



**US Army Corps  
of Engineers®**  
New England District  
**696 Virginia Road  
Concord, MA 01742-2751**

# PUBLIC NOTICE

**Comment Period Begins:** March 1, 2011  
**Comment Period Ends:** April 1, 2011  
**File Number:** NAE-2011-147  
**In Reply Refer To:** Barbara Newman  
**Phone:** (978) 318-8515  
**E-mail:** Barbara.H.Newman  
@usace.army.mil

The District Engineer has received a permit application from the applicant below to conduct work in waters of the United States as described below.

## **APPLICANT Mohegan Sun Country Club at Pautipaug**

**ACTIVITY** Restoration of Ayers Brook and its tributary on the country club property, including rechanneling, regrading of its banks and replacement of old culverts; and the placement of fill in two separate wetlands located on the existing golf fairways. A detailed description and plans of the activity are attached.

## **WATERWAY AND LOCATION OF THE PROPOSED WORK**

This work is proposed in Ayers Brook and wetlands on the existing golf course located in the village of Baltic, in the two towns of Franklin and Sprague at 7 Dows Lane, Baltic, CT. The proposed location on the USGS Scotland quadrangle sheet is at Latitude 41.63828° and longitude -72.11203 °

## **AUTHORITY**

Permits are required pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899  
 Section 404 of the Clean Water Act  
 Section 103 of the Marine Protection, Research and Sanctuaries Act).

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are

**FILE NO. NAE-2011-147**

also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972 as amended.

**SECTION 106 COORDINATION**

Based on his initial review, the District Engineer has determined that the proposed work may impact properties listed in, or eligible for listing in, the National Register of Historic Places. Additional review and consultation to fulfil requirements under Section 106 of the National Historic Preservation Act of 1966, as amended, will be ongoing as part of the permit review process.

**ENDANGERED SPECIES CONSULTATION**

The New England District, Army Corps of Engineers has reviewed the list of species protected under the Endangered Species Act of 1973, as amended, which might occur at the project site. It is our preliminary determination that the proposed activity for which authorization is being sought is designed, situated or will be operated/used in such a manner that it is not likely to adversely affect any federally listed endangered or threatened species or their designated critical habitat. By this Public Notice, we are requesting that the appropriate Federal Agency concur with our determination.

The following authorizations have been applied for, or have been, or will be obtained:

- (x) Permit, License or Assent from State.
- (x) Permit from Local Wetland Agency or Conservation Commission.
- (x ) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. **Comments should be submitted in writing by the above date.** If you have any questions, please contact Barbara Newman at (978) 318-8515.

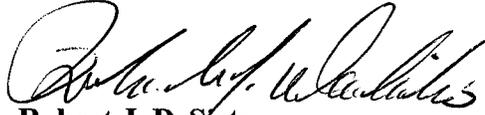
Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

CENAE-R

FILE NO. NAE-2011-147

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.



**Robert J. DeSista**  
**Chief, Permits and Enforcement Branch**  
**Regulatory Division**

If you would prefer not to continue receiving Public Notices, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at [bettina.m.chaisson@usace.army.mil](mailto:bettina.m.chaisson@usace.army.mil). You may also check here ( ) and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

**PROPOSED WORK AND PURPOSE**

The work includes the discharge of fill material as part of the restoration of Ayers Brook and its unnamed tributary at the Mohegan Sun Country Club golf course, the discharge of fill into two wetlands on the fairways, and the discharge of fill for the installation of a dry hydrant near an existing golf course pond. The applicants' purpose for the project is to accommodate a condition of permits issued to them by the town and the Connecticut DEP for other work done on the property, which require that they improve the ecological integrity of the stream channels on the property. While restoring the stream, the applicant also wishes to improve the aesthetics and the play for golfers on the golf course. The following is a description of the work proposed and its impacts. The work is described by segment, similar to the plans attached. The work in the fairways and pond for the hydrant, are also listed below.

**Segment One.** Remove current 24" pipe culvert and replace it with a 5' x 2' box culvert with a rock apron at both the inlet and outlet. Enlarge the stream channel to be 5' wide and broaden the floodplain to 10' wide. Impacts: 3738 square feet.

**Segment Two.** Remove an undersized 21" culvert and replace it with a 5' x 2' box culvert. Enlarge the stream channel to be 5' wide and 1.5' deep. Broaden the floodplain to 15' wide. Remove second pipe culvert which lies under the cart path and replace it with a 5' x 2' box culvert. Impacts: 7, 442 square feet.

**Segment Three.** The tributary will be broadened and slopes softened and stabilized with vegetation. A series of stone weirs will be constructed to create pools and riffles in the channel and to direct flow to the center of the channel. Impact – 4,998 square feet.

**Segment Four.** Enlarge the stream channel to 7' wide, 1.5' deep, and broaden the floodplain to 7' wide. Replace the existing stone arch bridge to provide a larger hydraulic opening for the stream. Install a stone weir downstream of the existing bridge. Place rocks along the toe of the slope at the downstream end of the segment, and add vegetation. Impacts: 22,485 square feet

**Segment Five.** Remove the remnants of an old crossing at the upstream end. Discontinue mowing of the lawn in the floodplain and riparian area. Remove the cart path at the top of the slope on the west side and stabilize with vegetation. Plant trees and shrubs within the riparian area to add diversity to the tree mixture. Impacts: 0, due to no placement of fill or regrading of wetlands.

**Segment Six.** The bank of Ayers Brook, at its upstream end, will be regraded to a 3:1 slope; erosion control blankets and vegetation will be used to stabilize the bank. The lower part will involve removing sediment that covers the wetland due to storm events, and creating a 15' wide, 1' deep channel, with a broad floodplain that will vary in width. The floodplain will be planted with wetland shrubs and trees. Smaller overflow channels will also be constructed to capture and direct storm flows. Impacts: 12,195 square feet.

**Fairways.** A total of 6,634 square feet in Wetland 1 and 10,950 square feet in Wetland 2 will be filled and covered with golf turf to improve golf course play and facilitate maintenance of these two fairways. Impacts: 17, 584 square feet.

**Pond III Dry Hydrant.** There will be 90 square feet of impacts to the bank of the pond due to the installation of a dry hydrant. The area will be excavated, a pipe will be placed in the excavated trench, and the bank will be back filled and re-seeded.

**Total impacts to the brook, its tributary and banks = 1.17 acres.**

**Total impacts to fairway wetlands = 0.41 acres**

**Total compensation including plantings and low maintenance areas =2.0 acres.**

**CENAE-R**

**FILE NO. NAE-2011-147**

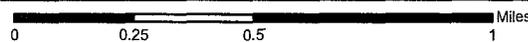
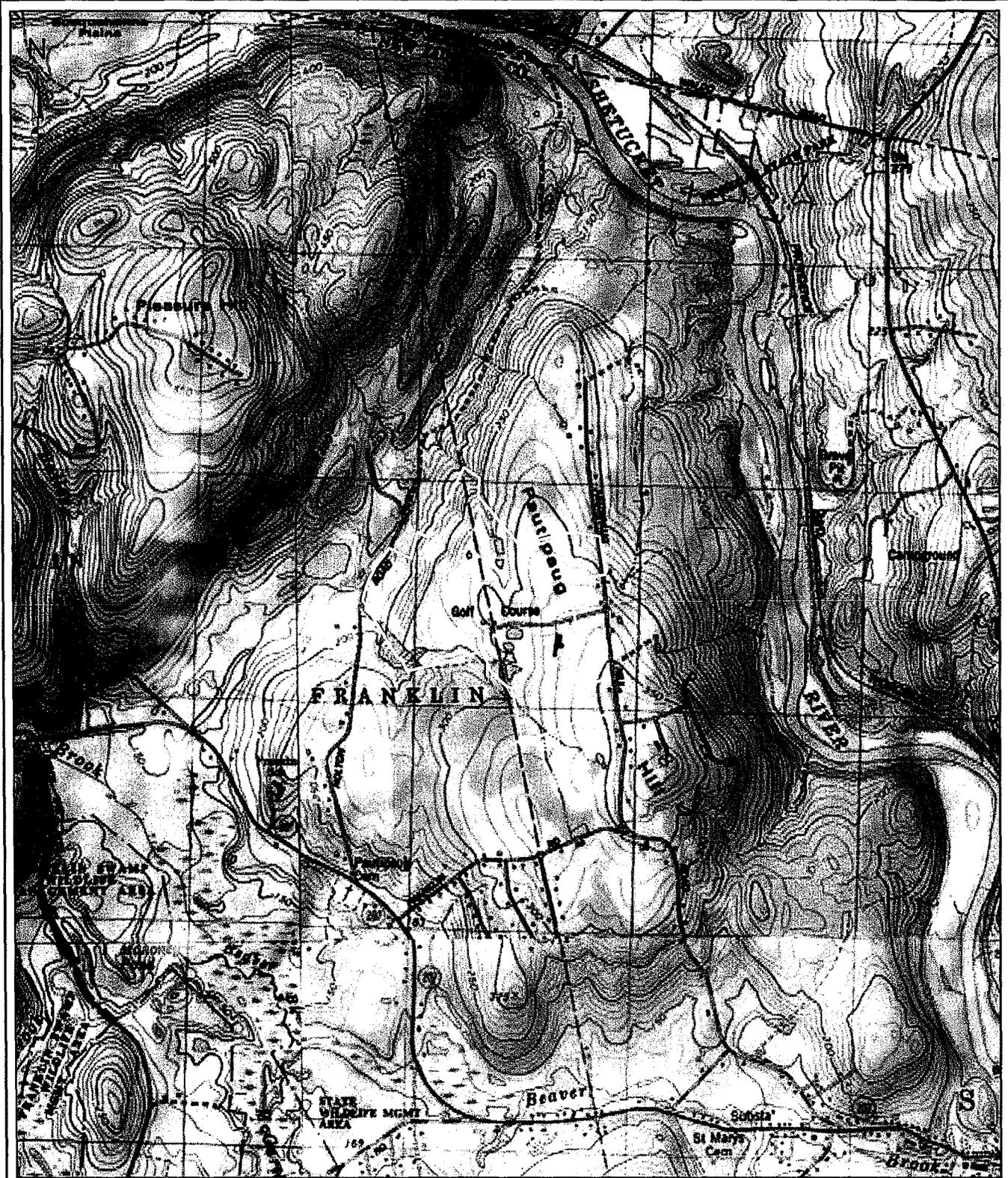
The work is described on the enclosed plans entitled "Ayers Brook Restoration," on forty-nine (49) sheets, and dated "01/18/2011."

**MITIGATION**

The applicant states that in order to restore the stream and its banks, it is not possible to avoid impacts to the stream and surrounding wetlands. In addition, the fairway wetlands are impediments to golfers during the spring. An alternative of using plants and shrubs in instead of filling them was considered, however, the applicant determined that these would obstruct the view from the fairway.

Impacts to the brook system will be minimized through the rebuilding of the floodplain and wetland area surrounding the stream. Currently, golf course maintenance of segments 1, 2, and 4 consists of mowing the vegetation in and around the stream channel on a regular basis, and the vegetation is dominated by golf course sod. Fescue will be planted and not mowed along 0.72 acres; increasing the functions of the wetlands in that area.

Old undersized culverts and bridges have restricted the flow of water in the brook and its tributary, which has resulted in ruining the stream channel and flooding the banks. The applicant proposes to replace these culverts and bridges with appropriate sized structures, restore the riverine habitat and stabilize the erosion. The applicant also proposes to include 1.28 acres of landscaping to improve the riparian habitat along the stream channel.



**Legend**

 Property Limits

MOHEGAN SUN COUNTRY CLUB AT PAUTIPAUG  
BALTIC, CT

**PROPERTY LOCATION**

SCALE :  
1 inch = 2,000 feet

DATE :  
JANUARY, 2011

ATTACHMENT  
1

USGS QUAD: SCOTLAND

 **McFarland Johnson**

Path

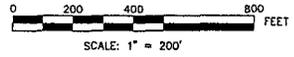


**LEGEND**

SYMBOL	DESCRIPTION
---	LIMIT OF WETLAND AND UPLAND BUFFER IMPACTS
②	FAIRWAY NUMBER

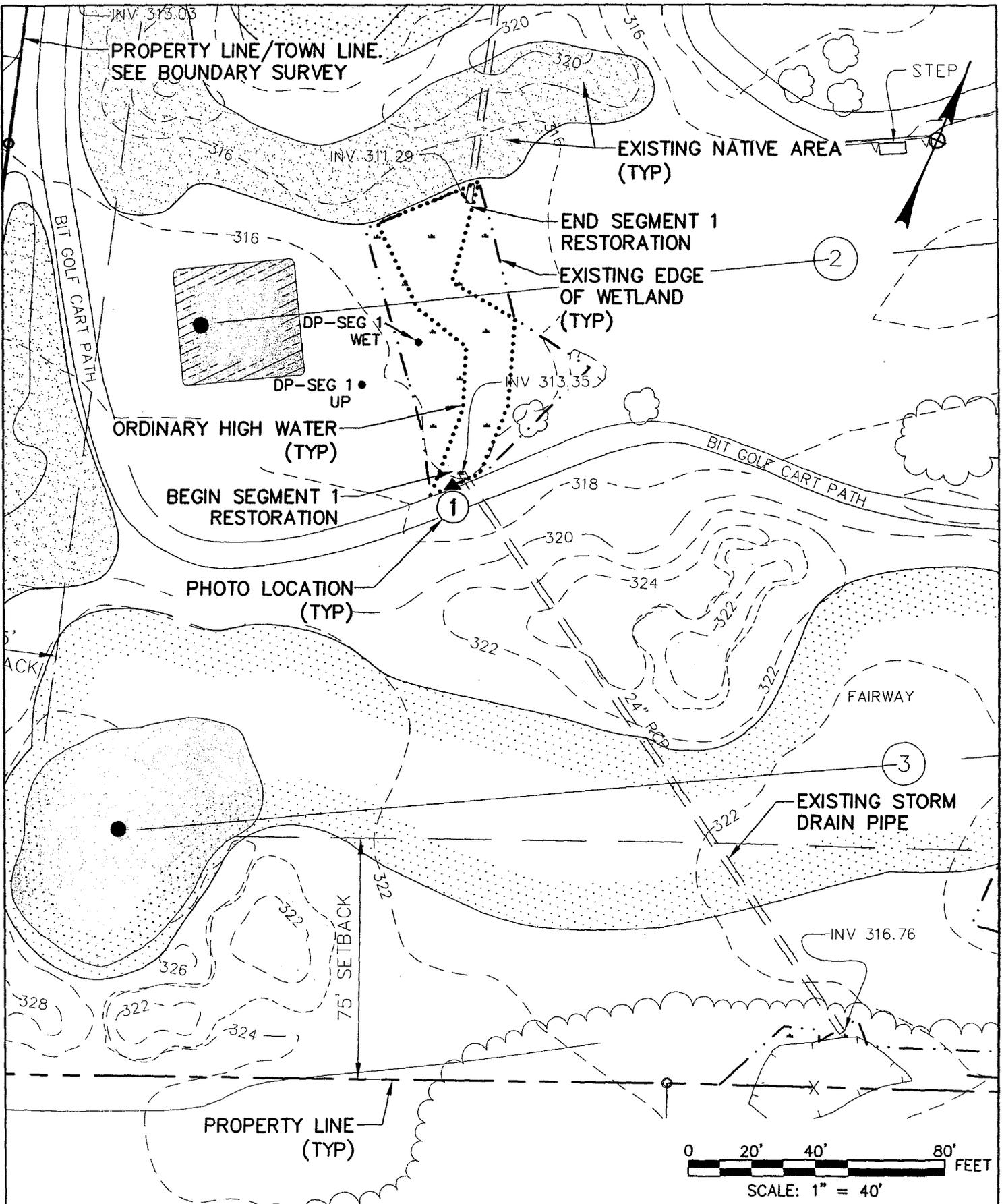
WETLAND AND ORDINARY HIGH WATER (OHW) IMPACTS				
LOCATION	WETLAND (SF)	WETLAND (CU YD)	OHW (SF)	OHW (CU YD)
SEGMENT 1	2,133	(140.0)	1605	(145.3)
SEGMENT 2	3,357	(71.1)	4,085	(116.4)
SEGMENT 3	1,125	(52.1)	3,673	(215.2)
SEGMENT 4	15,144	356.9 (170.2)	7,341	71.6 (237.5)
SEGMENT 5	-	-	-	-
SEGMENT 6	8,517	52.5 (66.7)	3,678	52.8 (11.4)
WETLAND 1	6,634	491.4 (245.7)	-	-
WETLAND 2	10,950	796.4 (398.2)	-	-
POND III	-	-	90	3
<b>TOTALS</b>	<b>47,860</b>	<b>1,697.2 (1144)</b>	<b>20,672</b>	<b>127.7 (719.6)</b>

VOLUME LEGEND:  
 FILL (CUT) = XXX (000)



REV		DATE	DESCRIPTION	BY
<b>McFarland Johnson</b> <small>62 POWHET STREET, PUTNAM, CT 06260          PH: 860-447-2844 FAX: 860-447-1822</small>				
SCALE: AS SHOWN		DESIGN: MRP	PROJECT: 17192.04	SHEET: <b>C 30</b>
DRAWN: TDG/TJB		CHECKED: CPB	DATE: 01/18/2011	SHR. NO.:

**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT  
**OVERALL WETLAND & ORDINARY HIGH WATER IMPACT PLAN**

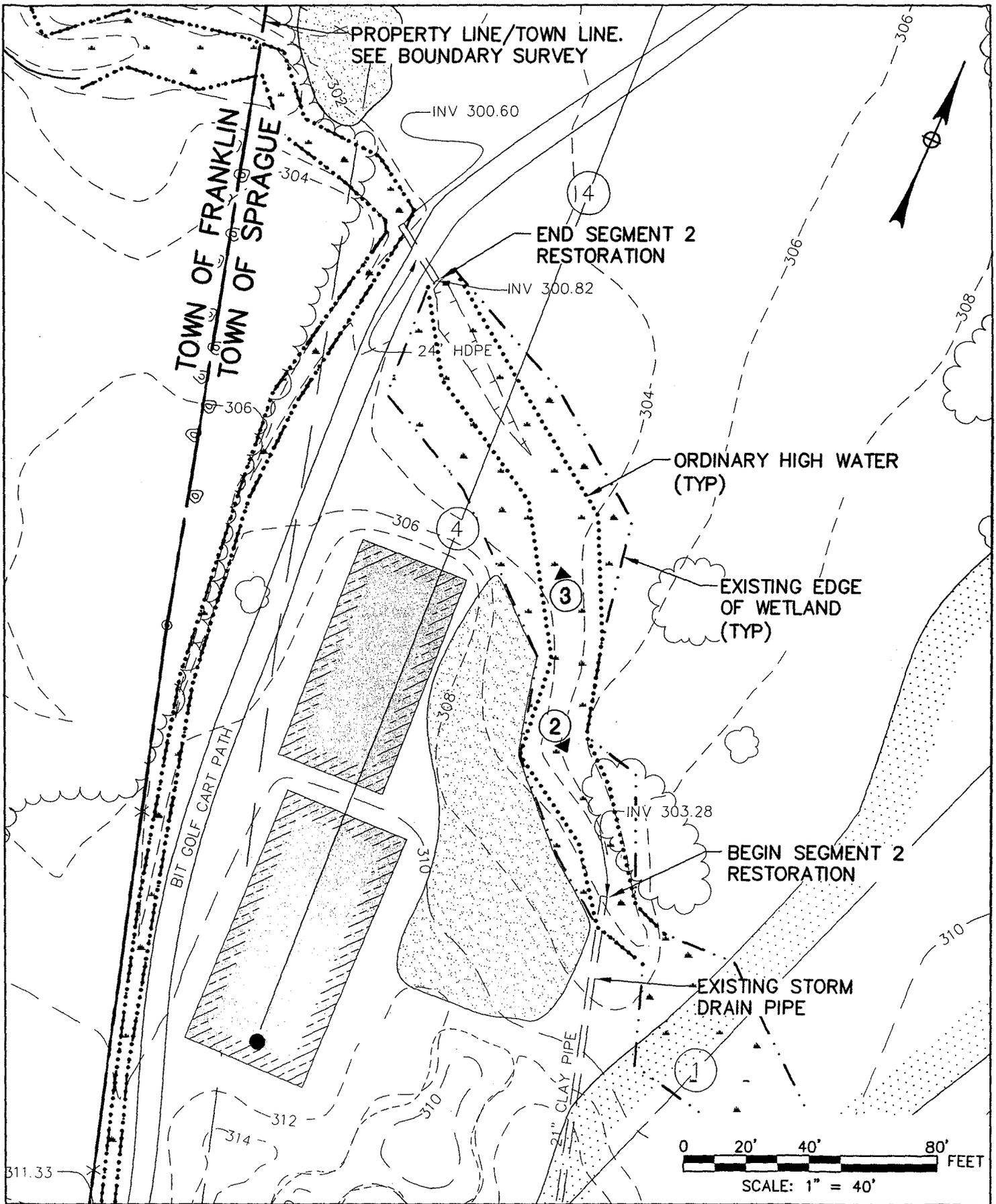


**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 1**  
**EXISTING CONDITIONS**

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>1</b>
SCALE: AS NOTED	DATE: 01/18/2011	

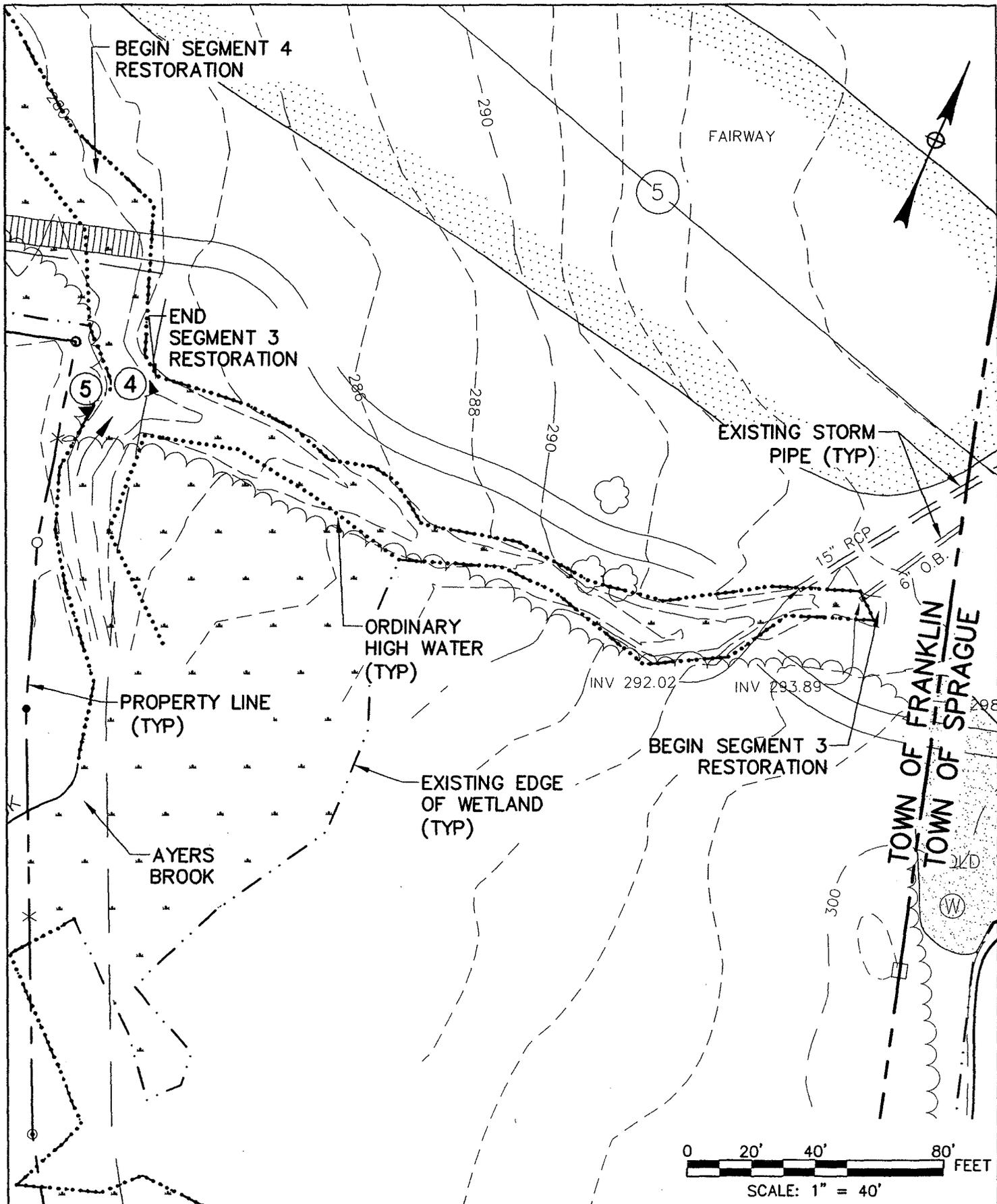


**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

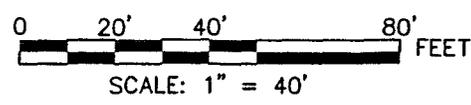
**SEGMENT 2  
 EXISTING CONDITIONS**

**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO.  <b>2</b>
SCALE: AS NOTED	DATE: 01/18/2011	



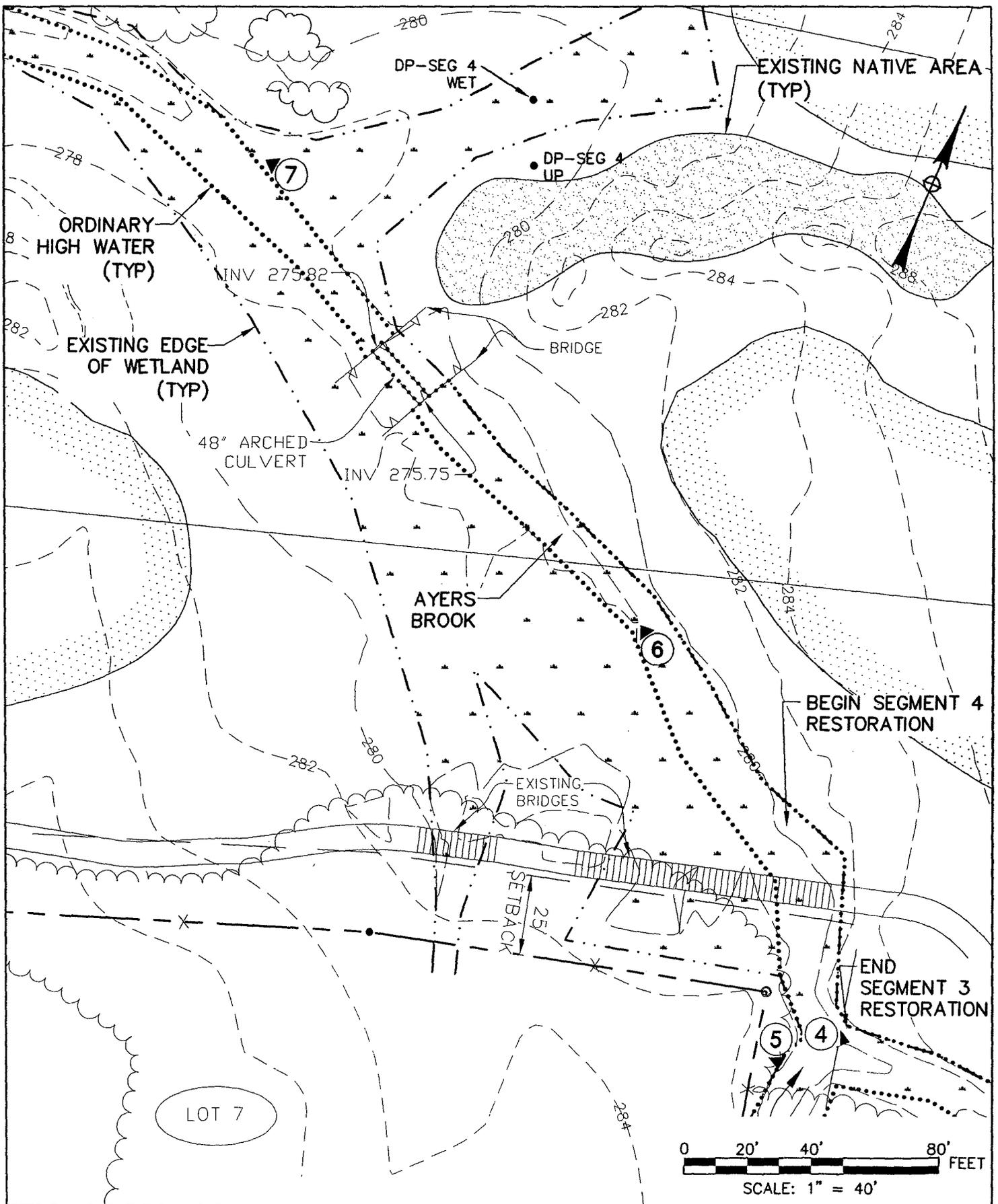
**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 3**  
**EXISTING CONDITIONS**

