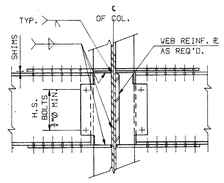
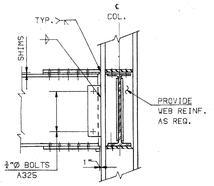


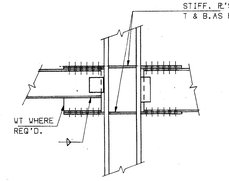
PLAN



SECTION 1

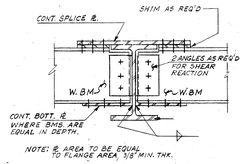


SECTION 2

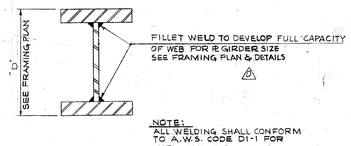


CONNECTION BETWEEN
DIFFERENT DEPTH WIND GIRDERS

NOTE 1. WELDS & BOLTS FOR MOM. CONNECTION MUST DEVELOP MOMENTS AS INDICATED ON DRAWINGS.
2. MIN. THICKNESS OF MOM. PLATES SHALL BE ½"
3. WELD MAY BE SUBSTITUTED FOR BOLTS UPON APPROVAL BY ENGINEER OF AN EQUIVALENT DETAIL.
4. PROVIDE WEB REINFORCING WHERE REQUIRED DUE TO WEB CUT FOR CONNECTIONS.



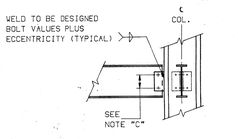
TYP MOMENT CONNECTION DETAIL
AT CANTILEVER BEAMS



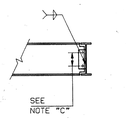
NOTE:
ALL WELDING SHALL CONFORM TO A.W.S. CODE D1-1 FOR WELDING IN BUILDING CONSTRUCTION AMENDED TO DATE.

TYPICAL WELDING DETAIL
FOR BUILT-UP GIRDER

TYPICAL MOMENT CONNECTION DETAILS



BEAM TO COL. CONNECTION



BEAM TO BEAM CONNECTION

MIN. NO. OF BOLTS "N" SEE NOTE "C"	
BEAM SIZE	¾"
W 36	8
W 33	7
W 30	6
W 27	6
W 24	6
W 21	6
W 18	5
W 16	4
W 14	3
W 12	3



℄ TO BE DESIGNED FOR CAPACITY OF BOLTED CONNECTION AND ECCENTRICITY MIN. THICKNESS = ¾"

SHEAR PLATE
CONNECTION

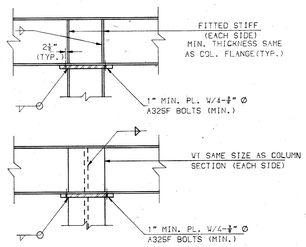
NOTES:

1) *SHEAR ℄ CONNECTIONS MUST BE DESIGNED FOR THE GREATEST OF THE FOLLOWING:* A

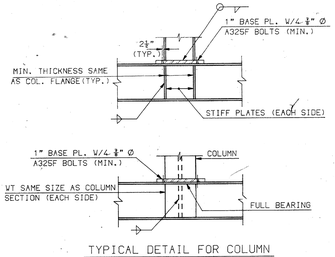
A. FOR COMPOSITE BEAMS - REACTIONS FROM AISC BEAM TABLE X 2.0 AT BEAMS Fy=50 ksi
X 1.5 AT BEAMS Fy=36 ksi
B. FOR NON-COMPOSITE BEAMS - REACTIONS FROM AISC BEAM TABLE X 1.5 AT BEAMS Fy=50ksi
X 1.3 AT BEAMS Fy=36ksi
C. MINIMUM SHEAR PLATE CONNECTIONS- SEE TABLE THIS DRWG.
D. REACTIONS INDICATED ON DRAWINGS.

