governor's mansion and now a state owned historic building, and Princeton Battle Monument are about 1.4 miles from the canal.

k. Nearby bridge over Stony Brook - no pedestrian lane.

5. (31.96) Washington Road:

- a. Bridge (c. 1944 wood)
- b. Access to Lake Carnegie;
- c. Some parking available at canal, but parking also available in Princeton University Parking lot (20 cars) on far side of Lake Carnegie (upstream and downstream).
- d. Site of bridgetender's house (right bank downstream of bridge) and shanty (right bank upstream of bridge).

6. (32.59) Harrison Street:

- a. Bridge (typical c. 1944 wood); walkway on downstream side only. (Site of former bridgetender's house on left bank downstream of bridge.)
- b. Adjacent bridge access lake. Bridge is very narrow and has no pedestrian walkway.
- c. Lower Harrison Street area along Millstone River east of Aqueduct contains several old historic houses and considerable character. Area is used as an access point in spite of poor parking facilities (which also have very dangerous access).

Note: Temporary dam across canal upstream of bridge (Spring 1982); adjacent areas used for parking (8-9 cars!).

- d. A small parking area located between Lower Harrison Street and the Millstone River (near Route 1) is owned by Princeton University; the area is used by fisherman.

7. Princeton is a town of considerable historic significance and many historic buildings. The town contains Princeton University and numerous other institutions. The town also contains many shops and restaurants. The opportunity exists for numerous pleasant path loops through both the town and the university as well as along the lake. Access to path loops is provided at numerous locations.

- a. (28.93) Port Mercer: Quaker Road, Battlefield Park, Institute Woods (approximately 4 miles to center of town).

- b. (31.40) Princeton Basin (Alexander Street): Especially town and university, also Rutgers Wildlife Refuge, Institute Woods
- c. (31.96) Washington Street: Especially town and university and along Lake Carnegie.
- d. (32.59) Harrison Street: Especially along Lake Carnegie.
- e. Kingston: Partly along Lake Carnegie (approximately 3 miles to center of town).

Proposed:

- 1. Left Bank: Some seating in 31.60-31.66 the open areas downstream of the (31.57) Railroad Bridge and upstream of (32.96) Aqueduct.
- 2. Right Bank: No change recommended.

Note: A multi-purpose path (with particular emphasis on bicycling) from (31.96) Washington Road to (32.96) Millstone Aqueduct on right bank including bridge on old railroad bridge piers across the Millstone River would provide a possible alternate route for bicyclists, such a route should be considered if heavy use of towpath (by bicyclists going to and from the Forrestal Complex and other Route 1 Corridor project) develops.

- 3. See Additional Recommendation 2.
- 4. (31.40) Princeton Basin, (Alexander Street/Road):
 - a. Interpretive delineation.
 - b. Selective Landscaping.
 - c. Improve parking area on right bank upstream of bridge.
 - d. Seating/interpretive delineation of bridgetender's house site.
 - e. Towpath bridge as required if basin (downstream of bridge) is re-opened to canal.
- 5. (31.96) Washington Road:
 - a. Blocking of vehicular access (by fencing/planting or agreement with Princeton University).
 - b. Canoe docks.
 - c. Minor seating/interpretive delineation of bridgetender's house site.
- 6. (32.59) Harrison Street:

a. Vehicular restrictions.

Note: Parking is not proposed at this time except as noted in Additional Recommendation 4., b. If Carnegie Lake Bridge/Harrison Street rebuilt/realigned, parking should be reconsidered.

b. Seating/interpretive delineation of bridgetender's house.

c. Canoe dock at bridge.

d. Portage to lake.

Activities:

Typical path;
Canoeing;
Picnicking (informal);
Fishing;
Historical;
Lake activity observation;
Nature observation

Additional Recommendation:

1. (31.40) Princeton Basin, (Alexander Street/Road):

a. Encourage the restoration/reconstruction (by others) of Railroad Hotel building for adoptive reuse.

Note: Structure is in extremely bad shape, but it is an extremely important element, both visually and historically, in establishing Princeton Basin as a node rather than just another access point.

b. Encourage the restoration of the exterior appearance of 1 or 2 other buildings.

c. Extend pedestrian path to link with existing system along Alexander Steet including separated pedestrian access over Stony Brook.

2. Relocation of utility lines away from canal should be encouraged.

3. (31.96) Washington Road: Possible additional parking in area between lake and canal adjacent to Washington Road (left bank upstream of bridge) however vehicular access to the rest of the area between the land and the canal should be blocked (except for maintenance vehicles). Blocking of vehicular access to the adjacent University land would at the same time block vehicular access to the Park; it would also be much less costly and much less obtrusive than blocking access only to the Park.

4. (32.59) Harrison Street:

- a. Possible historic district for adjacent residential area.
- b. Negotiate arrangement for parking at the Stony Brook Regional Sewer Authority easement (right bank downstream of bridge, approximately 300 feet down the road). Development would require:
 - (1) Parking: 8-10 cars.
 - (2) Access Improvements.
 - (3) Landscaping.
 - (4) Connecting path.

Analysis:

1. Project Objectives:

- a. Path continuity Path exists.
- b. Structural restoration (N.A.)
- c. Recreational need Path exists; minor improvements.

2. Impact:

- a. Natural environment No change.
- b. Historical No change; sites interpreted.
- c. Recreational potential Minor improvements.
- d. Immediate neighbors Generally Princeton University.
- e. Local community Minor improvements to path.
- f. Visual Screening.

3. Interpretive Potential

Good: Several bridgetender's sites; local history.

4. Access:

- a. Path system Yes.
- b. General Good.
- c. Public transportation Mercer Metro bus crosse canal at Alexander Road; (Nassau Street approximately 1 mile from Canal).

- 5. Maintenance Typical path.
- 6. Security/Vandalism Heavy usage makes area fairly safe.
- 7. Conflicts None.
- 8. Compatibility - Master Plan
 - a. Connector:
 - (1) Unbroken Yes.
 - (2) Unique character Yes; adjacent lake, views of town and university.
 - b. Respect and enhance existing Yes.
 - c. Limit new elements Yes; elements generally minor; seating combined with interpretation of former canal structures.
 - d. Appropriateness of materials Yes.
 - e. Maintenance Yes.
 - f. Surrounding area Yes.
- 9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Minor seating, etc.		7,000		7,000
2. Right bank				----
3.				----
4. Princeton Basin		40,000		40,000
5. Washington Road		18,500		18,500
6. Harrison Street		18,000		18,000
TOTAL		83,500		83,500

11. Priority

Park use high; only minor improvements needed. Seating, etc. to make area more usable for older persons, children, etc.

High use area.

32.96 Millstone Aqueduct, Plainsboro/West Windsor Townships
designated special node MP/p.11, p.26
areas upstream and downstream designated rural MP/p.11

Existing:

1. Aqueduct (c. 1944 concrete) with adjacent railroad bridge piers (on right bank) and catwalk (on left bank). Millstone River, Canal and Lake Carnegie all come together at this point; towpath continues across river over a narrow catwalk. Millstone River is effectively a large pond upstream of the Aqueduct to Route 1.
2. Parking area (8-10 cars).
3. Small interesting group of old houses exists on Mapleton Road adjacent to the Millstone River; another group of interesting old houses is located on the other side of the pond. See (32.59) Harrison Street.
4. An additional small parking area between Mapleton Road and the Millstone River (between Aqueduct and Route 1), owned and maintained by Princeton University, is used by fisherman.

Note: Early maps indicate a basin that has been filled-in.

Proposed:

1. Canoe docks: canal left bank (upstream of aqueduct) and right bank (downstream of aqueduct); Lake Carnegie; Millstone River.
2. Replace existing parking area; new enlarged parking area placed away from river; buffer with berm and trees.
3. Pedestrian bridge across canal.
4. Widening of catwalk.
5. Grading at retaining walls of aqueduct to facilitate seating.
6. A few picnic benches; Seating.
7. Interpretive panel located at 8 below: Orientation, Watersheds, Former Mills, Historical, function of Aqueduct.
8. Sanitary facilities: A-4 with maintenance storage building.
9. Landscaping.

Activities:

Typical Path: Access (proposed);
Fishing;
Canoeing: Stop, access;
Crew and sailing activity observation;
Picnicking

Additional Recommendations:

1. Inclusion of adjacent historic structures in an historic district.
2. See following Path segment Additional Recommendation 1.

Analysis:

1. Project Objectives:

- | | |
|---------------------------|---|
| a. Path continuity | (N.A.) |
| b. Structural restoration | (N.A.) |
| c. Recreational need | Access to path; fishing; facilitate canoe access. |

2. Impact:

- | | |
|---------------------------|--|
| a. Natural environment | Area to be developed is an area very much disturbed (filled in) since the canal era. |
| b. Historical | No change. |
| c. Recreational potential | Access to canal, lake, river path (with bridge). |
| d. Immediate neighbors | Visual improvement; additional usage should not be a problem. |
| e. Local community | Improved access (particularly to path). |
| f. Visual | Improvement; screening of parking; landscaping at waters edge. |

3. Interpretive Potential

Good; aqueduct itself (part and present), local history.

4. Access:

- | | |
|----------------|--|
| a. Path system | Proposed bridge provides access. |
| b. General | Near Route 1; developing area nearby (Forestal). |

- | | |
|---------------------------------|---|
| c. Public transportation | None. |
| 5. Maintenance | Bridge facilitates maintenance. |
| 6. Security/Vandalism | Bridge makes canal more accessible, less isolated, therefore easier to patrol. |
| 7. Conflicts | None. |
| 8. Compatibility - Master Plan | |
| a. Connector: | |
| (1) Unbroken | (N.A.) |
| (2) Unique character | Yes. |
| b. Respect and enhance existing | Yes. |
| c. Limit new elements | Bridge held downstream of Aqueduct so as not to intrude; parking bermed and screened. |
| d. Appropriateness of materials | Yes. |
| e. Maintenance | Yes. |
| f. Surrounding area | Yes. |
| 9. Compatibility: Water Supply | Yes. |

10. Cost:

	I	II	III	Total
1. Canoe docks, etc.	4,000			4,000
2. Parking, etc.	59,000			59,000
3. Pedestrian bridge (Note 1)				---
4. Catwalk improvements	49,000			49,000
5. Miscellaneous seating, etc.	4,000			4,000
6. Picnic area	34,000			34,000
7. Interpretive		3,500		3,500
8. Sanitary facilities		87,000		87,000
9. Landscaping	62,500			62,500
TOTAL	212,500	90,500		303,000

Note: 1. Cost included in current budget.

11. Priority

Improvement of access and bridge to provide path access. High demand by fishermen and others.

32.96 (Millstone) Aqueduct to (35.24) Kingston
Plainsboro/South Brunswick Townships
in area designated rural MP/p. 11

Existing:

1. Left Bank:

- a. Path (existing towpath) generally in good condition minor maintenance work required.
- b. Lake Carnegie is immediately adjacent to the towpath upstream of (34.93) Lake Carnegie Dam. Views of lake activity and areas across the lake are pleasant. Some long views upstream to Princeton University and downstream to Rocky Hill.
- c. Natural area, through which Heathcoate Brook passes, lies between Kingston Mill Pond and the canal downstream of (34.93) Lake Carnegie Dam.

2. Right Bank:

- a. Mapleton Road closely follows the canal to St. Josephs College where it diverges from the canal; upstream of 33.41 there is room for a pedestrian path; between 33.41 and 33.80 the road is very close to the canal.
- b. St. Josephs College: An open area and a small bluff provide visual interest.

Note: (34.19) Grotto (on right bank) visible from the canal.

- c. Below St. Josephs College, the fields of Princeton Nurseries are along the canal, between it and Mapleton Road; an access road follows, in part, the bed of the former Camden and Amboy Railroad along the bank.
 - d. Railroad bed (tracks have been removed) is on right bank from (35.10) turning basin to Route 27.
3. (35.0) Trash barrier (cable and timber floating boom) impedes canoe passage.

Proposed:

1. Left Bank:

- a. Towpath Improvements:
 - (1) Minor maintenance.
 - (2) Stabilization of Bank:
 - (a) In numerous places used for fishing.

- b. Structural restoration (N.A.)
- c. Recreational need Path exists; minor improvements.
- 2. Impact:
 - a. Natural environment No change.
 - b. Historical No change.
 - c. Recreational potential Minor improvements.
 - d. Immediate neighbors No change.
 - e. Local community Minor improvements to path.
 - f. Visual Seating will be inconspicuous; virtually no change.
- 3. Interpretive Potential Minor; natural.
- 4. Access:
 - a. Path system At ends (assuming proposed bridge at Millstone Aqueduct).
 - b. General Very good; (see end sites).
 - c. Public transportation At Kingston end.
- 5. Maintenance Typical.
- 6. Security/Vandalism Heavy usage makes area fairly safe.
- 7. Conflicts Minor conflict occasionally due to use of path in connection with crew regattas on lake.
- 8. Compatibility - Master Plan
 - a. Connector:
 - (1) Unbroken Yes.
 - (2) Unique character Lakeside; Princeton Nursery land on right bank.
 - b. Respect and enhance existing Yes.
 - c. Limit new elements Yes; new elements few, minor and inconspicuous.
 - d. Appropriateness of materials Yes.

e. Maintenance Yes.

f. Surrounding area Yes.

9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. a. Minor improvements	14,500	14,500		29,000
b. (Note 1)				
2. N.A.				---
3. Portage		6,000		6,000
TOTAL	14,500	20,500		35,000

Note: 1. Included in (35.24) Kingston Site.

11. Priority

Minor improvements (inconspicuous seating, stabilized access points for fishing) make an extensively used area more usable, particularly for older persons.

35.24 Kingston, South Brunswick/Franklin (Downstream of 35.24) Townships
(Princeton Township adjacent on opposite side of river)
in area designated rural MP/p. 12

Existing:

1. Lock Area:

- a. (35.19) Lock (#8).

Note: Temporary pumping station (1984) at upper end of lock.

- b. (35.19) Locktender's house (c. 1830).

- c. (35.20) Toll house/telegraph station (c. 1830).

- d. Remains of old waste weir overflow channel.

2. Bridges:

- a. (35.24) Bridge (Typical c. 1944 wood).

- b. (35.30) Route 27 Bridge (c. 1969 concrete).

3. Small developed park area on left bank including:

- a. Parking area (approximately 22 cars) and overflow (8-10 cars).

- b. Tunnel under Route 27 provides safe pedestrian access to downstream towpath.

- c. Access to Millstone River.

4. Right Bank Area:

- a. (35.10) Old turning basin (part of the park) is still connected to the canal and in better condition than most.

- b. Adjacent sewer treatment plant has been abandoned.

Note: Old South Brunswick Sewage Treatment Plant is no longer in operation; property reverts to the Canal State Park; adjacent pumping station is operational.

5. Floodplain area between canal and Millstone River.

6. Adjacent Left Bank Areas:

- a. Nearby old structures including:

(1) Old bridge (1798 quadruple stone arch).

(2) Former Mill (1888).

- (3) Several historic houses.
 - b. Nearby dams across the Millstone River:
 - (1) (34.93) Lake Carnegie.
 - (2) (35.11) Kingston Mill.
 - c. Nearby canal related structures:
 - (1) (35.01) Heathcoate Brook culvert (c. 1830).
 - (2) (34.97) Spillway.
7. Adjacent Right Bank Areas:
- a. Kingston, a small, historically important settlement, is located on the top of a bluff which overlooks the lock area. The bluff is an important visual element. The village was an important canal town; it still retains much of its historic character. The village also contains several restaurants and a small group of other shops.

Note: The construction of the canal was begun in Kingston.
 - b. Several commercial buildings (uses include restaurant, auto body shop, landscaping service, offices) lie between the bluff and the site of the railroad tracks; the adjacent park area has often been used for related parking.
 - c. The Kingston Maintenance Yard of the NJ DOT lies between the bluff and the site of the former railroad tracks along the canal.
 - d. The railroad bed of the abandoned Kingston branch railroad (Monmouth Junction to Rocky Hill) is on the right bank; tracks have been removed (1983). Roadbed is along the canal downstream of (35.10) Turning Basin.

Note: Trap Rock Industries, owners of the Kingston Quarry have proposed that a road be built along the canal in part on the former railroad bed, from (37.11) Route 518 to (35.24) Kingston and possibly from Kingston to Route 1.
8. Canoe rental (Bernard's) at former toll house.
9. Heathcoate Park (an group of underdeveloped areas along Heathcoate Brook) is nearby. Cook Natural Area, a designated natural area is also along Heathcoate Brook.
10. (35.71) North Kingston:

- a. A small area (14-15 acres) with access from Kingston-Rocky Hill Road to park, but not to canal. Area is used as a small borrow pit by the New Jersey Water Supply Authority.
- b. A significant area on the canal in terms of:
 - (1) Topography: A very high area immediately adjacent to the canal.
 - (2) Vegetation: Upland forest.
- c. (35.76) Pond and adjacent marshy area.
- d. Some existing trails.

Note: Existing motorbicycle use of trails.
- e. The area has apparently been used for camping.
- f. (36.10/36.24/36.26) Proposed Route 92 crossings of the canal approximately one half mile north.

Note: See also Rocky Hill in particular with regard to Trap Rock Proposal and Route 92.

Proposed:

1. Lock Area:

- a. Locktender's house:
 - (1) Exterior restoration.
 - (2) Definition of occupant's area:
 - (a) Landscaping.
 - (b) Fencing.
 - (c) Storage Building.
- b. Lock:
 - (1) Correct placement of cap stones of lock walls.
 - (2) Restoration of the appearance of the lock walls.
 - (3) Snubbing posts at locations of former ones.
- c. Delineation of former bypass channel and other structures.

Note: NJWSA has been assigned responsibility for the lock area including the lock and the locktender's house. Proposed work requires coordination with NJWSA.

2. Sanitary facility: Type A-4.
3. Existing developed small park area:
 - a. Organize small parking area: 8 cars.
 - b. Repair fences.
 - c. Repair canoe docks, add additional dock.
 - d. Inconspicuous seating.
 - e. Bank erosion control.
4. Right Bank Area:
 - a. Turning Basin area and adjacent (right bank) area at lock including the former railroad bed:
 - (1) Restrict vehicular access to right bank area (using bollards, fencing and landscaping).
 - (2) Landscaping.
 - (3) Seating.
 - (4) Canoe landing.
 - (5) Path on site of railroad bed.
 - b. Former South Brunswick Sewage Treatment Plant Site:
 - (1) Demolition of existing structures.
 - (2) Landscaping (shade and buffer).
 - (3) Small picnic area with tables.
5. Floodplain area between canal and river:
 - a. Clean up secondary path in flood plain
 - b. Improve portage around Mill dam; stabilize portages.
 - c. Restrict vehicular access to flood plain.
6. Investigate (with DOT) possible multiple use of maintenance yard. Reorganize DOT yard to permit overflow parking on DOT site (Kingston Maintenance Yard):
 - a. Fencing.
 - b. Landscaping.

7. Interpretive Potential: Historical - Kingston/canal, canal operations: orientation.
8. (35.71) North Kingston:
 - a. Primitive camping (on low area); informal picnicking.
 - b. Natural area.
 - c. Restrict vehicular access from Kingston-Rocky Hill Road and parking to maintenance vehicles.
 - d. Develop trails.
 - e. Canoe dock.
 - f. Some clearing to maintain view upstream of the "S" curve in the canal.

Note: Concept:

- a. (35.24) Kingston:
 - (1) A major access point for path activities and canoeing (readily accessible by public transportation.
 - (2) An important historical area.
- b. (35.71) North Kingston: A small stop/camping area for canoeists and a small nature observation area.

Additional Recommendations:

1. Use of abandoned railroad right-of-way:
 - a. Multi-purpose path: Not as part of the Canal State Park, from Kingston Turning Basin to Monmouth Junction (proposed by South Brunswick Township). Such a path would link several existing park areas including Cook Natural Designated Area and Heathcoate Park to the Canal State Park. Restrict vehicles (using adjacent right bank area) to driveway by bollards or fencing.

Note: If South Brunswick does not build path, path as far as Cook Natural Designated Area should be included in the Canal State Park.
 - b. Multi-purpose path: As part of the Canal State Park, from Kingston Turning Basin to Route 27.
2. Acquisition of railroad right of way in the vicinity of Kingston Lock. Development would require:

- a. Path.
 - b. Landscaping.
 - c. Fencing.
3. Pedestrian path from canal area to Kingston on upstream side of Route 27 to facilitate safe pedestrian access to restaurants, shops, etc. in Kingston.
 4. Structural stabilization/restoration
 - a. (34.9) Culvert: Responsibility of culvert has been assigned to NJWSA.
 - b. (35.1) Old Stone Bridge: Bridge is responsibility of NJDOT.
 - c. Remaining portions of overflow bypass. Responsibility has been assigned to NJWSA.
 5. Acquisition of scenic easement of area between bank and canal from DOT yard in Kingston to North Kingston would be very desirable; much of area is being used as a dump for spoils (and trash).
 6. Acquisition of scenic easement from North Kingston to (36.26) proposed Route 92 between the canal and the Kingston-Rocky Hill Road.
 7. Proposed Road along the Canal: The building of any road along the canal would have a severe impact on the Park (as well as numerous adjoining properties); such a road would have an extremely severe adverse impact on the historical and visual character and would also greatly increase the level of noise in the Park. Proposed mitigation would in itself have an adverse impact. This road should not be permitted except in the Section between (36.34) and (37.11) Route 518 (i.e. the area of the existing quarry road and even then only if property set back and landscaped).

Note: Also see Appendix F.

Analysis:

1. Project Objectives:

- | | |
|---------------------------|---|
| a. Path continuity | (N.A.) |
| b. Structural restoration | Restoration of exterior of house and partial restoration of lock. |
| c. Recreational need | Improved access, sanitary facilities. |

2. Impact:
 - a. Natural environment No detrimental impact; vehicular access blocked (Floodplain and North Kingston).
 - b. Historical Exterior of house restored. Lock area partially restored.
 - c. Recreational potential Path access; fishing; historical; secondary: picnicking; (primitive camping at North Kingston).
 - d. Immediate neighbors Visual improvement.
 - e. Local community Improved access; Kingston business (restaurants, etc.) could benefit in a minor way.
 - f. Visual Improved; particularly right bank area.
3. Interpretive Potential High; construction of the canal began at Kingston; locktender's house, toll house, basin all remain. Canal construction, operations, local history, orientation.
4. Access:
 - a. Path system Good; tunnel provides safe access under Route 27.
 - b. General Very good on Route 27.
 - c. Public transportation Very good; best for a major access site.
5. Maintenance Considerable; houses in addition to typical. High use area.
6. Security/Vandalism House is occupied; area heavily used.
7. Conflicts Trap Rock Corporation road proposal would severely impact site.
8. Compatibility - Master Plan
 - a. Connector:
 - (1) Unbroken (N.A.)

- | | |
|---------------------------------|--|
| (2) Unique character | Yes; largely intact canal complex. |
| b. Respect and enhance existing | Yes. |
| c. Limit new elements | Sanitary facility would be in character with former small structures. |
| d. Appropriateness of materials | Yes. |
| e. Maintenance | Yes. |
| f. Surrounding area | Yes. |
| 9. Compatibility: Water Supply | Yes; but, note maintenance of trash barrier at Spillway requires coordination. |

10. Cost:

	I	II	III	Total
1. Lock area				
a. House, etc. (See Note 1)	21,500*		72,000*	93,500*
b. Lock (See Note 1)		7,000*	53,000*	60,000*
c. Miscellaneous delineation			12,000	12,000
2. Sanitary facility, etc.	87,000			87,000
3. Existing park area	14,500			14,500
4. Right bank area				
a. Turning basin area	93,500			93,500
b. Sewer plant area	29,000		69,000	98,000
5. Floodplain area	2,500	13,000		15,500
6. Joint use parking	49,000			49,000
7. Interpretive (misc.)	1,000			1,000
8. North Kingston	6,500	22,000	4,000	32,500
TOTAL	304,500	42,000	210,000	556,500

Note: 1. Responsibility shared with NJWSA; allocation of *costs not determined.

11. Priority

High existing demand; high interpretive value (numerous canal related structures; important historically); good location and access (including public transportation). Stage I priority

sanitary facilities, additional parking, right bank development at lock and turning basin. Landscaping at DOT yard and at lock. Also razing of old sewer plant (safety and visual).

35.24 Kingston to (37.11) Route 518
Franklin Township (Adjacent to Princeton/Montgomery Townships)
in area designated rural MP/p. 12

Existing:

1. Left Bank:

- a. Path on left bank (existing towpath) is in very good condition

Note: Tunnel under Route 27 permits unimpeded safe passage except during floods.

- b. Floodplain area between river and canal (part of park).
- c. The area on the left bank of the Millstone River from the proposed crossing of the proposed Route 92 to Route 518 is unspoiled and particularly attractive. It is also an area different in character and geology from the other areas of the main canal; as an untouched area in contrast to the quarry (on the right bank of the canal) it also has interpretive potential.
- d. (36.51) Spillway.

2. Right Bank:

- a. Railroad bed along canal; tracks have been removed. Railroad right-of-way has been obtained by the Park.
- b. DOT Maintenance Yard located downstream of (35.24) Route 27. Operation and various dumping areas stretch out along canal.
- c. (35.71) North Kingston Area (see (35.24) Kingston site, Existing 10.).
- d. (36.10/36.24/36.26) Proposed Route 92 bridge crossings.
- e. Downstream of (36.10/36.24/36.26) proposed Route 92 bridge crossings, a large quarry extends along the canal to (37.11) Route 518.
- f. Site of proposed, by Trap Rock Industries, realignment of county road (Laural Avenue) is immediately adjacent to the canal.

3. (37.11) Rocky Hill (Route 518):

- a. Bridge (typical c. 1944 wood recently rebuilt).
- b. Parking area (10 cars) on left bank downstream of bridge.
- c. Canoe dock (1982) left bank downstream of bridge.

- d. Bridge across Millstone River nearby (bridge will be rebuilt by Somerset County in the near future; new bridge proposed would include a sidewalk on the downstream side).

Note: Somerset County is planning to widen Route 518 to 26'; alignment will remain the same.

- e. Village of Rocky Hill: A pleasant town containing numerous historic structures and possessing considerable historic character (center 0.35 mile west from canal).
- f. Rockingham (once Washington's headquarters, now a museum and a State Park) (1 mile east from canal). Originally the house was much closer to the canal; the house has been moved twice to accommodate the quarry along the canal.

Note: House (HABS NJ-18) is on National Register.

- g. Old dam on Millstone River.
- h. Site (right bank upstream of bridge) of bridgetender's house and (right bank upstream of bridge) of railroad station.
- i. An undeveloped park area (Borough of Rocky Hill facility) abuts the Millstone River opposite the park.
- j. Group of old structures on right bank at (37.23) junction of old Georgetown Road with Canal Road nearby.
- k. Several proposals concerning the adjacent quarry include roads and eventual development of quarry itself. These are included in Appendix F, 4.

Proposed:

- 1. Left Bank:
 - a. Towpath Improvement: Some stabilization required.
 - b. Portages should be provided at a few locations where the canal and the river are close.
- 2. A pedestrian path on the former roadbed as far as (35.71) North Kingston.

Notes:

- 1. Eventually path should be extended as far as (36.26) proposed Route 92 bridge, ultimately if and when quarry operations are phased out, pedestrian path should be extended to Route 518.
- 2. Also see (35.24) Kingston.

3. (37.11) Rocky Hill (Route 518) (Also See Map SP-16):
 - a. Canoe dock LBU.
 - b. Develop portage to River and around old dam.
 - c. Organization and enlargement of parking area: 12 cars.
 - d. Minor inconspicuous seating.
 - e. Site of former bridgetender's house:
 - (1) Clearing.
 - (2) Landscaping.
 - (3) Seating/interpretive delineation of former structure.
 - f. Small parking area on left bank of river (downstream of bridge) including landscape buffer: 12 cars.
 - g. Minor bank stabilization (steps) at paths to floodplain.

Notes:

1. Interpretive Potential: Quarry/Canal/Geology.
2. See also Appendix F in particular with regard to Trap Rock Proposals and Route 92.

Activities:

Typical Path;
 Canoeing: Primitive camping (North Kingston);
 Fishing

Additional Recommendations:

1. The area on the left bank of the Millstone River from the proposed crossing of the proposed Route 92 to Route 518. The acquisition of this property or a scenic easement to it, for at least 500' from the river (preferably to River Road) is recommended.
2. Adjacent quarry area (upstream of 518 on right bank). Encouragement of compatible development on the quarry property.

 See Kingston Quarry Master Plan, A Summary Report proposed for Trap Rock Industries Incorporated (prepared by Snell Environmental Group, Inc., Lansing, Michigan, August 1982).
3. Rockingham, once General Washington's headquarters and now a museum and a state park. The building has been moved twice (1897 and 1962) to accommodate the expansion of the quarry; originally it overlooked

the river (and later also the canal), at present it is detached from the river (and canal). Should it become necessary to move the building in the future, thought should be given to moving it to a site near its original location.

4. Acquisition of scenic easement from North Kingston to (36.26) proposed Route 92 between the canal and the Kingston-Rocky Hill Road.
5. Any new Route 518 bridge across the Millstone should include a pedestrian walkway on, at least, the downstream side.
6. Proposed Road along the Canal: The building of any road along the canal would have a severe impact on the Park (as well as numerous adjoining properties); such a road would have an extremely severe adverse impact on the historical and visual character and would also greatly increase the level of noise in the Park. Proposed mitigation would in itself have an adverse impact. This road should not be permitted except in the Section between (36.34) and (37.11) Route 518 (i.e. the area of the existing quarry road and even then only if property set back and landscaped).

Note: Also see Appendix F.

Analysis:

1. Project Objectives:

- | | |
|---------------------------|--------------------------|
| a. Path continuity | Existing. |
| b. Structural restoration | (N.A.) |
| c. Recreational need | Improved access to path. |

2. Impact:

- | | |
|---------------------------|---|
| a. Natural environment | Minor; at new parking area. |
| b. Historical | No change. |
| c. Recreational potential | Path uses; canoeing (river and canal); fishing; access. |
| d. Immediate neighbors | No change. |
| e. Local community | Better recreational access. |
| f. Visual | Minor improvements at Rocky Hill access. |

3. Interpretive Potential

Good: Geology; nature; quarry; local history.

- 4. Access:
 - a. Path system Yes.
 - b. General Good; at ends.
 - c. Public transportation Very good; at Kingston end.
- 5. Maintenance Typical path.
- 6. Security/Vandalism High use makes area fairly safe.
- 7. Conflicts Route 92; road proposal by Trap Rock Corporation.
- 8. Compatibility - Master Plan
 - a. Connector:
 - (1) Unbroken Yes.
 - (2) Unique character Yes.
 - b. Respect and enhance existing Yes.
 - c. Limit new elements Yes; seating combined with interpretive delineation.
 - d. Appropriateness of materials Yes.
 - e. Maintenance Yes.
 - f. Surrounding area Yes.
- 9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Minor path improvements	7,000			7,000
2. Right bank path			25,000	25,000
3. Rocky Hill				
a. Canoe dock	3,000			3,000
b. Portage	3,500			3,500
c. Improve parking	7,000			7,000
d. Seating	6,000			6,000
e. House site			30,000	30,000
f. Parking (river)	21,500			21,500
g. Miscellaneous	2,000			2,000
TOTAL	50,000		55,000	105,000

11. Priority

Priority given to increased parking (and some definition of parking) and canoe portages; site heavily used. High demand for additional access.

37.11 Route 518 to (40.16) Griggstown Causeway
Borough of Rocky Hill/Franklin Township/Montgomery Township
area designation MP/p. 12, rural with natural access

Existing:

1. Towpath Corridor:

- a. The towpath (on left bank): Path is in excellent shape.
- b. The only road crossings, both grade crossings, are at the ends of the path segment:
 - (1) (37.11) Route 518.
 - (2) (40.16) Griggstown Causeway.
- c. In addition two pedestrian (or maintenance access) bridges exist.
 - (1) (38.11) Farm bridge (South of Griggstown).
 - (2) (39.49) Griggstown Lock.
- d. (39.06) Spillway.

2. Millstone Floodplain:

- a. A substantial area between the canal and the Millstone River; largely old fields and lowland forest.
- b. River Road (also called Main Street in Millstone and Manville Boroughs), part of Route 533 roughly parallels the River from its junction with Route 206 (approximately at mile 38.00).

Note: Riverside of River Road bordered with an almost continuous steel guardrail where the park borders the road.

- c. Much of the land between River Road and the River is part of the Park, but there is some private property and a nearly continuous steel guardrail.

3. Right Bank: Canal Road closely follows the canal; generally only a very narrow band of trees and brush separate the road from the canal; the road is narrow and offers many good views.

4. (38.11) Farm Bridge (downstream of Rocky Hill) (Franklin Township):

- a. Bridge (typical c. 1944 wood) provides access to Millstone Floodplain.
- b. Parking for 2-3 cars.

- c. Site of former bridgetender's house (right bank downstream of bridge) and shanty (right bank upstream of bridge).
- d. Remains of Old Atlantic Terra Cotta Plant (now a privately owned studio) are nearby upstream on right bank.

Note: Constraints (topography, road, drainage ditches) do not permit much development.

5. (39.49) Griggstown Lock, (Franklin Township):

- a. Lock #9.
- b. (39.49) Locktender's house (c. 1830 two story wood frame).
- c. Small parking area (8-10 cars).
- d. (Pedestrian) bridge across canal (typical c. 1944 wood) and small bridge (wood) over bypass channel provides access to adjacent area (included in park) Between the Millstone River and canal (Also see Millstone Floodplain 37.11-47.93).
- e. Floodgate on left bank upstream of lock, small dam and bypass channel parallel to canal (on left bank).
- f. (39.44) (second) Locktender's house (one and one-half story c. 1830 wood frame) on opposite side of road from canal.
- g. Canoe dock (1982) upstream of lock on left bank (unfortunately not located close enough to the lock).

Proposed:

1. Towpath Corridor:

- a. Selected removal of trees.
- b. In some areas holes should be filled, but nothing beyond ordinary maintenance.
- c. Stabilization of the bank where eroded (particularly at fishing spots and portages).

2. Millstone Floodplain:

- a. Bridle paths.
- b. Hiking paths.
- c. Primitive camping (included as item 5, d).
- d. Informal picnic areas.
- e. Canoe portages where river and canal are close.

- f. Clear fallen trees in river to permit passage by canoes.
 - g. Mowing to preserve some field areas.
 - h. Development of additional access from River Road is not recommended.
3. Right Bank: In general a buffer should be maintained between the canal and the road; however, some openings should be maintained to provide views so long as the road remains a narrow one with relatively low speed limit.
4. (38.11) Farm Bridge (downstream of Rocky Hill) (Franklin Township):
- a. Parking for 3-4 cars (organized) and defined incorporating minor interpretive definition of former bridgetender's house.
 - b. Canoe dock. (LBU)

Note: Concept: Minor access for fishing.

5. (39.49) Griggstown Lock, (Franklin Township):

- a. Locktender's house (at 39.49):

- (1) Minor exterior restoration.

Note: Responsibility for the house assigned to NJWSA; coordination with NJWSA is required.

- b. Lock:

- (1) Correct placement of lock wall cap stones.

- (2) Restore appearance of lock.

- (3) Restore snubbing post.

- c. (Second) Locktender's house (at 39.44):

- (1) Exterior restoration, structural repairs and heating system.

Note: Responsibility for the lock assigned to NJWSA; coordination with NJWSA is required.

- (2) Definition of occupants' area.

- (3) Selective landscaping.

- d. Primitive camping sites.

Activities:

Typical path (on towpath)
Canoeing
Nature observation
Horseback riding
Primitive camping (Lock Area)
Fishing

Analysis:

1. Project Objectives:

- | | |
|---------------------------|--|
| a. Path continuity | Path existing. |
| b. Structural restoration | Lock and tender's houses. |
| c. Recreational need | Separate equestrian trail;
primitive camping (for canoeists
and hikers). |

2. Impact:

- | | |
|---------------------------|--|
| a. Natural environment | Slight change; minor additional use
of floodplain area. Note much of
floodplain area was pasture during
canal era. |
| b. Historical | Restoration of lock area
structures. |
| c. Recreational potential | Path, canal and river activities;
several large areas exist also.
Recreational development minimized
to limit impact of natural
environment and maintain quality of
the experience. For same reason
(and also to simplify maintenance
(control) area between River Road
and river not developed. |
| d. Immediate neighbors | Neighbors are on opposite side of
canal. Virtually no change, but
also see Item 2. e. |
| e. Local community | Community has long been concerned
with the canal and its development.
Indeed, many members were
instrumental in the effort to
create the Canal State Park. The
community remains concerned. In
the past there have been local
objections to the development of |

the Park due, in part, to concern that large numbers of people will destroy the quality of the Park experience as well as the character of the community. Canal Road is narrow (and its narrowness very much contributes to the character of the area and the canal); increased traffic is a major concern.

Preservation of the existing character is an essential part of the proposed development. Extensive development has been specifically avoided. Proposed development concentrates on historic site restoration and interpretation. Additional traffic will be slight and not coincide with existing peaks. Development of separate bridle paths is basically to accommodate conflicting existing uses by the community. Camping area is small, isolated from community and only for canoeists/hikers.

f. Visual

Minor restoration of historic structures and minor improvements of view from the road. (News will be limited to maximize screening of road from path.)

3. Interpretive Potential

Very good; reinforced if interpretive center is located on Griggstown causeway. Resources: Lock complex, causeway area at end of path segment, Atlantic Terra Cotta Plant remains (on opposite bank); local history; natural.

4. Access:

a. Path system

At ends. Parking available at two intermediate points (lock area and farm bridge) both have small parking areas.

b. General

Location is central; principal roads not very nearby, access requires use of small, but scenic, roads, often along canal (in itself a pleasant experience).

- c. Public transportation None.
5. Maintenance Typical path and also several structures; primitive camping will need additional maintenance.
6. Security/Vandalism Area relatively isolated, but structures occupied and use is high (some use even in winter); no serious problem foreseen.
7. Conflicts House at lock under jurisdiction of NJWSA, but no conflict foreseen.
8. Compatibility - Master Plan
- a. Connector:
- (1) Unbroken Yes.
- (2) Unique character Yes.
- b. Respect and enhance existing Yes.
- c. Limit new elements Yes; only new elements minor and inconspicuous.
- d. Appropriateness of materials Yes.
- e. Maintenance Yes.
- f. Surrounding area Yes.
9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Minor path improvements (Note 1)				----
2. Floodplain area				
a. Bridle paths	26,000			26,000
b.-d. (Note 2)				----
e. Portages, etc.			7,000	7,000
f. (Note 2)				----
3. Right bank (Note 1)				
4. Farm bridge	10,000			10,000
5. Lock area				
a. House #1 (at lock)		12,000*		12,000*
b. Lock (Note 3)	48,000*			48,000*
c. House #2 (Note 3)	12,000		36,000	48,000
d. Primitive camping	9,000			9,000
TOTAL	105,000	12,000	43,000	160,000

Note: 1. Maintenance items.
 2. Item c. included in 5. d.; b., d., f. maintenance items.
 3. Responsibility shared with NJWSA; allocation of *costs not determined.

