

Friends of Brazoria Wildlife Refuges  
P. O. Box 505  
Lake Jackson, TX 77566-0505

On behalf of  
United States Department of the Interior  
United States Fish & Wildlife Service  
Texas Mid-Coast National Wildlife Refuge Complex  
San Bernard National Wildlife Refuge  
6801 County Road 306  
Brazoria, Texas 77422-7896  
Telephone 979-964-3639  
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Request for Proposal for  
**ADA-Compliant Concrete Trail**  
to be installed at  
Dow Woods Unit of San Bernard National Wildlife Refuge  
located in  
City of Lake Jackson, Brazoria County, Texas

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June 14, 2010

ADA-Compliant Concrete Trail

**Section 1. Definitions of terms used in this document.**

- **3-inch Schedule 80 PVC duct** - Round PVC duct having a minimum inside diameter of 2.900 inches and a minimum wall thickness of 0.300 inches.
- **Acceptance Date** - The date on which the on which the trail is completed and accepted by the Owner.
- **ADA** - Americans with Disabilities Act of 1990, as amended.
- **A/R** - As required.
- **Bids Due Date** - June 22, 2010, at 3:00 pm Central Standard Time, at the office of the Owner.
- **Boardwalk** - A structure constructed of wood or recycled plastic lumber located within the trail route to carry the trail over ditches, swales, or other wetlands, or for other special purposes as specified herein. All boardwalks will be constructed by others prior to construction of the trail specified herein. The Trail Contractor shall connect the trail to existing boardwalks as indicated in Section 2.3 or as directed by the Owner's Inspector.
- **Burl** - See <http://en.wikipedia.org/wiki/Burl>
- **CR** - County Road
- **Complex** - The Owner as defined herein.
- **Construction Joint** - A joint between two concrete pours separated by 1x4 treated lumber. See Drawing S-2, Page 16, for a typical example.
- **Contractor** - The Trail Contractor as specified herein.
- **Cross slope** - The slope of the trail perpendicular to the centerline of the trail. Cross slope shall not exceed **2.08%** (rise:run ratio = **1:48**).
- **Culvert** - A 3-inch Schedule 80 PVC duct. All culverts shall be installed by the contractor at locations identified by the owner's inspector
- **Culvert Structure** - One or more culverts installed at the same location.
- **Design Drawings** - The drawings shown in Section 4 of this RFP. Drawings are not drawn to scale.

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- **DWT Website** - The website at URL <http://refugefriends.org/dwt/index.html> . During the bidding process, owner will post questions posed by potential bidders, with answers, on this website. It is the responsibility of each bidder to check this website daily for updates. Neither the owner nor any of its representatives will be responsible for any errors on the part of any bidder resulting from the bidder's failure to review this website on a daily basis.
- **DWU** - Dow Woods Unit of the San Bernard National Wildlife Refuge. DWU is located near the City of Lake Jackson, Texas, northwest of the intersection of State Highway FM 2004 and County Road 288. See Road Map, Section 3.1.
- **East Leg** - The portion of the trail between WP 003 and WP 031. Most of this leg winds through an established forest at a higher elevation than the west leg. The land is characterized by large, widely-separated trees and poor drainage. There are several localized areas at slightly lower elevations; these areas retain water during wet weather. To the extent possible, the trail route has been designed to avoid these areas.
- **FM** - State Highway also known as Farm Road.
- **FOBWR** - Friends of Brazoria Wildlife Refuges, a non-profit 501(c)(3) corporation whose mission is to provide support to the Owner. Tax ID number 76-0440298.
- **Inspector** - The Owner's Inspector as defined herein.
- **Junction** - A point where two or more trail segments meet at a T-intersection or a trail crossing. Each junction is assigned one waypoint number. The Trail Contractor shall construct junctions as specified in the Design Drawings.
- **Leg** - a portion of the trail. See **East Leg** and **West Leg**.
- **max** - Maximum
- **min** - Minimum
- **NIC** - Not in contract.
- **O.C.** - On center
- **Owner** - United States Department of the Interior, United States Fish & Wildlife Service, Texas Mid-Coast National Wildlife Refuge Complex. The Owner's office is located at 2547 County Road 316, Brazoria, TX 77422-7703.

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- **Owner's Inspector** - the person designed by the Owner to inspect the trail during construction.
- **Parking Lot** - The Parking Lot on the DWU property. See Section 3.
- **Pedestrian Gate** - An opening in the existing fence at the northwest corner of the parking lot. Although there is no physical gate at this location, this term is used for convenience.
- **Purchaser** - FOBWR.
- **RFP** - Request for Proposal (this document).
- **Running slope** - the slope of the trail parallel to the centerline of the trail. Running slope shall not exceed **5.00%** (rise:run ratio = **1:20**).
- **SH** - State Highway
- **Site** - Dow Woods Unit.
- **Slope** - See Cross Slope; Running Slope.
- **Soil spoil** - Naturally occurring sod, sand, and non-woody plant materials excavated by contractor during the course of construction. Not to be confused with waste material as defined herein.
- **Swale** - A natural shallow depression in the surface of the land sloping downward from a higher elevation. A swale carries runoff water during wet weather; at other times it may be dry or marshy.
- **Trail** - The ADA-Compliant Concrete Trail to be constructed by the Trail Contractor pursuant to this RFP. The trail is also known as the "Northeast Trail," the "North Loop Trail," or the "John Tveten Trail."
- **Trail Contractor** - The person or entity whose bid is accepted by owner pursuant to this RFP.
- **Trail Route** - The route that the trail must follow. Prior to construction, the owner will clear the trail route of obstructions and mark it with wood stakes or by other means.
- **Typ** - Typical
- **USFWS** - United States Fish & Wildlife Service.

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- **Warranty** - The completed trail and all of its associated components shall be warranted against defects in materials and workmanship for a period of not less than one year from the Acceptance Date.
- **Waste Materials** - Waste concrete, waste aggregate, discarded wood, discarded metal, naturally-occurring woody materials (tree branches, underbrush) and any discarded materials accumulated by the contractor during the course of the work *except for* soil spoil as defined herein.
- **Waste Storage Area** - An area located near the parking lot for the contractor's use for temporary storage of waste materials. The exact location will be specified at the worksite by the owner's inspector. Contractor shall provide construction dumpsters as required to contain all waste materials. No waste materials may be placed directly on the ground within the waste storage area. All waste materials and construction dumpsters shall be removed from the worksite prior to the acceptance date.
- **Waypoint** - GPS waypoints used to identify certain points along the trail route.
- **Website** - see DWT Website
- **West Leg** - The portion of the trail between WP 003 and WP 031. Most of this leg follows an old service road along the east bank of Bastrop Bayou.
- **WP** - Waypoint
- **WFS** - Water Flow Structure as defined herein.
- **Worksite** - The Dow Woods Unit of the San Bernard National Wildlife Refuge as defined herein. This term shall be interpreted to include the parking lot, the waste storage area, and all areas within the Dow Woods Unit where trail construction is to take place.

ADA-Compliant Concrete Trail**Section 2. Trail Specifications.**

See Maps M-2, M-3, and M-4 (Section 3).

