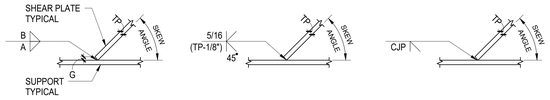
NOTES:

1. ALL SHEAR CONNECTIONS PROVIDED ON THIS SHEET ARE COMPLETELY DESIGNED REFER TO STRUCTURAL GENERAL NOTES FOR ADDITIONAL REQUIREMENTS
2. ALL CONNECTION CAPACITIES PROVIDED IN SCHEDULES ARE STRENGTH LEVEL PER AISC-LOAD AND RESISTANCE FACTOR DESIGN. SELECT CONNECTION CAPACITY BASED ON FACTORED SHEAR REACTIONS SHOWN ON PLAN AND REQUIREMENTS OF DETAILS.
3. SINGLE PLATE, SINGLE ANGLE, OR DOUBLE ANGLE SHEAR ONLY CONNECTIONS MAY BE USED AT THE CONTRACTOR'S OPTION UNLESS OTHERWISE NOTED IN THE CONSTRUCTION DOCUMENTS
4. ALL CONNECTIONS SHOWN ARE DESIGNED UTILIZING BOLTS INDICATED
5. THE FOLLOWING MINIMUM BOLT EDGE DISTANCES AND SPACING SHALL BE USED:

   HORIZONTAL EDGE DISTANCE = 2 x BOLT DIAMETER
   VERTICAL EDGE DISTANCE = 1-1/2"
   SPACING = 3"
6. ALL CONNECTIONS SHOWN ARE DESIGNED UTILIZING PLATE MATERIAL CONFORMING TO ASTM A572 OR A529 GRADE 50
7. PROVIDE STANDARD HOLES IN BEAM. STANDARD OR HORIZONTAL SHORT SLOTTED HOLES ARE PERMITTED IN THE SINGLE PLATE
8. TYPICAL SINGLE PLATE SHEAR CONNECTION DETAILS SHOWN ARE FOR PERPENDICULAR FRAMING CONDITIONS.
   AT SKEWED FRAMING CONDITIONS, PROVIDE WELDS AS INDICATED IN TYPICAL SKEWED SINGLE PLATE WELD DETAILS.

1 SINGLE PLATE SHEAR CONNECTION NOTES



A FILLET WELD B PJP WELD C CJP WELD

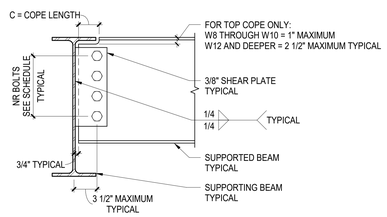
NOTES:

1. DETAIL NOTATIONS:
   TP INDICATES THICKNESS OF PLATE
   D INDICATES FILLET WELD SIZE AS SPECIFIED FOR PERPENDICULAR FRAMING CONDITION (OTHER DETAILS THIS SHEET)
   G INDICATES GAP IF SQUARE CUT PLATE IS USED
2. FILLET WELDS:
   FOR G ≤ 3/16" USE SQUARE CUT PLATE
   FOR G > 3/16", BEVEL PLATE SUCH THAT G = 0 (TOLERANCE = +1/16", -0)
   FOR (D + G) > 3/4", BEVEL PLATE SUCH THAT G = 0 (TOLERANCE = +1/16", -0)
3. PJP AND CJP WELDS:
   WELD PREPARATIONS NOT SHOWN

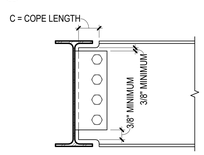
SKEWED SINGLE PLATE WELD SCHEDULE

SKEW ANGLE (DEGREES)	WELD A	WELD B
< 30	CJP WELD	
> 30 - 45	PJP WELD	
> 45 - 50	D + 1/8"	(D*1.31) + G
> 50 - 55	D + 1/8"	(D*1.28) + G
> 55 - 60	D + 1/8"	(D*1.25) + G
> 60 - 65	D	(D*1.23) + G
> 65 - 70	D	(D*1.19) + G
> 70 - 75	D	(D*1.16) + G
> 75 - 80	D	(D*1.12) + G
> 80 - 85	D	(D*1.08) + G
> 85 - 90	D	D + G

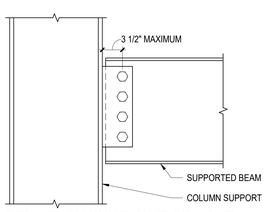
2 TYPICAL SKEWED SINGLE PLATE WELD DETAILS
NOT TO SCALE



A TOP COPE ONLY (TC)



