Superfund Records Center
SITE: Centredale
BREAK: 2.02
OTHER: 48813

Loureiro Engineering Associates, Inc.

May 29, 2003

**U.S. Environmental Protection Agency**
New England Regional Office
1 Congress Street, Suite 1100 (HBO)
Boston, Massachusetts 02114-2023

Attn: Anna Krasko, On-Scene Coordinator

**RE: Allendale Dam Restoration Drawings**
**Centredale Manor Restoration Project**
**North Providence, Rhode Island**

Dear Ms. Krasko:

The Allendale Dam Restoration Drawings for the Centredale Manor Restoration Project are attached. One copy of the set of Drawings is provided along with an electronic copy provided on compact disc. Along with the data validation summary reports previously submitted under correspondence dated October 4, 2002, November 8, 2002, and November 22, 2002, the Allendale Dam Restoration Drawings comprise part of the Completion of Work Report. Upon your review of the attached Drawings, please feel free to contact me at (860) 410-2976 should you have any questions.

Sincerely,

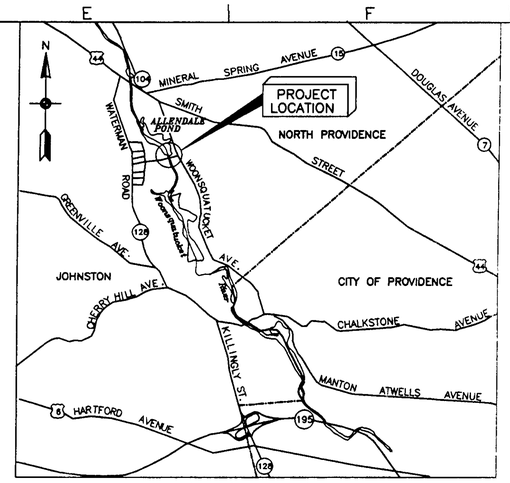
**LOUREIRO ENGINEERING ASSOCIATES, INC.**

David N. Scotti, P.G.
Project Manager

Copy to: A. Borochaner (USACE)
L. Maccarone (RIDEM)
Centredale Manor Performing Parties Group (w/o attachment)

Attachment

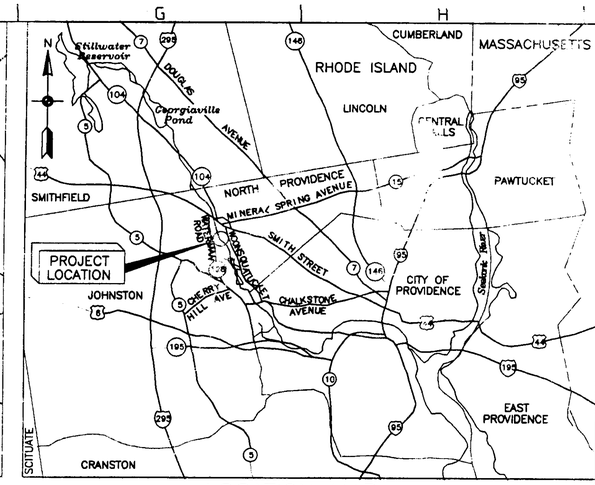
100 Northwest Drive • Plainville, CT 06062 • 860.747.6181 • Fax 860.747.8822 • www.LoureiroEngineering.com
An Employee Owned Company




VICINITY MAP

SCALE: 1" = 3,000'

3000' 0 3000' 6000'



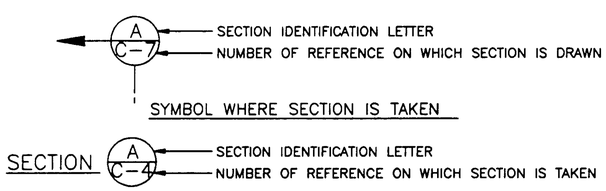

LOCATION MAP

SCALE IN MILES

1 0 1 2 3 Miles

# ALLENDALE DAM REPLACEMENT

# NORTH PROVIDENCE & JOHNSTON, RHODE ISLAND




## LEGEND

| NEW | EXISTING | DESCRIPTION |
|---|---|---|
| 90 | 90 | CONTOUR |
| | | CONTRACTOR'S WORK LIMIT |
| | | CENTERLINE OF SANDBAG COFFERDAM/WEIR |
| | | EARTH CUT |
| | | EARTH FILL |
| | | EDGE OF WATER |
| | | FENCE |
| | | GRANITE WALL |
| | | STONE PROTECTION |
| | | NATURAL GROUND SURFACE |
| | | PAVED ROADWAY/WALKWAY (PLAN) |
| | | UNPAVED ROADWAY |
| | 93.54 | SPOT ELEVATION |
| | 93.54 | SPOT ELEVATION – TOP OR BOTTOM OF THE SPILLWAY |
| | | TREE OR BRUSH LINE |
| 3 | | CONCRETE BLOCK 3 UNITS HIGH |
| B-5 | | BORING LOCATION AND DESIGNATION |
| | OU | OVERHEAD UTILITY |

## INDEX TO DRAWINGS


| SHEET NO. | | DRAWING NO. | TITLE |
|---|---|---|---|
| 1 | T-1 | . | COVER SHEET AND INDEX |
| 2 | C-1 | . | GENERAL PLAN |
| 3 | C-2 | . | SITE PLAN, PROFILE & SECTION – EXISTING |
| | | | CONDITIONS |
| 4 | C-3 | . | SITE PLAN – BEFORE CONSTRUCTION |
| 5 | C-4 | . | SITE PLAN – CONSTRUCTION |
| 6 | C-5 | . | SITE PLAN – FINISH GRADING |
| 7 | C-6 | . | SECTIONS – AND FINISH GRADING (1 of 2) |
| 8 | C-7 | . | SECTIONS – AND FINISH GRADING (2 of 2) |
| 9 | C-8 | . | SECTION AND EROSION AND SEDIMENTATION |
| | | | CONTROL DETAILS |
| 10 | S-1 | . | DAM ELEVATION, SECTIONS AND DETAILS |
| 11 | S-2 | . | STRUCTURAL SECTIONS AND CONCRETE REPAIR |
| | | | DETAILS |


NOTE:
SOME OF THE INFORMATION SHOWN ON THESE SHEETS WERE TAKEN FROM DRAWINGS PREPARED BY THE US ARMY CORPS OF ENGINEERS, NEW ENGLAND DISTRICT, FOR THE RECONSTRUCTION OF ALLENDALE DAM.


Superfund Records Center
SITE:
BREAK:
OTHER:


| Symbol | Description | Date | Appr. | Symbol | Description | Date | Appr. |
|---|---|---|---|---|---|---|---|

STEPHEN P. WALKER No. 7136 REGISTERED PROFESSIONAL ENGINEER CIVIL

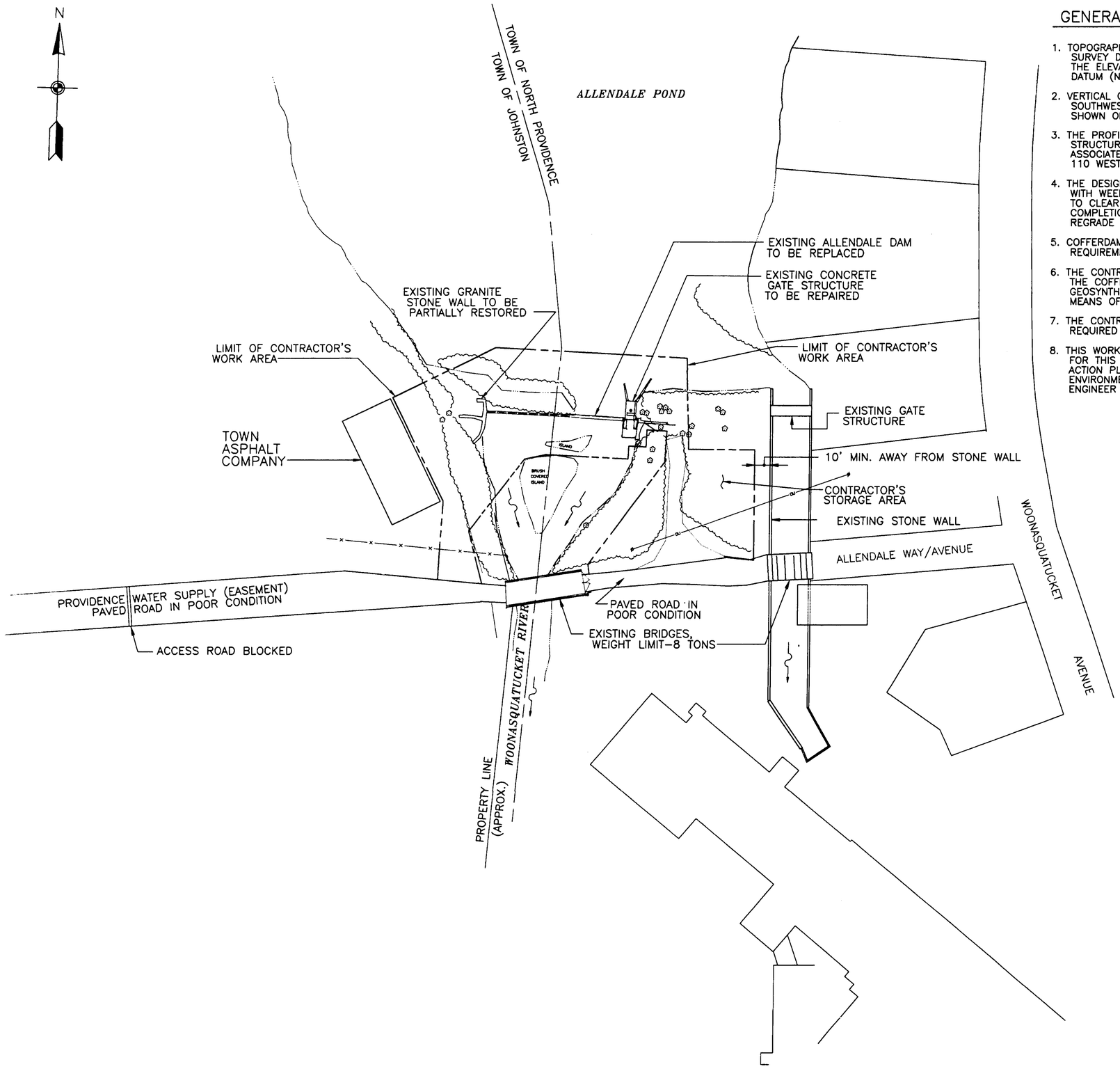
Designed by:
Drawn by AAB
Reviewed by:
Date: July , 2001


GEI Consultants, Inc.
WINCHESTER, MASSACHUSETTS
Loureiro Engineering Associates, Inc
100 Northwest Drive
Plainville, CT 06062