11. Priority

Stage I: Bridle path to separate conflicting use from other path use.

Minor path improvements; lock restoration (partial) (important due to proximity of interpretive center).

Primitive camping to facilitate overnight trips on the canal.

40.16 Griggstown Causeway, Franklin Township
Noted as special node MP/p. 12 [not noted on p. 25-26]

Existing:

1. Bridge (typical c. 1944 wood).
2. Bridgetenders house (c. 1830, stone) (largely restored and under lease).
3. Toll house (c. 1830, wood).
4. Long House, former mule driver's bunkhouse (18th c.) (undergoing partial renovation 1983).

Note: Lease half of the building to two canal related groups.
5. Fairweather House (built c. 1950 on the foundations of a grist mill) and former mill race on left bank upstream of bridge.
6. Adjacent historic structures; village of Griggstown retains much of its earlier character and has been proposed as an historic district. (HS p. 71-74). The canal is an important element in the village history.
7. Sherman House, along canal (right bank upstream of bridge); was the residence of the Superintendent of the Canal State Park, but since December 1983 vacant.
8. Canoe rental facilities.
9. General store (open in Summer and on weekends in Spring and Fall); future of store doubtful.
10. Nearby (0.25 mile) bridge over Millstone River.
11. Parking lots (in Park) nearby:
 - a. (.1 mile from canal): 25 cars.
 - b. (.2 mile from canal): 15 cars.
12. Open field (in Park) nearby; some playground equipment, picnic benches and grilles.
13. Short walk (approximately .7 mile) to Griggstown Lock (#9).
14. Franklin Township owns undeveloped land (42.43) opposite Fire House.
15. Canoe dock (1982) left bank upstream of bridge.

Proposed:

1. Canoe dock.
2. Interpretive exhibits (in Long House): Orientation; historic.
3. Sherman House:
 - a. Minor renovating.
 - b. Furniture and equipment.
 - c. Adoptive Use: Residential (short term) in connection with interpretive center.

Note: For a fuller description of these facilities and their proposed function see IV, C., 3. (Interpretive Program, Facilities).

4. Bridgetender's House: Continue use as residential.
 - a. Exterior restoration of stucco.
 - b. Use: (Continue existing) residential.
5. Long House:
 - a. Exterior restoration.
 - b. Interior renovation.
 - c. Definition of occupants area.
 - d. Adaptive Use: Combination interpretive center and residential (for a park employee).

Note: For a fuller description of these facilities and their proposed function see IV, C., 3. (Interpretive Program, Facilities).

6. Sanitary facilities: Type A-4.
7. Fairweather House (c. 1950):
 - a. Renovation.
 - b. Adaptive use: residential, possible sanitary facilities.

Note: Use dependent upon further investigation.

Note: Concept:

- a. Path access (with picnic and game areas).
- b. Major interpretive center.

Activities:

Typical path, access (major);
Canoeing: Stop (major), access, rental facility;
Fishing;
Horseback riding;
Field games;
Historical: Interpretive center

Additional Recommendations:

Historic District for adjacent area

Analysis:

1. Project Objectives:

- a. Path continuity (N.A.)
- b. Structural restoration Major: Long House (historic), also Sherman and Fairweather houses.
- c. Recreational need Good existing access (path, canal, river); interpretation (largely historic, but also natural).

2. Impact:

- a. Natural environment Little change; additional usage will concentrate on historic sites, although some interpretation of natural environment.
- b. Historical Restoration (Long House); interpretation.
- c. Recreational potential Further development possible, but not recommended due to impact on local community and emphasis on interpretation. Recreational uses (play area, picnic area) secondary, supportive of interpretive and path uses.
- d. Immediate neighbors Minor increase in traffic and activity, but not excessive.
- e. Local community Community has long been concerned with the canal and its development. Indeed, many members were instrumental in the effort to create the Canal State Park. The community remains concerned. In

their part there have been local objections to the development of the Park due in part to concern that large numbers of people will destroy the quality of the Park experience as well as the character of the community. Canal Road is narrow (and its narrowness very much contributes to the character of the area and the canal); increased traffic is a major concern.

Preservation of the existing character is an essential part of the proposed development. Extensive development has been specifically avoided. Proposed development concentrates on historic site restoration and interpretation. Additional traffic will be slight and not coincide with existing peaks. Development of separate bridle paths is basically to accommodate existing uses by the community. Camping area is small, isolated from community and only for canoeists/hikers.

- | | |
|---------------------------|---|
| f. Visual | Restoration of historic structures. |
| 3. Interpretive Potential | Very high; historic structures, local history, lock complex (3/4 mile upstream). |
| 4. Access: | |
| a. Path system | Yes. |
| b. General | Location is central; principal road not very nearby, access requires use of small but scenic roads often along canal (in itself a pleasant experience). |
| c. Public transportation | None. |
| 5. Maintenance | Considerable; several structures included. |
| 6. Security/Vandalism | Resident in Long House and proximity to other existing houses should minimize problems. |

7. Conflicts Legal difficulties concerning acquisition of Fairweather house; otherwise none.
8. Compatibility - Master Plan
- a. Connector:
- (1) Unbroken Yes.
- (2) Unique character Yes.
- b. Respect and enhance existing Yes.
- c. Limit new elements Yes; almost all development accommodated by existing structures. Interpretive materials within structures.
- d. Appropriateness of materials Yes.
- e. Maintenance Yes.
- f. Surrounding area Yes.
9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Canoe dock	3,000			3,000
2. Interpretive exhibits (in Long House)	26,000	50,000	50,000	126,000
3. Sherman House (Note 1)	121,000			121,000
4. Bridgetender's House			15,000	15,000
5. Long House (Note 1)	233,000			233,000
6. Sanitary facilities		77,000		77,000
7. Fairweather House		80,000		80,000
TOTAL	383,000	207,000	65,000	655,000

Note 1. Includes furniture and equipment (except for Long House apartment).

11. Priority

Development of a major interpretive center, located near (less than 4 miles) Park headquarters and central to the canal area. Center would serve as the base for the Chief Interpreter; Sherman House would serve as a training center. Note: Adaptive use essential for houses, sanitary facilities, for center only, in Long House.

40.16 Griggstown (Causeway) to (43.70) Blackwells Mills
Franklin Township (adjacent to Montgomery/Hillsborough Townships)
in area designated natural upstream of (42.48) Suydam Road
in area designated rural with natural access downstream of (42.48)
Suydam Road

Existing:

1. Towpath Corridor:
 - a. The towpath (on left bank): Path is in excellent shape.
 - b. Road crossings exist only at the ends of the path segment. Both grade crossings:
 - (1) (40.16) Griggstown Causeway.
 - (2) (43.70) Blackwells Mills Causeway.
2. Millstone Floodplain:
 - a. A substantial area (included in park) between the canal and the Millstone River; largely old fields and lowland forest.
 - b. River Road, part of Route 533, roughly parallels the River from its junction with Route 206 (approximately at mile 38.00).
 - c. Much of the land between River Road and the River is part of the Park, but there is some private property and a nearly continuous steel guardrail.
3. Right Bank:
 - a. Upstream of (42.46) Suydam Road: Canal Road roughly parallel to canal, but not close to it; houses and fields and generally a wooded band (next to the canal) between the road and the canal.
 - b. Downstream of (42.46) Suydam Road: Canal Road along side canal; narrow band of trees and brush between the canal and the road.
 - c. (41.70-41.87) Area (approximately 18 acres) between canal and road included in the Park; area adjacent to canal marsh.
4. (42.46) Suydam Road Access (Right Bank):
 - a. Small (2-3 cars) parking area used by fisherman.
 - b. Water treatment plant adjacent.

Proposed:

1. Towpath Corridor:
 - a. Selected removal of trees.

- b. In some areas holes should be filled, but nothing beyond ordinary maintenance.
- c. Stabilization of the bank where eroded (particularly at fishing spots and portages).

2. Millstone Floodplain:

- a. Bridle paths.
- b. Hiking paths.
- c. Informal picnic areas.
- d. Canoe portages where river and canal are close.
- e. Clear fallen trees in river to permit passage by canoes.
- f. Mowing to preserve some field areas.
- g. Development of additional access from River Road is not recommended.

Note: Access is presently provided at Griggstown and Blackwells Mills; these points provide adequate access and also, since usage is inversely proportional to distance from access areas, preserve the rural/natural quality of the park experience in much of the area, thus appealing to a wide range of people.

3. Right Bank:

- a. (41.70-41.87) Small (approximately 18 acre) area of Park between canal and Canal Road; development of this area is not recommended at this time, it should be left as a natural buffer.

4. (42.46) Suydam Road Access:

- a. Definition of parking.
- b. Stabilization of bank as required.

Note: Concept: Definition of a minor roadside pull-off for fishing.

Activities:

Typical path (on towpath);
Canoeing;
Nature observation;
Horseback riding;
Primitive camping;
Fishing

Analysis:

1. Project Objectives:

- | | |
|---------------------------|---|
| a. Path continuity | Existing. |
| b. Structural restoration | (N.A.) |
| c. Recreational need | Minor improvements to path separate equestrian trail. |

2. Impact:

- | | |
|---------------------------|--|
| a. Natural environment | Slight change; minor additional use of floodplain area. Note much of floodplain area was pasture during canal era. |
| b. Historical | No change. |
| c. Recreational potential | Path, canal and river activities; several large areas exist also. Recreational development minimized to limit impact of natural environment and maintain quality of the experience. For same reason (and also to simplify maintenance (control) area between River Road and river not developed. |
| d. Immediate neighbors | Neighbors are on opposite side of canal. Virtually no change, but also see (40.16) Griggstown for that area. |
| e. Local community | Improved path and separate bridle path. Also see (40.16) Griggstown. |
| f. Visual | No change. |

3. Interpretive Potential

Good; local history, natural.

4. Access:

- | | |
|----------------|-----------------------------|
| a. Path system | At ends; parking available. |
|----------------|-----------------------------|

- | | |
|---------------------------------|---|
| b. General | Location is central; principal road not very nearby, access requires use of small but scenic roads often along canal (in itself a pleasant experience). |
| c. Public transportation | None. |
| 5. Maintenance | Typical path. |
| 6. Security/Vandalism | Area isolated, but no structures; sufficient use; no problem foreseen. |
| 7. Conflicts | None. |
| 8. Compatibility - Master Plan | |
| a. Connector: | |
| (1) Unbroken | Yes. |
| (2) Unique character | Yes. |
| b. Respect and enhance existing | Yes. |
| c. Limit new elements | Yes. |
| d. Appropriateness of materials | Yes. |
| e. Maintenance | Yes. |
| f. Surrounding area | Yes. |
| 9. Compatibility: Water Supply | Yes. |

10. Cost:

	I	II	III	Total
1. Minor path improvements				
a. and b.	Note 1			----
c. Misc. stabilization, minor seating	20,500			20,500
2. Floodplain				
a. Bridle path	86,500			86,500
b. and c.	Note 1			----
d. Canoe portages	14,000			14,000
e. and f.	Note 1			----
3. Right bank				----
4. Suydam Road	7,000			7,000
TOTAL	128,000			128,000

Note: 1. Maintenance items.

11. Priority

Bridle path to keep existing conflicting uses separate. Minor path improvements given priority due to proximity to Park headquarters and interpretive center, and therefore, expected increased use.

43.70 Blackwells Mills, Franklin Township
In area designated rural with natural access MP/p.12

Existing:

1. Bridge (typical c. 1944 wood).
2. Bridgetender's house (c. 1831): Restored use, in part, as a museum, place (very small) for local meetings, and, in part, as a residence; leased to local group (Blackwells Mills Canal House Association).
3. Toll house (19th c.).
4. Parking areas:
 - a. Near Canal: Approximately 20 cars.
 - b. Near River: Approximately 20 cars.
5. Adjacent historic (P.W. Wychoff) house and other historic structures (HS p. 75).
6. Bridge across Millstone and remains of old mill dam nearby (.2 mile from canal).
7. (43.53) Park Headquarters:
 - a. Offices in old farm house (.15 mile upstream from bridge).
 - b. Maintenance facility in old barns and farm storage buildings.
 - c. Residence (Park Superintendent's house).
8. (43.53) Six Mile Run culvert: triple arch stone construction (1831-1834).
9. Area between canal and Millstone River is included in the Park.
10. Adjacent to area proposed for (Six Mile Run) reservoir (considerable amount of state owned land).
11. Canoe dock (1982) on left bank upstream of bridge.

Proposed:

1. Existing developed park area:
 - a. Canoe launching areas on River.
 - b. Seating.
 - c. Pedestrian path from open field (at Parking area to Canal).
2. Access to bridle trails.

3. Sanitary facilities (in addition to those in 5, b. below): Type A-4.
4. Interpretive displays:
 - a. Bridgetender's house: Orientation, Historical, in conjunction with local group.
 - b. Park Headquarters: Orientation, General (canal, historical, natural, recreational), Park system.
5. (43.45) Park Headquarters:
 - a. Renovation of house (particularly interior) (including new furniture throughout):
 - (1) Provide interpretive/informative facilities.
 - (2) Utilization of remainder of house: Offices, storage.
 - b. Sanitary facilities (possibly in a. above).
 - c. Landscaping (including removal of some existing landscaping and additional fencing).
 - d. Seating.
6. Maintenance Facility: The facility would serve the Main Canal sites and path segments. The facility would include:
 - a. Office.
 - b. Garage (15 bays) for storage of vehicles and equipment.
 - c. Fuel storage (for vehicles):
 - (1) Gasoline.
 - (2) Unleaded gasoline.
 - (3) Diesel fuel.
 - d. Carpentry shop - 2000 square feet.
 - e. Storage:
 - (1) Heated - 600 square feet.
 - (2) Unheated - 600 square feet.
 - (3) Flammable materials (paints, solvents, etc.) - 200 square feet.

- f. Employees locker room, lunch room, sanitary facilities.
- g. Fenced in yard for storage of additional vehicles, equipment and supplies.
- h. Renovation of several barns and sheds; reuse of some existing structures for storage. Buildings also would serve as a buffer and provide historical context.
- i. Demolition of structures behind barn.
- j. Landscaping (and relandscaping).
- k. Roads and parking.

Note: Concept:

- 1. Path access (with picnic and game areas).
- 2. Park headquarters with orientation facilities.
- 3. Major maintenance facility.
- 4. Local activities centered about canal house.

Activities:

Typical path: Access (major);
 Canoeing: Access stop;
 Horseback riding;
 Field games;
 Fishing;
 Historical

Analysis:

1. Project Objectives:

- a. Path continuity (N.A.)
- b. Structural restoration Headquarter's complex;
Bridgetender's house in good condition.
- c. Recreational need Access (path, canal, river) existing, support facilities (play field, picnic area) existing, better interpretive and orientation facilities.

2. Impact:

- a. Natural environment No change; development will occur in previously developed areas.

- b. Historical Restoration at headquarters complex; typical example of farms in original canal context.
 - c. Recreational potential Further development possible, but not recommended due to impact on community and quality of the recreational/historical experience. Recreational areas (open area, picnic area) basically support primary activities (path, fishing, canoeing).
 - d. Immediate neighbors Few neighbors; slight increase in traffic, basically no change in usage. New maintenance facility will be set back from roads and well screened; (size will not increase very much since it will be one of three facilities).
 - e. Local community In general, same as 2. d. above.
 - f. Visual Little change; new development will be well screened and set back from woods, canal.
3. Interpretive Potential Good; Bridgetender's house (leased to interested local group); Canal; local historic district; local history; natural; orientation; State Park system.
4. Access:
- a. Path system Yes.
 - b. General Location is central; principal road not very nearby, access requires use of small but scenic roads often along canal (in itself a pleasant experience).
 - c. Public transportation None.
5. Maintenance Considerable; typical path, structures, location of major maintenance facility and headquarters.
6. Security/Vandalism Occupied residence at headquarters complex and apartment at .

bridgetender's house. No problem foreseen.

- 7. Conflicts None.
- 8. Compatibility - Master Plan
 - a. Connector:
 - (1) Unbroken (N.A.)
 - (2) Unique character Yes.
 - b. Respect and enhance existing Yes; former farm complex (exterior) restored.
 - c. Limit new elements Maintenance facility set back from canal and well screened; new facility allows some restoration of former farm complex.
 - d. Appropriateness of materials Yes.
 - e. Maintenance Yes.
 - f. Surrounding area Yes.
- 9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Existing area, minor improvements	11,000			11,000
2. Bridle path access	Note 1			----
3. Sanitary facilities			77,000	77,000
4. Interpretive exhibits				
a. Bridgetender's house	3,500			3,500
b. Park headquarters	7,000			7,000
5. Park headquarters, including Sanitary (Note 2)	264,000			264,000
6. Maintenance facility (Note 3)		2,093,000		2,093,000
TOTAL	285,500	2,093,000	77,000	2,455,500

- Note: 1. Included in previous Path Segment.
 2. Includes furniture and equipment.
 3. Includes furniture.

11. Priority

Phase I: Headquarters; important, interpretive: Interpretive facilities near headquarters (and at headquarters) are important. Furthermore cost is not high; exhibits can be worked out with aid of local groups (staffing, etc.).

Phase II: Belle Mountain facility will relieve some of the pressure on the existing maintenance facility, but by Phase III the development of additional Park facilities will require replacement of the inadequate aging facility at Blackwells Mills.

Phase III: Sanitary facilities; (others provided in Phase I).

43.70 ~~Blackwells Mills to (45.78) East Millstone~~
~~Franklin Township (Hillsborough Township and Millstone adjacent)~~
in area designated rural with natural access MP/p. 12

Existing:

1. Towpath Corridor:

- a. The towpath (on left bank): Path is in excellent shape.
- b. Road crossings exist only at the ends of the segment. Both are grade crossings:

(1) (43.70) Blackwells Mills Causeway.

(2) (45.78) Millstone Causeway.

2. Millstone Floodplain:

- a. A substantial area between the canal and the Millstone River; largely old fields and lowland forest.
- b. River Road (also called Main Street in Millstone, part of Route 533 roughly parallels the River from its junction with Route 206 (approximately at mile 38.00).

Note: Riverside of River Road bordered with an almost continuous steel guardrail where the park borders the road.

- c. Much of the land between River Road and the River is part of the Park, but there is some private property.

3. Right Bank:

- a. Canal Road alongside canal except between 44.33 and 44.97, and downstream of 45.56, within East Millstone.
- b. (44.33-44.97) Small (approximately 15 acre) swampy natural area (included in park) between road and canal.

Proposed:

1. Towpath Corridor:

- a. Selected removal of trees.
- b. In some areas holes should be filled, but nothing beyond ordinary maintenance.
- c. Stabilization of the bank where eroded (particularly at fishing spots and portages.

2. Millstone Floodplain:

- a. Bridle paths.
- b. Hiking paths.
- c. Informal picnic areas.
- d. Canoe portages where river and canal are close.
- e. Clear fallen trees in river to permit passage by canoes.
- f. Occasional inconspicuous seating.
- g. Mowing to preserve some field areas.
- h. Development of additional access from River Road buffer area/
flood plain is not recommended.

Activities:

Typical path (on towpath);
Canoeing;
Nature observation;
Horseback riding;
Fishing

Analysis:

1. Project Objectives:

- a. Path continuity Existing.
- b. Structural restoration (N.A.)
- c. Recreational need Only minor path improvements.

2. Impact:

- a. Natural environment No change.
- b. Historical No change.
- c. Recreational potential Path, canal and river activities;
several large areas exist also.
Recreational development minimized
to limit impact of natural
environment and maintain quality of
the experience. For same reason
(and also to simplify maintenance
(control) area between River Road
and river not developed.

- d. Immediate neighbors Neighbors are on opposite side of canal; no change.
- e. Local community No change.
- f. Visual No change.
- 3. Interpretive Potential Largely natural.
- 4. Access:
 - a. Path system At ends of path segment; parking available.
 - b. General Good at downstream end; fair at upstream end.
 - c. Public transportation None.
- 5. Maintenance Typical path.
- 6. Security/Vandalism No problems foreseen.
- 7. Conflicts None.
- 8. Compatibility - Master Plan
 - a. Connector:
 - (1) Unbroken Yes.
 - (2) Unique character Yes.
 - b. Respect and enhance existing Yes.
 - c. Limit new elements Yes.
 - d. Appropriateness of materials Yes.
 - e. Maintenance Yes.
 - f. Surrounding area Yes.
- 9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Path improvements				
a. and b.	Note 1			----
c. Bank stabilization	7,000	7,000		14,000
2. Floodplain				
a. - e.	Note 1			----
f. Minor seating	7,000			7,000
g.	Note 1			----
h. Vehicular barriers	7,000			7,000
TOTAL	21,000	7,000		28,000

Note: 1. Maintenance items.

11. Priority

Path is generally in good condition, well used but not as heavily as the upstream segments.

45.79 East Millstone, (Millstone Causeway or Amwell Road), Franklin Township area designated rural with natural access MP/p. 12

Existing:

1. Bridge (c. 1944 wood asphalt deck); note: pivot pier of former swing bridge remains.
2. Bridgetender's house (c. 1831 two story stone) and small ancillary structure.
3. Adjacent former Cornelius Van Liew House/Franklin Inn (c. 1743) (privately owned).
4. Adjacent park (Franklin Township facility on land leased from the State) on the site of an (45.78) old basin includes:
 - a. Parking area (16-18 cars).
 - b. Paved play area.
5. Parking area (5-6 cars) left bank downstream).
6. Canoe dock left bank downstream of bridge at parking area.
7. Millstone Causeway connects canal and park land to the village of Millstone; sidewalk on downstream side, but, due to traffic, not a pleasant walkway. Both Millstone and East Millstone are villages which retain considerable historic character as well as numerous individual historic structures. Much of Millstone is an historic district and East Millstone (HS p. 77-80) has been nominated as an historic district. Old road bed and piers of former bridge over Millstone River remain slightly downstream of present causeway.
8. Most of the Millstone floodplain is included in the park.
9. Canoe rental facilities exist in Millstone on the Millstone River.
10. Food service is available in both East Millstone and Millstone.
11. Access is also available to the left bank of the Millstone River, from two short streets (both of which intersect Amwell Road) in Millstone:
 - a. River Street.
 - b. North River Street.
12. Hutcheson Memorial Forest (administered by Rutgers University) lies just outside of East Millstone.
13. Colonial Park (Somerset County facility) is nearby; (Also see following Path segment).

Proposed:

1. Bridgetender's house:
 - a. Immediate stabilization is essential.
 - b. Restoration of exterior including stucco.
 - c. Minor seating.
 - d. Selective landscaping.
 - e. Adaptive use essential: residential, also possible small concession/information booth in small structure.
 - f. Develop small parking area for use of occupants.
2. Canoe docks: Left bank upstream and at basin (right bank upstream).
3. Parking area (left bank downstream of bridge) define and expand slightly.
4. Interpretive definition of basin combined with seating.
5. Pedestrian path roughly paralleling vehicular causeway (along route of former road); minor clearing required; access to causeway required at river end (pedestrian bridge would be desirable, but cost probably would not be justified).
6. Buffer (trees, hedges) to screen adjacent bus garage and parking area.

Activities:

Typical path;

Canoeing: Access, stop, canoe rental facility (on river in Millstone);

Fishing;

Historical

Additional Recommendations:

1. Acquisition, probably by the county or municipality, of railroad right of way from canal through East Millstone to (at least) Amwell Road as future path should be encouraged - use of larger portion as well should be considered as a potential bicycle path.
2. The restoration of existing buildings in East Millstone should be encouraged.
3. Factory (Laurie Rubber Company) on right bank upstream of basin still in operation. If and when the factory operation ceases

consideration should be given to the encouragement of adaptive (and more compatible) re-use of the buildings.

Analysis:

1. Project Objectives:

- a. Path continuity (N.A.)
- b. Structural restoration Major; bridgetender's house.
- c. Recreational need Path; fishing access improved.

2. Impact:

- a. Natural environment Little change; slightly increase use but largely confined to existing paths.
- b. Historical Restoration of bridgetender's house.
- c. Recreational potential Floodplain area could be developed, but only at the expense of natural environment. Traffic on causeway makes area less suitable for development such as at Griggstown/Blackwells Mills; Colonial Park (with numerous facilities) nearby.
- d. Immediate neighbors Desirable improvement (house restoration/occupancy). Note: Few immediate neighbors; no residential.
- e. Local community Desirable improvement: Additional Park traffic insignificant; improvements would very much help appearance of town center.
- f. Visual Improvement: Restoration of house, screening of bus terminal. Especially important since area is not only a "gate way" to the Park, but also to the town.

3. Interpretive Potential

Very good; East Millstone's development closely linked to the canal; bridgetender's house, former basin. Millstone less closely linked to canal, but has considerable (and earlier) history of its own; local historic districts; access to natural areas

also, (most interpretation would be handled best through guidebooks, etc.).

4. Access:
 - a. Path system Yes.
 - b. General Good: Amwell Road; River Road nearby; pedestrian access from Millstone and East Millstone.
 - c. Public transportation None.
5. Maintenance Typical and structure (maintenance possibly by leasee).
6. Security/Vandalism Occupancy of bridgetender's house important; house is also easily visible from road; no problems foreseen.
7. Conflicts None.
8. Compatibility - Master Plan
 - a. Connector:
 - (1) Unbroken (N.A.)
 - (2) Unique character Yes.
 - b. Respect and enhance existing Yes.
 - c. Limit new elements Yes.
 - d. Appropriateness of materials Yes.
 - e. Maintenance Yes.
 - f. Surrounding area Yes.
9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Bridgetender's house	141,500			141,500
2. Canoe dock, etc.	3,000			3,000
3. Parking improvements	7,000			7,000
4. Basin; interpretive/ seating	7,000			7,000
5. Pedestrian path	Note 1			----
6. Landscape buffer	7,000			7,000
TOTAL	165,500			165,500

Note: 1. Maintenance items.

11. Priority

Stage I: Stabilization and occupancy of bridgetender's house essential. Canoe dock (low bridge) and landscape buffer (important to appearance of area) low cost items easily implemented.

45.79 East Millstone to (47.93) Weston, Franklin Township, (adjacent Millstone Borough/Hillsborough Township/Manville Borough in area designated rural with natural access

Existing:

1. Towpath Corridor:

- a. The towpath (on left bank): Path is in excellent shape.
- b. Road crossings exist only at the ends of the path segment. Both are grade crossings:
 - (1) (45.78) Millstone Causeway.
 - (2) (47.93) Manville Causeway.

2. Millstone Floodplain:

- a. A substantial area (easement only for large field area upstream of Weston; remainder of land included in park) between the canal and the Millstone River; largely old fields and lowland forest.
- b. River Road (also called Main Street in Millstone and Manville Boroughs), part of Route 533 roughly parallels the River from its junction with Route 206 (approximately at mile 38.00).
- c. Much of the land between River Road and the River is part of the Park, but there is some private property and a nearly continuous steel guardrail; access is available to the Millstone River at a few points from River Road:
 - (1) Opposite Kupper Airport (approximately .40 miles upstream of Weston Causeway). Included under (47.93) Weston.
 - (2) Approximately .91 miles upstream of Weston Causeway.

3. (46.4) Colonial Park:

- a. Colonial Park, a well developed park (Somerset County facility) including:
 - (1) Parking areas (including overflow parking area).
 - (2) Picnic area.
 - (3) Game areas.
 - (4) Numerous other facilities including small ponds, a rose garden, a golf course.
 - (5) Sanitary facilities.
 - (6) Canoe landing.

- (7) A section of land (including the towpath?) between the canal and the river, on the left bank.

Note: Park extends from 46.2 to 46.8.

4. River Road Access, (approximately .91 miles upstream of Weston Causeway):
 - a. Access road blocked by a (Canal State Park) barrier.
 - b. Some trash accumulations.
5. Right Bank:
 - a. (47.15) Site of crossing of formerly proposed alignment of Route I-95; alignment has been "de-designated", but alignment of proposed "Somerset Expressway" is similar.
 - b. Downstream of (47.44) Weston Road, Weston Canal Road alongside canal.

Proposed:

1. Towpath Corridor:
 - a. Selected removal of trees.
 - b. In some areas holes should be filled, but nothing beyond ordinary maintenance.
 - c. Stabilization of the bank where eroded (particularly at fishing spots and portages).
2. Millstone Floodplain:
 - a. Hiking paths.
 - b. Informal picnic areas.
 - c. Canoe portages where river and canal are close.
 - d. Clear fallen trees in river to permit passage by canoes.
 - e. Mowing to preserve some field areas.
3. (46.4) Colonial Park:
 - a. Park is self contained; access to canal is provided better at separate locations without conflict with the existing park.
 - b. Bridge considered, but rejected:

- (1) Left bank area remains a special area which canoeists can reach from the park.
- (2) Additional access would cause additional problems of control for Colonial Park.

c. Canoe dock on left bank; maintain portage path to river.

4. River Road Access, (approximately .91 miles upstream of Weston Causeway):

- a. No change except for removal of trash; however, path to river should be kept clear.

Note: Concept: Area and adjacent upstream area should serve primarily as a buffer to the park.

Activities:

Typical path (on towpath);
 Canoeing;
 Nature observation;
 Primitive camping;
 Fishing

Additional Recommendation:

- 1. (46.6) Colonial Park: The left bank area really should be part of the Canal State Park; in terms of administration, security and maintenance; any other arrangement really makes little sense.

Analysis:

1. Project Objectives:

- a. Path continuity Existing.
- b. Structural restoration (N.A.)
- c. Recreational need Minor trail improvements.

2. Impact:

- a. Natural environment No change.
- b. Historical No change.
- c. Recreational potential Path, canal and river activities; several large areas exist also. Recreational development minimized to limit impact of natural environment and maintain quality of the experience. For same reason

- (and also to simplify maintenance (control) area between River Road and river not developed.
- d. Immediate neighbors Neighbors are on opposite side of canal; no significant change.
 - e. Local community No change.
 - f. Visual No change.
3. Interpretive Potential Largely natural.
4. Access:
- a. Path system At ends of path segment; parking available.
 - b. General Good: Upstream end, Amwell Road; Downstream end, Weston Causeway; Both, near River Road.
 - c. Public transportation None.
5. Maintenance Typical path except for River Road. Access which is not on main path, but not difficult.
6. Security/Vandalism Path relatively isolated and while not as heavily used as some, still used frequently. No problems foreseen.
7. Conflicts None.
8. Compatibility - Master Plan
- a. Connector:
 - (1) Unbroken Yes.
 - (2) Unique character Yes: Red sandstone cliffs; river very close in areas (also very steep embankment).
 - b. Respect and enhance existing Yes.
 - c. Limit new elements Yes.
 - d. Appropriateness of materials Yes.
 - e. Maintenance Yes.
 - f. Surrounding area Yes.

9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Path improvements				
a. and b.	Note 1			----
c. Bank stabilization	12,000			12,000
2. a. and b.	Note 1			----
c. Portages	5,000			5,000
d. and e.	Note 1			----
f. Minor seating	3,500			3,500
3. Colonial Park				----
4. River Road access				----
TOTAL	20,500			20,500

Note: 1. Maintenance items.

11. Priority

Bank Stabilization: In order to prevent further erosion; minor path improvements (minimal cost).

47.93 Weston, (Weston Causeway/Manville Causeway), Franklin Township/Borough of Manville in area designated rural with natural access MP/p. 12

Existing:

1. Bridge (typical c. 1944 wood).
2. Bridgetender's house (c. 1831 stone).
3. Parking area right bank downstream (created by road realignment): Potential for 15 cars.
4. Adjacent area between canal and Millstone River:
 - a. Upstream of Causeway field area not in park, but area along canal and river is included in park.
 - b. Downstream of Causeway not in park.
5. Access to river is provided on left bank of river:
 - a. Above bridge on park land.
 - (1) South Weston River Access, (opposite Kupper Airport, from River Road and approximately .40 miles from upstream of Weston Causeway): Access road (in poor repair) to river, parking area (5-6 cars); site used for dumping also. Area is used by fisherman and possibly picnickers.
 - (2) Access from Wilhouski Street (Causeway Road) including parking (5-6 cars). Area used by fishermen.
 - b. Below bridge not part of park.
6. Buildings on Park property on right bank of river upstream of bridge. Buildings are in very poor condition:
 - a. "Old Church" (very close to road).
 - b. "Old Post Office" (very close to road).
 - c. House.
 - d. Barn.
7. Causeway bridge over Millstone and adjacent remains of Weston Mill (c. 1720) (collapsed 1982) nearby (approximately .35 mile).

Proposed:

1. Bridgetender's house:
 - a. Immediate stabilization essential.
 - b. Utilities, sewage.
 - c. Parking space for occupant (including necessary "bridge" over ditch.
 - d. Restoration of exterior.
 - e. Partial restoration/partial renovation of interior.
 - f. Adaptive use: Residential (possibly Park employee).
 - g. Minor landscaping.
 2. Pedestrian path to Millstone River; see also Millstone Floodplain (37.11-47.93).
 3. Parking area at road realignment:
 - a. Definition of parking area.
 - b. Some seating.
 - c. Canoe dock (right bank upstream of bridge) on canal; landing on river.
 - d. Sanitary facility.
 - e. Landscaping.
 4. Structures at river upstream of bridge. Demolition recommended.
 5. Area along river upstream of bridge.
 - a. South Weston River Access, (opposite Kupper Airport, from River Road and approximately .40 miles from upstream of Weston Causeway):
 - (1) Removal of trash.
 - (2) Definition of parking: 8 cars.
 - (3) Vehicular barrier to prevent use of dead-end roads along river.
 - (4) Possibly a few tables/benches.
- Note: Concept: Small river access area for fishing and related picnicking.

- b. Access from Wilhouski Street (Causeway Road):
 - (1) Definition of parking: 8 cars.
 - (2) Vehicular barriers.
 - (3) Stabilization of bank (of small branch of river) to facilitate launching/portages.
- c. General:
 - (1) Clear path (generally along river) connecting access areas (a and b) above.
 - (2) Maintain some open areas.

6. Parking area near river:

- a. Improve existing area (for fishermen).
- b. Develop new parking area (for general use) on right bank of river on site of existing houses.
- c. Sanitary facilities.
- d. Maintenance storage building.
- e. Picnic area along river.
- f. Landscaping.

Additional Recommendations:

- 1. Encourage rebuilding by others of Weston Mill (on river). Basic intent would be to duplicate the basic form and scale of the former structure, particularly as viewed from the road.

Note: The former mill was an extremely important element, both visually and historically, in establishing the character of this small area.

- 2. Land on left bank of river should be protected by easement from bridge to Raritan River.

Analysis:

1. Project Objectives:

- a. Path continuity (N.A.)
- b. Structural restoration Major; bridgetender's house.
- c. Recreational need Improved access to river and canal.

2. Impact:
- a. Natural environment No change; area to be developed already disturbed.
 - b. Historical Restoration of bridgetender's house. Demolition of two older buildings, both in very poor condition. Buildings have only minor local significance, but do help give character and definition to area. Landscaping and location of new structures proposed to retain essence of character.
 - c. Recreational potential Access to path, canal, river; space exists for support activities (parking, picnicking).
 - d. Immediate neighbors Few neighbors; minimal impact (most of adjacent land is owned by the Pillar of Fire Church and used as farmland.
 - e. Local community Improved access to Park; visual improvement; slight input on traffic.
 - f. Visual Restoration of bridgetender's house. Much of character of river area was dependent upon the now collapsed mill; what remains is defined by buildings and trees located very close to the road; this spacial character will be maintained as much as possible.
3. Interpretive Potential Fair; unfortunately mill no longer standing; local history; bridgetender's house. Best handled in guidebook.
4. Access:
- a. Path system Yes.
 - b. General Good; River Road nearby; Route I-287 less than 3 miles away (via Western Canal Road).
 - c. Public transportation None.

- | | |
|---------------------------------|--|
| 5. Maintenance | Bridgetender's house in addition to typical. |
| 6. Security/Vandalism | Bridgetender's house will be occupied; river area not quite so sensitive (particularly if existing structures removed); residence not considered necessary at this time. |
| | Note: With alternate renovation of "Post Office" and "Church", their occupancy (essential if not razed) would provide surveillance. |
| 7. Conflicts | <ul style="list-style-type: none"> a. Tenant has life rights to one structure. b. "Church" or "Post Office" may be found to have greater historical significance than has been determined to date. |
| 8. Compatibility - Master Plan | |
| a. Connector: | |
| (1) Unbroken | (N.A.) |
| (2) Unique character | Yes. |
| b. Respect and enhance existing | Canal Area: Yes; River Area: Two older structures removed, but existing enhanced. |
| c. Limit new elements | Yes. |
| d. Appropriateness of materials | Yes. |
| e. Maintenance | Yes. |
| f. Surrounding area | Yes. |
| 9. Compatibility: Water Supply | Yes. |

10. Cost:

	I	II	III	Total
1. Bridgetender's house	142,000			142,000
2. Pedestrian path		9,000		9,000
3. Canal access area		38,000	36,000	74,000
4. Building demolition	12,000		12,000	24,000
5. Picnic area (upstream of bridge)	Note 1			----
6. River access area				
a. Improve existing	6,000			6,000
b. New parking, etc.		18,000		18,000
c. Sanitary facilities		40,000		40,000
d. Storage		12,000		12,000
e. Picnic area		40,000		40,000
f. Landscaping	4,000	27,000		31,000
TOTAL	164,000	184,000	48,000	396,000
ALTERNATE				
4. a. Renovate "Post Office"	126,000			126,000
b. Renovate "Church"	132,000			132,000
ALTERNATE TOTAL	422,000	184,000	48,000	654,000

Note: 1. Included as 6. e.

11. Priority

Stage I: Restoration and occupancy of bridgetender's house in order to prevent further deterioration and possible vandalism. Demolition of existing structures near river (safety, possible vandalism) and landscaping on site. Improve existing fishing access; low cost, readily accomplished.

Stage II: Existing canal access area (without improvements) can be used now, although improvements desirable. River access area.