**2.1 Waypoint Definitions**

Critical points along the trail route are identified by waypoint numbers. Boardwalks are identified by two waypoints, one at each end. Junctions are identified by a single waypoint at the approximate center of the junction. The following table specifies waypoint locations:

<b>TABLE 1. WAYPOINT DEFINITIONS</b>				
<b>WAYPOINT</b>	<b>GPS COORDINATES</b>	<b>POINT NAME</b>	<b>DESIGN DRAWING</b>	<b>CUMULATIVE DISTANCE (FEET)</b>
001	29.076350 -95.427967	Pedestrian gate, northwest corner of parking lot.	None	0
003	29.076083 -95.429067	Crossroads Junction	Section 4.1 Drawing J-1	390
004	29.076267 -95.429567	South Bayou Junction	Section 4.1 Drawing J-2	579
015	29.079483 -95.430133	Burl Oak Boardwalk south end	Section 4.2 Drawing B-1	1791
017	29.079633 -95.430250	Burl Oak Boardwalk north end	Section 4.2 Drawing B-1	1854
022	29.080667 -95.430383	North Bayou Junction	Section 4.1 Drawing J-3	2262
030	29.080800 -95.430400	North Boardwalk east end	Section 4.2 Drawing B-2	2319
031	29.080950 -95.430250	North Boardwalk west end	Section 4.2 Drawing B-2	2394
003	29.076083 -95.429067	Crossroads Junction (trail ends).	Section 4.1 Drawing J-1	4557

The estimated total length of the concrete portion of the trail is 4425 feet. This sum was derived as follows:

Grand total length of trail including boardwalks	4557 feet
Minus length of Burl Oak Boardwalk	-57
Minus length of North Boardwalk	-75
Total length of concrete trail	4425 feet

## ADA-Compliant Concrete Trail

### 2.2 Site preparation.

Prior to construction, the owner will clear the trail route of obstructions and mark the approximate centerline.

Contractor shall:

- Remove all sod and other organic material from the trail route and compact the underlying soil.
- Place compacted sand as required to maintain the slope specifications. See Section 2.3.
- Temporarily store all waste materials (as defined herein) at the waste storage area.
- Temporarily store soil spoil (as defined herein) near the trail route at locations designated by the owner's inspector.
- Remove all waste materials and construction dumpsters from the worksite prior to the acceptance date.

In special circumstances, the inspector may authorize exceptions of the requirements of this section.

### 2.3 Trail Route Specifications

- The trail must meet the requirements of the ADA with respect to wheelchair access.
- The completed trail shall be a minimum of 6'-0" wide throughout the entire length.
- Running slope shall not exceed **5.00%** (rise:run ratio = **1:20**).
- Cross slope shall not exceed **2.08%** (rise:run ratio = **1:48**).
- Contractor shall locate the trail at the existing pedestrian gate (waypoint 001) as directed by the owner's inspector at the site.
- Contractor shall construct junctions at waypoints 003, 004, and 022 as specified in Section 4.1. The exact locations will be staked by owner's inspector.
- At all transition points between the trail and a boardwalk (waypoints 015, 017, 030, and 031):
  - If the boardwalk exists at the time of trail construction, the elevation of the end of trail shall match the elevation of the boardwalk. If necessary, the trail may be sloped to meet this requirement, as directed by the owner's inspector.
  - If the boardwalk does not exist, the trail shall be level to the end.
- All bends in the trail route shall be smooth curves having a minimum radius of 50 feet measured to the trail centerline.

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### 2.4 Runoff Water

The contractor shall construct the entire trail in such a manner that the flow of runoff water will not be impeded. Following are four approved methods for meeting this requirement. The owner's inspector will determine which method is to be used at any particular location.

The inspector will give full consideration to the contractor's suggestions with respect to this requirement. However, the final decision rests with the owner's inspector.

- **Method #1 - Sideslope fill.** If this method is selected, the contractor shall spread compacted sand and/or soil spoil along the sides of the trail as required to facilitate the flow of runoff water across the top of the trail..
- **Method #2 - Culvert Structure.** If this method is selected, the contractor shall install one or more Culvert Structures. See Section 4.4.
- **Method #3 - Boardwalks.** Boardwalks will be constructed by others at two locations along the trail. These boardwalks will be elevated to allow runoff. See Section 4.2.
- **Method #4- Existing culverts.** Old culverts exist at some locations along the west leg of the trail, adjacent to Bastrop Bayou. These culverts will remain in place and should be used to satisfy this requirement whenever possible.

### 2.5 Concrete specifications.

The following requirements apply:

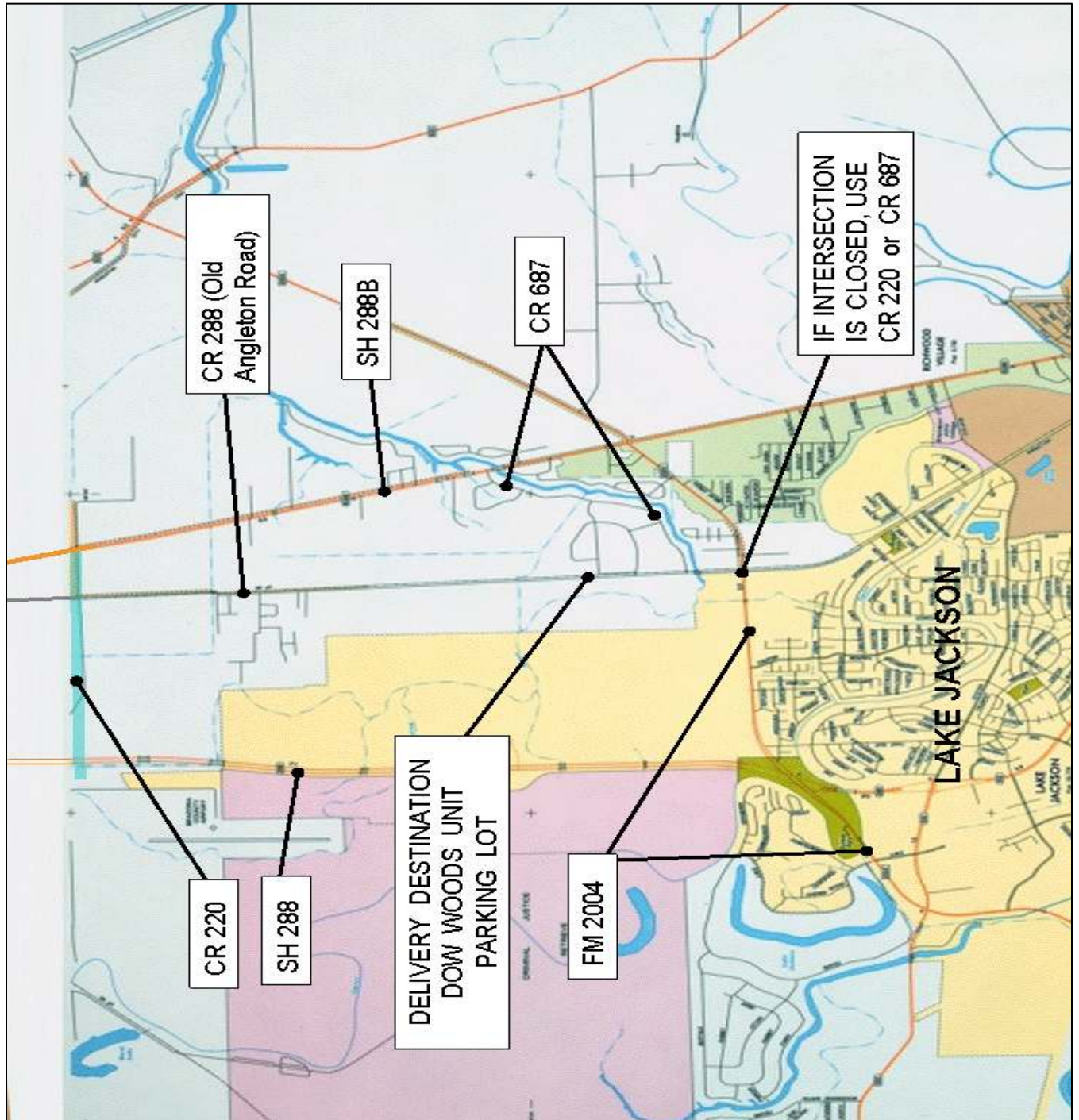
- **Concrete:** 3000 psi (five sacks) concrete.
- **Rebar:** #3 rebar (3/8 inch) and placed on 18-inch centers. See Section 4.3.
- **Rebar splices:** minimum 12-inch overlaps.
- **Construction joints:** 20-foot intervals minimum, filled with treated 1x4 (trade size) lumber.
- **Control joints:** tooled joints or a saw cuts, at 6'-8" intervals minimum, 1 inch deep minimum.
- **Edge finish:** edges shall be finished with an edger.
- **Surface finish:** light broom finish.