CENTERDAL MANOR RESTORATION–SUPERFUND SITE
NON-TIME CRITICAL REMOVAL ACTION
NORTH PROVIDENCE & JOHNSTON, RHODE ISLAND

ALLANDALE DAM REPLACEMENT
COVER SHEET AND INDEX

Reference number:
T-1




## GENERAL PLAN

SCALE: 1" = 40'

## GENERAL NOTES:

1. TOPOGRAPHIC SURVEY INFORMATION IS FROM THE CORPS OF ENGINEERS SURVEY DATED: OCTOBER 1995, REFERENCE BOOK: FC-327. THE ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM (N.G.V.D.) OF 1929.
2. VERTICAL CONTROL BENCHMARK "B.M." IS THE TOP ELEVATION OF THE SOUTHWEST CORNER OF THE GATE STRUCTURE (EL. 100.40 N.G.V.D.), SHOWN ON SHEET C-2.
3. THE PROFILE AND SECTIONS OF THE EXISTING WOODEN DAM, AND GATE STRUCTURE ARE TAKEN FROM THE DRAWINGS PREPARED BY GAROFALO & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/LAND PLANNERS, 110 WESTMINSTER STREET, PROVIDENCE, RI 02903.
4. THE DESIGNATED CONTRACTOR'S STORAGE AREA IS CURRENTLY OVERGROWN WITH WEEDS, BRUSH AND SMALL TREES. THE CONTRACTOR IS REQUIRED TO CLEAR THE AREA AND STRIP AND STOCKPILE THE TOPSOIL. UPON COMPLETION OF ALL REQUIRED CONSTRUCTION, THE CONTRACTOR SHALL REGRADE THE AREA, PLACE 4 INCHES OF TOPSOIL, AND SEED THE AREA.
5. COFFERDAMS SHALL BE CONSTRUCTED OF CLEAN GRAVEL, MEETING THE REQUIREMENT OF THE SPECIFICATION SECTION 02227.
6. THE CONTRACTOR SHALL BE PREPARED TO PROTECT THE OUTSIDE OF THE COFFERDAM AND EXPOSED BANK AREAS FROM EROSION. STONES, GEOSYNTHETIC BLANKETS, AND CONCRETE BLOCKS ARE ACCEPTABLE MEANS OF PROTECTION.
7. THE CONTRACTOR SHALL LIMIT EXCAVATION OF SOIL TO THE MINIMUM REQUIRED FOR THIS WORK.
8. THIS WORK IS PERFORMED AS PART OF A NON-TIME CRITICAL ACTION PLAN FOR THIS SITE. WHERE WORK SHOWN CONFLICTS WITH OTHER ASPECTS OF THE ACTION PLAN OR IMPLEMENTATION WORK PLAN, STATE OR FEDERAL ENVIRONMENTAL LAWS OR STATUTES, CONFIRM REGULATORY PRECEDENCE WITH ENGINEER AND REGULATORY AGENCIES.

| Symbol | Description | Date | Appr. | Symbol | Description | Date | Appr. |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

ARCHIBALD P. WALKER No. 7136 REGISTERED PROFESSIONAL ENGINEER CIVIL

Designed by:
Drawn by: AAB
Reviewed by:
Date: July , 2001

GEI Consultants, Inc.
WINCHESTER, MASSACHUSETTS

Loureiro Engineering Associates, Inc
100 Northwest Drive
Plainville, CT 06062

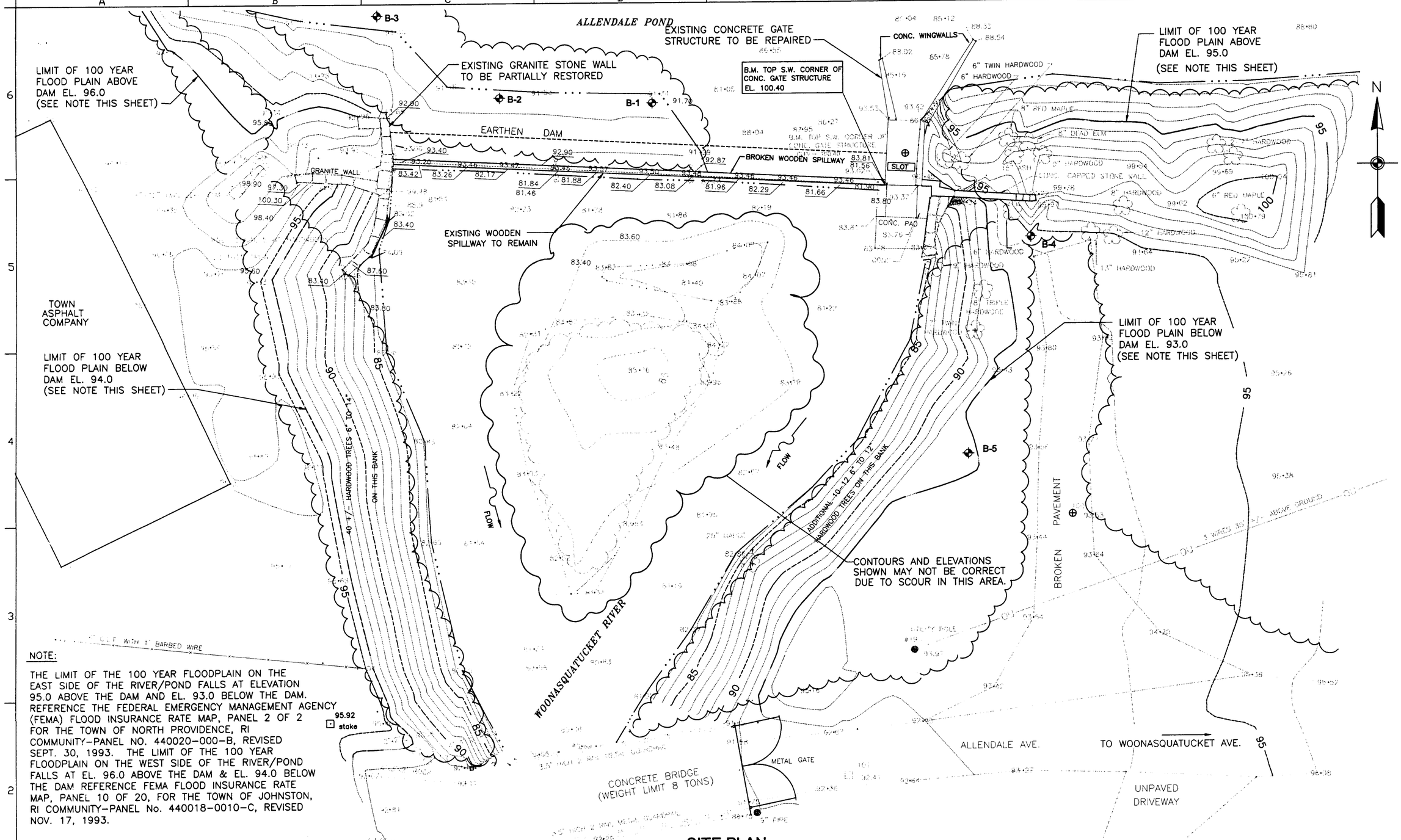
CENTERDAL MANOR RESTORATION-SUPERFUND SITE
NON-TIME CRITICAL REMOVAL ACTION
NORTH PROVIDENCE & JOHNSTON, RHODE ISLAND

ALLENDALE DAM REPLACEMENT
GENERAL PLAN

GRAPHIC SCALE
1" = 40' 40' 0 40' 80'

Reference number:
C-1
Sheet 2 of 11

M:\2001\01179\dwg\As-Built\ SHEET-C1.dwg \May 09, 2003

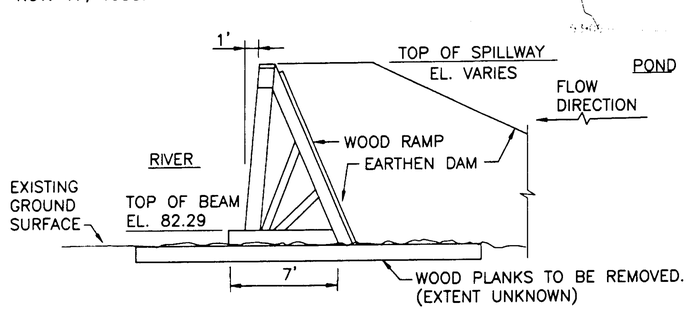



NOTE:

THE LIMIT OF THE 100 YEAR FLOODPLAIN ON THE EAST SIDE OF THE RIVER/POND FALLS AT ELEVATION 95.0 ABOVE THE DAM AND EL. 93.0 BELOW THE DAM. REFERENCE THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP, PANEL 2 OF 2 FOR THE TOWN OF NORTH PROVIDENCE, RI COMMUNITY-PANEL NO. 440020-000-B, REVISED SEPT. 30, 1993. THE LIMIT OF THE 100 YEAR FLOODPLAIN ON THE WEST SIDE OF THE RIVER/POND FALLS AT EL. 96.0 ABOVE THE DAM & EL. 94.0 BELOW THE DAM REFERENCE FEMA FLOOD INSURANCE RATE MAP, PANEL 10 OF 20, FOR THE TOWN OF JOHNSTON, RI COMMUNITY-PANEL No. 440018-0010-C, REVISED NOV. 17, 1993.

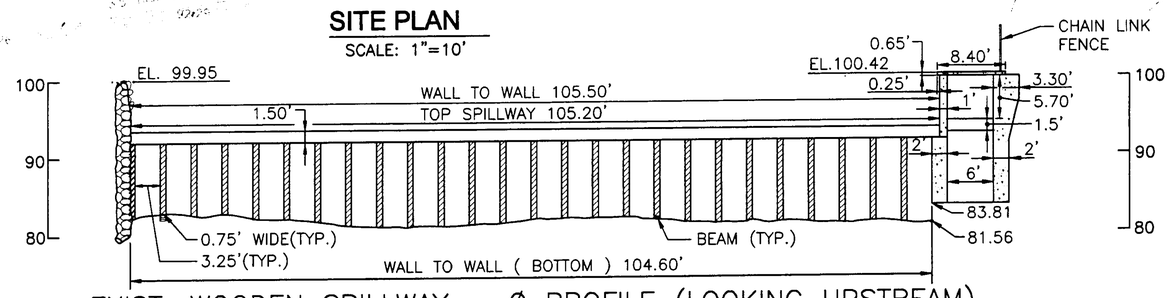
## SITE PLAN

SCALE: 1"=10'




TYPICAL SPILLWAY SECTION

N.T.S.




EXIST. WOODEN SPILLWAY – ℄ PROFILE (LOOKING UPSTREAM)

SCALE: 1"=10'

NOTE:

EXISTING WOODEN SPILLWAY IS PARTIALLY BREACHED IN THE VICINITY OF THE CONCRETE GATE STRUCTURE. FILL MATERIAL BEHIND THE SPILLWAY IN THE AREA OF THE BREACH HAS BEEN ERODED.