2. BOLTS SHALL BE ¾"Ø A325 BOLTS MIN.
3. PROVIDE WEB REINFORCING WHERE REQUIRED DUE TO WEB CUT FOR CONNECTIONS.

TYPICAL SHEAR CONNECTION DETAILS



TYPICAL DETAIL FOR BEAM OVER COLUMN



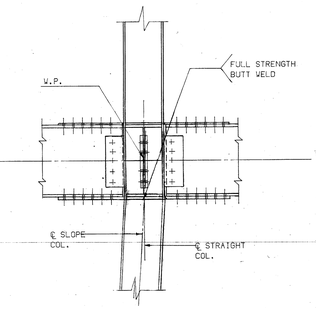
TYPICAL DETAIL FOR COLUMN
OR POST PICK-UP

TYPE "A"

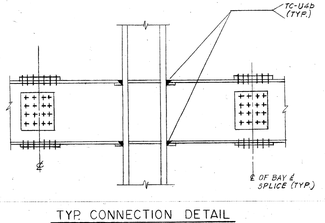
TYPE "B"
(L < 12" AND H < 8')

TYPE "C"
(L > 12" OR H > 8')

TYP BEAM OPENING DETAILS
REINF. R'S TO BE SAME GRADE OF STEEL AS BEAM (TYP.)

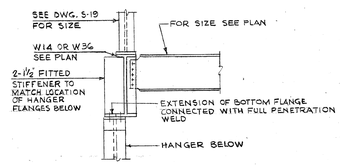


DETAIL AT CONNECTION
BETWEEN SLOPED COLUMN AND STRAIGHT COLUMN

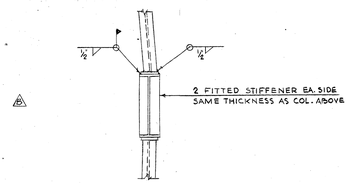


TYP CONNECTION DETAIL
(AT ALL COLS & BEAMS ON EAST & WEST ELEVATION ABOVE 7TH FLOOR TO ROOF U.O.N.)

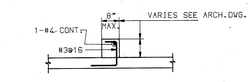
NOTE:
BOLTS SHOWN ARE SYMBOLIC ACTUAL FORCES SHALL BE DEVELOPED AS REQUIRED AT ALL CONNECTIONS.



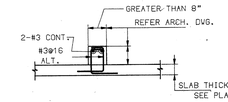
HANGER DETAIL @ 5TH FLOOR
(HANGERS 26, 27A, & 43)



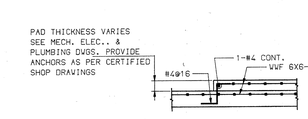
SLOPING COL. DETAIL @ 7TH FL.
(COLUMNS 26, 27, & 43)



TYP. CURB DETAIL
(FOR MAX. WIDTH 8")



TYP. CURB REINF. DETAIL
(SEE ARCH. DWG. FOR SIZE AND LOCATION)