ADA-Compliant Concrete Trail

**Section 3. Maps**

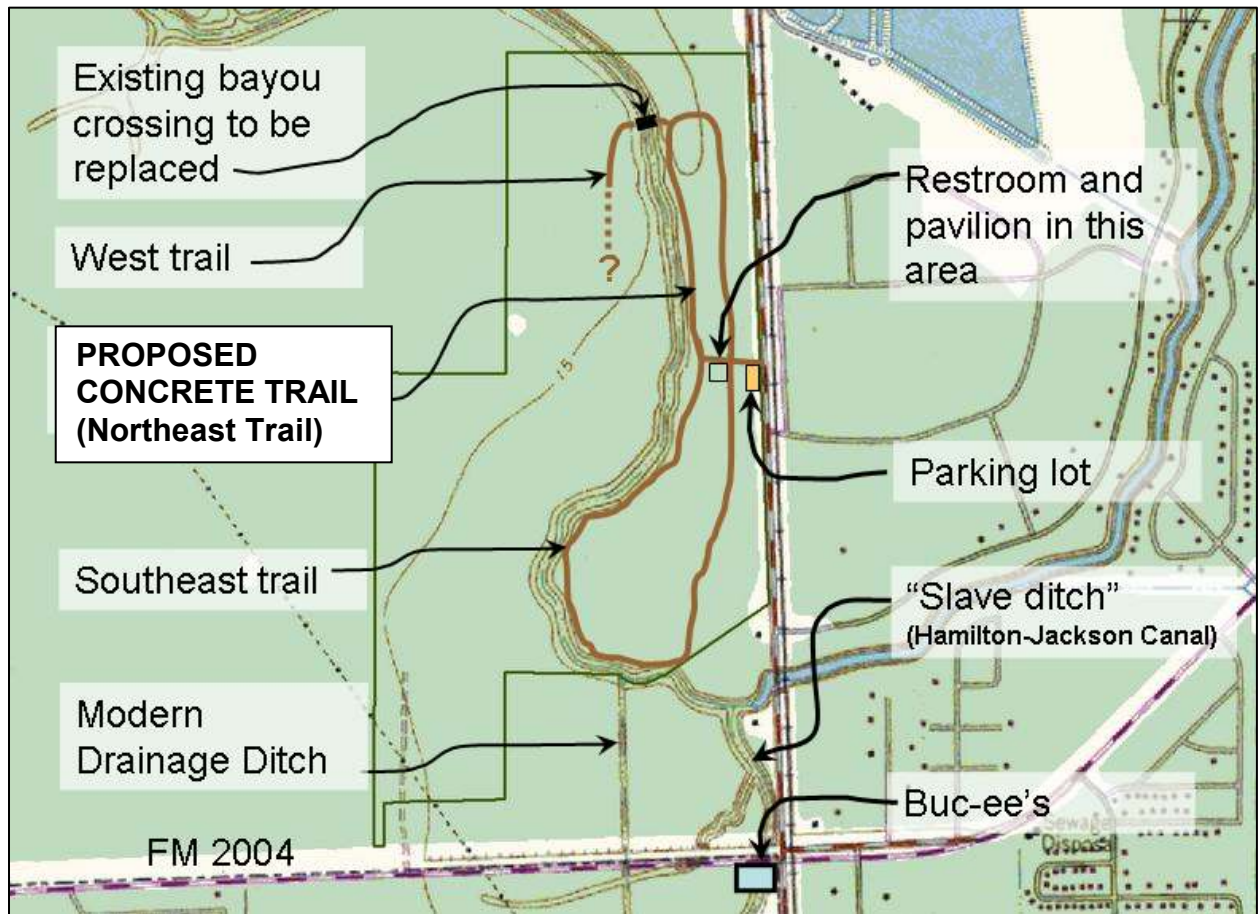
**3.1 - Road Map**



Map M-1 — Road Map

ADA-Compliant Concrete Trail

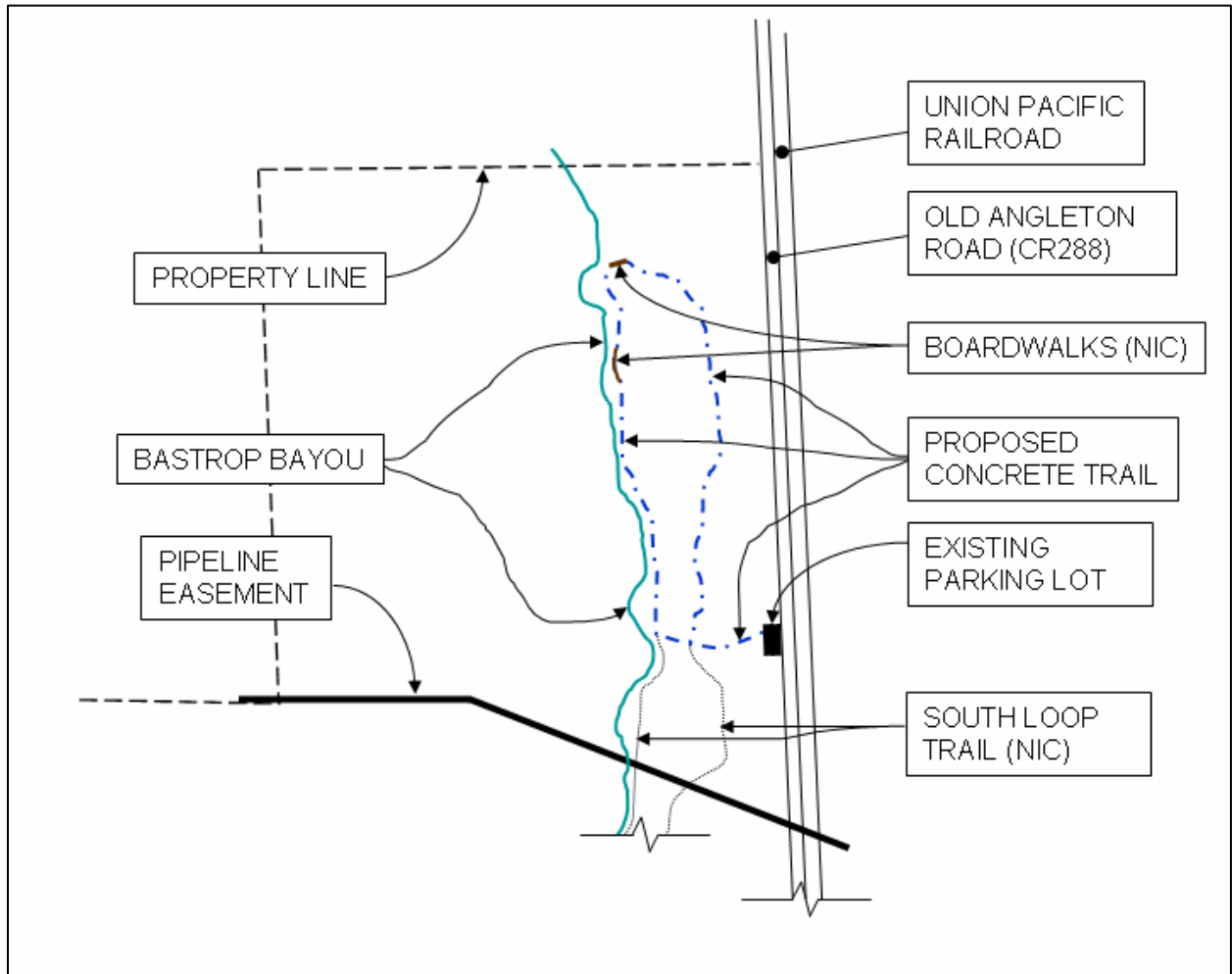
**3.2 - Dow Woods Unit Property Map**



Map M-2 — Dow Woods Unit Property Map

ADA-Compliant Concrete Trail

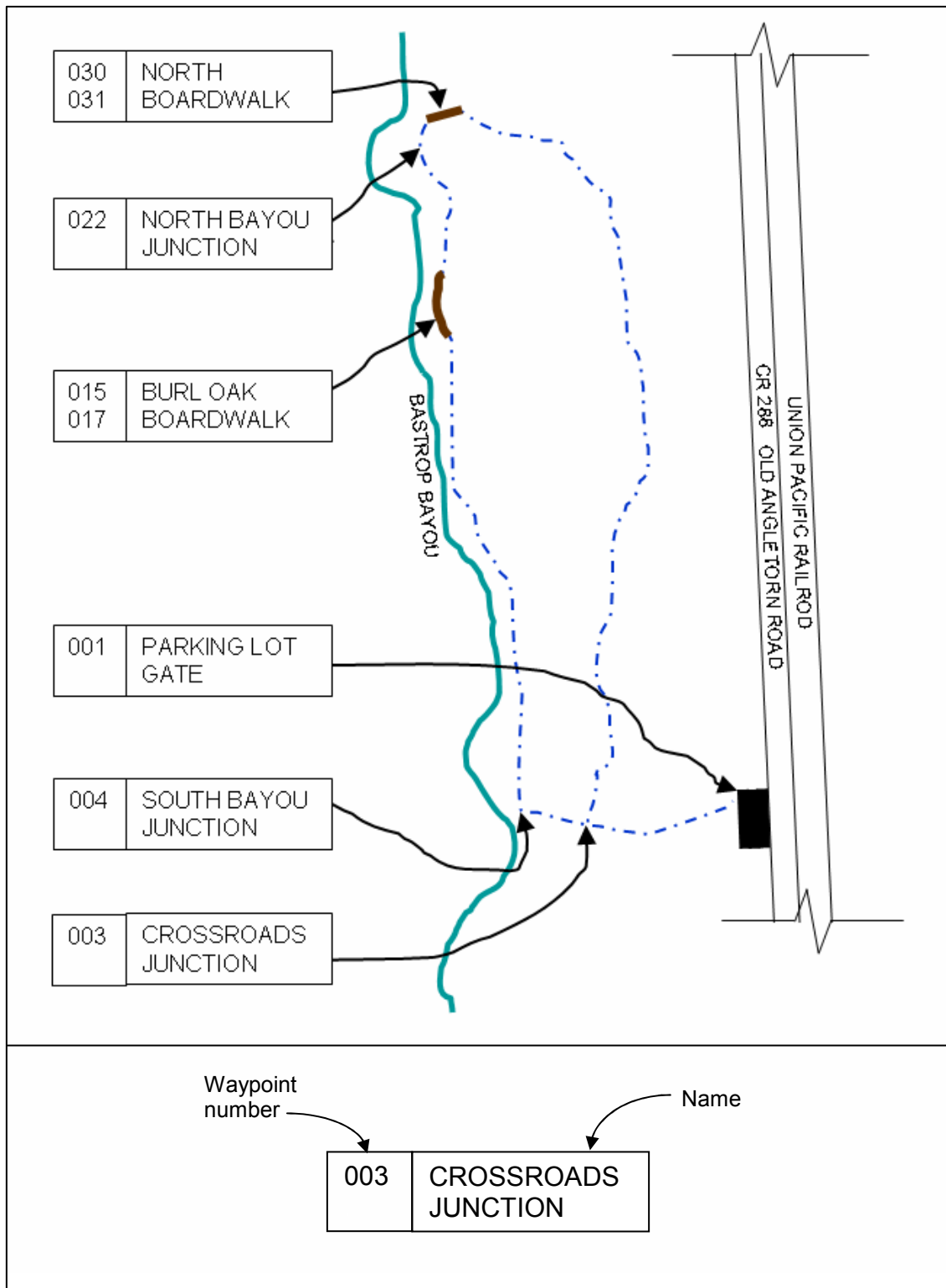
**3.3 - Northeast Loop Trail Map**



Map M-3 — Northeast Loop Trail