GRAPHIC SCALE

1'' = 10' 10' 0 10' 20'

| Symbol | Description | Date | Appr. | Symbol | Description | Date | Appr. |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

MICHAEL P. WALKER No. 7134 REGISTERED PROFESSIONAL ENGINEER CIVIL

Designed by:
Drawn by: AAB
Reviewed by:
Date: July , 2001

GEI Consultants, Inc.
WINCHESTER, MASSACHUSETTS

Loureiro Engineering Associates, Inc
100 Northwest Drive
Plainville, CT 06062

CENTERDAL MANOR RESTORATION-SUPERFUND SITE
NON-TIME CRITICAL REMOVAL ACTION
NORTH PROVIDENCE & JOHNSTON, RHODE ISLAND

ALLENDALE DAM REPLACEMENT

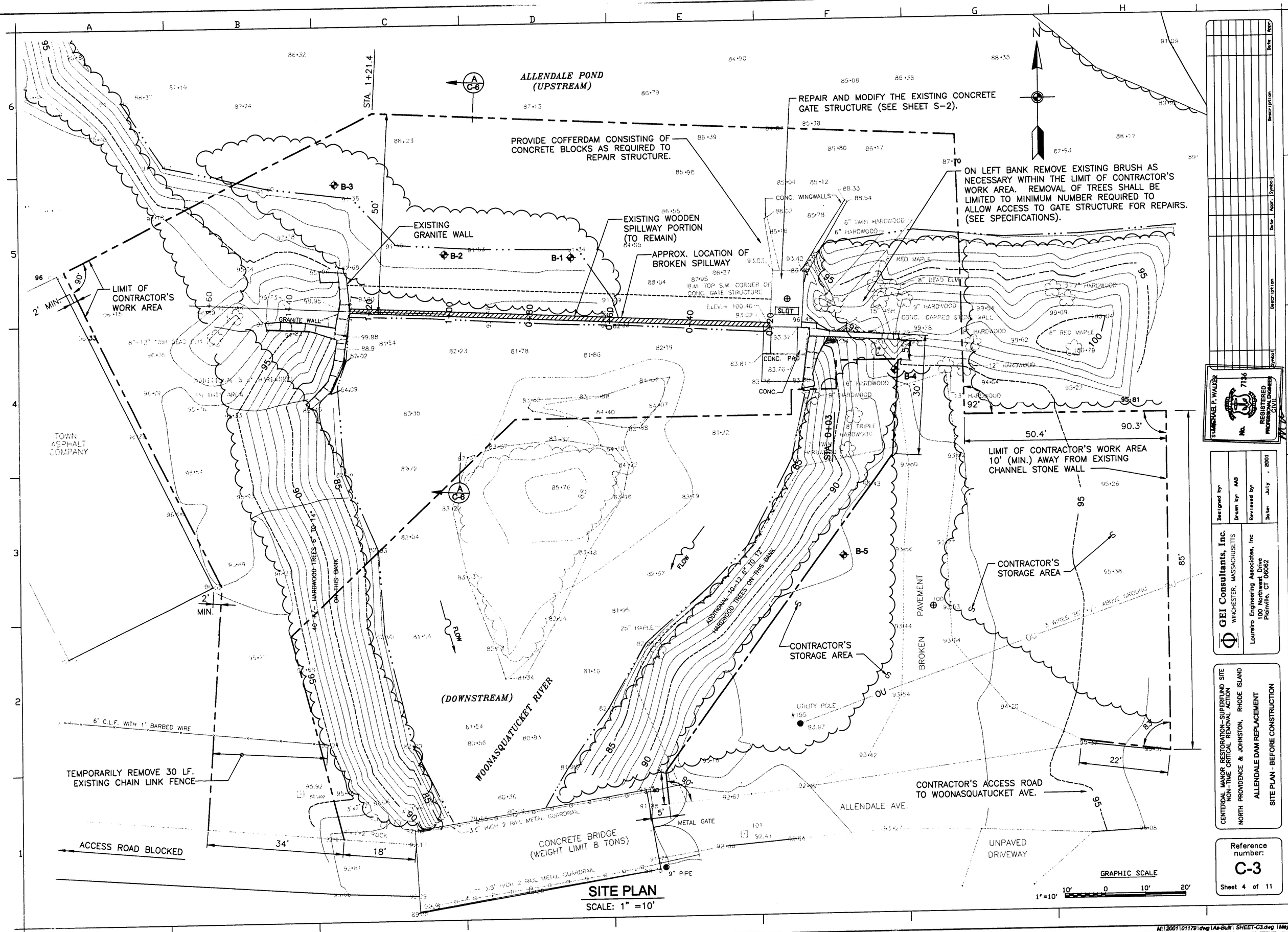
SITE PLAN, PROFILE & SECTION - EXISTING CONDITIONS

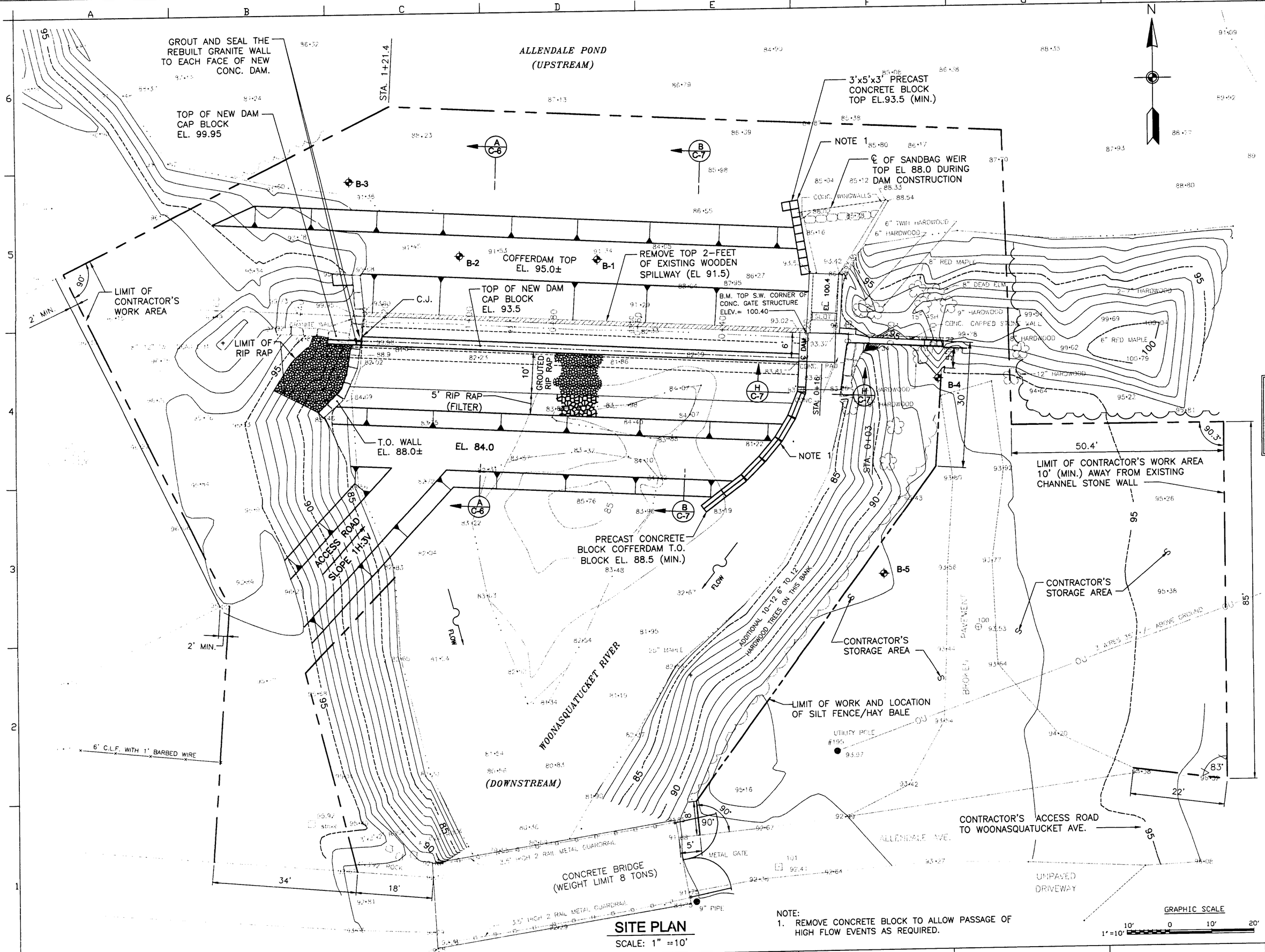
Reference number:

C-2

Sheet 3 of 11

M:\2001\01179\dwg\As-Built\ SHEET-C2.dwg \May 09, 2003


ALLENDALE POND (UPSTREAM)
STA. 1+21.4
REPAIR AND MODIFY THE EXISTING CONCRETE GATE STRUCTURE (SEE SHEET S-2).
PROVIDE COFFERDAM CONSISTING OF CONCRETE BLOCKS AS REQUIRED TO REPAIR STRUCTURE.
ON LEFT BANK REMOVE EXISTING BRUSH AS NECESSARY WITHIN THE LIMIT OF CONTRACTOR'S WORK AREA. REMOVAL OF TREES SHALL BE LIMITED TO MINIMUM NUMBER REQUIRED TO ALLOW ACCESS TO GATE STRUCTURE FOR REPAIRS. (SEE SPECIFICATIONS).
EXISTING GRANITE WALL
EXISTING WOODEN SPILLWAY PORTION (TO REMAIN)
APPROX. LOCATION OF BROKEN SPILLWAY
LIMIT OF CONTRACTOR'S WORK AREA
GRANITE WALL
SLOT
CONC. PAD
CONC.
CONC. WINGWALLS
B.M. TOP S.W. CORNER OF CONC. GATE STRUCTURE
TOWN ASPHALT COMPANY
LIMIT OF CONTRACTOR'S WORK AREA 10' (MIN.) AWAY FROM EXISTING CHANNEL STONE WALL
CONTRACTOR'S STORAGE AREA
CONTRACTOR'S STORAGE AREA
BROKEN PAVEMENT
(DOWNSTREAM)
WOONASQUATUCKET RIVER
FLOW
ADDITIONAL 10-12 6" TO 12" HARDWOOD TREES ON THIS BANK
40 +/- HARDWOOD TREES 6" TO 14" ON THIS BANK
6' C.L.F. WITH 1' BARBED WIRE
TEMPORARILY REMOVE 30 LF. EXISTING CHAIN LINK FENCE
ACCESS ROAD BLOCKED
CONCRETE BRIDGE (WEIGHT LIMIT 8 TONS)
METAL GATE
9" PIPE
UTILITY POLE #195
ALLENDALE AVE.
CONTRACTOR'S ACCESS ROAD TO WOONASQUATUCKET AVE.
UNPAVED DRIVEWAY
GRAPHIC SCALE
1"=10'
SITE PLAN
SCALE: 1" =10'
GEI Consultants, Inc.
WINCHESTER, MASSACHUSETTS
Loureiro Engineering Associates, Inc
100 Northwest Drive
Plainville, CT 06062
Designed by:
Drawn by: AAB
Reviewed by:
Date: July , 2001
CENTERDAL MANOR RESTORATION-SUPERFUND SITE
NON-TIME CRITICAL REMOVAL ACTION
NORTH PROVIDENCE & JOHNSTON, RHODE ISLAND
ALLENDALE DAM REPLACEMENT
SITE PLAN - BEFORE CONSTRUCTION
Reference number:
C-3
Sheet 4 of 11
M:\2001\01179\dwg\As-Built\SHEET-C3.dwg \May 09, 20




NOTE:
1. REMOVE CONCRETE BLOCK TO ALLOW PASSAGE OF HIGH FLOW EVENTS AS REQUIRED.

