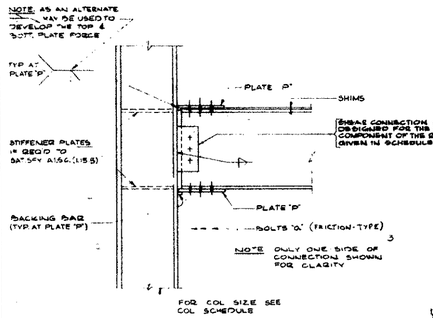
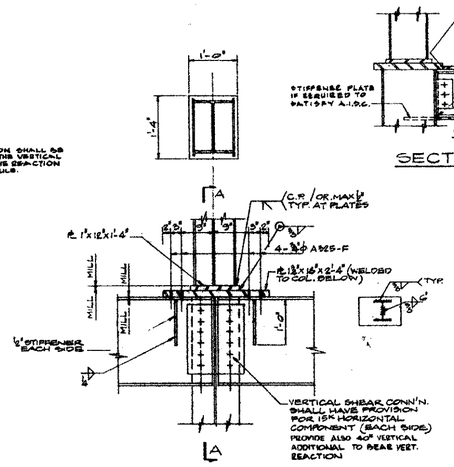
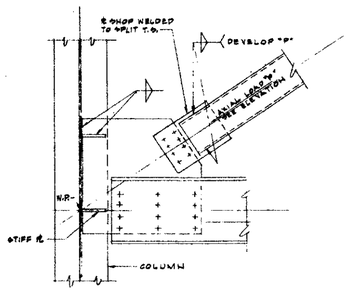


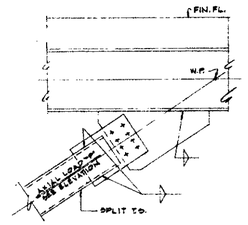
MOMENT CONNECTION TYPE-1



DETAIL BP-1



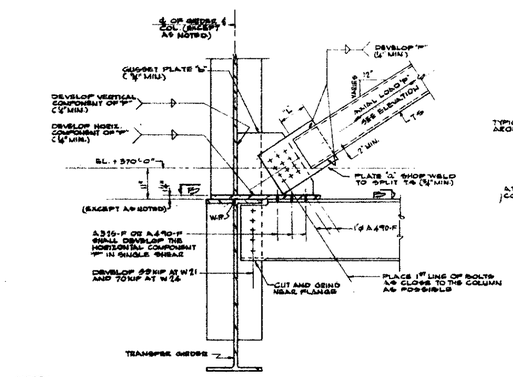
TYPICAL DIAGONAL DETAIL AT WIND BENTS



TYPICAL DIAGONAL DETAIL AT WIND BENTS

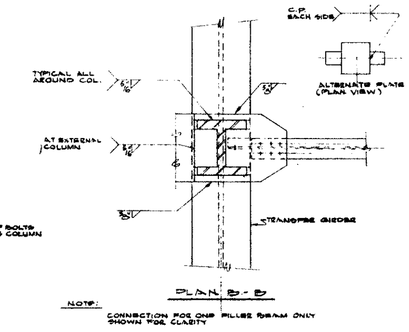
MOMENT CONNECTION (TYPE-1) SCHEDULE

MARK	BEAM SIZE	FLOOR LOCATION	DESIGN MOMENT K/FT	REACTION VERT. COMPONENT K/FT	REACTION HORIZ. COMPONENT K/FT	REMARKS
MC-1 MC-1A	W21 +	5TH & 6TH	230	60 TYPICAL		MC-1A IS SIMILAR TO MC-1 AND APPLIES TO ROOF SPANDRELS FRAMING INTO COLUMN W60.
		7TH & 8TH	195			
		9TH TO 11TH	175			
		12TH TO 14TH & ROOF	155			
		15TH TO 17TH	135			
		18TH TO 20TH & ROOF	110			
MC-2	W21 + W24 +	5TH & 6TH	347*	60 TYPICAL		* 310 @ W24-G ONLY. ♦ 45 @ W21-G ONLY.
		7TH, 8TH & 22ND	220			
		9TH TO 11TH	210			
		12TH TO 14TH	195			
		15TH TO 17TH	84			
		18TH TO 20TH	170			
MC-3	W16 +	5TH & 6TH	160	55 TYPICAL		
		7TH & 8TH	38			
		9TH TO 11TH & ROOF	128			
		12TH TO 14TH	118			
		15TH TO 17TH	108			
		18TH TO 20TH	98			
MC-4	W16 +	5TH & 6TH	270	72 TYPICAL		
		7TH & 8TH	250			
		9TH TO 11TH	240			
		12TH TO 14TH	230			
		15TH TO 17TH	220			
		18TH TO 20TH	208			
MC-5	W 36 +	3RD	400	150		
MC-6	W 36 +	3RD	480	190		
MC-7	W 30 +	ROOF	540	150		
MC-8	W 36 +	3RD	800	140		
MC-9	W 24 +	3RD ROOF	280	90		
MC-10	W 36 +	3RD & 4TH	810	140	90	
MC-11	W 36 +	3RD 4TH	835	140	90	
MC-12	W 27 + W 30 +	3RD 4TH	250	90	60	
MC-13	W 30 + W 24 +	3RD, 4TH & 22ND	170	100		70 (4TH FL. ONLY)
MC-14	W 21 + W 24 +	3RD, 4TH, 5TH & 22ND	80	60	60	
MC-15	W 24 + W 27 +	4TH, 5TH & 22ND	160	80		
MC-16	W 10 + W 24 +	22ND	300			
MC-17	W 30 +	22ND	350	TS @ 18 + 85 @ 36 +		
MC-18	W 14 W 12	3RD	40			