B TOP AND BOTTOM COPE (TBC)
SEE NOTE 3



C BEAM TO COLUMN FLANGE (NO COPE)

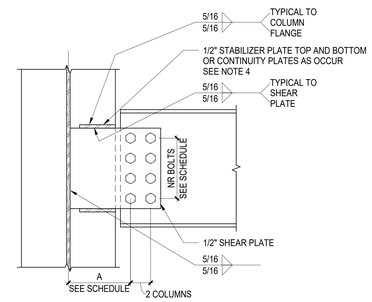
TYPE SP1 SINGLE PLATE SHEAR CONNECTION SCHEDULE:
3/4" DIAMETER ASTM F3125-N BOLTS GRADES A325 OR F1852

BEAM SIZE		NR BOLTS	NO COPE	CONNECTION CAPACITY (KIPS) C = 4" TC	C = 4" TBC	C = 6" TC	C = 6" TBC	C = 8" TC	C = 8" TBC
W8	x10	2	23	20	9	14	6	11	4
	x13-24	2	23	23	13	19	9	14	7
	x28+	2	23	23	16	23	11	20	9
W10	x12	2	23	23	11	23	7	19	5
	x15-26	2	23	23	13	23	9	23	7
	x30+	2	23	23	17	23	12	23	9
W12	x14-16	2	23	23	11	23	8	20	6
		3	42	40	25	28	16	20	11
	x19-30	2	23	23	13	23	9	23	7
		3	42	42	30	37	20	28	14
	x35+	2	23	23	17	23	12	23	9
		3	42	42	38	42	27	41	20
W14	x22-30	3	42	42	29	42	19	37	14
	x34-48	3	42	42	36	42	26	42	19
	x53+	3	42	42	42	42	33	42	26
W16	x26-31	3	42	42	32	42	22	42	16
		4	62	62	57	62	37	54	26
	x36-40	3	42	42	38	42	27	42	20
		4	62	62	62	62	47	62	33
	x45+	3	42	42	42	42	31	42	24
		4	62	62	62	62	55	62	42
W18	x35-50	3	42	42	38	42	27	42	20
		4	62	62	62	62	48	62	34
		5	81	81	81	81	73	81	52
	x55+	3	42	42	42	42	35	42	27
		4	62	62	62	62	62	62	48
		5	81	81	81	81	81	81	75
W21	x44-63	4	62	62	62	62	56	62	43
		5	81	81	81	81	81	81	64
		6	85	85	85	85	85	85	85
	x68+	4	62	62	62	62	62	62	53
		5	81	81	81	81	81	81	81
		6	85	85	85	85	85	85	85
W24 - 4 MIN		4	62	62	62	62	62	62	49
		5	81	81	81	81	81	81	76
		6	85	85	85	85	85	85	85
W27, W30 - 5 MIN		5	81	81	81	81	81	81	81
		6	85	85	85	85	85	85	85
		7	104	104	104	104	104	104	104
		8	123	123	123	123	123	123	123
W33-W40 - 7 MIN		7	104	104	104	104	104	104	104
		8	123	123	123	123	123	123	123
		9	142	142	142	142	142	142	142
		10	161	161	161	161	161	161	161

NOTES:

1. SEE TYPICAL SINGLE PLATE SHEAR CONNECTION GENERAL NOTES FOR ADDITIONAL INFORMATION
2. SELECT CONNECTION CAPACITY BASED ON COPED CONDITION OF BEAM
3. TBC VALUES IN TABLE ALSO APPLY TO BOTTOM COPE ONLY CONDITION

3 TYPICAL SINGLE PLATE SHEAR CONNECTION AT BEAM OR COLUMN FLANGE (TYPE SP1)
NOT TO SCALE



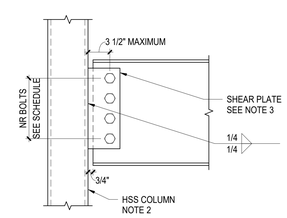
NOTES:

1. SEE TYPICAL SINGLE PLATE SHEAR CONNECTION GENERAL NOTES FOR ADDITIONAL INFORMATION
2. SELECT CONNECTION CAPACITY BASED ON DETAILING DIMENSION "A"
3. MINIMUM COLUMN WEB THICKNESS SHALL BE 0.29" (INCLUDES: W8x31+, W10x33+, W12x40+, W14x43+)
4. STABILIZER PLATES ONLY REQUIRED FOR SHADED CAPACITY CASES
5. SEE TYPICAL DETAIL FOR ADDITIONAL INFORMATION ON SINGLE PLATE CONNECTIONS TO COLUMN WEB WHEN STIFFENERS FROM OTHER CONNECTIONS ARE PRESENT

4 TYPICAL SINGLE PLATE SHEAR CONNECTION AT COLUMN WEB (TYPE SP2)
NOT TO SCALE

TYPE SP2 SINGLE PLATE SHEAR CONNECTION SCHEDULE:
3/4" DIAMETER ASTM F3125-N BOLTS GRADES A325 OR F1852

BEAM SIZE	NR BOLTS	CONNECTION CAPACITY (KIPS) A ≤ 6"	A ≤ 8"	A ≤ 10 1/2"	A ≤ 12"
W8 - W12	2	13	10	8	8
W12 - W18	3	30	24	20	18
W16 - W24	4	54	44	36	32
W18 - W30	5	80	66	54	48
W21 - W40	6	110	91	75	68
W27 - W44	7	142	120	99	89
W30 - W44	8	177	151	125	114
W33 - W44	9	214	184	154	140
W36 - W44	10	251	219	186	169



TYPE SP3 SINGLE PLATE SHEAR CONNECTION SCHEDULE:
3/4" DIAMETER ASTM F3125-N BOLTS GRADES A325 OR F1852

BEAM SIZE	NR BOLTS	CONNECTION CAPACITY (KIPS) HSS WALL THICKNESS ≥ 3/8" SHEAR PLATE THICKNESS = 3/8"	HSS WALL THICKNESS = 1/4" or 5/16" SHEAR PLATE THICKNESS = 1/4"
W8 - W12	2	23	23
W12 - W18	3	42	42
W16 - W24	4	62	62
W18 - W30	5	81	78
W21 - W40	6	85	85
W27 - W44	7	104	104
W30 - W44	8	123	123
W33 - W44	9	142	142
W36 - W44	10	161	161

NOTES:

1. SEE TYPICAL SINGLE PLATE SHEAR CONNECTION GENERAL NOTES FOR ADDITIONAL INFORMATION
2. DETAIL APPLIES TO SQUARE, RECTANGULAR, OR ROUND HSS COLUMNS
3. SINGLE PLATE THICKNESS BASED ON HSS WALL THICKNESS PER SCHEDULE

5 TYPICAL SINGLE PLATE SHEAR CONNECTION AT HSS COLUMN (TYPE SP3)
NOT TO SCALE

REGENERON
REAL ESTATE & FACILITIES MANAGEMENT

777 Old Saw Mill River Road
Tarrytown, NY 10591-6707
T: 914.847.7400
F: 914.847.7991
www.regeneron.com

Building #17
Campus Expansion Child Day-care Center

777 Old Saw Mill River Road
Mount Pleasant, NY 10591

Project No. B17-DAYCARE

Architect
Gensler
1700 Broadway, Suite 400
New York, NY 10019
(212) 492-1400 Phone
(212) 492-1472 Fax

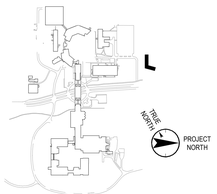
Structural Engineer
Thornton Tomasetti
120 Broadway, 15th Floor
New York, NY 10271
(917) 661-7800 Phone
(917) 661-7801 Fax

MEP / IT / Security Engineer
Cosentini Associates
498 Seventh Avenue
New York, NY 10018
(212) 615-3600 Phone
(212) 615-3700 Fax

Civil Engineer
JMC
120 Bedford Road
Armonk, NY 10504
(914) 273-5225 Phone
(914) 273-2102 Fax

Landscape Architect
Langan
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
(212) 479-5400 Phone
(212) 479-5444 Fax

Key Plan



No.	Date	Description
	05.20.2022	ISSUED FOR PERMIT
	06.20.2022	100% CONSTRUCTION DOCUMENTS
	07.01.2022	100% CONSTRUCTION DOCUMENT- 1

Plot Date: 09/13/18

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Professional Seal and Signature

Vendor Name: GENSLER
Vendor Project No.: 006.3608.000
Discipline: Drawn By: TLL
TYPICAL STEEL BEAM SHEAR CONNECTIONS 3/4" DIAMETER BOLTS

Scale: As indicated Floor:

S-510

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