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>3</b>
SCALE: AS NOTED	DATE: 01/18/2011	

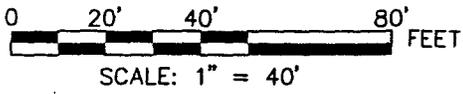
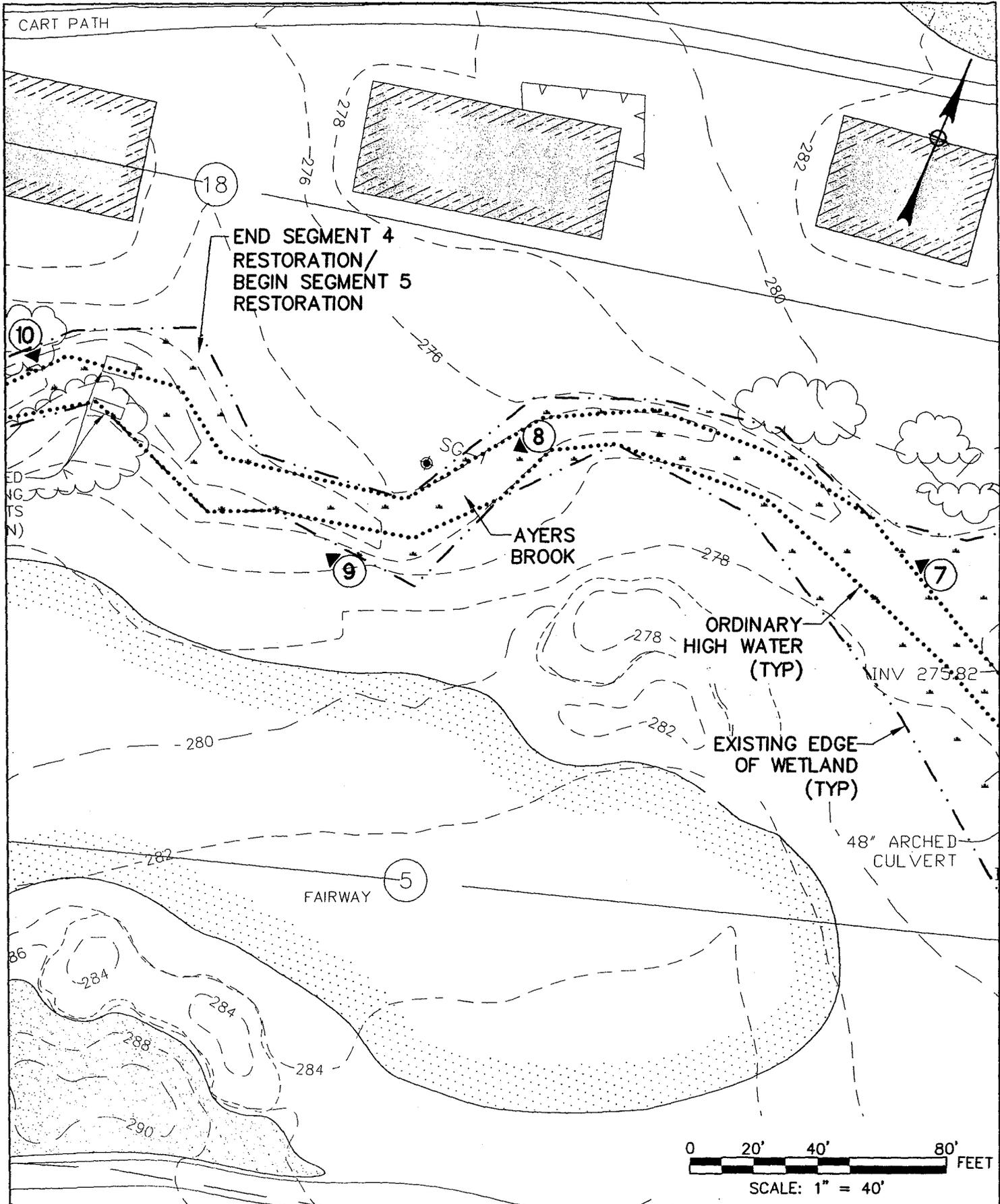


**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**SEGMENT 4  
 EXISTING CONDITIONS**

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>4</b>
SCALE: AS NOTED	DATE: 01/18/2011	

**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622



**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

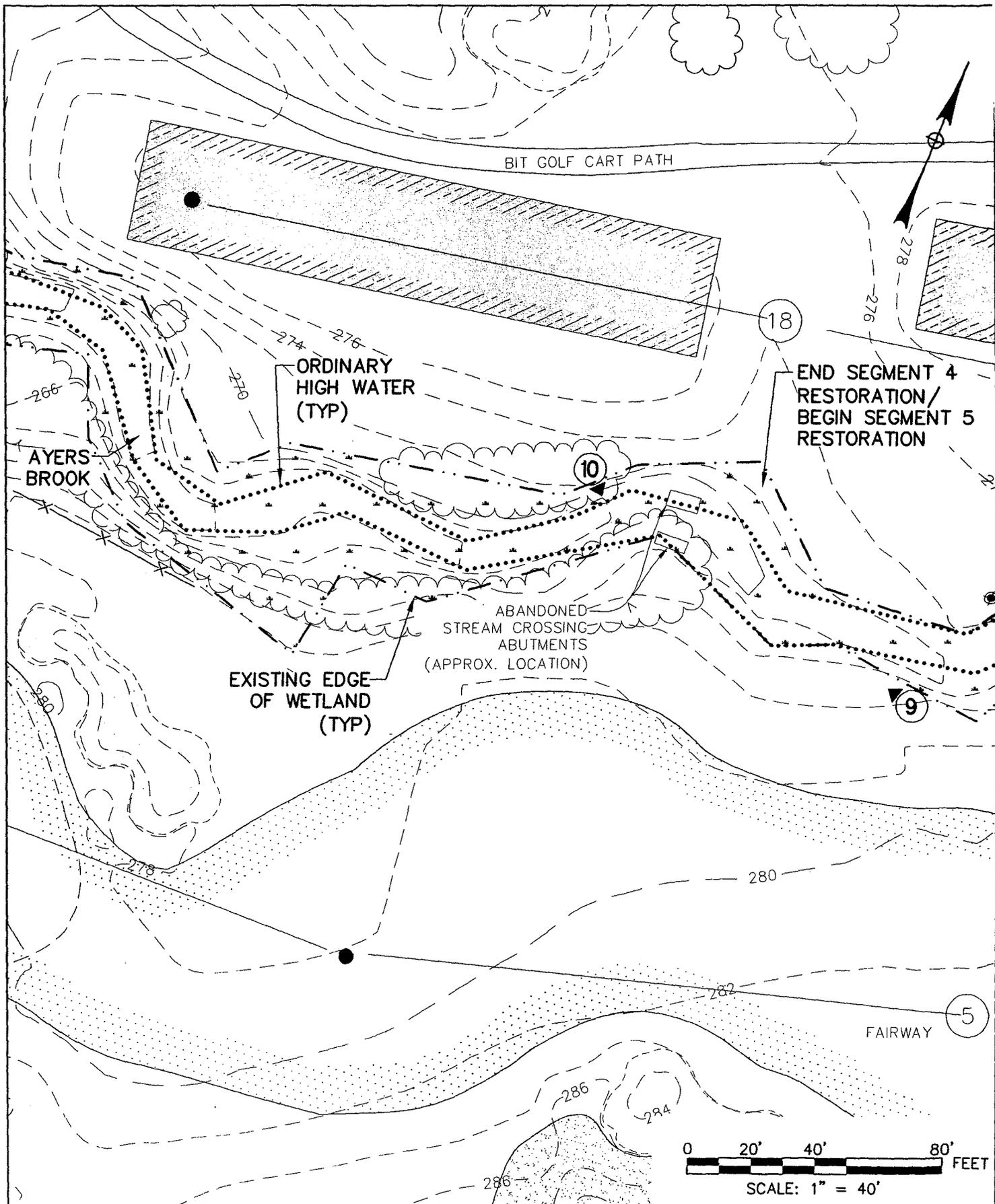


**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 4**  
**EXISTING CONDITIONS**

DRAWN BY: TJB	CHECKED BY: CPB
SCALE: AS NOTED	DATE: 01/18/2011

FIGURE NO.  
**5**



**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 5**  
**EXISTING CONDITIONS**

DRAWN BY:

TJB

CHECKED BY:

CPB

FIGURE NO.

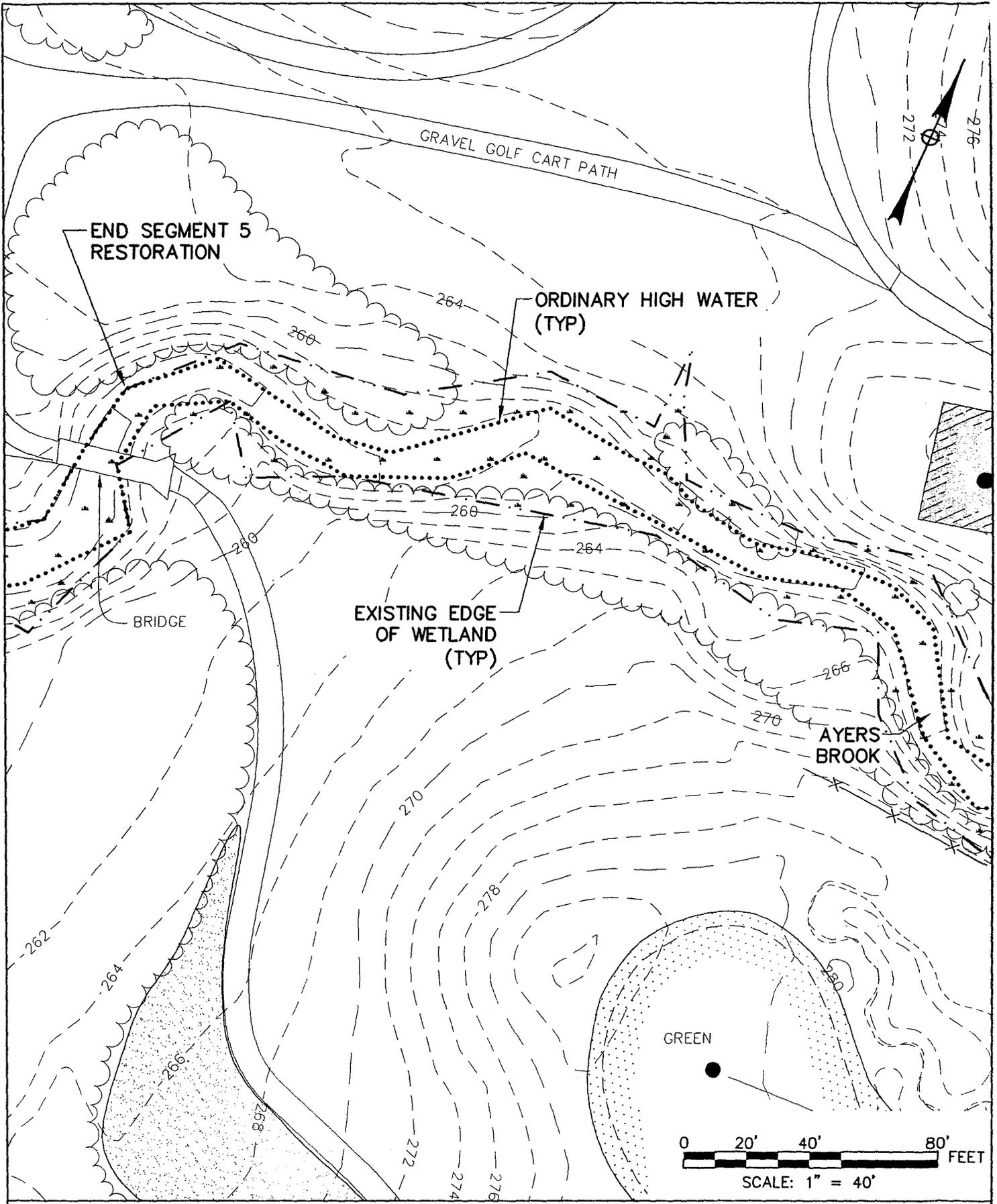
**6**

SCALE:

AS NOTED

DATE:

01/18/2011



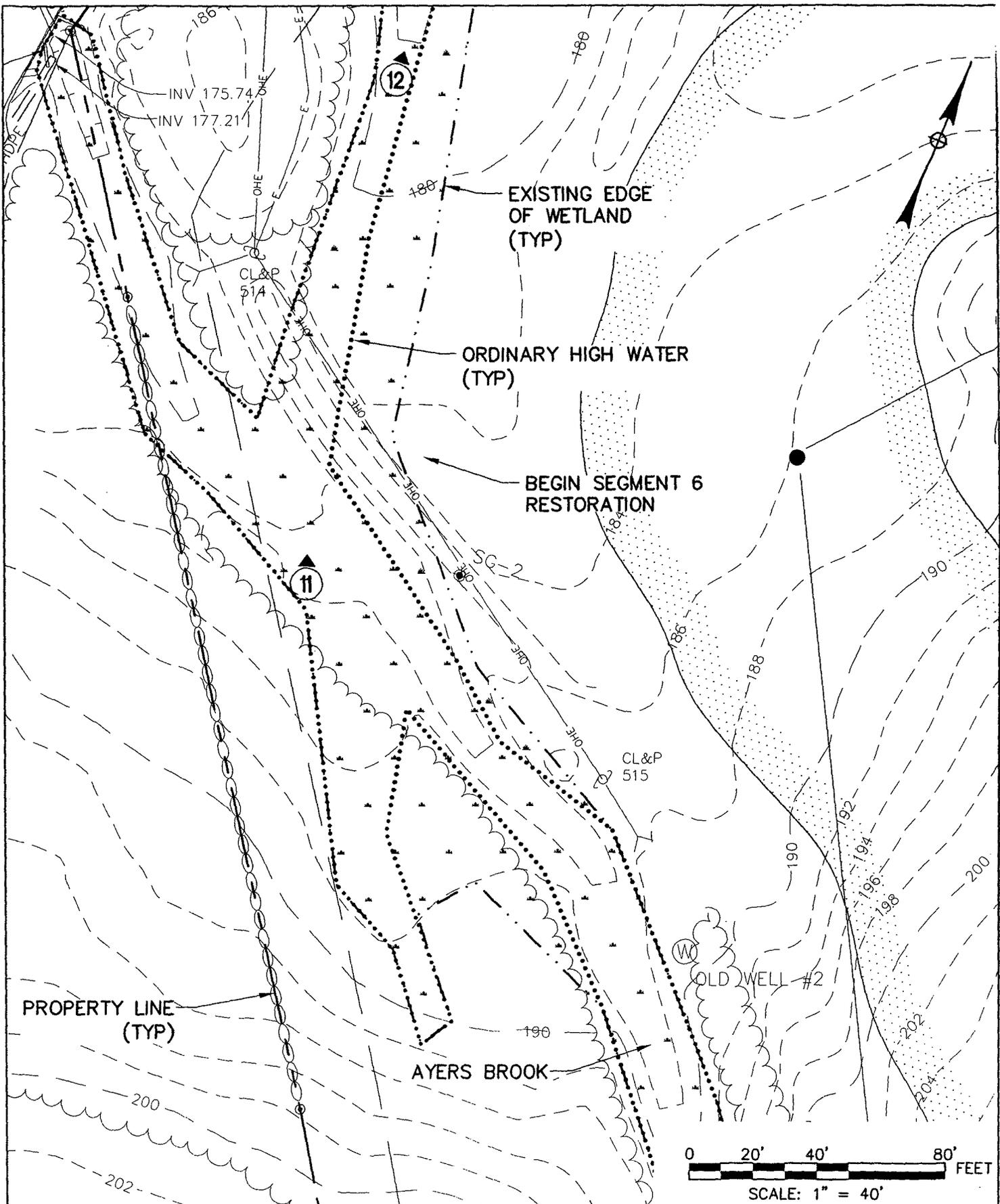
**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 5**  
**EXISTING CONDITIONS**

DRAWN BY: TJB	CHECKED BY: CPB
SCALE: AS NOTED	DATE: 01/18/2011

FIGURE NO.  
**7**

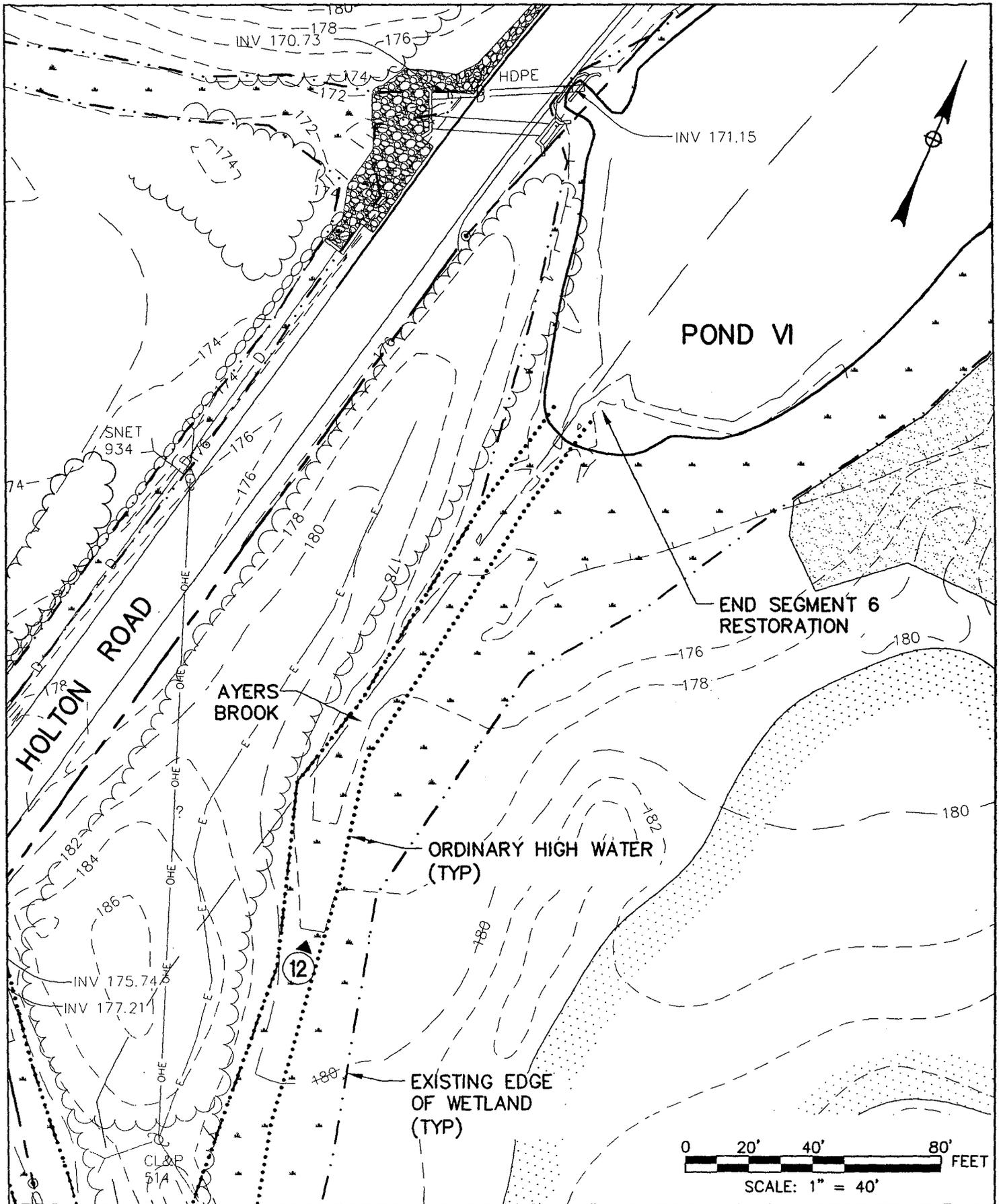


**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 6**  
**EXISTING CONDITIONS**

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>8</b>
SCALE: AS NOTED	DATE: 01/18/2011	



**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT



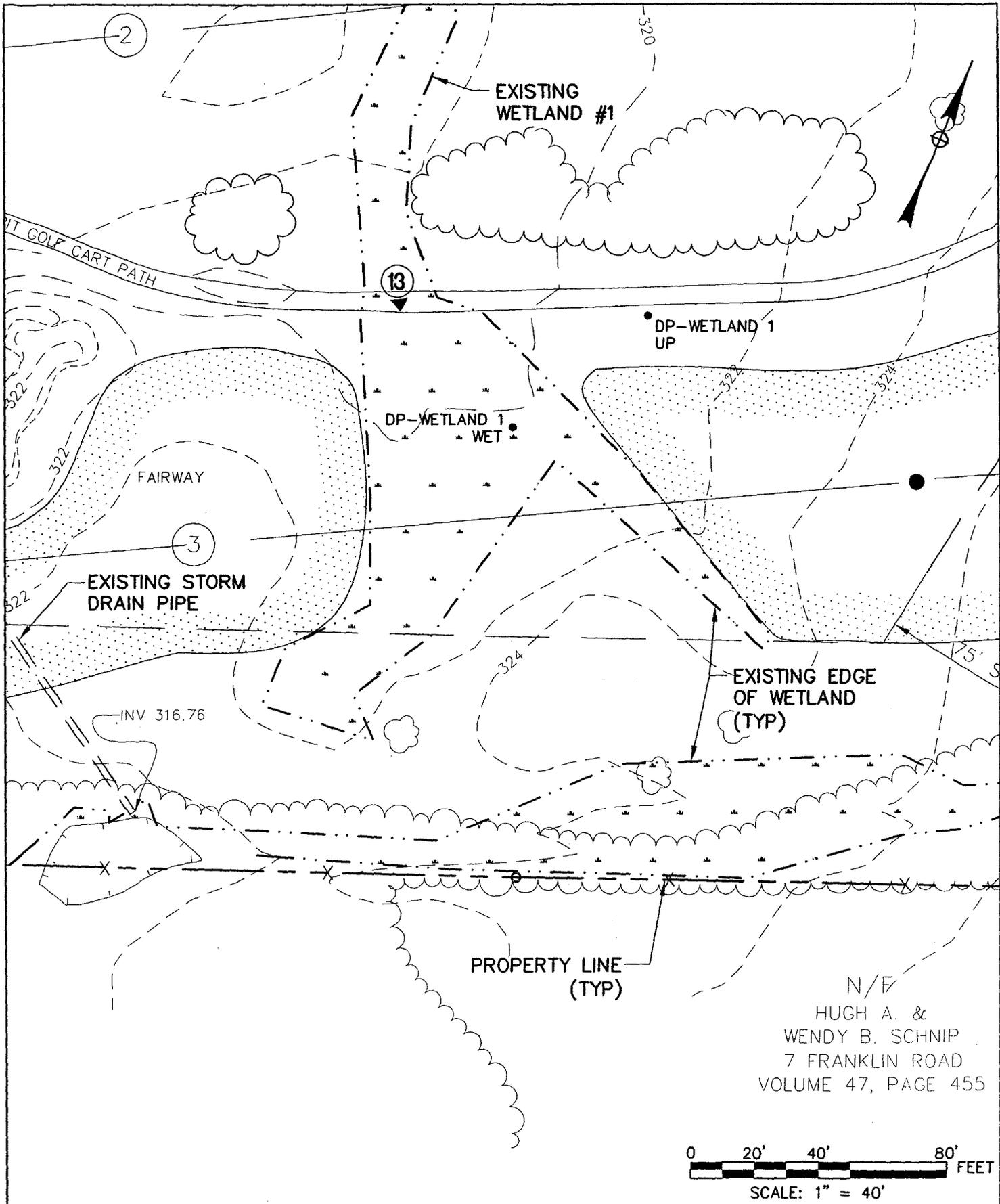
**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 6**  
**EXISTING CONDITIONS**

DRAWN BY:  
TJB  
 SCALE:  
AS NOTED

CHECKED BY:  
CPB  
 DATE:  
01/18/2011

FIGURE NO.  
**9**



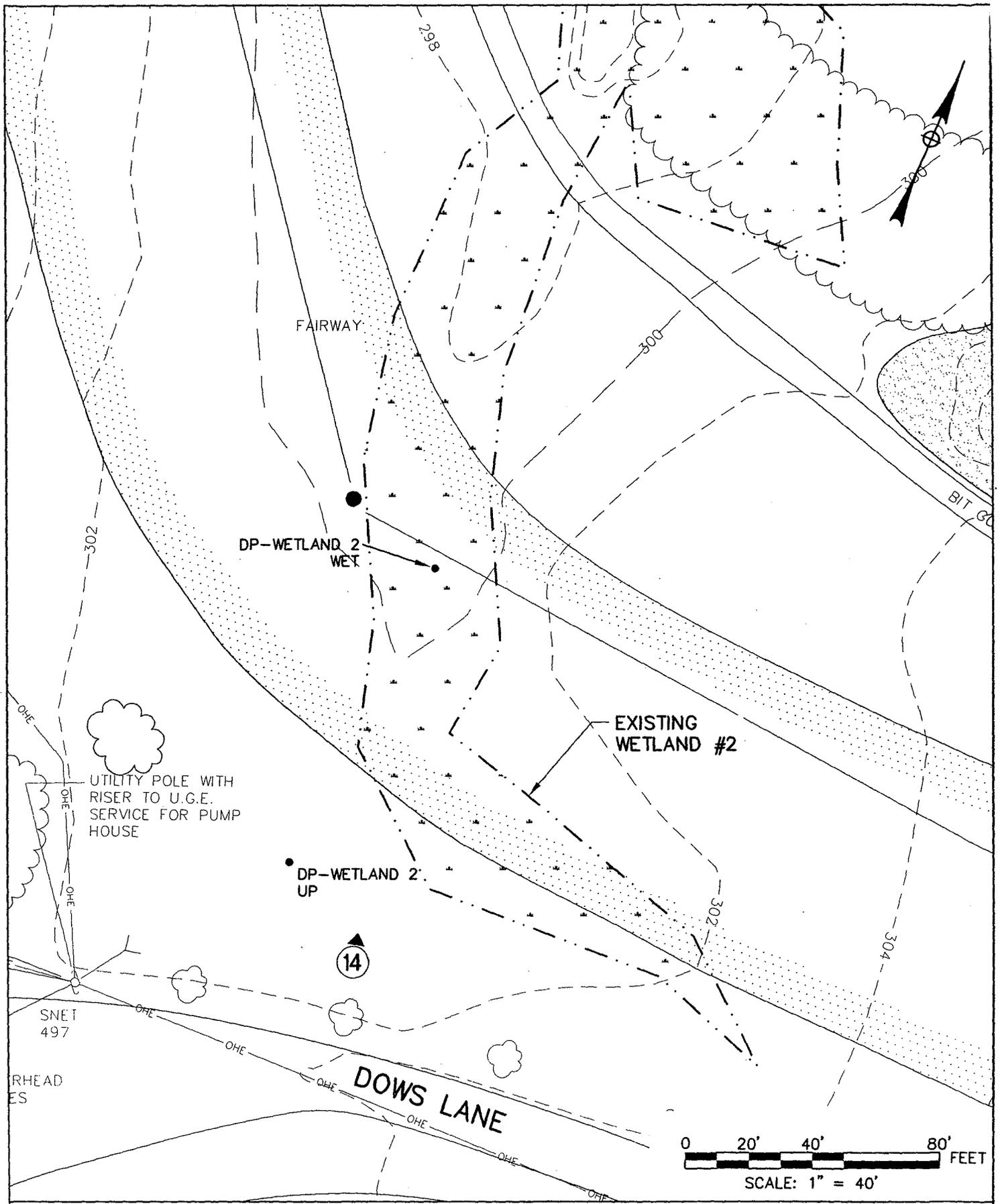
**AYERS BROOK RESTORATION**  
MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**  
52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

