

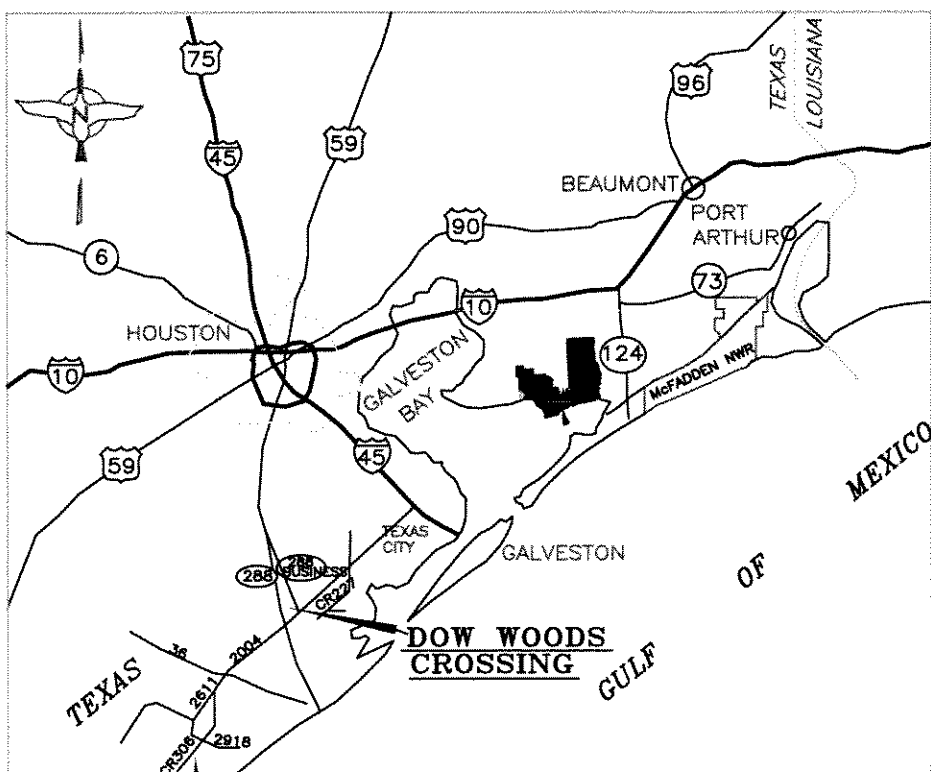


LOCATION MAP



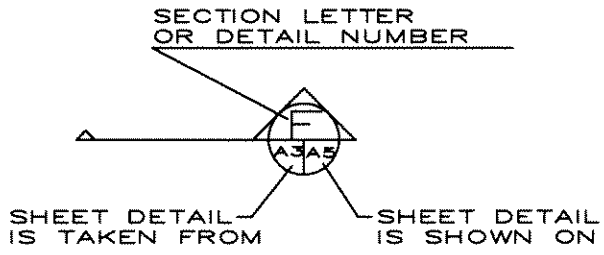
**INDEX TO DRAWINGS**

SHEET SEQ.		TITLE
1	1	TITLE, VICINITY MAP, & INDEX
2	2	CULVERT PLAN
3	3	CULVERT CROSS SECTION

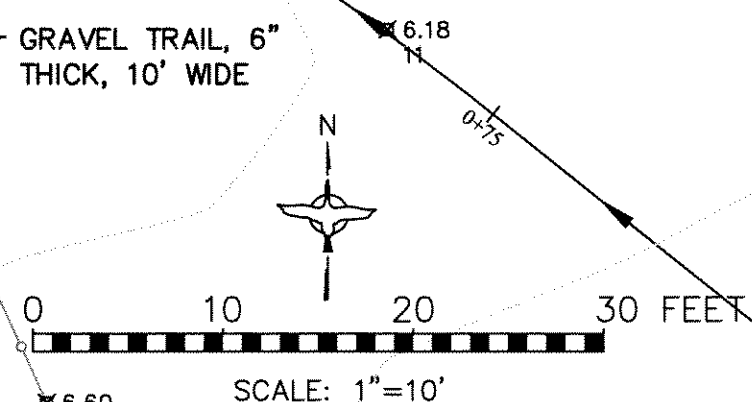
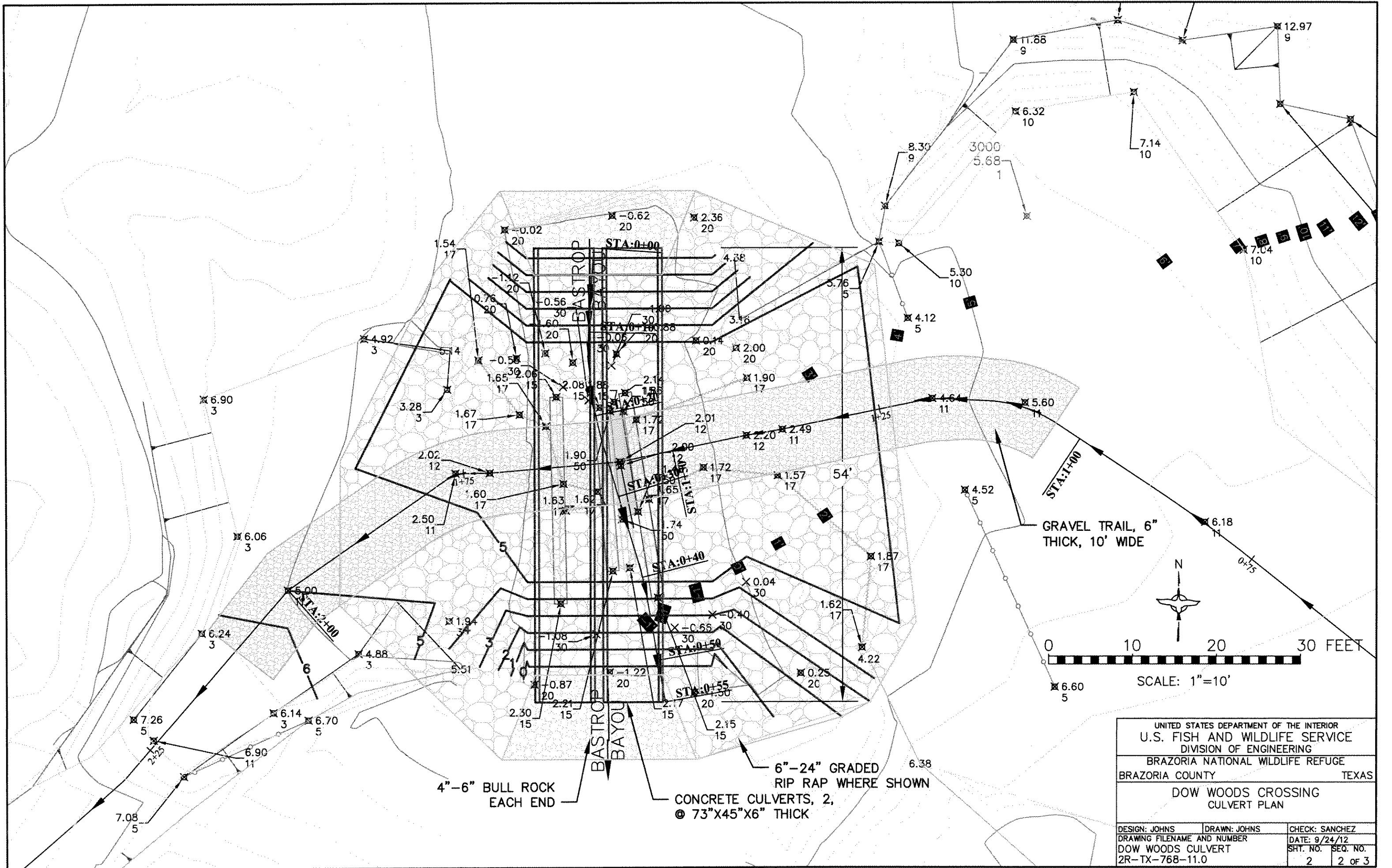


**SAN BERNARD NWR**  
 NOT TO SCALE

**VICINITY MAP**  
 NOT TO SCALE



APPROVALS		UNITED STATES DEPARTMENT OF THE INTERIOR U.S. FISH AND WILDLIFE SERVICE DIVISION OF ENGINEERING	
PROGRAM SUPERVISOR <i>Bernard Freeman</i> 9/24/12		BRAZORIA NATIONAL WILDLIFE REFUGE BRAZORIA COUNTY TEXAS	
REGIONAL ENGINEER		DOW WOODS CROSSING GENERAL TITLE-VICINITY-INDEX	
PROJECT MANAGER N/A		DESIGN: JOHNS	DRAWN: JOHNS
ENVIRONMENTAL COMPLIANCE <i>David Smith</i> 10/1/12		CHECK: SANCHEZ	
CULTURAL RESOURCES N/A		DATE: 9/24/12	
ENERGY COMPLIANCE		SHT. NO. SEQ. NO.	