ADA-Compliant Concrete Trail

**3.4 - Waypoint Map**



Map M-4 — Waypoint Map

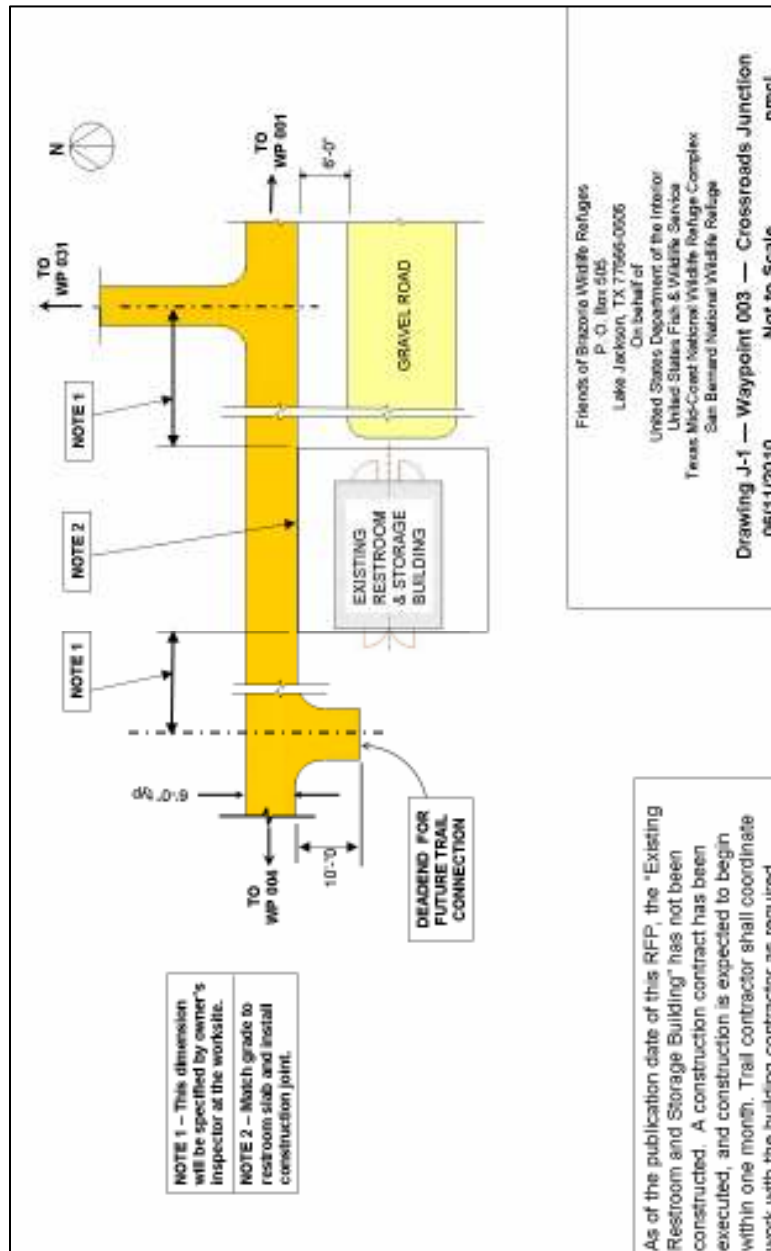
ADA-Compliant Concrete Trail

**Section 4. Design Drawings**

**4.1 Junction Plans**

**Waypoint 003 (Crossroads Junction)**

Contractor shall abut and secure the trail to the existing restroom slab and construct two T-intersections. The slab will be equipped with rebar stubs to facilitate this connection. Match