## SITE PLAN

SCALE: 1" =10'

| Symbol | Description | Date | Appr. | Symbol | Description | Date | Appr. |
|---|---|---|---|---|---|---|---|

STANLEY F. WALKER No. 7136 REGISTERED PROFESSIONAL ENGINEER CIVIL

Designed by:
Drawn by: AAB
Reviewed by:
Date: July , 2001

GEI Consultants, Inc.
WINCHESTER, MASSACHUSETTS

Loureiro Engineering Associates, Inc
100 Northwest Drive
Plainville, CT 06062

CENTERDAL MANOR RESTORATION-SUPERFUND SITE
NON-TIME CRITICAL REMOVAL ACTION
NORTH PROVIDENCE & JOHNSTON, RHODE ISLAND

ALLENDALE DAM REPLACEMENT

SITE PLAN - CONSTRUCTION

Reference number:
C-4
Sheet 5 of 11

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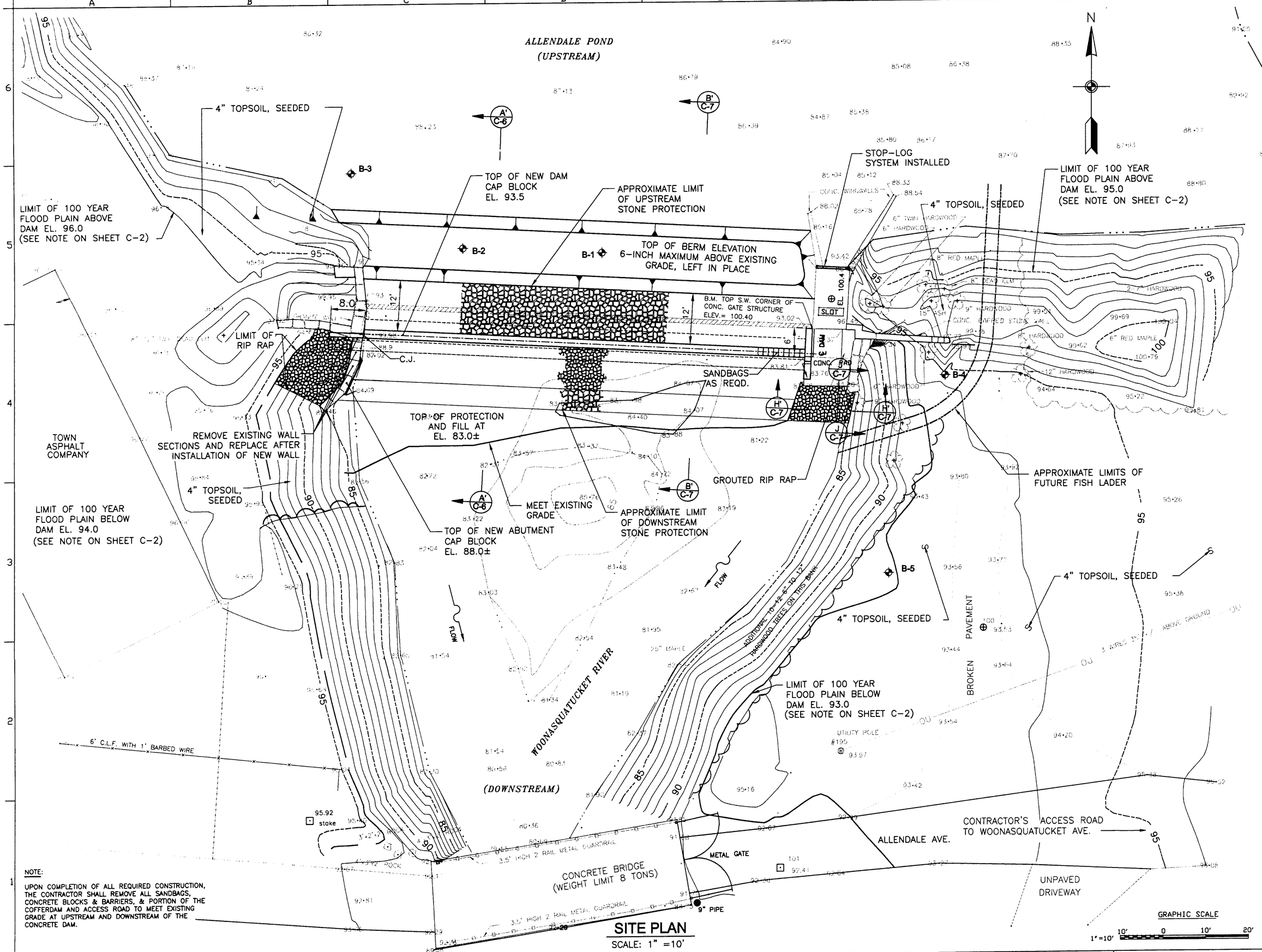



NOTE:

UPON COMPLETION OF ALL REQUIRED CONSTRUCTION, THE CONTRACTOR SHALL REMOVE ALL SANDBAGS, CONCRETE BLOCKS & BARRIERS, & PORTION OF THE COFFERDAM AND ACCESS ROAD TO MEET EXISTING GRADE AT UPSTREAM AND DOWNSTREAM OF THE CONCRETE DAM.

## SITE PLAN

SCALE: 1" =10'

| Symbol | Description | Date | Appr. | Symbol | Description | Date | Appr. |
|---|---|---|---|---|---|---|---|

ROBERT F. WALKER No. 7136 REGISTERED PROFESSIONAL ENGINEER CIVIL

Designed by
Drawn by AAB
Reviewed by
Date July , 2001

GEI Consultants, Inc.
WINCHESTER, MASSACHUSETTS

Loureiro Engineering Associates, Inc
100 Northwest Drive
Plainville, CT 06062

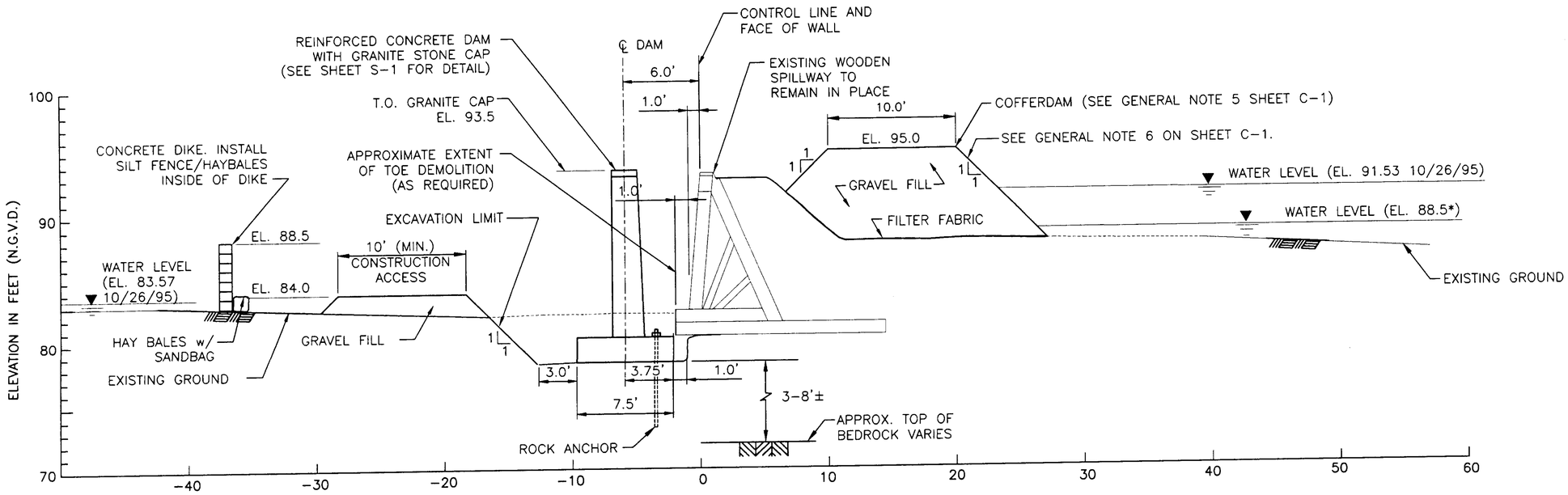
CENTERDAL MANOR RESTORATION-SUPERFUND SITE NON-TIME CRITICAL REMOVAL ACTION
NORTH PROVIDENCE & JOHNSTON, RHODE ISLAND

RECONSTRUCT ALLENDALE DAM

SITE PLAN - FINISH GRADING

Reference number:
C-5
Sheet 6 of 11

M:\DRAFTING\2001\01179\dwg\As-Built\SHEET-C5.dwg May 15, 2003



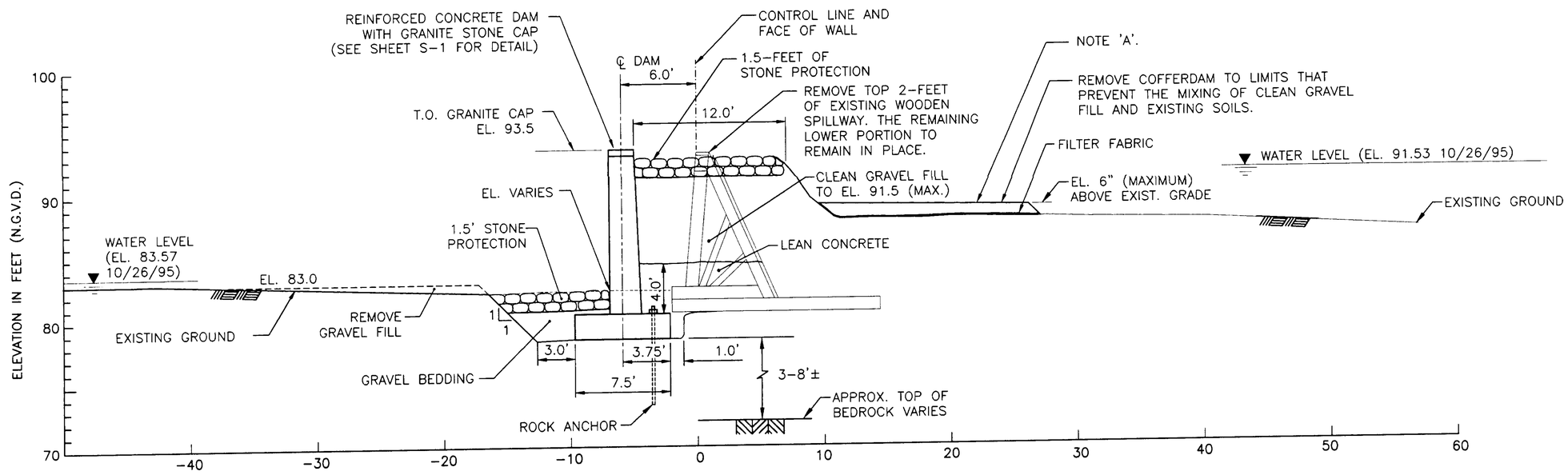

STA. 0+95

## SECTION

SCALE: 1"= 5'

A / C-4

* ESTIMATED NORMAL WATER LEVEL DURING CONSTRUCTION




STA. 0+95

## FINAL GRADING - SECTION

SCALE: 1"= 5'

A' / C-5

NOTE "A"

WHEN THE GRAVEL COFFERDAM IS REMOVED, THE CONTRACTOR SHALL LEAVE A MAXIMUM OF 6-INCHES OF GRAVEL ABOVE THE EXISTING GRADE (ELEVATION VARIES).