UNITED STATES DEPARTMENT OF THE INTERIOR		
U.S. FISH AND WILDLIFE SERVICE		
DIVISION OF ENGINEERING		
BRAZORIA NATIONAL WILDLIFE REFUGE		
BRAZORIA COUNTY		TEXAS
DOW WOODS CROSSING		
CULVERT PLAN		
DESIGN: JOHNS	DRAWN: JOHNS	CHECK: SANCHEZ
DRAWING FILENAME AND NUMBER		DATE: 9/24/12
DOW WOODS CULVERT		SHT. NO. SEQ. NO.
2R-TX-768-11.0		2 2 OF 3

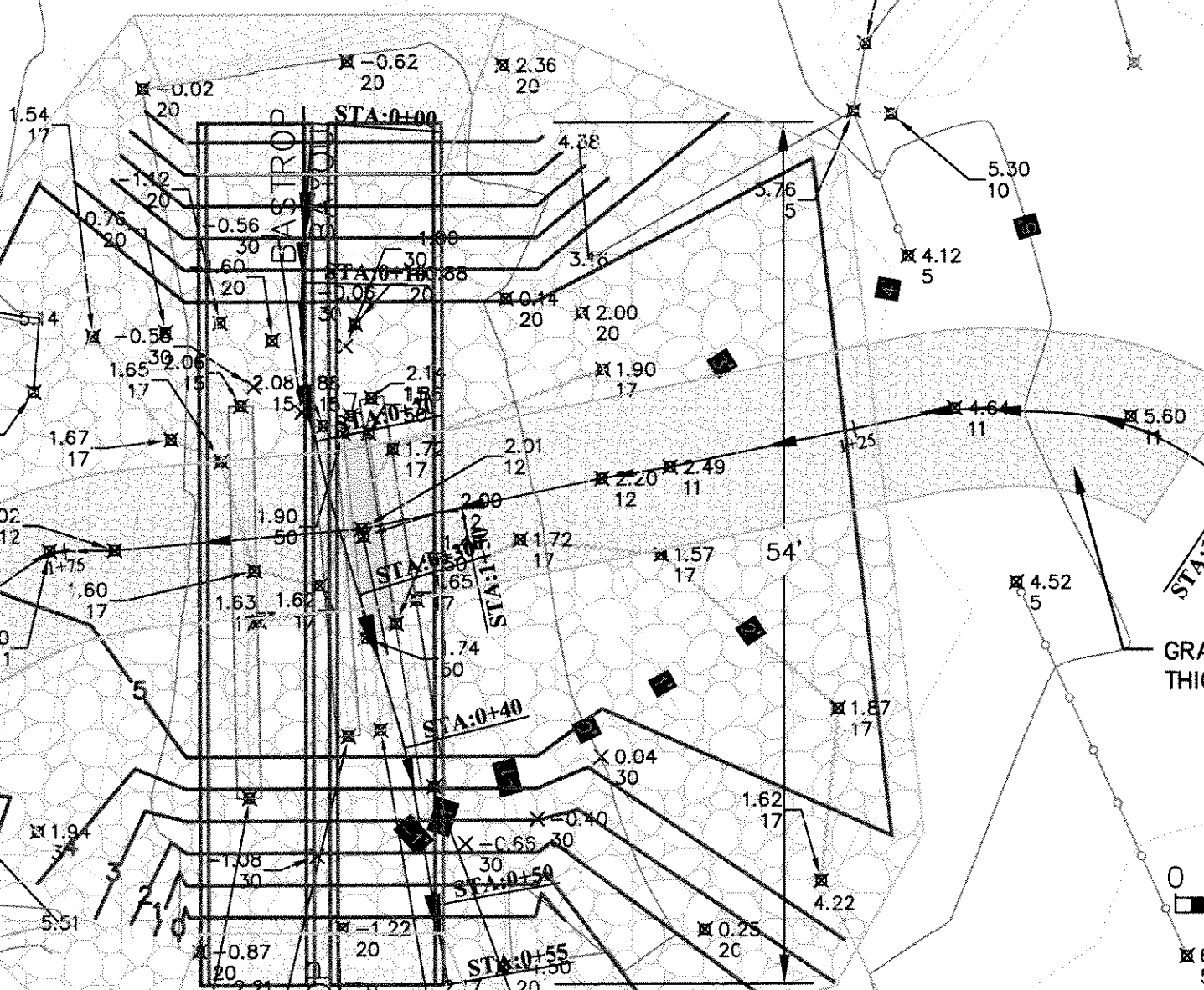
4"-6" BULL ROCK EACH END

CONCRETE CULVERTS, 2,  
 @ 73"X45"X6" THICK

6"-24" GRADED  
 RIP RAP WHERE SHOWN

GRAVEL TRAIL, 6"  
 THICK, 10' WIDE

BASTRO  
 BAYOU

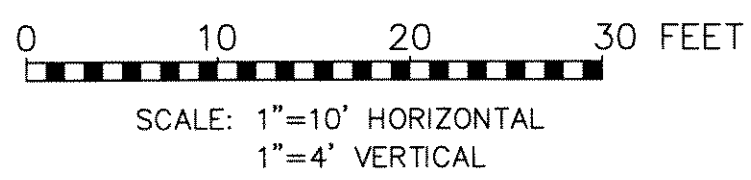
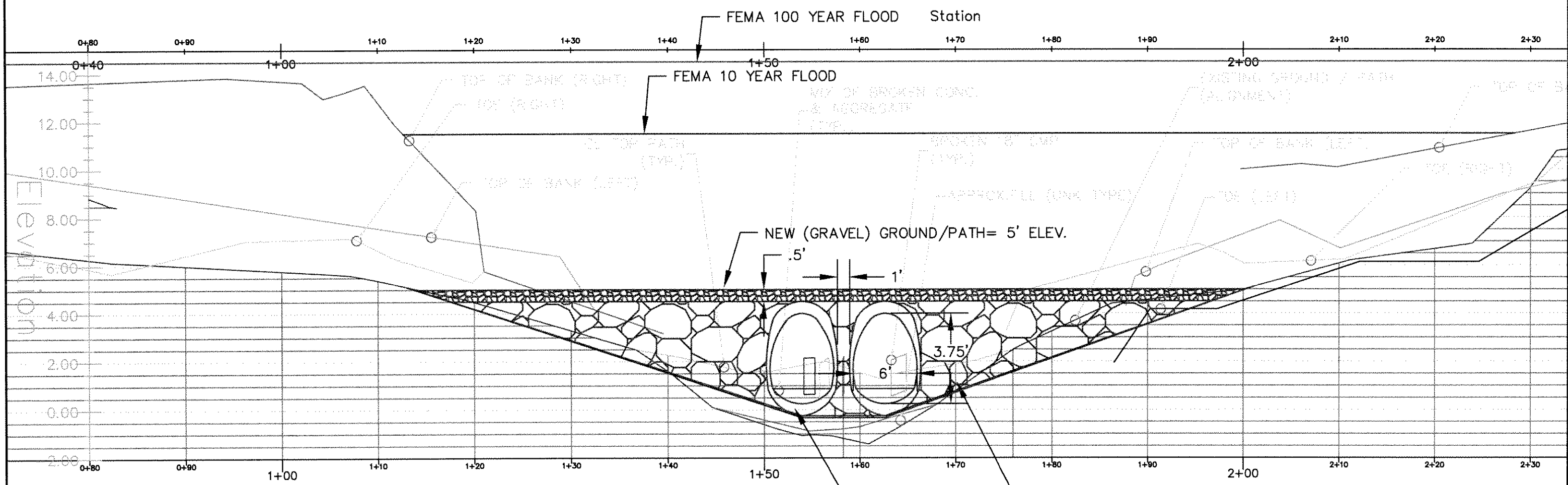


0 10 20 30 FEET

SCALE: 1"=10'

DESIGN: JOHNS	DRAWN: JOHNS	CHECK: SANCHEZ
DRAWING FILENAME AND NUMBER		DATE: 9/24/12
DOW WOODS CULVERT		SHT. NO. SEQ. NO.
2R-TX-768-11.0		2 2 OF 3

# PROFILE VIEW CENTERLINE OF TRAIL ALIGNMENT LOOKING DOWNSTREAM



Station

RIP RAP BANK PROTECTION

REINF. CONC. ARCH CULVERTS, 73"X45"X6" THICK ASTM C506 CLASS A-II

AFTER REMOVING EXISTING CULVERTS & DEBRIS, SET NEW CULVERTS WITH INVERTS 18" BELOW STAGNANT WATER SURFACE

UNITED STATES DEPARTMENT OF THE INTERIOR U.S. FISH AND WILDLIFE SERVICE DIVISION OF ENGINEERING		
BRAZORIA NATIONAL WILDLIFE REFUGE BRAZORIA COUNTY TEXAS		
DOW WOODS CROSSING CULVERT CROSS SECTION CONCRETE PIPES, 6' DIAM. ARCH		
DESIGN: JOHNS	DRAWN: JOHNS	CHECK: SANCHEZ
DRAWING FILENAME AND NUMBER		DATE: 9/24/12
DOW WOODS CULVERT OPTIONS	SHT. NO.	SEQ. NO.
2R-TX-768-11.0	3	3 OF 3