trail grade to slab grade and provide construction joint. A full-size (11x17) copy of this drawing can be downloaded at <http://refugefriends.org/dwt/index.html>.

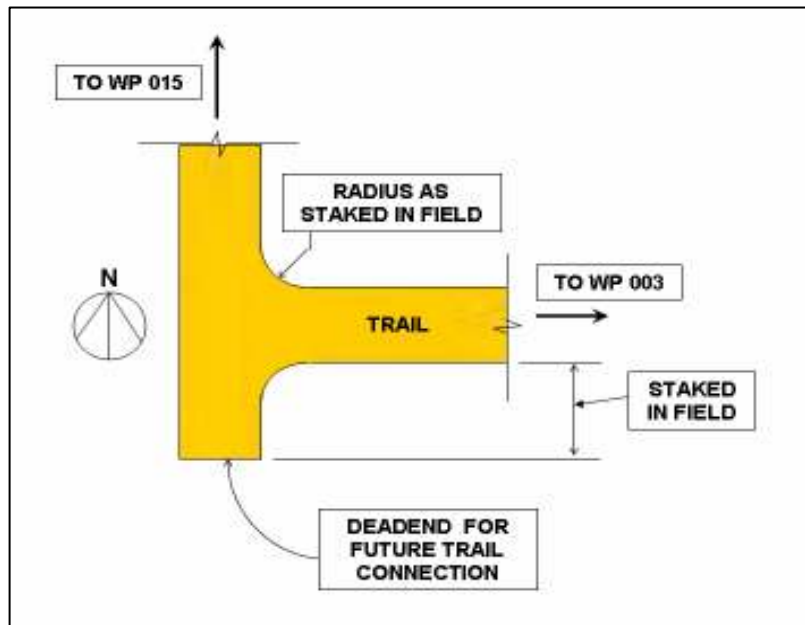


Drawing J-1 — Waypoint 003  
Crossroads Junction

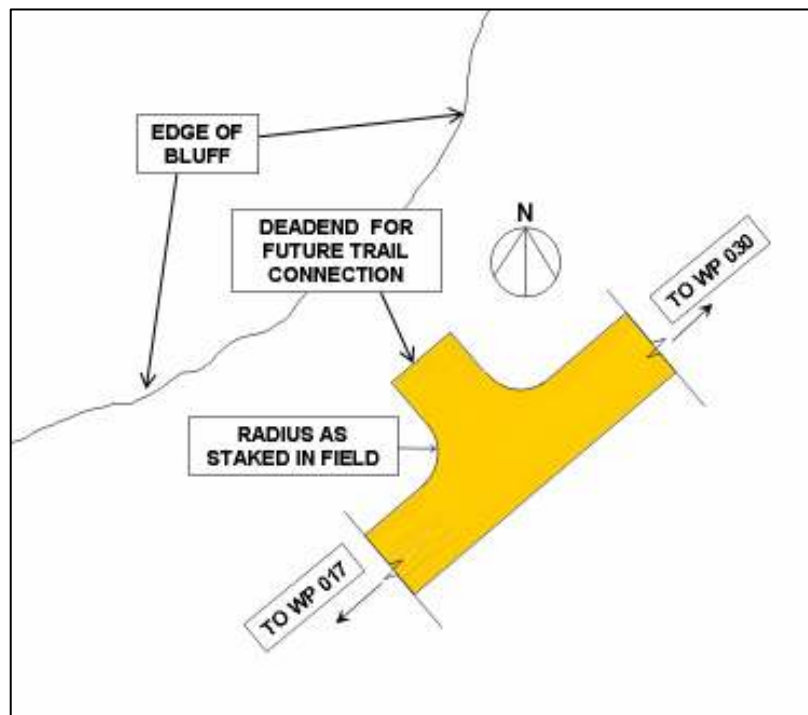
ADA-Compliant Concrete Trail

4.1 Junction Plans (continued)

Waypoints 004 (South Bayou Junction) and 022 (North Bayou Junction)



