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DETECTOR

4/14/03

PRELIMINARY

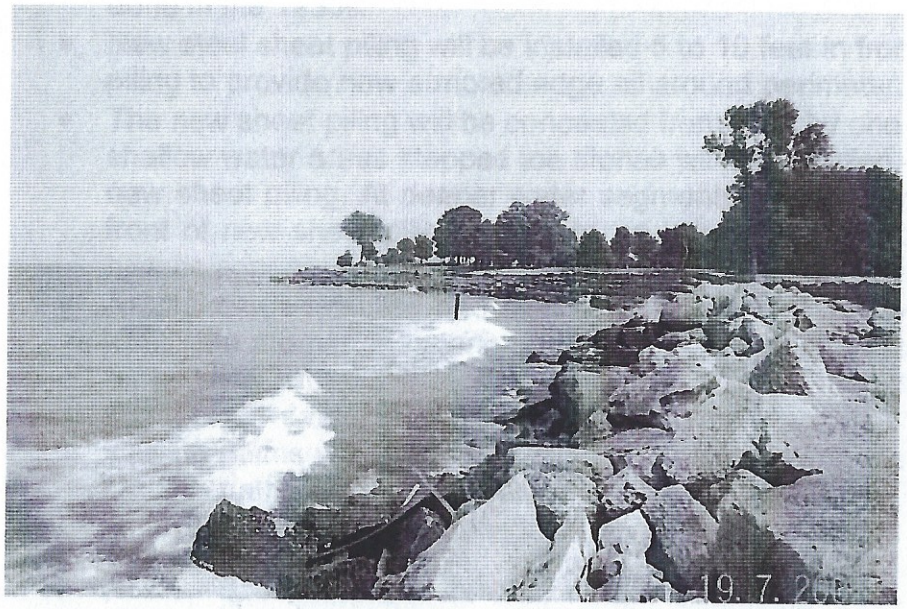
Promontory Point in Burnham Park

Promontory Point in Burnham Park

54th to 57th Streets in Chicago, Illinois

April 14, 2003 – Preliminary for Review

The Hyde Park Community's Proposal for the Preservation, Restoration and Enhancement of the Historic Stepped Limestone Revetment System at Promontory Park



Chicago Shoreline Looking South Toward Promontory Point

Summary of Proposed Construction

- Existing limestone step-stone revetment and promenade on south side of Point is in good condition and will be preserved and repaired as needed. Voids under stone will be filled with a cement-sand mix.
- Existing concrete platform (promenade – the "coffins") at east end of the Point is in good condition and will be preserved and repaired. Voids (aka "caverns") under concrete platform will be filled with a cement-sand mix. Stepped limestone revetment will be reconstructed.
- Historic limestone step-stone revetments in other segments of Point will be restored. Stones will be temporarily removed, substrate will be repaired, filled and compacted, and stones reset on top, much as it was done in the 1930s.
- New steel sheet piling will be installed 5 to 10 feet in front of existing wood piling to provide new armored edge all around perimeter.
- The new sheet piling will be concealed from view by one of two means: At shallow water areas stepped toe stones will be installed in water in front of new sheet piling. At deeper water segments, wood piling will be driven in front of new sheet piling to create ice bumpers and recreate the original historic appearance of shoreline.
- A continuous textured and colored concrete pathway will be constructed within the promenade along perimeter to provide accessible path of travel for persons with disabilities. It will be set 4" lower than the adjacent stone to create a safety edging and a detectable warning zone. Resting and viewing points will be located at various points along the promenade. The smooth paths could be paved with dressed limestone, if budget permits. Outer edge of new promenade will be limestone blocks set on top of the steel sheet piling.
- Ramps and stairs will be constructed within the reconstructed stepped limestone revetment to provide access from existing park walkways to the

new promenade level at a gentle slope from both north and south ends of the Point, as well as near the Fieldhouse.

- Access to the water for wading and swimming will be created by a new ramp and steps into water on north side of Point for persons with disabilities and other users.
- Open water swimming access will be created on both north and south sides
- Alfred Caldwell's landscape design will be restored.
- Among the many advantages of this restoration/preservation approach are in reusing existing materials and structural systems, minimizing disruption to the existing environment and animal habitat. No trees will be required to be removed or transplanted. Responding to Mayor Daley's "green initiative" for public construction in Chicago, little new energy will be used for construction or embodied in materials. This design can be constructed in small segments with light equipment and low-tech operations. There is no need for large stockpiles of materials, since most are being reused locally, augmented by additional readily-available limestone blocks as required, deliverable to the site less expensively than concrete. A small crane can be positioned on top of the existing promenade and work from center to both ends, repairing and setting stones as it moves and phasing work into small segments.
- We have retained a professional construction cost estimator. The estimate should be completed by May 1 and we anticipate that the cost will be at or less than the current Park District budget.
- This plan incorporates the important concessions made by the Park District in its 5/1/01 "9 point plan." In addition, this plan makes important concessions to the desires of the City agencies and Army Corps of Engineers (*e.g.,* the use of steel sheet piling) without compromising the preservation of the historic limestone promenade and stepstone revetment.