47.93 Weston to (49.09) Ten Mile Lock

Franklin Township

in area designated rural with natural access MP/p. 12

1. Towpath Corridor:

- a. The towpath (on left bank): Path is in excellent shape.
- b. The road crossings are grade crossings:
 - (1) (47.93) Manville Causeway.
 - (2) (48.50) Zarephath Road.
 - (3) A pedestrian bridge exists upstream at 49.36 (Elizabethtown Water Company bridge).
 - (4) In addition pedestrian access is possible across sluice gates at (49.09) Ten Mile Lock.

2. (48.50) Zarephath:

- a. Bridge (typical c. 1944 wood).
- b. Bridgetender's house (c. 1831 stone).
- c. Adjacent Pillar of Fire Church buildings.

Note: Space for parking on public property a serious problem.

3. Adjacent land, mostly farm land, on both left bank and right bank is owned by the Pillar of Fire Church.

Proposed:

1. Towpath Corridor:

- a. Selected removal of trees.
- b. In some areas holes should be filled, but nothing beyond ordinary maintenance.
- c. Stabilization of the bank where eroded (particularly at fishing spots and portages).

2. (48.50) Zarephath:

- a. Bridgetender's house:
 - (1) Exterior restoration/renovation water and sewage essential.
 - (2) Adaptive use: Residential .

- (3) Parking space for tenants use (ideally by arrangement with the Pillar of Fire Church, if not, on the right bank downstream of the road); landscaping of parking area.

b. Minor seating at path.

Activities:

Typical Path (on towpath);
Canoeing;
Nature Observation;
Fishing

Additional Recommendations:

1. (48.50) Zarephath: Explore possibility of arrangement with Pillar of Fire Church to provide a small parking area (3-4 cars)?
2. Easements on adjacent land, particularly on the left bank, are highly desirable in order to prevent development which would alter the character of the area.

Analysis:

1. Project Objectives:
 - a. Path continuity Existing.
 - b. Structural restoration Major; bridgetender's house.
 - c. Recreational need Existing.
2. Impact:
 - a. Natural environment No change.
 - b. Historical No change.
 - c. Recreational potential Path activities; fishing, access with parking only at Weston.
 - d. Immediate neighbors Pillar of Fire Church Complex increased use will mean some loss of privacy; no problems foreseen.
 - e. Local community (N.A.); generally same as 2. d.
 - f. Visual Restoration of bridgetender's house, otherwise little change.
3. Interpretive Potential.
4. Access:

- | | |
|---------------------------------|--|
| a. Path system | Upstream End: Parking available.
Zarephath: No parking.
Downstream End: No access (except from downstream path), no parking. |
| b. General | Good; see (47.93) Weston. |
| c. Public transportation | None. |
| 5. Maintenance | Bridgetender's house and typical path. |
| 6. Security/Vandalism | No problems foreseen; residences at both ends and middle. |
| 7. Conflicts. | |
| 8. Compatibility - Master Plan | |
| a. Connector: | |
| (1) Unbroken | Yes. |
| (2) Unique character | Yes; Pillar of Fire Church complex. |
| b. Respect and enhance existing | Yes. |
| c. Limit new elements | Yes. |
| d. Appropriateness of materials | Yes. |
| e. Maintenance | Yes. |
| f. Surrounding area | Yes. |
| 9. Compatibility: Water Supply | Yes. |

10. Cost:

	I	II	III	Total
1. Minor path improvements	Note 1			----
2. Zarephath				
a. House, etc. (Note 2)	122,000			122,000
b. Minor seating	4,000			4,000
TOTAL	126,000			126,000

Note: 1. Maintenance items.
 2. Leased. The terms of the lease would determine the allocation of costs between the Leasee and Owner.

11. Priority

Stage I: Restoration (exterior) and renovation (interior) and occupancy essential. Minor seating included since very small item.

49.09 Ten Mile Lock, Franklin Township

Designated special node MP/p.12, p.26

Area upstream designated rural with natural access MP/p.12

Area downstream designated suburban MP/p.12

Existing:

1. Lock #10.

Note: Responsibility for the lock has been assigned to NJWSA.

2. Locktender's house (c. 1830 wood frame).

Note: Responsibility for the house has been assigned to NJWSA.

3. Left bank area adjacent to the confluence of the Millstone and Raritan Rivers pedestrian access across canal is accessible at the sluice gate.

Note: Access from road (right bank) is possible only for pedestrian no parking area exists (except for occupants of the house).

4. Pumping station on Raritan River with outlet on canal immediately upstream of the lock.

5. Dams across both the Millstone and Raritan Rivers located just upstream of the confluence.

6. (49.36) Elizabethtown Water Company foot bridge across canal nearby.

Proposed:

1. Lock:

- a. Correct location of wall cap stones.

- b. Snubbing posts.

Note: Coordination with NJWSA required.

2. Locktender's house.

- a. Minor restoration of exterior.

- b. Definition of area and selective landscaping.

Note: Coordination with NJWSA required.

3. Primitive camp sites.

4. Trails.

5. Canoe docks (canal left bank upstream and downstream of lock) and landing on River; Portages.
6. Seating.

Note:

1. Concept: A stop (including picnicking and camping for hikers and canoeists).
2. Assuming no additional land aquisition, the lack of space for parking precludes major development.

Present Recommendation: Access to area from Weston: primitive camping, picnicking (informal) accessible to pedestrians and canoeists. Further development dependent upon acquisition of additional land.

Activities:

Typical path on left bank;
 Canoeing: Stop;
 Primitive camping;
 Picnicking: Informal only;
 Fishing

Additional Recommendations:

1. Protection through easements of lands on the opposite side of the Millstone (Borough of Manville) and Raritan Rivers (Bridgewater Township).
2. Acquisition, or protection by easement, of the land along the Raritan upstream to Dukes Island Park. (This should not be a part of the Canal State Park.)

Analysis:

1. Project Objectives:

- | | |
|---------------------------|--|
| a. Path continuity | (N.A.) |
| b. Structural restoration | Minor; lock and house. |
| c. Recreational need | Primitive camping to facilitate overnight trips by canoeists and hikers. |

2. Impact:

- | | |
|------------------------|-----------------|
| a. Natural environment | Minimal change. |
| b. Historical | No change. |

- | | |
|---------------------------------|--|
| c. Recreational potential | Lack of parking prevents all but minor development of site. |
| d. Immediate neighbors | Occupant of locktender's house only immediate neighbor; a few houses on opposite side of road. |
| e. Local community | No change. |
| f. Visual | Minor restoration of structures. |
| 3. Interpretive Potential | Good: Lock, house; confluence of Raritan and Millstone Rivers; natural; water supply. |
| 4. Access: | |
| a. Path system | Not accessible from road, only from path. |
| b. General | Access effectively from Weston, see (47.93) Weston. |
| c. Public transportation | None. |
| 5. Maintenance | Structure presently under control of NJWSA. |
| 6. Security/Vandalism | Occupied locktender's house provides security. |
| 7. Conflicts | House under control of NJWSA, but no problems foreseen. |
| 8. Compatibility - Master Plan | |
| a. Connector: | |
| (1) Unbroken | (N.A.) |
| (2) Unique character | Yes. |
| b. Respect and enhance existing | Yes. |
| c. Limit new elements | Yes. |
| d. Appropriateness of materials | Yes. |
| e. Maintenance | Yes. |
| f. Surrounding area | Yes. |
| 9. Compatibility: Water Supply | Yes. |

10. Cost:

	I	II	III	Total
1. Lock (Note 1)		15,000*		15,000*
2. Locktender's house, etc. (Note 1)		23,000*		23,000*
3. Primitive campsites		10,000		10,000
4. Trails	6,000			6,000
5. Canoe docks	6,000			6,000
6. Minor seating	4,000			4,000
TOTAL	16,000	48,000		64,000

Note: 1. Responsibility shared with NJWSA; allocation of *costs not determined.

11. Priority

Phase I: Several small items of small cost improve its usefulness as a stop for hikers/canoists.

Phase II: Improvement of appearance of lock area. Primitive camp site to fill presumed increased need.

49.09 Ten Mile Lock to (51.46) Bound Brook Lock

Franklin Township

Area upstream of western crossing of I-287 designated suburban MP/p. 12

Area downstream of western crossing of I-287 designated urban MP/p. 13

Existing:

1. Towpath Corridor:
 - a. The towpath (on left bank): Path is in good shape.
 - b. (50.53) Interstate Route 287: Road passes overhead without impeding passage. No other roads cross the canal in this path segment.
 - c. Pedestrian access is possible across sluice gates at (51.46) Bound Brook Lock.
2. (49.36) (Elizabethtown Water Co.) Pedestrian Bridge:
 - a. Pedestrian bridge (c. 1935, steel and concrete).
 - b. Water intake from canal (feeds treatment plant on opposite side of river).

Notes:

1. Towpath restricted by bridge abutment and control structure (vehicular passage for maintenance not possible on towpath).
2. No parking area exists (or is reasonably possible) on the Road side (right bank).
3. Elizabethtown Water Company has acquired land (100 acres with 350' of frontage on Canal Road) on opposite side of the road (200' upstream of the pedestrian bridge); the Company is planning to erect a pumping station; intakes from both the river and the canal located between the river and the canal; old intake will remain to serve existing pumping station of the left bank of the river.
3. Left Bank Area: River is adjacent, usually very close to the towpath; the land between the canal and the river is included in the Park.
4. (51.11) Spillway: Path continuity broken.
5. Right Bank Adjacent Areas:
 - a. A road closely parallels the canal; a narrow strip of vegetation between the canal and the road.
 - b. The surrounding area is rapidly being developed.

Proposed:

1. Towpath Corridor: In some areas holes should be filled, but nothing beyond ordinary maintenance.
2. (49.36) (Elizabethtown Water Co.) Pedestrian Bridge:
 - a. Relocation of left bank steps to pedestrian bridge and revisions to intake trash rack structure to make possible vehicular passage for maintenance vehicles.
 - b. Change color of paint for bridge.
 - c. Possible new stabilization of right bank road area at point where road storm runoff water enters canal.
3. Stabilization of the bank were eroded (particularly at fishing spots and portages).
4. (51.11) Spillway: Rebuild to provide better path continuity and so as to be more in character with other spillways.

Analysis:

1. Project Objectives:

- | | |
|---------------------------|---------------------|
| a. Path continuity | Existing improved. |
| b. Structural restoration | (N.A.) |
| c. Recreational need | Minor improvements. |

2. Impact:

- | | |
|---------------------------|---|
| a. Natural environment | No change. |
| b. Historical | No change. |
| c. Recreational potential | Path activities; fishing. |
| d. Immediate neighbors | Only on opposite side of road (and canal); no impact. |
| e. Local community | No change. |
| f. Visual | Minor improvements only. |

3. Interpretive Potential

Minimal.

4. Access:

- | | |
|----------------|--|
| a. Path system | Downstream End: Parking available.
Upstream End: No access, nearest access with parking Weston. |
|----------------|--|

- | | |
|---------------------------------|---|
| b. General | Fairly good from Bound Brook lock. |
| c. Public transportation | None. |
| 5. Maintenance | Typical; facilitated by rebuilding of intake/bridge access. |
| 6. Security/Vandalism | Isolated, but little to be vandalized. |
| 7. Conflicts | None, but coordination required on some items. |
| 8. Compatibility - Master Plan | |
| a. Connector: | |
| (1) Unbroken | Yes. |
| (2) Unique character | Yes; canal very close to river. |
| b. Respect and enhance existing | Yes. |
| c. Limit new elements | Yes. |
| d. Appropriateness of materials | Yes. |
| e. Maintenance | Yes. |
| f. Surrounding area | Yes. |
| 9. Compatibility: Water Supply | Yes; coordination required on rebuilding of (51.11) Spillway (NJWSA) and intake/bridge (Elizabethtown Water Company). |

10. Cost:

	I	II	III	Total
1. Path	Note 1			----
2. Foot bridge, etc. (Note 2)	15,000*			15,000*
3. Bank stabilization	15,000			15,000
4. Rebuild (51.11) Spillway (Note 3)			72,000*	72,000*
TOTAL	30,000		72,000	102,000

- Note: 1. Maintenance items.
 2. Responsibility shared with Elizabethtown Water Company and NJWSA; allocation of *costs not determined.
 3. Responsibility shared with NJWSA; allocation of *costs not determined.

11. Priority

Stage I: Bank stabilization to prevent further erosion. Foot bridge/intake revisions to facilitate maintenance.

State III: Low priority; rebuilding of Spillway.

51.46 Bound Brook Lock, Borough of South Bound Brook
in area designated urban MP/p. 13

Existing:

1. Lock #11; access to tow path over sluice gates.
2. Parking area (10-12 cars).
3. Some seating.
4. Raritan river adjacent to park.
5. Nearby: (51.62) Old Swing Bridge (South Main Street) over canal and bridge over Raritan.
6. Flower plots along right bank.

Proposed:

1. Organization of parking: 15 cars.
2. Improve seating.
3. Remove fencing, remove/reshape earth mound.
4. Landscaping.
5. Path Improvements:
 - a. Path along river (particularly under South Main Street Bridge).
 - b. Improve and stabilize access to river - steps - possibly ramp.
6. Facilitate Canoe Use:
 - a. Canoe docks on canal (left bank) and landing on river.
 - b. Improve portages around lock (particularly at lower end) and to river.
7. Lock:
 - a. Correct position of wall cap stones.
 - b. Partial restoration of appearance of lock walls.
 - c. Restoration of snubbing posts.

8. Interpretive:

- a. Interpretive delineation/seating/play area on site of former locktender's house.
- b. Delineation of former bypass and other features.
- c. Partial delineation of former walk combined with canoe dock on right bank.

9. Sanitary facilities: Type A-4.

Activities:

Typical path: Access;
Canoeing: Access, stop;
Fishing;
Sitting

Analysis:

1. Project Objectives:

- a. Path continuity (N.A.)
- b. Structural restoration Lock restoration (partial).
- c. Recreational need Access; path, canal, river, fishing, also provides a small community park (sitting, play area).

2. Impact:

- a. Natural environment Minimal; development in previously developed/disturbed area.
- b. Historical Site of former locktender's house.
- c. Recreational potential Access point and small local park.
- d. Immediate neighbors (Post Office and commercial across street.) Improved appearances.
- e. Local community Improved access/park facilities.
- f. Visual Area made much more attractive; landscaping in particular.

3. Interpretive Potential

Fair: Lock, nearby swing bridge; also local history.

4. Access:
- a. Path system Yes: (Across catwalk at water control gates).
 - b. General Good: On Main Street; residential areas within easy walking distance also.
 - c. Public transportation None.
5. Maintenance Typical path.
6. Security/Vandalism Site is highly visible, along Main Street.
7. Conflicts None.
8. Compatibility - Master Plan
- a. Connector:
 - (1) Unbroken (N.A.)
 - (2) Unique character Yes.
 - b. Respect and enhance existing Yes.
 - c. Limit new elements Most proposed elements relate to historic elements now removed. Sanitary facility would be similar to typical small building.
 - d. Appropriateness of materials Yes.
 - e. Maintenance Yes.
 - f. Surrounding area Yes.
9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Parking, access, etc.	29,000			29,000
2. Seating	6,000			6,000
3. Fence removal, grading	8,000			8,000
4. Landscaping	28,000			28,000
5. a. Path along river	Note 1			Note 1
b. River access	5,000			5,000
6. Canoe docks, portage	6,000			6,000
7. Lock, etc. (Note 2)	44,000*			44,000*
8. Interpretive/seating etc.	23,000			23,000
9. Sanitary facilities	77,000			77,000
TOTAL	226,000			226,000

Note: 1. Included in downstream path segment.
 2. Responsibility shared with NJWSA allocation of *costs not determined.

11. Priority

Stage I: Improve appearance of a small very visible lock area and provide improved park facilities for local use. Demand for facilities; few other areas nearby. Facilitate canoe portages.

51.46 Bound Brook Lock to (56.84) Landing Lane

Franklin Township

Area upstream of Five Mile Lock designated urban MP/p. 13

Area downstream of Five Mile Lock designated suburban MP/p.13

Existing:

1. Towpath Corridor:

- a. The towpath (on left bank): Path is in excellent shape.
- b. Fortunately it is generally possible to pass under the roads which intercept the path:
 - (1) (53.25) Interstate Route 287: Road passes overhead without, impeding passage.
 - (2) (51.62) Main Street, Bound Brook: A path along the lower bank of the Raritan River and under the Raritan River bridge permits unimpeded access except during floods. Interstate Route 287: Road passes overhead without impeding passage.
- c. (51.67) Railroad crossing below the Main Steet Bridge in South Bound Brook; the railroad tracks appear to be seldom, if ever used.
- d. In addition several pedestrian (or maintenance access) bridges exist or are proposed.
 - (1) (53.18) Five Mile Lock - existing.
 - (2) (54.81) DeMott Lane - proposed.
 - (3) (56.55) Pinewood Landing - proposed.
- e. In addition pedestrian access is possible across sluice gates at the locks.
 - (1) (51.46) Bound Brook Lock.
 - (2) (53.18) Five Mile Lock.
- f. In addition pedestrian access is possible at (56.84) Landing Lane.
- g. Adjacent Left Bank: Area between the towpath and the Raritan River is included in the Park; it is generally wooded with floodplain species. River very close to towpath in some areas.

2. Right Bank:

- a. Route 527 (Main Street/Easton Avenue) roughly parallels the canal from South Bound Brook to New Brunswick. A bicycle/pedestrian path is alongside the road:
 - (1) Upstream of (53.18) Five Mile Lock on the canal side.
 - (2) Downstream of (54.01) Cedar Grove Road on the opposite side of the road.
 - b. (51.46) Bound Brook Lock to (52.76) culvert upstream of Five Mile Lock: Mixture of industrial, commercial and residential uses along the canal; no public access.
 - c. (52.76) Culvert to 54.00 Easton Avenue alongside the canal.
 - d. Except at (55.84) Foxwood Drive, where Easton Avenue is alongside the canal for a short distance, the area contains a mixture of commercial and residential uses.
 - e. (52.34) Staats House: Peter Staats House/General Baron von Steuben's Headquarters (c. 1740) privately owned. Located on right bank; visible from towpath.
3. (51.66) South Bound Brook:
- a. (51.62) South Main Street Bridge (original swing bridge) (19th C. steel). (Site of former bridgetender's house just upstream of bridge on left bank.)
 - b. (51.62) Queen's Bridge (South Main Street) over Raritan River (19th C. steel truss).
 - c. (51.66-57.81) Area between canal and Raritan River containing several mounds (earth covered waste).
 - d. (51.67) Old railroad bridge (original swing bridge) (19th C. steel); railroad tracks cross site.
4. (53.18) Five Mile Lock, (Lock #12):
- a. Lock #12.
 - b. Locktender's house - (does not seem to be original).
 - c. Remains of old (Fieldville) dam across Raritan River including remains of control gates.
 - d. Bridge across lock (steel).
 - e. View of dam and Raritan River, (53.25) 287 bridge (canal/river).
 - f. View of Ukranian Church Tower.
 - g. Access also possible across sluice gate structure at lock.

5. (54.89) The Meadow, (Van Wickle house/Bogen Estate):

"The Meadow" Park (Franklin Township facility) (abuts DeMott Lane)

a. "The Meadow" (Franklin Township facility) a park containing:

- (1) Symen Van Wickle House (c. 1722) (HABS: NJ-479).
- (2) Parking: 20-25 cars for general use
6-7 cars for house use
- (3) Marsh area.
- (4) Nature trail.
- (5) Old Cemetery.

Note: Franklin Township owns the property "The Meadow" Foundation leases the property and performs routine maintainance, adjoining state property has been added to "The Meadow" and is operated as part of it.

b. (54.81) Old guard gate walls on each side of the canal at end of DeMott Lane.

c. "South Meadow": Undeveloped adjacent downstream area; area, owned by State, contains:

- (1) A very attractive marsh.
- (2) Open area (filled) adjacent to Easton Avenue.

d. Rutgers Preparatory School playing field adjacent upstream of DeMott Lane.

Note: (Bell System) Underground transcontinental telephone cable follows DeMott Lane and passes under the canal.

6. Johnson Park (Middlesex County facility), developed and undeveloped, extends along the opposite bank of the Raritan River (with some interruptions) from (53.25) Route 287 bridge to below Landing Lane.

Proposed:

1. Towpath Corridor:

- a. Additional access bridges as noted in Existing 1 above (see also individual site).
- b. In some areas holes should be filled, but nothing beyond ordinary maintenance.

- c. Stabilization of the bank where eroded (particularly at fishing spots and portages.
- d. Additional trails as follows:
 - (1) Loop trail to Raritan River and back to canal on left bank from (51.46) Bound Brook Lock to below (51.62) Main Street Bridge, South Bound Brook.
 - (2) Pedestrian loop trail to Raritan River and back to canal on left bank from (52.34) opposite the Staats House to (53.18) Five Mile Lock.
- e. Improved passage for maintenance vehicles:
 - (1) (51.11) Spillway: Spillway requires reconstruction to permit vehicle passage.
 - (2) (56.81) Spillway: Spillway requires restoration.

Note: Restoration of spillways should also include improvement of the appearance so as to make them more compatible with the general character of the canal.
- f. Two other spillways should be improved:
 - (1) (53.38) Spillway.
 - (2) (54.68) Spillway (a means facilitating pedestrian passage without wet feet should be incorporated).

Note: Restoration of spillways should also include improvement of the appearance so as to make them more compatible with the general character of the canal.
- g. Inconspicuous occasional seating.

2. Right Bank:

- a. Right bank path from (53.18) Five Mile Lock to (53.65) opposite Cedar Grove Road would require some minor bridging of drains into canal.
- b. Right bank pedestrian path included in (56.57) Pinewood Landing, See Proposal below.
 - (1) From (56.55) proposed Pinewood Landing Pedestrian Bridge to (56.67) Mile Run.
 - (2) From (56.67) Mile Run to (56.84) Landing Lane.

3. (51.66) South Bound Brook:

- a. Informal picnic area.
- b. Portage to river and canoe dock.
- c. Paths to utilize potential of mounds as view points.
- d. Landscaping.

Note:

- 1. Concepts: A small stop for canoeists; provide visual amenity.
- 2. Further development is not recommended at this time; vehicular access dangerous; little need: Brook Lock Area is a better location for facilities and very nearby.

4. (53.18) Five Mile Lock, (Lock #12):

- a. Improve access from road.
- b. Organize and expand parking (retaining wall required): 6 cars; provide vehicular barrier.
- c. Sanitary facilities: Type A-3.
- d. Lock:
 - (1) Correct location of wall cap stones.
 - (2) Restore snubbing posts.

Note: Responsibility for the lock assigned to NJWSA; coordination with NJWSA required.

- e. Locktenders house:
 - (1) Renovation.
 - (2) Definition of occupants area.
 - (3) Adaptive reuse: residential.
- f. Interpretive delineation of former intake combined with provision of seating and overlook (to take advantage of views up and down river).
- g. Facilitate Canoe Use:
 - (1) Portage to river.
 - (2) Canoe docks and improved portage (left bank) at lock.

- h. Landscaping.
 - i. Right bank path see 2., a. above.
5. (54.89) The Meadow, (Van Wickie house/Bogen Estate):
- a. Bridge across canal on old guard gate walls.
 Note: If archaeological problems cannot be resolved, bridge may have to be relocated slightly upstream.
 - b. Canoe dock.
 - c. "South Meadow": Downstream undeveloped area parking at open area (filled) adjacent to Easton Avenue (approximately .2 miles from the canal by way of Easton Avenue and DeMott Lane).

Activities:

Typical path;
 Canoeing;
 Fishing

Additional Recommendations:

- 1. (52.34) Staats House:
 The house should be protected by easement.
- 2. (54.89) The Meadow, undeveloped area:
 - a. Encouragement of the development of the nature area:
 - (1) Nature Trails (simple and intermediate) including catwalks and possibly blinds.
 - (2) Trails linking to the (55.89) Meadow.
 - b. The downstream area adjacent to "South Meadow" also contains a combination of the marsh area. This should be protected by acquisition or easement and coniferous buffer should be placed at the edge of the parking lot which has been build at the downstream of the marsh.

Analysis:

- 1. Project Objectives:
 - a. Path continuity Existing.
 - b. Structural restoration Five Mile Lock and tender's house.
 - c. Recreational need Path activities; fishing.

2. Impact:
 - a. Natural environment No change.
 - b. Historical No change except minor restoration.
 - c. Recreational potential Path activities.
 - d. Immediate neighbors (None on path side of canal); no change.
 - e. Local community Improved access to canal.
 - f. Visual Little change, except improved appearance at Five Mile Lock.
3. Interpretive Potential Minimal, except at Five Mile Lock.
4. Access:
 - a. Path system Fair: Parking at or near ends; a few other minor and pedestrian.
 - b. General Easton Avenue.
 - c. Public transportation Nearby at New Brunswick end.
5. Maintenance Typical path.
6. Security/Vandalism Bridge at "The Meadow" will facilitate access, increase use and improve security.
7. Conflicts None.
8. Compatibility - Master Plan
 - a. Connector:
 - (1) Unbroken (N.A.)
 - (2) Unique character Yes.
 - b. Respect and enhance existing Yes.
 - c. Limit new elements Generally yes: New bridges will be similar in character to older bridges.
 - d. Appropriateness of materials Yes.
 - e. Maintenance Yes.

f. Surrounding area Yes.

9. Compatibility: Water Supply Yes.

10. Cost:

	I	II	III	Total
1. Path				
a. Bridges	Note 1			----
b. Minor path improvements	Note 2			----
c. Bank stabilization	15,000			15,000
d. Left bank paths	8,000		20,000	28,000
e. (56.81) Spillway	Note 1			----
f. Miscellaneous spillways			144,000	144,000
g. Miscellaneous improvements	7,000			7,000
2. Right bank paths				
a.			21,000	21,000
b.	Note 1			----
3. South Bound Brook		154,000		154,000
4. Five Mile Lock				
a. Access	Note 3			----
b. Parking, etc.	24,000			24,000
c. Sanitary facilities	70,000			70,000

10. Cost (Continued):

	I	II	III	Total
d. Lock (Note 4)	14,500*			14,500*
e. House, etc.	84,000			84,000
f. Interpretive/seating, etc.	12,000			12,000
g. Facilitate canoe use	10,000			10,000
h. Landscaping	14,500			14,500
5. The Meadow area				
a. Bridge (Note 5)	---			---
b. Canoe dock	3,000			3,000
c. Parking			36,000	36,000
TOTAL	262,000	154,000	221,000	637,000

- Note: 1. Included under other item/site.
 2. Maintenance item.
 3. Included in 4. b.
 4. Responsibility shared with NJWSA; allocation of *costs not determined.
 5. Item included in current budget.

11. Priority

Stage I: Five Mile Lock area; structure should be completely renovated. Apparently not the original locktender's house and therefore without the historic value of some others. In its present state it is not very attractive. Canoe portage also should be improved.

Stage II: South Bound Brook area; visual improvement desirable. No demand for more extensive

development; Bound Brook Lock area nearby and more easily patrolled and kept under surveillance.

Stage III: Various spillway improvements (visual and ease of passage).

56.57 Pinewood Landing/(56.84) Landing Lane

Existing:

1. (56.57) Pinewood Landing:
 - a. Unpaved road (Pinewood Court off Easton Avenue).
 - b. Utilities available.
 - c. Undeveloped area (7 acres) on right bank; considerable dumping of trash.
 - d. No access to towpath (left bank).
 - e. Area largely wooded.
2. (56.67) Mile Run Brook:
 - a. (Middlesex County Sewer Authority) Sewer Easement:
 - (1) Access road.
 - (2) Pleasant brook with wooded and open areas.
 - (3) Old culvert under canal (1831-1834).
3. (56.84) Landing Lane:
 - a. Old swing bridge across canal (19th C).

Note: Insufficient clearance for canoe passage under Landing Lane Bridge.
 - b. Old bridge (19th c.) across Raritan.
 - c. Very near Buccleuch Park (City of New Brunswick facility); park contains "Buccleuch"/Anthony White House (c. 1739).
 - d. Access (across bridge) to Johnson Park (Middlesex County facility).
 - e. Parking is not available in the park, but it is available in nearby Buccleuch Park and across the river in Johnson Park.
 - f. Historic Cornelius Low House (c.1740) (National Register; HABS-NJ-360) across river adjacent to Johnson Park.
 - g. Site of former bridgetender's house and shanty (left bank upstream of bridge).

Note: Landing Lane is the downstream terminus of the Canal State Park.

Proposed:

1. (56.57) Pinewood Landing:

- a. Improvement of road.
- b. Parking area(s).
- c. Canoe dock right bank.
- d. Seating area.
- e. A few picnic tables.
- f. Sanitary facilities and storage.
- g. Pedestrian bridge.
- h. Landscaping.

Note: Concept: Area would provide access/staging for canoeists starting or ending a trip along the canal.

2. Trail (right bank) to link to (56.57) Mile Run (Sewer Easement) and (56.84) Landing Lane

- a. Along right bank in front of apartment complex upstream of Mile Run:
 - (1) Clearing.
 - (2) Landscaping.
- b. Along right bank at Mile Run: Minor clearing required.
- c. Along right bank in front of (56.69 to 56.84) residential area path set at as low an elevation as possible, wall at edge of property line and adjacent property at a higher elevation. Retaining wall required.

3. (56.67) Mile Run Brook:

- a. Maintain clear path.

4. (56.84) Landing Lane:

- a. Canoe dock left bank
- b. Canoe portage to river and landing on river.
- c. Interpretive delineation of former bridgetender's house site.
- d. Rebuilding of (56.81) spillway combined with canoe portage/landing (Proposed Item 4., b. above).

- c. Recreational potential
- Pinewood site developed basically as an access point with some support areas (parking, picnic, etc.). Site could be more extensively developed, but not without a severe impact on the natural environment and also a considerable impact on the neighbors.
- d. Immediate neighbors
- Privacy/Security:
1. Residential area (to west) generally separated by a ravine; also fairly well screened as is apartment complex (to east); additional screening will be provided. Considerable increase in use and surveillance should mean better security.
 2. Residential area downstream of Mile Run: (Only 2 houses, one a large corporate guest house.) Privacy/security would be provided by wall and change in elevation augmented by planning.
- e. Local community
- Improved access to Canal Park.
- f. Visual
- Screening of apartment house parking area.
3. Interpretive Potential
- Good: Old swing bridge; local history (area important before canal); nearby historic sites.
4. Access:
- a. Path system

Yes: At proposed bridge (parking); pedestrian only at Landing Lane.

 - b. General

Good: Easton Avenue.

 - c. Public transportation

Yes: Bus on Easton Avenue nearby.
5. Maintenance
- Typical park, path.
6. Security/Vandalism
- Due to terrain and necessary buffers, most of site not visible from a public street or adjacent

Note: Responsibility for the spillway is assigned to NJWSA; coordination with NJWSA required.

Activities:

Typical path;
Picnicking (Pinewood);
Canoeing: Access and major terminus (Pinewood); Portage Landing Lane - canoeing in the canal downstream of Landing Lane is not feasible;
Fishing

Additional Recommendations:

1. Development (not as part of Park) of pedestrian trail in brook area (passing under bridges) to link residential area South of Easton Avenue to easement (and thus to canal)
2. Canal Park should be extended to Buccleuch Park and the (57.12) new spillway built immediately upstream of the new Route 18 bridge.
3. Pedestrian path should be extended downstream to link with the pedestrian path along the Raritan River and Route 18 (ideally to the original outlet lock).

Note: Parking is not feasible, unless additional area acquired; however, Pinewood Court, which is nearby, provides a place within the park place for access.

Analysis:

1. Project Objectives:

- | | |
|---------------------------|---|
| a. Path continuity | Left bank. |
| b. Structural restoration | (N.A.) |
| c. Recreational need | Access to path, canal, river, support facilities (parking, etc.). |

2. Impact:

- | | |
|------------------------|---|
| a. Natural environment | Site will be disturbed by use and construction, but most of construction will be on areas already disturbed. Most of site will remain an undisturbed buffer from adjacent uses. |
| b. Historical | Historic area, although most important in the era prior to the canal; most nearby historic structures have disappeared. |

residential areas. Area will require more than usual patrolling.

7. Conflicts None.

8. Compatibility - Master Plan

a. Connector:

(1) Unbroken (N.A.)

(2) Unique character Yes; wooded area; cliffs along canal; Mile Run river and canal close proximity.

b. Respect and enhance existing Development will be minimized in the wooded area along the canal.

c. Limit new elements Bridge new, but in character. Right bank development new, but not obtrusive; major elements not visible from canal.

d. Appropriateness of materials Yes.

e. Maintenance Yes.

f. Surrounding area Yes.

9. Compatibility: Water Supply Yes, but coordination with NJWSA required on rebuilding of spillway.

10. Cost:

	I	II	III	Total
1. Pinewood Landing				
a. Road, etc.	21,500			21,500
b. Parking	37,000			37,000
c. Canoe dock	2,500			2,500
d. Miscellaneous seating	6,000			6,000
e. Picnic area	10,000			10,000

10. Cost: (continued)

	I	II	III	Total
f. Sanitary/storage	49,000			49,000
g. Pedestrian bridge	69,500			69,500
2. Paths				
a. Apartment area	21,000			21,000
b. Mile Run area	Note 1			----
c. Residential area			240,000	240,000
3. Mile Run	Note 1			----
4. Landing Lane				
a. Canoe dock	2,500			2,500
b. Portage	Note 2			----
c. Interpretive/seating	10,000			10,000
d. Rebuild spillway (Note 3)	72,000*			72,000*
e. Landscaping	7,000			7,000
TOTAL	308,000		240,000	548,000

Note: 1. Maintenance items.
 2. Included in 4. d.
 3. Responsibility shared with NJWSA; allocation of *costs not determined.

11. Priority

Stage I: Pinewood Landing Access:
Provide parking, canoe access to canal near downstream terminus. Only existing access in New Brunswick (Landing Lane) is only for pedestrians.,

Provide definition and improve path continuity (spillway) and also provide portage to river.

Path to Mile Run; low cost (also includes desirable landscape screen) provides possibility of pedestrian loop paths (using sidewalks, etc.).

Stage III: Path extension provides desirable loop path along canal, but expensive and alternate routes (not along canal) possible.

IV. General Programs

A. Identification

The Canal Park is over 60 miles long yet generally very narrow; it passes through a wide variety of environments; it is also discontinuous in several places. It is therefore not surprising that the Park is often not perceived as a single entity.

The physical discontinuity of the path is addressed separately under the individual path segments; the reinforcement of the continuity and identity of the Park is a major goal of the design proposals. On a smaller scale it is important to reinforce identity through consistency of the design vocabulary. It is therefore important that certain elements, in particular signage, be developed on a unified basis for the entire park.

The identification program would include:

1. The development of a consistent graphics system for the entire Canal Park including.
 - a. D & R Canal State Park logo.
 - b. All signs in the park; concerns addressed would include:
 - (1) Identification.
 - (2) Orientation.
 - (3) Direction.
 - (4) Information.
 - (5) Interpretation.
 - (6) Traffic.

Notes:

1. Signs would be kept to a minimum.
 2. Signs are also discussed under Section IV., C., Interpretive Programs; see Part 4., a. in general and Item 4., a., (2) in particular.
 - c. Interpretive materials.
2. Restoration of existing mile posts.
 3. The development of a consistent design vocabulary for small elements which would also recognize the need for different requirements in

some areas, particularly urban areas. Some elements included would be:

Trash cans

Lighting

Seating

Interpretive elements and displays

Hand railings.

4. Maintenance of existing design elements:

a. Bridges: Maintenance of existing type of timber bridges (with white wood rails) in most locations new small bridges should be similar.

b. Consistant painting of bridge/locktenders' houses.

Note: Also see Section IV., B., Design Vocabulary.

B. Design Vocabulary

1. General:

Existing historical design elements will be emphasized. New elements which must be introduced into the Canal State Park will be made so as to appear as if they belong.

2. Existing Elements:

a. General: Work/bridgetender's house, bridges, currents, spillways and the canal itself are not only of historic interest, but also strong visual elements. These elements should be used to greatest advantage to provide a sense of unity to the park while at the same time giving definition on uniqueness to the individual sites.

b. Locks: The most distinctive historical element.

(1) General: During at least most, if not all, of the canal's period of navigation, the locks were covered with wood cribbing to protect both the stone walls and the boats (some remnants of this cribbing still remain at the Bound Brook Lock). Since becoming a water supply conduit most locks have been covered with gunite or poured concrete.

(2) Some locks have been largely destroyed (e.g., Raven Rock and Prallsville) others are in fairly good shape. Due to expense and more important different requirements at different sites, different recommendations have been made:

(a) One lock (Lambertville) would be restored to full working order with wood cribbing on the walls.

(b) One lock (Griggstown or Kingston) would be restored to expose the stone work in order to show the construction.

(c) The Bordentown lock (which was a wooden lock) would be stabilized and a water control mechanism (probably a stop gate) incorporated to provide control of water flow and level).

(d) The remaining locks would remain largely as is except for repairs and removal of vegetation.

(e) Another lock (#2) is recommended for inclusion in the park; this would have to be re-excavated; or means of water control (again probably the stop gate) would be incorporated.

(f) In addition to the above the following is recommended:

(1) Correct positioning of wall cap stones where possible.

(2) Restoration of existing and replacement of mining snubbing posts.

c. Lock/bridgetender's houses:

- (1) Houses are in various states of repair and occupancy; specific recommendations are noted in the individual site/path segments.
- (2) Paint color could be standardized in most cases.
- (3) Occupants' area would be defined and contained; storage provided so that the almost inevitable clutter of the occupants possessions can be visually controlled.
- (4) Exteriors would be restored in accordance with the recommended guidelines of SHPO (i.e., Department of Interior's Standards).

Note:

1. Buildings originally stuccoed would remain stuccoed. Such stonework should not be exposed (for reasons of structural preservation as well as historical accuracy).
2. Treated lumber would be used in damp locations (e.g., for first floor joists).

d. Bridges:

- (1) The bridges are generally similar and thus provide a further unifying element.

Notes (historical):

1. "A"-frame: Apparently the design dates back to the 1830's.

Kingpost: 1912-13 until 1944 (Kingposts used earlier for some bridges at locks).

Stationary: Bridge 1944.

2. In urban areas the A-frame was generally used originally, but was replaced by a wide variety of different structures.
3. In urban areas many of the older bridges were replaced (c.1920) with concrete bridges e.g.:

Lambertville
Upper Ferry Road
Hermitage Street, Trenton
Prospect Street
Pedestrian Bridge (between West State and West Hanover
Streets, Trenton)

Calhoun Street
West Hanover Street
Passaic Street
Willow Street
North Warren Street
North Broad Street
Montgomery Street

- (2) Except in urban areas typical wood bridges similar to those currently used on the canal are recommended for both vehicles and pedestrian bridges where possible (obviously not for a new major highway etc.).
- (3) Continued maintenance of the existing bridges is recommended.
 1. Treated plank deck.