GRAPHIC SCALE

1"= 5' 5' 0 5' 10'

| Symbol | Description | Date | Appr. | Symbol | Description | Date | Appr. |
|---|---|---|---|---|---|---|---|

MICHAEL P. WALKER No. 7136 REGISTERED PROFESSIONAL ENGINEER CIVIL

Designed by:
Drawn by: AAB
Reviewed by:
Date: July , 2001

GEI Consultants, Inc.
WINCHESTER, MASSACHUSETTS

Loureiro Engineering Associates, Inc
100 Northwest Drive
Plainville, CT 06062

CENTERDAL MANOR RESTORATION-SUPERFUND SITE
NON-TIME CRITICAL REMOVAL ACTION
NORTH PROVIDENCE & JOHNSTON, RHODE ISLAND
ALLENDALE DAM REPLACEMENT
SECTIONS - FINISH GRADING
1 of 2

Reference number:
C-6
Sheet 7 of 11

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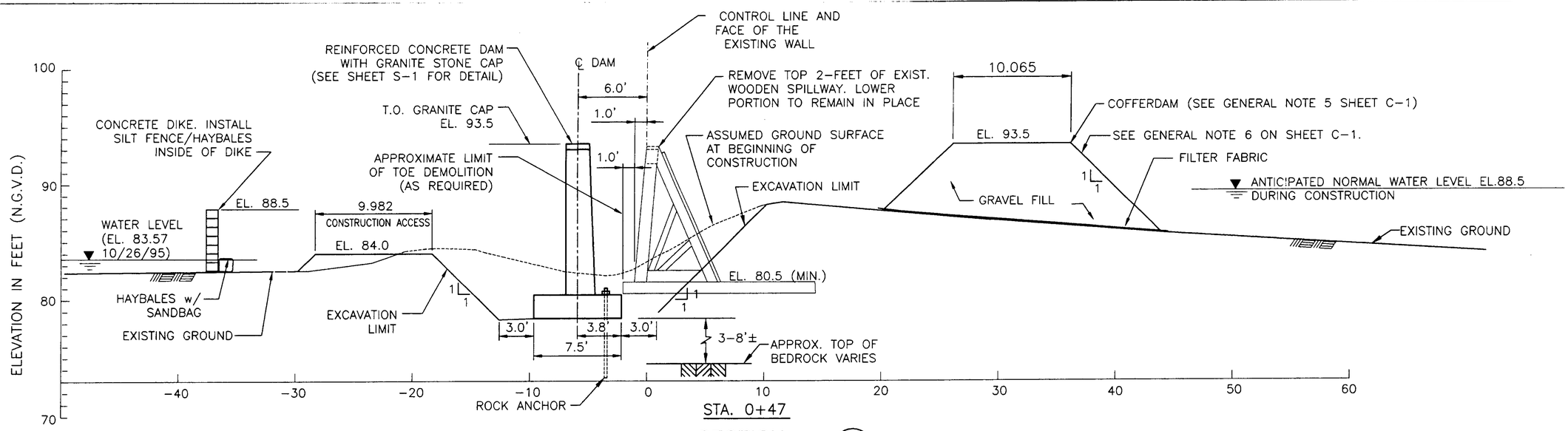
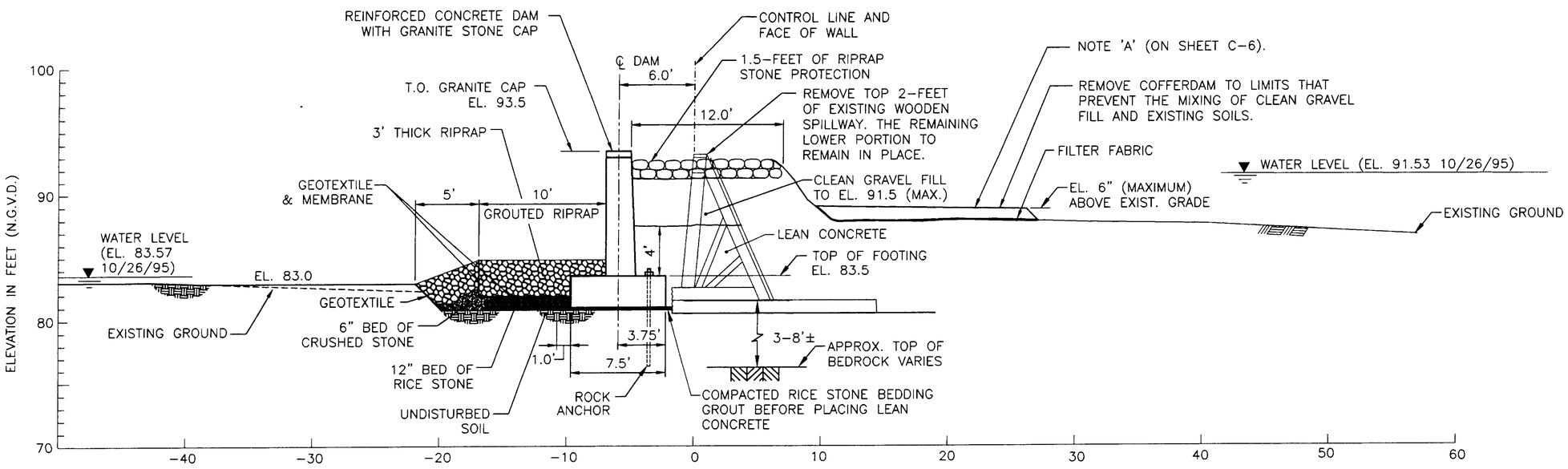



STA. 0+47

## SECTION

SCALE: 1"= 5'

B / C-4

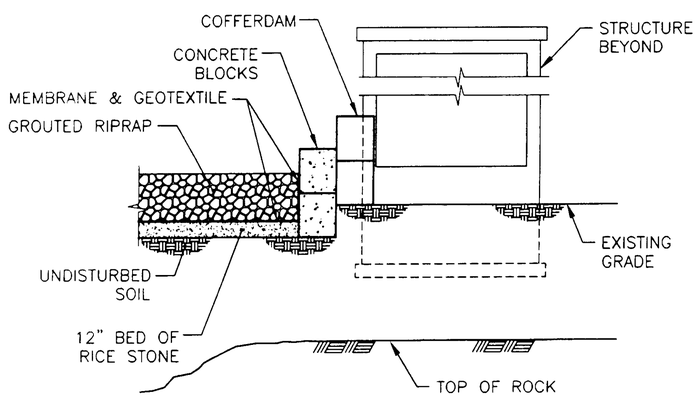



STA. 0+95

## FINAL GRADING - SECTION

SCALE: 1"= 5'

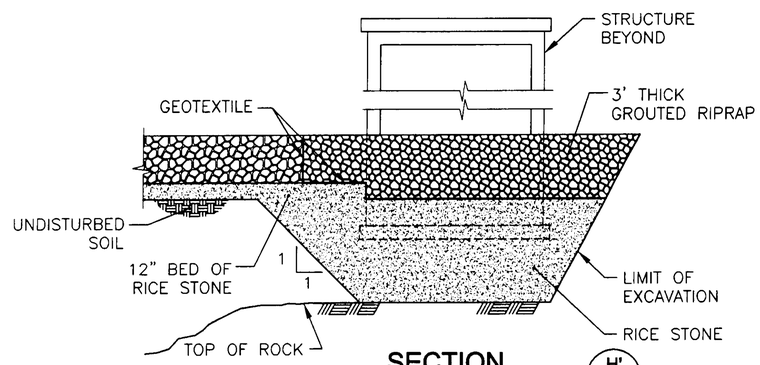
B' / C-5




## SECTION

SCALE: 1"= 5'

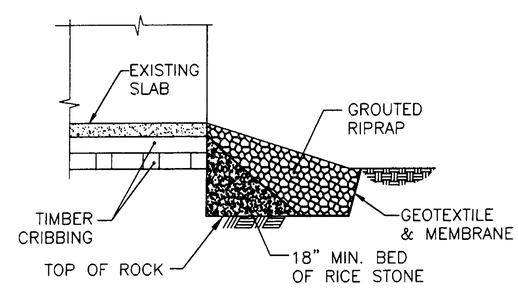
H / C-4




## SECTION

SCALE: 1"= 5'

H' / C-5




## SECTION @ OUTLET

SCALE: 1"= 5'

J / C-5

GRAPHIC SCALE

1" = 5' 5' 0 5' 10'

| Symbol | Description | Date | Appr. | Symbol | Description | Date | Appr. |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