**FAIRWAY 3 (WETLAND 1)  
EXISTING CONDITIONS**

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>10</b>
SCALE: AS NOTED	DATE: 01/18/2011	



**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT



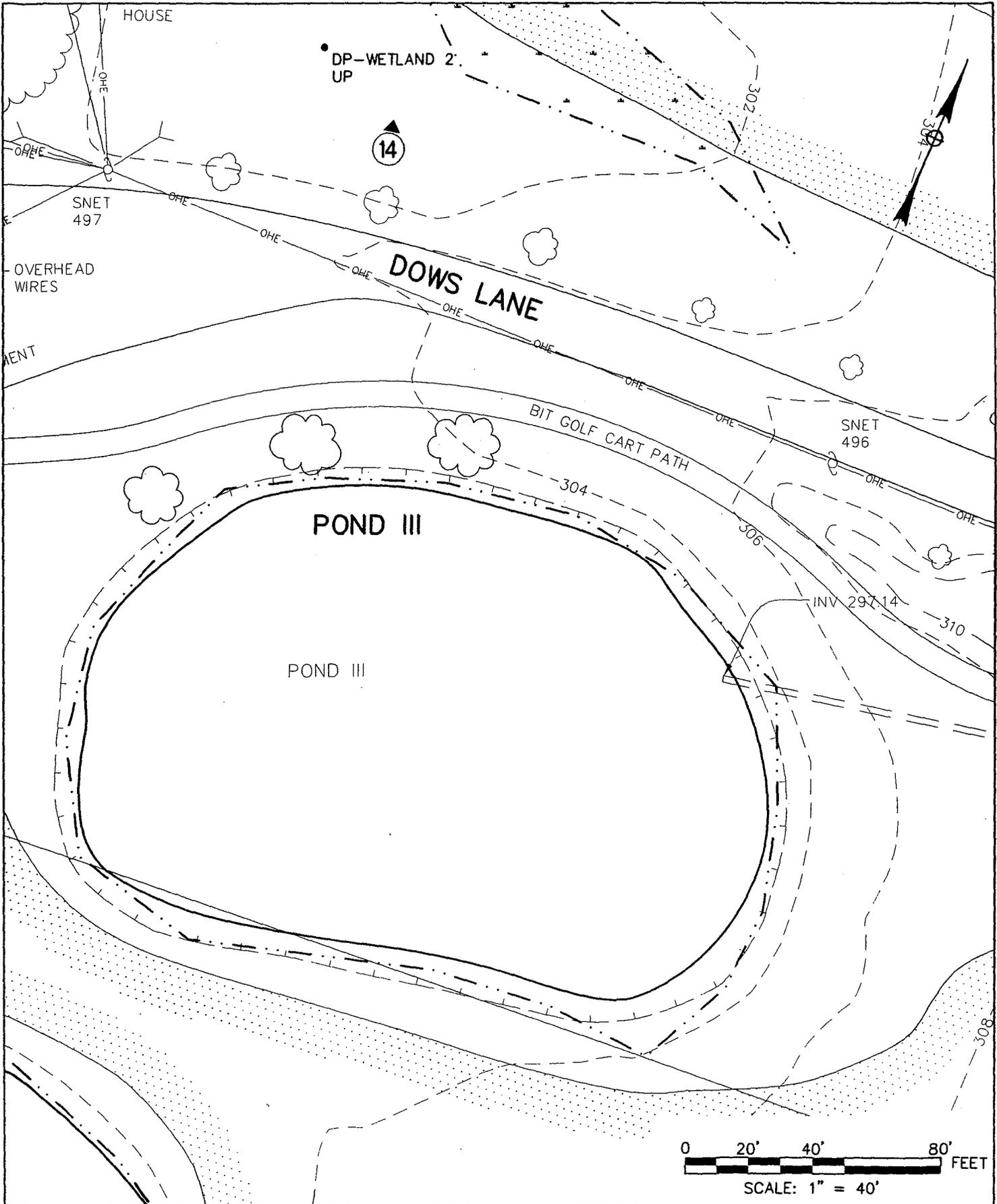
**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**FAIRWAY 9 (WETLAND 2)**  
**EXISTING CONDITIONS**

DRAWN BY:  
 TJB  
 SCALE:  
 AS NOTED

CHECKED BY:  
 CPB  
 DATE:  
 01/18/2011

FIGURE NO.  
**11**



**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**DRY HYDRANT AT POND III**  
**EXISTING CONDITIONS**

DRAWN BY:  
TJB

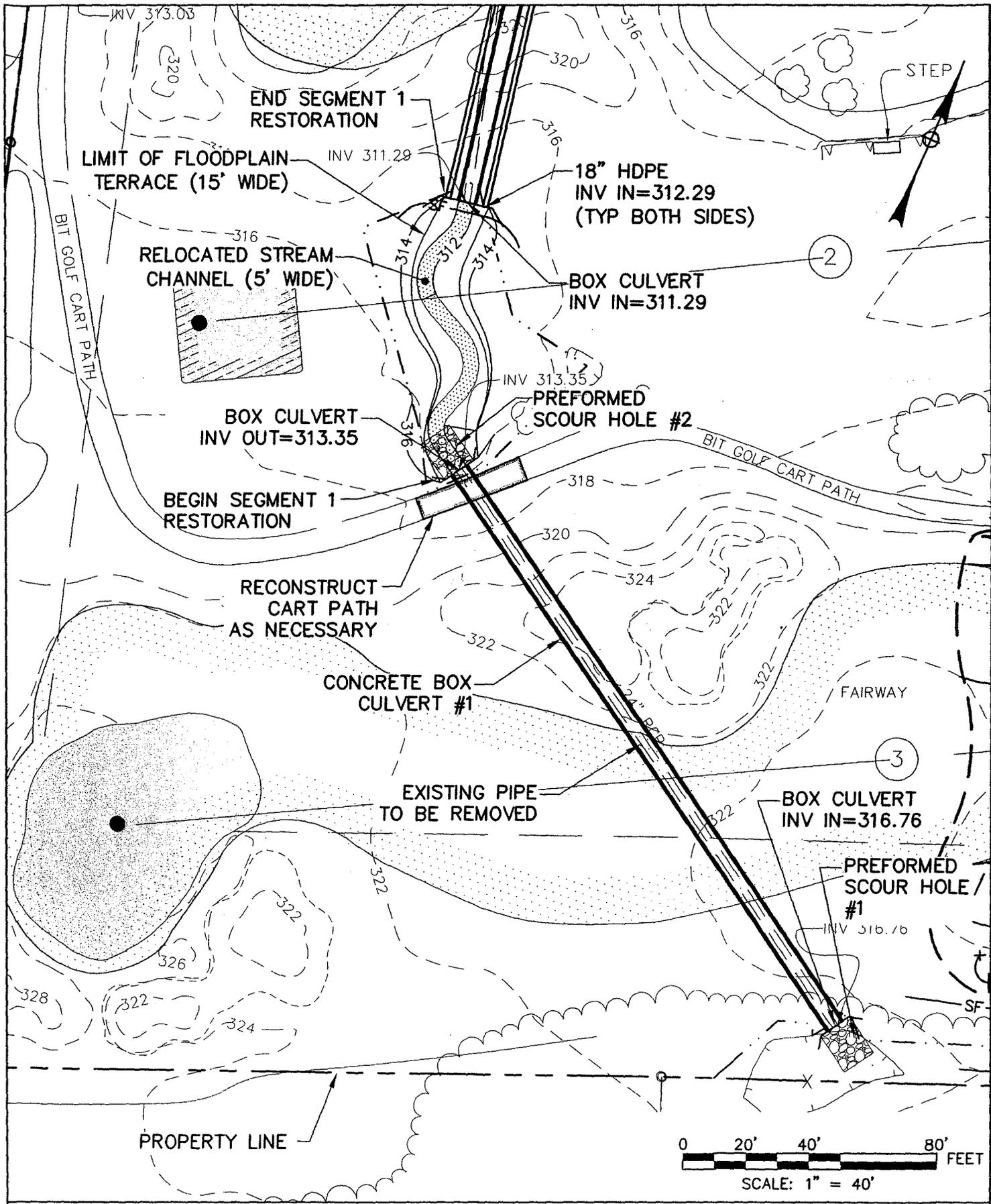
SCALE:  
AS NOTED

CHECKED BY:  
CPB

DATE:  
01/18/2011

FIGURE NO.

**12**

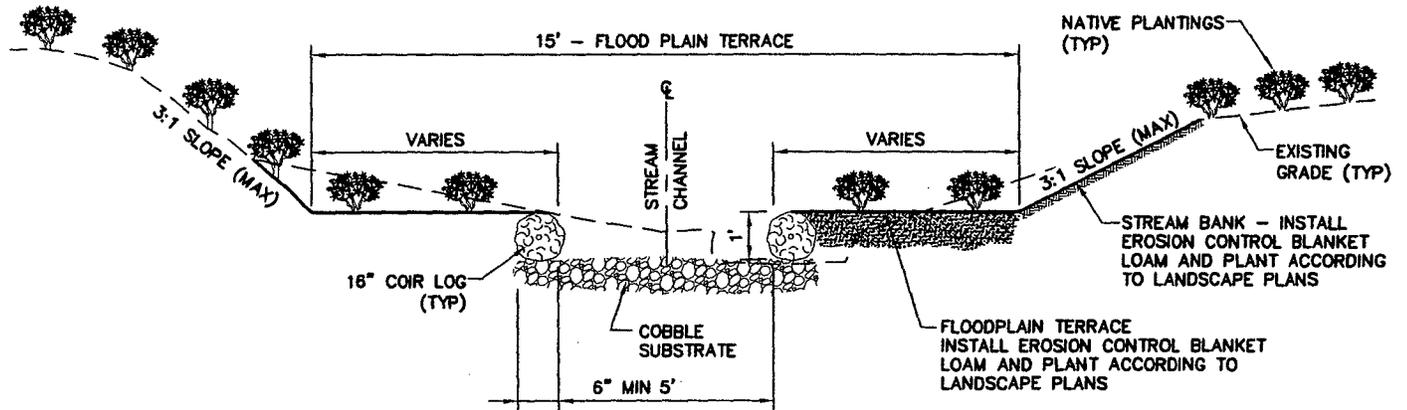


**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 1  
 RESTORATION**

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>13</b>
SCALE: AS NOTED	DATE: 01/18/2011	



**NOTES:**

1. THE CHANNEL SUBSTRATE THROUGHOUT THE ENTIRE LENGTH OF BOTH STREAM SEGMENTS 1 AND 2 SHALL BE "NATURAL" ROUNDED COBBLES/PEBBLES TO MATCH EXISTING STREAMBED STONE CHARACTERISTICS. THE LONGEST DIMENSION OF THE STONE SHALL VARY FROM 3 TO 20 INCHES, AND AT LEAST 50 PERCENT OF THE VOLUME OF THE STONE IN PLACE SHALL HAVE A LEAST DIMENSION OF 8 INCHES. THE LEAST DIMENSION OF THE STONE SHALL BE GREATER THAN 33 PERCENT OF THE LONGEST DIMENSION. THE OVERALL SUBSTRATE DEPTH SHALL BE A MINIMUM OF 24 INCHES. THE STONE SHALL BE REASONABLY WELL GRADED FROM THE SMALLEST TO THE MAXIMUM SIZE STONE SPECIFIED SO AS TO FORM A COMPACT MASS WHEN IN PLACE.
2. COIR LOGS SHALL BE USED TO DEFINE STREAM CHANNEL BANKS IN BOTH STREAM SEGMENTS 1 AND 2.

**STREAM SEGMENT 1**

NOT TO SCALE

**AYERS BROOK RESTORATION**

MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 1  
RESTORATION  
SECTION**

DRAWN BY:  
TJB

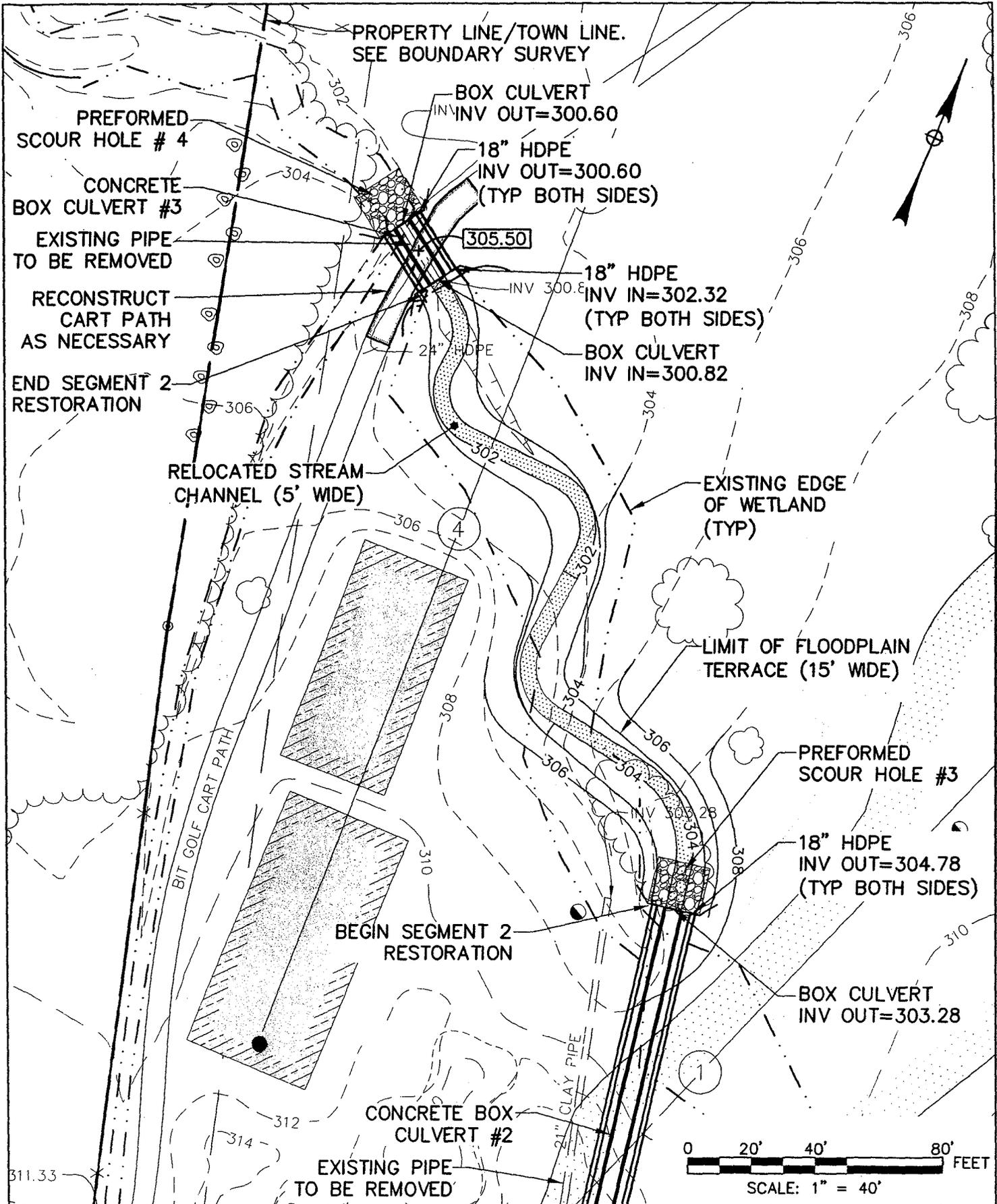
CHECKED BY:  
CPB

FIGURE NO.

SCALE:  
AS NOTED

DATE:  
01/18/2011

**13-S**

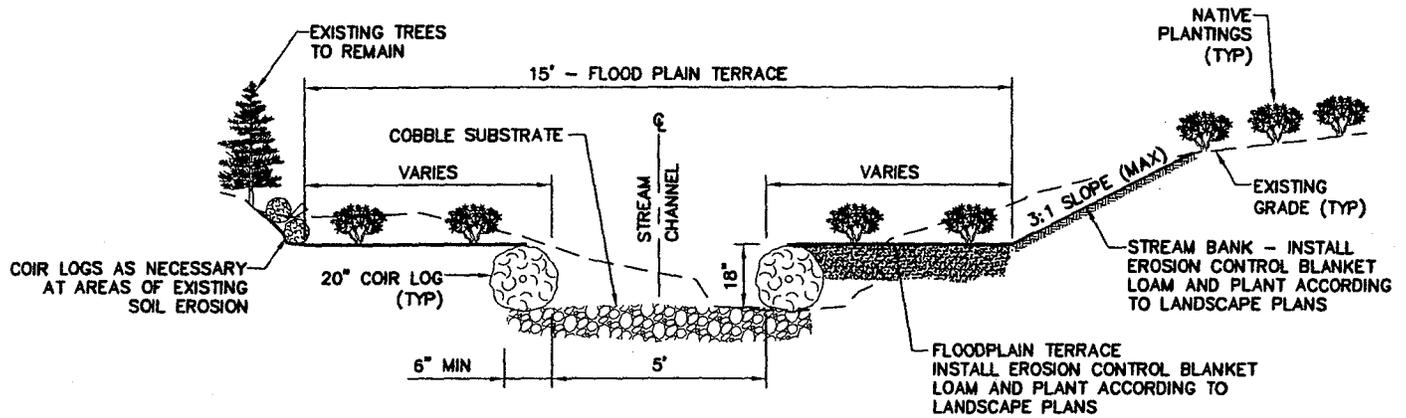


**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 2  
 RESTORATION**

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>14</b>
SCALE: AS NOTED	DATE: 01/18/2011	



**NOTES:**

1. THE CHANNEL SUBSTRATE THROUGHOUT THE ENTIRE LENGTH OF BOTH STREAM SEGMENTS 1 AND 2 SHALL BE "NATURAL" ROUNDED COBBLES/PEBBLES TO MATCH EXISTING STREAMBED STONE CHARACTERISTICS. THE LONGEST DIMENSION OF THE STONE SHALL VARY FROM 3 TO 20 INCHES, AND AT LEAST 50 PERCENT OF THE VOLUME OF THE STONE IN PLACE SHALL HAVE A LEAST DIMENSION OF 8 INCHES. THE LEAST DIMENSION OF THE STONE SHALL BE GREATER THAN 33 PERCENT OF THE LONGEST DIMENSION. THE OVERALL SUBSTRATE DEPTH SHALL BE A MINIMUM OF 24 INCHES. THE STONE SHALL BE REASONABLY WELL GRADED FROM THE SMALLEST TO THE MAXIMUM SIZE STONE SPECIFIED SO AS TO FORM A COMPACT MASS WHEN IN PLACE.
2. COIR LOGS SHALL BE USED TO DEFINE STREAM CHANNEL BANKS IN BOTH STREAM SEGMENTS 1 AND 2.

**STREAM SEGMENT 2**  
NOT TO SCALE

**AYERS BROOK RESTORATION**  
MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 2  
RESTORATION  
SECTION**

DRAWN BY:  
TJB

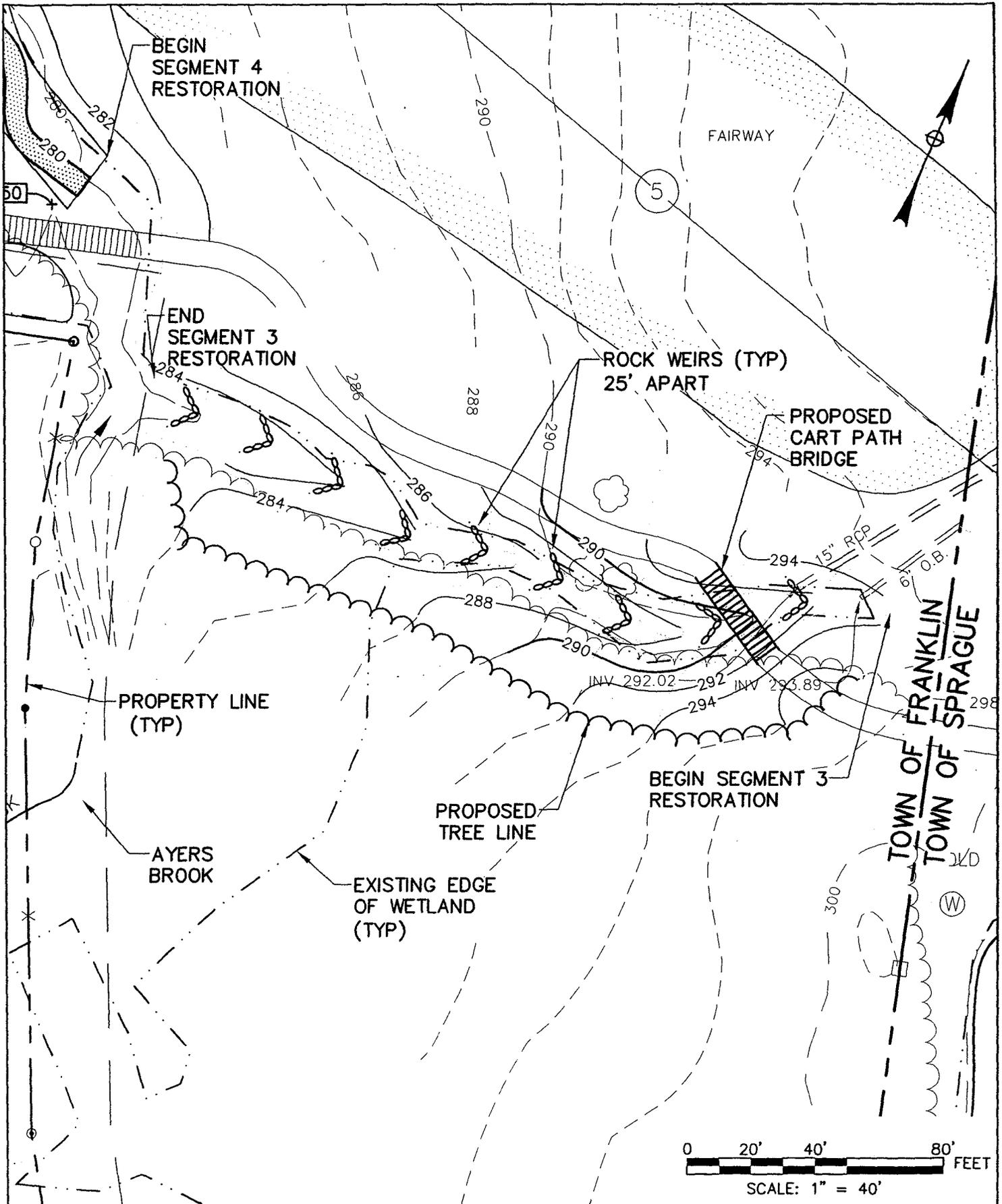
CHECKED BY:  
CPB

FIGURE NO.

SCALE:  
AS NOTED

DATE:  
01/18/2011

**14-S**

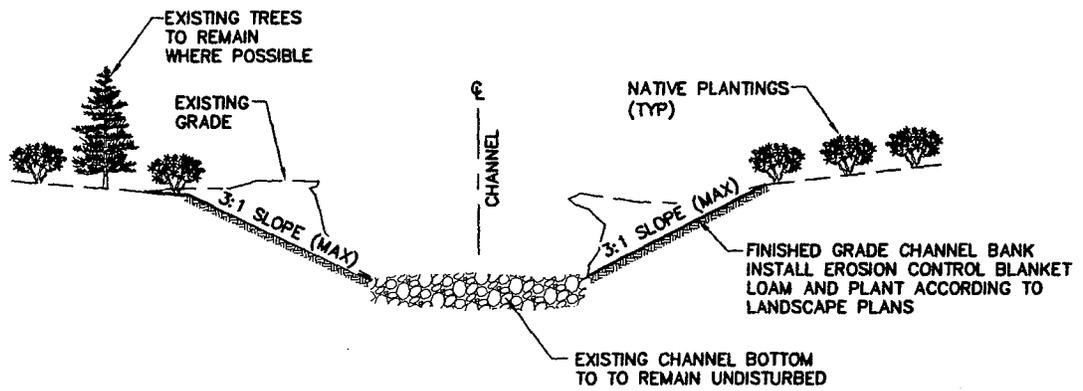


**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 3  
 RESTORATION**

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>15</b>
SCALE: AS NOTED	DATE: 01/18/2011	



**SEGMENT 3 RESTORATION**  
NOT TO SCALE

**AYERS BROOK RESTORATION**  
MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT



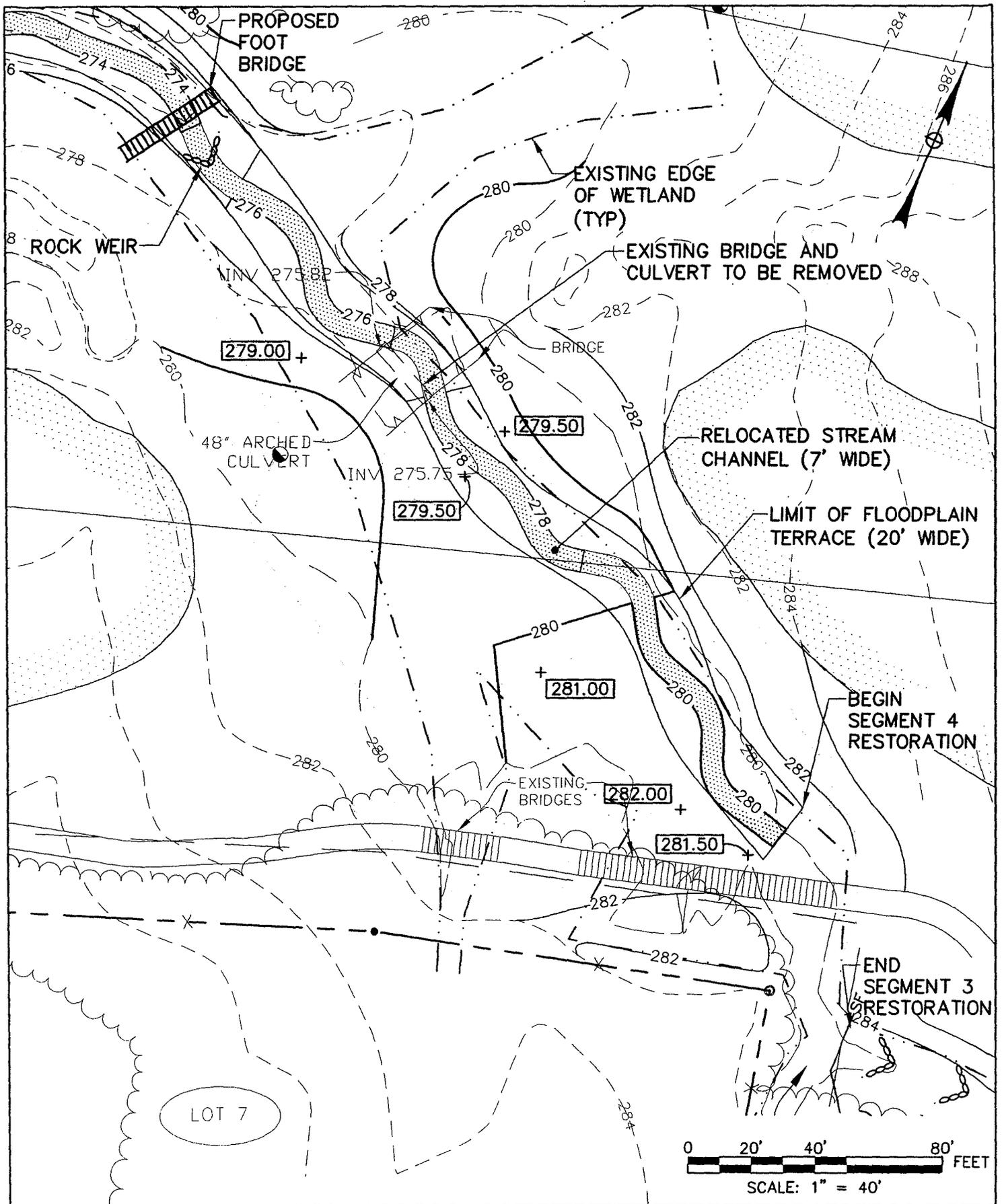
**McFarland Johnson**  
52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 3  
RESTORATION  
SECTION**

DRAWN BY:  
TJB  
SCALE:  
AS NOTED

CHECKED BY:  
CPB  
DATE:  
01/18/2011

FIGURE NO.  
**15-S**



**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 4  
 RESTORATION**

DRAWN BY:

TJB

CHECKED BY:

CPB

FIGURE NO.