Drawing J-2 — Waypoint 004  
South Bayou Junction

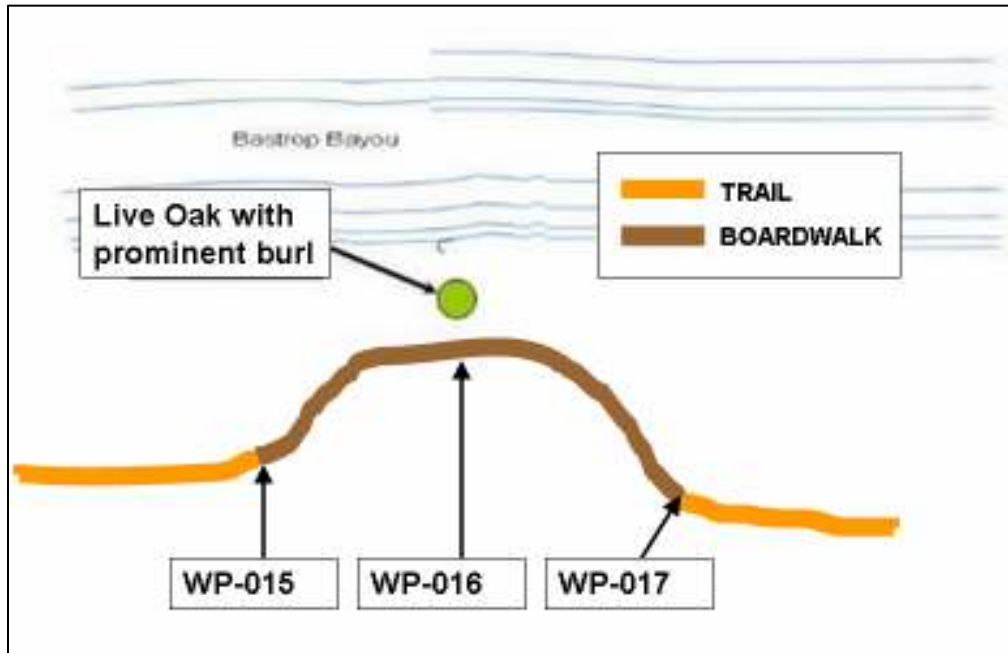


Drawing J-3 — Waypoint 022  
North Bayou Junction

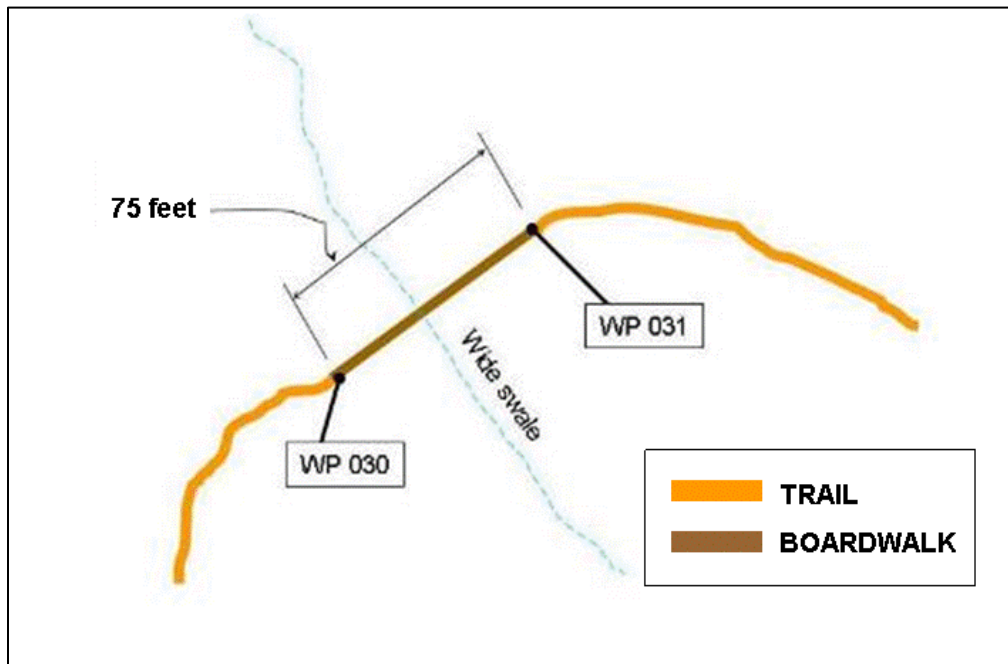
ADA-Compliant Concrete Trail

4.2 Boardwalk Plans

Waypoints 015-017 (Burl Oak Boardwalk) and 030-031 (North Boardwalk)



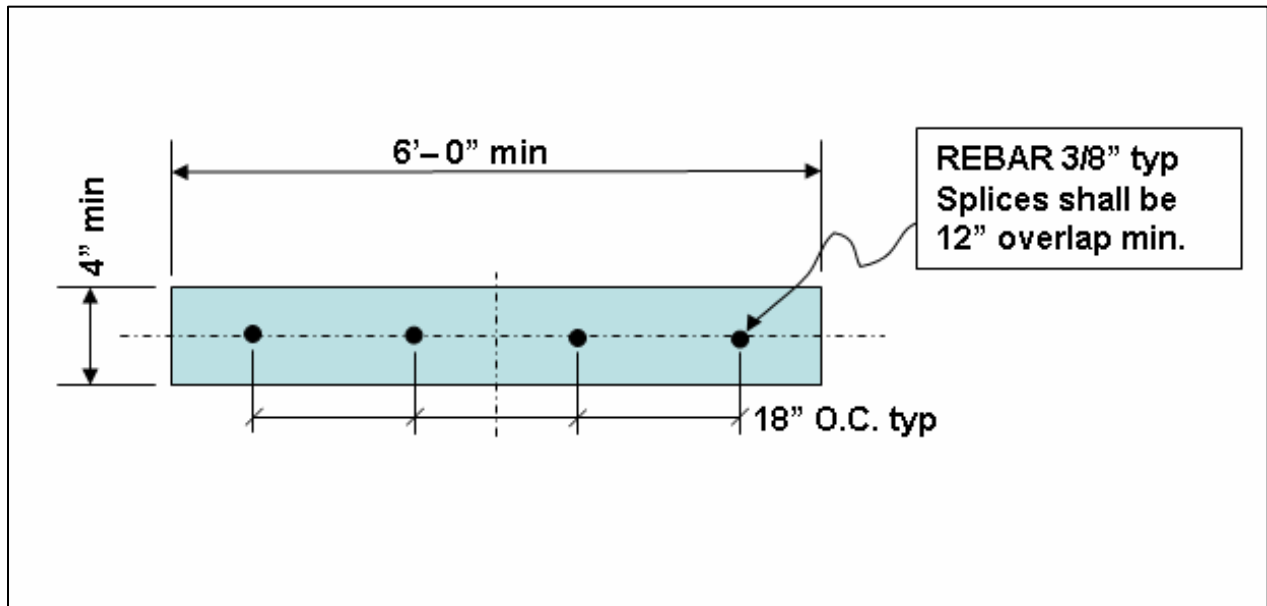
Drawing B-1 — Waypoints 015-017  
Burl Oak Boardwalk