Note: Placement of asphalt on wood decks is detrimental to the deck.
 2. Opaque white stained wood rails and rail posts.

Note: White bridge rails are important to maintain the historical character of the canal and also to provide identity.
- (4) New bridges, catwalks, blinds and towers associated with nature trails and other paths not directly related to the canal should be constructed of timber and wood treated for protection and allowed to weather to a natural grey color.

e. Milage Markers

- (1) Main Canal:
 - (a) During the canal's period of operation there were milemarkers indicating the distance. The New Brunswick outlet lock on one side and to the Bordentown outlet lock on the other. The remaining markers are concrete obelisks (date ?) which probably replaced earlier markers of wood or stone.
 - (b) Remaining markers should certainly be preserved and damaged markers restored.

(c) Missing markers:

- ((1)) Along the canal: Should be replaced with replicas.
- ((2)) Where the canal no longer exists (or is underground), but the original marker site is available, replicas should be erected together with an interpretive sign.
- ((3)) Where the original marker site is not available an interpretive sign should be erected nearby where possible.

(2) Feeder Canal:

- (a) Mileage markers have not been observed; it is not known whether or not any ever did exist and if so, whether any have survived. Some cast iron railroad mile markers were observed, but many of these have been removed.

f. Rip-rap

- (1) Rip-rap was placed along the main canal in the 1850's to protect the banks from erosion. It, too, is a distinctive feature of the canal. Unfortunately, in many areas the rip-rap is in need of repair.
- (2) Rip-rap disturbed should be replaced with great care and sensibility.
- (3) A long term program to restore existing rip-rap should be instituted.

Note: Two masons have been included in the recommended staffing for maintenance work. They should be trained in laying dry stone walls (not just rip-rap, but also other walls that exist along the canal).

- (4) Trees have been allowed to grow up between the towpath and the canal; these trees, particularly the larger ones, are very destructive to the rip-rap (in addition they are, of course, out of historic character).

Note: See 2., h., (2) below.

g. Stonework:

- (1) Much fine stonework remains on the canal, some of it dating from its original construction: locks, culverts, retaining walls and rip-rap. The stonework is important in establishing the historic and visual character of these

structures. It is essential that this stonework be preserved.

- (2) Vegetation is often found growing in stonework of many structures, often giving it the romantic beauty of ruins. Unfortunately, the same vegetation is extremely destructive; in time the structures will be, indeed, ruins. All vegetation should be removed from stonework. Herbicides should not be used; continuing maintenance is required:

- (a) Plants in Stonework: Carefully uproot by hand.

- (b) Trees in Stonework: Cut down and trim stumps.

- (c) Trees Nearby: Trim roots.

- (3) Some of the stonework is laid-dry, but that of structures is usually laid-in-mortar; in time mortar must be repointed. A continuing program to maintain masonry work is essential.

Note: Care must be taken to insure use of the proper mortar (mortar which is too strong can do additional damage).

- (4) Stonework such as in the walls of locktenders' houses which were originally stuccoed should remain stuccoed for protection (as well as for historic and visual appearance).

h. Towpath:

- (1) Path Surface:

- (a) Typical Existing:

- ((1)) Mixture of gravels, sand, clay and local dirt well compacted.

- ((2)) Path varies in color (various tans/browns/reds) depending upon local soil's color.

- ((3)) Depending upon traffic and amount of sunlight, grass and weeds may grow in path center (maintenance vehicles usually keep at least two tracks free of vegetation).

- ((4)) Problems (occasional roots and rocks protruding, local depressions and ruts, especially after rainstorms) can be corrected by relatively simple maintenance.

- ((5)) Damage by heavy maintenance vehicles (such as those used by NJWSA) can also be easily repaired.
- ((6)) If properly maintained, surface works very well for a variety of path users: walkers of all ages (even in ordinary shoes), joggers, bicyclists, even those pushing strollers and baby carriages.
- ((7)) As a visual element it is a strong but not obtrusive element; it is obviously man-made, but in harmony with natural elements.

(b) Proposed:

- ((1)) Maintenance of the existing surface is essential. Care should be taken to fill ruts and thereby maintain drainage (water and mud make the path much more susceptible to damage).
- ((2)) A final clay/dirt mixture properly compacted is essential for the smoothness of the surface as well as the historic and athletic appearance. Color of the final surface should match local soil color.
- ((3)) Proper drainage is important now just as it was historically.

(2) Trees between Canal and Towpath:

- (a) Since the canal's closing, many trees and shrubs have been allowed to grow-up between the canal and the towpath.
 - ((1)) Trees do provide shade.
 - ((2)) Trees, particularly the large ones, do considerable damage to the rip-rap and, to a lesser extent, the path.
 - ((3)) Preservation of the trees destroys the historic relation of the water to the towpath.

(b) Proposed:

- ((1)) A maintenance program to control tree growth between the canal and towpath. While some shade will be lost the trees on the opposite side of the path will have a chance to spread out and arch over the path. The historic

character of the path and relation to water would be restored and the rip-rap (an important visual and historic element) would be protected.

((a)) Removal of smaller trees and not permit new trees to grow; this can be accomplished relatively easily within a few years.

((b)) A gradual thinning out by removal of the larger trees until the historic character has been restored. Gradual removal would:

((1)) Allow work to be accomplished as part of a maintenance program.

((2)) Permit a gradual adaptation of the natural environment.

3. New Elements

a. Seating, benches etc.:

- (1) Little evidence of benches or other seating is shown in the historical photographs; it was, indeed, a working canal.
- (2) The park does, however, have a need for places where people can sit. The provision of occasional places to sit can make the park more usable for older people and persons with small children. There are long stretches where there are no places to rest for a few minutes before continuing or returning.

Such seating areas should be visible but not conspicuous; they should not detract from the essential character of the canal.

- (3) Several methods would be utilized:

- (a) Use of existing structures where appropriate.
- (b) Low stone walls.
- (c) Stone blocks or slabs.
- (d) Use of parts of stabilized ruins.
- (e) Use of timbers or logs.

- (f) In many cases wood or stone elements would also be used to serve interpretive functions, by delineating former structures, as well as providing a place to sit.
- (g) In some cases the need for bank stabilization and steps also provides an opportunity for seating which would be incorporated at the same time.
- (h) In urban areas more conventional seating would be used.
- (i) At lock and bridgetenders houses an occasional simple bench would be provided.
- (j) Low log vehicle barriers, such as used in the parking areas at Blackwells Mills and Griggstown, can also serve as informal seating.

Note: Needless to say, with few exceptions, seating would be durable, fixed and as vandal-proof as is reasonably possible.

- (k) In some cases reproductions of historic elements (e.g. balance beam, lock gate) could serve an interpretive function as well as providing a place to sit.

b. Small Structures:

- (1) Historically, many small buildings were associated with the canal; these often are shown in old photographs: lock and bridgetenders shanties, toll houses, various small storage buildings etc. The buildings are simple straight-forward and functional.
- (2) In the development of the Canal State Park a number of small buildings are required for a variety of functions:
 - (a) Sanitary facilities.
 - (b) Maintenance storage.
 - (c) Occupants' storage, etc.
- (3) These small structures will be designed so as to be of the same character as the older buildings, straight-forward, simple, functional and also aesthetically compatible; they will not necessarily be copies of the older structures, but they will be similar; materials would be compatible:
 - (a) Wood frame and painted clapboard.
 - (b) Stucco on concrete block.

(c) Stone.

C. Interpretive Programs

1. General:

- a. The canal itself, its related structures and much of the surrounding area represents a unique resource which is rich in both natural and historical resources. The underlying theme of the design principles as stated in the Design Guide is that "an understanding of the relationship between man and his environment is critical to the prosperity of man". The restoration of structures and the protection of its natural resources can preserve the Canal Park. The purpose of an interpretive program is educational, to relate and explain the natural and cultural resources and to establish meaningful relationship between them. In so doing the Canal Park will be made more meaningful and more enjoyable to the user; also the user will come to develop a greater respect and care for the Park's resources.
- b. Various interpretive facilities are indicated under the various individual sites. In order to plan for these facilities some concept of the interpretive program must be formulated. In general the central and connecting theme would be the canal; local programs would emphasis local history/resources in the context of the canal.

Examples:

Impact of the canal on nature

Geology/topography: its effect on the route and construction of the canal

Local industry/canal

The canals impact on the towns

People/canal

Canal operations: locks, bridges, boats, flood control, etc.

The construction of the canal.

Boats on the canal: Types, specific boats etc., the canal as part of a network of canals.

Evolution of transportation: General canals/railroads.

Other canals: comparisons

Flora and fauna/canal.

Water: the canal as a water conduit; water quality; canal in the context of watersheds.

- c. In addition some programs would be concerned with local history/resources with little or no direct relationship to the canal.

Examples:

The events of the Revolutionary War

Early Settlement

Prehistoric cultures

Historic buildings

Flora and fauna in general

Persons: famous, typical

- d. Interpretive programs would take many forms. Many would be designed to be self-guided, others designed for the use of teachers or park personnel. Some would be work demonstrations or "hands-on" demonstrations. Examples of format include:

- (1) Slide shows (with/without sound)
- (2) Movies
- (3) Displays
 - (a) Drawings and diagrams
 - (b) Maps
 - (c) Photographs (especially old photographs)
 - (d) Models
 - (e) Artifacts
- (4) Books
- (5) Booklets/Maps
- (6) Posters
- (7) Working demonstrations
- (8) Interpretive delineation

- e. Some programs would be free, others would be designed to pay for themselves and even help support additional research.
- f. The overall program should be coordinated by a full time interpreter (The Rideau Canal in Canada has 4 full time interpreters and many seasonal interpretive assistants). Such an interpreter would also encourage and coordinate interpretive programs involving local groups.
- g. Involvement:
 - (1) Interpretation should not be the function solely of the interpretive staff; it should involve as many persons as possible: other park personnel (particularly those with contact with the public such as rangers and receptionists), volunteers, canoe concession holders, canoe club members, boat club members, etc.
 - (2) Importance of Involvement: Sense of being needed.
 - (3) Many advantages of such involvement:
 - (a) The exposure to the public is enormously increased.
 - (b) The jobs of the "interpreters" are made more meaningful and hence more satisfying.
 - (c) A greater awareness of, and respect for, the Canal State Park will increase their usefulness.
- h. General Tasks:
 - (1) Coordinate of efforts of local groups.
 - (2) Reinforce basic unity/variations; develop variation within a framework so that the parts will reinforce each other and the whole will not become fragmented.
 - (3) Integrate through Education: Make the canal more meaningful; increase respect for it.
 - (4) Involve schools, community groups, etc.
 - (5) Train Others: Teachers, volunteer guides and park personnel.

Note: Groups of school children and senior citizens (groups or individuals) are the most receptive; group canal societies and historical societies are also very receptive.

2. Personnel:

- a. Chief Interpreter (1):

Note: Coordination of the program; Unity; provide continuity and unity to the program. Coordinate work with volunteers, outside groups, etc.; direct research; direct consultants (in the design of individual programs; direct the general implementation of the program and of course direct the interpretive staff.

- b. Secretary (1).
- c. Interpretive Staff.
- d. Interpretive Guides: (Number depending upon the development of the program but ultimately the equivalent of 6 full-time guides; it is assumed that part-time personnel will be extensively used.
- e. Later Full-time: Lambertville: Senior Interpreter, Curator and Assistant
Griggstown: Senior Interpreter and Assistant
- f. Boat Ride:
 - (1) 5 Person: Captain, Hand, Mule Driver, Ticket Collection.
 - (2) 1 hour Bridgetender.
 - (3) 1-2 hour locktender.

3. Facilities:

- a. Griggstown: (Princeton/Rutgers University nearby; available residences can be utilized).
 - (1) Long House Residence/Interpretive Center.

Notes:

- 1. The intent is to provide, in the center, a place for a small exhibit relating to the canal and a base and workplace for the staff; many of the interpretive activities would take place elsewhere, but be coordinated by the center's staff.
- 2. Facilities would include (mostly for a "permanent" exhibition, but some for special exhibits):
 - a. Exhibition space including an area in which slides/video tapes could be shown to a small group.
 - b. Offices including related spaces:
 - (1) Conference room.

- (2) Small reference library.
- (3) Small material preparation room.
- (4) Storage.

(2) Sherman House, overnight for small groups/individuals.

Note: The intent is to provide a place which would function as a hostel/guesthouse to be used by small groups (e.g. guides/teachers being trained) or individuals (e.g. researchers/lecturers) involved in the interpretive program.

b. Lambertville: Museum, canal archive.

Note: See (6.67) Lambertville Site. Exact location to be determined later. Lambertville is an ideal location:

- 1. Historic canal resources, particularly as developed (operational lock, canal boat ride, cable ferry). Additional canal resources nearby in New Hope.
- 2. Other historic resources.
- 3. Necessary local infra-structure (restaurants, etc.).

c. Trenton: Working with other groups giving to programs and schools.

Office (to serve as base) in the proposed maintenance facility (location not determined, but in vicinity of (24.18) Whitehead Road recommended).

4. Special Elements of the Program:

a. Interpretive Aids and Devices:

(1) General:

When the canal was in operation its function and significance were obvious to all. Today the canal serves different functions for different people in a very different society. In addition much has disappeared. (Furthermore, in a rapidly changing mobile society there is a greater need to make connections with the past.)

Thus there is a need to point out and explain the significance of the canal, its elements and history.

Due to cost and, not least, the desires of visitors much of any interpretive program must be capable of being self-guided.

Perhaps the most obvious device as well as the one most frequently used is the interpretive sign. It is not, however, necessarily the best for all situations. In particular such signage is not appropriate for the Canal State Park.

Note: The Canal Commission's Design Guide specifically notes (p. 40) that "signs should be kept to a minimum ..."

(2) Problems of Signs:

Intrusion on the environment (historical, natural and visual).

Can be easily vandalized - particularly a problem in linear parks, urban areas and isolated rural areas.

Most Canal State Park visitors (unlike visitors to Washington, D.C.) are not only frequent users of the park, but local users using the same section, (a sign may be interesting a few times, but then it becomes "visual pollution"). Signs generally point out what is obvious to some and irrelevant to others.

Interpretive signs also tend to connote a "tourist attraction"; such a connotation is generally at variance with most user's concept of the canal or themselves.

Other groups will constantly want to add signs for their own particular purpose however good the cause such signs eventually erodes the impact of the canal: (Several sites on the Rideau Canal are littered with signs in many different formats.) The end result is to detract from the canal park. Some signs will be necessary but they should be minimal - it is necessary to be firm in excluding signs (historical, information signs, route markers, trail signs, identification of counties/municipalities, etc.).

b. The Program Proposed:

- (1) In place of signs a program of interpretive delineation/definition combined with written guide books/folders/etc. for self-guided interpretation, but which would also be used in various other leader - guided tours (both by the interpretive staff and others).

The elements used to provide interpretive delineation would also be used to serve a combination of functions including: Seating (frequently); facilitation of observation; paths; play areas.

In a more general way they would also be used to help define the individual sites and reinforce both their

uniqueness and also, through their connection with other elements on other sites, the unity of the Canal State Park.

- (2) Such a combination - of delineation elements and guides (written and live) - does many things beyond solving functional problems such as seating; it will:
 - (a) Be more meaningful than a sign.
 - (b) Avoids problem of other languages (guide books/guides can be provided as needed), levels of understanding - children, adults, different cultural groups, etc.
 - (c) Can be meaningful to many.

Note:

1. Several guide books/folders/sheets/etc. at different costs can be produced at different levels, in different languages, for different areas, fields of interest, special occasions.
 2. Printed material can easily be updated and revised.
 3. Furthermore such elements will reinforce written guide books/leaflets or verbal tour.
- (d) Give people a greater sense of involvement.
 - (e) Give people a sense of accomplishment in identifying (a sign is too obvious) yet even a child can remember a visual element; something one can touch, feel, jump on, etc. A local person can demonstrate his knowledge of local history to a visitor.

D. Maintenance/Operations

1. General

- a. Background: Canal legislation created (1974) Canal State Park under aegis of DEP:

- (1) Canal Commission: Master plan and review function.
- (2) Parks and Forestry: Recreational facilities.
- (3) Water Resources: Water supply and quality (later New Jersey Water Supply Authority).

Note:

1. The Legislation clearly indicated that the canal shall be under the aegis of the DEP but less clearly defines the responsibilities within the DEP.
 2. The situation has been compounded by the creation of the New Jersey Water Supply Authority.
- b. Present Conditions: The Delaware and Raritan Canal State Park is very much understaffed. The Park administration and staff does what it can, but there just is not a sufficiently large enough staff for the operation/maintenance that the Canal State Park requires. The problem is made even more difficult by the Park's many complexities: The many municipalities/counties and the range of environments through which the park passes or which abut it; the innumerable resources (historic and natural); the variety of users and adjacent property owners; the numerous other agencies having jurisdiction; the conflicts inherent in multiple recreational uses. The Park's very shape (long and generally very narrow) and length (approximately 60 miles long even without the 12 mile extension north of Bulls Island) increases the difficulties of operation/maintenance. An increase in staff (operations and maintenance) is extremely important even if no additional development takes place.

2. Administration

Existing:

- a. The chief operating officer is the Park Superintendent with headquarters in Blackwells Mills.
- b. Under the Superintendent are two groups:
 - (1) Operations: Headed by the Chief Ranger.
 - (2) Maintenance: Headed by the Foreman.

Proposed:

- a. The chief operating officer would continue to be the Superintendent; headquarters would remain at Blackwells Mills.
- b. Under the Superintendent would be three groups:
 - (1) Operations: Headed by an Assistant Superintendent for Operations with headquarters at Blackwells Mills.
 - (2) Maintenance: Headed by a Supervisor of Maintenance.
 - (3) Interpretation: Headed by a Chief Interpreter (See IV, C) (with headquarters at Griggstown).

Note: Administration would continue to be located in the existing headquarters building.

3. Operations

Existing:

a. General:

- (1) Headquarters at Blackwells Mills.
- (2) Tasks: Rangers are basically park policemen; as such they perform a number of enforcement and public aid duties.

b. Personnel:

- (1) Chief Ranger.
- (2) Seven Rangers: (One Resident Ranger at Bulls Island the rest stationed at Blackwells Mills.)

Proposed:

a. General:

- (1) Three Sections for Operations:
 - (a) Feeder Canal: (0.0) Bulls Island to (16.01) Scudders Falls operating out of a new facility at Belle Mountain. (Also the multi-purpose path north of Bulls Island if under D & R Canal State Park management.)
 - (b) Trenton Area: (16.01) Scudders Falls to (26.93) Route 1 Crossing and Duck Island operating out of a new facility to be located in the Trenton area. Offices would be included in the new maintenance area. Recommended location is in the vicinity of Whitehead Road.

(c) Main Canal: (26.93) Route 1 Crossing to (56.84) Landing Lane operating out offices in the new maintenance area at Blackwells Mills.

b. Personnel:

(1) Feeder Canal:

(a) Chief Ranger.

(b) Nine Rangers (residents at Bulls Island, Belle Mountain and Scudders Falls).

(2) Trenton Area:

(a) Chief Ranger.

(b) Nine Rangers.

Note: Although fewer facilities, more security is expected to be needed in the Trenton Area.

(3) Blackwells Mills:

(a) Assistant Superintendent for Operations..

(b) Chief Ranger.

(c) Nine Rangers.

Note: Additional Rangers are needed even with existing facilities.

c. Facilities:

(1) Offices provided at new maintenance facilities:

(a) Belle Mountain.

(b) Trenton (Whitehead Road area).

(c) Blackwells Mills but with information for public at old headquarters building.

4. Maintenance:

Existing:

a. General:

(1) Headquarters at Blackwells Mills.

(2) Park divided into two sections for maintenance:

- (a) (0.0) Bulls Island to (21.55) Trenton Battle Monument: Maintained from Bulls Island.
- (b) The Remainder of the Park, (21.55) Battle Monument to (56.85) Landing Lane and also Duck Island: Maintained from (43.53) Headquarters (Blackwells Mills).

Note: At this time little or no maintenance is performed on Duck Island.

(3) Tasks:

- (a) Maintenance of all structures in the Park.
- (b) Small new projects.
- (c) Landscape Maintenance:
 - ((1)) Grass mowing.
 - ((2)) Path maintenance including removal of trees, path surface and cutting brush.
- (d) Trash removal (trash is taken to dumpsters from which it is removed weekly by a private contractor).
- (e) Site furniture maintenance.

(4) Work By Others:

- (a) New Jersey State Water Supply Authority:
 - ((1)) All water supply related structures including structures which have an effect on the canal such as culverts.
 - ((2)) Brush and tree removal which the Authority finds necessary to remove in order to facilitate its work.
 - ((3)) Several Canal Houses:
 - Lambertville
 - Kingston
 - Griggstown Lock
 - Ten Mile Lock
- (b) New Jersey Department of Transportation: Road bridges over the canal.
- (c) The maintenance of some leased property is by lease agreement the responsibility of the tenant.

b. Bulls Island Section:

- (1) Personnel:
 - (a) One assistant foreman.
 - (b) Two men.
- (2) Facilities: Small workshop/storage.

c. Blackwells Mills Section (also referred to as Belle Mead):

- (1) Personnel:
 - (a) Superintendent.
 - (b) Foreman (covers Bulls Island also).
 - (c) Assistant foreman.
 - (d) Five men.
- (2) Facilities:
 - (a) A group of old barns and sheds which contain:
 - Lunch room.
 - Carpentry shop.
 - Storage.
 - Vehicle service area (for minor repairs and maintenance).
 - Office area.

Proposed:

a. General:

- (1) Headquarters at Blackwells Mills.
- (2) Three Sections for Maintenance:
 - (a) Feeder Canal: (0.0) Bulls Island to (16.01) Scudders Falls serviced from a new facility at Belle Mountain. (Also the multi-purpose path north of Bulls Island if under D & R Canal State Park management.) This facility would also perform motor vehicle maintenance for the entire Park.

- (b) Trenton Area: (16.01) Scudders Falls to (26.93) Route 1 Crossing and Duck Island serviced from a new facility to be located in the Trenton area. Recommended location is in the vicinity of Whitehead Road.
 - (c) Main Canal: (26.93) Route 1 Crossing to (56.84) Landing Lane serviced from a largely new facility at Blackwells Mills.
- (3) Tasks:
- (a) Existing tasks (but for more developed sites).
 - (b) Motor vehicle maintenance.
- (4) Work done by others as before.
- b. Feeder Division (Belle Mountain):
- (1) Personnel:
 - (a) 1 foreman.
 - (b) 1 assistant foreman.
 - (c) 1 chief mechanic.
 - (d) 1 assistant mechanic.
 - (e) 1 carpenter
 - (f) 7 men.
 - (2) Main Facilities (Belle Mountain): The facility would serve the feeder canal sites and path segments and provide vehicle service for the entire Canal State Park. The facility would include:
 - (a) Office.
 - (b) Garage (12 bays) for storage of vehicles and equipment.
 - (c) Maintenance garage (4 bays) including 2 lifts.
 - (d) Fuel storage (for vehicles):
 - ° Gasoline.
 - ° Unleaded gasoline.
 - ° Diesel fuel.

(e) Carpentry shop - 2000 square feet.

(f) Storage:

° Heated - 600 square feet.

° Unheated - 600 square feet.

° Flammable materials (paints, solvents, etc.) - 200 square feet.

(g) Employees locker room, lunch room, sanitary facilities.

(h) Fenced in yard for storage of additional vehicles, equipment and supplies.

(3) Small Storage Buildings (or partial buildings):

(a) Bulls Island.

(b) Jimison Farm Area.

(c) Scudders Falls.

c. Trenton Division (Whitehead Road Area):

(1) Personnel:

(a) 1 foreman.

(b) 1 assistant foreman.

(c) 1 carpenter

(d) 8 men.

(2) Maintenance Facility (Whitehead Road Area): The facility would serve the Trenton area and Duck Island sites and path segments. The facility would include:

(a) Office.

(b) Garage (12 bays) for storage of vehicles and equipment.

(c) Secure parking area for employees and visitors.

(d) Fuel storage (for vehicles):

° Gasoline.

° Unleaded gasoline.

- Diesel fuel.
- (e) Carpentry shop - 2000 square feet.
- (f) Storage:
 - Heated - 600 square feet.
 - Unheated - 600 square feet.
 - Flammable materials (paints, solvents, etc.) - 200 square feet.
- (g) Employees locker room, lunch room, sanitary facilities.
- (h) Fenced in yard for storage of additional vehicles, equipment and supplies.
- (3) Small Storage Buildings (or partial buildings):
 - (a) Bordentown.
 - (b) Lock #2.
- d. Blackwells Mills:
 - (1) Personnel:
 - (a) Supervisor of Maintenance.
 - (b) 1 foreman.
 - (c) 1 assistant foreman.
 - (d) 2 carpenters.
 - (e) 2 mason.
 - (f) 7 men.
 - (g) 1 secretary.
 - (2) Main Maintenance Facility: The facility would serve the Main Canal sites and path segments. The facility would include:
 - (a) Office.
 - (b) Garage (15 bays) for storage of vehicles and equipment.

(c) Fuel storage (for vehicles):

- ° Gasoline.
- ° Unleaded gasoline.
- ° Diesel fuel.

(d) Carpentry shop - 2000 square feet.

(e) Storage:

- ° Heated - 600 square feet.
- ° Unheated - 600 square feet.
- ° Flammable materials (paints, solvents, etc.) - 200 square feet.

(f) Employees locker room, lunch room, sanitary facilities.

(g) Fenced in yard for storage of additional vehicles, equipment and supplies.

(h) Renovation of several barns and sheds; reuse of some existing structures for storage. Buildings also would serve as a buffer and provide historical context.

(3) Small Maintenance Storage Buildings (or partial buildings):

- (a) Millstone Aqueduct.
- (b) Weston.

Note: Even without any additional development of the Canal State Park an increase in maintenance/operations facilities and, especially, personnel is essential.

5. Other Issues:

Existing:

a. Encroachment on Canal State Park property:

- (1) Docks.
- (2) Structures.
- (3) Gardens.
- (4) Fences, etc.

Note: Theodore Roosevelt State Park (Delaware Division Canal) issues permits for docks, etc.

- b. Difficulty in control and enforcement of the D & R Canal Commission's Visual Review Zone regulations leading to undesirable small revisions to structures, etc.
- c. Concerns of Users:
 - (1) Security.
 - (2) Noise (radios, motorized vehicles, etc.).
 - (3) Litter.
 - (4) Separation of certain activities:
 - (a) Equestrian use.

Note: This seems to be a frequent concern. Horses often frighten small children; they make the towpath less suitable for other uses (as well as increase the need for maintenance).
 - (b) Motorized vehicles (moped, etc.).
 - (5) Rowdy persons.
 - (6) Places to sit (lack of picnic benches does not seem to be a major concern).

Note: In particular a concern of older persons.
 - (7) Ability to use strollers on the towpath.
 - (8) Sanitary facilities.
 - (9) Uncontrolled pets (dogs).
- d. Concerns of adjacent property owners vary according to the area; included are:
 - (1) Security (from burglaries, muggings, rape, vandalism, etc.).
 - (2) Litter.
 - (3) Noise (particularly late night, early a.m.):
 - (a) General.
 - (b) Radios.
 - (c) Motorized vehicles (particularly motorcycles, mopeds, etc.).

- (4) Privacy.
- (5) Trespassers.
- (6) Access due to improperly parked cars, etc.
- (7) Miscellaneous Annoyances:
 - (a) Requests for information.

Note: Complaints of persons entering private property, knocking on neighbor's doors, etc.

- (b) Lack of sanitary facilities.

Proposed:

- a. Encroachment on Canal State Park property: Permits should be required for all encroachments; in some instances a lease should also be required.

Note: Leases might be negotiated for considerations other than monetary ones (easements, maintenance agreements, etc.).

- b. Although the enforcement of the Visual Review Zone regulations have an important impact on the Park it is beyond its jurisdiction; however see Additional Recommendation 1.
- c. User Concerns:
 - (1) Security: Various proposals on individual sites concern (directly or indirectly) security (lighting, on site residences, etc.); however, increased use and additional Rangers will also be significant factors.
 - (2) Noise: Some additional regulations concerning the use of radios, etc., and a clarification of the classification of mopeds are necessary, but the most significant factor would be additional Rangers to enforce these and existing regulations.
 - (3) Litter:
 - (a) Additional Rangers will help, but probably not significantly.
 - (b) Most helpful would be a "bottle law" (one requiring deposits on all beer and soda containers). Fishing bait containers are also a source of litter. A deposit concerning these might also be helpful.

- (c) Education through interpretive and other informational programs will give people a greater respect for the Park, but the effect of such programs will be significant only after many years.
- (4) Separation of Activities:
 - (a) Equestrian Use: In the area where horseback riding is most frequent (Griggstown-Blackwells Mills) separate paths for equestrian use are proposed; aside from a few crossing points, horses should be restricted to these trails.
 - (b) Additional Rangers, again, would be helpful, but the problem is a difficult one. In any case, mopeds and all motorized vehicles (aside from those required for maintenance/operation) should be clearly not permitted (except on public roads and parking area access roads). In addition, dense thorny hedges and even fences (properly landscaped) should be used to restrict access in certain areas.
 - (5) Rowdy Persons: Additional Rangers will be important in reducing this annoyance.
 - (6) Places to Sit: Seating has been included in this Development Plan.
 - (7) Ability to use Strollers: Recommended towpath maintenance is most important.
 - (8) Sanitary Facilities: Sanitary facilities have been included in this Development Plan.
- d. Concerns of Adjacent Property Owners:
- (1) Security:
 - (a) Fences and other devices have been included in this Development Plan in certain areas where there have been problems/concern; will add significant security.
 - (b) Additional Rangers will also be important.
 - (c) See also "User Concerns", Proposed c. (1) above.
 - (2) Litter: See "User Concerns", Proposed c. (3) above.
 - (3) Noise: See "User Concerns", Proposed c. (2) above.
 - (4) Privacy: Screening has been included in this Development Plan to provide privacy for the adjacent owners (and also to screen other areas for the uses of the Park).

(5) Trespassers: Definition of borders will help in many areas; in others the use of additional Rangers will help.

(6) Miscellaneous Annoyances.

(a) Requests for information: Better, more available information will help.

(b) Sanitary facilities are included in this Development Plan.

Additional Recommendation:

1. The Canal Commission needs additional staff or outside help to enable it to fulfill its considerable task, particularly given the rate of development (and therefore applications to be processed).

E. Documents

General:

The canal, the Canal State Park and the areas adjacent all are complexly inter-related. The planning, development, operation and maintenance of them require a great deal of information and the ability to relate many different types of information to each other. A coordinated system of information, particularly maps, on the canal is essential.

Existing:

Numerous maps at various scales and frequently not to the New Jersey grid (See Appendix A, Bibliography); often the material is not current.

Proposed:

1. A coordinated system of maps for use by all three principle agencies involved in the canal. Such a system would greatly facilitate planning, review and control of the canal; system would be based on the overlay system to provide maximum flexibility in relating data as well as facilitate revisions to keep the material up-to-date. Overlays should include (although not necessarily at all scales):
 - a. Base: Roads; structures; land/water, etc.
 - b. Vegetation.
 - c. Flood plain/flood hazard zones, etc.
 - d. Land use.
 - e. Master plans (municipalities, DOT).
 - f. Zoning.
 - g. Contours.
 - h. Property boundaries.
 - i. Municipal/county boundaries.
 - j. Visual review zones.
 - k. Historic districts.
2. Continual updating of maps and other documents. The Canal State Park is extremely complex as well as large. Current information is essential in making responsible decisions.

V. Costs

A. General

1. Costs are in June 1986 dollars.
2. A design contingency (20%) has been included.
3. Costs are construction costs.
4. The following costs are not included:
 - a. A/E fees. Fees will vary depending upon the individual project. Fees can be expected to range from 5% to 20% of the construction cost.
 - b. Miscellaneous expenses connected with projects (printing, legal fees, etc.) are not included.
 - c. Construction supervision costs are not included.
 - d. Construction contingencies are not included.
 - e. Topographical surveys.
 - f. Borings and other tests.
 - g. Permits.
 - h. Land or easement acquisition.

B. Individual Site and Path Segments

Costs for individual sites and path segments are included in Part III.

C. Construction Costs by Phase

A summary of construction costs by phase is given in the following table (V-I):

TABLE V-I

CONSTRUCTION COSTS BY PHASE

Delaware & Raritan Canal State Park
Historic and Recreational Development Plan
Summary of Estimate of Costs in June 1983 Dollars

SITE/ PATH SEGMENT	PHASE I	PHASE II	PHASE III	TOTAL
1. Milford-Bulls Island			514,000	514,000
2. Bulls Island	384,500	56,500		441,000
3. Bulls Island-Prallsville	182,500			182,500
4. Prallsville	138,320	340,000	336,000	814,320
5. Prallsville-Jimison Area	229,000	59,000		288,000
6. Jimison Farm Area	5,000	312,000	23,500	340,500
7. Jimison Area-Lambertville	106,500		48,000	154,500
8. Lambertville	954,000		1,490,000	2,444,000
9. Lambertville-Belle Mtn.	440,000			440,000
10. Belle Mountain Area	3,870,000			3,870,000
11. Belle Mtn.-Scudders Falls	347,000	106,500	66,500	520,000
12. Scudders Falls	326,500	137,000		463,500
13. Scudders-Lower Ferry	176,000	32,500		208,500
14. Lower Ferry-Hermitage Ave.	925,000	652,500	1,577,500	3,155,000
15. Hermitage Ave.-Old Rose St.	383,500	24,000	3,682,000	4,089,500
16. Duck Island	624,000	1,002,000	1,983,000	3,609,000
17. Old Rose St.-Whitehead Rd.			434,500	434,500
18. Whitehead Road	200,000	1,548,000		1,748,000
19. Whitehead Rd.-Rte 1 Crossing	125,000	439,000	36,000	600,000
20. Rte 1 Crossing-Port Mercer	48,000	103,000	243,000	394,000
21. Port Mercer	6,000	24,500		30,500
22. Port Mercer-Princeton Basin	187,000			187,000
23. Princeton Basin-Aqueduct		83,500		83,500
24. Millstone Aqueduct	212,500	90,500		303,000
25. Aqueduct-Kingston	14,500	20,500	35,000	70,000
26. Kingston	304,500	42,000	210,000	556,500
27. Kingston-Rocky Hill	50,000		55,000	105,000
28. Rocky Hill-Griggstown	105,000	12,000	43,000	160,000
29. Griggstown	383,000	207,000	65,000	655,000
30. Griggstown-Blackwells Mills	128,000			128,000
31. Blackwells Mills	285,500	2,093	77,000	364,593
32. Blackwells Mills-E. Millstone	21,500	7,000		28,500
33. East Millstone	165,500			165,500
34. East Millstone-Weston	20,500			20,500
35. Weston	164,000	184,000	48,000	396,000
36. Weston-Ten Mile Lock	126,000			126,000
37. Ten Mile Lock	16,000	48,000		64,000
38. Ten Mile Lock-Bound Brook	30,000		72,000	102,000
39. Bound Brook Lock	226,000			226,000
40. Bound Brook-Landing Lane	262,000	154,000	221,000	637,000
41. Pinewood/Landing Lane	308,000		240,000	548,000
TOTAL	12,480,320	5,687,093	11,500,000	29,667,413

D. Maintenance

It should be noted that the overall implementation of this plan includes recommendations concerning maintenance; the implementation of these items is very important. Some items have been included as maintenance items because in this manner they can be effected most efficiently and with the greatest degree of control and also because they are items that will continue to need maintenance in the years to come. The major items include:

1. Restoration of rip-rap.
2. Control of vegetation, particularly trees between the towpath and the canal.
3. Towpath maintenance.

Some of this work could be implemented as part of a capital program if implementation of the maintenance recommendations is not immediately possible.

VI. Priorities

A. General

1. Specific priorities are discussed in Part III under the Individual Sites and Path Segments.

B. Basic Principles

1. Highest priority has been given to the stabilization of historic structures to prevent further deterioration or, worse, loss of their irreplaceable resources. Stabilization now will also reduce the costs of later restoration.
2. High priority has also been given to path continuity.

C. Major Considerations in Determining Priorities

Major considerations in determining priorities included the following:

1. Cost effectiveness of a given project.
2. Implementation at a relatively even rate over the proposed 20 year development period.
3. Support facilities (maintenance and security) to sustain the development at a given time.
4. Areas currently needing facilities or expansion.
5. An even distribution of facilities appropriate to the needs of the area.
6. Appropriateness in regard to adjacent development.
7. Proximity of similar facilities within and also outside of the Park.
8. Accessibility.

D. Additional Recommendations

1. Since the additional recommendations are not within the scope of this project, specific priorities have not be assigned. Never-the-less a high priority should be given to the acquisition of land and easements to land as indicated; their acquisition will generally become increasingly difficult.
2. While beyond the scope of the Canal State Park the control and development of the adjacent areas has an enormous impact upon it.

While many Additional Recommendations refer to specific sites, the general intent is to reinforce and preserve the Canal State Park

much as the intent of the Development Plan for the Park is to reinforce and preserve its organizing element, the D & R Canal. Some of the Additional Recommendations are very specific, but the general intent is to create a visual corridor wider than the Canal State Park within the historic and natural context of the Park can be preserved and reinforced. This greater canal corridor should be based (obviously with some exceptions) on the visual corridors of the roads (most people view the canal corridor from the road) which parallels the canal and also its adjacent rivers. Within the corridor a comprehensive program, largely consisting of easements should be not only formulated, but implemented. Such a program should address such matters as historic districts, roads, utility lines, signs, development and zoning.

While the benefit of such a visual corridor to the Canal State Park would be great, the benefit to the surrounding communities would be even greater. At the moment the pressure for development is enormous; paradoxically one reason is that so many people are drawn to the area because of the quality of its environment; furthermore, increasingly, quality of environment is a very strong factor in stimulating economic growth.

3. Much as the Delaware and Raritan Canal was part of a network of canals, the Delaware and Raritan Canal should become part of a network of connecting largely stream centered corridors. Such a concept is, quite rightfully, far beyond the scope of this Development Plan; the D & R Canal State Park is quite complex enough as it is. However, it is essential not to lose sight of the overall concept. The builders of the early canals put together a remarkable system which served the needs of their time; we must do the same, not only for the present, but also, more importantly, for the future.

Note: Other connecting corridors might include:

- ° Several based on the Delaware River.
- ° Several based on the Raritan River:
 - a. Upstream to the confluence of the North and South Branches including the Raritan River Canal.
 - b. Downstream, including over the historic water route to New York.
- ° One based on the abandoned railroad right-of-way from Kingston to Monmouth Junction (which could connect with a Lawrence Brook based corridor).
- ° One based on Crosswicks Creek.

