

\* CONTRACTOR SHALL VERIFY FIELD MEASUREMENTS BEFORE ORDERING REINFORCING STEEL. AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE H1, H2 AND H4 BARS WITH A 2'-0" LAP SPLICE, AT NO ADDITIONAL COST TO THE DEPARTMENT. DIMENSIONS MAY BE ADJUSTED IN THE FIELD, BUT REINFORCEMENT SIZE AND SPACING SHALL BE ACCORDING TO PLAN.

**BAR TYPES**

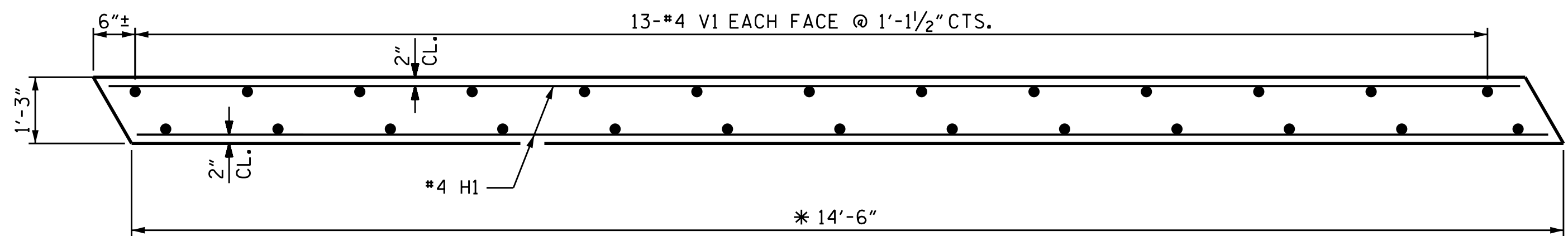
ALL BAR DIMENSIONS ARE OUT TO OUT.

①

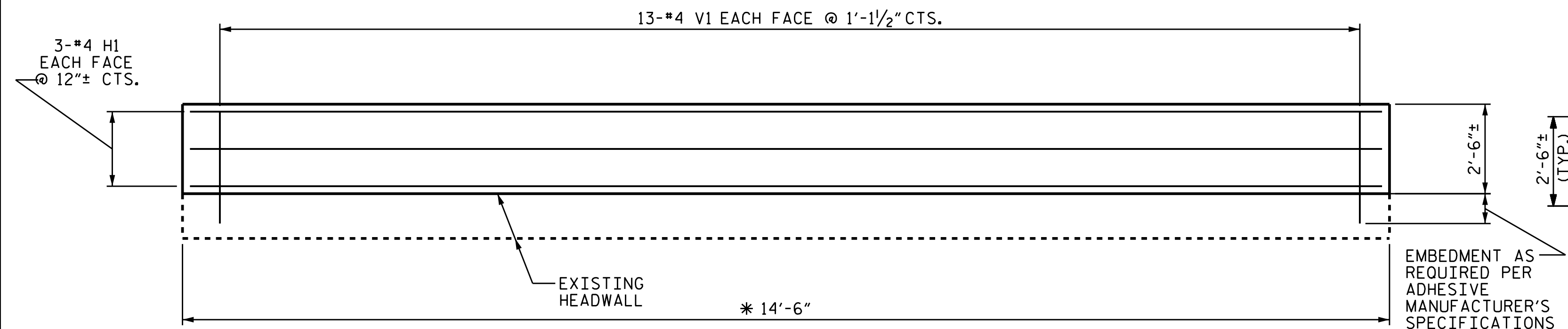
MAY BE FIELD BENT AS REQUIRED

**BILL OF MATERIAL**

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	12	#4	STR	14'-0"	112
H2	12	#4	STR	4'-6"	36
H3	8	#4	1	3'-3"	17
H4	12	#4	STR	11'-2"	90
H5	8	#4	1	3'-3"	17
V1	52	#4	STR	3'-0"	104
V2	72	#4	STR	3'-0"	144
REINFORCING STEEL				520 LBS	
FOR 4 WINGS AND 2 HEADWALLS					
CLASS A CONCRETE					
4 WINGS				3.3 CY	
2 HEADWALLS				3.4 CY	
TOTAL				6.7 CY	