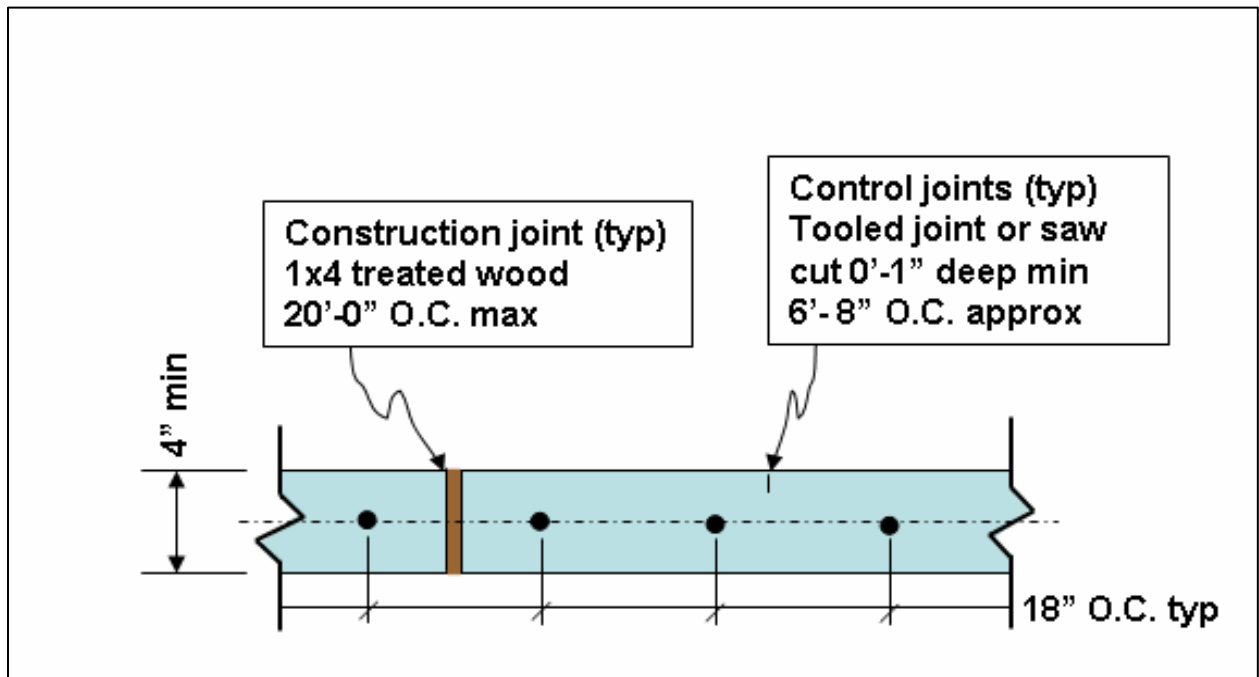
Drawing B-2 — Waypoints 030-031  
North Boardwalk

ADA-Compliant Concrete Trail

4.3 Structural Diagrams



Drawing S-1 — Section Perpendicular to Trail Axis

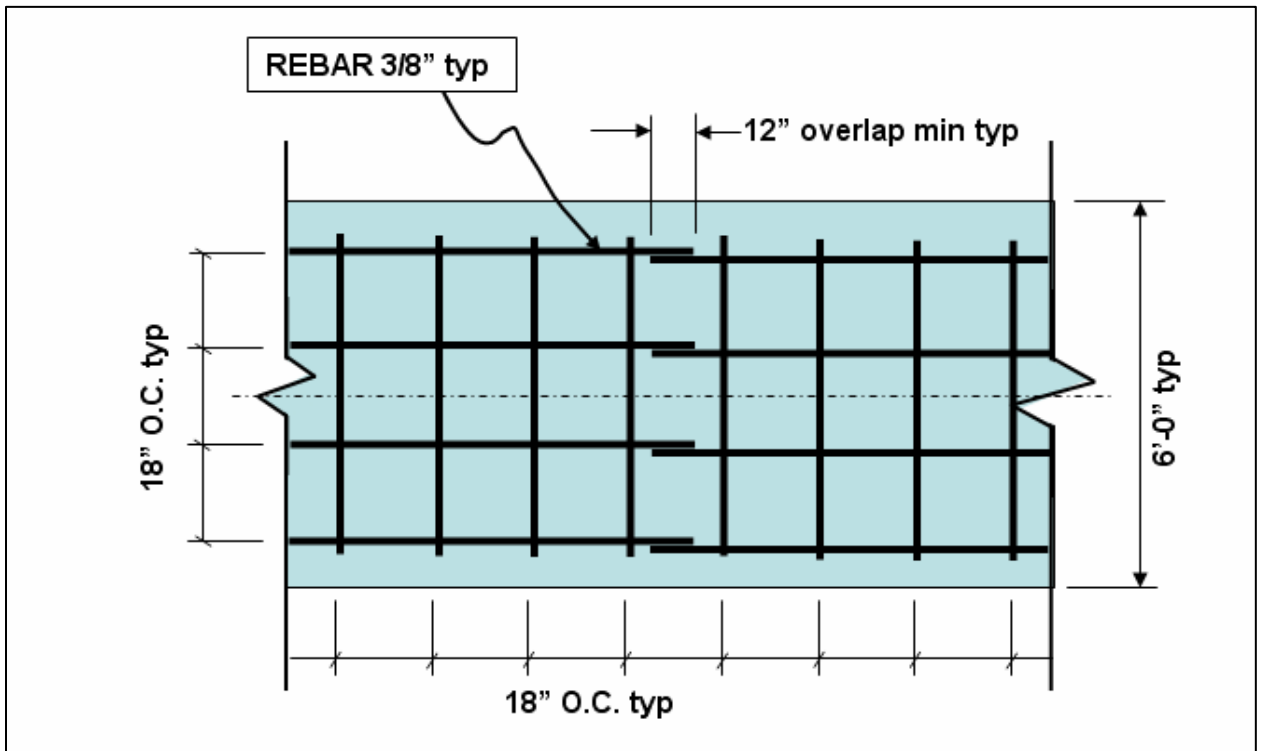


Drawing S-2 — Section Parallel to Trail Axis



ADA-Compliant Concrete Trail

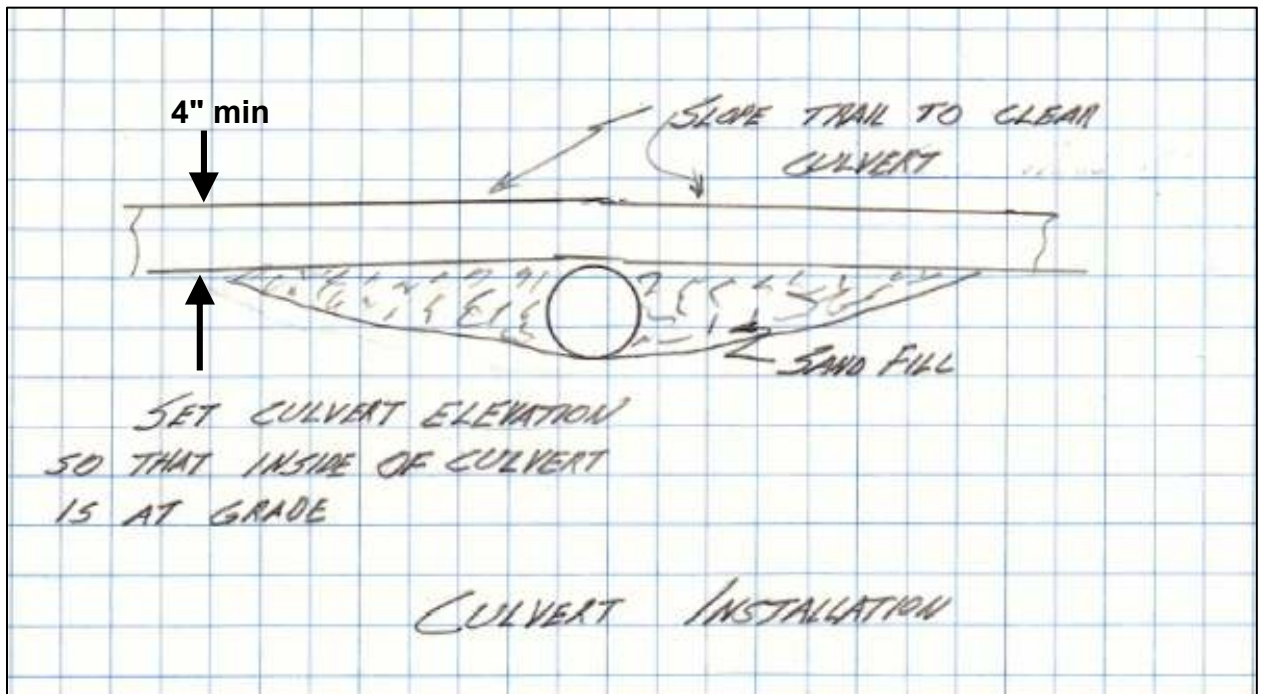
4.3 Structural Diagrams (continued)