**16**

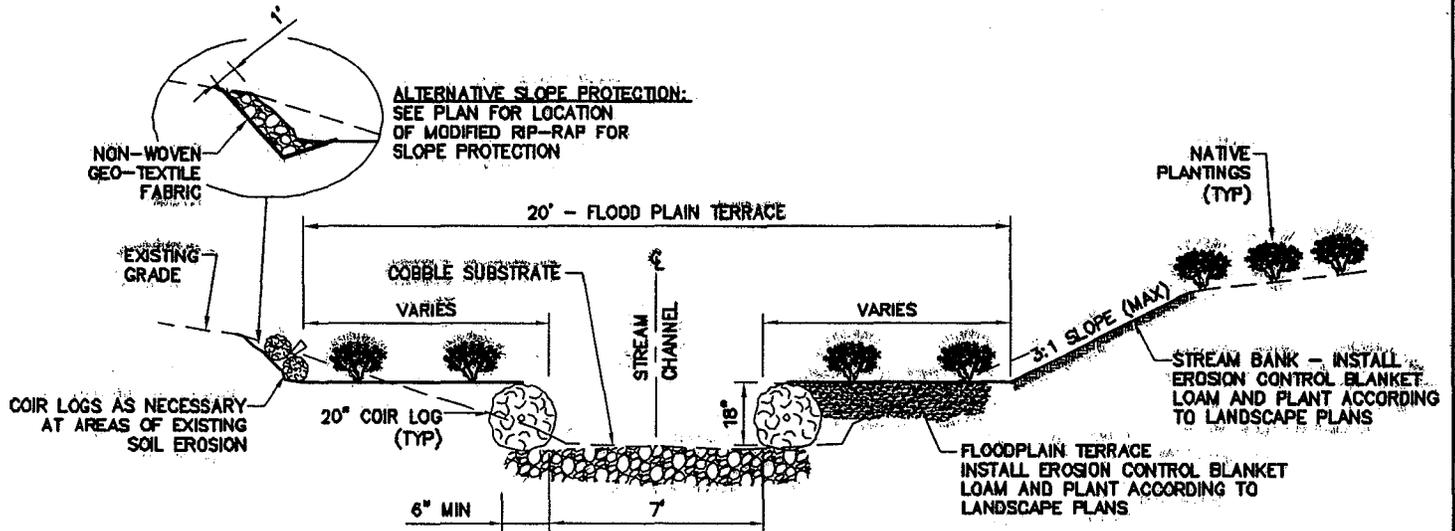
SCALE:

AS NOTED

DATE:

01/18/2011





**NOTES:**

1. THE CHANNEL SUBSTRATE THROUGHOUT THE TANGENT LENGTHS OF STREAM SEGMENT 4 SHALL BE "NATURAL" ROUNDED COBBLES/PEBBLES TO MATCH EXISTING STREAMBED STONE CHARACTERISTICS. THE LONGEST DIMENSION OF THE STONE SHALL VARY FROM 3 TO 20 INCHES, AND AT LEAST 50 PERCENT OF THE VOLUME OF THE STONE IN PLACE SHALL HAVE A LEAST DIMENSION OF 8 INCHES. THE LEAST DIMENSION OF THE STONE SHALL BE GREATER THAN 33 PERCENT OF THE LONGEST DIMENSION. THE OVERALL SUBSTRATE DEPTH SHALL BE A MINIMUM OF 24 INCHES. THE STONE SHALL BE REASONABLY WELL GRADED FROM THE SMALLEST TO THE MAXIMUM SIZE STONE SPECIFIED SO AS TO FORM A COMPACT MASS WHEN IN PLACE.
2. THE CHANNEL SUBSTRATE THROUGHOUT THE BENDS OF STREAM SEGMENT 4 SHALL BE "NATURAL" ROUNDED COBBLES/PEBBLES TO MATCH EXISTING STREAMBED STONE CHARACTERISTICS. THE LONGEST DIMENSION OF THE STONE SHALL VARY FROM 5 TO 30 INCHES, AND AT LEAST 50 PERCENT OF THE VOLUME OF THE STONE IN PLACE SHALL HAVE A LEAST DIMENSION OF 15 INCHES. THE LEAST DIMENSION OF THE STONE SHALL BE GREATER THAN 33 PERCENT OF THE LONGEST DIMENSION. THE OVERALL SUBSTRATE DEPTH SHALL BE A MINIMUM OF 36 INCHES. THE STONE SHALL BE REASONABLY WELL GRADED FROM THE SMALLEST TO THE MAXIMUM SIZE STONE SPECIFIED SO AS TO FORM A COMPACT MASS WHEN IN PLACE.
3. COIR LOGS SHALL BE USED TO DEFINE STREAM CHANNEL BANKS IN STREAM SEGMENT 4.

**STREAM SEGMENT 4**

NOT TO SCALE

**AYERS BROOK RESTORATION**

MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

SEGMENT 4  
RESTORATION  
SECTION

DRAWN BY:  
TJB

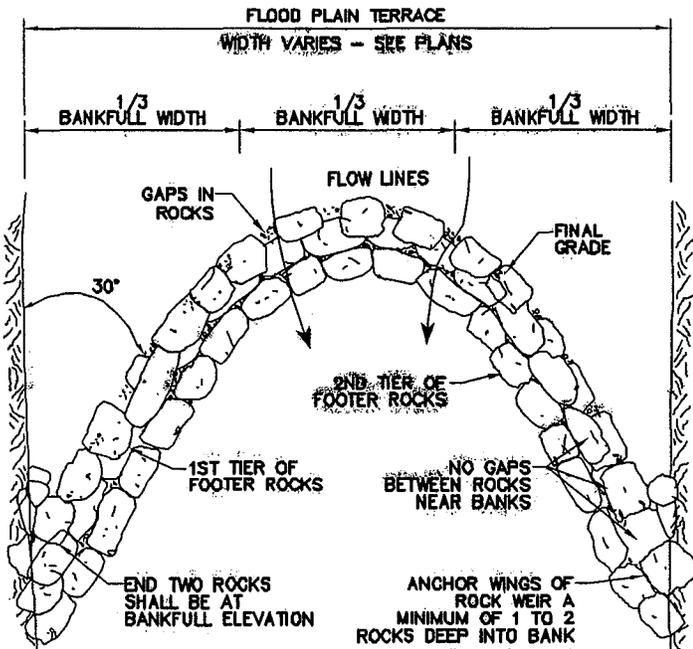
SCALE:  
AS NOTED

CHECKED BY:  
CPB

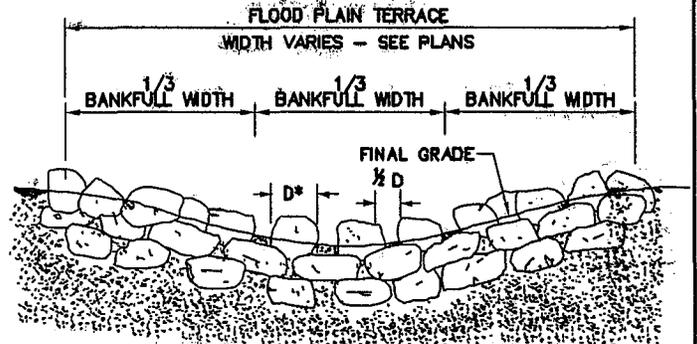
DATE:  
01/18/2011

FIGURE NO.

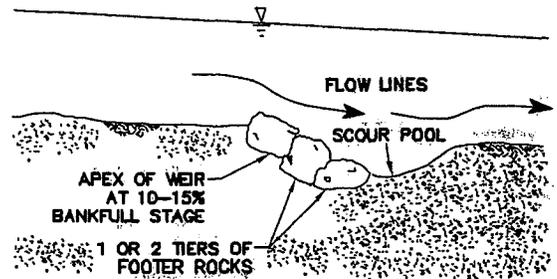
**17-S**



**PLAN VIEW**



**SECTION VIEW**



**PROFILE VIEW**

**NOTE**

1. USE 3' BOULDERS (MEDIAN DIAMETER) OR LARGER WITH SMALLER STONES TO FILL VOIDS FOR THE CONSTRUCTION OF WEIRS.
2. THE FOOTER ROCKS SHALL BE MADE OF 3' BOULDERS AND SMALLER STONES AND BE BURIED TO THE SURFACE OF THE STREAM CHANNEL.
3. FINAL PLACEMENT & ELEVATION OF ROCK WEIRS SHALL BE COORDINATED IN THE FIELD WITH THE WETLAND SCIENTIST.

**ROCK WEIR**  
NOT TO SCALE

**AYERS BROOK RESTORATION**

MOHICAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

SEGMENT 4  
ROCK WEIR

DRAWN BY:

TJB

CHECKED BY:

CPB

FIGURE NO.

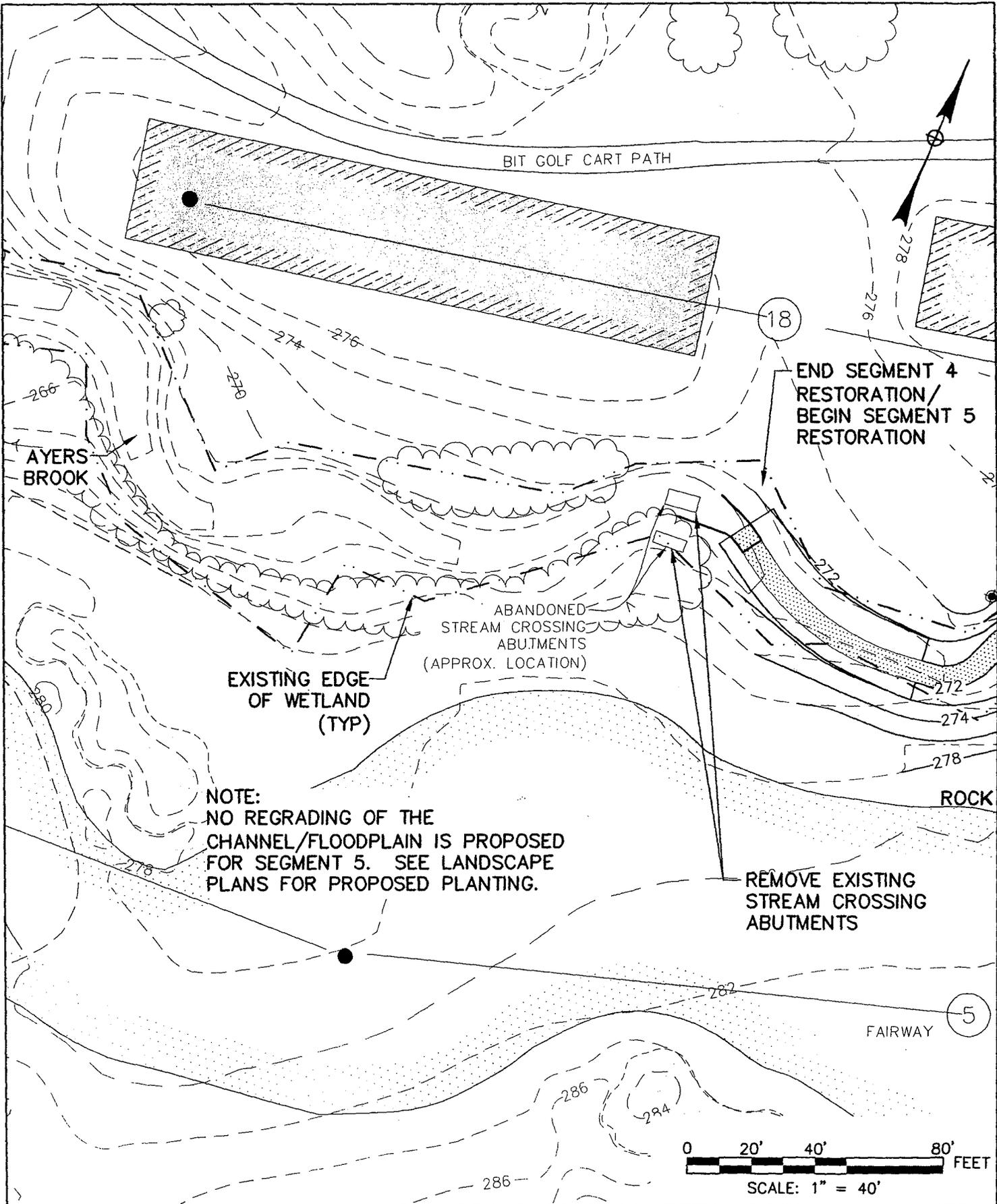
SCALE:

AS NOTED

DATE:

01/18/2011

**17-D1**



**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT



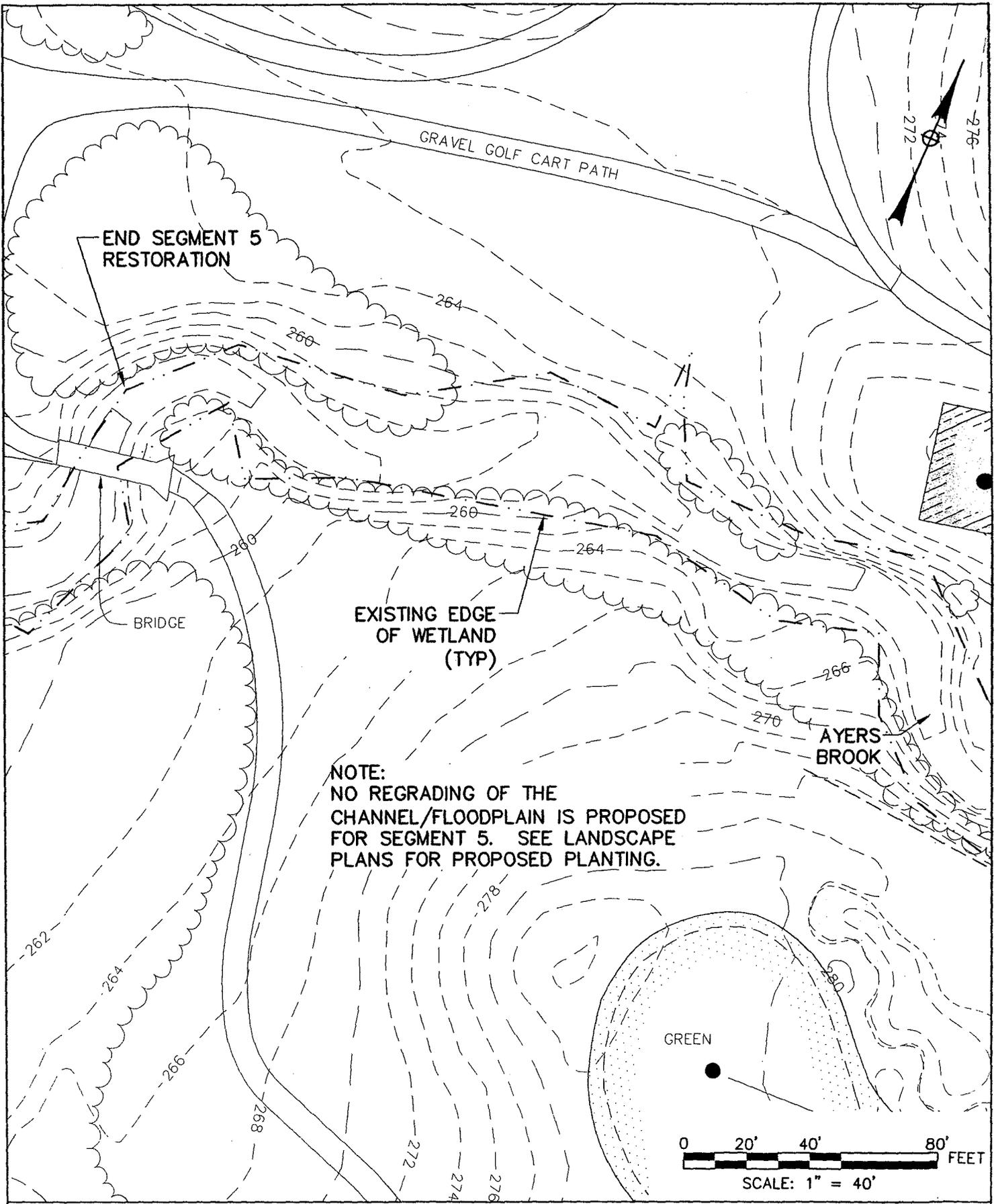
**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 5  
 RESTORATION**

DRAWN BY:  
TJB  
 SCALE:  
AS NOTED

CHECKED BY:  
CPB  
 DATE:  
01/18/2011

FIGURE NO.  
**18**



**AYERS BROOK RESTORATION**  
MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 5  
RESTORATION**

DRAWN BY:  
TJB

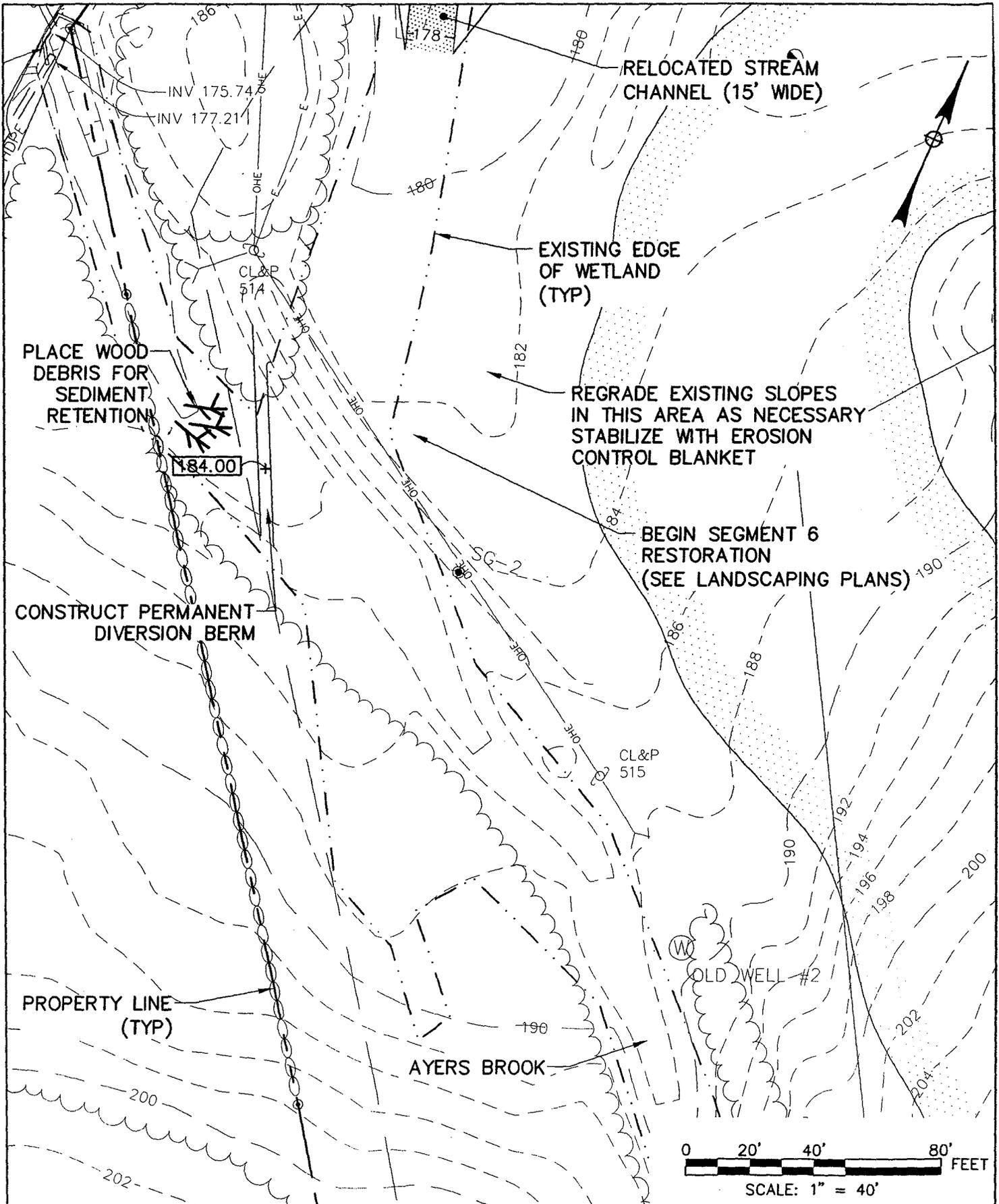
CHECKED BY:  
CPB

FIGURE NO.

SCALE:  
AS NOTED

DATE:  
01/18/2011

**19**

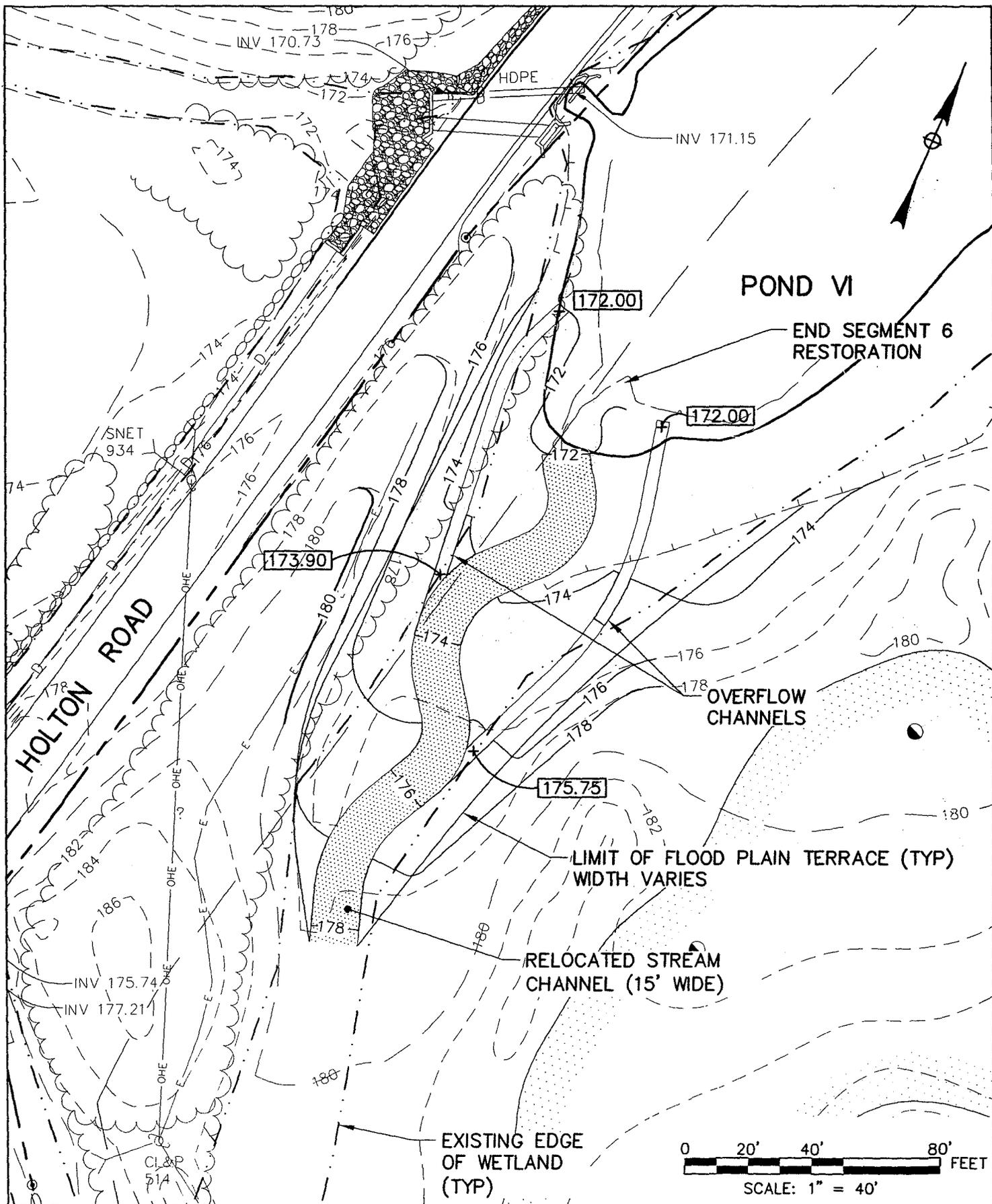


**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT


**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 6  
 RESTORATION**

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO.  <b>20</b>
SCALE: AS NOTED	DATE: 01/18/2011	



**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**SEGMENT 6  
 RESTORATION**

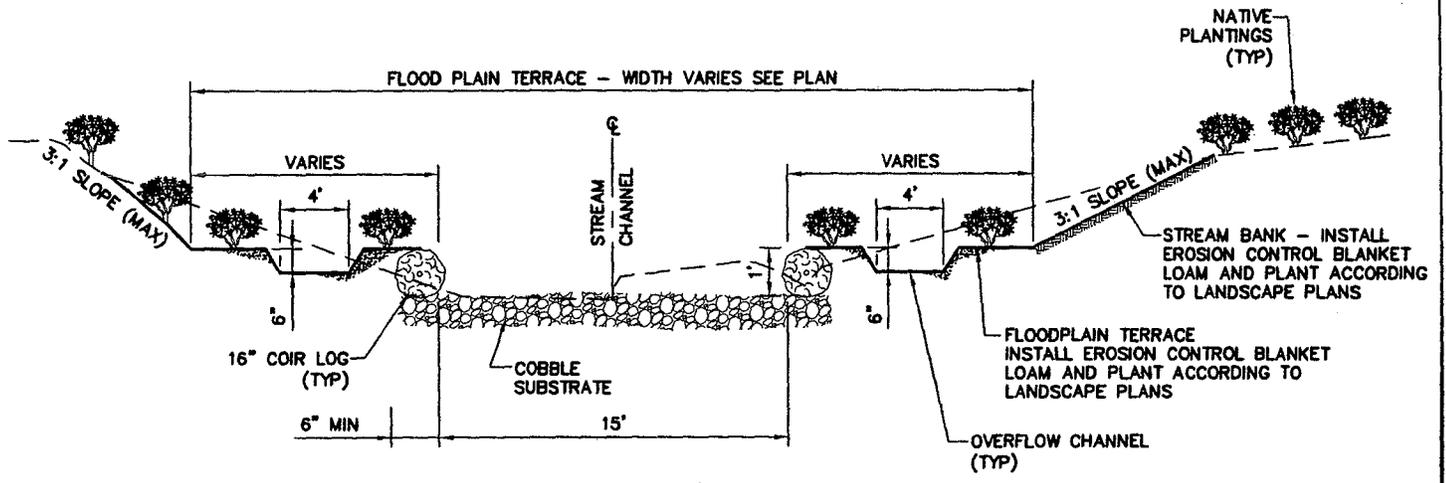


**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

DRAWN BY:  
 TJB  
 SCALE:  
 AS NOTED

CHECKED BY:  
 CPB  
 DATE:  
 01/18/2011

FIGURE NO.  
**21**



**NOTES:**

1. THE CHANNEL SUBSTRATE THROUGHOUT THE TANGENT LENGTHS OF STREAM SEGMENT 6 SHALL BE "NATURAL" ROUNDED COBBLES/PEBBLES TO MATCH EXISTING STREAMBED STONE CHARACTERISTICS. THE LONGEST DIMENSION OF THE STONE SHALL VARY FROM 5 TO 30 INCHES, AND AT LEAST 50 PERCENT OF THE VOLUME OF THE STONE IN PLACE SHALL HAVE A LEAST DIMENSION OF 12 INCHES. THE LEAST DIMENSION OF THE STONE SHALL BE GREATER THAN 33 PERCENT OF THE LONGEST DIMENSION. THE OVERALL SUBSTRATE DEPTH SHALL BE A MINIMUM OF 36 INCHES. THE STONE SHALL BE REASONABLY WELL GRADED FROM THE SMALLEST TO THE MAXIMUM SIZE STONE SPECIFIED SO AS TO FORM A COMPACT MASS WHEN IN PLACE.
2. THE CHANNEL SUBSTRATE THROUGHOUT THE BENDS OF STREAM SEGMENT 6 SHALL BE "NATURAL" ROUNDED COBBLES/PEBBLES TO MATCH EXISTING STREAMBED STONE CHARACTERISTICS. THE LONGEST DIMENSION OF THE STONE SHALL VARY FROM 6 TO 48 INCHES, AND AT LEAST 50 PERCENT OF THE VOLUME OF THE STONE IN PLACE SHALL HAVE A LEAST DIMENSION OF 24 INCHES. THE LEAST DIMENSION OF THE STONE SHALL BE GREATER THAN 33 PERCENT OF THE LONGEST DIMENSION. THE OVERALL SUBSTRATE DEPTH SHALL BE A MINIMUM OF 48 INCHES. THE STONE SHALL BE REASONABLY WELL GRADED FROM THE SMALLEST TO THE MAXIMUM SIZE STONE SPECIFIED SO AS TO FORM A COMPACT MASS WHEN IN PLACE.
3. COIR LOGS SHALL BE USED TO DEFINE STREAM CHANNEL BANKS IN STREAM SEGMENT 6.