Summary of Process and Conclusions

1. Problems Identified

    a. Existing shoreline protection needs repair and/or replacement
    b. Shoreline was badly repaired in the 1960s with rubble mounds creating unattractive appearance
    c. Some wood piling has rotted, allowing protection to be displaced
    d. Shoreline is not accessible to persons with disabilities

2. Chronology of Proposed Solutions

    a. Chicago Shoreline Protection Commission "Recommendations for Shoreline Protection and Recreational Enhancement," Final Report, May, 1988: Rebuild 1800 ft. of edge south of Promontory Point ... Step-Stone and Sheetpile Wall...."

    b. Chicago Park District "Shoreline Protection and Recreational Enhancement," 1989: repair step-stone revetments by using steel sheet piling and restore Promontory Point to its original revetment structure to be compatible with the landward improvements then being made under direction of Alfred Caldwell (p. 49)

    c. U.S. Corp of Engineers "Shoreline Reconstruction Plans for Chicago," 1993: "Newly constructed step stone revetments would use steel sheet piles to anchor the stone steps." (p. 8); "The recommended step stone plan will also maintain safe access to the shoreline while preserving its historical and aesthetic value."

    d. Memorandum of Agreement for the Illinois Shoreline Erosion Interim 3 Project among the Advisory Council on Historic

Preservation, the City of Chicago, the Chicago Park District, the Army Corps of Engineers, and the Illinois Historic Preservation Officer, 1993: "...construction and rehabilitation of step-stone revetment along five (5) reaches of the Lake Michigan shoreline within the City of Chicago over a 15 year period."

e. House Document 103-302, "A Letter from the Chief of Engineers, Department of the Army Dated April 14, 1994, submitting a Report with Accompanying Papers and Illustrations," 1994: "The selected plan (stepstone revetment) will not have an adverse impact on archaeological or historic properties....Construction of the selected plan would involve movement of substantial quantities of quarry stone. Stone could be transported to the site via barge or truck....Restoration of the shoreline would insure continued use of the lakefront for sport fishing, golfing, sunbathing, swimming, and other recreational activities. It would also maintain the aesthetic quality of the Lake Michigan shore." (p. 104)

f. Corps of Engineers Environmental Assessment on Proposed Shoreline Protection Measures, 2001: "Locally Preferred Plan provides for reconstruction of the shoreline using stair-step (or "step-stone") design similar to the original design...steel sheet pile wall backed by batter piles ... between 54th and 57th street...driving new H piles to support a new concrete promenade...constructing new reinforced concrete slabs, steps, and wave deflectors."

g. City of Chicago memorandum dated 1 May 2001 in response to comments from the public, 2001: Improvement to Corps of Engineers Plan, 2001: These improvements included "vertical concrete surfaces to be given a rougher texture, drainage gap concrete areas will be smaller, joints in concrete will be staggered,

open water swim access will be designated by a line of buoys, revetment height will be reduced and tapered so that a view of the lake won't be impeded."