VII. Schedules

A. General

1. The aggregate for beneficial development in the canal park is very large and the total cost of implementation high. This plan therefore assumes that implementation will be staged over a 20 year period commencing in 1986. This also permits facilities to be added as the needs of the area grow. Furthermore, the development of the park over a 20 year period will facilitate an orderly and careful integration of the new facilities into the park.
2. In accordance with the priorities developed, implementation has been assigned to three periods:
 - a. Priority I - Implementation Period 1986 - 1991.
 - b. Priority II - Implementation Period 1991 - 1996.
 - c. Priority III - Implementation Period 1996 - 2006.
3. Specific assignments of work are indicated in Part III under the Individual Sites and Path Segments.

VIII. Related Agencies and Required Permits

This section contains an inventory of institutions, responsibilities or authorities relating directly or indirectly to development in the Delaware and Raritan Canal Project's study area.

A. Agencies with Direct Responsibilities

Review; coordination with the following is required:

1. Delaware and Raritan Canal Commission
25 Calhoun Street
P.O. Box 1390
Trenton, New Jersey 08625
2. New Jersey Water Supply Authority
P.O. Box 5196
Clinton, New Jersey 08809

B. Federal Institutions

1. U.S. Department of Defense, U.S. Army Corps of Engineers:

The Army Corps of Engineers oversees the section 10 permit program which addresses obstructions to navigation and channel alterations (the Rivers and Harbors Act of 1899 or the Refuse Act, 33 U.S.C. Section 403).

The section 10 permit program applies to all activities obstructing or modifying the navigable capacity of the waters of the United States including construction of bridges.

The corps is also authorized to design and construct drainage and flood control facilities on major rivers where flooding frequently occurs. Local governments are responsible for the acquisition of land for and the maintenance of these facilities:

Philadelphia District
U.S. Customs House
Second and Chestnut Streets
Philadelphia, Pa. 19106

New York District
26 Federal Plaza
New York, N.Y. 10007

2. Department of Transportation, U.S. Coast Guard:

The Coast Guard is authorized to issue permits for the construction (and reconstruction in substantially different forms) of bridges spanning navigable waterways and other obstructions to navigation. Under its enabling legislation the term "navigable" includes tidal waters as well as waters with a history of navigation. The Delaware and Raritan Canal is within the jurisdiction of the Coast Guard. See 33 U.S.C. Sections 511-524.

Port of New York
Building 109
Governors Island
New York, N.Y.

Port of Philadelphia
Coast Guard Base
King and Cumberland Streets
Gloucester City, N.J.

It should be noted that legislative efforts are being made to change the Coast Guard jurisdiction over the Delaware and Raritan Canal.

C. State Institutions

1. Department of Environmental Protection:

- a. The Department of Environmental Protection is authorized to implement various statutes relating to air quality, water quality and supply, sewage, solid waste and other concerns. The Department is also authorized to set policy and guidelines pursuant to N.J. Environmental Protection Act and to administer public land.

DEP is authorized to issue permits for various types of activities. The permit program directly and indirectly applicable to the Delaware and Raritan Canal study area are provided below. Additional information about permits and other requirements of the DEP may be obtained from:

Office of the Commissioner
Department of Environmental Protection
Room 802, Labor and Industry Building
Trenton, N.J. 08625

or

P.O. Box 1390
Trenton, N.J. 08625

DEP Permits in Conflict with Areawide Water Quality Management Plans: The New Jersey Water Quality Planning Act states that the Commissioner of DEP shall not grant any permit which is in conflict with an adopted areawide water quality management plan. Therefore, prior to the granting of any permit listed in this section, the Commissioner must find that the permit is not in conflict with an adopted areawide water quality management plan.

The 90-Day Review Law: The 90-Day Review Law, N.J.S.A. 13:10-29 et seq., was enacted to insure that DEP processes certain permit application in a timely fashion and to provide for the assessment of fees to cover the cost of the review services. The permits affected by the Act include: Riparian, wetlands, Coastal (only non-federally funded projects involving extensions to in-place sewer systems). A decision on an application for any such permit, except CAFRA, must be rendered by DEP within 90 days of the date that the application has been declared to be complete. If DEP fails to reach a decision within 90 days, the application is deemed approved.

DEP has designated environmental commissions as the local review agencies for stream encroachment permits. A copy of each application is sent to the local commission. The commission may approve, conditionally approve, or reject the project as being environmentally hazardous.

Under the Act, applicants are required to notify the following agencies of the pendency of their application: County Clerk, County Environmental Committee or Council, Municipal Clerk, Municipal Environmental Commission, Municipal Planning Board, and the Soil Conservation District.

The Act and DEP rules provide for pre-application conferences for the above-mentioned permits. The conferences are informal meetings designed to allow DEP to inform a potential applicant of the rules and regulations, application procedures, and policies and guidelines of DEP's permit programs.

b. Bureau of Geology and Topography:

The drilling, boring, coring, or excavation of any well requires a permit from the Bureau of Geology and Topography, Department of Environmental Protection. See N.J.A.C. 7:8-3.9 and 7:21-2.2.

Activities involving the drilling or construction of wells by any means must be supervised by a licensed well driller. See N.J.S.A. 58:4A-13. The licensing of well drillers is administered by the State Well Drillers Examining and Advisory Board in the Department.

Statutory Reference: N.J.S.A. 58:4A-14

Bureau of Geology and Topography
Department of Environmental Protection
P.O. Box 2809
Trenton, N.J. 08625

c. Green Acres Local Assistance Program:

Projects funded through the Green Acres Local Assistance Program are subject to compliance with "Administrative Guidelines: Barrier Free Design Standards for Parks and Recreational Facilities" issued by the Office of the Commissioner of the DEP.

d. Division of Water Resources (DWR):

The Division of Water Resources is responsible for the administration and implementation of most of New Jersey's water quality statutes and programs. Bureaus with applicable review functions are:

(1) Bureau of Potable Water:

This bureau is responsible for reviewing and issuing permits for the operation of potable water supply facilities.

(2) Bureau of Flood Plain Management:

This bureau is authorized to regulate construction that could encroach on the natural high water mark of any stream and to control the structural stability of dams and other structures in the flood plain.

The construction, installation or alteration of any kind of structure or permanent fill in, along or across the channel of any stream, or any alteration of the stream itself (such as by dredging or filling), within the natural and ordinary high water mark, requires a permit from the Water Policy and Supply Council. The Council and DEP had been interpreting the Stream Encroachment Act, which were not within the high water marks and which had not been designated as "floodways" under the Flood Plains Act, N.J.S.A. 58:16A-55. However, the Superior Court recently held, in "Deskovick v. Water Policy and Supply Council," that although the Council is charged with flood prevention, it is not authorized, under the Stream Encroachment Act, to regulate a landfill which is not within the natural and ordinary high water marks of a stream. The court based its holding on its reading of not only the Stream Encroachment Act but also the Flood Plains Act.

The court reasoned that the Legislature would probably not have enacted the Flood Plains Act, which expressly grants to DEP the power to regulate the development and use of land in any designated floodway, if it had intended to grant that power by implication under the Stream Encroachment Act.

Appeals from the action of the Division on an application for stream encroachment must be submitted to the Water Policy and Supply Council, according to the procedures described in N.J.A.C. 7:1C-1.9, and in the Rules of the Water Policy and Supply Council, N.J.A.C. 7:21-1.1 et seq.

Statutory Reference: N.J.S.A. 58:1-26

Stream encroachment permits are subject to the 90-day permit review limitation imposed by the 90-Day Review Law. See N.J.A.C. 7:1C-1.1 et seq.

The construction of any dam which will raise the waters of a river or other stream more than five feet above the usual mean low-water height, or the repair or alteration of such an existing dam, requires a permit from the Water Policy and Supply Council. A dam permit is not required where the drainage area above a proposed dam is less than one-half square mile in extent. The issuance of a dam permit precludes the need for a stream encroachment permit. However, dams smaller than those which require permits under this section may still require permits for stream encroachment.

2. Department of Health:

The Department of Health conducts various activities which relate directly and indirectly to water quality and supply concerns. Generally, these activities include: Assisting DEP in administering the Air Pollution Control Code and enforcing the Air Pollution Emergency Control Act; controlling sanitation at public bathing places; conducting a mobile home park sanitation program; conducting a program regulating the installation and alteration of plumbing; conducting chemical, physical and bacterial analyses for DEP; and others.

3. Department of the Treasury, Division of Buildings and Construction:

For the State of New Jersey projects, the Division of Buildings and Construction reviews project documentation and maintains compliance with the Uniform Construction Code Act. See N.J.S.A. 52:27D-129 below:

52:27D-129. State buildings and buildings of interstate agencies:

- a. Notwithstanding any other provision of this act, the Division of Buildings and Construction in the Department of the Treasury shall have exclusive authority to administer and enforce the code in regard to buildings and structures owned by the State, and any of its departments, divisions, bureaus, boards, councils, authorities or other agencies provided that the division shall enforce the code with persons certified by the commissioner pursuant to this act. Prior to approval of plans and specifications for a structure or building costing in excess of \$50,000.00, the Division of Buildings and Construction; in the Department of the Treasury shall hold a public hearing in the county in which the building is to be located.
- b. Construction, alteration, renovation, rehabilitation, repair, removal or demolition of any building or structure situated wholly within New Jersey by or for an agency created by an interstate compact to which the State of New Jersey is a party shall be subject to the provisions of the code; provided that such interstate agency shall have exclusive authority to administer and enforce the code in regard to such buildings and structures.

L.1975, c. 217, 11

D. Other

Soil Conservation Districts:

The 15 soil conservation districts in New Jersey were created under N.J.S.A. 4:24-7 et seq. For a discussion of their powers and responsibilities, see DEP, Legal inventory for the Areawide Water Quality Management Program.

Certification is required for projects that disturb more than 5,000 square feet of surface area of land for which the State uniform construction code would require a building permit.

Applicant for project approvals must submit: a) an application for soil erosion and sediment control plan certification; b) a project or development plan; c) soil maps or other resource data; d) a narrative soil erosion and sediment control plan; and e) fees, as determined by the local soil conservation district.

The District boundaries are generally coterminous with those of the counties; however, the Districts are independent of the county governments. The Districts are authorized to receive technical assistance from the Soil Conservation Service of the U.S. Department of Agriculture.

State Liaison: State Soil Conservation Committee

Mercer County

Hunterdon County

Middlesex and Monmouth Counties

Somerset County

E. Offices of Cultural and Environmental Services

The Delaware and Raritan Canal is listed on both the National Register and The New Jersey Register of Historic Places and is subject to the State and Federal Acts as follows:

1. The National Historic Preservation Act of 1966 established a State/Federal partnership in historic preservation. A historic preservation fund was authorized for the identification, recognition, and preservation of historic properties. State responsibilities were placed under the aegis of a State Historic Preservation Officer (SHPO). In New Jersey, the SHPO is the Commissioner of the Department of Environmental Protection. The Office of Cultural and Environmental Services (OCES), Department of Environmental Protection serves as the professional staff to the SHPO. OCES includes an Historic Preservation Section (formerly the Office of Historic Preservation) and an Environmental Review Section (formerly the Office of Environmental Review).

2. Review and Compliance - State Register:

The State Register Law provides a review procedure for state, county, or municipal undertakings which would encroach upon State Register properties. In accordance with N.J.S.A. 13:1B-15.131, it is the responsibility of the state, county, or municipality to determine whether any of their undertakings encroach upon State Register properties to the SHPO. The SHPO solicits the advice and recommendations of the New Jersey Historic Site Council, an advisory body of public members appointed by the Governor. All State Register encroachment projects require authorization from the SHPO. An encroachment is an undertaking which will have an impact on a State Register property; it does not include routine maintenance. Review and authorization procedures are outlined in Section 6 of N.J.A.C. 7:4-1.1 et. seq., "Regulations and Procedures Concerning the New Jersey Register of Historic Places," copies of which are available upon request from the Office of Cultural and Environmental Services.

In cases of both State and Federal involvement, the National Register review process takes precedence.

3. National Register - Matching Funds:

If the project wishes to acquire Federal funds the following applies:

Inclusion on the National Register makes property owners eligible to apply for Federal matching grants for historic preservation.

The historic preservation fund provides 50/50 matching grants to states from the U.S. Department of the Interior, Heritage Conservation and Recreation Service (HCRS).

The acquisition and development grants program provides matching funds for acquisition, protection, stabilization, preservation, restoration, rehabilitation, or reconstruction of preproperties listed on the National Register. Applicants may be individuals, private organizations or government agencies whose properties are listed on the National Register either individually or as part of a historic district. Projects must meet state and national preservation objectives and the work must conform to the Secretary of the Interior's Standards for Historic Preservation Projects.

Notes:

1. While placement of a structure or district on the National or State Register requires review by SHPO if State or Federal funds are involved, no review is required if such funds are not involved. Thus many of the structures and districts adjacent to the canal and important elements in the context of the Park can be altered or demolished without prior review.

Thus in most cases the only protection, if any, is that afforded by the Canal Commission's visual review regulations.

2. Standards: See Appendix A (Bibliography), 6., a.

IX. Appendices

A. Bibliography

1. Aerial Photographs

a. Recent:

- (1) Aerial Photographs (B&W)
27 February 1976 (approximately 10" x 10")

A sequence of photographs covering the portion of the canal used for water supply (the entire canal except the Bordentown Section).

- (2) Enlargements of Aerial Photographs with the Boundry Lines for the Delaware & Raritan Canal from Crosswicks Creek to Lalor Street.

11 Sheets

Thomas Tyler Moore Associates Inc.
9 April 1978

Scale approximately 1"=100'

Also see Maps 3., a., (7) which are based on these photographs

b. Historic:

- (1) Several aerial photographs are included in William McKelvey's books (see 2, b, 4 and 5).

2. Books (Delaware and Raritan Canal)

a. State of New Jersey Publications:

- (1) Delaware and Raritan Canal Commission.
Delaware and Raritan Canal State Park Design Guide
(Trenton, New Jersey: State of New Jersey, December 1980)

Note: Abbreviated as DG.

- (2) Delaware and Raritan Canal Commission.
Delaware and Raritan Canal State Park, Historic Structures
Survey
(Trenton, New Jersey: State of New Jersey, June 1982)

Note: Abbreviated as HS.

- (3) Delaware and Raritan Canal Commission .
Delaware and Raritan Canal State Park Master Plan
(Trenton, New Jersey: State of New Jersey, May 1977)

Includes maps: the Canal Park in 8 segments scale 1" = 1/2
mile = 2640' (1:31,680) based on Uses

Note: Abbreviated as MP.

b. General:

- (1) Cawley, James and Margaret.
Along the Delaware and Raritan Canal
(Cranbury, New Jersey: Associated University Press, Inc.,
1970)

- (2) Davison, Betty B.
The Delaware and Raritan Canal, a Users Guide for Hikers,
Canoeists, Fisherfolk, History Buffs, Birdwatchers, and
Lovers of the Great Outdoors
(Princeton, New Jersey: The Delaware and Raritan Canal
Coalition, 1976)

- (3) Madeira, Crawford Clark, Jr.
The Delaware and Raritan Canal
(East Orange, New Jersey: The Easterwood Press, 1941)

(Copy available Princeton University Library)

- (4) McKelvey, William, Jr.
Champlain to Chesapeake: A Canal Era Pictorial Cruise
(Exton, Pennsylvania: Canal Press, Inc., 1978).

Numerous historical Photographs and Information.

Note: Abreviated as Mck 2.

Much specific information about the D & R Canal as well as information about the overall system of canals of which the D & R was a very important element.

- (5) McKelvey, William, Jr.
The Delaware and Raritan Canal: A Pictorial History
(York, Pennsylvania: Canal Press, Inc. 1975)

Numerous historical photographs and information.

Note: Abbreviated as Mck.

- (6) Menzies, Elizabeth G. C.
Millstone Valley,
(New Brunswick, New Jersey: Rutgers University Press,
1969)

- (7) Menzies, Elizabeth G. C.
Passage Between Rivers
(New Brunswick, New Jersey: Rutgers University Press,
1976)

Pitt, Lawrence W.
See 2, b, (8)

- (8) Smith, F. Hopkinson, and J.B. Millet.
Snubbin' Thro' Jersey
(York, Pennsylvania: Canal Press, 1974)

A reprint of a two part article from The Century Magazine
(May and June 1887) together with "The Delaware and Raritan
Canal, a Brief History" by Lawrence W. Pitt.

- (9) Terhune, Laura P.
Episodes in the History of Griggstown
(_____, _____: _____, 1976).

Chapter XI, mules and barges come to the area (p. 74-85),
contains much information about the canal; in addition the
book contains numerous historical photographs.

- (10) Veit, Richard.
The Old Canals of New Jersey
(Little Falls, New Jersey: New Geographical Press, 1963)

c. Periodicals:

- (1) Cuyler, Lewis B.
"Origins of the Delaware and Raritan Canal"
Princeton History, Journal of the Historical Society of
Princeton, Number 4, 1983

pp. 1-16

- (2) Knox, Nancy.
"Princeton Basin"
Princeton History, Journal of the Historical Society of
Princeton, Number 4, 1983

pp. 17-27

- (3) Sliney, Diane Jones.
"Architectural Terra Cotta: A Local Industry"
Princeton History, Journal of the Historical Society of
Princeton, Number 4, 1983

pp. 28-37

3. Maps

a. Recent:

- (1) Delaware and Raritan Canal Commission [base map of canal area].

Scale: 1" = 4000' base compiled from USCG 15' Quads (1953-7 revised 1970) clear film base available from canal commission for reproduction.

Map (42" x 53") covers entire canal and surrounding area. Note canal itself and other bodies of water often very faint (since in final USGS maps given in blue overprint).

- (2) Delaware and Raritan Canal Commission.

Zoning [no date].

8 Maps (27 x 42), scale 1:1000
base compiled from USGS 15' Quads (1953-7 rev. 1970)
reproducible (mylar sepia) available from canal
commission.

- (3) D&R Canal Park Visual Impact Review Area
prepared for the Delaware and Raritan Canal Commission by
Rogers and Golden
Philadelphia 1977

The canal in 11 segments at a scale of 1" = 400'; base
traced from M-1 with revisions in accordance with field
observations.

Note: Trenton conduit is not included.

- (4) Photometric and Topometric Mapping of the Delaware and
Raritan Canal

by John G. Reutter Associates, Camden, New Jersey, 1967

Topographic maps of the canal

(a) Scale - 1" = 40'-0", contour interval = 2'-0" - canal
and area approximately 200' on either side; on 282
sheets plus 39 supplementary sheets.

(b) Scale - 1" = 1000'-0" canal and surrounding area.

- (5) Land Acquisition Map, Delaware and Raritan Canal State Park
by State of New Jersey, Department of Environmental
Protection, Division of Parks and Forestry Bureau of
Parks.

18 Sheets dated November 1977

(a) Scale - none

Key Map - entire canal excluding Duck Island

(b) Scale - 1" = 400'-0"

((1)) Sheets 2-15

Feeder and Main Canal from Bulls Island to
Dirty Brook (Kingston Trap Rock Quarry)

((2)) Sheets 16-18

Main Canal from downstream boundry of Colonial
Park to Landing Lane

(6) Millstone River, Proposed Aquisition Program by State of
New Jersey, Department of Environmental Protection,
Division of Parks and Forestry, Bureau of Parks.

2 sheets dated 31 November 1972

(a) Sheet 1

((1)) Scale - 1" = 2000':

Index Map: Park from Manville Causeway
(Weston) to Route 518 (Rocky Hill)

((2)) Scale - 1" = 600'-0"

Section 1 and 2: Park from Manville causeway
(Weston) to near Bunker Hill Road
(Griggstown).

(b) Sheet 2

((1)) Scale - 1" = 600'

Section 3: from near Bunker Hill Road
(Griggstown) to Route 518 (Rocky Hill)

((2)) Scale - 1" = 400'

Section 4: From Route 518 (Rocky Hill) to
Dirty Brook (Upstream end of Quarry)

(7) Existing Conditions and Deed Lines along the Delaware and
Raritan Canal from Crosswicks Creek to Lalor Steet by
Thomas Tyler Moore Associates, Inc.

9 Sheets dated October 1978

(a) Scale - 1" = 2000'

Index map

(b) Scale - 1" = 100'
The canal from Crosswicks Creek to Lalor Street in 7
Segments

(c) Scale - 1" = 600'
Land use and Zoning (in Hamilton Township)

Also see Aerial Photographs 1, a, 2 on which these maps are
based.

- (8) Map showing Delaware and Raritan Canal and Feeder in the
State of New Jersey as of June 12, 1934.

Office of the Chief Engineer; New York Zone PRR New York 1
June 1932 revised 15 September 1934.

The canal in segments (F-1 through F-8: Feeder; C-1
through C-17: Main Canal). Maps 11" x 48".

Scale:

1" = 400': F-1, F-2, F-4, F-5, F-6; C-1, C-5 through
C-12, C-15.

1" = 200': F-3, F-7, F-8; C-2, C-3, C-4, C-13, C-14,
C-16, C-17.

N.A.: C-4A contains notes for sheets C-3 and C-4.

Proposed at the time of the States acquisition of the canal
from the Pennsylvania Railroad. Notes include
acquisition/deed information.

- (9) US Geological Survey 7.5 Minute Quadrangle Series
Washington D.C.

- (10) Geological Map of New Jersey
New Jersey Geo

Compiled 1910-1912; Revised 1931 and 1950.

Scale - 1:250,000.

Inspite of age, provides good basic geological information.

- (11) Delaware and Raritan Canal Historic Map

Compiled 1976.

Scale 1:125,000.

Shows location of canals, road and railroads as in 1866.

4. Reports

a. Recent:

- (1) Delaware and Raritan Canal State Park
Vegetation and Aquatic Buffer Zone Study

Prepared for the Delaware and Raritan Canal Commission by
Rogers & Goldin, Inc., Philadelphia Pa. 1977

Canal corridor is described in 28 segments with cover type,
land use, vegetation etc. and some typical sections.

And accompanying maps (scale 1" = 1000' - 0")

Note: Abbreviated as VS.

- (2) A Report on the dredging of the Delaware and Raritan Canal,
a Program Plan and a Programmatic Environmental Impact
Assessment

Prepared for Water Supply Facilities Element
Division of Water Resources, N.J.D.E.P. by Rutgers, the
State University, College of Engineering, Bureau of
Engineering Research, Piscataway, New Jersey, 31 August
1981.

Introduction - The Problem
Procedures and Data Obtained
Analysis and Interpretation of Sports Characteristics
Procedures for Sediment Reduction and Removals
Programmatic Environmental Assessment

- (3) The Delaware and Raritan Canal - Calwalader Park Study

Prepared by the Department of Planning and Development,
City of Trenton.
Trenton, City of Trenton, 1975

Plans/Maps @ scale 1" = 750' (1:9000)

- (4) Program Document for New Jersey Water Supply Authority,
Delaware and Raritan Canal Waterway Maintenance Program
from Prallsville Lock to Kingston Lock DBC P-353.

(Prepared by PRC Harris, Woodbridge, New Jersey, March
1982).

- (5) Delaware and Raritan Canal Hydrologic, Hydraulic,
Structural, Water Quality and Institutional Report.

Investigation by Rutgers University 1977-1980, June 1980.

- (6) Cultural Resources Reconnaissance Survey of the Delaware and Rarian Canal's Proposed Waterway Maintenance Program

Prepared by Brian H. Morrels, Edward Lenik and Edward S. Rutsch, S.O.P.A. of Historic Conservation and Interpretation, Inc. (for PRC Harris, Iselin, New Jersey), draft of March 1983.

Survey is for the area from Prallsville to Kingston Lock.

b. Historic:

- (1) Drawbridge, Lock and House, Kingston, Middlesex County, New Jersey - HABS-NJ-359

Prepared by the Historic American Building Survey, 1937.

Drawings in particular are very good and would greatly facilitate any restoration work not only at Kingston, but at any of the locks.

Note: HABS: NJ-713 including one photograph (1960) and two data sheets (1961) concerns Lock #13 (not in the Park and now destroyed).

5. Books (Other Canals)

a. Chesapeake and Ohio Canal, District of Columbia/Maryland:

- (1) Chesapeake and Ohio Canal National Historical Park, General Plan (January 1976).
- (2) Hahn, Thomas F.
The C&O Canal, an Illustrated History
(Shepardstown, West Virginia: The American Canal and Transportation Center, 1981).
- (3) Hahn, Thomas F.
Towpath Guide to the Chesapeake & Ohio Canal (Four Sections).
(Shepardstown, West Virginia: The American Canal and Transportation Center, 1981).

b. Delaware Division Canal, Pennsylvania:

- (1) Yoder, C.P. "Bill"
Delaware Canal Journal
(Bethlehem, Pennsylvania: Canal Press, Inc., 1972).

Contains much general information on canals, a detailed glossary of canal terms and a detailed guide to the Delaware Division Canal.
- (2) Rivinus, Willis M.
A Wayfarers Guide to the Delaware Canal (4th Edition)
(_____, _____: _____, 1978)

c. Lehigh Canal, Pennsylvania

- (1) Barber, David G.
A Towpath Guide to the Lehigh Canal, Lower Division
(_____: Delaware Valley Chapter, Appalachian Mountain Club, 1981).
- (2) Miller, John P.
The Lehigh Canal, A Thumb Nail History 1829-1931
(_____, _____: _____, 1979)

d. Rideau Canal, Ontario, Canada.

- (1) Ten Cate, Adrian G., (Editor).
The Rideau, A Pictorial History of the Waterway
(Brockville, Ontario: Besancourt, 1981)

e. Morris Canal, (Northern) New Jersey.

- (1) Lee, James.
The Morris Canal, a Photographic History
(Easton, Pennsylvania: Delaware Press, 1979)

- (2) Veit, Richard.
The Old Canals of New Jersey
(Little Falls, New Jersey: New Geographical Press, 1963)
- f. Miscellaneous: numerous small brochures from various museums, canals, waterways and parks including:
 - (1) Hugh Moore Park, Easton, Pa. (Lehigh Canal) (Canal Museum; canal boat ride, restored section of canal including locks).
 - (2) The Canal Museum, Syracuse, N.Y. (Erie Canal) (Museum, Interpretive Center, Canal Park).
 - (3) D & H Canal Park, Cuddebackville, N.Y. (Delaware & Hudson Canal). (Museum in restored blacksmiths house, park).
 - (4) Canal Museum of the D & H Canal Historical Society, High Falls, N.Y. (Delaware and Hudson Canal) (Museum, hiking trails, park, restoration of remaining canal artifacts).
 - (5) Erie Canal Village, Rome, N.Y. (Museum, village of old buildings moved from other sites, section of old Erie Canal, canal boat ride).
 - (6) Rideau Canal, Rideau Canal office, Smith Falls, Ontario, Canada (140 mile operating waterway, numerous restored historical structures, interpretive program etc.)
 - (7) Chesapeake and Delaware Canal, U.S. Army Corps of Engineers, Philadelphia District (Canal Museum, abandoned lock).
 - (8) British Waterways, London, England (extensive waterway system)
- g. General:
 - (1) Harlow, Alvin F.
Old Towpaths
(New York, New York: D. Appleton, 1926)

Includes material on D & R: Chapters 21 and 34 in particular.
- h. Chesapeake and Delaware Canal, Maryland and Delaware:
 - (1) Ludwig, Edward J. III.
The Chesapeake and Delaware Canal, Gateway to Paradise
(Elkton, Maryland: Cecil County Bicentennial Committee, 1979)

- (2) McKelvey, William, Jr.
Champlain to Chesapeake: A Canal Era Pictorial Cruise
(Exton, Pennsylvania: Canal Press, Inc., 1978)
Especially pages 147-198

i. Delaware and Hudson Canal:

- (1) LeRoy, E.D.
The Delaware and Hudson Canal and its Gravity Railroads
(Homesdale, Pennsylvania: Wayne County Historical Society,
1980)
- (2) Wakefield, Manville B.
Coal Boats to Tidewater, The Story of the Delaware and
Hudson Canal, Revised Edition
(Grahamsville, New York: Wakefair Press, 1981)

j. Susquehanna and Tidewater Canal:

- (1) Smeltzer, Gerald.
Canals along the Susquehanna
(York, Pennsylvania: Historical Society of York County,
1963)
Especially pages 42-62

6. Historic Sites Publications

a. General:

Morton, W. Brown, Jr. and Hume, Gary L.
The Secretary of the Interior's Standards for Historic
Preservation Projects
(Washington, D.C.: U.S. Department of the Interior, 1979).

b. New Jersey:

- (1) New Jersey Department of Environmental Protection (Office
of Cultural and Environmental Services).
New Jersey and National Register of Historic Places
(Trenton, New Jersey: State of New Jersey, June 1980).

Also Updates:

- (a) For period 1 June 1980 - 1 November 1980.
 - (b) For period 1 November 1980 - 31 August 1981.
- (2) Bassett, William B.
Historic American Buildings Survey of New Jersey
(Newark, New Jersey: The New Jersey Historical Society,
1977).

A catalog, arranged by town, of the measured drawings,
photographs and other documents in the HABS for New
Jersey.
 - (3) Municipal Ordinances for Historic Preservation by the State
of New Jersey County and Municipal Study Commission,
October 1981.

7. Recreation

a. New Jersey:

- (1) New Jersey Department of Environmental Protection
(Green Acres Program).
New Jersey Statewide Comprehensive Outdoor Recreation Plan
(SCORP) (Trenton, New Jersey: State of New Jersey, 1977).
- (2) New Jersey Department of Environmental Protection (Green
Acres Program).
New Jersey 1983 Outdoor Recreation Plan (MANUSCRIPT)
(Trenton, New Jersey: State of New Jersey, Manuscript of 2
May 1983).
- (3) New Jersey Department of Environmental Protection
(New Jersey Trails Council).
New Jersey Trails Plan
(Trenton, New Jersey: State of New Jersey, 1983).

b. Other:

- (1) Fulcomer, Kathleen and Roger Corbett.
The Delaware River
(Springfield, Virginia: Seneca Press).

A canoe guide to the Delaware River.
- (2) Harding, John J. and Justin J. Harding
Birding in the Delaware Valley Region
(Philadelphia, Pennsylvania: Temple University Press,
1980).

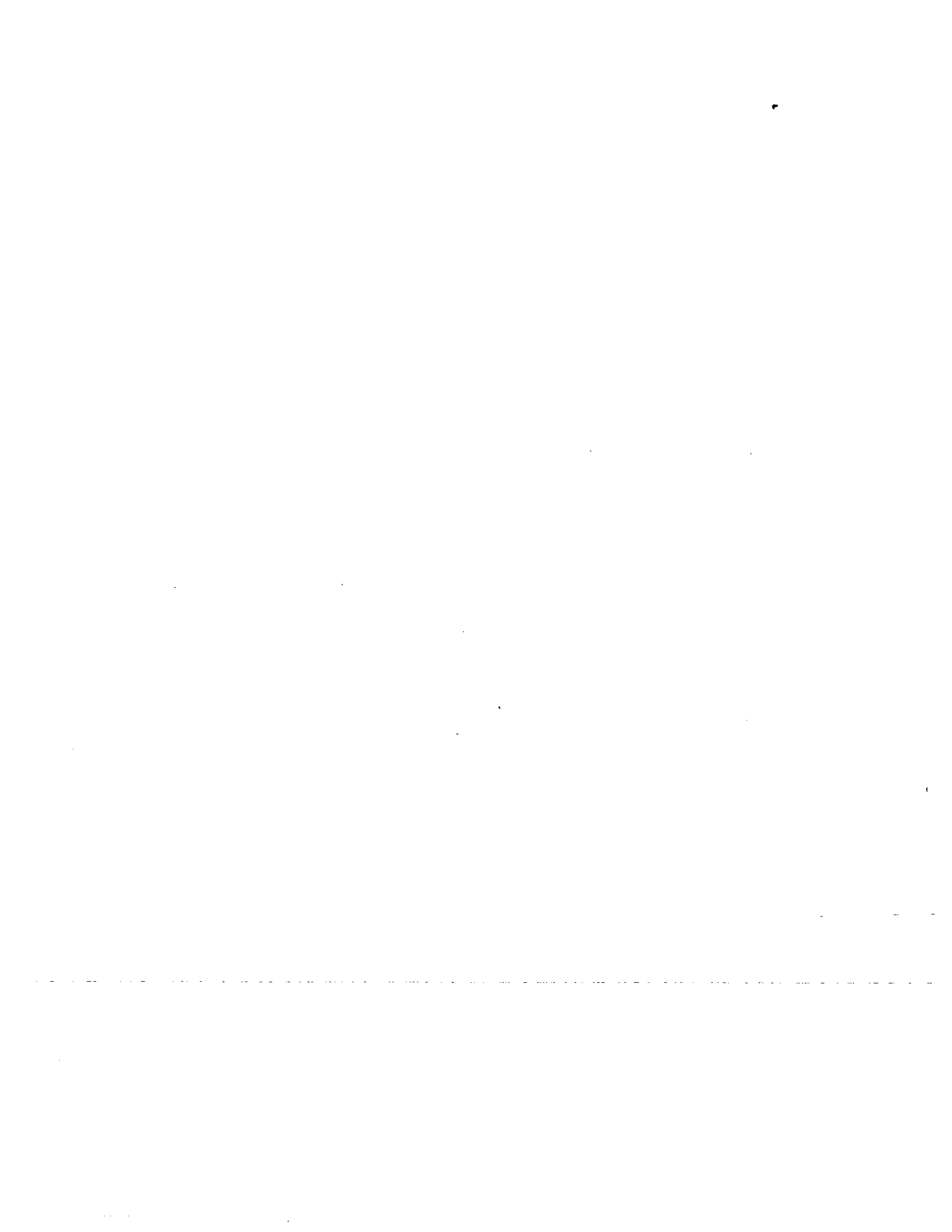
8. Natural

a. New Jersey Region:

- (1) Leck, Charles
The Birds of New Jersey, Their Habits and Habitats
(New Brunswick, New Jersey: Rutgers University Press,
1975).

Also see Reports, particularly 4, a, (1)

Also see Recreation, particularly 7, b, (2)



B. Milage/Structures

1. General:

The Delaware and Raritan Canal is the reason for the Canal Park's existence and its organizing element.

2. Historical:

The idea of a canal connecting New York and Philadelphia by means of a canal across the narrow "waist" of New Jersey was an old one; William Penn suggested it in 1676.

As the development of the newly independent United States progressed in the early 19th Century the need for improved transportation between the countries two largest cities increased.

Several unsuccessful attempts were made to pass canal enabling legislation. By the 1820's the advocates of a canal had competition from advocates for a railroad. The two competing interests prevented any improvement.

In 1830 the dispute was resolved by the creation of two companies: The Delaware and Raritan Canal Company and the Camden and Amboy Railroad. In 1831 the two companies merged.

Construction of the canal began in Kingston in November 1830; Canvas While was chief engineer. The canal was completed late in the Spring of 1830. The official opening of the canal was on June 25, 1834.

The canal is a "true" canal not a slackwater canal.

Canal supplied with water through a feeder canal extending from its intake on the Delaware River at Bulls Island to the old Summit of the main canal in Trenton. The water was supplemented by an additional intake at Five Mile Lock.

Main Canal originally 7 feet deep and 75 feet wide and the feeder 6 feet deep and 60 feet wide. In 1851 the Main Canal was deepened to 8 feet. At the time of its construction it was larger than most canals and had no fixed bridges thus permitting its use by many coastline vessels as well as canal boats larger than usual.

Main canal originally had 14 locks, 7 on each side of the Summit. Summit 57 feet above mean tide at the outlets, locks were originally 24 feet wide by 110 feet long. In 1853 the locks were lengthened to 220 feet; at the same time one lock (#5) was eliminated. In 1853 rip-rap was placed along the banks of the main canal to prevent damage from the wakes of the steamboats which by then were using the canal extensively.

The Feeder Canal was used for navigation also; it had one lift at Lambertville and two guard locks (at Raven Rock and Prallsville). The locks were also 24 feet wide by 110 feet long (they were not increased later). An outlet lock was built also at Lambertville and a cable ferry created across the Delaware to a similar outlet lock from the Delaware Division Canal.

Gates were originally all mitre gates, but, starting in 1849, the upstream gates on the main canal were generally replaced with drop gates.

In 1868 a system of steam-powered winches and valve and gate mechanisms (designed by Ashbel Welch), called a mechanical mule, was installed to facilitate passage through the locks.

In 1871 the canal and the railroad were leased to the Pennsylvania Railroad for 999 years.

In time the canal was supplemented by the increasingly efficient railroad; traffic decreased; the loss of traffic to the railroad and the canal's demise as a working canal was undoubtedly speeded by the railroad's management, but its usefulness as a means of commercial transportation would have ended sooner or later in any case.

The canal closed for the winter, as usual, in 1932, but did not open again in the Spring. In 1934 the canal properties were taken over by the State of New Jersey.

In 1937 the portion of the Main Canal within Trenton and south of the Summit was deeded to the City of Trenton and soon after filled in as a WPA project.

In 1973 the canal was placed on the National Register of Historic Places.

In 1974 the Canal State Park was created by the legislature.

Note: See Appendix A, especially A, 2. for a bibliography.

3. Milage:

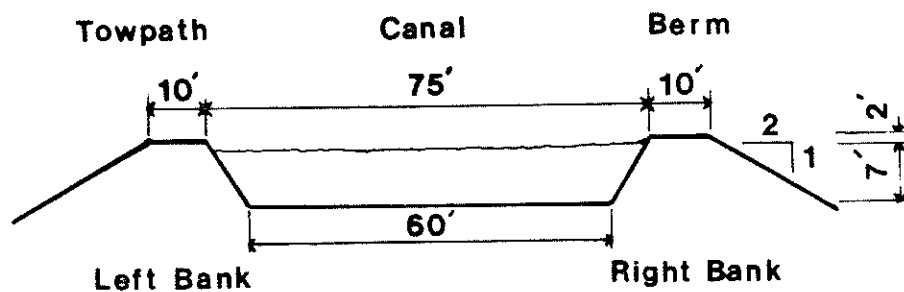
An explanation of milages as used in this Report is given in Part II of the Main Report.