**STREAM SEGMENT 6**  
NOT TO SCALE

**AYERS BROOK RESTORATION**  
MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT



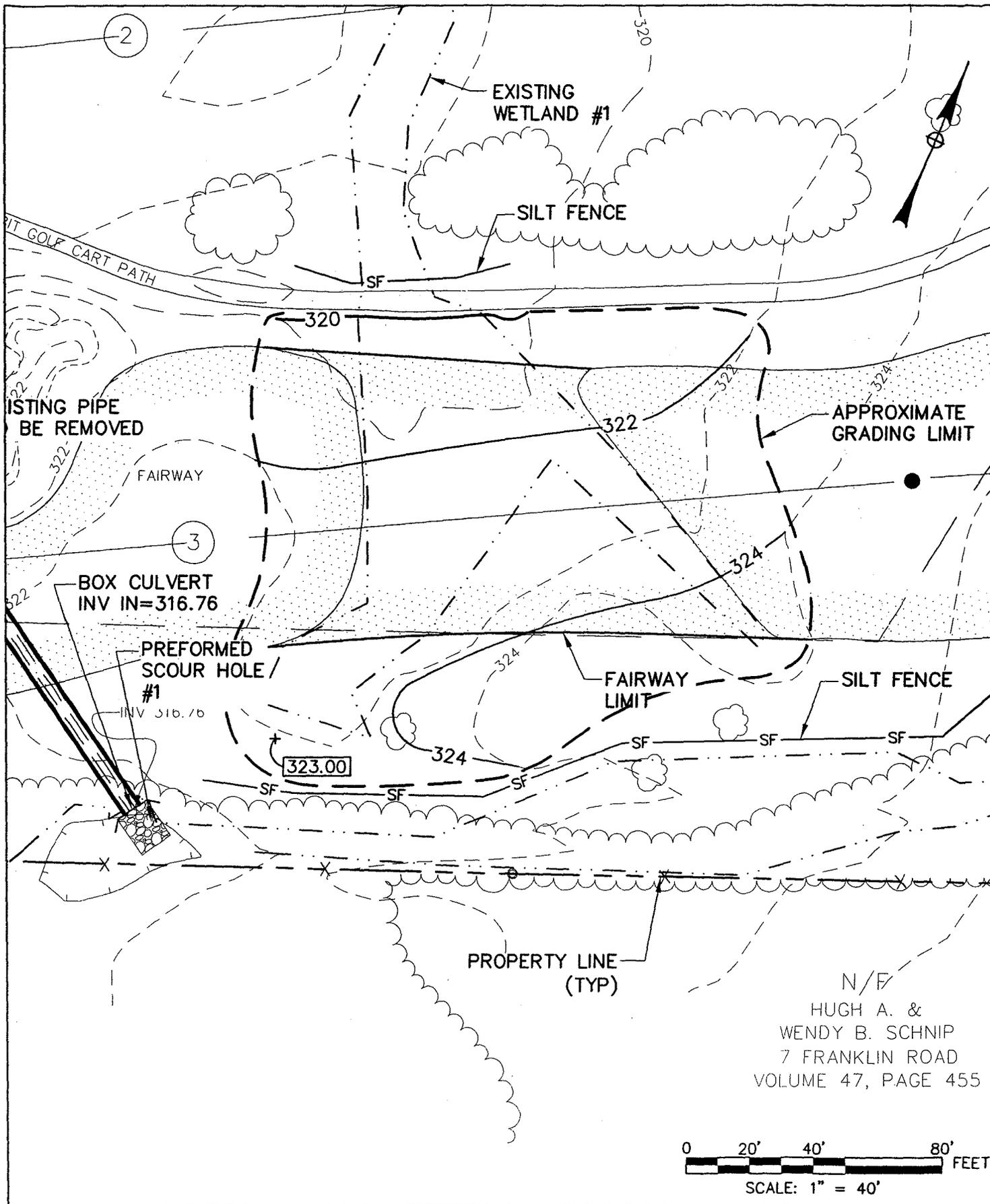
**McFarland Johnson**  
52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 6  
RESTORATION  
SECTION**

DRAWN BY:  
TJB  
  
SCALE:  
AS NOTED

CHECKED BY:  
CPB  
  
DATE:  
01/18/2011

FIGURE NO.  
  
**21-S**



**AYERS BROOK RESTORATION**  
MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

**FAIRWAY 3  
GRADING PLAN**

DRAWN BY:

TJB

CHECKED BY:

CPB

FIGURE NO.

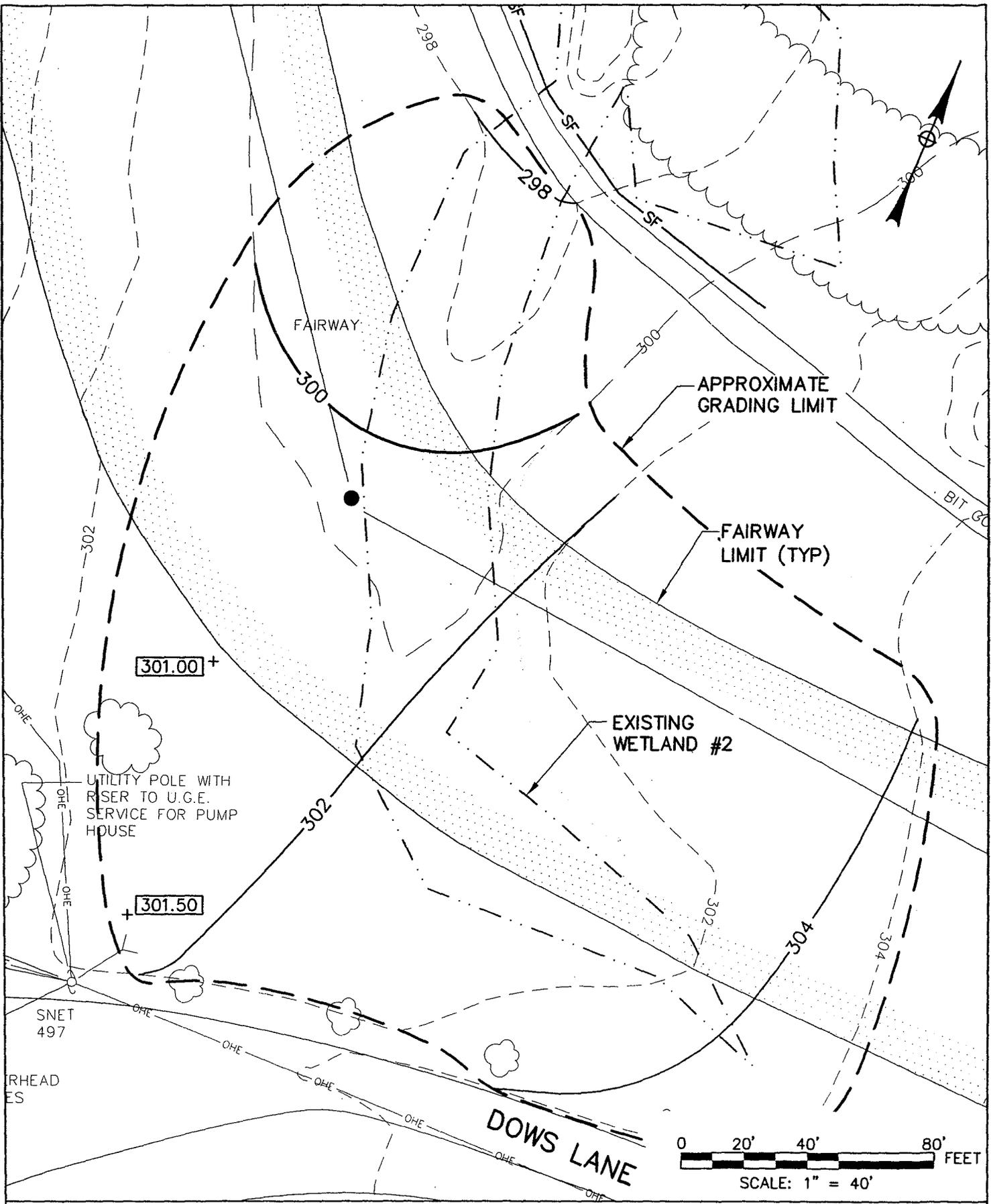
SCALE:

AS NOTED

DATE:

01/18/2011

**22**



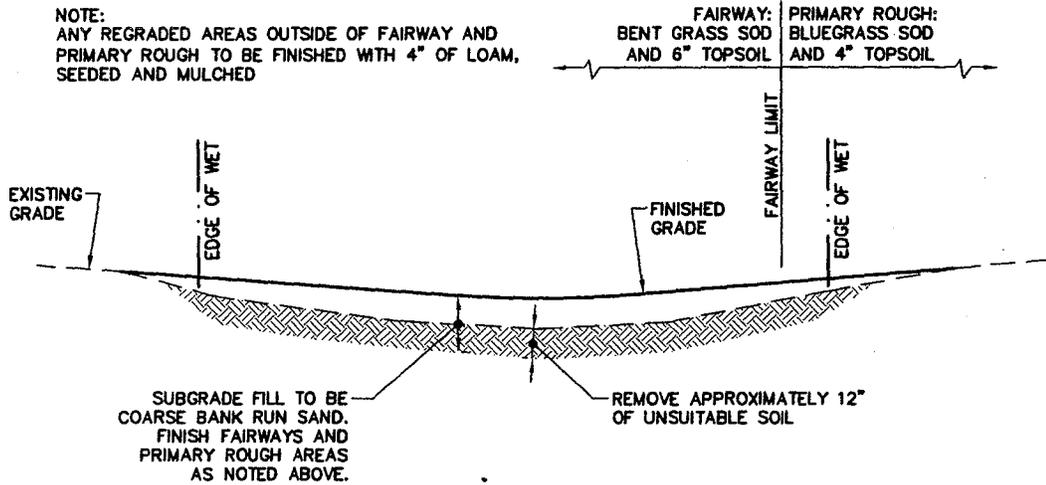
**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**FAIRWAY 9  
 GRADING PLAN**

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>23</b>
SCALE: AS NOTED	DATE: 01/18/2011	

NOTE:  
 ANY REGRADED AREAS OUTSIDE OF FAIRWAY AND  
 PRIMARY ROUGH TO BE FINISHED WITH 4" OF LOAM,  
 SEEDED AND MULCHED



**FAIRWAY REGRAIDING**

NOT TO SCALE

**AYERS BROOK RESTORATION**

MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**FAIRWAYS 3 AND 9  
 GRADING  
 SECTION**

DRAWN BY:  
 TJB

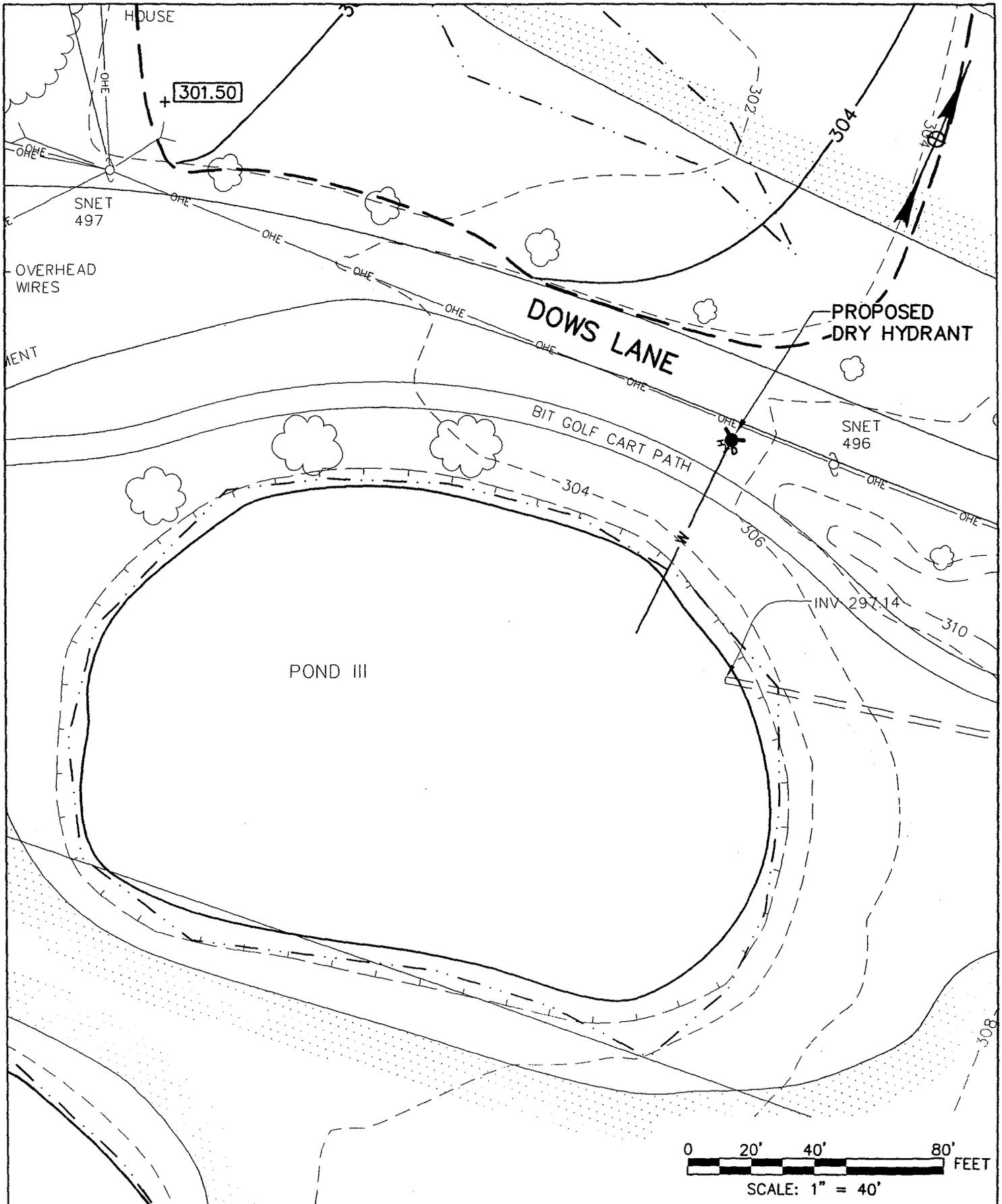
SCALE:  
 AS NOTED

CHECKED BY:  
 CPB

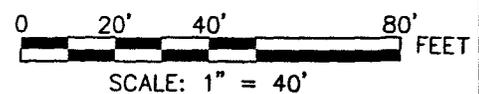
DATE:  
 01/18/2011

FIGURE NO.

**23-S**



**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

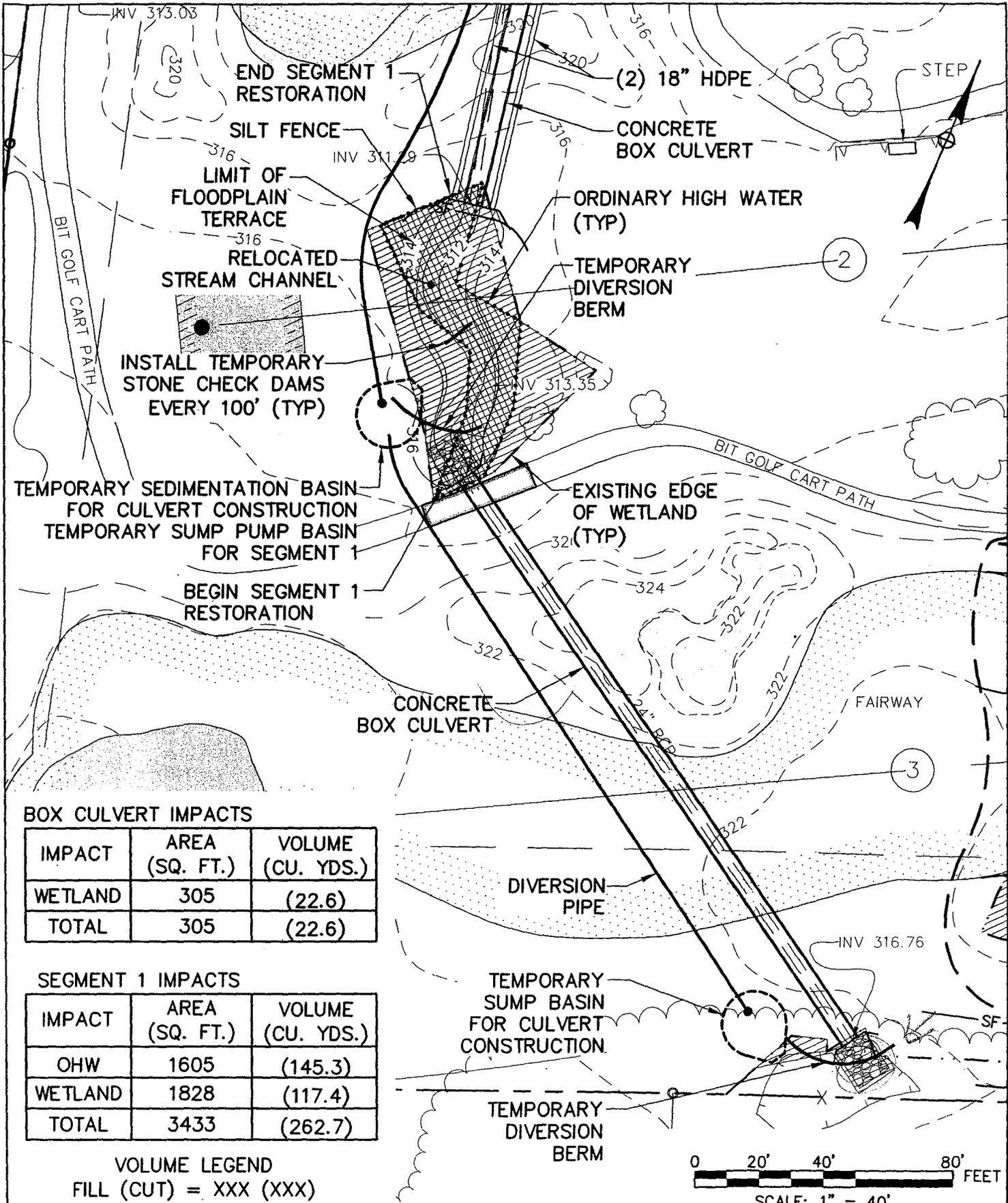


**DRY HYDRANT AT POND III**  
 SITE PLAN

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>24</b>
SCALE: AS NOTED	DATE: 01/18/2011	



**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622



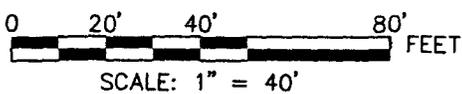
**BOX CULVERT IMPACTS**

IMPACT	AREA (SQ. FT.)	VOLUME (CU. YDS.)
WETLAND	305	(22.6)
TOTAL	305	(22.6)

**SEGMENT 1 IMPACTS**

IMPACT	AREA (SQ. FT.)	VOLUME (CU. YDS.)
OHW	1605	(145.3)
WETLAND	1828	(117.4)
TOTAL	3433	(262.7)

VOLUME LEGEND  
 FILL (CUT) = XXX (XXX)



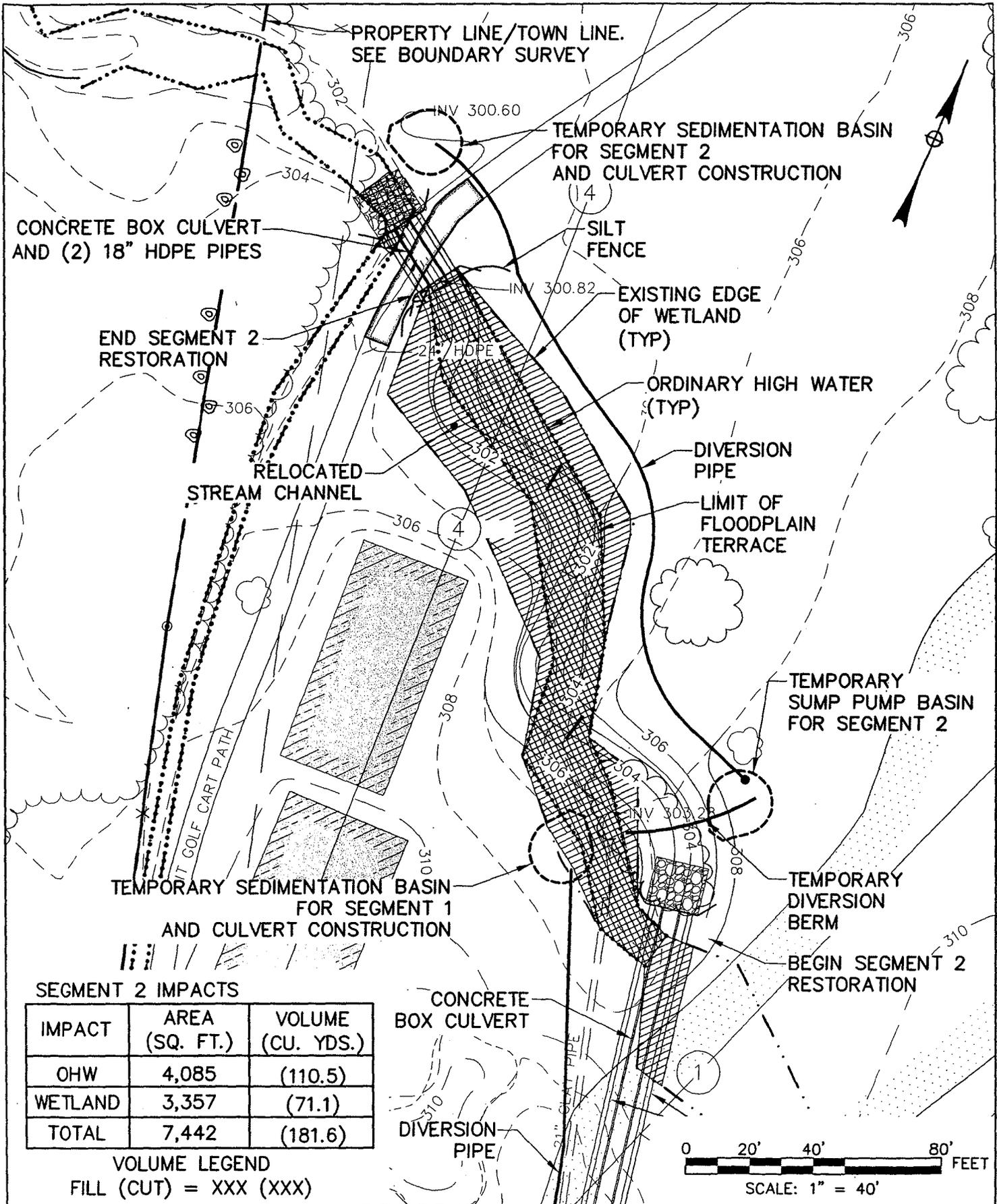
- WETLAND IMPACT
- OHW IMPACT

**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**SEGMENT 1  
 IMPACTS, DIVERSION,  
 AND EROSION CONTROL**

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>25</b>
SCALE: AS NOTED	DATE: 01/18/2011	

**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622



CONCRETE BOX CULVERT AND (2) 18" HDPE PIPES

END SEGMENT 2 RESTORATION

RELOCATED STREAM CHANNEL

TEMPORARY SEDIMENTATION BASIN FOR SEGMENT 1 AND CULVERT CONSTRUCTION

TEMPORARY SEDIMENTATION BASIN FOR SEGMENT 2 AND CULVERT CONSTRUCTION

SILT FENCE

EXISTING EDGE OF WETLAND (TYP)

ORDINARY HIGH WATER (TYP)

DIVERSION PIPE

LIMIT OF FLOODPLAIN TERRACE

TEMPORARY SUMP PUMP BASIN FOR SEGMENT 2

TEMPORARY DIVERSION BERM

BEGIN SEGMENT 2 RESTORATION

CONCRETE BOX CULVERT

DIVERSION PIPE

SEGMENT 2 IMPACTS

IMPACT	AREA (SQ. FT.)	VOLUME (CU. YDS.)
OHW	4,085	(110.5)
WETLAND	3,357	(71.1)
TOTAL	7,442	(181.6)

VOLUME LEGEND  
FILL (CUT) = XXX (XXX)