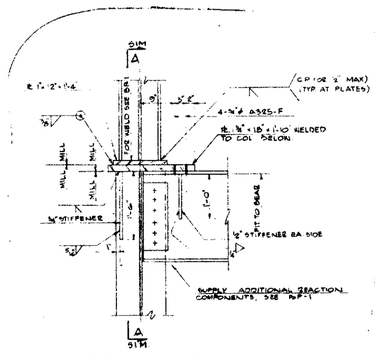
NOTE:
1. DISTANCE 'L' SHALL BE SUFFICIENT TO DEVELOP EITHER THE FILLET WELD OR BOLT OR THE DIAGONAL AXIAL LOAD IN BRACE BY PLATE 'A', WHICHEVER GOVERNS.

TYPICAL BASE DETAIL
(WIND BENTS 2, 2A, 2B, 3, & 3A)



PLAN B-B

NOTE:
CONNECTION FOR ONE FILLER BEAM ONLY SHOWN FOR CLARITY



DETAIL BP-2

GENERAL NOTES

THE FOLLOWING REQUIREMENTS, TOGETHER WITH THE PROJECT PLANS AND SPECIFICATIONS, SHALL APPLY TO THIS STRUCTURE.

CODES AND SPECIFICATIONS

1 - THE PROVISIONS OF THE NEW YORK CITY BUILDING CODE SHALL APPLY TO THIS PROJECT.

2 - BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-71).

3 - AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.

4 - ALL WELDING SHALL COMPLY WITH THE PROVISIONS OF THE ADMINISTRATIVE CODE, SECTION C26-1005.3 AND WITH THE BOARD OF STANDARDS AND APPEALS, RULES FOR ARC AND GAS WELDING AND OXYGEN CUTTING COVERING THE SPECIFICATIONS FOR DESIGN, FABRICATION AND INSPECTION ON ARC AND GAS WELDED STRUCTURES AND THE QUALIFICATIONS OF WELDERS AND SUPERVISORS, AS AMENDED TO DATE.

CONCRETE

1 - FOR SHORING REQUIREMENTS DURING CONCRETE PLACEMENT SEE SPECIFICATION SECTION 03300 4

STRUCTURAL STEEL

1 - ALL STRUCTURAL STEEL SHALL CONFORM TO SPECIFICATIONS FOR ASTM GRADE 36 (F_y = 36000 PSI) EXCEPT FOR TRANSFER GIRDERS AS SHOWN WHICH SHALL CONFORM TO ASTM A572-GRADE 50. 3

2 - ALL SHOP CONNECTIONS SHALL BE HIGH STRENGTH BOLTED OR WELDED. THE FOLLOWING FIELD CONNECTIONS SHALL BE HIGH STRENGTH BOLTED OR WELDED.

(A) CONNECTIONS TO COLUMNS, INCLUDING COLUMN SPLICES
(B) CONNECTIONS WITHIN 3 FEET OF COLUMNS.
(C) CONNECTIONS SUPPORTING ELEVATOR MACHINE ROOMS.
(D) CONNECTIONS TO STRUTS OR HANGERS.
(E) CONNECTIONS OF BEAMS, SUPPORTING COLUMNS OR STRUTS.
(F) CONNECTIONS AT TRANSFER LEVEL.
(G) CONNECTIONS FOR WIND BRACING.
(H) CONNECTION SUPPORTING MECHANICAL EQUIPMENT LOADS.

3 - ALL OTHER FIELD CONNECTIONS MAY BE BOLTED WITH A-307 BOLTS.

4 - ALL A-307 BOLTED CONNECTIONS NOT COMPLETELY ENCASED IN CONCRETE SHALL HAVE THE THREADS NICKED OR NUTS TACK WELDED.