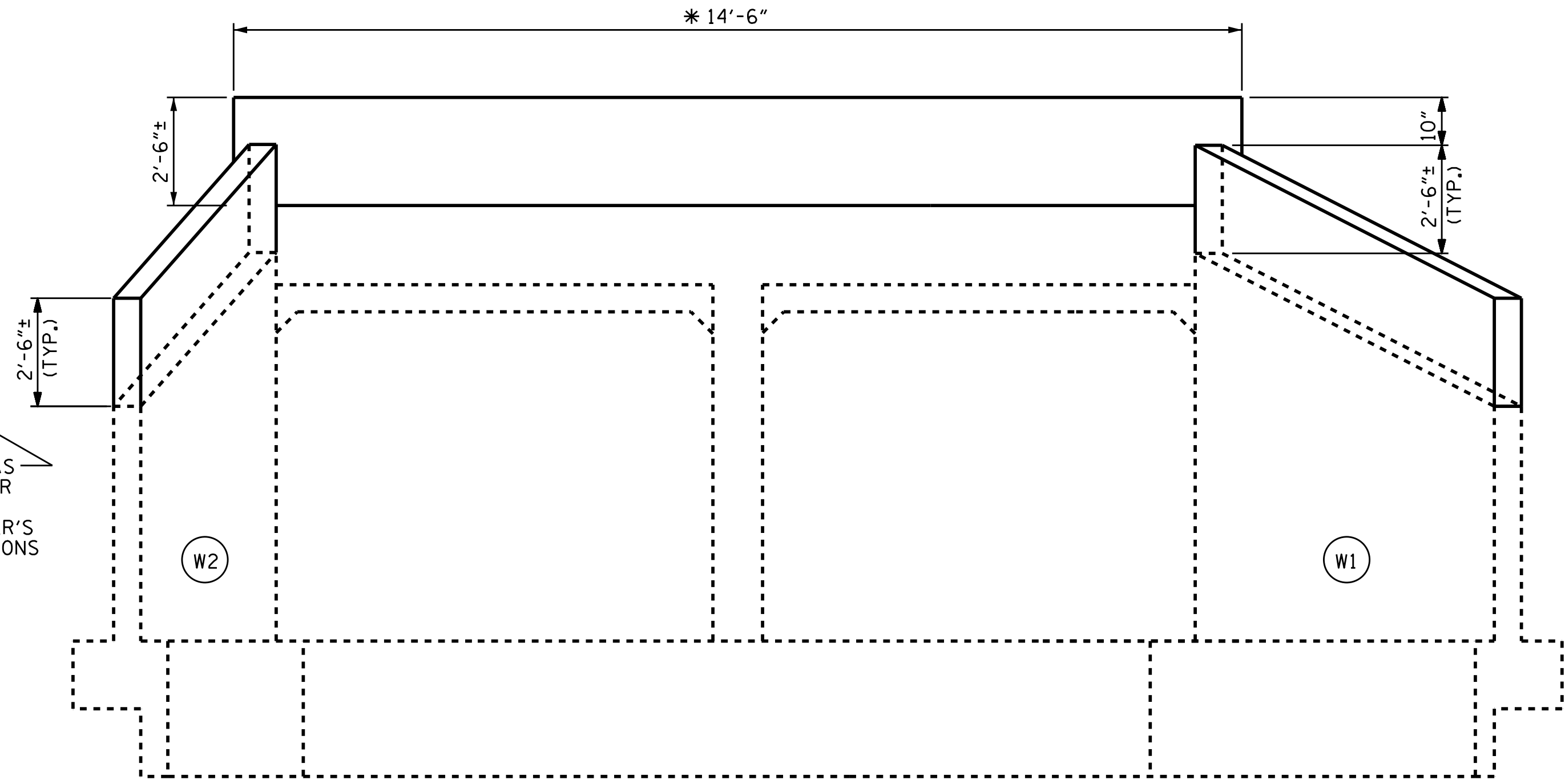


**HEADWALL PLAN**

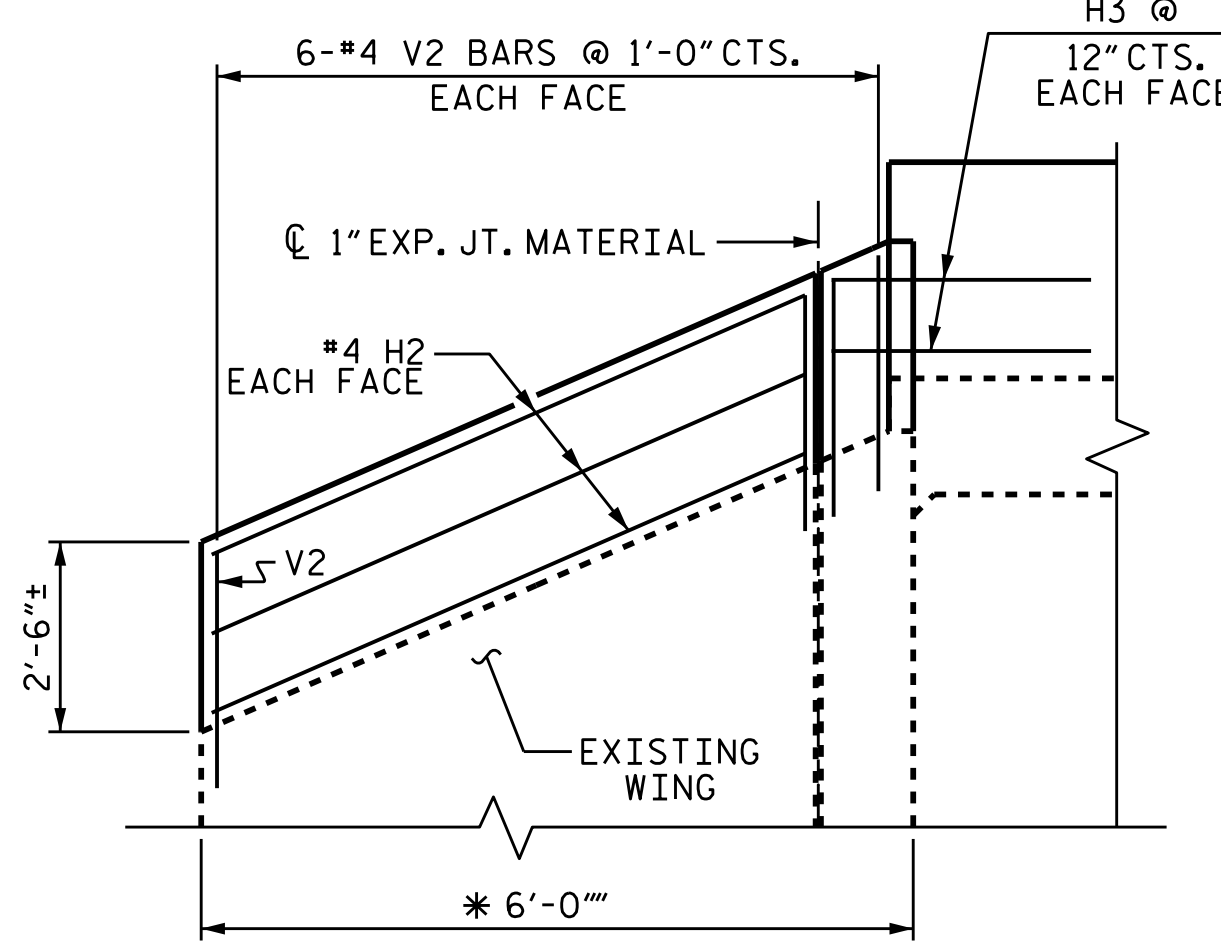