4. Structures:

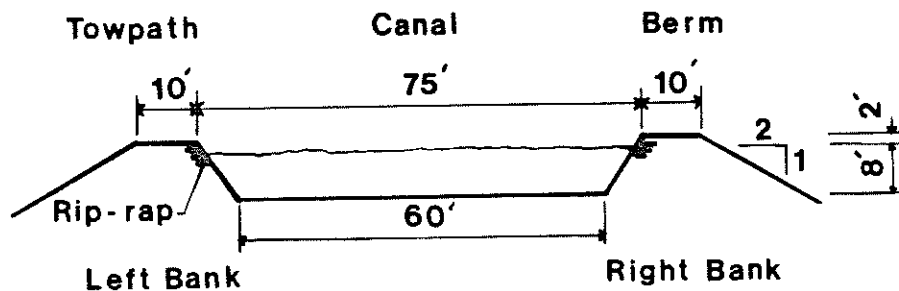
In addition to the canal itself, numerous structures including locks, bridges, waste gates, spillways, lock and bridgetender's houses were required. These are listed below together with their locations (milage).

DELAWARE AND RARITAN CANAL

MAIN CANAL

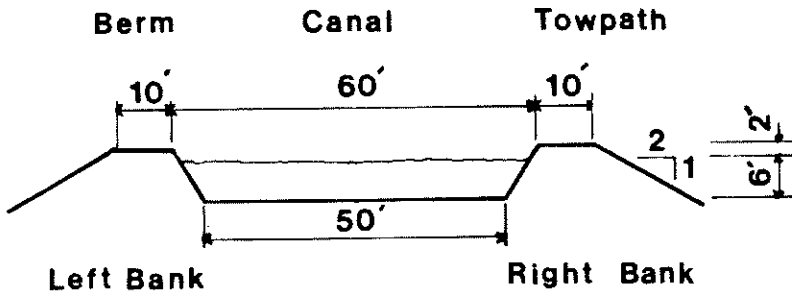


ORIGINAL

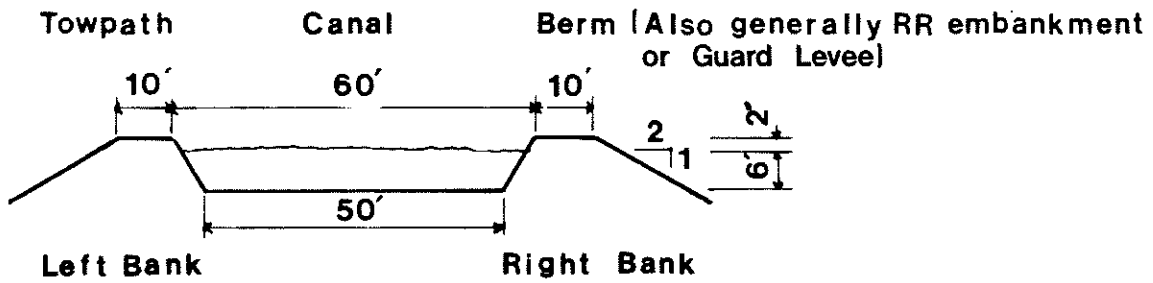


LATER: Canal enlarged (1851); rip-rap added (1853)

FEEDER CANAL



ORIGINAL



LATER (after 1850): Towpath put on left bank.

MP MILAGE

NEW MILAGE

0.0
to
21.7

0.0
to
21.92

Feeder Canal
1831-1834

Description:

Prism

See Sketch, page B-4.

Towpath originally on right bank relocated in 1850 to the left bank in order to permit the (Belvidere and Delaware) railroad to be constructed on a large portion of the left bank.

Outlet lock 1847, cable ferry; ferry ceased operation in 1913. Thereafter generally only local traffic.

Towpath on the left bank known to have existed as far upstream as (3.93) Brookville.

Downstream of 20.56 there were two towpaths after 1850.

Condition:

Varies, generally fair; much silting has occurred; considerable encroachment (especially by roads) on the towpath and even the canal in some places; towpath generally overgrown if existing.

MP MILAGE

NEW MILAGE

-0.71
to
0.0

-0.77
to
0.0

Intake of Feeder Canal
1831-1834

Description:

Condition:

MP MILAGE

- 0

NEW MILAGE

- 0

Wing Dam, Bulls Island

1831-1834

Description:

Originally a stonefilled wood crib dam with a chute opening to permit passage of boats and log rafts.

Condition:

MP MILAGE

0.00

NEW MILAGE

00.00

Raven Rock Guard Lock and Flood Gates, Bulls Island

1831-1834

Description:

Stone Walls covered with concrete in the mid 1940's. Two segmental arched culverts of stone-concrete floodgate on upstream side. Remains of stone lock.

Condition:

Concrete walls in good condition although hairline cracks are present. Stone culvert walls are in fair condition with some missing face stone; downstream walls lock on east side are stable except at the upstream end; west wall of lock has been removed.

MP MILAGE

NEW MILAGE

0.0

00.00

Raven Rock Bridge, Bulls Island

Date?

Description:

Stone abutments, steel beams with wood plank deck.

Condition:

Good

FEEDER CANAL

MP MILAGE

NEW MILAGE

(0.49)

Spillway?

Date?

Description:

Construction: Concrete? and Stone?

Condition:

MP MILAGE

NEW MILAGE

(0.72)

Groin Wall?

Date?

Description:

Dry laid stone; stone steps on upstream side (approximately 60' from canal). Wall extends (approximately 400') from canal to former railroad bed.

Condition:

Good

MP MILAGE

(1.32)

NEW MILAGE

1.30

Railroad Bridge over Lockatong Creek

1913?

Description:

(Abandoned) railroad bridge over Lockatong Creek. Stone, abutments, steel girders with wood ties and planks (for walkway). Track removed.

Condition:

Good condition except planking and hand railing need repairs or replacement.

Note: Planking has been added (1984).

MP MILAGE

(0.11)

NEW MILAGE

01.30

Spillway

1831-1834

Description:

Condition:

Good

MP MILAGE

(1.52)

NEW MILAGE

01.74

Floodgate

c1944

Description:

Concrete with steel gate and mechanism.

Condition:

Good

MP MILAGE

NEW MILAGE

(1.95)

Railroad Culvert; Creek enters canal

Description:

Condition:

MP MILAGE

NEW MILAGE

(2.61-2.76)

Stone retaining walls along (far side of)
railroad bed.

Date?

Description:

Drylaid stone wall.

Condition:

Generally good; two small areas need to be
rebuilt.

MP MILAGE

(2.90)

NEW MILAGE

2.84

Wickecheoke Creek (abandoned)
railroad bridge, Prallsville, (Smith Mills)

1913

Description:

Railroad bridge across creek set on stone
piers with steel beams and concrete
superstructure-replaced earlier wooden
covered bridge which burned. Track removed.

Condition:

Good, but handrail and walkway planks require
repairs or replacement.

MP MILAGE

3

NEW MILAGE

2.85

Mill Complex consisting of a number of
structures:

- a. Grist/Flour Mill
- b. Granary
- c. Oil Mill
- d. Saw Mill
- e. Weigh Station and Scales
- f. Stable
- g. Wagon Sheds (2)
- h. "Bunkhouse"

Description:

Condition:

MP MILAGE

(2.92)

NEW MILAGE

02.86

Wickecheoke Creek Spillway

c1944

Description:

Concrete-creek flows into and across canal and then into the Delaware River via spillway.

Condition:

Good condition although downstream there is some evidence of erosion.

MP MILAGE

NEW MILAGE

02.93

Mill Tailrace Structure

Date?

Description:

Stone structure including passage under railroad bed, chamber parallel to canal and culvert under canal.

Condition:

MP MILAGE

NEW MILAGE

3.0

02.95

Prallsville Guard Lock and Floodgates,
Prallsville, Stockton

1831-1834

Description:

Originally the site of a paired guard lock (right bank) and floodgates (left bank); the lock was abandoned prior to 1934 (probably early in the 20th Century) and largely removed during the c.1944 renovations at which time new concrete walls and floodgates (concrete with steel gate) were installed in the floodgate channel. Double access of original floodgate structure remains downstream of the old gates. The right bank wall of the former lock remains as do stone walls on the (left bank) floodgate side.

Condition:

Concrete walls in good condition although hairline cracks are present.

Note: The so called existing "lock" is really the floodgate channel for a pair of gates which was originally paired with a guard lock (as at Raven Rock except opposite hand); it is possible other portions of the guard lock remain buried on the right bank. Note skewed angle of c.1944 rebuilding and stone walls downstream.

MP MILAGE

3.3

NEW MILAGE

03.38

Bridge Street Bridge, Stockton

20th Century

Description:

Concrete

Condition:

Good

Note: Ample clearance.

MP MILAGE

(3.85)

NEW MILAGE

03.93

Brookville (Abandoned) Railroad Bridge,
Brookville, Stockton

1877? 1913? (before 1934)

Description:

Stone abutments with steel beams. Track
removed.

Condition:

Good

Note: Ample clearance.

MP MILAGE

3.98

NEW MILAGE

04.09

Brookville Creek, Brookville, Stockton

Date?

Description:

Creek drains into canal via culvert.

Condition:

Good

MP MILAGE

4.32

NEW MILAGE

04.31

Floodgate

1944 (HS)

Description:

Stone arch structures on canal side, concrete structures on river side (with date 1913).

Condition:

Fair

Note: Rutgers report lists as 4 "appears unsafe".

MP MILAGE

(4.86)

NEW MILAGE

05.04

Railroad Bridge opposite Quarry

Date? Rebuilt 1981-2

Description:

Stone foundation, wood trestle with steel beams and wood ties.

Condition:

Good-recently rebuilt

MP MILAGE

5.10

NEW MILAGE

05.18

Irelands Bridge

Date? (before 1934)

Description:

Timber with wood plank deck. No sidewalk.

Condition:

Good

Note: Bridge very narrow.

MP MILAGE

5.7

NEW MILAGE

05.70

Route 202 Bridge

1978-1979

Description:

Stone piers, steel truss and concrete deck.

Condition:

Excellent

MP MILAGE NEW MILAGE

[5.5] (5.62) 05.72

Jimison Farm (Barbers) Bridge, Jimison Farm

Date? (before 1934)

Description:

Timber with wood plank deck.

Condition:

Good

MP MILAGE NEW MILAGE

(5.76) 05.87

Alexauken Creek Aqueduct

c1944

Description:

Concrete trough carries canal over-replaces original stone arches. Spillway on east side of aqueduct. Original catwalk on left bank side has been removed for most of its extent.

Condition:

Good

MP MILAGE

(5.76)

NEW MILAGE

5.87

Black River and Western Railraod Bridge
across Alexauken Creek

1877?

Description:

Railroad bridge across creek set on stone
piers with steel beams and wood ties on
concrete deck. Remnants of railroad bridge
(?) or towpath bridge(?) located west of
canal-stone; piers are all that remain.

Condition:

Good; retaining wall needs repair/
replacement; hand railing, planks need
repair/replacement.

Note: Rutgers report lists retaining wall as
2 "appears unsafe".

MP MILAGE

NEW MILAGE

5.95

"Superintendent's" House

19th Century

Description:

Two story wood frame house.

Condition:

Poor

Note: Owned by Black River and Western
Railroad; said to have once been the
canal superintendent's house (not
verified).

MP MILAGE

NEW MILAGE

(5.91)

06.00

Black River and Western Railroad Bridge

1877?

Description:

Concrete piers with steel beams and wood ties. Remnants of old catwalk (for towpath) under bridge.

Condition:

Good

MP MILAGE

NEW MILAGE

(6.03)

06.15

Culvert

1831-1834

Description:

Single stone arch set within stone wall.

Condition:

Good

MP MILAGE

NEW MILAGE

06.18

Spillway

c1944

Description:

Concrete

Condition:

Good

MP MILAGE

NEW MILAGE

6.51

Site of Delevan Street Bridge

Date?

Description:

Condition:

Note: No evidence of former structure visible.

MP MILAGE

NEW MILAGE

(6.53)

06.64

Coryell Street Bridge, Lambertville

Date? (before 1934)

Description:

Timber with wood plank deck. Replaced earlier swing bridge.

Condition:

Good

MP MILAGE

NEW MILAGE

6.6

06.67

Bridge Street Bridge, Lambertville

Date? c1920? (before 1934)

Description:

Concrete

Condition:

Good

Note: Clearance poor.

MP MILAGE

NEW MILAGE

6.6

06.67.01

Bridgetender's House, Bridge Street,
Lambertville

c1831

Description:

Two story wood frame, with stucco, house with
gable roof.

Condition:

Good

Note: State owned leased for private used.

MP MILAGE

NEW MILAGE

6.81

Two houses formerly owned by the Canal
Company are located on Ferry Street.

MP MILAGE

NEW MILAGE

[6.75](6.86)

06.87

Swan Creek Aqueduct, Lambertville

1831-1834

Description:

Stone arch over creek with concrete liner.

Condition:

Good-some minor deterioration in stone wall; concrete liner exhibits hairline cracks.

- Notes: 1. Rutgers Report lists as 5:
"Structure safe at present, but further deterioration could cause failure."
2. Reinforced concrete beam (parallel to and centered on the canal) protrudes into prism.

MP MILAGE

NEW MILAGE

(6.86)

06.88

Swan Creek Spillway, Lambertville

c1915? c1944?

Description:

Concrete

Condition:

Good

MP MILAGE

NEW MILEAGE

[6.9]

7.07

Entrance to millrace/lock by-pass; site of former bridge for towpath.

MP MILAGE

NEW MILAGE

7.1

07.19

Lambertville Lock, Lambertville

1831-1834

Description:

Stone sidewalls and approach walls are intact. Concrete water control gate with steel mechanism added in the mid 1940's. Lock original 110' length.

Condition:

Good-some minor deterioration in stone and mortar; weeds growing between stones; should be cleaned of all vegetation.

MP MILAGE

NEW MILEAGE

[6.95]

Sluice Gate (lock by-pass)

MP MILAGE

NEW MILAGE

7.1

07.19.01

Locktender's House

c1847

Description:

Two story stone house with stucco built into side of canal bank.

Condition:

Good

Note: House responsibility of NJWSA.

MP MILAGE

NEW MILAGE

7.1

[7.22]

Lambertville Outlet Lock, Lambertville

1847-1848

Description:

Lock between canal and Delaware River allowed canal boats which had locked out of the Delaware Division Canal, in Pennsylvania, and crossed the river on a cable ferry to lock into the D & R Canal and continue on to Brunswick and New York. Lock 0.02 from canal.

Note: Cable ferry was discontinued in 1913.

Condition:

Poor--great deterioration in stone walls with many displaced stones. Partially filled in with soil and garbage. The channel which linked the Feeder Canal to the outlet lock has been completely filled in.

MP MILAGE .

NEW MILAGE

7.1

7.23.01

Railroad Bridge over Outlet Channel

Date?

Description:

Abutments remain; channel including area between abutments filled in.

Condition:

MP MILAGE

NEW MILAGE

7.23.02

Site of Towpath Bridge (across canal) to
Outlet Channel and remains of abutments.

1847?

Description:

Stone abutments on left and right banks.

Condition:

MP MILAGE

NEW MILAGE

[7.15]

07.25

Bridge across Bypass Channel

c1944? earlier?

Description:

Timber with wood plank deck on timber
abutments.

Condition:

Good; recently reconstructed.

MP MILAGE

NEW MILAGE

[7.15]

7.27

Lambertville Turning Basin

MP MILAGE

(7.25)

NEW MILAGE

07.35

Floodgate

c1944

Description:

Concrete with steel gate and mechanism.

Condition:

Good

MP MILAGE

[7.47]

NEW MILAGE

[7.57]

Railroad Bridge Piers

(1877?) (1913?)

Description:

Masonry and concrete bridge piers; rest of bridge demolished prior to 1930.

Condition:

Fair

MP MILAGE

(8.23)

NEW MILAGE

08.33?

Spillway

c1915

Description:

Concrete

Condition:

Good; handrailing requires repairs/
replacement.

MP MILAGE

NEW MILAGE

[8.2](8.32)

08.42

Old River Road (Firemans) Bridge, opposite
"Roosters Coop"

Date? (before 1934)

Description:

Timber with wood plank deck. Dry-laid stone
(left bank) and timber (right bank)
abutments. No sidewalk.

Condition:

Good

Note: Very narrow.

MP MILAGE

NEW MILAGE

[8.9] 9:1
(9.13)

09.24

Valley Road (Workhouse) Bridge, Belle
Mountain

Date? (before 1934)

Description:

Timber with wood plank deck. No sidewalk.

Condition:

Good

Note: Very narrow.

MP MILAGE

(9.41)

NEW MILAGE

09.53

Spillway

c1915

Description:

Concrete pipes set in wall.

Condition:

Fair; considerable spilling of concrete.

Note: Rutgers Report lists as 7: "appears safe, but further deterioration could cause failure".

MP MILAGE

NEW MILAGE

9.76

Creek Headwall

Note: Rutgers Report lists as "4".

MP MILAGE

NEW MILAGE

(9.81)

09.90

Bridgetenders (?) Shanty

Date?

Description:

Wood frame with wood siding. Open structure.

Condition: .

Fair

MP MILAGE

NEW MILAGE

[9.5](9.81)

09.91

Abandoned Railroad Bridge

1898?

Description:

Old swing bridge (much of mechanism remains): timber trestle with steel beams and wood ties.

Condition:

Poor-some ties and rails missing in several places; wood members exhibit rot.

Notes: 1. Rutgers Report lists as 2:
"Structure appears unsafe".

2. Bridge is of considerable importance; probably the only significant remains of a typical "A" frame swing bridge left on the canal.

3. See Paulsboro Bridge, page B-130.

MP MILAGE

NEW MILAGE

(10.11)

10.22

Moore's Creek Culvert, Pleasant Valley Road
1917

Description:

Stone double arched opening faced with
concrete.

Condition:

Good

MP MILAGE

NEW MILAGE

[9.8](10.13)

10.24

Abandoned Railroad Bridge, Pleasant Valley
Road

Date? 1913? (before 1934)

Description:

Timber trestle with steel beams and wood
ties.

Condition:

Poor-some ties and rails missing in several
places; wood members exhibit rot.

MP MILAGE

NEW MILAGE

(12.11)

11.21

Culvert

20th Century

Description:

Metal

Condition:

MP MILAGE

(11.43)

NEW MILAGE

11.59

Fiddlers Creek Culvert

1831-1834

Description:

Stone arch with metal liner; rough stone wall with smooth stone voussoirs.

Condition:

Good-no major cracks or structural flaws are in evidence.

MP MILAGE

11.7

NEW MILAGE

11.91

River Road (Clayhans) Bridge, Titusville

(before 1934)

Description:

Timber with wood plank deck. No sidewalks. Timber abutments and intermediate supports.

Condition:

Good

MP MILAGE

(12.11)

NEW MILAGE

12.21

Culvert

1914

Description:

Concrete-single arched opening.

Condition:

Good

MP MILAGE

(12.11)

NEW MILAGE

12.21

Bridge, Titusville

1831-1834

Description:

Stone road bridge over creek; single arch with side walls; iron brace above arch.

Condition:

Good-some deterioration (minor) in stone and mortar.

MP MILAGE

12.3

NEW MILAGE

12.45

Church Street Bridge, Titusville

Date? (before 1934)

Description:

Timber with wood plank deck. Sidewalk on both sides. Timber abutments and intermediate supports.

Condition:

Good

MP MILAGE

(12.39)

NEW MILAGE

12.55

Spillway

c1915

Description:

Concrete

Condition:

Good

MP MILAGE

13.0

NEW MILAGE

13.06

Grant Street Bridge, Titusville

Date? (before 1934)

Description:

Timber with wood plank deck. Sidewalks on both sides. Timber abutments and intermediate supports.

Condition:

Good

MP MILAGE

(13.12)

NEW MILAGE

13.20

Steele Creek Culvert

1831-1834

Description:

Stone arch.

Condition:

Good-some minor deterioration in stone and mortar.

MP MILAGE

NEW MILAGE

[13.4](13.5) 13.60

Washington Crossing Bridge, Washington Crossing

Date? (before 1934)

Description:

Timber with asphalt covered wood plank deck. Sidewalks both sides. Stone (left bank) and concrete and timber (right bank) abutments; timber intermediate supports.

Condition:

Good

Note: Dry-laid stone walls extend upstream on both sides and downstream on the left bank; concrete wall extends downstream on the right bank.

MP MILAGE

NEW MILAGE

(13.54) 13.64

Spillway

1915

Description:

Series of concrete pipes set within concrete wall.

Condition:

Good

MP MILAGE

NEW MILAGE

[14.4]

[14.3]

Maddock Rest

Note: In this area the canal and towpath are, to a large extent, cut out of the red (Argillite) rock (with occasional in fill with the same stone).

MP MILAGE

NEW MILAGE

15.05

Jacobs Creek Culvert

1831-1834

Description:

Concrete(?) arch with stone wall; largest culvert along canal. Concrete facing?

Condition:

Good; however considerable spalling of concrete particularly below the high water line.

MP MILAGE

NEW MILAGE

15.12

Site of Former Somerset Railroad Bridge over Canal.

Date?

Description:

Remains of stone abutment on right bank.

Condition:

Note: Railroad active 1872 -1880.

MP MILAGE

NEW MILAGE

15.18

Site of Former Railroad Water Tower and Pump House.

Date?

Description:

Remains of concrete/stone foundations.

Condition:

MP MILAGE

NEW MILAGE

(15.45)

15.56

Spillway

c1915

Description:

Concrete

Condition:

Good

MP MILAGE

15.9

NEW MILAGE

16.01

Scudders Bridge, opposite Bernard Drive

Date? (before 1934)

Description:

Timber with wood plank deck. Sidewalk on downstream side. Stone (right bank) and concrete (on earlier stone remains) (left bank) abutments. Intermediate timber supports.

Condition:

Good

MP MILAGE

NEW MILAGE

16.12

Route I-295 Access Ramp Bridge, Scudders Falls

c1970

Description:

Concrete with steel beams and concrete deck.

Condition:

Good

MP MILAGE

NEW MILAGE

16.38

Route I-295 (Scudders Falls) Bridge, Scudders Falls

c1970

Description:

Concrete piers with steel beam and concrete deck.

Condition:

Good

MP MILAGE

NEW MILAGE

16.56

16.67

Culvert

20th Century

Description:

Concrete

Condition:

Good

MP MILAGE

NEW MILAGE

16.7(16.68)

16.79

Upper Ferry Road Bridge, Ewing Township

c1920? (before 1934)

Description:

Concrete

Condition:

Good

MP MILAGE

NEW MILAGE

17.1

17.24

Bridgetender's House, Wilburtha Road, Ewing Township

c1852

Description:

Two story clapboard house with gable roof.

Condition:

Good structurally, but ultimately should be restored, paint color and siding inappropriate.

MP MILAGE

NEW MILAGE

[17.1]
(17.12)

17.25

Wilburtha Road Bridge, Ewing Township

Date? (before 1934)

Description:

Timber with asphalt covered wood plank deck.

Condition:

Good

MP MILAGE

(17.8)

NEW MILAGE

(17.89)

Keeler's Bridge, Ewing Township

Date? (before 1934)

Description:

Timber with wood plank deck.

Condition:

Damaged by fire, but appears to be capable of repair.

MP MILAGE

[18.2]

NEW MILAGE

17.97

Reading Railroad Bridge

20th Century (before 1925)

Description:

Concrete arch viaduct.

Condition:

Good

Note: Stone piers of former Reading Railroad Bridge (19th Century) are immediately adjacent upstream.

MP MILAGE

(17.92)

NEW MILAGE

18.05

Gold Run Culvert

1831-1834; Rebuilt in 1979.

Description:

Stone arch with stone wall and smooth stone voussoirs with metal liner.

Condition:

Good

MP MILAGE

(17.97)

NEW MILAGE

18.09

Spillway

c1915

Description:

Concrete; multiple concrete pipes set in concrete.

Condition:

Good

MP MILAGE

(17.97)?

NEW MILAGE

(18.10)

Floodgate, Lower Ferry Road

c1944

Description:

Concrete piers in middle of canal.

Condition:

Good

MP MILAGE

NEW MILAGE

18.0

18.12

Lower Ferry Road Bridge, Ewing Township

Date? (before 1934)

Description:

Timber with asphalt covered wood plank deck.

Condition:

Good

MP MILAGE

NEW MILAGE

18.8 (18.82)

18.94

Pedestrian Bridge, Mills Drive/Schoolhouse Lane

20th Century

Description:

Pedestrian foot bridge; wood planks on top of steel cables strung across canal.

Condition:

Good

MP MILAGE

(18.95)

NEW MILAGE

19.06

Sullivan Way Aqueduct, Trenton

c1925; Rebuilt 1982

Description:

Concrete trough carries canal over Sullivan Way.

Condition:

Very Good

MP MILAGE

(19.40)

NEW MILAGE

19.52

Culvert

20th Century

Description:

Concrete

Condition:

Good

MP MILAGE
(19.76)

NEW MILAGE
19.87

Parkside Avenue Aqueduct, Trenton

c1902? c1920?

Description:

Concrete trough supported on concrete columns and arches; done in classical style.

Condition:

Fair-some deterioration of concrete with water seepage onto roadway below.

Note: Fredrick Law Olmstead's Preliminary Plan (1891) indicates a proposed "tunnel," under the D & R Canal, for Parkside Avenue.

MP MILAGE
(20.18)

NEW MILAGE
20.30

Hermitage Avenue Bridge, Trenton

Date? (before 1934)

Description:

Timber

Condition:

MP MILAGE

(20.42)

NEW MILAGE

20.56

Abandoned Railroad Bridge

Date? (before 1934)

Description:

Concrete abutments with steel beams and wood ties.

Condition:

Good

MP MILAGE

20.6

NEW MILAGE

20.73

Bridgetender's House

c1852

Description:

Two story clapboard house with gable roof.

Condition:

Good; has recently been repainted.

MP MILAGE

20.6

NEW MILAGE

20.74

Prospect Street Bridge, Trenton

c1920

Description:

Concrete

Condition:

Good

MP MILAGE

NEW MILAGE

[20.74]
20.56 +
R0.14

Prospect Street Bridge over Railroad
Right-of-Way (Not on Canal)

Date?

Description:

Steel plate girder bridge.

Condition:

Fair

MP MILAGE

NEW MILAGE

[20.7]
(20.67)

20.82

Pedestrian Bridge between West State and West
Hanover Streets, Trenton

c1920

Description:

Pedestrian foot bridge; concrete.

Condition:

Good

MP MILAGE

(20.70)

NEW MILAGE

20.85

Floodgate (on right bank)

c1944(?)

Description:

Concrete with steel gate and mechanism.
Concrete block gatehouse structure.

Condition:

Good

MP MILAGE

(20.70)

NEW MILAGE

20.85

Overflow Channel Culvert (under West State Street)

Date? 19th Century

Description:

Culvert with cut sandstone single arch abutment.

Condition:

Good

MP MILAGE

(20.70)

NEW MILAGE

20.85

Overflow Channel

19th Century (possibly 1831-1834?)

Description:

Channel to Delaware River; lined with carefully laid cobblestones, old wooden planking remains at base of West State Street Culvert.

Condition:

Good; except at West State Street Culvert where concrete filled bags have been used.

MP MILAGE

(20.70)

NEW MILAGE

20.85

Culvert (under Route 29)

20th Century

Description:

Condition:

Note: Overflow probably originally flowed into the Water Power Canal and thence into the Delaware.

MP MILAGE

20.9

NEW MILAGE

21.05

Canal Supervisor's (or Bridgetender's) House,
Calhoun Street Trenton

c1852

Description:

Two story clapboard house with gable roof.

Condition:

Good-structurally but some restoration
desirable.

MP MILAGE

20.9

NEW MILAGE

21.06

Calhoun Street Bridge, Trenton

c1920

Description:

Concrete

Condition:

Good

MP MILAGE

NEW MILAGE

[21.06]
20.56 +
R0.44

Calhoun Street Bridge over Railroad
Right-of-Way (Not on the Canal)

Date?

Description:

Steel plate girder bridge.

Condition:

Fair

MP MILAGE

NEW MILAGE

21.0

21.15

Bridgetender's House, West Hanover Steet,
Trenton

c1852

Description:

Two story clapboard house with gable roof.

Condition:

Restored

MP MILAGE

NEW MILAGE

21.0

21.16

West Hanover Street Bridge, Trenton

c1920

Description:

Concrete

Condition:

Good

MP MILAGE

NEW MILAGE

(21.2)

21.35

Passic Street Bridge, Trenton

1920

Description:

Concrete

Condition:

Good

MP MILAGE

21.3
(21.28)

NEW MILAGE

21.42

Willow Street Bridge, Trenton

c1920

Description:

Concrete

Condition:

Good

MP MILAGE

(21.35)

NEW MILAGE

21.50

Abandoned Railroad Bridge

Date? (probably before 1934)

Description:

Concrete abutments with steel beams.
Addition steel plates added to facilitate
pedestrian use.

Condition:

Good; some improvements required to
facilitate pedestrian use.

MP MILAGE

[21.4]
(21.44)

NEW MILAGE

21.59

North Warren Street Bridge, Trenton

c1920

Description:

Concrete

Condition:

Good

MP MILAGE

(21.48)
[21.4]

NEW MILAGE

21.62

North Broad Street Bridge, Trenton

c1920

Description:

Concrete

Condition:

Good

MP MILAGE

[21.5]
(21.57)

NEW MILAGE

21.71

Montgomery Street Bridge, Trenton

c1920

Description:

Concrete

Condition:

Fair

Note: Remains of former building
(bridgetender's house?) between
tracks and canal.

MP MILAGE

21.7

NEW MILAGE

21.92

Railroad Bridge near Old Rose Street, Trenton

c1944? (possibly earlier)

Description:

Concrete abutments with steel beams.

Condition:

Good

Note: Stone pier of earlier bridge structure
in Canal.

MP MILAGE

21.7

NEW MILAGE

B6.37/21.92

Junction of Main and Feeder Canals and Summit
of the Main Canal

MP MILAGE

NEW MILAGE

Main Canal

B0.0
to
B6.37/21.92

1. South of the Old Summit.

B6.37/21.92
to
59.06

2. North of the Old Summit.

1831-1834

Note: Construction started in Kingston,
November 1831.

Description:

See prism sketch, page B-3.

Notes: 1. Prism was typical from (B.23) North End of "Bordentown" Basin to (58.01) Deep Lock; below Deep Lock the canal was also called New Brunswick Harbor. There were, of course, variations; the canal was narrower at locks and many bridges and wider in some sections to provide areas for unloading.

2. The dredging of the canal, under the responsibility of the NJWSA, in 1984 provided an opportunity to examine the canal bed more closely than has been possible for many years. The actual original profile varied considerably and was generally rounded in shape rather than the ideal prism. The canal's clay liner was discovered also; again there was apparently considerably more variation in the thickness and composition of the liner as well as that of its submaterial.

MP MILAGE

21.8

NEW MILAGE

22.05

Enclosure

c1970

Description:

Concrete

Condition:

Good

MP MILAGE

[21.9]

NEW MILAGE

22.12

Southard Street, Trenton
Site of Southard Street Bridge (#8)

One remaining pier (left bank).

Date (?) (after 1872, before 1880)

Original bridge (c. 1880) a pivot bridge;
Pivot bridge replaced by a bascule bridge
(c. 1925) remaining pier utilized by both
bridges.

MP MILAGE

NEW MILAGE

+22.5

Mile Marker 37/7 Site?

Presumed

MP MILAGE

(22.66)

NEW MILAGE

22.84

Olden Avenue, Trenton

Site of Olden Avenue Bridge (#9).

<u>MP MILAGE</u>	<u>NEW MILAGE</u>	
[22.9] (22.99)	23.20	Outlet, Mulberry Street, Trenton c1970 Description: Concrete Condition: Good Note: Site of Mulberry Street Bridge (#10).

<u>MP MILAGE</u>	<u>NEW MILAGE</u>	
	23.31 to 23.42	Lateral steel girders across canal.

<u>MP MILAGE</u>	<u>NEW MILAGE</u>	
	23.39	Route 1 Freeway access ramp bridge.

<u>MP MILAGE</u>	<u>NEW MILAGE</u>	
	23.55	Mile Marker 36/8 Site. Presumed demolished.

<u>MP MILAGE</u>	<u>NEW MILAGE</u>	
	23.66 to 23.85	Lateral steel girders across canal.

MP MILAGE
(23.88)

NEW MILAGE
24.05
(24.02 -
24.07)

Spillway, Cherry Tree Lane
c1944?

Description:
Concrete

Condition:
Good

MP MILAGE
[23.8]

NEW MILAGE
24.09

Cherry Tree Lane, Lawrence Township

Note: Remains of old bridge and site of
former swing bridge (#?).

MP MILAGE

NEW MILAGE
24.10

Site of former bridgetender's house
Presumed demolished.

MP MILAGE
23.9

NEW MILAGE
24.18

Whitehead Road Bridge
c1944? c1950?

Description:

Condition:
Good

MP MILAGE

NEW MILAGE

[24.28]

Route 1 Access Ramp Bridge

c1978

Description:

Concrete piers, steel beams and concrete deck.

Condition:

Excellent

MP MILAGE

NEW MILAGE

[24.32]

Route 1 Bridge

c1978

Description:

Concrete piers (set within Canal) support steel beams and concrete deck.

Condition:

Excellent

MP MILAGE

NEW MILAGE

24.63

Mile-Marker 35/9 Site

Presumed demolished.

MP MILAGE

(24.43)

NEW MILAGE

24.66

Big Shabakunk Creek Culvert

20th Century

Description:

Concrete; 4 channel concrete box culvert and headwalls.

Condition:

Good

Note: Replaced original triple stone arch masonry culvert.

MP MILAGE

NEW MILAGE

25.50

Former Culvert (Little Shabakunk Creek)

Stone arch (partially blocked with concrete infill).

MP MILAGE

NEW MILAGE

25.56

Mile Marker 34/10 Site

Presumed demolished.

MP MILAGE
(25.35)

NEW MILAGE
25.73

Little Shabakunk Creek Culvert
20th Century
Description:
Concrete, four parallel conduits.

Condition:
Good

MP MILAGE
25.7

NEW MILAGE
25.85

Bridgetender's House, Carnegie Road, Lawrence
Township

1831-1834? c1850?

Description:

Two story clapboard house with gable roof.

Condition:

Fair: New roof and other repairs required;
restoration recommended

MP MILAGE

25.7

NEW MILAGE

25.86

Carnegie Road Bridge, Lawrence Township

c1944

Description:

Timber with wood plank deck.

Bridge replaced former swing bridge (Greens Crossing) (#?).

Condition:

Good

MP MILAGE

(25.75)

NEW MILAGE

25.95

Bakers Basin

1831-1834

Description:

Largest basin along canal; separated from canal by towpath.

Condition:

Good

MP MILAGE

26.3

NEW MILAGE

26.48

Lawrence Station Road (Bakers) Bridge
c1944

Description:

Timber with wood plank deck.

Bridge replaced former swing bridge(s) (#?).

Condition:

Good

MP MILAGE

26.31

NEW MILAGE

26.52

Spillway

1831-1834

Description:

Cobblestone section of towpath; depressed one foot below towpath.

Condition:

Good

MP MILAGE

NEW MILAGE

26.59

Mile Marker 33/11

Date?

Description:

Typical concrete obelisk.

Condition:

Fair

MP MILAGE

26.36

NEW MILAGE

26.57

Shipetaukin Creek Culvert

1831-1834

Description:

Stone wall and abutments; opening is below creek water line on right bank.

Condition:

Good-some deterioration in stone and mortar; some displaced stone on abutment.

MP MILAGE

[26.6]

NEW MILAGE

26.93

Route 1 Bridge (near Route I-295 interchange)

c1970

Description:

Concrete piers with steel beams and concrete deck.

On site of former steel draw bridge (#12), built on site of earlier swing bridge(s).

Condition:

Good

MP MILAGE

NEW MILAGE

26.95

Site of former bridgetender's house

Presumed demolished.

MP MILAGE

NEW MILAGE

27.20

Route I-295 Bridge (at Route 1 interchange)

c1970

Description:

Concrete piers with steel beams concrete deck. Main Bridge is two separate sections, one for westbound and one for eastbound traffic; in addition there are two separate access ramps.

Condition:

Good

MP MILAGE

NEW MILAGE

26.78

27.30

Diamond Shamrock Intake

c1944

Description:

Concrete platform with steel gate and mechanism; concrete block building next to intake.

Condition:

Good

MP MILAGE

NEW MILAGE

[27.1]

[27.43]

"Brearley" Landing

MP MILAGE

NEW MILAGE

27.5

Mile Marker 32/12

Date(?)

Description:

Typical concrete obelisk

Condition:

MP MILAGE

NEW MILAGE

(27.78)

27.97

Floodgate

c1944

Description:

Concrete with steel gate and mechanism.

Condition:

Good

MP MILAGE

NEW MILAGE

+28.53

Mile Marker 31/13

Date?

Description:

Concrete obelisk similar to typical, but without chamfering.

Condition:

Poor; badly broken; also appears to have been reset.

MP MILAGE

NEW MILAGE

28.6

28.83

Port Mercer Bridge, Port Mercer, West Windsor
(Quakerbridge Road)/Lawrence (Provinceline
and Quakerbridge Roads)/Princeton (Quaker
Road)

c1944

Description:

Timber with asphalt covered wood plank deck.
Site of former swing bridge (#13).

Condition:

Good

MP MILAGE

NEW MILAGE

28.6

28.83

Bridgetender's House, Port Mercer

c1831-24? c1850?

Possibly relocated from site at Provinceline
Road?

Description:

Two-story wood frame house with clapboard
siding.

Condition:

Good; currently being restored.

MP MILAGE

(28.73)

NEW MILAGE

29.02

Port Mercer Basin

1831-1834

Description:

Now separated from canal.

Condition:

MP MILAGE

NEW MILAGE

29.54

Mile Marker 30/14

Date?

Description:

Typical concrete obelisk.

Condition:

Good

MP MILAGE

[29.22]

NEW MILAGE

[29.71]

Pedestrian Bridge, Princeton Country Club

Date?

Description:

Steel on concrete abutments with wood plank deck.

Condition:

Good

MP MILAGE

[29.31]

NEW MILAGE

[29.81]

Maintenance Bridge, Princeton Country Club

Date?

Description:

Steel on concrete abutments with wood plank deck.

Condition:

Good

MP MILAGE

NEW MILAGE

30.50

Mile Marker 29/15

Date?

Description:

Typical concrete obelisk.

Condition:

Good

MP MILAGE

[30.65]

NEW MILAGE

[30.86]

Intake, Elizabethtown Water Company

MP MILAGE

NEW MILAGE

31.38

Site of former basin

New completely infilled.

MP MILAGE

31.2

NEW MILAGE

31.40

Alexander Road Bridge, Princeton/West Windsor Townships

c1944

Description:

Timber with wood plank deck; pedestrian walkways on both sides.

Replaced former swing bridge (#14).