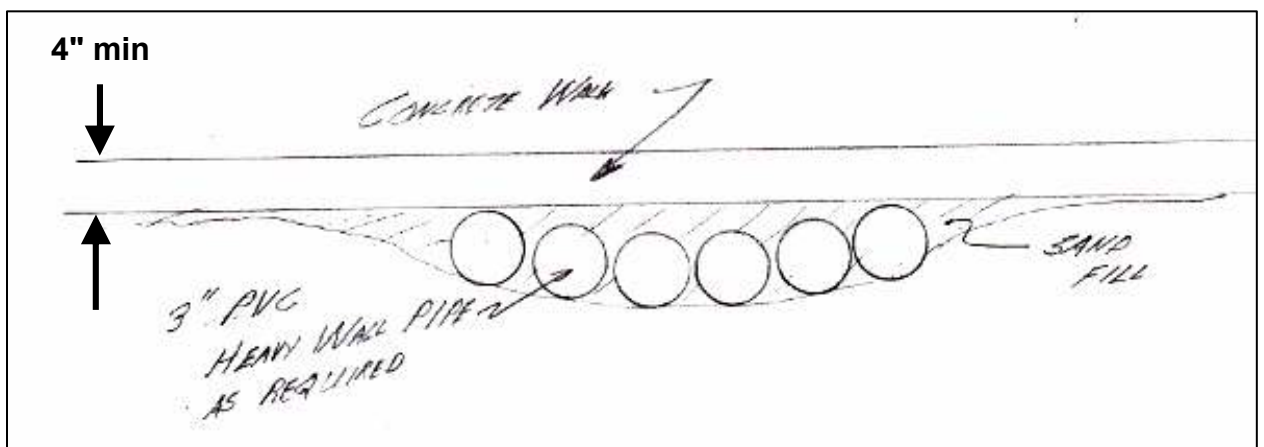
Drawing S-3 — Typical Rebar Plan

ADA-Compliant Concrete Trail

4.4 Culvert Structures



Drawing W-1 — Single culvert



Drawing W-2 — Multiple culverts

ADA-Compliant Concrete Trail**Section 5. Bid Form.**

Bidders shall place their bids on the following form. The estimated quantities shall be used for the purpose of calculating the Grand Total Bid.

- **TRAIL LENGTH** - The estimated total length of the concrete trail measured along the centerline of the trail commencing at the end of the trail at WP 001 and terminating in WP 003 at the center of the T-intersection illustrated in Drawing J-1. For bidding purposes, this figure is assumed to be 4425 feet.
- **ADDED LENGTH** - The estimated additional length of concrete trail resulting from the three deadends (WPs 003, 004, and 022). For bidding purposes, this figure is assumed to be 10 feet per deadend.
- **CULVERT STRUCTURE** - The estimated number of culvert structures installed. If two or more individual PVC ducts are installed at the same location, the complete installation shall count as one culvert structure. For bidding purposes, this figure is assumed to be one.

ITEM	UNIT OF MEASURE	ESTIMATED QUANTITY	BID PRICE PER UNIT	TOTAL BID PRICE
<b>TRAIL LENGTH</b>	Foot	4425		
<b>ADDED LENGTH</b>	Foot	30		
<b>CULVERT STRUCTURES</b>	Each	1		
<b>GRAND TOTAL</b>				

ADA-Compliant Concrete Trail**Section 5. Bid Form (continued).**

Bidder information:

Name of bidder or company submitting this bid \_\_\_\_\_

Tax ID Number or Social Security Number \_\_\_\_\_

Mailing address of bidder: \_\_\_\_\_  
\_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

E-mail address \_\_\_\_\_

Signature of person submitting this bid: \_\_\_\_\_ Date \_\_\_\_\_

Printed name: \_\_\_\_\_ Title: \_\_\_\_\_

All bids shall be quoted in United States Dollars and shall be valid for a period of 45 days following the Bids Due Date.

Each bid shall be delivered not later than the Bids Due Date specified in Section 1. Bids may be submitted as follows:

- Mailed in a sealed envelope marked "DWU Bid" addressed to the following address:  
Shane Kasson, Wildlife Refuge Manager,  
San Bernard National Wildlife Refuge  
6801 County Road 306  
Brazoria, Texas 77422-7896  
Telephone 979-964-3639
- Sent by fax to 979-964-3210.
- Sent as an e-mail attachment to Shane Kasson at [Shane\\_Kasson@fws.gov](mailto:Shane_Kasson@fws.gov)

Please direct all questions or requests for clarifications to Shane Kasson at the address set forth above.

Please note that Friends of Brazoria Wildlife Refuges is a 501(c)(3) non-profit organization. The Internal Revenue Service Tax ID number is 76-0440298. A copy of the tax-exemption letter may be downloaded from the **DWT Website** at <http://refugefriends.org/dwt/index.html> .

ADA-Compliant Concrete Trail**Section 6. Invoice Summary Form.**

The final price shall be the sum of the individual prices for the following:

- **TRAIL LENGTH** - The actual total length of the concrete trail measured along the centerline of the trail commencing at the end of the trail at WP 001 and terminating in WP 003 at the center of the T-intersection illustrated in Drawing J-1. The contractor's representative and the owner's inspector shall establish this measurement independently. If the results agree within 1% of the lower figure, the average of the two figures shall be accepted as the final length. If the results do not agree within 1%, the parties shall meet to negotiate a settlement.
- **ADDED LENGTH** - The actual additional length of concrete trail resulting from the three deadends (WPs 003, 004, and 022), measured from the center of the junction to the deadend.
- **CULVERT STRUCTURE** - The actual number of culvert structures installed. If two or more individual PVC ducts are installed at the same location, the complete installation shall count as one culvert structure.

ITEM	UNIT OF MEASURE	ACTUAL QUANTITY	BID PRICE PER UNIT	TOTAL ACTUAL PRICE
<b>TRAIL LENGTH</b>	Foot			
<b>ADDED LENGTH</b>	Foot			
<b>CULVERT STRUCTURES</b>	Each			
<b>GRAND TOTAL</b>				