**HEADWALL ELEVATION**

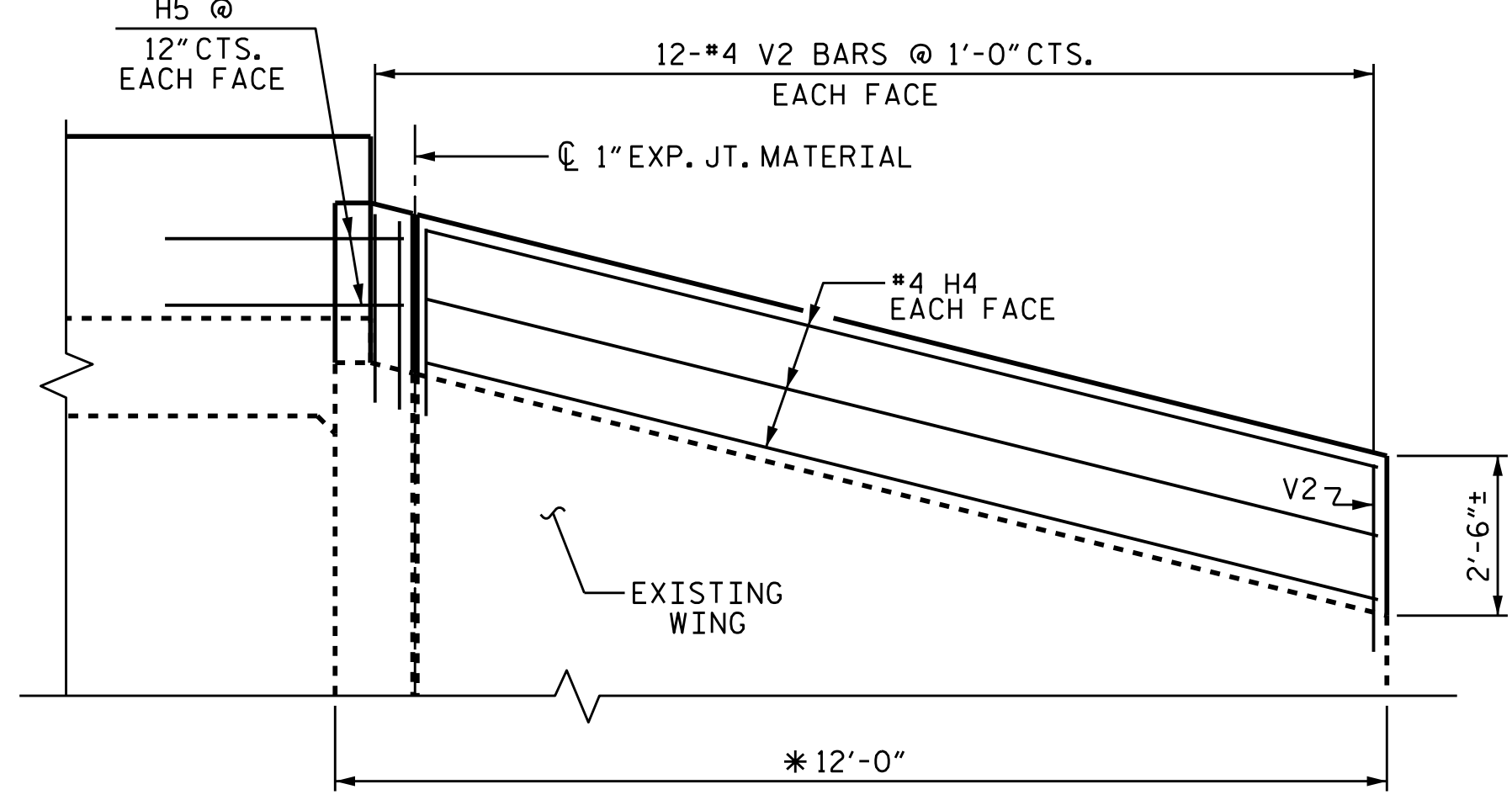
NOTE: THE #4 V1 AND #4 V2 BARS ARE TO BE ADHESIVELY ANCHORED INTO THE EXISTING CULVERT. NO FIELD TESTING WILL BE REQUIRED AND THE YIELD LOAD OF THE #4 "V" BARS IS 12 KIPS.