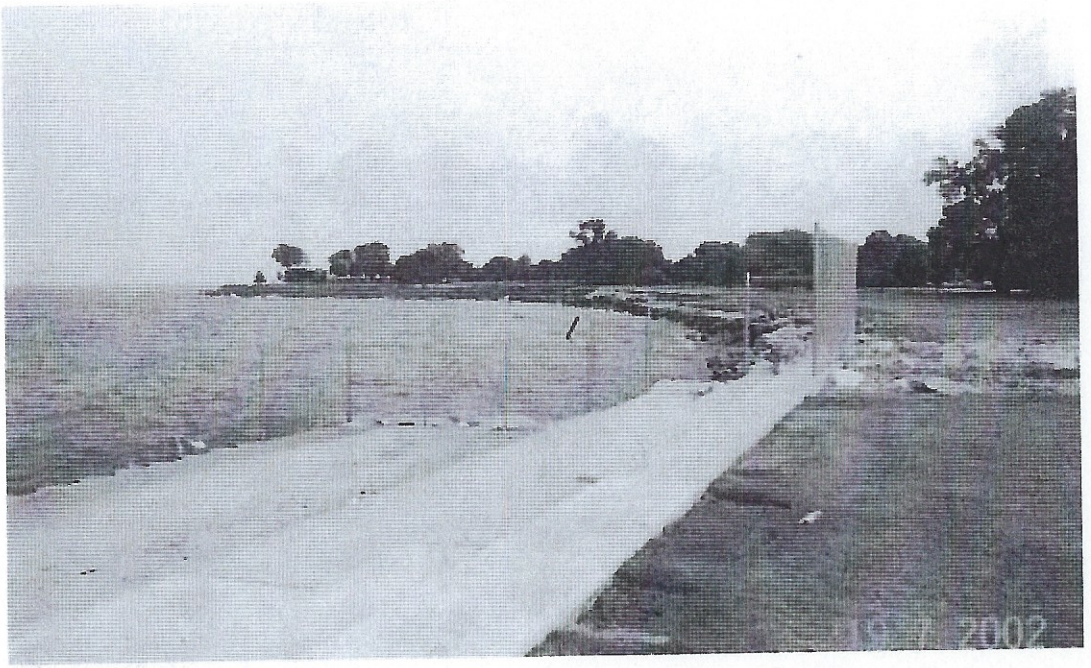
h. STS scheme, 1998, as documented in their drawings dated July 31, 2001: same as outlined in the Corps of Engineers Environmental Assessment Document.

i. Hyde Park Community's Proposal, 2002-03

    i. Galvin Coastal Engineer's analysis:
        1. Step-stone areas: remove limestone blocks and set on grass temporarily, install new wood piles with steel channel wales, install steel piling inward where required to eliminate erosion under limestone blocks, repair bedding stone, reset blocks, replace broken or missing blocks
        2. Concrete platform areas: remove limestone blocks and set on grass temporarily, install sheet pile partition at landward side of concrete platform, grout cavities under concrete platform, install bedding stone on landward side of concrete platform with filter cloth, reset blocks, replace broken or missing blocks

    ii. Heitzman-Tjaden Architects preservation and accessibility design:

        1. Enumeration of Features by Segment



Segment NX

Recently completed concrete revetment to the north

Segment A

Transition segment between new concrete and restored stone revetment

Integrates storm drainage gap with accessible ramp to promenade level from park

Maintains natural features of Promontory Point

Segment B

Unique water recreation feature of "submerged beach"

Accessible ramp and stairs from promenade level to "submerged beach"

Stairs for access from park to promenade level

Segment C

Concrete platform is repaired and retained, voids grouted full

New stone edge

Exposed wood piling in front of sheet piling

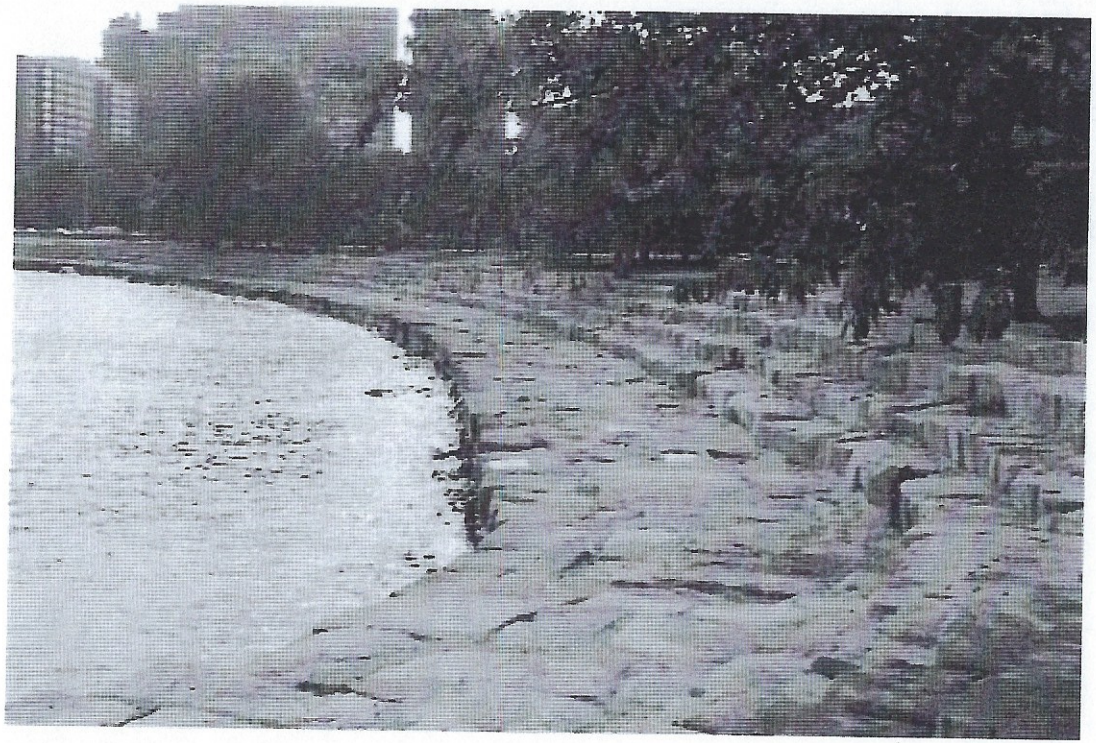
Stairs and accessible ramp integrated into revetment for access from field house to promenade level