- WETLAND IMPACT
- OHW IMPACT

**AYERS BROOK RESTORATION**  
MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT

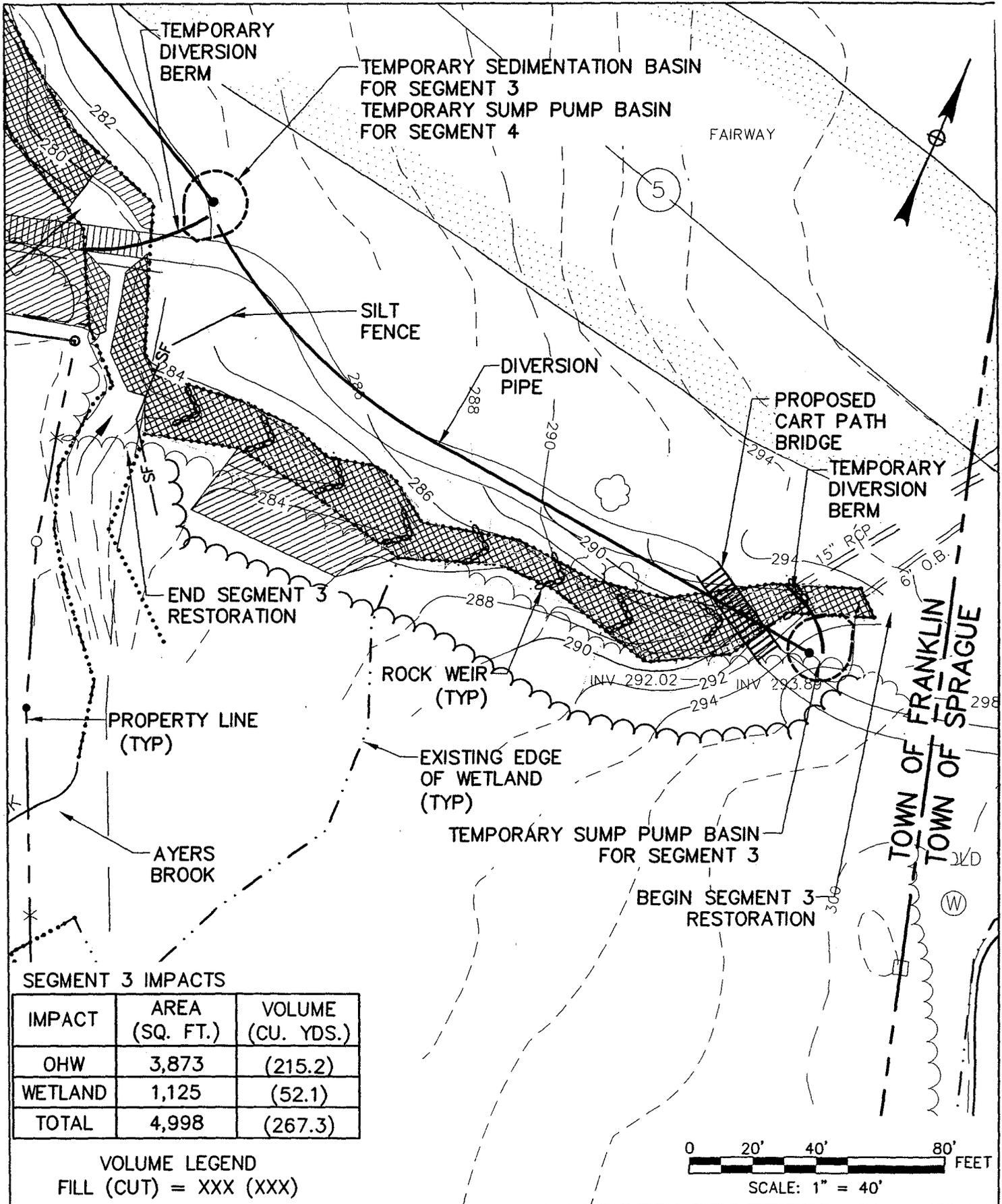
**SEGMENT 2 IMPACTS, DIVERSION, AND EROSION CONTROL**

DRAWN BY:  
TJB  
SCALE:  
AS NOTED

CHECKED BY:  
CPB  
DATE:  
01/18/2011

FIGURE NO.  
**26**

**McFarland Johnson**  
52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622



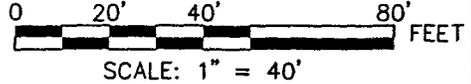
**SEGMENT 3 IMPACTS**

IMPACT	AREA (SQ. FT.)	VOLUME (CU. YDS.)
OHW	3,873	(215.2)
WETLAND	1,125	(52.1)
<b>TOTAL</b>	<b>4,998</b>	<b>(267.3)</b>

**VOLUME LEGEND**  
 FILL (CUT) = XXX (XXX)

- WETLAND IMPACT
- OHW IMPACT

**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

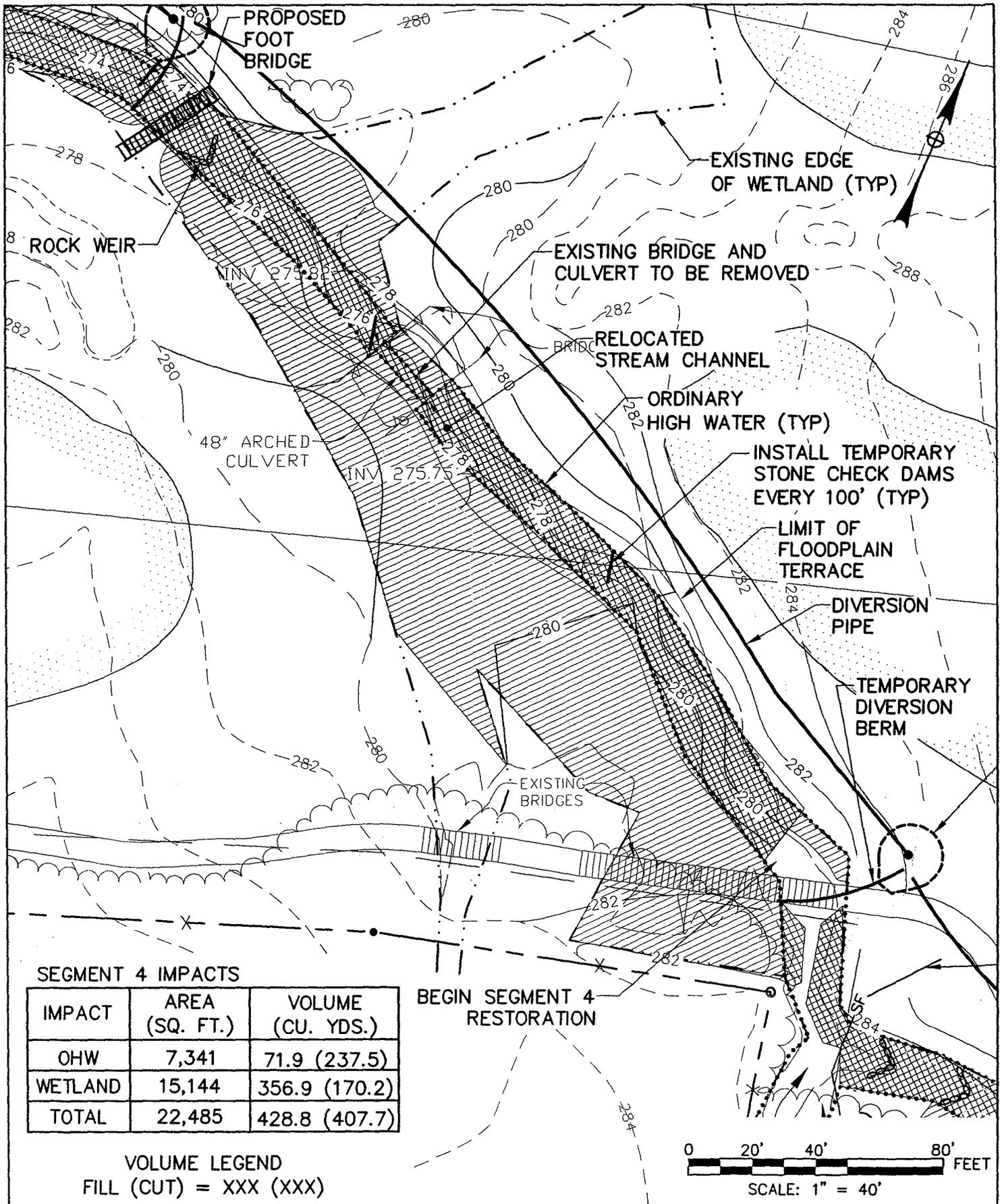


**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 3  
 IMPACTS, DIVERSION,  
 AND EROSION CONTROL**

DRAWN BY: TJB	CHECKED BY: CPB
SCALE: AS NOTED	DATE: 01/18/2011

FIGURE NO.  
**27**



**SEGMENT 4 IMPACTS**

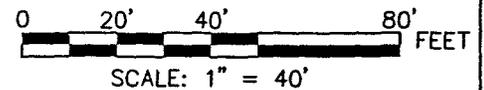
IMPACT	AREA (SQ. FT.)	VOLUME (CU. YDS.)
OHW	7,341	71.9 (237.5)
WETLAND	15,144	356.9 (170.2)
<b>TOTAL</b>	<b>22,485</b>	<b>428.8 (407.7)</b>

VOLUME LEGEND  
 FILL (CUT) = XXX (XXX)

- WETLAND IMPACT
- OHW IMPACT

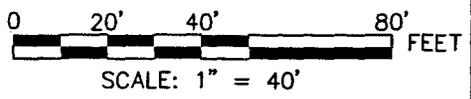
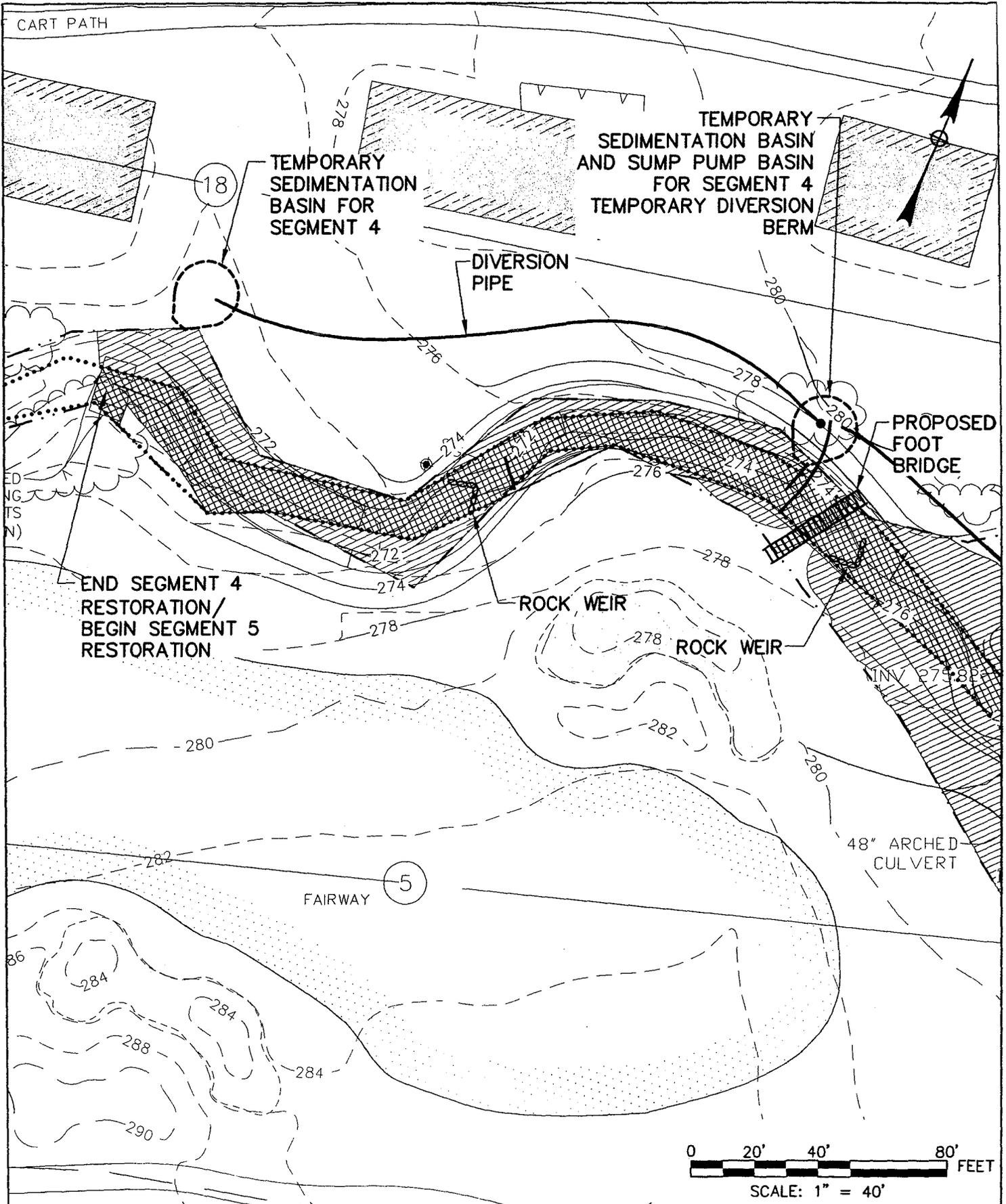
**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**SEGMENT 4  
 IMPACTS, DIVERSION,  
 AND EROSION CONTROL**



**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>28</b>
SCALE: AS NOTED	DATE: 01/18/2011	



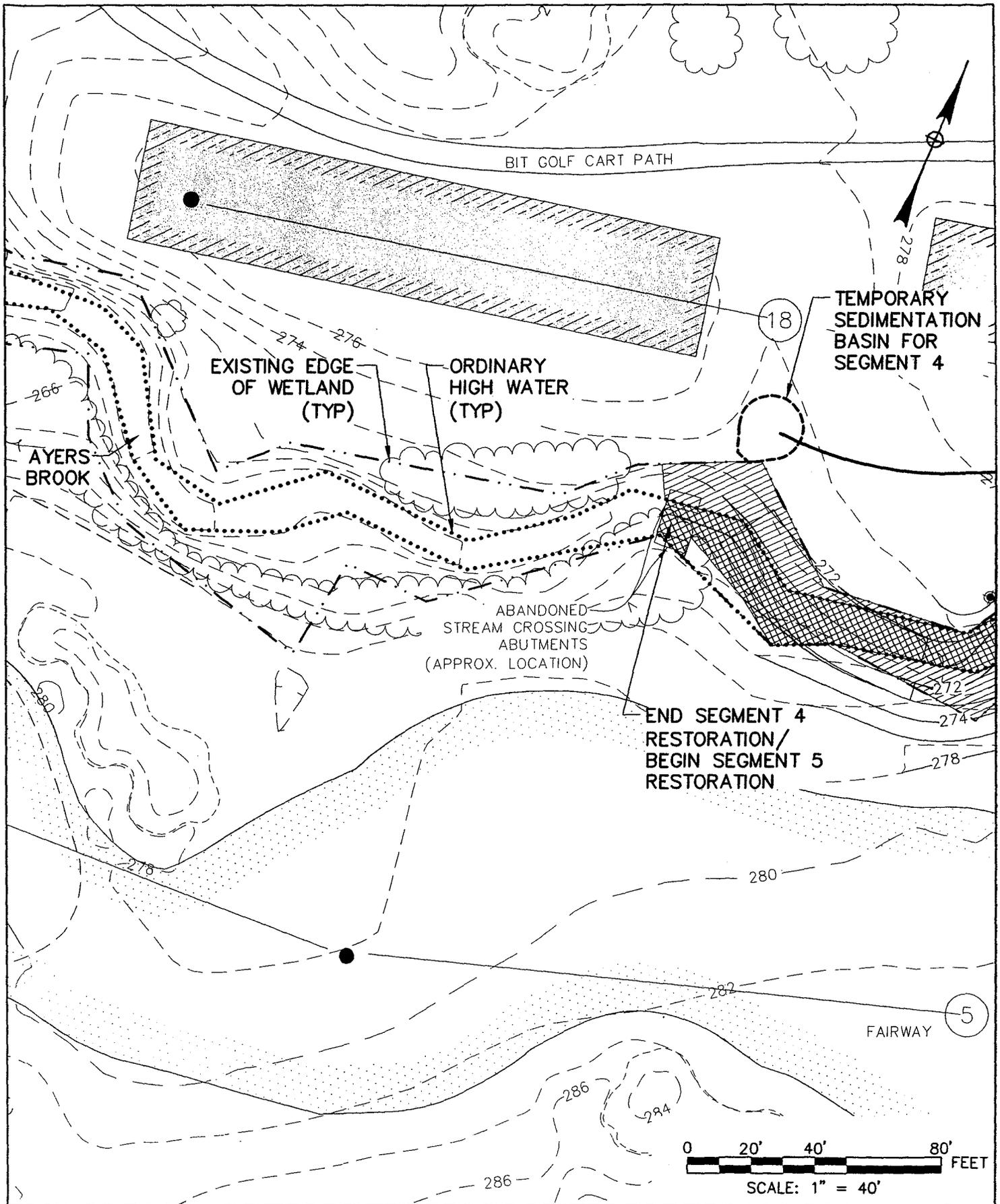
 WETLAND IMPACT  
 OHW IMPACT

**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**SEGMENT 4  
 IMPACTS, DIVERSION,  
 AND EROSION CONTROL**

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>29</b>
SCALE: AS NOTED	DATE: 01/18/2011	


**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622



 WETLAND IMPACT  
 OHW IMPACT

**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**SEGMENT 5**  
**IMPACTS, DIVERSION,**  
**AND EROSION CONTROL**

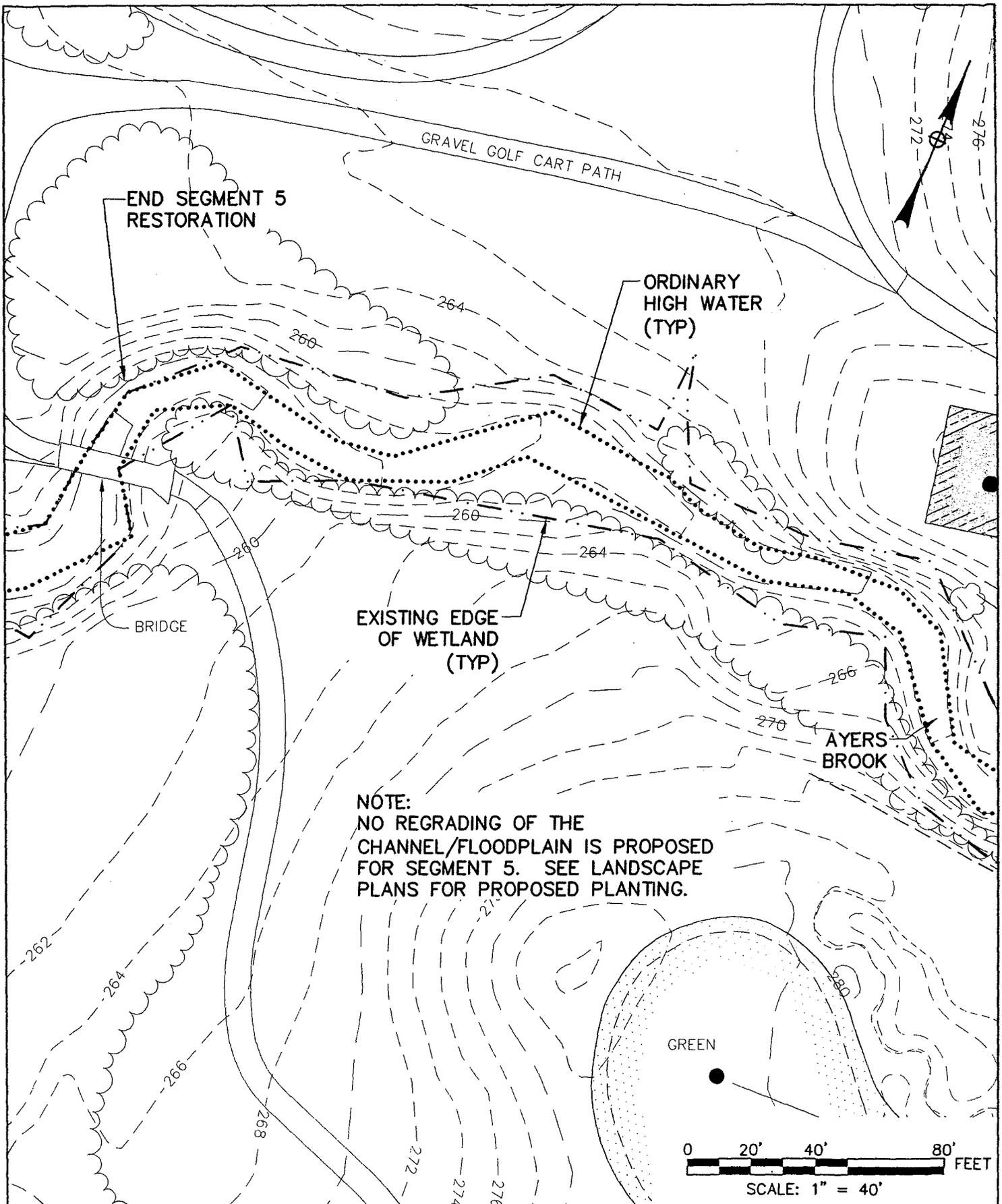
DRAWN BY:  
TJB  
SCALE:  
AS NOTED

CHECKED BY:  
CPB  
DATE:  
01/18/2011

FIGURE NO.  
**30**



**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622



END SEGMENT 5 RESTORATION

GRAVEL GOLF CART PATH

ORDINARY HIGH WATER (TYP)

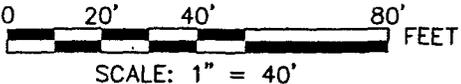
BRIDGE

EXISTING EDGE OF WETLAND (TYP)

AYERS BROOK

NOTE:  
NO REGRADING OF THE CHANNEL/FLOODPLAIN IS PROPOSED FOR SEGMENT 5. SEE LANDSCAPE PLANS FOR PROPOSED PLANTING.

GREEN



 WETLAND IMPACT  
 OHW IMPACT

**AYERS BROOK RESTORATION**  
MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT

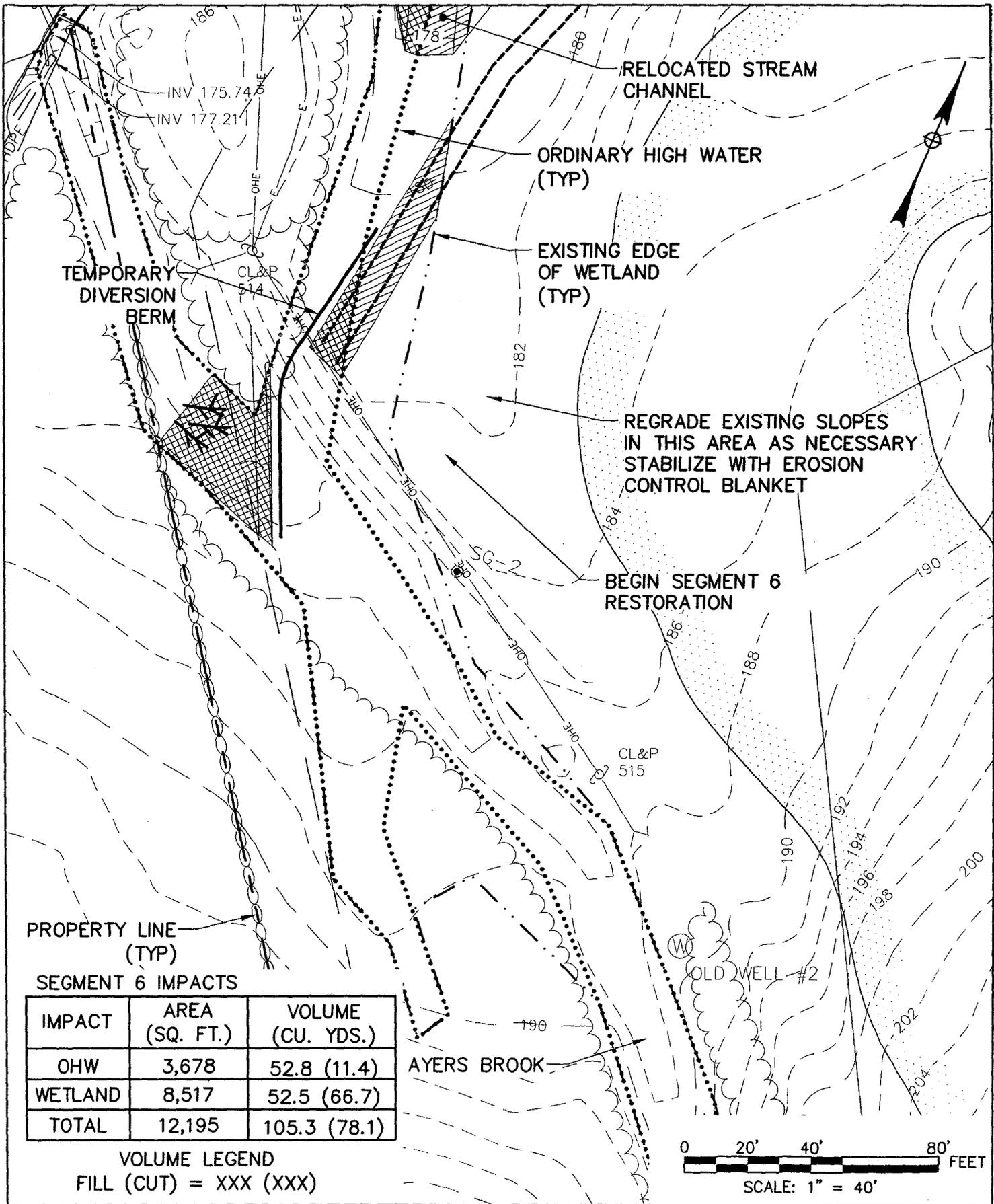
DRAWN BY:  
TJB  
SCALE:  
AS NOTED

CHECKED BY:  
CPB  
DATE:  
01/18/2011

FIGURE NO.  
**31**

 **McFarland Johnson**  
52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 5  
IMPACTS, DIVERSION,  
AND EROSION CONTROL**



PROPERTY LINE  
(TYP)

SEGMENT 6 IMPACTS

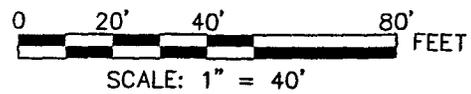
IMPACT	AREA (SQ. FT.)	VOLUME (CU. YDS.)
OHW	3,678	52.8 (11.4)
WETLAND	8,517	52.5 (66.7)
TOTAL	12,195	105.3 (78.1)

VOLUME LEGEND  
FILL (CUT) = XXX (XXX)

-  WETLAND IMPACT
-  OHW IMPACT

**AYERS BROOK RESTORATION**  
MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT

**SEGMENT 6  
IMPACTS, DIVERSION,  
AND EROSION CONTROL**



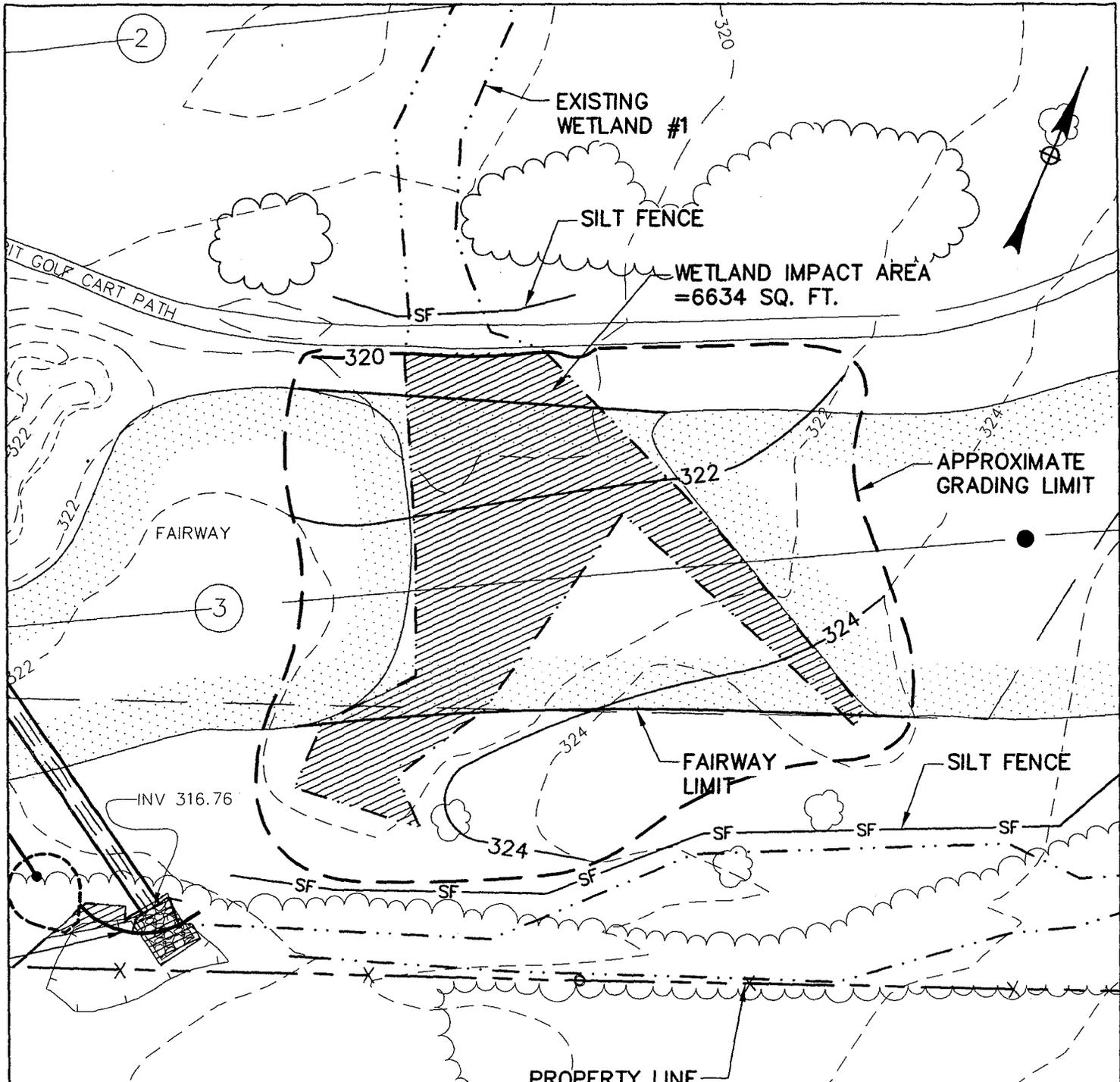

**McFarland Johnson**  
52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

DRAWN BY:  
TJB  
SCALE:  
AS NOTED

CHECKED BY:  
CPB  
DATE:  
01/18/2011

FIGURE NO.  
**32**



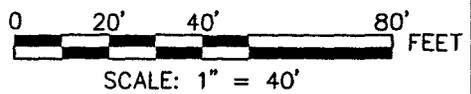


**WETLAND 1 IMPACTS**

IMPACT	AREA (SQ. FT.)	VOLUME (CU. YDS.)
OHW	-	-
WETLAND	6,634	491.4 (245.7)
<b>TOTAL</b>	<b>6,634</b>	<b>491.4 (245.7)</b>