MICHAEL P. WALKER No. 7136 REGISTERED PROFESSIONAL ENGINEER CIVIL

Designed by:
Drawn by: AAB
Reviewed by:
Date: July , 2001

GEI Consultants, Inc.
WINCHESTER, MASSACHUSETTS

Loureiro Engineering Associates, Inc
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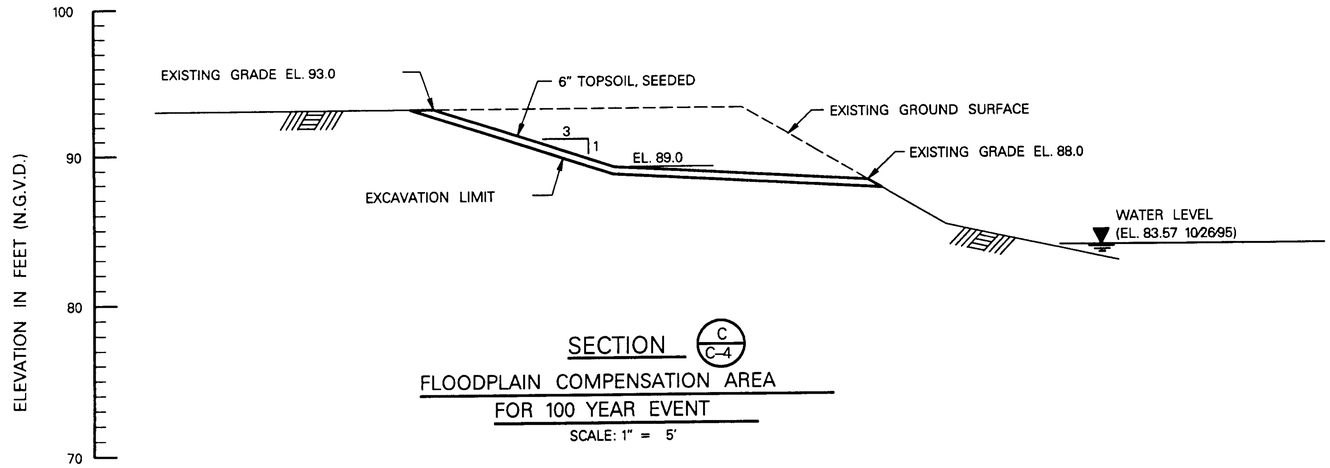
Plainville, CT 06062

CENTERDAL MANOR RESTORATION-SUPERFUND SITE
NON-TIME CRITICAL REMOVAL ACTION
NORTH PROVIDENCE & JOHNSTON, RHODE ISLAND
ALLENDALE DAM REPLACEMENT
SECTIONS - FINISH GRADING
2 of 2

Reference number:
C-7
Sheet 8 of 11

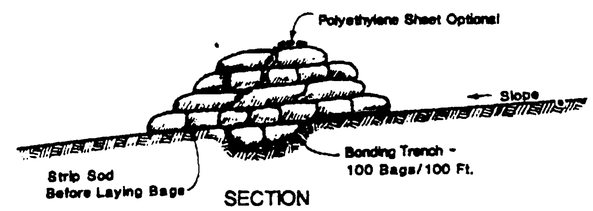
M:\DRAFTING\2001\01179\dwg\As-Built\SHEET-C7.dwg May 14, 2003



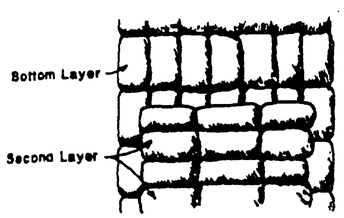

SECTION C/C-4

FLOODPLAIN COMPENSATION AREA
FOR 100 YEAR EVENT

SCALE: 1" = 5'




SECTION




PLAN

METHOD OF
LAPPING SACKS

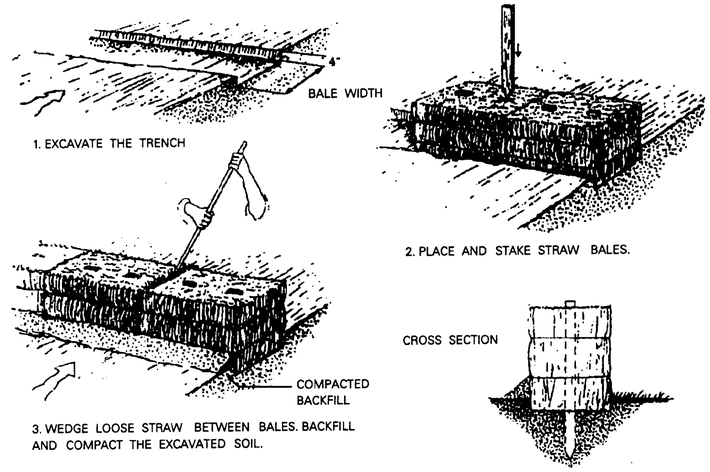
Notes:

1. ALTERNATE DIRECTION OF SACKS.
   I.E.: BOTTOM LAYER PLACED LENGTHWISE PARALLEL TO THE SLOPE; NEXT LAYER PLACED PERPENDICULAR TO FIRST, ETC.
2. LAP UNFILLED PORTION UNDER NEXT BAG.
3. TYING OR SEWING OF BAGS IS NOT NECESSARY
4. BAGS SHOULD BE APPROXIMATELY ONE-HALF TO TWO-THIRDS FULL.
5. TAMP THOROUGHLY IN PLACE.

| MATERIALS REQUIRED FOR 100 LINEAR FEET | | |
|---|---|---|
| Height Above Ground | Approx. Bags Required | Cu. Yds. |
| 1 Ft. | 600-800 | 10-13 |
| 2 Ft. | 1400-2000 | 23-33 |
| 3 Ft. | 2200-3400 | 37-57 |
| 4 Ft. | 5300 | 88 |
| 5 Ft. | 7600 | 137 |
| 6 Ft. | 10000 | 167 |

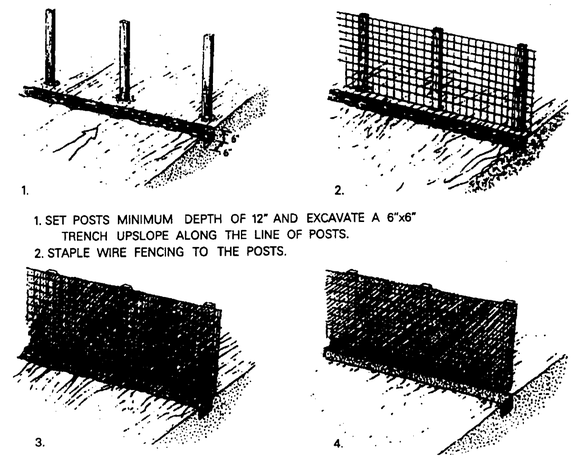
SANDBAG DIKE CONSTRUCTION TECHNIQUES

N.T.S.

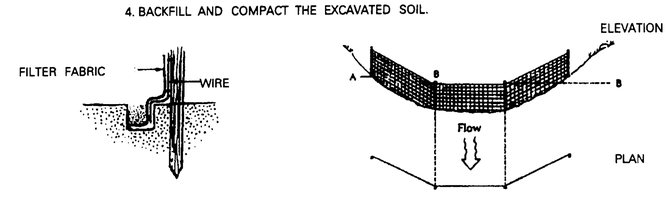



HAY BALE – INSTALLATION DETAILS

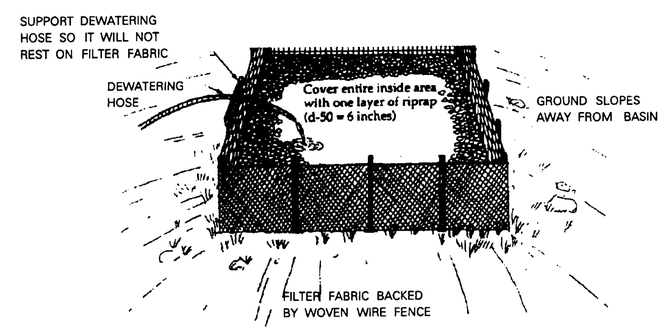
N.T.S.




1. SET POSTS MINIMUM DEPTH OF 12" AND EXCAVATE A 6"x6" TRENCH UPSLOPE ALONG THE LINE OF POSTS.
2. STAPLE WIRE FENCING TO THE POSTS.
3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.
4. BACKFILL AND COMPACT THE EXCAVATED SOIL.




Source: U.S. Department of Agriculture,
Soil Conservation Service, Storrs, Connecticut.



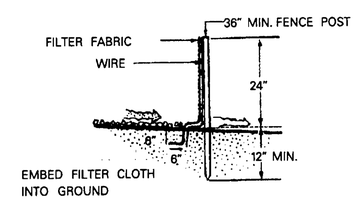




FIGURE 6Q-1 FILTER FABRIC BASIN FOR PUMPED DEWATERING DISCHARGE

Source: Rhode Island Department of Environmental Management

SILT FENCE – INSTALLATION DETAILS

N.T.S.

GRAPHIC SCALE

1"= 5' 5' 0 5' 10'

| Symbol | Description | Date | Appr. |
|---|---|---|---|
| | | | |

| Symbol | Description | Date | Appr. |
|---|---|---|---|
| | | | |

STATE OF RHODE ISLAND
REGISTERED PROFESSIONAL ENGINEER
No. 7135

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Drawn by: AAB
Reviewed by:
Date: July , 2000

CENTERDAL MANOR RESTORATION-SUPERFUND SITE
NON-TIME CRITICAL REMOVAL ACTION
NORTH PROVIDENCE & JOHNSTON, RHODE ISLAND

ALLENDALE DAM REPLACEMENT
SECTION AND EROSION AND SEDIMENTATION CONTROL DETAILS

Reference number:
C-8

Sheet 9 of 11

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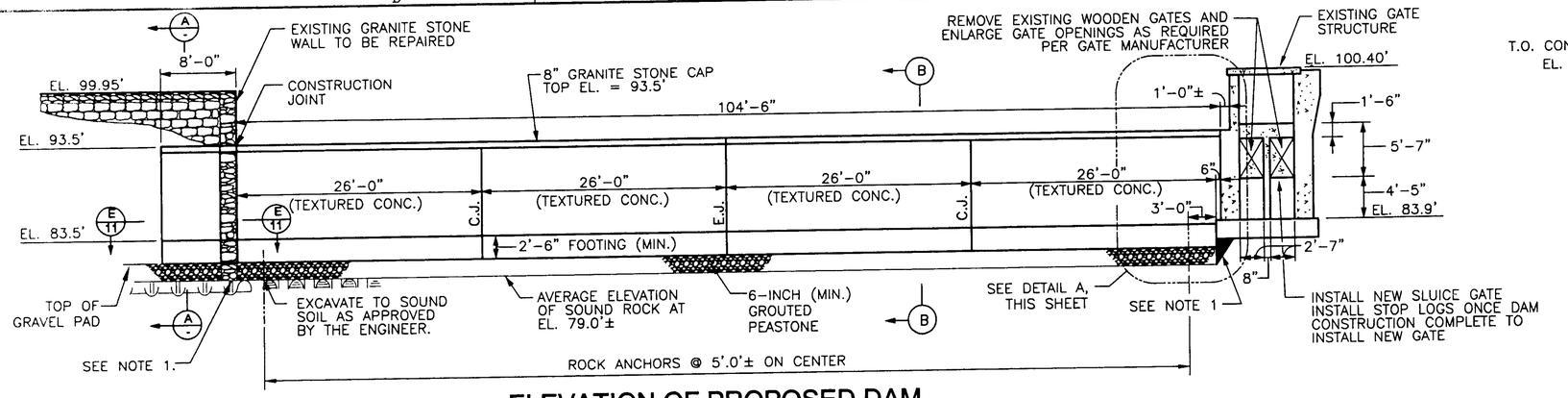
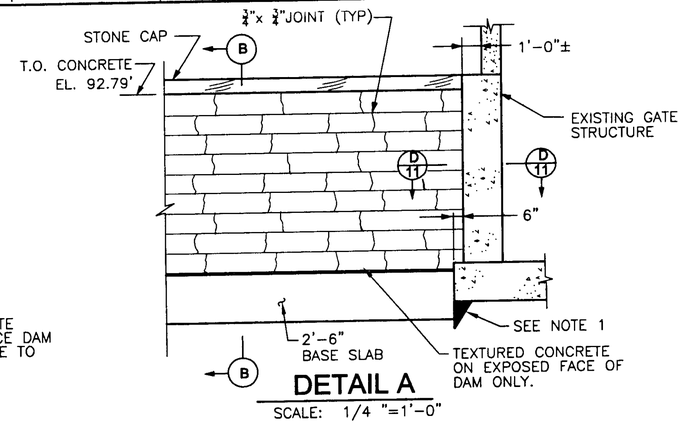