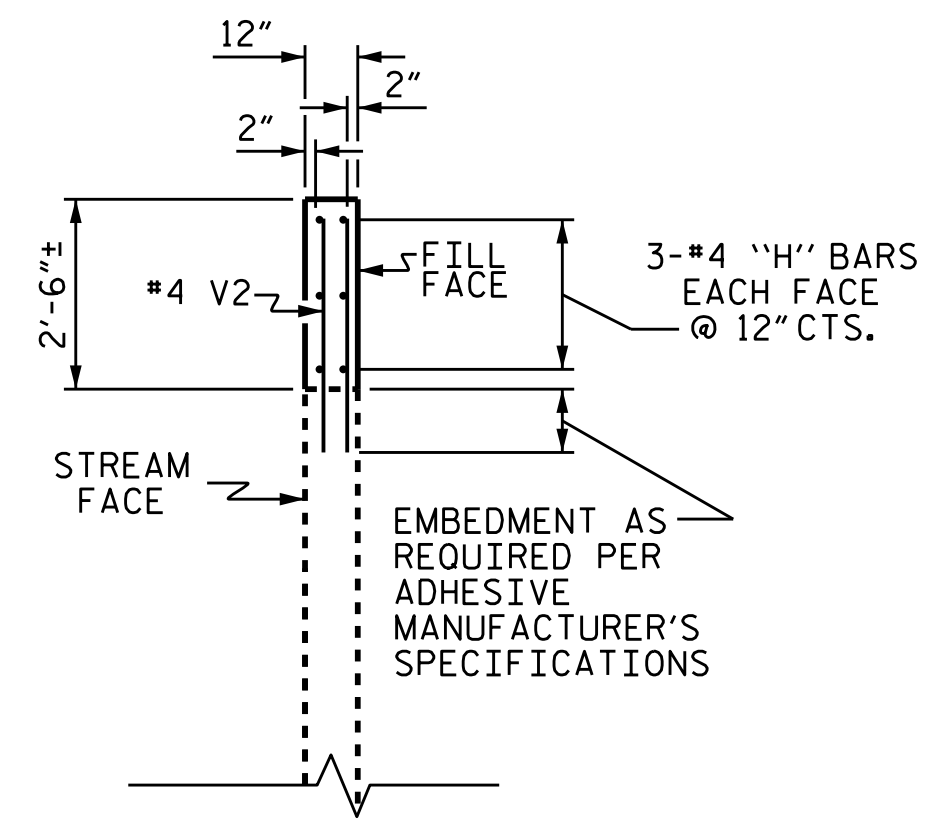
**END ELEVATION NORMAL TO SKEW**



**ELEVATION W2**



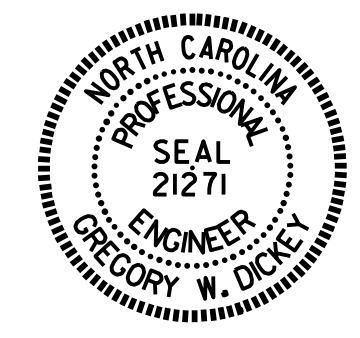
**ELEVATION W1**



**TYPICAL WING SECTION**

PROJECT NO. R-5749  
COLUMBUS COUNTY  
 STATION: CULVERT DETAIL

SHEET 1 OF 1



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**RAISING HEADWALLS  
 AND WINGS FOR  
 CONCRETE BOX CULVERT**

DRAWN BY: G. W. DICKEY DATE: 10/2017  
 CHECKED BY: P. K. NEWTON DATE: 10/2017  
 DESIGN ENGINEER OF RECORD: G. W. DICKEY DATE: 10/2017

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			1