CONST. NO.	19005-3161-44	
PROJECT NO.	YEAR	SHEET NO.
BH-I-40-4(86)	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	2/12/15	GS&P	UPDATED BEAM 5 LENGTH

BEAM DIMENSIONS

BEAM NO.	A	B	C	D	E
1	84'-1 3/4"	83'-3 3/4"	75 EQ. SPA. = 74'-4 3/4"	19'-8 11/16"	19'-8 11/16"
2	83'-8 3/4"	82'-10 3/4"	74 EQ. SPA. = 73'-11 3/4"	19'-7 7/16"	19'-7 7/16"
3	83'-3 3/4"	82'-5 3/4"	74 EQ. SPA. = 73'-6 3/4"	19'-6 3/16"	19'-6 3/16"
4	82'-10 7/8"	82'-0 7/8"	74 EQ. SPA. = 73'-1 7/8"	19'-5"	19'-4 15/16"
5	82'-5 7/8"	81'-10 7/8"	73 EQ. SPA. = 72'-8 7/8"	19'-4 1/2"	19'-4 7/16"
6	82'-0 7/8"	81'-2 7/8"	73 EQ. SPA. = 72'-3 7/8"	19'-2 1/2 "	19'-2 7/16 "
7	81'-7 7/8"	80'-9 7/8"	72 EQ. SPA. = 71'-10 7/8"	19'-1 1/4"	19'-1 3/16"
8	81'-2 7/8"	80'-4 7/8"	72 EQ. SPA. = 71'-8 7/8"	19'-0"	18'-11 15/16"
9	80'-10"	80'-0"	72 EQ. SPA. = 71'-0"	18'-10 3/4"	18'-10 3/4"
10	80'- 5"	79'-7"	71 EQ. SPA. = 70'-8"	18'-9 1/2"	18'-9 1/2"
11	80'-0"	79'-2"	71 EQ. SPA. = 70'-3"	18'-8 1/4"	18'-8 1/4"
12	79'-7"	78'-9"	70 EQ. SPA. = 69'-10"	18'-7"	18'-7"
13	79'-2 1/8"	78'-4 1/8"	70 EQ. SPA. = 69'-5 1/8"	18'-5 13/16"	18'-5 3/4"
14	78'-9 1/8"	77'-11 1/8"	70 EQ. SPA. = 69'-0 1/8"	18'-4 1/2"	18'-4 9/16"
15	78'- 4 1/8"	77'-6 1/8"	69 EQ. SPA. = 68'-7 1/8"	18'-3 1/4"	18'-3 5/16"
16	77'-11 1/8"	76'-1 1/8"	69 EQ. SPA. = 68'-2 /8"	18'-2"	18'-2 1/16"
17	77'-6 1/8"	76'-8 1/8"	68 EQ. SPA. = 67'-9 1/8"	18'-0 3/4"	18'-0 13/16"

BEAM 1

BILL OF STEEL (PER BEAM)

BAR	NO. REQ'D	LENGTH
A300	12	42'-10"
A501	8	2'-8"
A502	8	2'-8"
C400	208	3'-2"
C600	8	44'-0"
H300	12	4'-9 1/2"
H400	122	5'-9"
ZA400	172	4'-2 1/2"

BEAMS 2 - 4

BILL OF STEEL (PER BEAM)

BAR	NO. REQ'D	LENGTH
A300	12	42'-10"
A501	8	2'-8"
A502	8	2'-8"
C400	206	3'-2"
C600	8	44'-0"
H300	12	4'-9 1/2"
H400	121	5'-9"
ZA400	170	4'-2 1/2"

BEAMS 5 - 6

BILL OF STEEL (PER BEAM)

BAR	NO. REQ'D	LENGTH
A300	12	42'-10"
A501	8	2'-8"
A502	8	2'-8"
C400	204	3'-2"
C600	8	44'-0"
H300	12	4'-9 1/2"
H400	120	5'-9"
ZA400	168	4'-2 1/2"

BEAMS 7 - 9

BILL OF STEEL (PER BEAM)

BAR	NO. REQ'D	LENGTH
A300	12	42'-10"
A501	8	2'-8"
A502	8	2'-8"
C400	202	3'-2"
C600	8	44'-0"
H300	12	4'-9 1/2"
H400	119	5'-9"
ZA400	166	4'-2 1/2"

BEAMs 10 - 11

BILL OF STEEL (PER BEAM)

BAR	NO. REQ'D	LENGTH
A300	12	42'-10"
A501	8	2'-8"
A502	8	2'-8"
C400	200	3'-2"
C600	8	44'-0"
H300	12	4'-9 1/2"
H400	118	5'-9"
ZA400	164	4'-2 1/2"

BEAMS 12 - 14

BILL OF STEEL (PER BEAM)

BAR	NO. REQ'D	LENGTH
A300	12	42'-10"
A501	8	2'-8"
A502	8	2'-8"
C400	198	3'-2"
C600	8	44'-0"
H300	12	4'-9 1/2"
H400	117	5'-9"
ZA400	162	4'-2 1/2"

BEAMS 15 - 16

BILL OF STEEL (PER BEAM)

BAR	NO. REQ'D	LENGTH
A300	12	42'-10"
A501	8	2'-8"
A502	8	2'-8"
C400	196	3'-2"
C600	8	44'-0"
H300	12	4'-9 1/2"
H400	116	5'-9"
ZA400	160	4'-2 1/2"

BEAM 17

BILL OF STEEL (PER BEAM)

BAR	NO. REQ'D	LENGTH
A300	12	42'-10"
A501	8	2'-8"
A502	8	2'-8"
C400	194	3'-2"
C600	8	44'-0"
H300	12	4'-9 1/2"
H400	115	5'-9"
ZA400	158	4'-2 1/2"

ESTIMATED QUANTITIES PER BEAM

BEAM NO.	CLASS "P" CONCRETE (C.Y.)	REINFORCING STEEL (LB.)	PRESTRESSING STRANDS (LOW RELAXATION) (LB.)
1	14.2	2175	2113
2	14.1	2161	2102
3	14.0	2161	2092
4	14.0	2161	2081
5	13.9	2148	2071
6	13.8	2148	2060
7	13.8	2134	2050
8	13.7	2134	2040
9	13.6	2134	2029
10	13.6	2120	2019
11	13.5	2120	2008
12	13.5	2107	1998
13	13.4	2107	1988
14	13.3	2107	1977
15	13.3	2093	1967
16	13.2	2093	1956
17	13.1	2079	1946

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2/12/2015
PRF

DESIGNED BY GRESHAM SMITH & PARTNERS DATE 2/09/2015
DRAWN BY R. PALMER DATE 1/2015
SUPERVISED BY T. KNIAZEWYCZ DATE 1/2015
CHECKED BY T. KNIAZEWYCZ DATE 2/2015

GRESHAM SMITH AND PARTNERS

TED A. KNIAZEWYCZ
REGISTERED ENGINEER
No. 22075
STATE OF TENNESSEE

BRIDGE NO. 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PRESTRESSED BOX BEAM
DETAILS SHEET 2 OF 2
I-40
OVER
CSX RAILROAD
BR. NO. 19-10040-16.75
DAVIDSON COUNTY
2015

BR-119-53