

HNTB

HNTB NORTH CAROLINA, P.C.
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Suite 500
Raleigh, North Carolina 27609
NC License No: C-1554

PROJECT REFERENCE NO.

DF18314.2045330

RW SHEET NO.

PROJECT REFERENCE NO.

DF18314.2045330

SHEET NO.

2D-1

HYDRAULICS ENGINEER

SEAL

6/30/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

LITTLE CREEK RELOCATION DETAIL

CHANNEL TYPICAL SECTION

W_{thal} = 5 ft.
W_{bed} = 18 ft.
W_{bankfull} = 24 ft.
W_{bench} = 10 ft.
D_{toe} = 0.5 ft.
D_{max} = 2 ft.

FROM STA. 00+15 TO STA. 1+00
FROM STA. 01+30 TO STA. 3+40

Type of Liner= NATURAL CHANNEL MATERIAL

ROCK CROSS VANE QUANTITIES:
75 TONS – #57 STONE
50 TONS – BOULDERS
300 SY – GEOTEXTILE FOR DRAINAGE

EARTHWORK QUANTITIES		
STA	XS EXCAVATION AREA (SF)	XS FILL AREA (SF)
3+25	85.1	–
3+00	47.4	8.7
2+75	97.3	61.2
2+50	176.6	143.3
2+25	222.8	–
2+00	237.4	–
1+75	257.2	–
1+50	282.5	–
1+25	–	–
1+00	97.5	–
0+75	192.5	–
0+50	165.6	–
0+25	97.1	8.2
0+00	–	–
TOTAL	1,729	205
APPROX. NET EXCAVATION = 1,524 CY*		
*CALCULATED USING AVERAGE END AREA METHOD		

1/3 BANKFULL WIDTH

1/3 BANKFULL WIDTH

1/3 BANKFULL WIDTH

BANKFULL

20° TO 30°

BANKFULL

HEADER ROCK, TYP. SEE PROFILE FOR ELEVATION

BACKFILL, TYP.

#57 STONE

GEOTEXTILE

EXCAVATED TRENCH FOR ROCK CROSS VANE CONSTRUCTION

POOL

POOL EXCAVATED PER DIRECTION OF ENGINEER

KEY IN VANE TO BANK MINIMUM OF 5' AT AN ELEVATION EQUAL TO BANKFULL OR SLIGHTLY LOWER

SECTION A-A

SECTION B-B

PLAN VIEW

ROCK CROSS VANE DETAIL

NOT TO SCALE

NOTES:

1) DEEPEST PART OF POOL TO BE IN LINE WITH WHERE VANE ARM TIES INTO BANKFULL.

2) DO NOT EXCAVATE POOL TOO CLOSE TO FOOTER BOULDERS.

3) CLASS "A" STONE CAN BE USED TO REDUCE VOIDS BETWEEN HEADERS AND FOOTERS.

4) COMPACT BACKFILL TO EXTENT POSSIBLE OR AT THE DIRECTION OF THE ENGINEER.

5) POOL DEPTH SHOULD BE 2 TO 3 TIMES BANKFULL DEPTH.