**VOLUME LEGEND**  
 FILL (CUT) = XXX (XXX)

N/E  
 HUGH A. &  
 WENDY B. SCHNIP  
 7 FRANKLIN ROAD  
 VOLUME 47, PAGE 455



- WETLAND IMPACT
- OHW IMPACT

**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

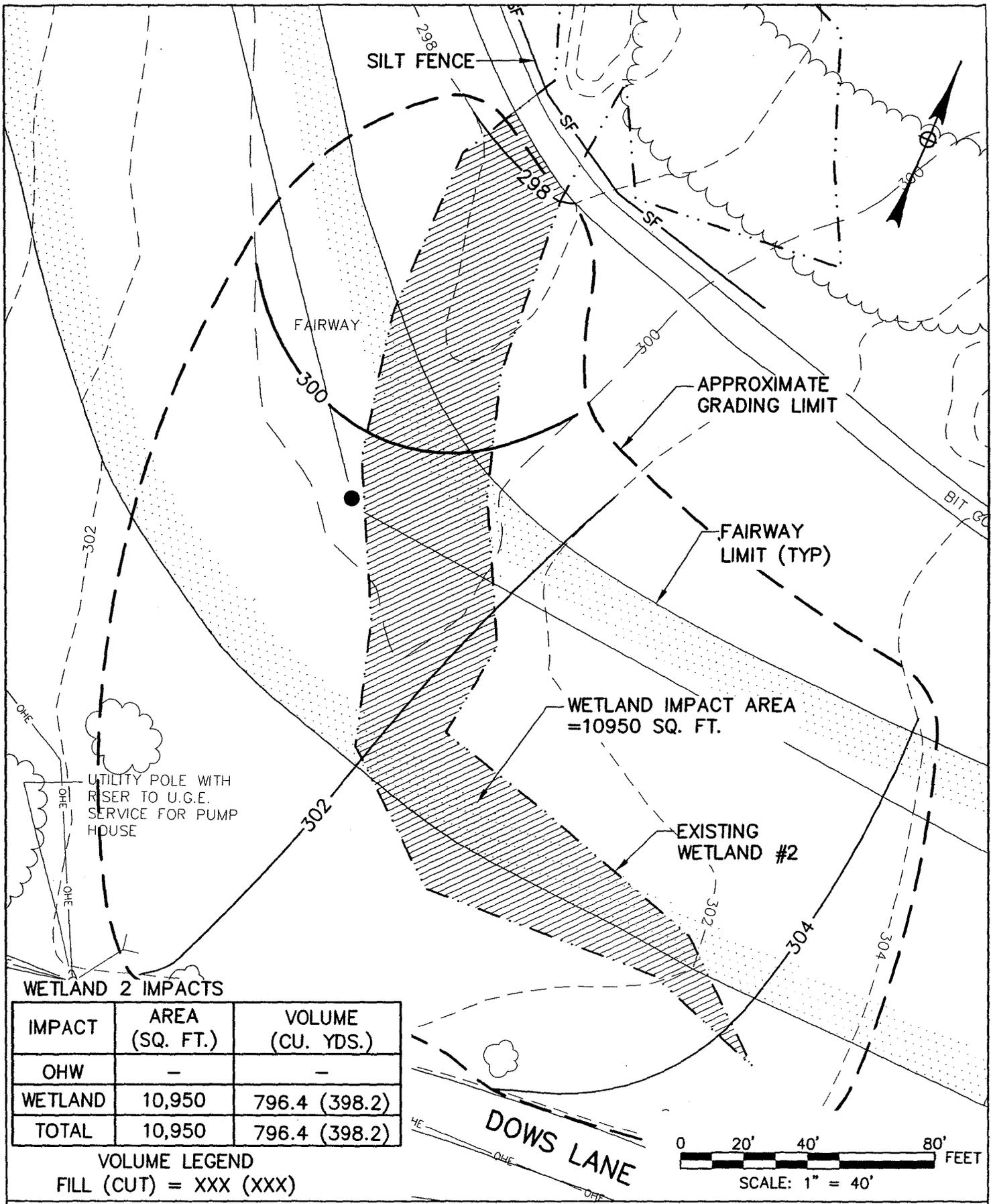
**FAIRWAY 3 (WETLAND 1)  
 IMPACTS, DIVERSION,  
 AND EROSION CONTROL**

DRAWN BY:  
TJB  
  
 SCALE:  
AS NOTED

CHECKED BY:  
CPB  
  
 DATE:  
01/18/2011

FIGURE NO.  
  
**34**

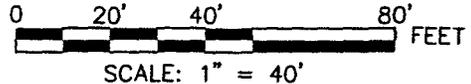
**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622



**WETLAND 2 IMPACTS**

IMPACT	AREA (SQ. FT.)	VOLUME (CU. YDS.)
OHW	-	-
WETLAND	10,950	796.4 (398.2)
TOTAL	10,950	796.4 (398.2)

VOLUME LEGEND  
FILL (CUT) = XXX (XXX)



- WETLAND IMPACT
- OHW IMPACT

**AYERS BROOK RESTORATION**  
MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT

**FAIRWAY 9 (WETLAND 2)  
IMPACTS, DIVERSION,  
AND EROSION CONTROL**

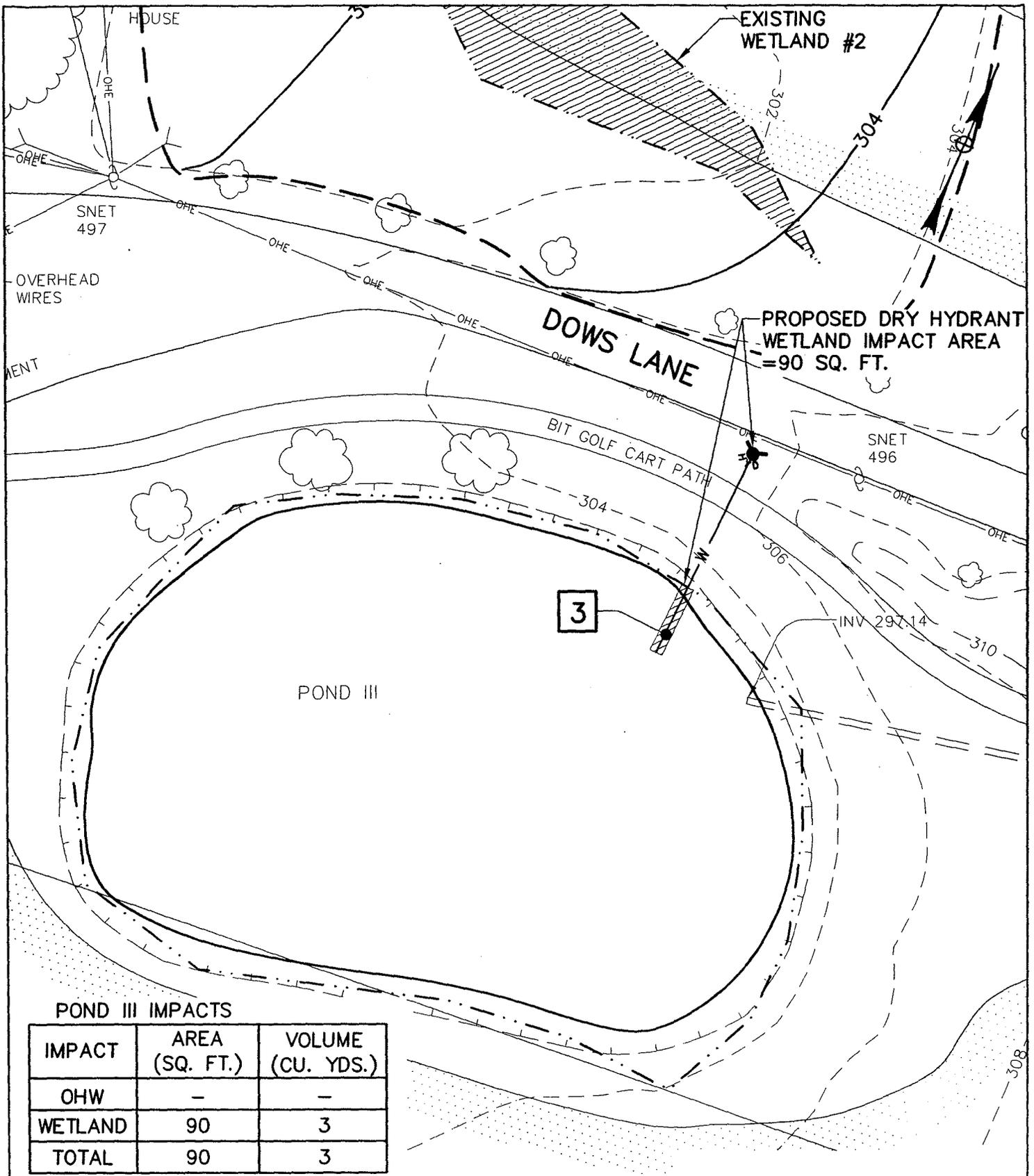
DRAWN BY:  
TJB  
SCALE:  
AS NOTED

CHECKED BY:  
CPB  
DATE:  
01/18/2011

FIGURE NO.  
**35**



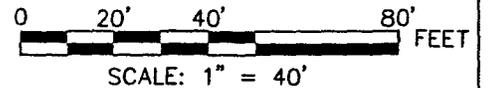
**McFarland Johnson**  
52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622



**POND III IMPACTS**

IMPACT	AREA (SQ. FT.)	VOLUME (CU. YDS.)
OHW	-	-
WETLAND	90	3
TOTAL	90	3

VOLUME LEGEND  
 FILL (CUT) = XXX (XXX)



- WETLAND IMPACT
- OHW IMPACT

**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**DRY HYDRANT AT POND III  
 IMPACTS, DIVERSION,  
 AND EROSION CONTROL**

DRAWN BY:  
TJB  
  
 SCALE:  
AS NOTED

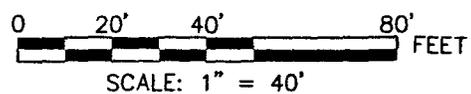
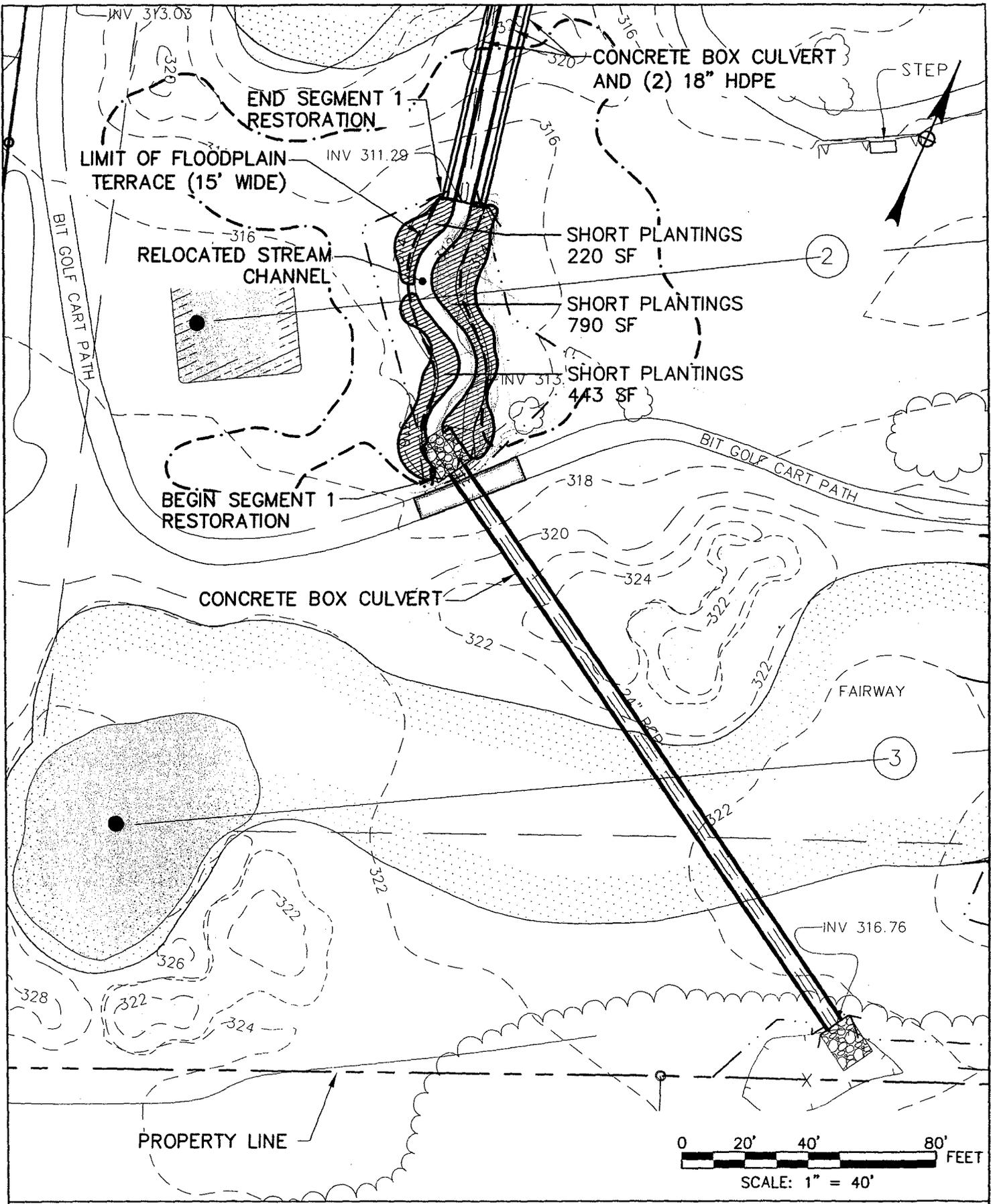
CHECKED BY:  
CPB  
  
 DATE:  
01/18/2011

FIGURE NO.  
**36**



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622



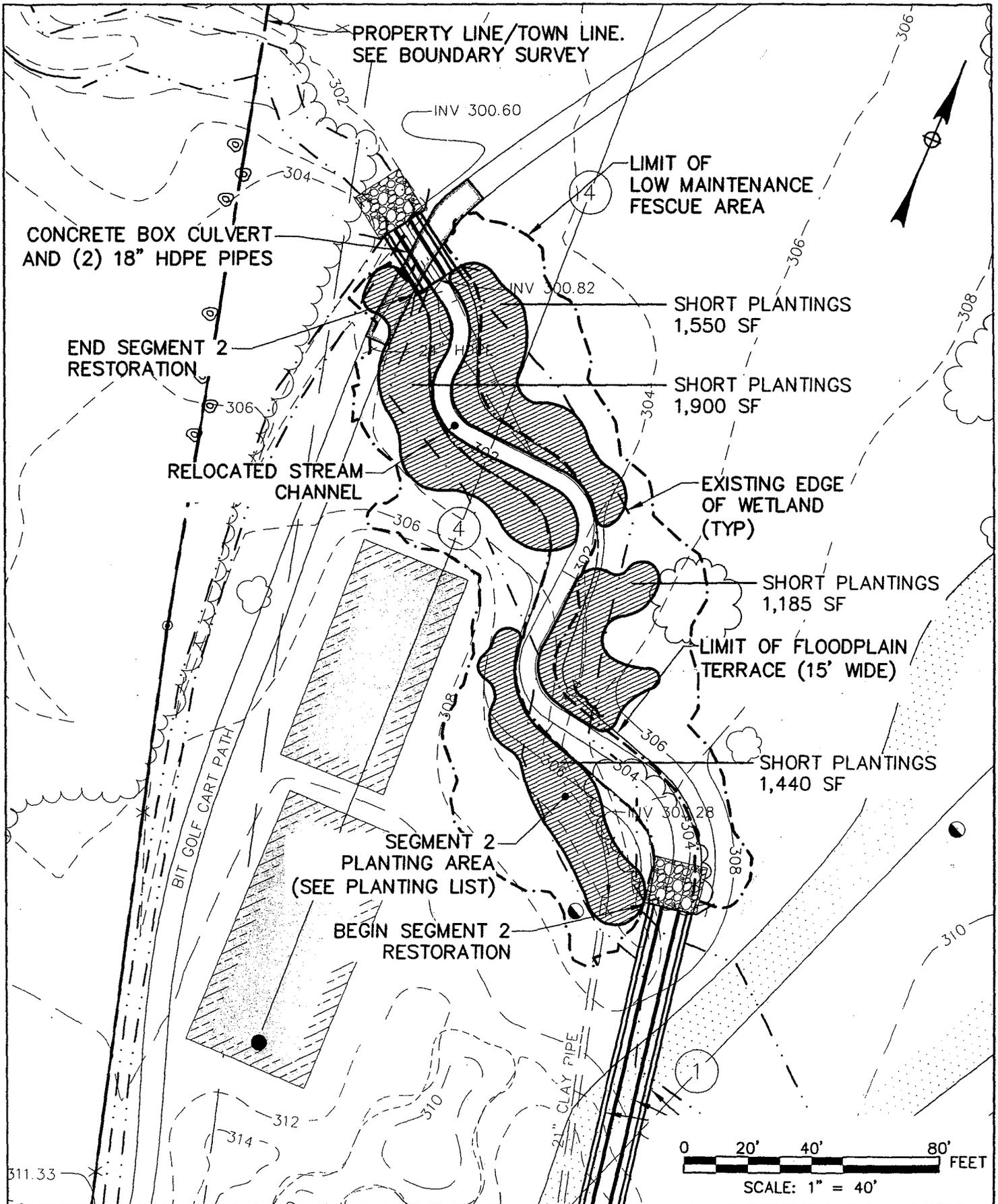
**AYERS BROOK RESTORATION**  
MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT

**McFarland Johnson**  
52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 1  
LANDSCAPING**

DRAWN BY: TJB	CHECKED BY: CPB
SCALE: AS NOTED	DATE: 01/18/2011

FIGURE NO.  
**37**



**AYERS BROOK RESTORATION**

MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 2  
LANDSCAPING**

DRAWN BY:  
TJB

CHECKED BY:  
CPB

FIGURE NO.

SCALE:  
AS NOTED

DATE:  
01/18/2011

**38**

**LOW MAINTENANCE FESCUE AREA:**

PROPORTION BY WEIGHT	SEED TYPE	BOTANICAL NAME
35%	Longfellow II Chewings Fescue	Festuca rubra commutata
35%	Treasure II Chewings Fescue	Festuca rubra commutata
20%	Hardtop Hard Fescue	Festuca brevipila
10%	Marco Polo Sheeps Fescue	Festuca ovina

**SEGMENT ONE & TWO PLANT LIST – SHORT PLANTINGS**

QTY.	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
1,075	FOX SEDGE	Carex vulpinoidea	2" PLUG	FLAT	SPACE @ 12" O.C.
1,075	GREAT BLUE LOBELIA	Lobelia siphilitica	2" PLUG	FLAT	SPACE @ 12" O.C.
1,075	SEEP MONKEYFLOWER	Mimulus guttatus	2" PLUG	FLAT	SPACE @ 12" O.C.
1,075	LURID SEDGE	Carex lurida	2" PLUG	FLAT	SPACE @ 12" O.C.
1,075	SWEETFLAG	Acorus americanus	2" PLUG	FLAT	SPACE @ 12" O.C.
1,075	BLUE FLAG IRIS	Iris versicolor	2" PLUG	FLAT	SPACE @ 12" O.C.
1,075	GREEN BULRUSH	Scirpus atrovirens	2" PLUG	FLAT	SPACE @ 12" O.C.

**AYERS BROOK RESTORATION**

MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1822

**SEGMENT 1 AND 2 NOTES  
LANDSCAPING**

DRAWN BY:  
TJB

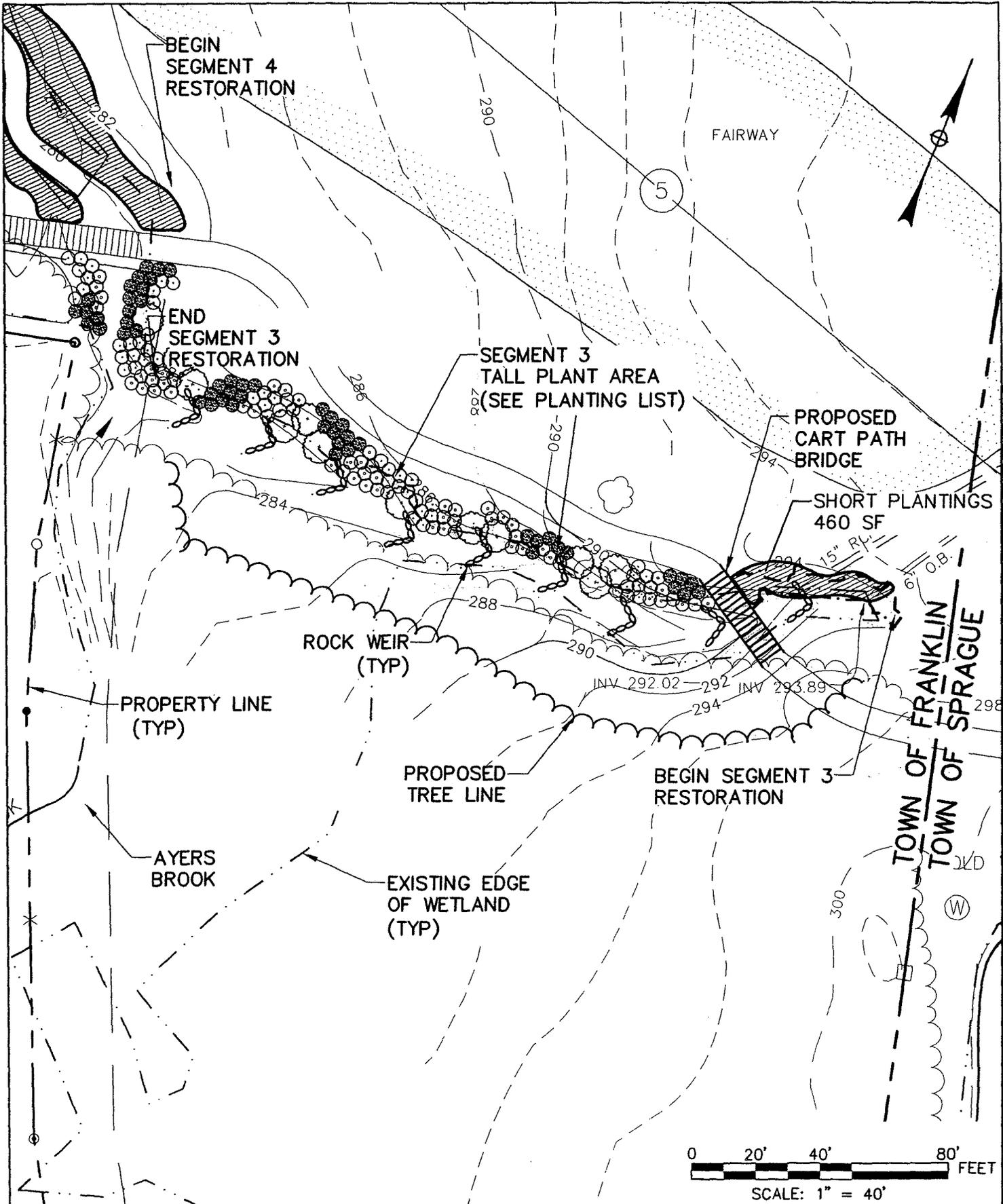
CHECKED BY:  
CPB

FIGURE NO.