Segment D

Stairs from meadow to promenade level

Exposed wood piling in front of sheet piling

Stairs integrated into revetment from promenade level to water for access



Segment E

New accessible promenade

Preserved step stone revetment

Segment F

Transition segment between new concrete and restored stone revetment

Integrates storm drainage gap with accessible ramp to promenade level from park

Segment SX

Concrete promenade and revetment currently under construction to the south

iii. Program criteria:

1. Maintain use of limestone blocks throughout for shoreline protection
2. Provide shoreline protection that is structurally sound
3. Provide shoreline protection that is cost effective
4. Provide gravity and surface storm drainage system from lower Lake Shore Drive into Lake Michigan
5. Adhere to the Secretary of Interior Standards for Rehabilitation and approved by Illinois Historic Preservation Agency
6. Retain and preserve as much of existing sound step stone revetment as possible
7. Provide identical physical appearance to existing step-stone design, including out-of-plumb and out-of-level stone blocks
8. Build no higher in elevation than current elevation
9. Allow continuous promenading all around at lowest level
10. Provide easy access to and from water for swimming or wading
11. Provide varied aesthetic experiences along length of shoreline
12. Provide equivalent experiences and activities for persons with disabilities
13. Provide fully accessible paths with gentle slopes for persons with disabilities
14. Allow safe approach to water's edge in all seasons
15. Provide some more spacious congregation areas near the water for informal gatherings

16. Provide at least one example of large scale public art
17. Provide uncomplicated and low-tech future maintenance systems
18. Restore Alfred Caldwell landscape plan

3. Process for developing design

   a. Compiled functional criteria from diverse sources

      i. City of Chicago stated goals
      ii. Neighborhood task force
      iii. Neighborhood accessibility committee headed by Martha Younger-White, Illinois Department of Human Services, Bureau of Accessibility and Safety Standards
      iv. Consultation with Marca Bristow, CEO of the Access Living Center of Chicago and Former Chairwoman of the National Council on Disability, appointed by President Clinton
      v. Consultation with John McGovern, Executive Director of the Northern Suburban Special Recreation Association and served on the Access Board committee negotiating design guidelines for outdoor recreation areas
      vi. Consultation with Robin Jones from the Great Lakes Accessibility and IT Center at the University of Illinois at Chicago
      vii. Review of the Secretary of Interior Standards for Rehabilitation
      viii. Consultation with Mike Jackson at the Illinois Historic Preservation Agency
      ix. Consultation with Julia Bachrach at the Chicago Park District
      x. Consultation with David Bahlman, Executive Director of Landmarks Preservation Council of Illinois

b. Produced schematic design

c. Sought approval for design with diverse sources
   i. Accessibility experts
   ii. Preservation
   iii. Stone fabricators (van Etten)
   iv. Stone Masons (Weese)
   v. Cyril Galvin, Coastal Engineer

d. Produced comprehensive presentation to public and city departments

4. Structural solution:

   a. Cyril Galvin's scheme, but using steel sheet piling with either stone blocks or wood piling driven in front; leading stone at edge conceals top of sheet piling
   b. Concrete platform is repaired and preserved
   c. Existing step stone revetment on south preserved

5. Accessibility solution:

   a. Ramps at gentle slope (1" in 20") allowing access to promenade level from both north and south ends of the Point.
   b. Textured and colored concrete path at promenade level for wheelchairs set 4" lower than the stone edging to provide detectable warnings
   c. Seating locations distributed along the path
   d. Concrete ramp into water on north side of Point for swimming access

e. Long and shallow concrete steps into water
f. Handrails along retaining wall sides

6. Recreational Enhancements

a. Open water swimming access on both north and south
b. Swimming and wading possible for persons with disabilities
c. Resting and viewing points
d. Accessible path at high point of Segment C
e. Cues for blind and vision impaired persons
f. Visual improvements
g. Restoration of Alfred Caldwell's objective of a natural setting