5 - CONNECTION MATERIAL SHALL BE AS FOLLOWS -

(A) HIGH STRENGTH BOLTS - ASTM A-325 OR ASTM A-490.
(B) UNFINISHED BOLTS - ASTM A-307.
(C) WELDS - IN ACCORDANCE WITH THE LATEST AMERICAN WELDING SOCIETY D1.1 SPECIFICATIONS.

6 - WHERE DETAILS OR END REACTIONS ARE NOT GIVEN, CONNECTIONS ARE TO BE SUFFICIENT TO SUPPORT THE CAPACITY OF THE BEAM ASSUMED UNIFORMLY LOADED. THE GRADE OF STEEL OF THE MEMBER SHALL BE ACCOUNTED FOR IN COMPUTING THE BEAM CAPACITY.

7 - ALL BEAMS, EXCEPT CANTILEVER BEAMS, SHALL BE FABRICATED WITH NATURAL CAMBER UP. CANTILEVER BEAMS SHALL BE FABRICATED SO THAT NATURAL CAMBER RAISES CANTILEVERED END.

8 - CONTRACTOR SHALL ADEQUATELY GUY AND BRACE ALL STRUCTURAL STEEL TO MAINTAIN SAFETY AND ALIGNMENT DURING ALL PHASES OF CONSTRUCTION, AND SPECIFICALLY, DURING CONCRETE OPERATIONS, SUCH GUYING AND BRACING SHALL REMAIN IN PLACE UNTIL THE STRUCTURE HAS REACHED ADEQUATE STRENGTH

9 - ALL STEEL SHALL BE FIREPROOFED. WHERE NO OTHER TYPE OF FIREPROOFING (MASONRY OR CONCRETE ENCASEMENT) IS SHOWN ON DRAWINGS, SPRAY ON FIREPROOFING SHALL BE PROVIDED. DOUBLE SPRAY-ON THICKNESS FOR BEAMS WEIGHING LESS THAN 28 LBS. PER LIN. FT.

10 - MINIMUM SIZE BOLTS TO BE USED 3/4 INCH DIAMETER; TWO 3/4" DIAMETER BOLTS MINIMUM PER CONNECTION.

11 - WHERE DIMENSIONS ARE NOT INDICATED, BEAMS SHALL BE EQUALLY SPACED.

12 - WHERE COVER PLATED BEAMS OR GIRDERS ARE INDICATED ON PLAN, 3/4 COVER PLATES SHALL BE CENTERED ON BEAMS, UNLESS OTHERWISE SHOWN.

13 - THE STRUCTURAL STEEL FABRICATOR SHALL FILE AN AFFIDAVIT CERTIFYING THAT STEEL MEETS THE MINIMUM REQUIREMENT OF THE ADMINISTRATIVE CODE BEFORE A PERMIT IS ISSUED. AT THE COMPLETION OF THE STEEL WORK THE CONTRACTOR SHALL FILE A SIMILAR AFFIDAVIT.

14 - CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS OF EXISTING STRUCTURE TO RECEIVE NEW CONSTRUCTION BEFORE SUBMITTING SHOP DRAWINGS FOR APPROVAL

15 - FABRICATION OF STEEL FRAMING NOT TO BE DONE UNTIL FINAL COORDINATION HAS BEEN MADE WITH EXISTING WORK.

16 - ALL STEEL EXPOSED DURING NEW CONSTRUCTION SHALL BE REFIREPROOFED.

RECEIVED
FEB 8 1991
LESLIE E. ROBERTSON ASSOCIATES
211 EAST 46TH ST., N.Y.C. 10017

AS-BUILT DWGS

WORLD TRADE CENTER HOTEL

THE WORLD TRADE CENTER
NEW YORK NEW YORK

SKIDMORE, OWINGS & MERRILL
ARCHITECTS
400 PARK AVENUE, NEW YORK

WEISKOPF & PICKWORTH
STRUCTURAL ENGINEERS
200 PARK AVENUE, NEW YORK

JAROS, BAUM & BOLLES
MECHANICAL ENGINEERS
345 PARK AVENUE, NEW YORK

NO.	DATE	REVISIONS
	1-15-70	ISSUED FOR PORT AUTHORITY REVIEW
4	1-15-70	BULLETIN #15
	1-30-70	ISSUED TO PORT AUTHORITY
2	11-15-70	BULLETIN #10
	10-26-70	ISSUED TO PORT AUTHORITY
	5-14-76	
3	9-6-76	REVISED AS NOTED
1	8-23-76	ADDED MC-13 THRU MC-15
	8-23-76	ISSUED FOR STRUCTURAL STEEL ONLY FROM 22ND FLOOR THRU ROOF
	8-6-76	ISSUED FOR STRUCTURAL STEEL ONLY

STRUCTURAL DETAILS N° 1

DRAWING NO. S-14