Condition:

Good

MP MILAGE

NEW MILAGE

31.41

Site of former bridgetender's house

Presumed demolished after 1934.

MP MILAGE

(31.24)

NEW MILAGE

31.45

Princeton Basin

1831-1834

Description:

Partially infilled and separated from canal by towpath.

Condition:

Note: Originally one of two basins; the other has been filled completely.

MP MILAGE
(31.25)

NEW MILAGE
31.47

Floodgate

c1944

Description:

Concrete with steel gate and mechanism.

Condition:

Good

MP MILAGE

NEW MILAGE

31.51

Mile Marker 28/16

Date?

Description:

Typical concrete obelisk.

Condition:

Fair; appears to have been moved and reset so that "28" face is parallel to the canal.

Note: PRR Map of 1934 indicates position at approximately 31.60.

MP MILAGE

31.4

NEW MILAGE

31.57

P.J.&B Railroad Bridge

19th Century (after 1860)

Description:

Stone abutments with steel beams and deck;
swing bridge; one of four remaining along
canal.

Condition:

Good

MP MILAGE

31.8

NEW MILAGE

31.96

Washington Road Bridge, Princeton/West
Windsor Townships

c1944

Description:

Timber with concrete covered wood plank deck
(including sidewalks on both sides).

Replaced former swing bridge (#15).

Condition:

Good

MP MILAGE

NEW MILAGE

31.97

Site of former bridgetender's house

Presumed demolished after 1934.

MP MILAGE

NEW MILAGE

+32.5

Mile Marker 27/17

Date?

Description:

Typical concrete obelisk.

Condition:

Good

Note: PRR Map of 1934 shows marker located at 32.63.

MP MILAGE

32.4

NEW MILAGE

32.59

Harrison Street Bridge West Windsor/Princeton Townships

c1944

Description:

Timber with wood plank deck. Walkway on downstream side only. Steel guardrails on both sides of roadway; wood rail on downstream side at walkway.

Replaced former swing bridge (#?).

Condition:

Good

MP MILAGE

NEW MILAGE

32.8

32.96

Millstone Aqueduct

c1944

Description:

Concrete trough carries canal through Millstone River/Lake Carnegie. Concrete railroad piers located on right bank next to aqueduct; beams and ties removed; wood pedestrian catwalk on left bank. Gates allow interchange of water between canal and river/lake.

Condition:

Good

Note: During the period when the Pennsylvania Railroad operated the canal, water was diverted from the canal into the Millstone River (in order to provide sufficient flow for downstream mills on the river) replacing water diverted by the railroad from the Millstone upstream (to provide water for the railroad water trough on the New York, Philadelphia Line).

MP MILAGE
(33.09)

NEW MILAGE
33.20

Culvert

1831-1834

Description:

Single arch; random stone wall with smooth stone voussoirs, opening is generally below water line of stream.

Condition:

Fair-most mortar gone and several stones in wall have been displaced; arches appear to be in good condition.

MP MILAGE

NEW MILAGE

+33.52

Mile Marker 26/18

Date?

Description:

Typical concrete obelisk.

Condition:

Fair

MP MILAGE

NEW MILAGE

+34.64

Mile Marker 25/19

Date?

Description:

Remains of typical concrete obelisk.

Condition:

Very poor; largely demolished.

MP MILAGE

NEW MILAGE

33.25

Forrestal Intake

Date?

Description:

Brick pump house (right bank).

MP MILAGE

[34.82]

NEW MILAGE

[34.93]

Lake Carnegie Dam (adjacent to canal; not part of Park)

1905-1906

Description:

Concrete dam with waste gales. Not part of the canal. The dam forms Lake Carnegie. Owned and maintained by Princeton University.

Condition:

Good; but rip-rap recently (1982) disturbed and requires repair.

Note: U.S. Gaging Station adjacent.

<u>MP MILAGE</u>	<u>NEW MILAGE</u>
(34.86)	34.99

Spillway

1831-1834; Rebuilt (20th Century)

Description:

Cobblestone section of towpath; depressed one foot below rest of towpath. Concrete wall (parallel to canal and flush with cobblestones) and concrete apron added later.

Condition:

Good

Note: Trash barrier across canal located at spillway.

<u>MP MILAGE</u>	<u>NEW MILAGE</u>
[34.8] 34.90	35.01

Heathcoate Brook Culvert

1831-1834

Description:

Two stone arches; random stone wall with smooth stone voussoirs.

Condition:

Poor; most mortar gone and several stones in wall have been displaced; arches appear to be fair condition.

MP MILAGE

[34.95]
(34.98)

NEW MILAGE

35.10

Basin

1831-1834

Description:

Still connected to canal.

Condition:

MP MILAGE

NEW MILAGE

35.10

Flood Gates

Note: Possibly replaces an earlier gate at
+35.13?

Date?

Description:

Concrete with steel gates.

Condition:

Good

MP MILAGE

NEW MILAGE

35.02 -
35.16

Overflow Channel

Date?

Description:

Partially stone lined.

Originally extended further downstream.

Now filled in below concrete wall at 35.16 to approximately 35.25 although remnant of bridge at 35.24 remains.

Condition:

MP MILAGE

NEW MILAGE

35.1

35.19

Kingston Lock (#8), South Brunswick/Franklin Townships

1831-1834

Description:

Stone walls covered with concrete in the mid 1940's; concrete water control gates across lock have steel gates and mechanism. Lock lengthened to 220' in 1852-53 from original 110' length.

Condition:

Good condition with some hairline cracks in concrete.

Notes: 1. See HABS-NJ-359.

2. Stone caps misplaced, etc.

MP MILAGE

NEW MILAGE

35.1

35.19.01

Locktender's House, Kingston, South Brunswick Township

1831-1834 with gable roof.

Description:

Two story stucco house.

Condition:

Good structurally, but restoration required

Note: See HABS-NJ-359

MP MILAGE

NEW MILAGE

31.5

35.21

Locktender's Station, Kingston, South Brunswick Township

1831-1834

Description:

Small one story building.

Condition:

Good

Note: See HABS-NJ-359

MP MILAGE

35.1

NEW MILAGE

35.24

Old Route 27 (Kingston) Bridge

c1944

Description:

Timber with asphalt covered wood plank deck.
Sidewalk on upstream side.

Replaced earlier swing bridge(s) (#16).

Condition:

Good

MP MILAGE

35.1
(35.13)

NEW MILAGE

35.26

Route 27 Bridge, Kingston, Franklin Township

c1970

Description:

Concrete abutment with steel beams and
concrete deck.

Condition:

Good

MP MILAGE

NEW MILAGE

+35.5

Mile Marker 24/20 Site

MP MILAGE

[35.6]
(35.66)

NEW MILAGE

35.76

North Kingston Basin, Franklin Township

1831-1834(?)

Description:

Connected to canal via two steel pipes under towpath.

Condition:

Note: Original use not determined: Surge basin? Turning basin (unlikely)? Farm pond? Result of quarrying operation?

MP MILAGE

(36.40)

NEW MILAGE

36.51

Spillway

1831-1834

Description:

Cobblestone section of towpath; depressed one foot below rest of towpath.

Condition:

Good

MP MILAGE

NEW MILAGE

36.56+

Mile Marker 23/21

Date?

Description:

Typical.

Condition:

Fair; vertical crack.

MP MILAGE

NEW MILAGE

37.0

37.11

Route 518 (Rocky Hill) Bridge, Rocky Hill,
Franklin Township

c1944

Description:

Timber with asphalt covered wood plank deck.

Replaced former swing bridge(s) (#17).

Condition:

Good

MP MILAGE

NEW MILAGE

37.59

Mile Marker 22/22

Date?

Description:

Concrete obelisk; slightly different from
others, probably because mid-point.

Condition:

MP MILAGE

38.0

NEW MILAGE

38.11

Farmers Bridge (upstream of Griggstown)

c1944

Description:

Timber with wood plank deck.

Replaced former swing bridge.

Condition:

Good

MP MILAGE

NEW MILAGE

38.12

? Site of former bridgetender's house?

MP MILAGE

(38.19)

NEW MILAGE

38.29

Culvert

Date?

Description:

Single arch stone culvert.

Condition:

MP MILAGE

NEW MILAGE

38.61

Mile Marker 21/23

Date?

Description:

Typical 3 foot high concrete obelisk.

Condition:

Fair

MP MILAGE

NEW MILAGE

(38.94)

39.04

Culvert

c1944

Description:

Concrete pipe set within stone wall.

Condition:

Pipe in good condition; stone wall in poor condition with missing and displaced stones.

MP MILAGE

(38.98)

NEW MILAGE

39.06

Spillway

1831-1834

Description:

Cobblestone section of towpath depressed one foot below rest of towpath.

Condition:

Good; but some stonework has been replaced or covered with concrete. Also general clean-up required.

MP MILAGE

(39.29)

NEW MILAGE

39.46

Culvert

c1944

Description:

Concrete pipe set within stone wall.

Condition:

Pipe in good condition; stone wall in poor condition with missing and displaced stones.

MP MILAGE

[39.25]
39.6

NEW MILAGE

[39.44]

Canal House (Asst. Locktender's House?)

1831-1834

Description:

One and one-half story wood frame house built into side of hill on opposite side of road from canal on the right bank.

Condition:

Fair

MP MILAGE

(39.29)

NEW MILAGE

39.46

Floodgate

c1944

Description:

Concrete with steel gate and mechanism.

Condition:

Good

MP MILAGE

NEW MILAGE

39.3

39.48

Locktender's House

1831-1834

Description:

Two story clapboard house with gable roof.

Condition:

Good structurally, but requires restoration; siding and paint color in appropriate.

MP MILAGE

NEW MILAGE

39.3

39.49

Griggstown Lock (#9), Upstream of Griggstown

1831-1834

Description:

Stone walls covered with concrete in the mid 1940's. Concrete water control gates across lock have steel gates and mechanism. Lock lengthened to 220' in 1852-53 from original 110' length.

Condition:

Good condition with some hairline cracks in concrete. Concrete covering has fallen away in some areas.

MP MILAGE

NEW MILAGE

39.3

39.50

Access (Farmers) Bridge, at Lock #9
c1831

Description:

Timber with wood plank deck.

Replaces former swing bridge (#18?).

Condition:

Good

MP MILAGE

NEW MILAGE

39.64

Mile Marker 20/24

Date?

Description:

Typical 3 foot high concrete obelisk.

Condition:

Fair

MP MILAGE

NEW MILAGE

39.79

Steps to River and Canal

1982

Description:

Treated wood with earth fill.

Condition:

Very good

MP MILAGE

40.1

NEW MILAGE

40.15

Bridgetender's Station, Griggstown, Franklin Township

c1831 (HS)?

Description:

Small one story wood building.

Condition:

Good

MP MILAGE

40.1

NEW MILAGE

40.16

Griggstown Bridge, Griggstown, Franklin Township

c1944

Description:

Timber with asphalt covered wood plank deck.

Replaces former swing bridge (#19).

Condition:

Good

MP MILAGE

NEW MILAGE

40.1

40.17.01

Bridgetender's House, Griggstown

c1831

Description:

Two story stone house with stucco and gable roof.

Condition:

Good

MP MILAGE

NEW MILAGE

40.1

40.17.02

"Long House" former Millhands'/Muletenders' Bunkhouse

1831-1834? or 18th Century?

Description:

2 Story stone structure with stucco and gable roof.

Condition:

Fair; requires restoration

MP MILAGE

NEW MILAGE

(40.12)

40.18

Simonson Brook Culvert

1831-1834

Description:

Stone wall and abutments; opening is below creek water line.

Condition:

Good-some deterioration in stone and mortar.

MP MILAGE

NEW MILAGE

40.5

Mile Marker 19/25

Date?

Description:

Condition:

MP MILAGE

(41.05)

NEW MILAGE

41.11

Spillway

1831-1834

Description:

Cobblestone section of towpath depressed one foot below rest of towpath.

Condition:

Good

MP MILAGE

(41.06)

NEW MILAGE

41.12

Culvert

1831-1834

Description:

Stone wall and abutments; two stone buttresses; opening is below creek water line.

Condition:

Good

MP MILAGE

NEW MILAGE

41.5

Mile Marker 18/26 Site

MP MILAGE

(42.04)

NEW MILAGE

42.11

Ten Mile Run Culvert

1831-1834

Description:

Stone area barrel vaults (three) and abutments; two stone buttresses; opening is below creek water line.

Condition:

Good

MP MILAGE

NEW MILAGE

42.45

Intake

c1960

Description:

Concrete with steel gate and mechanism; building and filtration plant.

Condition:

Good

MP MILAGE

NEW MILAGE

+42.5

Mile Marker 17/27

Date?

Description:

Condition:

MP MILAGE

(42.54)

NEW MILAGE

42.60

Culvert

20th Century

Description:

Concrete

Condition:

Good

MP MILAGE

NEW MILAGE

43.60

Mile Marker 16/28

Date?

Description:

Typical concrete obelisk.

Condition:

Fair

MP MILAGE
(43.42)

NEW MILAGE
43.53

Six Mile Run Culvert
1831-1834

Description:

Stone wall with three stone arches.

Condition:

Good

MP MILAGE

NEW MILAGE

43.60

Mile Marker 16/28

Date?

Description:

Typical concrete obelisk.

Condition:

Fair

MP MILAGE

43.6

NEW MILAGE

43.69

Bridgetender's Station, Blackwells Mills

Description:

Small one story wood building.

Condition:

Good

MP MILAGE

43.6

NEW MILAGE

43.70

Blackwells Mills Bridge, Blackwells Mills
c1944

Description:

Timber with asphalt covered wood plank deck.
Replaced former swing bridge (#20).

Condition:

Good

MP MILAGE

43.6

NEW MILAGE

43.71

Bridgetender's House, Blackwells Mills
c1831

Description:

Two story stucco house with gable roof.

Condition:

Good

Lease: To local historical group

MP MILAGE

(44.29)

NEW MILAGE

44.40

Culvert

1831-1834

Description:

Stone wall with arched opening.

Condition:

B-95

Good

MP MILAGE

NEW MILAGE

+44.5

Mile Marker 15/29

Date?

Description:

Condition:

MP MILAGE

NEW MILAGE

(44.78)

44.89

Culvert

1831-1834

Description:

Stone wall with arched opening.

Condition:

Good

MP MILAGE

NEW MILAGE

+45.64

Mile Marker 14/30

Date?

Description:

Typical concrete obelisk.

Condition:

MP MILAGE

(45.65)

NEW MILAGE

45.78

East Millstone Basin, East Millstone,
Franklin Township

1831-1834

Description:

A slight vestige remains, still connected to
canal, but mostly infilled.

Condition:

MP MILAGE

45.7

NEW MILAGE

45.79

East Millstone (Amwell Road) Bridge

c1944

Description:

Timber with asphalt topping.

Replaced former swing bridge(s) (#21).

Condition:

Good

Note: Pivot of former swing bridge still
remains in canal (on right side
downstream of bridge).

MP MILAGE

NEW MILAGE

45.7

45.80

Bridgetender's House, East Millstone

c1831

Description:

Two story stone and stucco house with gable roof. Also one story ancillary structure.

Condition:

Poor, requires immediate stabilization

MP MILAGE

NEW MILAGE

(46.11)

46.23

Mettlars Brook Culvert

1831-1834

Description:

Stone wall with arched opening.

Condition:

Good

[46.2]

[46.4]

Colonial Park

[46.0 to
46.6]

[46.2 to
46.8]

MP MILAGE

(46.45)

NEW MILAGE

46.57

Spillway

1831-1834

Description:

Cobblestone section of towpath depressed one foot below rest of towpath.

Condition:

Good

MP MILAGE

NEW MILAGE

+46.6

Mile Marker 13/31

Date?

Description:

Condition:

MP MILAGE

(46.57)

NEW MILAGE

46.68

Culvert

1831-1834

Description:

Stone wall with arched opening.

Condition:

Good

MP MILAGE

NEW MILAGE

+47.5

Mile Marker 12/32

Date?

Description:

Condition:

MP MILAGE

NEW MILAGE

47.8

47.93

Weston Bridge, Weston, Franklin Township

c1944

Description:

Timber with asphalt wood plank deck.

Replaced former swing bridge (#22).

Condition:

Good

MP MILAGE

NEW MILAGE

47.8

47.93.01

Bridgetender's House, Weston, Franklin Township

c1831

Description:

Two story stucco house with gable roof.

Condition:

Poor, immediate stabilization and eventual restoration required.

MP MILAGE
(48.20)

NEW MILAGE
48.31

Culvert

1831-1834

Description:

Stone wall with arched opening.

Condition:

Good

MP MILAGE
48.4

NEW MILAGE
48.49

Bridgetender's House

1831

Description:

Two story stucco house with gable roof.

Condition:

Poor; restoration required.

MP MILAGE
48.4
(48.37)

NEW MILAGE
48.50

Zarephath Bridge

c1944

Description:

Timber with asphalt covered wood plank deck.

Replaced former swing bridge (#23).

Condition:

Good

MP MILAGE

NEW MILAGE

+48.51

Mile Marker 11/33

Date?

Description:

Typical concrete obelisk.

Condition:

Note: Location shown on (1934) PRR Map C-12
is approximately 0.1 mile downstream.

MP MILAGE

(49.20)

NEW MILAGE

49.06

Floodgate, Spillway

c1944

Description:

Stone wall with concrete frame holding steel
gate and mechanism.

Condition:

Good

MP MILAGE

NEW MILAGE

[49.08]

Alternate supply pipe
1981

MP MILAGE

49.2

NEW MILAGE

49.09

Ten Mile Lock (#10), Franklin Township

1831-1834

Description:

Stone walls covered with concrete in the mid 1940's. Concrete water control gates across lock have steel gates and mechanism. Lock lengthened to 220' in 1852-53 from original 110' length.

Condition:

Good condition with some hairline cracks in concrete.

MP MILAGE

49.2

NEW MILAGE

49.09.01

Locktender's House, Ten Mile Lock

c1831

Description:

Condition:

Good structurally, but requires restoration.

MP MILAGE

(49.38)

NEW MILAGE

49.23

Floodgate

1944

Description:

Concrete with steel gate and mechanism.

Condition:

Good

MP MILAGE

NEW MILAGE

+49.24

Mile Marker 10/34

Date?

Description:

Typical concrete obelisk.

Condition:

MP MILAGE

(49.50)

NEW MILAGE

49.36

Elizabeth Water Company Pedestrian Bridge

c1935

Description:

Concrete abutments with steel beams and concrete deck. Steps to bridge restrict passage on towpath (vehicular passage not possible).

Condition:

Good, but deck needs resurfacing; rusting of some steel sheet on the bottom of the bridge. Recommend revisions to bridge and relocation of left steps to permit passage by maintenance vehicles.

MP MILAGE

(49.50)

NEW MILAGE

49.36

Intake

c1944

Description:

Concrete platform with steel gate and mechanism; brick building. Intake trash rack structure blocks vehicular passage on towpath.

Condition:

Fair; basically sound, but windows and door should be replaced. Revisions recommended to trash rack structure to permit passage of maintenance vehicles on towpath.

MP MILAGE

NEW MILAGE

50.55

50.41

Randolph Brook Culvert

20th Century

Description:

Concrete wall with steel liner.

Condition:

Good

MP MILAGE

NEW MILAGE

+50.5

Mile Marker 9/35 Site

Date?

Description:

Presumed to have been a typical concrete obelisk.

Condition:

MP MILAGE

NEW MILAGE

[50.5]

50.53

Route I-287 Bridge (Western Crossing),
Franklin Township

c1970

Description:

Concrete piers with steel beams and concrete deck.

Condition:

Excellent

MP MILAGE

(50.95)

NEW MILAGE

51.11

Spillway

c1944

Description:

Concrete

Condition:

Structurally good, but reconstruction required to facilitate vehicular passage and also to provide a spillway more compatible with the visual and historic character of the canal.

MP MILAGE

51.3

NEW MILAGE

51.46

Bound Brook Lock (#11), South Bound Brook

1831-1834

Description:

Stone walls partially covered with concrete in the mid 1940's. Concrete water control gates across lock have steel gates and mechanism. Stone walls are intact downstream of water control gates. Remnants of wood liner visible on stone. Lock lengthened to 220' in 1852-53 from original 110' length. Canoe(?) ramp built into concrete wing wall or upstream of lock (left bank).

Condition:

Good-concrete covering has some hairline cracks; stone section downstream is in fair condition with some deterioration in stone and mortar; vegetation growing between stones.

MP MILAGE

51.5

NEW MILAGE

51.62

Main Street Bridge, South Bound Brook

19th Century (1895?) (#25)

Description:

Concrete abutments with steel beams and deck; turning bridge; one of four remaining on the Main Canal.

Bridge replaced earlier typical wood "A" frame bridge.

Condition:

Good

MP MILAGE

NEW MILAGE

+51.63

Mile Marker 8/36 Site

Date?

Description:

Presumed to have been a typical concrete obelisk.

Condition:

Note: Missing in 1934.

MP MILAGE

NEW MILAGE

[51.55]

51.67

Railroad Bridge

19th Century? 1928?

Description:

Concrete abutments with steel beams and wood ties; turning bridge; one of four remaining.

Condition:

Good

MP MILAGE

NEW MILAGE

52.65

Mile Marker 7/37 Site

Date?

Description:

Presumed to have been a typical concrete obelisk.

Condition:

MP MILAGE

NEW MILAGE

(52.80)

52.76

Culvert

1831-1834

Description:

Stone wall with two stone arches.

Condition:

Good

MP MILAGE
(53.10)

NEW MILAGE
53.07

Floodgate

c1944

Description:

Concrete with steel gate and mechanism.

Condition:

Good

MP MILAGE
(53.18)

NEW MILAGE
53.14

Spillway

1831-1834

Description:

Cobblestone section of towpath; depressed one foot below rest of towpath.

Condition:

Good

MP MILAGE

NEW MILAGE

53.2

53.18

Five Mile Lock (#12), Franklin Township

1831-1834

Description:

Stone walls covered with concrete in the mid 1940's. Concrete water control gates across lock have steel gates and mechanism. Lock lengthened to 220' in 1852-53 from original 110' length.

Condition:

Good condition with some hairline cracks in concrete.

MP MILAGE

NEW MILAGE

53.2

53.18.01

Locktender's House

Date? (Not original house) 1920's?

Description:

Two story clapboard house with gable roof (probably moved to site in 1940's or 1950's).

Condition:

Fair; requires renovation

MP MILAGE

NEW MILAGE

53.2

53.21

Fieldville Dam

1831-1834?

Description:

Stone wing walls on each side of river, stone filled crib dam. Wall on canal side of river had sluice gates to permit water to be fed into the canal; some wooden elements still remain attached to the wall.

Condition:

Poor; (walls, fair)

MP MILAGE

NEW MILAGE

[53.25]

53.25

Route I-287 Bridge (Eastern Crossing), Franklin Township

c1970

Description:

Concrete piers set within canal support steel beams and concrete deck.

Condition:

Good

MP MILAGE

(53.37)

NEW MILAGE

53.33

Spillway

1831-1834

Description:

Cobblestone section of towpath; depressed one foot below rest of towpath; concrete and steel bulkhead.

Condition:

Good; some concrete patches.

MP MILAGE

NEW MILAGE

53.65

Mile Marker 6/38

Date?

Description:

Typcial concrete obelisk.

Condition:

Fair

MP MILAGE

NEW MILAGE

53.80

Brook entry into the canal and road bridge parallel to the canal.

Date?

Description:

Condition:

Note: Canoe passage under bridge is possible.

MP MILAGE

NEW MILAGE

+54.63
(+54.73?)

Mile Marker 5/39 Site

Date?

Description:

Presumed to have been a typical concrete obelisk.

Condition:

(No evidence found)

MP MILAGE

NEW MILAGE

54.68
(54.63 -
54.72)

Spillway

1831-1834? Rebuilt later.

Description:

Condition:

Poor

MP MILAGE

NEW MILAGE

55

[54.81]

Guard gate walls, DeMott Lane, Franklin Township

1831-1834?

Description:

Masonry walls; partial iron heel post collar imbedded in stone on right bank side.

Condition:

Fair

MP MILAGE

NEW MILAGE

+55.62

Mile Marker 4/40

Date?

Description:

Condition:

MP MILAGE

NEW MILAGE

(55.60)

55.72

Seeley's Brook Culvert

1967

Description:

Concrete

Condition:

Good

MP MILAGE

NEW MILAGE

56.64

Mile Marker 3/41 Site?

Date?

Description:

Presumed to have been a typical concrete obelisk.

Condition:

Not found in field.

MP MILAGE

[56.45]
(56.53)

NEW MILAGE

56.67

Mile Run Culvert, Franklin Township/City of New Brunswick

1831-1834

Description:

Stone wall with two arched openings with brick liner and smooth stone voussoirs; brick patches.

Condition:

Fair-stone voussoirs have spaulded off; brick patches replace missing stones.

MP MILAGE
(56.60)

NEW MILAGE
56.81

Spillway
1831-1834

Description:

Cobblestone section of towpath; depressed one foot below rest of towpath; concrete and steel bulkhead.

Condition:

Poor; some concrete patches. Restoration required.

MP MILAGE
56.7

NEW MILAGE
56.84

Landing Lane Bridge (#26)
1895

Description:

Concrete abutments with steel beams and concrete deck; swing bridge; one of four remaining; swing bridges left on canal.

Replaced earlier wood swing bridge.

Condition:

Good

MP MILAGE
56.7

NEW MILAGE
56.84

Terminus of Delaware and Raritan Canal State Park (ITEMS DOWNSTREAM OF PARK TERMINUS ARE INDICATED FOR CONTEXT ONLY).

MP MILAGE
(56.93)

NEW MILAGE
57.06

Drain
Date?
Description:

Condition:

MP MILAGE
[56.9]

NEW MILAGE
[56.95]

Spillway
c1980
Description:

Concrete spillway (canal is in an enclosure below this point).

Condition:
Excellent

MP MILAGE

NEW MILAGE
+56.97

Canal in enclosure, path along river and Route 18.

Date?
Description:

Condition:

MP MILAGE

NEW MILAGE

57.19

Route 18 Bridge, New Brunswick

1981? Verify?

Description:

Concrete piers, steel beams and concrete deck.

Condition:

MP MILAGE

NEW MILAGE

+57.59

Stairs to path along canal

1983?

Description:

Concrete stairs connect concrete deck (at Rutgers University) to path along route of canal and Route 18.

Condition:

MP MILAGE

NEW MILAGE

+57.75

Mile Marker 2/42 Site
(presumed demolished)

Date?

Description:

Condition:

MP MILAGE

NEW MILAGE

58.01

Deep Lock (#13) Site (also site of
Tocktender's house)

Date?

Description:

Condition:

Lock has been dismantled; stones have been
saved. House has been moved for possible
relocation to outlet lock area; house is now
on skids just south of Albany Street.

Note: See HABS-NJ-713 (1 photograph and 2
data pages).

MP MILAGE

NEW MILAGE

58.04

Site of New Brunswick Harbor Section of the
Canal

1831-1834

Description:

Towpath (left bank) was constructed wood
cribbing filled with stone and earth. Harbor
was wider than the typical canal prism.

Condition:

Destroyed; filled in to 58.42 as part of the
construction of the New Route 18.

Note: See 58.42 for remaining portion.

MP MILAGE

NEW MILAGE

58.16

Railroad Bridge, New Brunswick

1902-1903

Description:

Stone; series of arches on piers carry railroad across river and site of canal bed.

Bridge replaced steel swing bridge on stone piers which in return replaced the original wooden railroad bridge built in 1839.

Condition:

Good

MP MILAGE

NEW MILAGE

58.42

Albany Street Bridge

Date? (20th Century)

Description:

Concrete highway bridge.

Condition:

MP MILAGE

NEW MILAGE

58.42

Canal, former New Brunswick Harbor

1831-1834

Description:

Towpath (left bank) with wood cribbing filled with stone and earth. Harbor has been filled in extensively on the right bank side, leaving an irregular narrow canal.

Condition:

Left bank fair-poor; right bank extensively altered.

MP MILAGE

NEW MILAGE

?

Mile Marker 1/43 Site?

Date?

Description:

Condition:

MP MILAGE

NEW MILAGE

?

Mile Marker 0/44 Site?

Date?

Description:

Condition:

MP MILAGE

NEW MILAGE

59.06

Outlet Lock, New Brunswick

1831-1834

Description:

Stone walls; double-lock outer lock (1831-1834), 30 feet wide by 110 feet long (?), enlarged in 1853 to 210 feet long. The inner (or right) lock built (1866) 24 feet wide by 210 feet long. Original lock retained miter gates at each end and had a center gate (to conserve water when small boats were locked through); new lock had a drop gate at the upstream end.

Condition:

Under restoration.

MAIN CANAL SOUTH OF SUMMIT

B0.0 to B6.5

Main Canal: South of the original Summit

See (21.92 -59.06) Main Canal North of Summit for description.

Condition:

Most of the main canal south of the Summit and within the City of Trenton was deeded to the City and filled in, as a WPA project, in 1936.

Much of the Trenton end of the remaining canal south of the city boundary has also been filled in with trash, debris and dredging spoils.

The water in the remaining sections is tidal. Virtually no maintenance has occurred since the closing of the canal.

Trees have grown up in the banks and towpath, numerous fallen trees remain in the canal.

Guard levee, parallel to towpath built in 1841.

Railroad on right bank.

B0.0

Outlet Lock (#1), Duck Island

(1847-1848; lengthened in 1852-1853?)

Description:

Heavy timber construction; drop gate at upstream end and mitre gates at lower end; additional gates in center (to conserve water when locking smaller vessels). Note: Earlier masonry lock was replaced in 1847 by a heavy timber lock which was floated into place and then sunk in position. Probably lengthened in 1853 along with the other locks on the main canal.

Condition:

Poor; although considering neglect, remarkable that anything remains. Portions of drop and mitre gates remain.

Note:

Site of Toll Collector's House - demolished.
Site of Locktender's House - demolished.
Site of Mule Barn(s) and Bunkhouse(s) - demolished or removed.

Mile Marker(?) 44/0 Site?

B.05 - B.23

"Bordentown" Basin

1831-1834

Description:

A wider section of the canal in which canal boats could tie up. Remains of several canal boats/barges are visible.

Condition:

Partially filled-in.

B1.0

Mile Marker 43/1 Site?

B2.0

Mile Marker 42/2 Site?

B3.0

Mile Marker 41/3 Site?

B3.33

Lock #2

1831-1834

Description:

Stone walls; filled in c1936; no portions of lock visible. Lock lengthened to 220 feet in 1852 from original 110 foot length.

Condition:

Unknown although walls are presumed to be intact.

Note: Site of locktender's house (presumed demolished).

B3.45

Sturgeon Pond

Date?

Description:

Natural pond; much filled-in.

Condition:

Much filled-in.

Note: Northern boundary of (Duck Island portion of) Park, as proposed in this report.

B3.93 Lock #3 Site (also site of locktender's house on left bank) (presumed demolished?)

Note: Evidence of foundations barely perceptible in aerial photographs.

B4.0 Mile Marker 40/4 Site?

B4.11 Site of Railroad Swing Bridge

B4.22 Lock #4 Site (also site, left bank, of locktender's house) (presumed demolished)

Notes: 1. Foundations are clearly visible in aerial photographs.

2. Lock #5 was eliminated in 1853 when the main canal locks were lengthened.]

B4.25 Lalor Street and Site of Lalor Street Bridge (#1).

B4.83 Cass Street and Site of Cass Street Bridge (#2).

At one time a typical wooden "A" frame swing bridge. Later replaced by a steel swing bridge.

B5.0 Mile Marker 39/5 Site?

B5.08 Prison Lock (#6) Site

- B5.11 South Broad Street and Site of South Broad Street Bridge (#3).
- B5.40 Hamilton Avenue and Site of Hamilton Avenue Bridge (#4).
- B5.53 Greenwood Avenue Lock Site (built 1929). Concrete lock built to accommodate the higher elevation of the rebuilt (B.55) Aqueduct over the railroad.
- B5.58 Aqueduct (over railroad) Site rebuilt (1929) to accommodate railroad electrification.
- B5.61 Greenwood Avenue Bridge Site.
- B5.72 Assumpink Culvert Site. Large stone arch culvert presumed to have been demolished.
- B5.88 State Street Lock (#7) Site.
- B5.93 State Street and State Street Bridge (#6) Site.
At one time a typical wooden "A" frame swing bridge. Later a steel lift bridge.
- B6.0 Mile Marker 38/6 Site?
- B6.13 Site (left bank) of former Basin and Canal Company shops.

B6.20

Perry Street and Site of Perry Street Bridge (#7).

Original bridge was a wooden swing bridge. Later a bascule bridge was used.

B6.36

Railroad Bridge over Route 1 Expressway Site of Railroad Swing Bridge.

B6.37/21.92

Junction with Feeder Canal.

See Main Canal (21.92).

Note: This former Delaware and Belvidere Railroad Bridge remained in use to provide access to the Enterprise Line until it, too, was abandoned. The bridge now has been abandoned. It is important to preserve this bridge for use as a future pedestrian link.

MISCELLANEOUS (NOT ON CANAL)

Plainsboro Movable Bridge, Over Mantua Creek,
Paulsboro, New Jersey

Date? (Recently Rebuilt)

Description:

An "A" frame swing (railroad) bridge similar in design to those once used on the D & R Canal. Bridge has recently been rebuilt, but much of the mechanism appears to be original. The construction of the movable portion of the bridge is very similar to that of the (9.91) abandoned railroad bridge on the Feeder Canal. The "A" frame is made of built-up steel sections, but probably was originally made of heavy timber similar to those shown in old photographs of the D & R Canal. Bridge is hand-operated; two windlasses are used; one to open the bridge, the other to close it.

- Notes: 1. This bridge should be carefully documented with drawings and photographs. In addition, the bridgetender should be interviewed with respect to its operation.
2. It is desirable that this surviving example of an earlier bridge type continue in operation; however, if, for any reason, the bridge is abandoned or substantially altered, efforts should be made to obtain as much of the machinery (windlasses, gears, etc.) as possible. It would be desirable to have an agreement with Conrail concerning the future disposition of the bridge.

Historical Note:

The railroad is now a branch of Conrail, it was once part of the Pennsylvania Railroad System (as was the Belvidere-Delaware Railroad and the operation of the D & R Canal).

"A" frame bridges; very similar to those used on the D & R and were used on the C & D canal; the C & D was improved (1854) under the supervision of Ashbel Welch.

Just where this bridge type originated and who was responsible for it is not known, but there appears to be a connection; it is certainly possible that Ashbel Welch was involved.

The date of this type's first use is not known, but (from an early view of Trenton) it would appear not to be the original type used.

C. Demonstration Lock and Canal Boat Ride

1. General

The locks represent the single most important technological feature of the old canal system. The restoration of a lock to operating condition and its operation as an interpretive demonstration would provide an extremely effective educational tool. In addition it would provide a point of considerable visual interest and excitement. Also, the passage through such a lock could be the high point of a canal boat ride.

Combining historical, and to a lesser extent natural, interpretation with recreation, such rides are very popular. The appeal to a variety of groups and individuals of all ages including school children, family groups, adult groups, teenagers and young adults. As stated in the Design Guide", the chief role of the Canal Park is to serve as a connector. A canal boat ride, probably more than anything, presents the opportunity to establish connections. History, nature and recreation are combined in a single activity; past and present are connected. Furthermore, like most canal park activities it is a linear one which presents a real opportunity to fulfill another principle, stated in the Design Guide, that to "integrate adjacent elements within and near the park, not to isolate them.

2. Principal Site Selection Considerations

a. Canal Boat Ride:

- (1) Availability of suitable lock: Passage through a lock should be included. Also see b, Demonstration Lock.
- (2) Length of ride: Ride should be 1 to 1 1/2 hours long. The possibility of both round trips and one way trips (with a shuttle bus providing the original trip and the canal boat the return trip) is desirable.
- (3) Area of the ride: The area should be attractive and interesting; variety of view, adjacent structures of historic interest (particularly if related to the canal) and natural areas are very desirable.
- (4) Towpath condition: Ride should be mule drawn therefore a suitable towpath (with no obstructions between the towpath and the canal) is essential.
- (5) Availability of other paths: A parallel multi-purpose path is desirable so as to permit typical path use, as well as observation of the boat ride, without conflict.
- (6) Bridges: While it would be desirable to include one swing bridge, but not more than one, any such bridge would have

to be one over which traffic is minimal. Adequate clearance under any other bridge (or other obstruction) is essential. Also see d, Swing Bridge.

- (7) Suitable areas for staging: An adequate staging area at each end of the boat ride is essential. See also c, Staging Areas.
- (8) Impact: The impact upon the area through which the boat passes should not be unfavorable. The ride must be compatible with adjacent uses.
- (9) Other considerations:
 - (a) It is desirable and more interesting to have at least two boats so as to permit a passing of boats.
 - (b) In order to provide the most interesting ride (as well as allow for adequate interpretive talks) lock, swing bridge and staging areas (as well as the point at which two boats pass) should not be at the same location.

b. Demonstration Lock:

- (1) Remaining canal artifacts and their condition.
- (2) Suitable for inclusion in a canal boat ride.
- (3) Adequate supply of water to operate the lock.
- (4) Ability to permit an uninterrupted flow of water, for water supply, around the lock is essential where the canal is used for water supply.
- (5) Accessibility both in regard to population distribution and the specific site.
- (6) Compatibility with existing and proposed adjacent activities and resources.

c. Staging Areas:

- (1) Impact upon local area; compatibility with existing and proposed activities.
- (2) Accessibility both general and specific.
- (3) Capability of, existing and possible, adjacent infrastructure (roads, parking, utilities, restaurants, shops).

- (4) Sufficient area for staging and related facilities. Requirements for staging areas include:
 - (a) Parking at each area.
 - (b) Staging facility at each area including:
 - ((1)) Ticket office.
 - ((2)) Waiting area.
 - ((3)) Interpretive display panel(s).
 - ((4)) Sanitary facilities.
 - (c) Food service facilities near each staging area.
 - (d) Picnic areas at at least one area.
 - (e) A small concession stand at at least one area.
 - (f) An interpretive center is desirable at at least one area.
 - (g) Some open area for play is desirable adjacent to at least one area.
 - (h) A small office at at least one area.
- (5) A turning basin at the ends of the boat ride would be desirable, however boats should be small enough to enable turning in the canal itself.
- (6) A small area for maintenance and storage as well as a mule barn are required near one of the staging areas.
- (7) Other points of interest, particularly those historically related to the canal in the adjacent area.
- (8) Staging areas should probably not be at the lock in order to prevent confusion and large crowds at the lock itself.

d. Demonstration Swing Bridge

- (1) Bridge must be one over which traffic is minimal.
- (2) Restoration of an existing swing bridge would be desirable.
- (3) A bridgetenders station or house, preferably an existing one, is desirable.
- (4) Bridge should be suitable for inclusion in the canal boat ride.