7. Environmental Enhancements

a. Reuse existing structural systems to large extent
b. Minimal disruption to existing environment
c. Minimal disruption to animal habitat
d. Little waste of existing materials
e. Little new energy used for construction or embodied in materials
f. Maintains all existing trees – none required to be transplanted
g. Can be constructed in small segments

8. Constructability considerations:

a. Light equipment required to construct
b. Small cranes can be positioned on top of existing promenade to lift 8 ton maximum rock and work from center to both ends, repairing and setting stones as it moves, working off already stabilized areas
c. No need for large stockpiles of materials, since most is being reused locally

9. Costs considerations:

    a. Can be phased easily by segment
    b. Reuses most materials
    c. Can use unskilled labor for most work
    d. Does not require highly refined surveying work for placement of materials

10. Maintenance considerations:

    a. Steel sheet piling will be longer lasting than wood
    b. Stone revetment is "forgiving" in that it allows some movement to occur in system to adjust to impact stresses
    c. Movement of elements of system is tolerated because promenade access level is a "free floating" reinforced concrete slab between rows of stones
    d. Future repairs do not require costly materials
    e. Repairs would be localized
    f. System has redundant structure so that repair delay will not affect stability

11. Longevity considerations:

    a. Step stone system will last at least as long as current step stone protection
    b. Steel sheet piling will have longer life than wood piling
    c. Limestone is a longer lived material than concrete


SAVE THE POINT

Promontory Point in Burnham Park Preservation and Access

NX

cently completed concrete revetment
:he north

A

Transition segment between new concrete and restored stone revetment

Integrates storm drainage gap with accessible ramp to promenade level from park

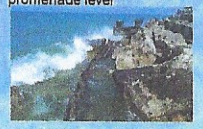
Maintains natural features of Promontory Point

B

Unique water recreation feature of submerged beach

Accessible ramp and stairs from promenade level to submerged beach

Stairs for access from park to promenade level



C

Concrete platform is repaired and retained

New stone edge

Exposed wood piling in front of sheet piling

Stairs and accessible ramp integrated into revetment for access from field house to promenade level

D

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Transition segment betweer new concrete and preserved step stone revetment