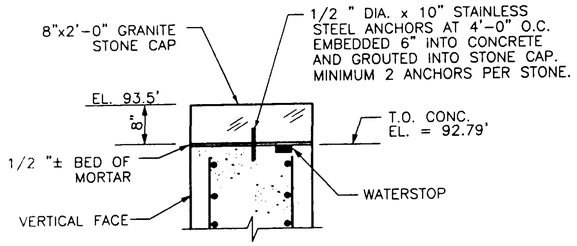

## ELEVATION OF PROPOSED DAM

SCALE: 1/8 "=1'-0"



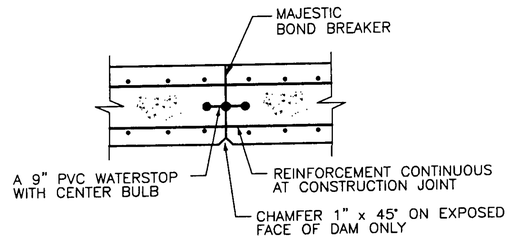

## DETAIL A

SCALE: 1/4 "=1'-0"




## DETAIL C

SCALE: 3/4 "=1'-0"

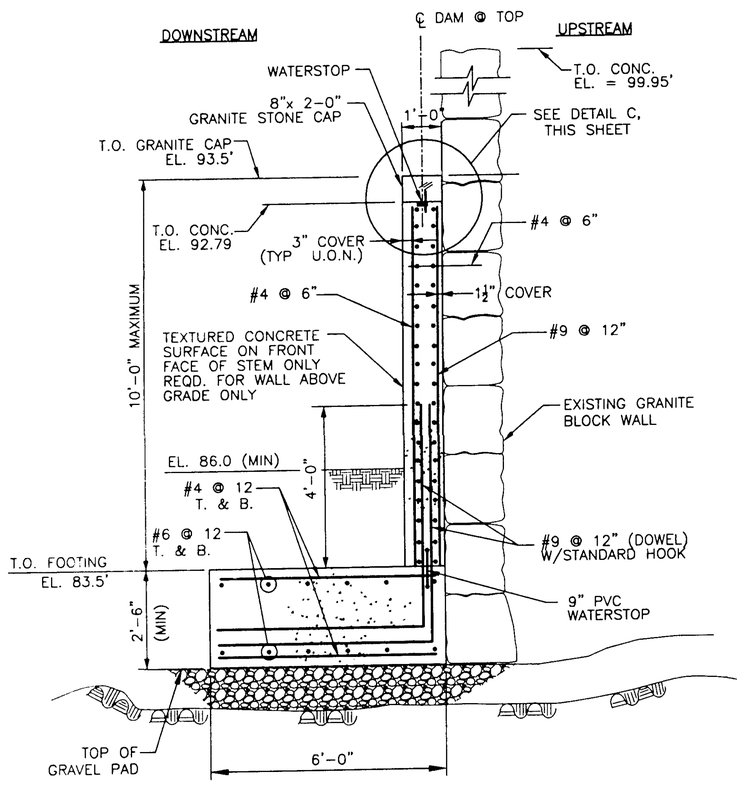



## TYPICAL CONSTRUCTION JOINT DETAIL (U.O.N.)

SCALE: NTS

## NOTES

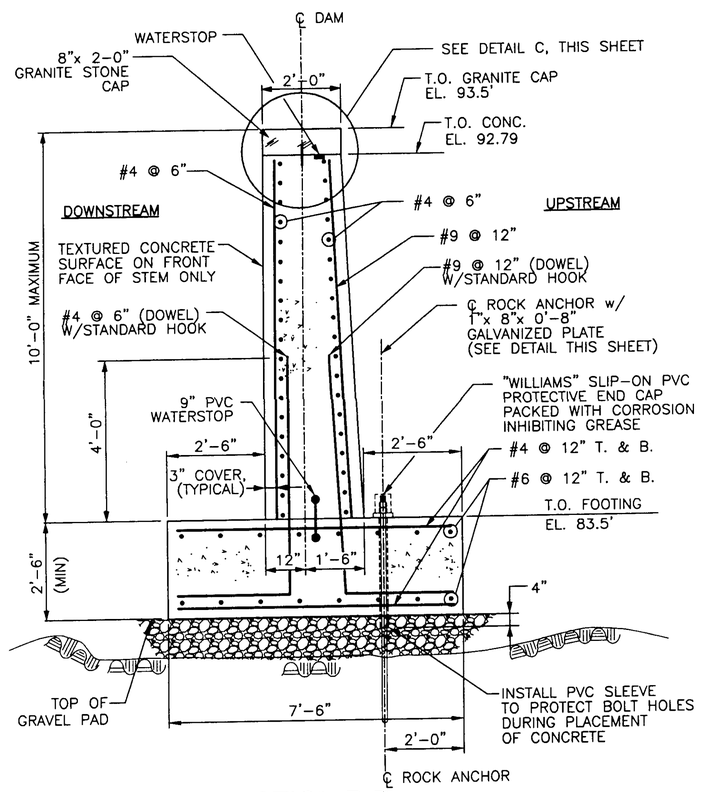
1. BOTTOM ELEVATIONS OF EXISTING TIMBER DAM, STONE WALL AND GATE STRUCTURE ARE NOT KNOWN. CONTRACTOR SHALL FIELD VERIFY DEPTH SIZE AND LOCATION OF EXISTING FOOTINGS PRIOR TO EXCAVATION ACTIVITIES. CONTRACTOR SHALL PROVIDE A SEPARATE ALLOWANCE FOR THE DESIGN AND CONSTRUCTION OF ANY UNDERPINNING OPERATIONS THAT ARE NECESSARY.
2. FOR DIMENSIONS AND ELEVATIONS OF THE EXISTING TIMBER DAM, AND FOR OTHER EXISTING DIMENSIONS AND ELEVATIONS NOT SHOWN, REFER TO SHEET NO. C1.
3. ALL CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH Fc' OF 5,000 PSI MINIMUM.
4. ALL REINFORCING STEEL SHALL BE ASTM A 615 GRADE 60.
5. REINFORCEMENT SHALL BE LAP SPLICED AS NECESSARY, AND IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318.
6. TEXTURED CONCRETE IS REQUIRED ONLY FOR THE EXPOSED (DOWN STREAM) FACE OF THE STEM. TEXTURED CONCRETE FORM LINER SHALL BE AS SPECIFIED AND APPROVED.
7. PRIOR TO CONSTRUCTION OF THE NEW DAM AT THE RIGHT ABUTMENT BACKFILL BEHIND THE EXISTING STONE WALL SHALL BE PARTIALLY EXCAVATED AS REQUIRED TO ALLOW EXCAVATION FOR THE NEW DAM. STORE STONES FOR RE-USE. THIS WILL RELIEVE SOIL PRESSURES ON THE WALL WHILE REPAIRS ARE UNDERWAY.
8. REPAIR THE EXISTING STONE WALL AFTER COMPLETION OF THE DAM.
9. OPENINGS IN THE EXISTING CONCRETE GATE STRUCTURE SHALL BE ENLARGED AS SHOWN PRIOR TO CONSTRUCTION OF THE COFFERDAM.




**NOTE**: USE SINGLE SIDE FORMS AT GRANITE WALL.

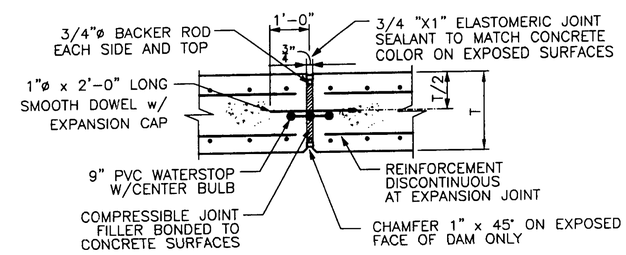
## SECTION A-A

SCALE: 1/2 "=1'-0"



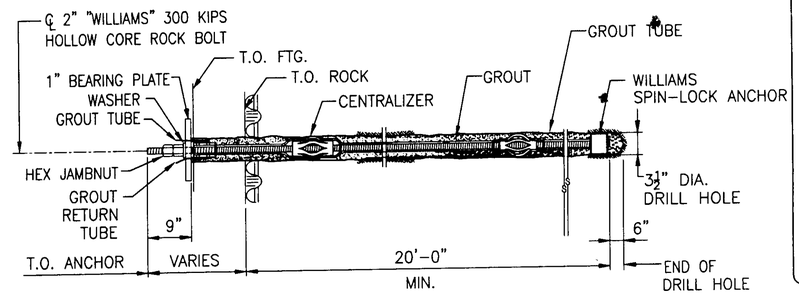

## SECTION B-B

SCALE: 1/2 "=1'-0"




## TYPICAL EXPANSION JOINT DETAIL

SCALE: NTS




## TYPICAL ROCK ANCHOR DETAIL

N.T.S.