SCALE:  
AS NOTED

DATE:  
01/18/2011

**39**



**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

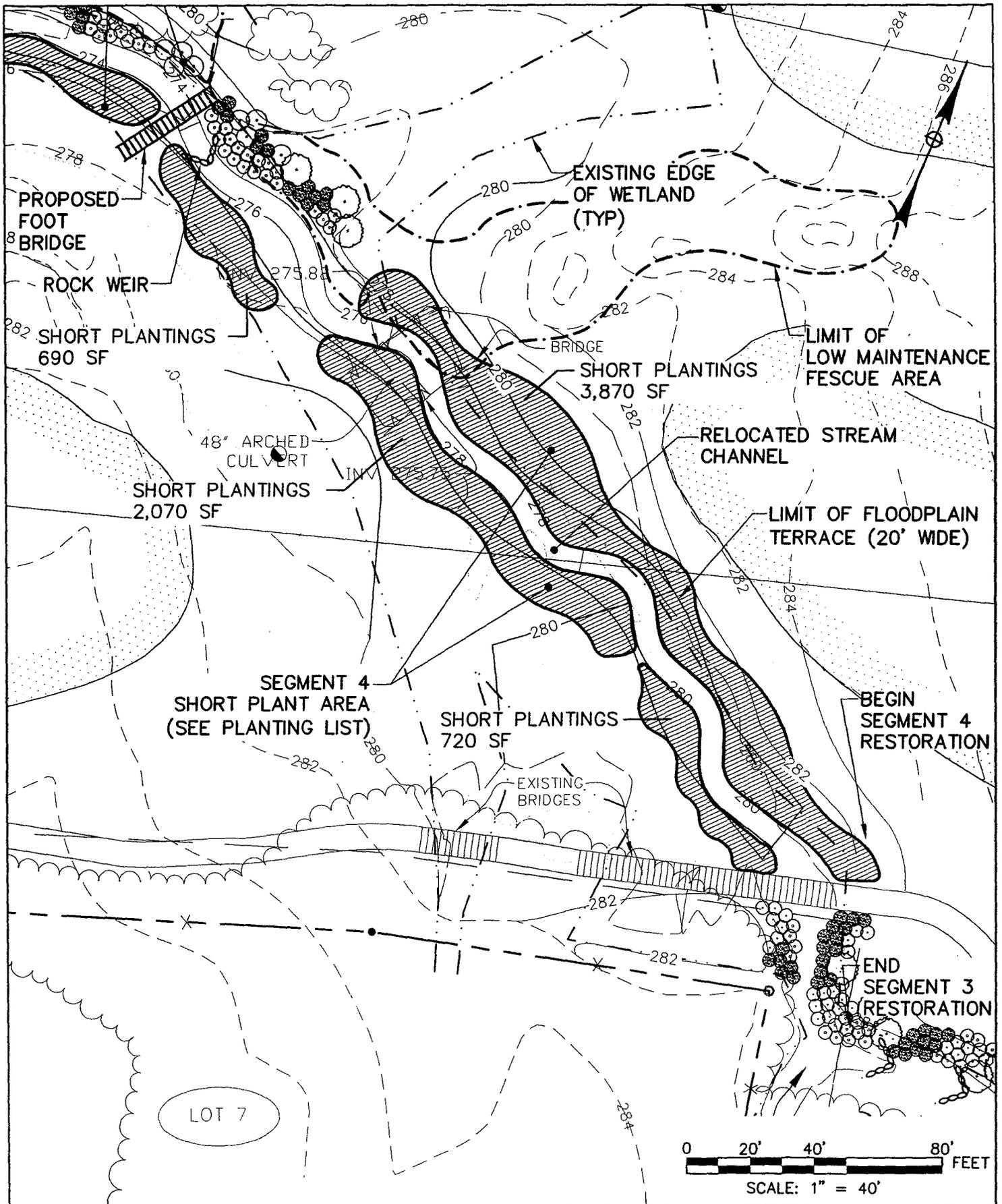


**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 3  
 LANDSCAPING**

DRAWN BY: TJB	CHECKED BY: CPB
SCALE: AS NOTED	DATE: 01/18/2011

FIGURE NO.  
**40**



**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 4  
 LANDSCAPING**

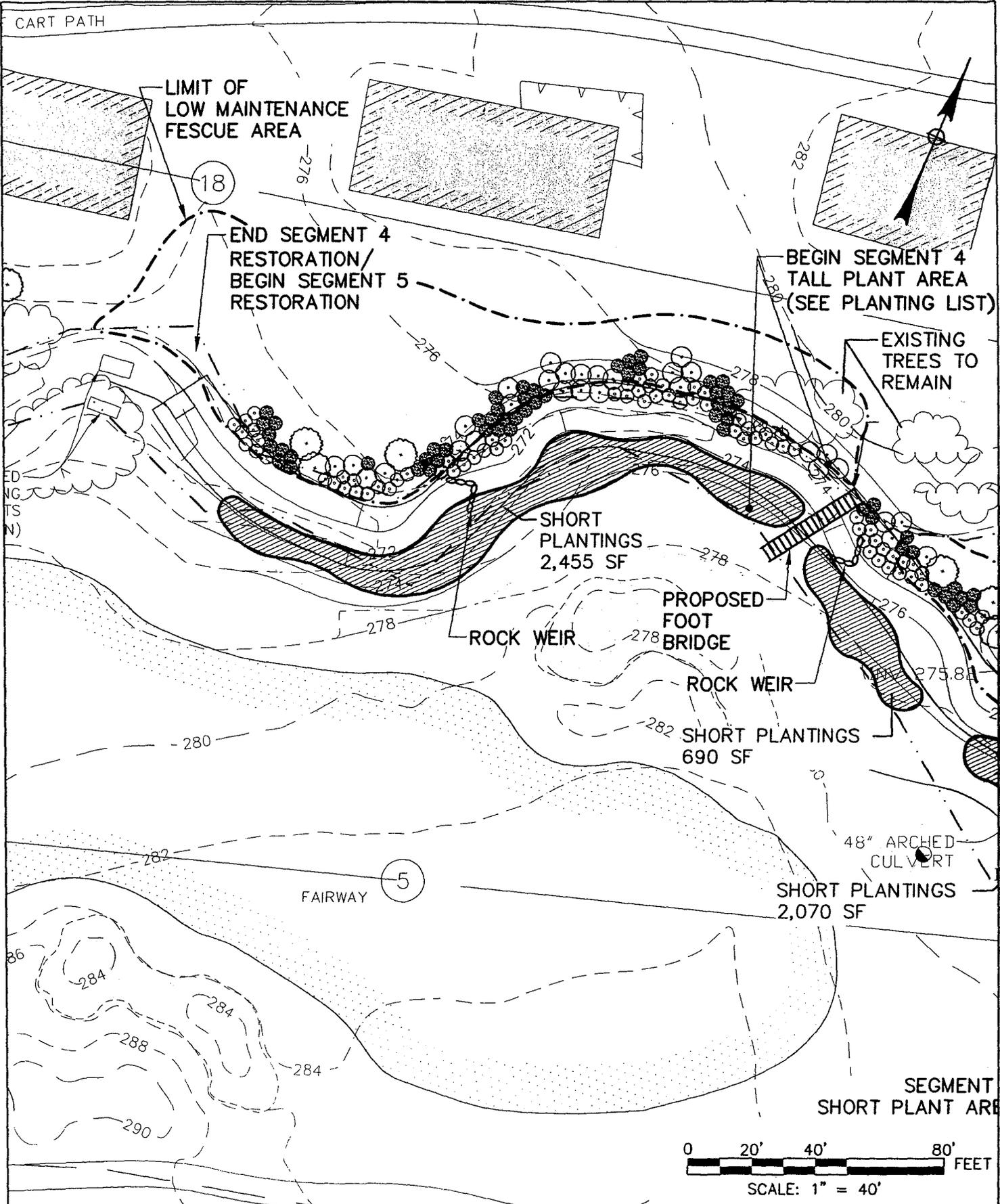
DRAWN BY:  
TJB

SCALE:  
AS NOTED

CHECKED BY:  
CPB

DATE:  
01/18/2011

FIGURE NO.  
**41**



**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 4  
 LANDSCAPING**

DRAWN BY: TJB	CHECKED BY: CPB
SCALE: AS NOTED	DATE: 01/18/2011

FIGURE NO.  
**42**

**LOW MAINTENANCE FESCUE AREA:**

PROPORTION BY WEIGHT	SEED TYPE	BOTANICAL NAME
35%	Longfellow II Chewings Fescue	Festuca rubra commutata
35%	Treasure II Chewings Fescue	Festuca rubra commutata
20%	Hardtop Hard Fescue	Festuca brevipila
10%	Marco Polo Sheeps Fescue	Festuca ovina

**SEGMENT THREE AND FOUR PLANT LIST -- TALL PLANTINGS**

QTY.	KEY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
18	AC	CANADIAN SERVICEBERRY	Amelanchier canadensis	6' HGT.	B&B	MULTI-STEM
49	VA	MAPLELEAF VIBURNUM	Viburnum acerifolium	24" HGT.	CONT.	
59	VOA	AMERICAN CRANBERRYBUSH	Viburnum opulus var. americanum	24" HGT.	CONT.	
30	CA	SILKY DOGWOOD	Cornus amomum	24" HGT.	CONT.	
125	CSS	REDOSIER DOGWOOD	Cornus sericea ssp. sericea	24" HGT.	CONT.	
62	MG	SWEETGALE	Myrica gale	24" HGT.	CONT.	

**SEGMENT THREE AND FOUR PLANT LIST -- SHORT PLANTINGS**

QTY.	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
1,466	FOX SEDGE	Carex vulpinoidea	2" PLUG	FLAT	SPACE @ 12" O.C.
1,466	GREAT BLUE LOBELIA	Lobelia siphilitica	2" PLUG	FLAT	SPACE @ 12" O.C.
1,466	SEEP MONKEYFLOWER	Mimulus guttatus	2" PLUG	FLAT	SPACE @ 12" O.C.
1,466	LURID SEDGE	Carex lurida	2" PLUG	FLAT	SPACE @ 12" O.C.
1,466	SWEETFLAG	Acorus americanus	2" PLUG	FLAT	SPACE @ 12" O.C.
1,466	BLUE FLAG IRIS	Iris versicolor	2" PLUG	FLAT	SPACE @ 12" O.C.
1,466	GREEN BULRUSH	Scirpus atrovirens	2" PLUG	FLAT	SPACE @ 12" O.C.

**AYERS BROOK RESTORATION**

MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 3 AND 4 NOTES  
LANDSCAPING**

DRAWN BY:  
TJB

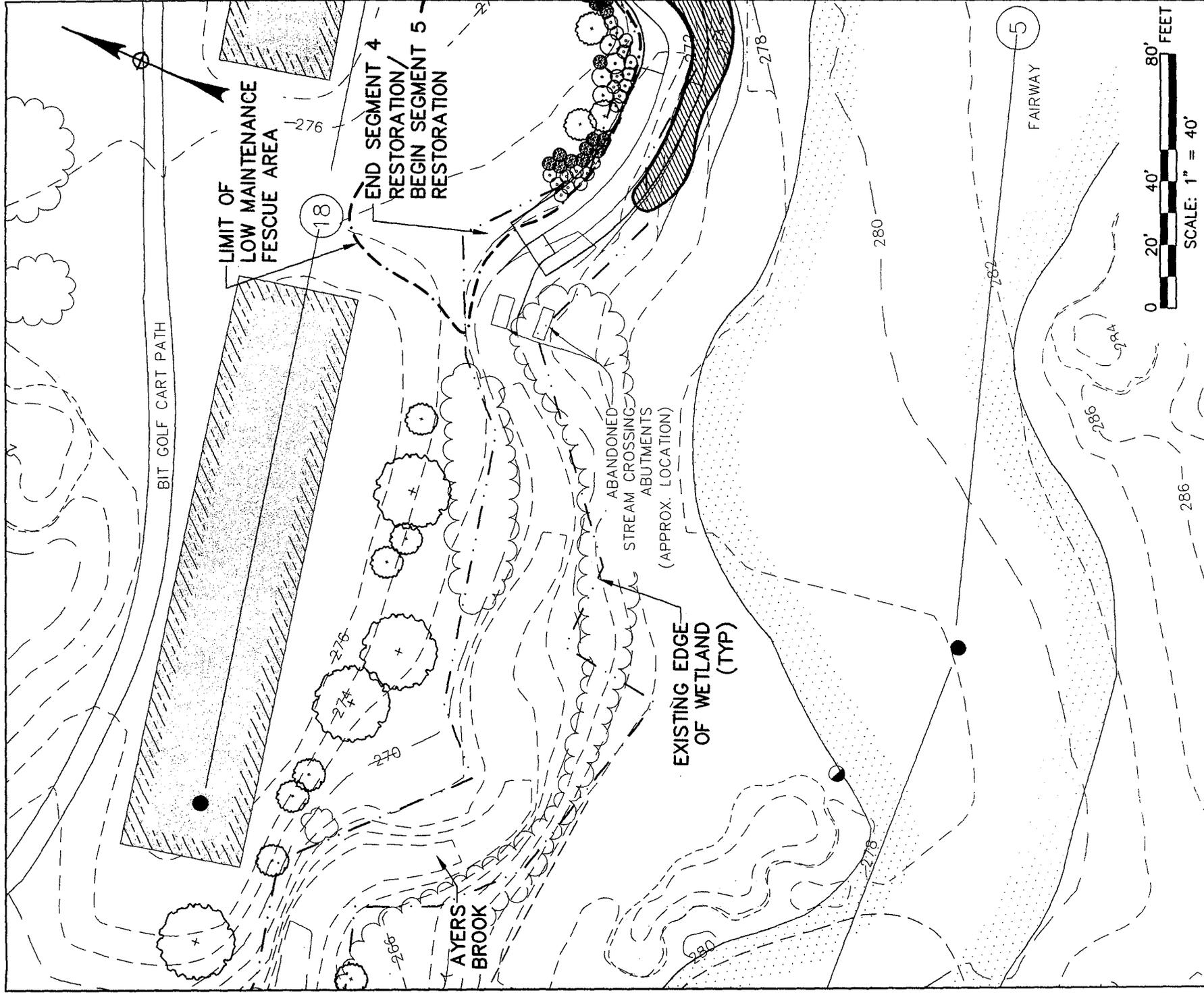
SCALE:  
AS NOTED

CHECKED BY:  
CPB

DATE:  
01/18/2011

FIGURE NO.

**43**



**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

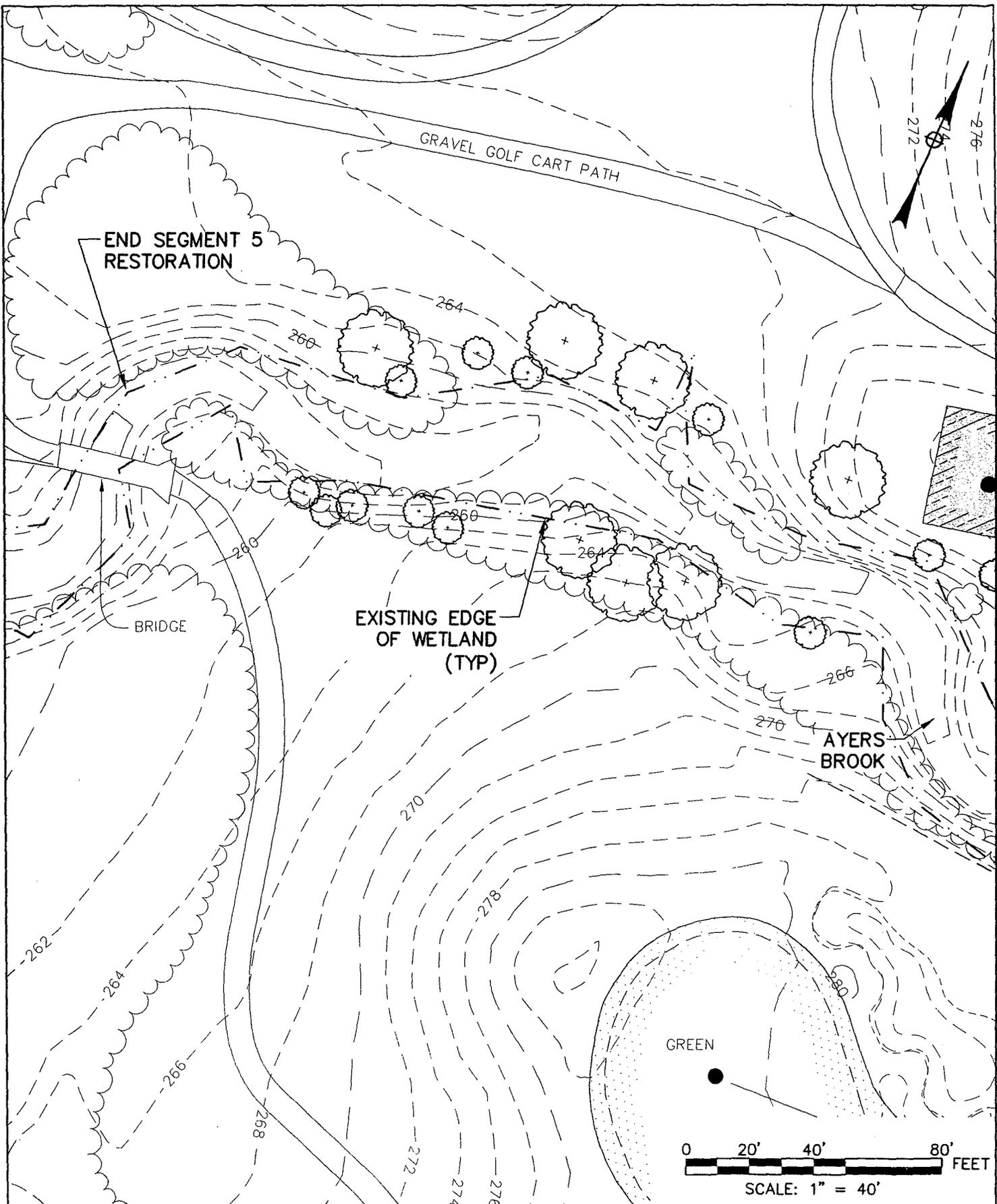
**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2644 FAX: 860-447-1622

**SEGMENT 5**  
**LANDSCAPING**

DRAWN BY: TJB  
 CHECKED BY: CPB  
 SCALE: AS NOTED  
 DATE: 01/18/2011

FIGURE NO.

**44**



**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 5  
 LANDSCAPING**

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>45</b>
SCALE: AS NOTED	DATE: 01/18/2011	

**LOW MAINTENANCE FESCUE AREA:**

PROPORTION BY WEIGHT	SEED TYPE	BOTANICAL NAME
35%	Longfellow II Chewings Fescue	<i>Festuca rubra commutata</i>
35%	Treasure II Chewings Fescue	<i>Festuca rubra commutata</i>
20%	Hardtop Hard Fescue	<i>Festuca brevipila</i>
10%	Marco Polo Sheeps Fescue	<i>Festuca ovina</i>

**SEGMENT FIVE PLANT LIST \***

QTY.	KEY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
4	AR	RED MAPLE	<i>Acer rubrum</i>	2-1/2" CAL.	B&B	
6	CO	SHAGBARK HICKORY	<i>Carya ovata</i>	2-1/2" CAL.	B&B	
3	AC	CANADIAN SERVICEBERRY	<i>Amelanchier canadensis</i>	6' HGT.	B&B	MULTI-STEM
4	CC	EASTERN REDBUD	<i>Cercis canadensis</i>	2" CAL.	B&B	TREE FORM
9	CF	FLOWERING DOGWOOD	<i>Cornus florida</i>	2" CAL.	B&B	TREE FORM

**\* NOTE:**

PLANT LOCATIONS SHOWN ARE APPROXIMATE. FIELD LOCATE TREE PLANTINGS IN SEGMENT FIVE WITH RESPECT TO EXISTING TREES. ADJUST NEW PLANTING AS NEEDED.

**AYERS BROOK RESTORATION**

MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 5 NOTES  
LANDSCAPING**

DRAWN BY:  
TJB

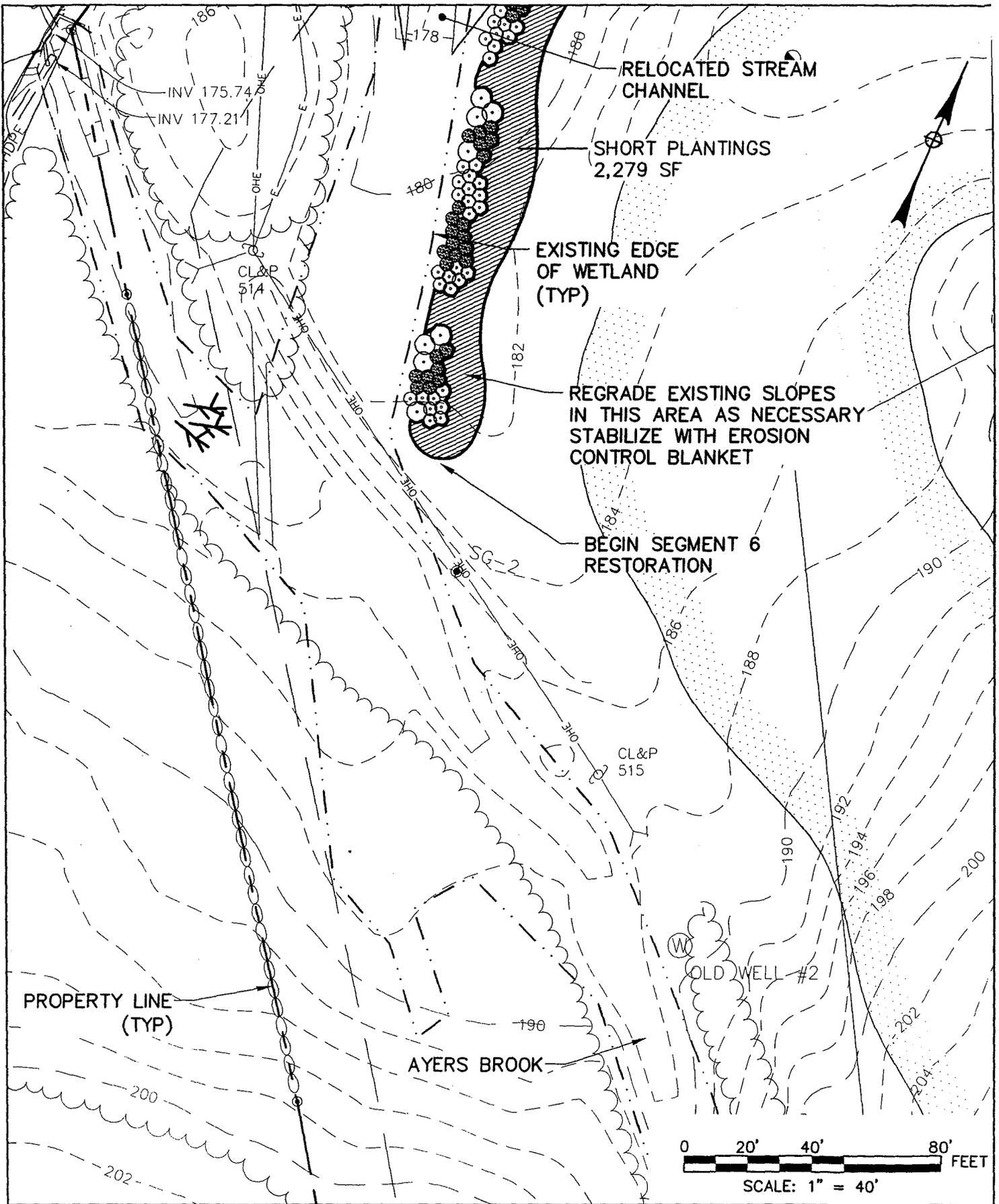
CHECKED BY:  
CPB

FIGURE NO.

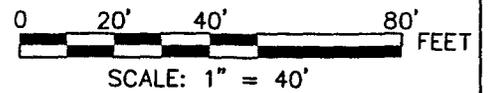
SCALE:  
AS NOTED

DATE:  
01/18/2011

**46**



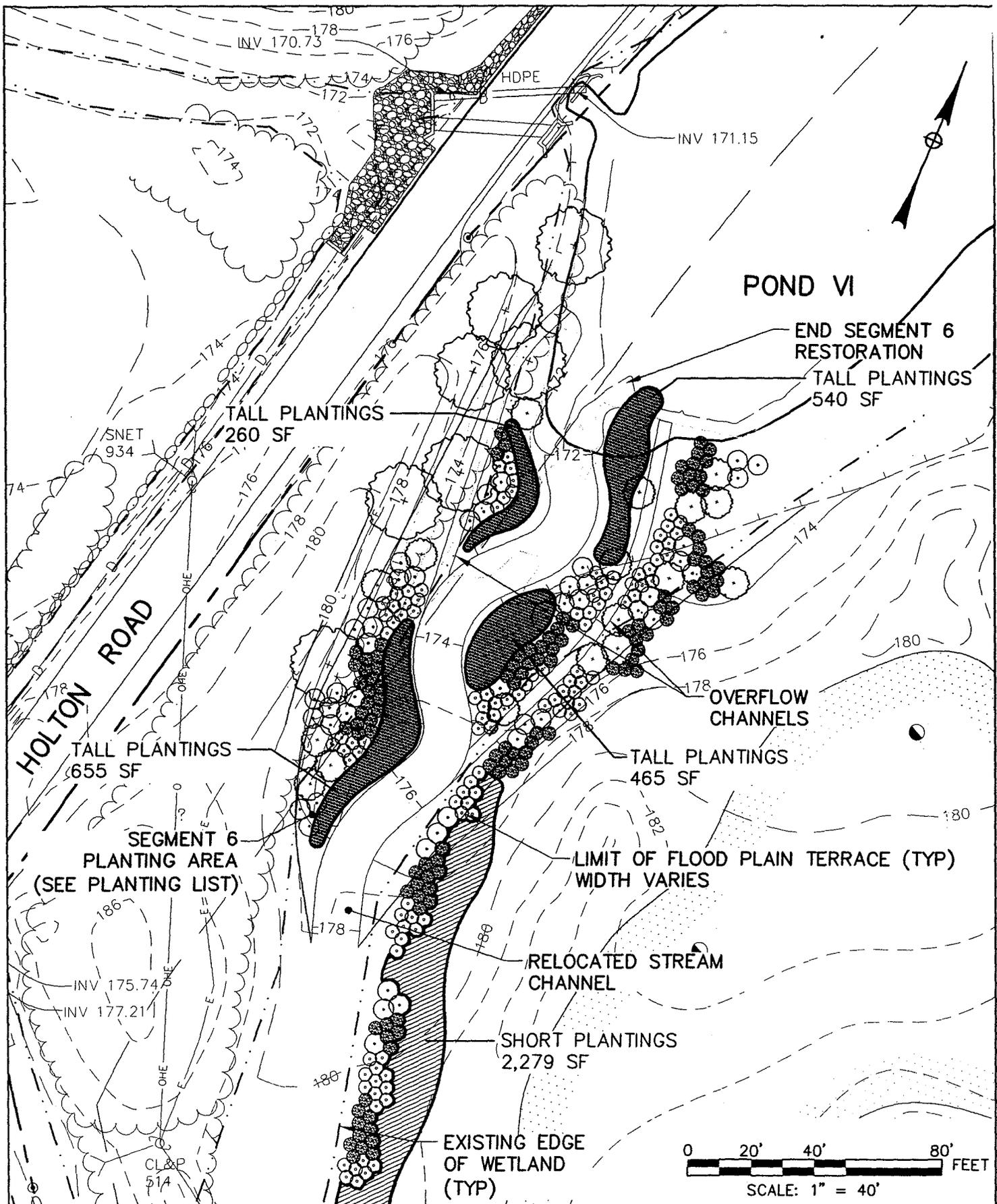
**AYERS BROOK RESTORATION**  
 MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT



**McFarland Johnson**  
 52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 6  
 LANDSCAPING**

DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO. <b>47</b>
SCALE: AS NOTED	DATE: 01/18/2011	



**AYERS BROOK RESTORATION**

MOHEGAN SUN COUNTRY CLUB  
 SPRAGUE / FRANKLIN, CONNECTICUT

**McFarland Johnson**

52 POMFRET STREET, PUTNAM, CT 06260  
 PH: 860-447-2844 FAX: 860-447-1622

**SEGMENT 6  
 LANDSCAPING**

DRAWN BY:  
 TJB

SCALE:  
 AS NOTED

CHECKED BY:  
 CPB

DATE:  
 01/18/2011

FIGURE NO.

**48**

**LOW MAINTENANCE FESCUE AREA:**

PROPORTION BY WEIGHT	SEED TYPE	BOTANICAL NAME
35%	Longfellow II Chewings Fescue	Festuca rubra commutata
35%	Treasure II Chewings Fescue	Festuca rubra commutata
20%	Hardtop Hard Fescue	Festuca brevipila
10%	Marco Polo Sheeps Fescue	Festuca ovina

**SEGMENT SIX PLANT LIST – SHORT PLANTINGS**

QTY.	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
325	FOX SEDGE	Carex vulpinoidea	2" PLUG	FLAT	SPACE @ 12" O.C.
325	GREAT BLUE LOBELIA	Lobelia siphilitica	2" PLUG	FLAT	SPACE @ 12" O.C.
325	SEEP MONKEYFLOWER	Mimulus guttatus	2" PLUG	FLAT	SPACE @ 12" O.C.
325	LURID SEDGE	Carex lurida	2" PLUG	FLAT	SPACE @ 12" O.C.
325	SWEETFLAG	Acorus americanus	2" PLUG	FLAT	SPACE @ 12" O.C.
325	BLUE FLAG IRIS	Iris versicolor	2" PLUG	FLAT	SPACE @ 12" O.C.
325	GREEN BULRUSH	Scirpus atrovirens	2" PLUG	FLAT	SPACE @ 12" O.C.

**SEGMENT SIX PLANT LIST – TALL PLANTINGS**

QTY.	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
320	WHITE TURTLEHEAD	Chelone glabra	2" PLUG	FLAT	SPACE @ 12" O.C.
320	RATTLESNAKE MANNAGRASS	Glyceria canadensis	2" PLUG	FLAT	SPACE @ 12" O.C.
320	CARDINALFLOWER	Lobelia cardinalis	2" PLUG	FLAT	SPACE @ 12" O.C.
320	JOE-PYE WEED	Eupatorium maculatum/purpureum	2" PLUG	FLAT	SPACE @ 12" O.C.
320	STOUT WOOD-REEDGRASS	Cinna arundinacea	2" PLUG	FLAT	SPACE @ 12" O.C.
320	SWAMP MILKWEED	Asclepias incarnata	2" PLUG	FLAT	SPACE @ 12" O.C.

**SEGMENT SIX PLANT LIST – TREES AND SHRUBS**

QTY.	KEY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
6	AR	RED MAPLE	Acer rubrum	2-1/2" CAL.	B&B	
6	BN	RIVER BIRCH	Betula nigra	8'-10' HGT.	B&B	MULTI-STEM
3	CO	SHAGBARK HICKORY	Carya ovata	2-1/2" CAL.	B&B	
22	AC	CANADIAN SERVICEBERRY	Amelanchier canadensis	6' HGT.	B&B	MULTI-STEM
50	CA	SILKY DOGWOOD	Cornus amomum	24" HGT.	CONT.	
57	IV	COMMON WINTERBERRY	Ilex verticillata	36" HGT.	CONT.	
7	SD	PUSSY WILLOW	Salix discolor	36" HGT.	CONT.	
79	RV	SWAMP AZALEA	Rhododendron viscosum	24" HGT.	CONT.	
107	CSS	REDOSIER DOGWOOD	Cornus sericea ssp. sericea	24" HGT.	CONT.	

**AYERS BROOK RESTORATION**

MOHEGAN SUN COUNTRY CLUB  
SPRAGUE / FRANKLIN, CONNECTICUT

 <b>McFarland Johnson</b> 52 POMFRET STREET, PUTNAM, CT 06260 PH: 860-447-2844 FAX: 860-447-1622	<b>SEGMENT 6 NOTES</b> <b>LANDSCAPING</b>	DRAWN BY: TJB	CHECKED BY: CPB	FIGURE NO.  <b>49</b>
		SCALE: AS NOTED	DATE: 01/18/2011	