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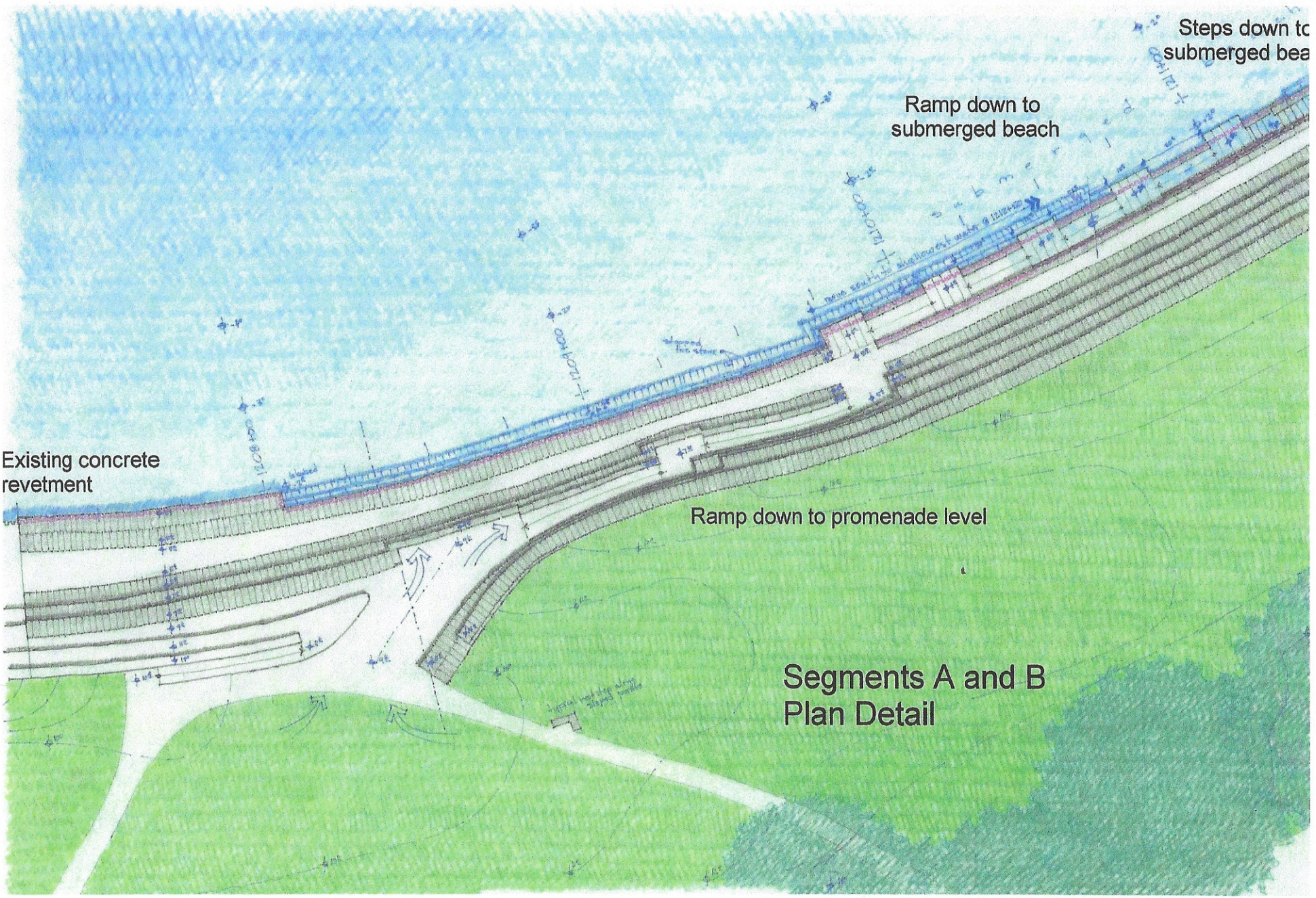
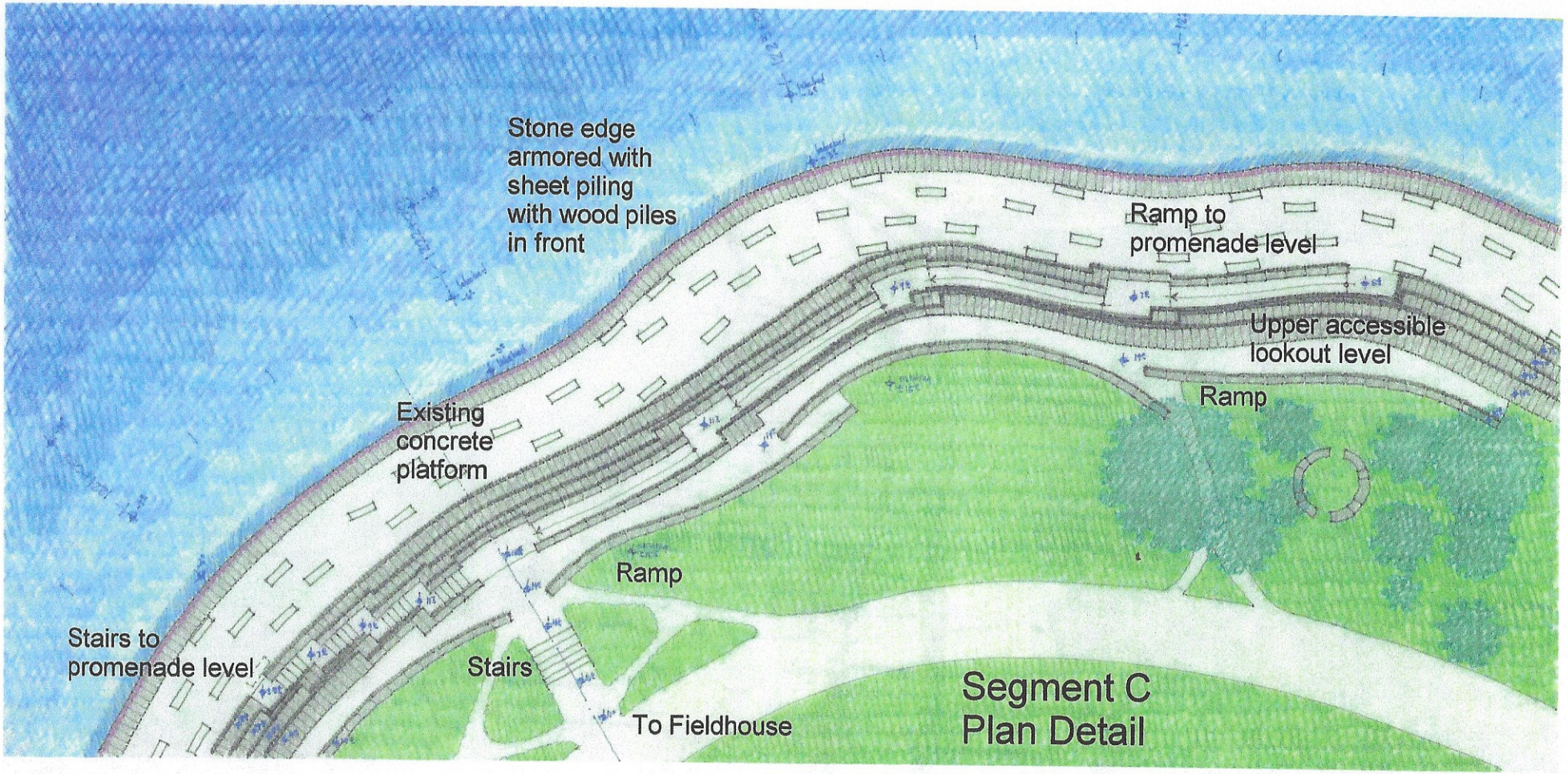
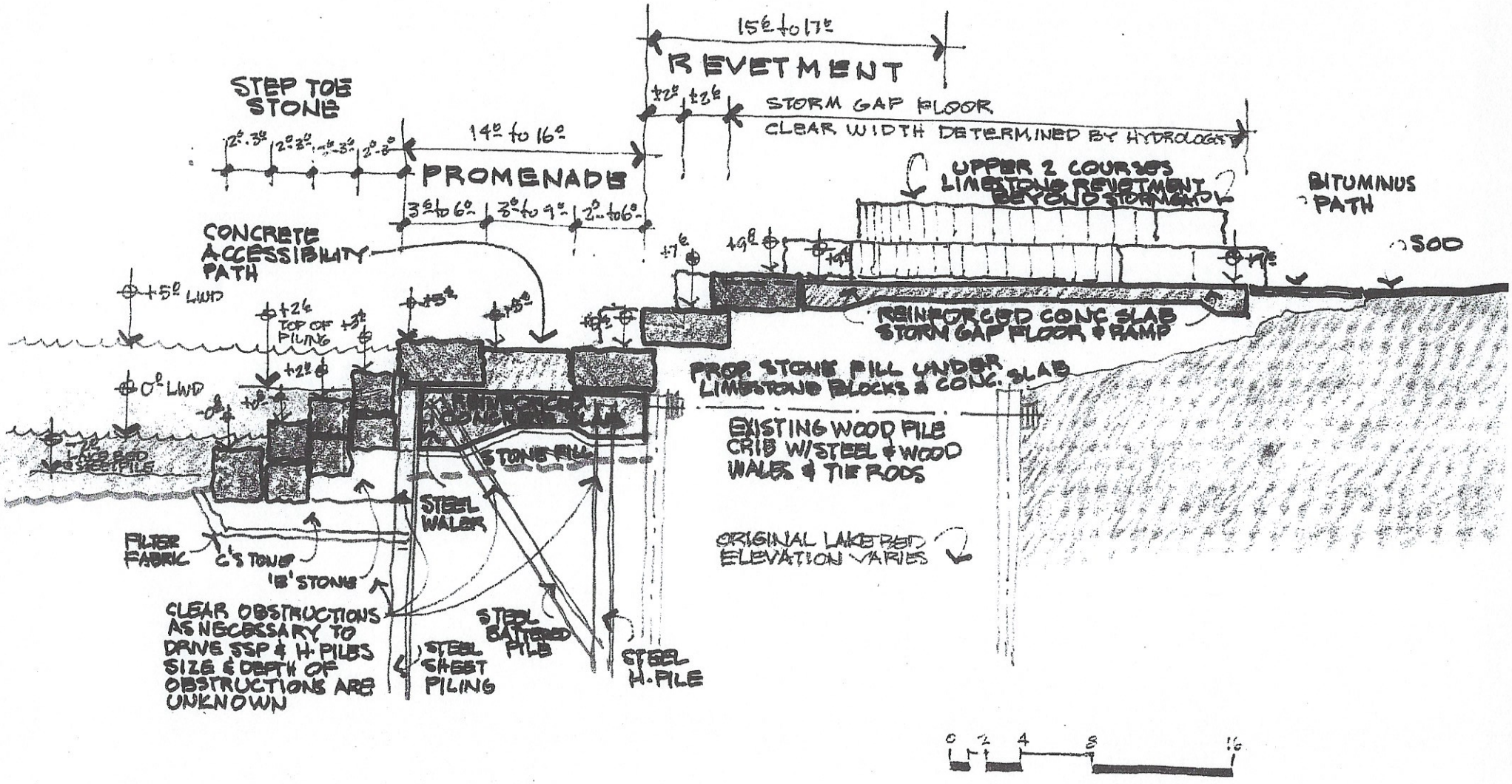
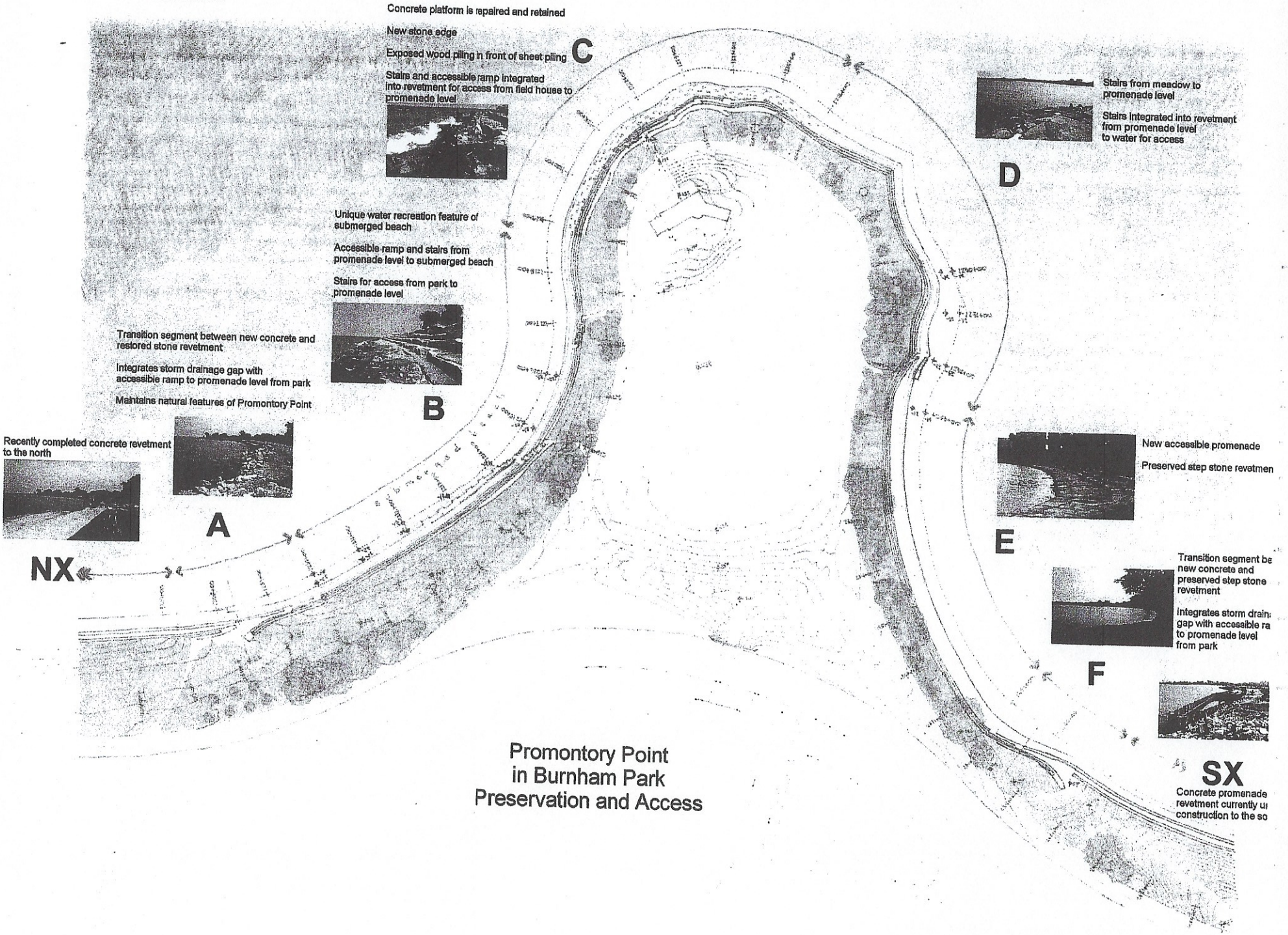

Steps down to
submerged bea
Ramp down to
submerged beach
Existing concrete
revetment
Ramp down to promenade level
Segments A and B
Plan Detail


Stone edge armored with sheet piling with wood piles in front
Ramp to promenade level
Upper accessible lookout level
Ramp
Existing concrete platform
Ramp
Stairs to promenade level
Stairs
To Fieldhouse
Segment C Plan Detail



TOTAL LIMESTONE PROMENADE & REVETMENT RECONSTRUCTION
SEGMENT A @ STORM GAP. STATION 1208+50 (SEGMENT F. STATION 1240+50 SIMILAR)



Promontory Point
in Burnham Park
Preservation and Access

51-25 54th
May 25, 1939