D. Other Canals

1. Rideau Canal

- a. The Rideau Canal, built between 1826 and 1832, is 126 miles long and connects the Ottawa River (Ottawa) with Lake Ontario (Kingston, Ontario). The canal including all its locks is still operational; however, it is used only by pleasure craft. The entire canal, including the adjacent paths and related structures, was made a National Park in 1968. The 12 mile section in Ottawa itself was made a park much earlier; development of the Ottawa section as a park began in 1880 and is now an integral part of the design of the city.

There are many similarities between the Rideau and D & R canals; both canals:

- (1) Were built in the early 19th Century.
- (2) Pass through many similar environments (e.g. natural rural, small town, suburban, urban historic).
- (3) Interface with similar uses (e.g. agriculture, industrial, commercial, residential, recreational areas).
- (4) Include numerous related historic structures.
- (5) Pass through a capitol city (one national, the other state).
- (6) Have been made into a single linear park under the jurisdiction of a broader park service (one national, the other state).
- (7) Are no longer used for commercial traffic.
- (8) Frequently closely parallel a river or lake.

There are notable differences between the canals:

- (1) The Rideau Canal's locks are still operational and still used.
- (2) The D & R canal is used as a water supply conduit.
- (3) Development of the Rideau Canal as a park began much earlier and the development, while continuing, is largely complete. (The development completed includes recreational areas, historic restorations, natural areas, urban areas as well as interpretive programs and operation and maintenance programs).
- (4) The Rideau canal makes extensive use of dammed rivers and lakes (i.e. slackwater) while the D & R is basically a

continuous ditch with occasional locks to compensate for changes in elevation.

- (5) The terrain through which the D & R was laid out is relatively level with few sharp changes in elevation; therefore, there are no dramatic flights of locks such as at Ottawa, Smith Falls, Jones Falls and Kingston Mills.
- (6) The water level in Rideau canal is still lowered (to reduce winter damage and facilitate maintenance) from 15 October to 15 May); canal is used extensively for ice-skating in the winter. Lowering the D & R's water level in the winter is no longer generally practical due to its use as a water supply conduit. In spite of differences and, indeed, sometimes because of them, much can be learned. The Rideau has been largely developed and has been in operation as a park for several years; as a result much can be learned from the park itself, and also from the experience of the park personnel, in a variety of areas including design, operations and maintenance, interpretive programs, historical restoration.

b. Observation on the Rideau Canal Park

- (1) Recreational Amenities provided by PC (Parks Canada) or NCC (National Capitol Commission) along Canal:
 - (a) Primary passive recreation requiring minimal facilities.
 - ((1)) Boating (canoes, rowboats, cruising boats, sailboats on Lakes) some launching facilities provided.
 - ((2)) Jogging, bicycling, roller skating, walking in urban areas.
 - ((3)) Ice skating on sections of the canal in winter.
 - ((4)) Outside urban areas there are some camping facilities and areas for picnicking (most people stay on boats or are day trippers).
 - ((5)) Walking.
 - (2) Maintenance and Security:
 - (a) Extensive (NCC) crews in Ottawa to police grounds.
- (PC) staff has more of a problem in rural areas.
 - (b) Security a problem - high vandalism rate, particularly in rural areas.

(3) Interpretive Programs:

- (a) PC has only begun to implement a concentrated interpretive program, utilizing handouts, graphic and other types of displays in conjunction with the restoration of buildings with historic significance adjacent to the canal. It is endeavoring to impart a sense of both the canals historic importance, the remarkable engineering feat and the impact it had and still has along its course. Each of the three divisions has created its own programs in addition to those of the chief interpreter. Programs include slide shows, puppet shows, demonstrations, booklets, maps etc. and cover natural and historical aspects.

PC has four full time interpreters including a chief interpreter and three area interpreters. In addition numerous additional persons (generally university students) are hired for the summer. Costumed guides are often used in historic buildings. There are also several working demonstrations (blacksmithing etc.). In the winter the full time staff develops new programs (often with assistance of contract teams) and gives slide presentations to school and other groups.

(4) Signage and Graphics:

- (a) Signage and graphics were not uniform. Each section developed its own graphic display system. Traffic signage was determined more by who was responsible for patrolling the area (i.e. in Ottawa NCC sign used because police would respond to these and not PC signs). Interpretive signs were a mixture (often repetitive) of provincial, local and PC; often the signs of a given unit were not consistent.

(5) Provisions for the Handicapped:

- (a) There was some provision made for the handicapped in Ottawa, but few provisions were made in more rural areas. Originally facilities were oriented to boat people, very few of whom were handicapped. All new facilities will include toilets and other provisions for the handicapped.

(6) Programming and Seasonal Uses:

- (a) The season extends from the middle of May to the middle of October with July and August being by far the busiest time.
- (b) In the Ottawa area much effort is made to program uses throughout the year. Programs include skating and even horse racing on the canal in the winter and

extensive floral displays in the spring. Aside from skating in some areas, little effort is made to program off season uses in other areas.

(7) Facilities:

(a) A typical lock station includes:

((1)) Sanitary Facilities.

((2)) Trash disposal cans.

((3)) Picnic benches.

((4)) Parking.

((5)) Lockmaster's office which also serves as an information office from which interpretive material is distributed.

(b) A more important lock station includes additional facilities such as restored historic structure, an interpretive center or a nature trail depending on the site.

(8) Staffing:

(a) Staffing varies at each lock station depending on location, number of locks and size of interpretive program.

(b) For each lock location there is one lockmaster with from one to five lock hands. In addition, there are up to five summer assistants to help out at peak times.

(c) There are generally a minimum of two Parks Canada (PC) personal at each major lock station and usually more, to run the interpretive programs, assist people at that lock and to patrol that particular facility. At small lock stations lock hands are trained to serve as interpreters.

(9) Income:

(a) Concessionaires are used for small food concessions. These are usually on an annual basis and award is based on submission of competitive bids from a qualified list of bidders.

(b) The fees charged for boats using locks are minimal and do not cover the costs of operating the canal.

- (c) Publications, with the exception of navigational charts, are free.
- (10) Approach to restoration, stabilization and utilization of historic structures:
- (a) Most buildings along the canal, such as the lockmasters houses, have been restored.
 - (b) Other buildings that were severely damaged were stabilized as architectural ruins with historic significance.
- (11) New structures, restrooms, etc.:
- (a) Very few totally new structures are evident. Existing buildings have been adaptively reused to house restroom facilities.
 - (b) In the more urban conditions of Ottawa, minimal restrooms facilities (for boat people only) have been provided. In the more rural areas, each lock station has restroom facilities (for both "boat" and "car" people).
 - (c) In several locations PC has duplicated other (older) structures in order to be consistent.
 - (d) Facilities in Ottawa provided by NCC were generally inconsistent and unrelated to the canal in character.
- (12) Safety Devices:
- (a) Fencing was notably absent around the locks; PC has indicated that the lack of fencing did not present any problems. Handrails were sometimes provided at stairs. Fencing was provided around the Prince of Wales Falls in some sections. (Fencing was provided around maintenance yards for security reasons.)
- c. Bibliography: See Appendix A, 5., d.

2. Delaware Division (Pennsylvania Canal System)

a. General:

The Delaware Division Canal was begun in 1827; some through navigation began in 1832 and the canal was open for full navigation in 1834. The locks are only 11' wide x 95' long. Like the D & R, it was a true canal, not a slackwater navigation. The principal commodity was coal which was received from the Lehigh Canal and transported to Philadelphia by means of the Delaware River or to New York by means of the D & R Canal.

The entire canal parallels, often closely, the Delaware River and a considerable part of the Canal also parallels the Delaware and Raritan Feeder Canal. The Canal connected Easton, Pennsylvania (and the Leigh River) with Bristol, Pennsylvania and was 60 miles long.

b. Historical Links:

Aside from its physical proximity to the D & R Feeder Canal there are numerous historical links to the D & R.

Both canals were linked by the cable ferry between the Lambertville and New Hope outlet locks.

The principal cargo on the D & R was coal, the greatest part of which came through the Delaware Division Canal either through the outlet lock at Bristol and hence up the Delaware River and through the Bordentown Outlet Lock of the D & R or through the outlet lock at New Hope, across the river by cable ferry and into the Lambertville Outlet Lock on the D & R.

c. At present the Delaware Division Canal is readily accessible to the D & R Canal State Park at several locations:

- (1) Bulls Island (Pedestrian Bridge)/Lumberville, Pennsylvania, (restored lock #12 and Paunacussing Creek Aqueduct nearby).
- (2) Stockton (Bridge Street)/Centre Bridge, Pennsylvania (Old York Road).
- (3) Route 202: Pedestrian passage over the Route 202 bridge is not permitted, but the canal is close to the Delaware River. Unfortunately no parking area is nearby on the Pennsylvania side.
- (4) Lambertville (Bridge Street)/New Hope (Bridge Street) (Locks 8-11, outlet lock, toll collector's house, locktender's house and several bridges are located in New Hope).

- (5) Washington Crossing/Washington Crossing, Pennsylvania.
 - (6) Scudders Falls: Pedestrian passage over the Route 95 Bridge is not permitted, but the canal is close to the Delaware River; Lock #6 and (remodeled) lockkeeper's house is nearby.
 - (7) Trenton (Calhoun Street)/Morrisville (Trenton Avenue).
- d. If the proposed multi-purpose path on the abandoned roadbed of the Belvidere Delaware Railroad were extended to Milford:
- (1) Frenchtown/Uhlerstown, Lock #18.
 - (2) Milford/Upper Black Eddy, Lodi Lock #19.
- e. Significance for future development of the D & R State Park:
- (1) Delaware Division Canal has been a State Park, Roosevelt State Park, since 1940,
Experience
Canal Boat Ride - Concession
 - (2) Interpretive Value: Presents an opportunity for comparisons.
 - (3) Not in competition, but one reinforcing the other; extends the historical context.
 - (4) The bridges across the Delaware (see above and following) provide the possibility of a few day long loop hikes.
- f. Bibliography: See Appendix A, 5, b.

TABLE: DELAWARE DIVISION CANAL MILEAGE
(Compared with Mileage in New Jersey)

<u>PENNSYLVANIA</u>		<u>NEW JERSEY</u>
<u>Delaware Division, Pennsylvania Canal</u>		
(P.0.0)	Easton Guardlock (#24), Canal Museum, (Lehigh Canal Terminus)	** Phillipsburg; (Portal of the Morris Canal)
(P.8.2)	Riegelsville	* (-21.0) Riegelsville
(P.15.9)	Upper Black Eddy	* (-14.0) Milford
(P.16.8)	Lodi Lock #19	---
(P.19.0)	Uhlerstown, Uhlerstown Lock #18	* (-10.0) Frenchtown
(P.22.6)	Treasure Island Lock #17	---
(P.23.6)	Smithtown Lock #15-16	---
(P.26.5)	Point Pleasant Locks #13-14	---
(P.27.7)	Paunacussing Aqueduct	---
(P.27.8)	Lock #12	---
<u>Delaware and Raritan Feeder Canal</u>		
(P.28.0)	Lumberville	+ (0.0) Raven Rock/Bulls Island
(P.31.1)	Centre Bridge	* (3.38) Stockton, Bridge St.
(P.33.5)	Route 202	** (5.70) Route 202
(P.34.2)	New Hope, Bridge Street	* (6.67) Lambertville, Bridge St.
(P.34.5)	Lock #8-11	---
(P.34.9)	Outlet Lock	---
(P.41.5)	Washington Crossing State Park	* (13.60) Washington Crossing State Park
?(P.43.8)	Scudders Falls Bridge	** Scudders Falls Bridge
?(P.44.0)	Borden's Lock #7	---
?(P.44.3)	Lear's Lock #6	---
?(P.45.9)	Yardley Lock #5	---
(P.45.2)	Morrisville, Trenton Avenue	* (21.06) Trenton, Calhoun St.

* Bridge with pedestrian and vehicular lanes
** Bridges without pedestrian passage
+ Pedestrian bridges

3. Lehigh Canal

a. General:

1827-1829 Lower Division (Lower Grand): Mauch Chunk (Jim Thorpe) to Easton; slackwater navigation; 46 miles long; in use from 1829-1931.

Note (1835-1838): Upper Division (or Upper Grand): White Haven to Mauch Chunk; 26 miles long; in use from 1838-1862.

b. Historical Links:

Coal
Leigh - Delaware Division - D & R
Canvas White was the Engineer.

c. Significance:

Development as a park (Hugh Moore Park):

Canal Boat Ride (Operated by the Park Commission)
Restored Locktender's House
Park and Picnic Areas
Hiking Trails
Canal Museum

Note: Proposed development of trail system links to several other trails and is linked to the D & R Canal Park by means of Roosevelt State Park (The Delaware Division Canal).

d. Bibliography: See Appendix A, 5, c.

4. Chesapeake and Ohio Canal

a. General:

1828-1850

Washington, D.C., to Cumberland, Maryland: Generally not slackwater navigation. Similarities although no specific historical links. 184.5 miles long; 74 lift locks (including several flights) as well as a tidal lock and several outlet (or inlet) locks; 11 aqueducts, various dams, culverts and a 3000 foot long tunnel.

Also similarities in development as a park:

- (1) On-going restoration.
- (2) Numerous structures.
- (3) Goals of master plan are similar.

b. Historical Links:

Part of the general network of canals linking the eastern portion of the United States.

c. Significance:

- (1) Similarities in development as a park.
- (2) National Historical Park.
- (3) Canal Boat Rides (Georgetown, D.C. and Great Falls, Maryland).
- (4) Great Falls Canal Museum.

d. Bibliography: See Appendix A, 5, a.

5. Chesapeake and Delaware Canal

a. General:

1824-1830 in full operation

Delaware City, Delaware to Chesapeake City, Maryland: 14 miles long; originally four locks, in 1854, when locks were lengthened, one lock was eliminated. Locks were eliminated in 1927 when the canal was widened and deepened. It is now a sea level ship canal.

b. Historical Links:

Canvas White assisted in the design.
Benjamin Wright was chief engineer.
John Randel, Jr. surveyed the route.

Ashbel Welsh (chief engineer of D & R) employed to plan and supervise the lengthening at the locks in 1854.

Similar lock mechanism and "A" Frame bridges.

c. Significance:

Museum at Chesapeake City (Army Corps of Engineers Facility)

Similarities in construction and involvement of many of the same persons might prove helpful in planning future restoration; records may be available where equivalent ones on D & R are missing.

d. Bibliography: See Appendix A, 5, h.

6. Morris Canal

a. General:

The Morris Canal and Banking Company was chartered in 1824; construction started in 1825. Built over difficult terrain, the canal utilized not only locks, but also inclined planes (similar to marine railways). The combined course of canals and inclined planes was 106.7 miles long and connected the Delaware River (at Phillipsburg, New Jersey - opposite Easton, Pennsylvania) and the Hudson (or North) River at Jersey City. The summit, near Lake Hopatcong which served as the major feeder, was 913 above sea level. Nineteen planes and seventeen locks were utilized. A cable ferry was utilized to cross the Delaware River. The canal from Phillipsburg to Newark was opened for navigation in 1832 and the remaining portion to Jersey City opened in 1837.

Canal was leased by the Leigh Valley Railroad in 1871; the canal was transferred to the State in 1922 and navigation was ended in 1924.

Little of the canal remains, although small sections do remain, notably the segment at Waterloo Village (near Stanhope, New Jersey and Route I-80); the segment at Waterloo Village, includes a plane, a lock (inoperable) and a small section of watered canal downstream of the lock; the watered section is kept clear of trees on the towpath side. The New Jersey Canal Society maintains a small museum in one of the restored houses that is part of Waterloo Village.

At the time of its abandonment it had been recommended that the waterway remain as a recreational resource, but the recommendation was not accepted. The canal was drained, its land sold and its structures sold and largely dismantled; most metal elements were lost to World War II scrap drives.

b. Historical Links:

Although part of the overall network of canals that served the eastern United States, there were no major historical links with the "other" New Jersey Canal; both canals provided a link between Delaware and New York City and competed for the Pennsylvania-New York coal traffic. There was some traffic in iron ore which came from the Morris Canal, across to the Delaware Division (in Easton) and thence to the D & R by means of the cable ferry at Lambertville and thence to Trenton.

c. Significance:

The canal significance in relation to the D & R is mainly that it too was part of a network of canals; as on the D & R the principal cargo was coal from the fields of Pennsylvania. The hinge boats, common on the D & R, were largely developed for use on the inclined planes of the Morris Canal.

The significance of the Morris Canal in terms of the future development of the D & R Canal is minimal. Old photographs and documents could be useful in providing interpretive comparisons to illustrate the relationship of topography to the form of the Canal.

Unfortunately the Morris Canal is to be remembered largely as a lost opportunity.

Bibliography: See Appendix A, 5, e.

7. Delaware and Hudson Canal (D & H)

a. General:

Construction commenced 1825; open for navigation late 1828; abandoned 1898.

Rondout, New York (near Kingston) to Honesdale, Pennsylvania; 108 miles long, over 100 locks, several aqueducts (including several suspension ones designed by Roebling; the one over the Delaware survives as a pedestrian bridge); original prism was 32 feet x 20 feet x 4 feet deep; original lock 9 1/2 feet x 75 feet long.

Canal enlarged over the years to a depth of 6 feet and locks enlarged to 15 feet wide x 90 feet long.

b. Historical Links:

Although part of the overall network of canals that served the eastern United States, there were no major historical links between the D & H and D & R Canals; both canals provided a link between Delaware and New York City and competed for the Pennsylvania-New York coal traffic.

c. Significance:

The canal significance in relation to the D & R is mainly that it too was part of a network of canals; as on the D & R the principal cargo was coal from the fields of Pennsylvania.

The significance of the D & H Canal in terms of the future development of the D & R Canal is minimal. Several sections of the D & H Canal have been developed as parks; there are small museums at High Falls and Cuddeback, New York.

E. Glossary

"A" Frame Bridge: See Bridge.

Aqueduct: A structure which conducts water, such as a canal over an obstacle such as a river, stream, hollow or road. (Unlike a culvert, which carries an obstacle under the canal, the canal itself is carried in a structure.)

The D&R Canal utilizes aqueducts to overcome several obstacles: Alexauken Creek, Swan Creek, Millstone River, Sullivan Way, Parkside Avenue; previously also: Pennsylvania Railroad in Trenton.

Balance Beam: A beam used to open the lock gate which extends beyond the gate and which because of its length and weight counterbalances the weight of the gate.

The heavy wood balance beams used on the D & R were typical on many early canals.

Bank: The hand (left or right) is determined by assuming one is always looking "downstream" ("downstream" is in the direction of the navigational flow; for the D & R: Bulls Island to the old Summit and Bordentown to New Brunswick).

Berm Bank: The bank opposite the towpath.

Towpath Bank: The bank on which the towpath is located.

Basin:

Turning Basin: A man made body of water attached to a canal which allows sufficient space for a canal boat to be turned around, loaded/unloaded or temporarily tied up.

There were a number of basins, most privately owned, on the D & R. Some were associated with particular industrial/commercial uses, others served a variety of uses. Most basins have been completely filled in; some basins remain:

(25.95) Baker's:

Except for a pipe culvert no longer connected to the canal.

(29.02) Port Mercer:

No longer connected to the canal.

(31.45) Princeton:

Originally there were two basins at Princeton, but only one has survived; it is no longer connected to the canal except by a pipe culvert.

(35.10) Kingston:

Still open to the canal.

(B.05) Bordentown:

Open to the canal; includes the remains of some abandoned canal boats/scows.

Bridge: Numerous bridges were used on the Delaware and Raritan Canal.

"A" Frame Bridge: A swing bridge which while opening, is suspended by rods or cables from a large "A" shaped (wooden) frame which was braced by another member (so as to form a large tripod) and further guyed by cables. Also called a shear leg or shear pole bridge.

The "A" frame was once the typical bridge on the D & R; it was also used on the Chesapeake and Delaware Canal. A type typical on the C & D and the D & R, possibly due to Ashbel Welsh. A surviving example of this type exists and remains in use, not on a canal, but rather on a railroad spur (over Mantua Creek) in Paulsboro, New Jersey.

King Post Bridge: A bridge utilizing a vertical compression member (called a "king post") and diagonal tension members.

Between 1911 and 1913 most of the "A" frame bridges on the D & R were replaced with king post swing bridges.

Pivot Bridge: Swing Bridge.

Shear Leg, Shear Pole: "A" Frame.

Swing Bridge: A bridge which swings open (rotating on a pivot) in order to permit passage on the canal. Also called a pivot bridge on some canals.

Originally all bridges were swing bridges. In later years draw bridges were also used, particularly in Trenton, however the typical operable bridge remained the swing bridge. First fixed bridge over the Main Canal was the railroad bridge in New Brunswick.

Several swing bridges remain: Workhouse Railroad Bridge (not complete); PJ&B Railroad Bridge; Main Street Bridge, South Bound Brook Railroad Bridge; Landing Lane Bridge.

Bridgetender: A person, on the D & R generally a Canal Company or railroad employee, who operated a movable bridge.

Bypass, Bypass Channel,

Bypass Flume: A channel, roughly parallel to the canal, which permits water to flow around a lock thus maintaining a continuous flow of water to the canal.

The bypass at Lambertville remains intact; remains of several other bypasses at Kingston, Griggstown.

Note: At the Bulls Island and Prallsville guard locks, parallel floodgates served a similar purpose.

Cable Ferry: A ferry attached to a cable, stretches from shore to shore, which restrains the ferry to its course.

A cable ferry (1847-1912) connected the Lambertville Outlet Lock (D & R) with the New Hope Outlet Lock (Delaware Division Canal); the pressure of the river current provided the motive force.

Canal: In general any man-made channel for navigation; however, distinction sometimes made:

1. A slackwater navigation (see below) is not considered a true canal.
2. A feeder is often not considered a canal.

Canal Boat: Any boat using the canal; no one type on the D & R; boats from several other canals including:

"Chunkers": From Mauch Chunk (Lehigh Canal).

Hinge Boat: (Also called a section boat, a "squeezer" or "lemon squeezer".) A two section boat which could be separated to facilitate turning or unloading (originally developed for use on the Morris Canal inclined planes).

Lehigh Coal and Navigation Company boats (the typical boat on the Delaware Division Canal and very common on the D & R) were generally hinge boats.

Packets: Passenger boats; not used on the D & R. Due to the close presence of the railroad, few passengers on the D & R.

Scow: Workboat used for maintenance.

"Skuker": From the Schuylkill Canal.

Stiff Boat: One which is not a hinge boat.

- Notes:
1. Tug boats used from an early date on the D & R.
 2. Size of locks, depth of channel and use of swing bridges permitted use of a large variety of boats often not found on other canals.

Culvert: A structure for conducting a stream under a road; canal, etc. Unlike the aqueduct; the canal itself (including the towpath and berm) remains intact, the stream, not the canal is contained.

D & R culverts originally masonry, later culverts use concrete.

Note: Some wood culverts were used.

Dam:

Wing Dam: A partial dam projecting from one or both banks (of a river used to raise a water level or direct water.

The D & R utilizes a wing dam, in the Delaware River, at Bulls Island, to provide an adequate supply of water to the Feeder Canal.

Several other wing dams adjacent to the canal: Wells Falls (Lambertville/New Hope), Scudders Falls.

- Notes:
1. The D & R also utilized a full dam at Fieldville (Five Mile Lock) to augment the water supply at the lower end of the canal.
 2. In many other canals, but not the D & R, dams were used to provide a slackwater navigation.

Dike: An embankment to control flood water, e.g. Port Mercer Dike.

Drop Gate: See Gate.

Gates:

Balanced Beam Gate: A lock gate utilizing a balance beam.

Originally all lock gates on the D & R were balanced beam mitre gates. Later (1849) most upstream gates converted to drop gates.

Drop Gate: A lock gate hinged at the bottom which drops into the canal, also called a fall gate on some canals.

Used after 1849, used for most upstream gates on the main canal.

Guard Gate: A gate similar to a lock gate in construction, but used to protect the canal (downstream of the gate) during flooding. Also called safety or stop gates on some canals.

D & R: A guard gate was originally located on Bogen Lane; the walls still remain.

Mitre Gate: A vertical hinged lock gate, one of a pair; the free end mitered; constructed so that when closed the gates remain at a slight angle; gates always open upstream; pressure of water keeps gate closed.

Control Gate: General; gate to regulate the flow of water.

Sluice Gate: A gate to control the flow of water.

Flood Gate: A gate used to release or hold water to prevent flooding and generally control the flow of water.

Safety/Stop Gate: Guard gate.

Originally all locks had grooves just beyond the gates at each end; these were for the stop gates.

Waste Gate: A gate used to control the level of water by releasing excess water.

Heel Path: See Path.

Heel Post: The post at the hinge end of a mitre gate about which the gate pivots. The post is held at the top by a collar.

Guard Bank: Levee.

Levee: An embankment generally parallel to a canal (or a river) which protects from floods in adjacent areas.

Level: A section of water between two locks, also called "open water".

D & R longest level: State Street to Kingston (approximately 13.75 miles).

D & R shortest level: Lock #3 to Lock #4 (approximately 0.25 miles).

Lift: The difference between the water level upstream and downstream of a lock.

D & R greatest lift: #4 (Lalor Street) - 12.4 feet.
#13 (Deep Lock) - 12.2 feet.

Lock: A chamber with gates at each end which permits a boat to move from one level of water to another by varying the level of the water in the chamber.

D & R:

Originally 14 locks (7 upstream and 7 downstream of the Summit) 24' wide x 110' long.

Later 13 locks (6 upstream and 7 downstream of the Summit) 24' wide x 220' long.

Still later, with the Construction of the Greenwood Avenue Lock, 14 locks, 7 upstream and 7 downstream.

Lock walls of cut face masonry laid with hydraulic cement. (Bordentown lock later rubble filled wood.) Walls were covered with wood cribbing (to protect locks and boats).

Double Lock: A pair of locks (generally one for upstream and one for downstream traffic).

D & R: In 1866, New Brunswick Outlet Lock made into a double lock (the only one on the D & R).

Guard Lock: Similar to a normal lift lock in construction, but used to adjust for the differences in the level of a river and as guard gates in times of flooding.

D & R had two guard locks: Raven Rock (Bulls Island), also an outlet lock and Prallsville.

Lift Lock: A regular lock with no other purpose than to permit the movement from one water level to another.

Outlet: A lock which permits passage from the canal into a river or other bodies of water; the lock accommodates changes in river level or tide.

D & R: Bulls Island, Lambertville, Bordentown, New Brunswick.

Tidal: An outlet lock opening onto tidal water; the lock accommodates changes in the tide.

D & R: Bordentown, New Brunswick.

Weigh Lock: Used to weigh canal boats generally for purposes of collecting tolls.

Not used on D & R; simple gauges used instead.

Note: Variety of vessels and cargoes made a weigh lock impractical on the D & R.

Locktender: A person who operates the lock; also called a lockkeeper or a lockmaster on some canals.

King Post Bridge: See Bridge.

Mitre Gate: See Gate.

Mechanical Mule: A device to move boats along the canal; particularly used to move boats through a lock.

D & R:

Ashbel Welsh developed an efficient system using steam for power, but in later years it was abandoned. Electric power used in later years at State Street and New Brunswick Outlet. The other locks reverted back to hand operation.

Mule: Originally mules provided the motive power for most boats.

Overflow: A structure to permit excess water to be wasted, also called a Spillway.

Most are "Dry" and waste water only after heavy storms. A few (e.g. Wickecheoke Creek) are almost always "wet".

There are two types on the D & R:

1. Particularly on the Main Canal: A simple depression in the towpath (typically 100' or more in length), laid with stone to prevent erosion, which permits excess water, after heavy rains etc., waste itself. (Early overflows on the feeder were probably similar.)
2. Feeder Canal: A more elaborate type was used (the railroad bed could not so easily be depressed); overflow into a concrete slot and then under the railroad tracks in a series of (as many as 14) concrete pipes.

Path:

Berm Path: The path on the berm (the opposite side from the towpath).

Heel Path: Berm path.
 Note: Due to false etymology: tow = toe.

Towpath: The path used by the mules and their drivers in towing boats.
 Note: Both tow and berm paths were used for maintenance.

Prism: The bank cross-sectional dimensions of a canal.
 D & R: See Appendix pages B-3 and B-4.

Rip-rap: Stone placed for protection against erosion.
 D & R : Rip-rap was placed (1853) along the main canal; D & R rip-rap very carefully dry laid. The use of rip-rap on the D & R was largely necessitated by the wash of tug boats and other self-powered vessels.

Slackwater Navigation: A navigation system formed by dams which form pool of water which are then linked, usually by locks and short canals.
 D & R: Unlike many canals the D & R did not make use of slackwater navigation.

Spillway: See Overflow.

Snubbing Post: A post around which a rope is thrown to control the position and momentum of a boat.
 D & R: Remains of snubbing posts can be seen at several locks. Originally, perhaps, of wood; surviving posts are reinforced concrete.

Towpath: See Path.

Turning Basin: See Basin.

Waste Weir, Weir: A system for the wasting of surplus water; the term is also used for the various components of the weir such as the water control gate or the waste water channel.

Wheelhouse: A structure enclosing the operating controls for a drop gate.

Wicket: A valve used to control the flow of water into/from a lock. Also called a paddle on some other canals.

Wing Dam: See Dam.

F. Other Projects

Several projects and proposed projects, directly or indirectly, will have an impact on the canal.

1. New Jersey Water Supply Authority:

- a. Proposed Waterway Maintenance Program, Sediment Removal and Disposal Project, (i.e. dredging of the canal) from Prallsville Lock to Kingston Lock.

The project includes a number of temporary access sites. In additions several sites have been proposed as spoils disposal sites. Plans include the restoration of all disturbed areas.

The project will probably involve dewatering the canal; this will result in:

- (1) A severe impact on the aquatic life in the canal.
 - (2) A disruption of recreational activities in and along the canal.
 - (3) An opportunity to repair slumped banks and rip-rap.
 - (4) An opportunity to view the submerged remains of various canal structures such as bridge fenders, catwalks, etc.
 - (5) An opportunity to recover lost artifacts from the canal era.
- b. Repair/rebuilding/new structures; Several projects including the following:
 - (1) (20.85) Perdicaris Waste Gate: Modifications.
 - (2) (42.11) Ten Mile Run Culvert: Steel liners and headwall repairs. Important to preserve historical appearance of the culvert; (no guniting of visible portions of the culvert).
 - (3) Repairs to several structures:
 - (a) (35.19) Kingston Lock.
 - (b) (5.87) Alexaukin Creek Aqueduct.
 - (c) (6.87) Swan Creek Aqueduct.
 - (d) (32.96) Millstone Aqueduct.
 - (e) (39.46) Griggstown Waste Gate.

Note: Sensitivity to historic and natural resources is extremely important.

- (4) (15.56) Scudders Falls Waste Gate: Potential impact on a pleasant small area is considerable.
- (5) (28.72 to 29.26) Port Mercer Dike: Rehabilitation and extension.
- (6) (22.05 to 23.20) Route 1 Conduit Stormwater Bypass.
- (7) Reduction of siltation through possible culverts or upstream flood detention.
 - (a) (1.30) Lockatong Creek.
 - (b) (2.84) Wickecheoke Creek.

Note: The use of upstream retention is preferable since it would not change the historic appearance of the sites.

- (8) (-0.80 to 0.0) Bulls Island intake and head gates; revisions and rebuilding.

Note: General Comments on Repair/Rebuilding/New Structures:

1. The original canal structures were straight-forward functional works of engineering. It is indeed appropriate that new structures be similarly straight-forward and functional; however, it is also essential that they be designed and placed with great sensitivity and respect for the existing canal's character and the specific sites.
2. In some cases it may be appropriate to incorporate elements from the past (e.g. stone work for the towpath surface in a spillway); it also may be appropriate to incorporate other use elements (e.g. steps to the river in a spillway wing wall) for current use.
3. Rebuilding of historic structures should always be done in such a way as to preserve the appearance of the original structure (e.g. no guniting of fine stonework on a head wall).

Note: Also see 3. below.

2. Highway Construction:

- a. Routes I-195/I-295/29/129: Duck Island/ Crosswicks Creek

A severe impact, particularly on the character of the area and the natural environment.

Additional efforts should be made to mitigate the impact of the proposed highway complex.

Notes:

1. See (B-0.1 to B3.45) Duck Island.
2. See: Interstate Routes 195, 295, New Jersey Routes 29 and 129, Final Environmental Impact Statement.

(1981) Prepared by United States Department of Transportation and New Jersey Department of Transportation

b. Route I-95: Weston Road/Hillsborough Area

(47.20) Previous alignment of I-95 crossed canal; alignment has been "de-designated".

c. Route 92: Kingston Area

(36.10 to 36.26) various alignments; a sensitive area.

(36.26) Scheme 1 probably preferable, crossing design critical.

Route 92 would completely obviate the need for much of the road along the canal proposed by Trap Rock Industries (e. below).

d. Somerset Expressway: Weston Road/Hillsborough Area

(47.20) Proposed as a replacement for part of the now "de-designated" Route I-95. Alignment would be similar to b. above.

e. New county road along canal proposed by Trap Rock Industries: Kingston Area

On former railroad bed (37.11) Route 518 to (35.24) Route 27 along right bank of canal with possible continuation along canal from (35.24) Route 27 to (35.10) Turning Basin and hence to Route 1; Laurel Avenue downstream of 36.34 would be relocated along the canal. In spite of proposed mitigation, impact would be extremely severe; this road should not be permitted except in the section between (37.11) Route 518 and 36.34 (i.e. the existing quarry road) and in that area it should be carefully screened from the canal.

Note: See 4. below.

f. Realignment of Route 518: Rocky Hill

Proposed, also by Trap Rock Industries. Unlike previous road, impact on canal would be minimal.

g. Route 1 Corridor:

The DOT has been investigating the Route 1 Corridor, in particular the area between Route I-295 and Route 130. Various proposals have been outlined and many of them effect the Canal State Park.

(1) Port Mercer Area:

All proposals would add a bridge over the Canal at Provinceline Road.

(2) Alexander Road:

All proposals would appear to add a new bridge. One proposal (J) would use the Dinky right-of-way as a connector road. The impact of such an alignment would be severe on the Park and disastrous for the historic swing bridge. All proposals would have a substantial impact on the Canal and the Princeton Basin Area; some would also effect the adjacent Rogers Wildlife Preserve.

(3) Harrison Street:

Traffic impact on adjcent historic area might be reduced in some schemes.

(4) Aqueduct Area and Mapleton/Lake Road:

Some schemes would reduce the increasingly heavy traffic in the Aqueduct Area, but all would probably increase traffic on the remainder of Mapleton/Lake Road.

Any road improvements (widening, etc.) to Mapleton/Lake Road would have a detrimental effect on the Canal Park. The widening of Route 1 itself would have a severe impact on the Aqueduct Area.

(5) In addition, the improvements to the road system will certainly generate even more development in the area and thus put additional pressure on the remaining green spaces near the Canal.

Note: See Route 1 Alternatives Paper, of 20 December 1983, prepared by NJDOT.

Note: General Comments on Roads:

Numerous roads cross the canal and run through the park, still others run closely along the canal or adjacent rivers. The character of these roads, their design, size

and the traffic on them have a major impact on the Canal Park. Many people know the canal solely or mostly as it is seen from the road.

In an area such as Griggstown, the character of the area could be destroyed by widening the causeway road. The Millstone Valley is an area in which particular care must be taken to insure that the character of the Park is not destroyed. The other causeway roads are critical too, as is the road running along the canal.

3. Six Mile Run: Blackwells Mills

Proposed reservoir with dam at Blackwells Mills would inundate a large area of farm land, although it would also create the opportunity for a large recreational area adjacent to the canal.

Project needs to be thoroughly analyzed. If built, dam should be located as far away from the canal as possible and screened with landscaping.

4. Trap Rock Industries Master Plan: Kingston/ Rocky Hill

Plan includes: Roads 2, e. and 2, f. above.

Major quarry expansion:

a. Down (80-100 feet below existing floor).

b. Away from canal (Laural Avenue and beyond).

Eventual use of quarry pit as a lake to be given to the public for use as recreation center and possible reservoir (with water supplied from the canal). It has been suggested that such a reservoir would obviate the need for the Six Mile Run reservoir (see 3. above).

Note: See Kingstone Quarry Master Plan, A Summary Report proposed for Trap Rock Industries Incorporated (prepared by Snell Environmental Group, Inc., Lansing, Michigan, August 1982).

5. Numerous residential and commercial developments are proposed along the canal or near it.

The Canal State Park relies upon the Canal Commission's review and enforcement powers to protect it from adverse development; the added protection of scenic easements or full acquisition is recommended in many cases.

One of particular concern was the plan of the Institute for Advanced Studies to develop the farm land adjacent to its woods (See Path Segment: (28.93 Port Mercer to (31.45) Princeton Basin). Fortunately in 1984 the Institute decided not to develop the property.

G. Additional Tasks Recommended

1. General: The unique nature of the Canal State Park, its complexity, problems and potentials, became more and more apparent as work on this Development Plan progressed. It soon became increasingly apparent that the size and complexity of the Canal State Park is very great (far greater than had originally been envisioned), therefore there are additional tasks which must be performed.
2. Prior to Implementation:
 - a. Further natural assessment and impact analysis.
 - b. Preliminary Design Development, particularly in the following areas:
 - (1) Trenton Area: While actual development would probably not be in the near future, such development could serve as an impetus to the prerequisite renewal of the adjacent area and also be an indication of the Canal State Park's commitment to future renewal.
 - (2) Design Vocabulary: It is very important to have consistency in the individual design elements in order to provide a unified development of the entire Canal State Park.
 - c. Further historic structures documentation.
 - d. Further historical research, particularly maps and photographs.¹
 - e. Further visits (including discussions with park personnel) to other historic canal parks.²
3. Implementation Phase: The Development Plan, with its complex combination of historical, natural, and recreational facets, requires a highly coordinated and unified approach for successful implementation. Continuing coordination (including design direction and review) of the various individual projects as well as periodic updating of the Development Plan is essential to provide the continuity and unity so necessary to the Canal State Park.

Foot Notes:

- 1
 - a. Canal Museum; Easton, Pennsylvania.
 - b. Historical Societies.
 - c. Public Libraries (particularly Trenton, New Brunswick and Newark).
 - d. University Libraries (Princeton and Rutgers).
 - e. Eleutherian Mills Historical Library; Wilmington, Delaware.
- 2 In particular the C & O Canal National Park.