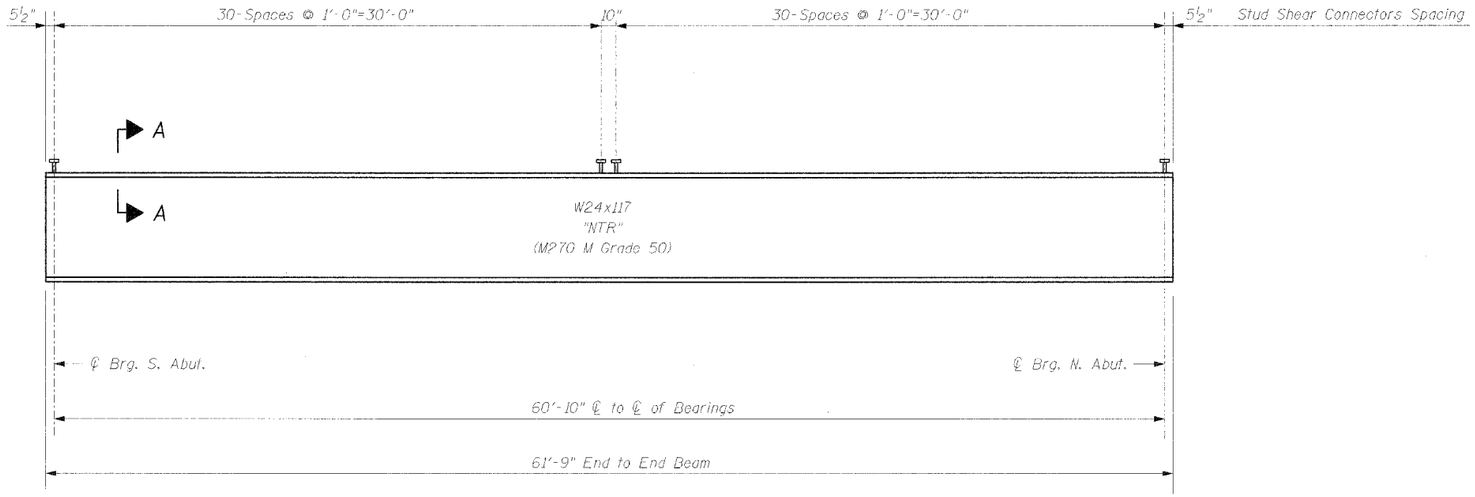
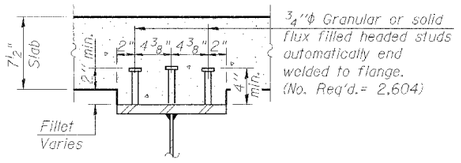
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3732	00-00125-00-BR	COOK	58	33
STA. 102+57.23		TO STA. 103+82.77		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT BHM-7003(802)		
Sheet S-16 of S-28		CONTRACT 83584		



BEAM ELEVATION

"NTR" denotes elements to which notch toughness requirements are applicable.



SECTION A-A

INTERIOR GIRDER MOMENT TABLE			
0.5 Span			
Is	(in⁴)	3,540	
Ic (n)	(in⁴)	10,384	
Ic (3n)	(in⁴)	7,290	
Ss	(in³)	291	
Sc (n)	(in³)	454	
Sc (3n)	(in³)	402	
Z	(in³)		
w℄	(K/ft.)	0.67	
M℄	('K)	310	
s℄	(K/ft.)	0.50	
Ms℄	('K)	231	
M℄	('K)	383	
M (Imp)	('K)	103	
5/3(M℄+MI)	('K)	810	
Ma	('K)	1,756	
*** Mu	('K)	1,980	
fs℄ non-comp	(k.s.i.)	12.8	
fs℄ (comp)	(k.s.i.)	6.9	
fs 5/3(M℄+MI)	(k.s.i.)	21.4	
fs (Overload)	(k.s.i.)	41.1	
fs (Total)	(k.s.i.)		
VR	(K)	36.3	

*** Compact, Braced Section

INTERIOR GIRDER REACTION TABLE			
		Abuts.	
R℄	(K)	35.6	
R℄	(K)	28.6	
Imp.	(K)	7.7	
R (Total)	(K)	71.9	

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads (see AASHTO 10.38).

VR is the maximum Live Load + Impact shear range in span.

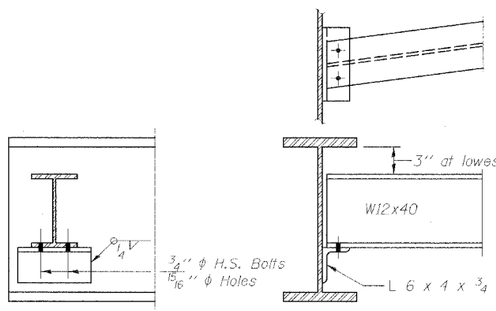
Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.

Ma (Applied Moment)=1.3[M℄ + Ms℄ + 5/3(M℄+MI)].

Mu is the Full Plastic Moment Capacity for Compact, Braced section.

fs (Overload) is the sum of the stresses due to M℄ + Ms℄ + 5/3(M℄+MI).

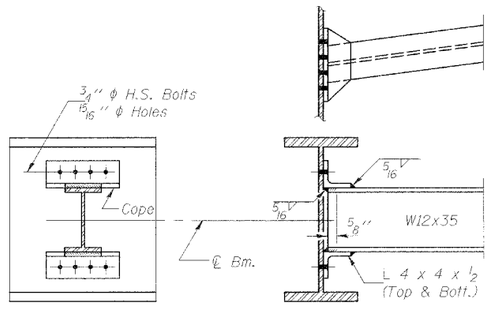
fs (Total) (Non-compact section) is the sum of the stresses due to 1.3[M℄ + Ms℄ + 5/3(M℄+MI)].



DIAPHRAGM D

18 Required

Note:
Two hardened washers shall be required over all oversize holes for diaphragms.



DIAPHRAGM D1

18 Required

Note:
For location of Diaphragms D & D1 See Sheet S-15.

BILL OF MATERIAL

Item	Unit	Quantity
Stud Shear Connectors	Each	2,604

REVISIONS	
NAME	DATE

Ciorba Group, Inc.
CONSULTING ENGINEERS
8597 NORTH CUMBERLAND AVENUE :: CHICAGO, ILLINOIS 60656 :: (773) 775-4009

CITY OF EVANSTON, ILLINOIS
BEAM ELEVATION
ASBURY AVENUE OVER CTA YELLOW LINE
SECTION 00-00215-00-BR
COOK COUNTY
STA. 103+20.00
STRUCTURE NO. 016-6959

SCALE: NONE
DATE: OCTOBER 2004 DRAWN BY: IMG
FILE: 3212 CHECKED BY: SCD

DATE: 11/05/2004
FILENAME: N:\PROJ\3212\Design\Structural\3212-S-16-BEAM.dgn