GRAPHIC SCALES

1/4 "=1'-0" 4' 0 4' 8'
1/2 "=1'-0" 2' 0 2' 4'
1/8 "=1'-0" 4' 0 4' 8' 12' 16' 20'
3/4 "=1'-0" 1' 0 1' 2' 3'

| Symbol | Description | Date | Appr. | Symbol | Description | Date | Appr. |
|---|---|---|---|---|---|---|---|

MICHAEL P. WALKER No. 7136 REGISTERED PROFESSIONAL ENGINEER CIVIL

Designed by:
Drawn by: AAB
Reviewed by:
Date: July , 2001

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CENTERDAL MANOR RESTORATION-SUPERFUND SITE
NON-TIME CRITICAL REMOVAL ACTION
NORTH PROVIDENCE & JOHNSTON, RHODE ISLAND

ALLENDALE DAM REPLACEMENT

DAM ELEVATIONS, SECTIONS AND DETAILS

Reference number:
S-1
Sheet 10 of 11

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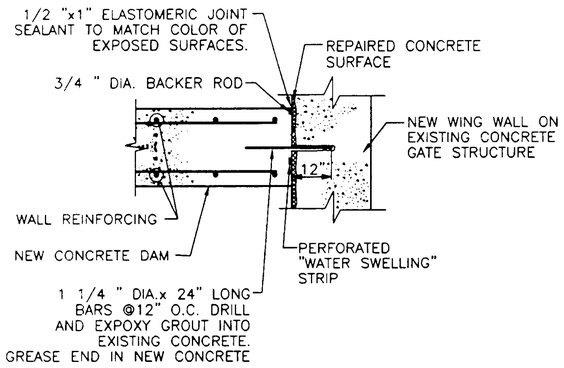
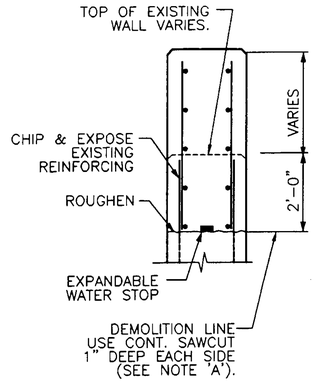


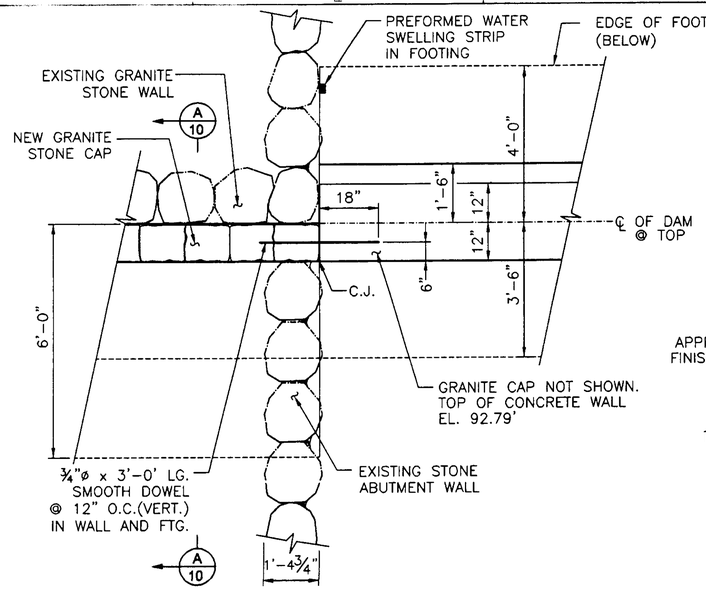

## SECTION D/10

SCALE:1"=1'-0"



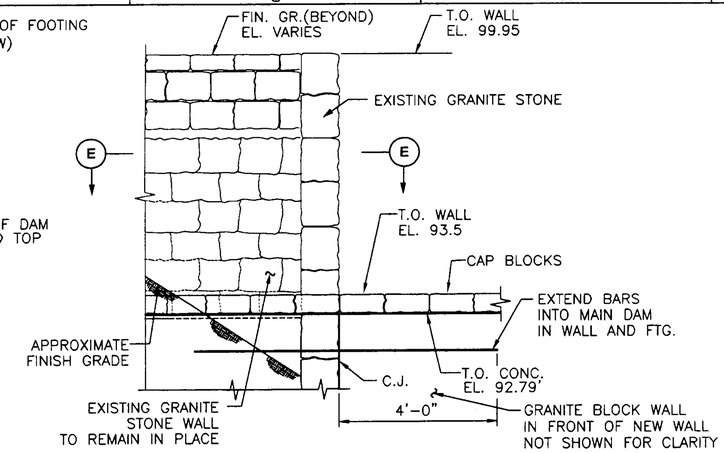

## SECTION G/-

SCALE:1"=1'-0"



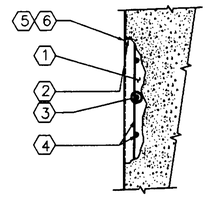

## SECTION E-E

SCALE: 1/2 "=1'-0"



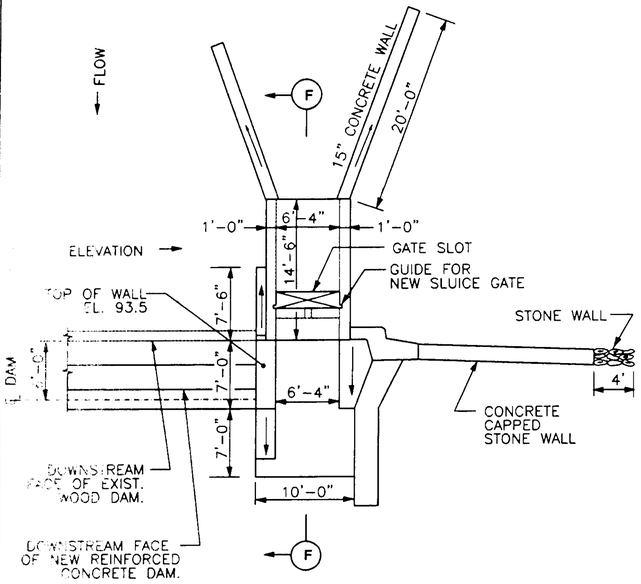

## ELEVATION

SCALE: 1/2 "=1'-0"



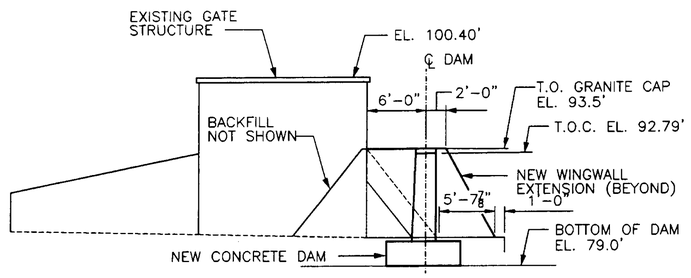

## TYPICAL CONCRETE REPAIR DETAIL

N.T.S.



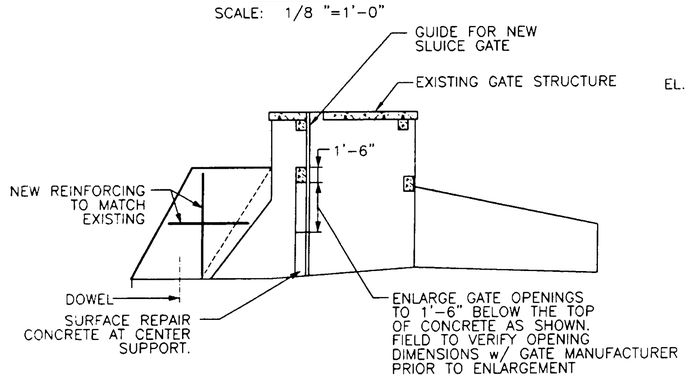

## PLAN

SCALE: 1/8 "=1'-0"



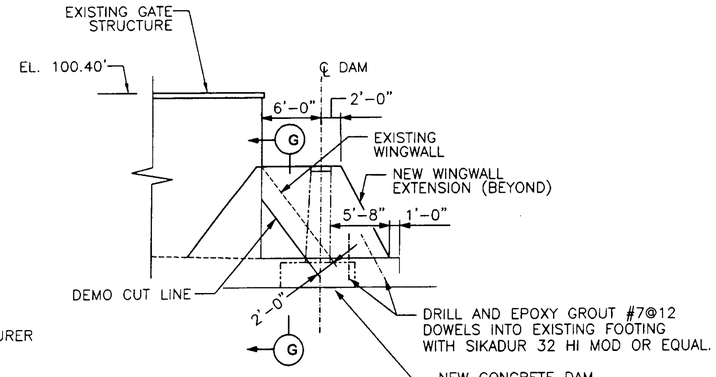

## ELEVATION

SCALE: 1/8 "=1'-0"




## SECTION F-F

SCALE: 1/8 "=1'-0"




## ELEVATION

SCALE: 1/8 "=1'-0"

# CONCRETE GATE STRUCTURE REPAIR DETAILS

## SPALL REPAIR PROCEDURE:

1. REMOVE ALL LOOSE, DETERIORATED CONCRETE TO SOUND CONCRETE, OBTAINING AN AGGREGATE-FRACTURED SURFACE. REPAIR AREA SHALL BE A MINIMUM OF 1/2 " DEEP.
2. SAWCUT AT 90 DEGREES ALL EDGES TO A MINIMUM DEPTH OF 1/2 " BEING CAREFUL NOT TO CUT ANY REINFORCING STEEL.
3. ALL REINFORCING STEEL THAT IS EXPOSED GREATER THAN 50% OF ITS CIRCUMFERENCE SHALL BE UNDERCUT BY 1" MINIMUM.
4. CLEAN TO A WHITE METAL FINISH AND APPLY CORROSION INHIBITOR TO ALL EXPOSED STEEL.
5. APPLY POLYMER MODIFIED REPAIR MORTAR AS RECOMMENDED BY THE MANUFACTURER.
6. AFTER THE REPAIR MORTAR HAS CURED, SET AND HAS BEEN ACCEPTED BY THE ENGINEER, A 1/8 IN. COAT OF FINISH MORTAR SHALL BE APPLIED TO THE ENTIRE SURFACE OF THE CONCRETE GATE STRUCTURE (AS DESIGNATED ON THE PLANS),TO A UNIFORM FINISH.

NOTES:

A. THE CONTRACTOR IS TO VERIFY CONCRETE COVER OVER EXISTING REINFORCING BEFORE [illegible]W-CUTTING.

B. THE CONTRACTOR IS TO VERIFY EXISTING REINFORCING SIZE AND SPACING.

C. THE EXISTING INFORMATION, ELEVATION, LOCATION, AND ORIENTATION SHOWN WAS TAKEN FROM AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN THE FIELD PRIOR TO THE START OF WORK.

GRAPHIC SCALES

1/8 "=1'-0" 4' 0 4' 8' 12' 16' 20'

1/2 "=1'-0" 2' 0 2' 4'

1"=1'-0" 1' 0 1' 2'

| Symbol | Description | Date | Appr. | Symbol | Description | Date | Appr. |
|---|---|---|---|---|---|---|---|

REGISTERED PROFESSIONAL ENGINEER CIVIL No. 7136 E. P. WALKER

Designed by:
Drawn by: AAB
Reviewed by:
Date: July , 2001

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CENTERDAL MANOR RESTORATION-SUPERFUND SITE NON-TIME CRITICAL REMOVAL ACTION
NORTH PROVIDENCE & JOHNSTON, RHODE ISLAND
ALLENDALE DAM REPLACEMENT
STRUCTURAL SECTIONS AND CONCRETE REPAIR DETAILS

Reference number:
S-2
Sheet 11 of 11

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