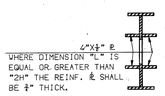


TYP. DETAIL OF EQUIPMENT PAD ON SLAB

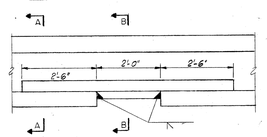
LOAD (PSF) / AREA	CONCRETE SLAB	FILL, FINISH, ROOFING	CEILING DUCTWORK	PARTITIONS	FLOORING	BEAMS, ENCASEMENT, FIREPROOFING	TOTAL DEAD LOAD	LIVE LOAD	TOTAL LOAD
MAIN ROOF, BULKHEAD ROOF	50	10	8			7	75	30	105
8TH-20TH FL (6"ø SLAB)	50		5	12		8	75	50	125
21ST-23RD FL	50		5	12	15	8	90	75	165
7TH FLOOR NORTH SIDE	80		5	12		93	190	50	240
7TH FLOOR SOUTH SIDE	80	38	8	12		27	165	50	215
6TH FLOOR OFFICE SPACE	56		5	12		7	80	50	130
6TH FLOOR SWITCHBOARD ROOM	62	38				55	155	100	255
5TH FLOOR OFFICE SPACE	150	38	5			17	210	50	260
5TH FLOOR MECHANICAL SPACE	150	38	5			17	210	150	360
4TH FLOOR	56	75	5			10	146	100	246
3RD FLOOR AS CONSTRUCTED	56	75	5			10	146	100	246
3RD FLOOR INVESTING SUBSTATION							240	100	340
2ND FLOOR AS CONSTRUCTED	56	60	5			10	191	150	281
2ND FLOOR INVESTING SUBSTATION							240	150	390
1ST FLOOR LOBBY	175	90				50	315	100	415
1ST FLOOR EXISTING SUBSTATION							300	225	525

LOADING SCHEDULE

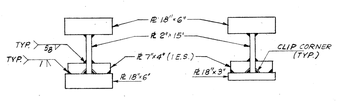
NOTE:
ALL SPECIAL EQUIPMENT LOADS SHALL BE ADDED SEPARATELY TO ABOVE LOADING. C



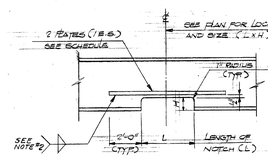
SECT. 3



NOTCH IN MG-51 A



SECT. A-A SECT. B-B



TYPICAL BEAM NOTCH DETAIL

1. WIDTH, EQUAL TO OR LESS THAN DEPTH OF STEEL AS BEAM (TYP.)
2. FILET WELD AS NOTED ABOVE SHALL BE SIZED TO RECEIVE THE FULL CAPACITY OF THE THINNEST OF THE CONNECTED PARTS.

BEAM NOTCH REINFORCEMENT SCHEDULE

FLOOR	BEAM SIZE	REINFORCING PLATES (T & B.)
15TH	W27x178	⅝"x12"
11TH	W27x161	⅝"x12"
6TH	W27x84	½"x8"
5TH	W33x152	⅝"x12"
7TH	W24	⅜"x8"
7TH	W27	½"x8"
2ND	W24	⅜"x10"
2ND	W33	⅝"x8"
2ND	W30	½"x8"
2ND	W24	⅜"x10"
23RD	W30	½"x8"
20TH	W27	½"x8"
45TH	W21	⅜"x8"
33RD, 42ND	W18x86	½"x8"
46TH	W21	⅜"x8"
46TH	W27	½"x8"
46TH	W30	⅝"x8"
46TH	W36	⅝"x8"
47TH	W14	½"x8"

ISSUED TO PORT AUTHORITY 7/15/85

B RELEASED FOR INFORMATION 12-24-84
C REVISED AND ADDED INFO. AS NOTED 3-8-85

DATE	REVISIONS
A 10-8-85	REVISED AS CIRCLED
A 8-5-85	REVISED AS CIRCLED
A 5-10-85	ISSUED TO PORT AUTHORITY

TYP. SUPERSTRUCTURE
SECTIONS & DETAILS # 1

7 WORLD TRADE CENTER
47 STORY OFFICE BUILDING
BOUNDED BY
VESEY STREET AND BARCLAY STREET
WASHINGTON STREET AND WEST BROADWAY
NEW YORK NEW YORK

EMERY ROTH & SONS P.C.
ARCHITECTS
845 THIRD AVENUE NEW YORK, N.Y. 10022

THE OFFICE OF
IRWIN G. CANTOR P.C.
STRUCTURAL ENGINEERS
919 THIRD AVENUE NEW YORK, N.Y. 10022

SYSKA & HENNESSY
ENGINEERS
11 WEST 42ND STREET NEW YORK, N.Y. 10036

DATE: SCALE:

DWG. S-24

#80028