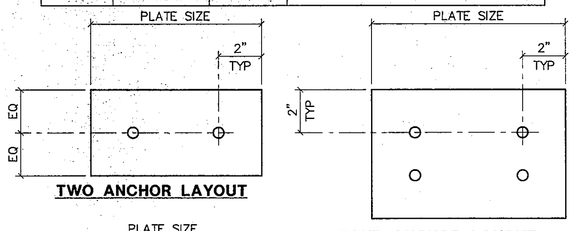
BEARING PLATE SCHEDULE

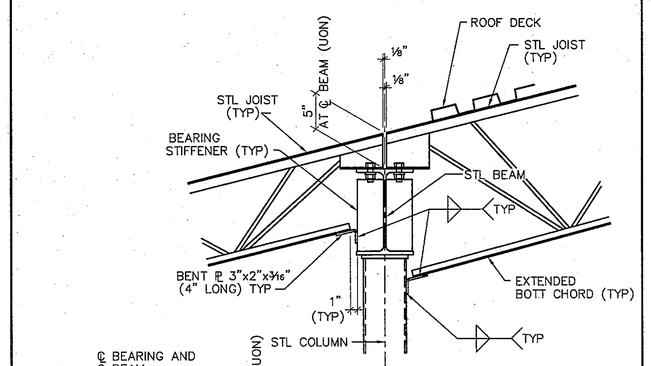
BEARING PLATE MARK	SIZE THK x W x L	NUMBER ANCHOR RODS	REMARKS
BP1	¼"x4"x8"	2	SINGLE BEARING K SERIES JOIST
BP2	¼"x7½"x8"	2	DOUBLE BEARING K SERIES JOIST
BP3	½"x6½"x10"	2	SINGLE BEARING LH SERIES JOIST
BP4	½"x7½"x1'-0"	2	DOUBLE BEARING
BP5	⅜"x6½"x8"	2	TYP BEAM BEARING (UON)
BP6	⅜"x8"x8"	2	BEAM BEARING
BP7	½"x8"x10"	2	BEAM BEARING
BP8	⅝"x10"x1'-2"	4	
BP9	¾"x8"x1'-2"	2	
BP10	⅝"x6½"x10"	4	
BP11	⅝x4"x8"	2	
BP12	⅝"x8"x1'-2"	4	
BP13	⅜"x7½"x1'-4"	2	
BP14	¾"x1'-4½"x1'-0"	4	



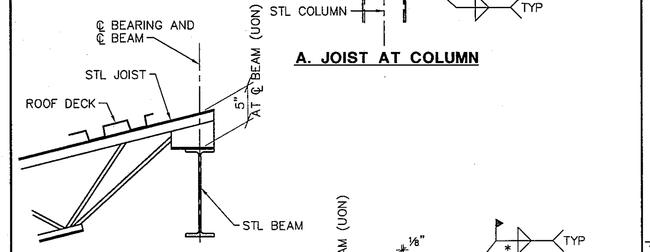
NOTE:

1. SEE TABLE ABOVE FOR NUMBER OF ANCHORS
2. ½"ø x5" HEADED STUDS MAY BE USED IN LIEU OF #3 HOOKED BARS AS SHOWN

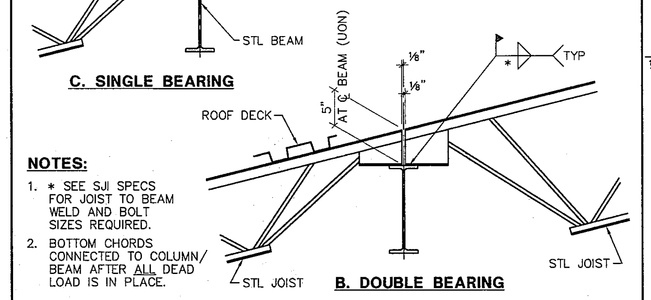
13 BEARING PLATE SCHEDULE



A. JOIST AT COLUMN



C. SINGLE BEARING



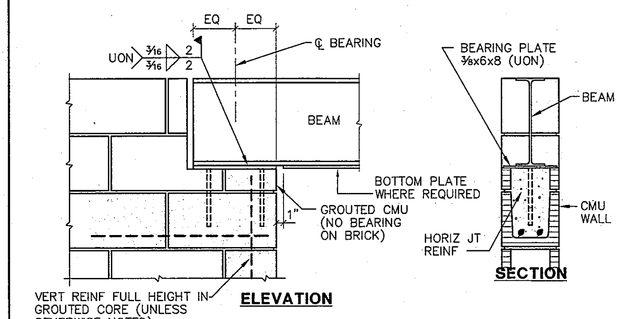
B. DOUBLE BEARING

NOTES:

1. * SEE SJI SPECS FOR JOIST TO BEAM WELD AND BOLT SIZES REQUIRED.
2. BOTTOM CHORDS CONNECTED TO COLUMN/ BEAM AFTER ALL DEAD LOAD IS IN PLACE.

10 JOIST BEARING ON STEEL (SLOPED)

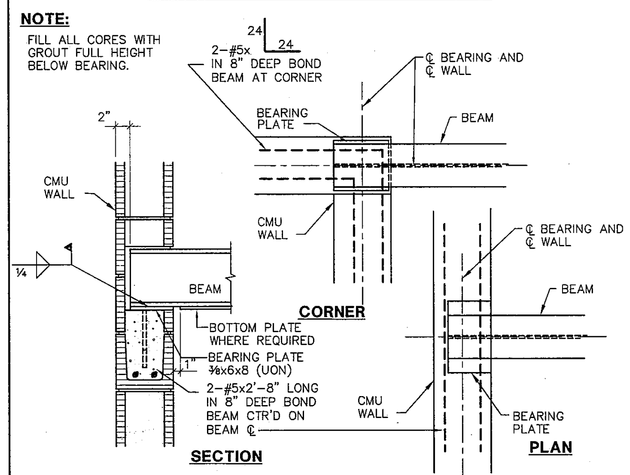
NTS



A. BEAM PARALLEL TO MASONRY WALL

NOTE:

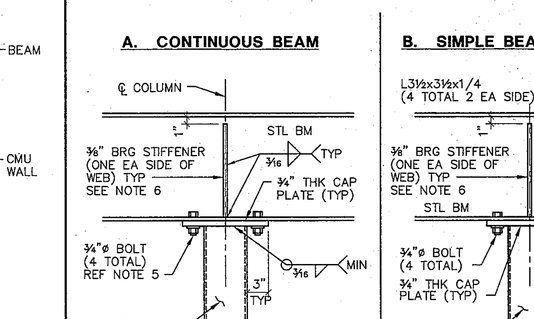
FILL ALL CORES WITH GROUT FULL HEIGHT BELOW BEARING.

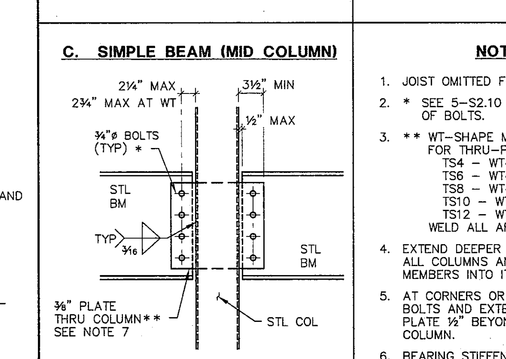


B. BEAM PERPENDICULAR TO MASONRY WALL

7 BEAM BEARING ON MASONRY

NTS





NOTES

1. JOIST OMITTED FOR CLARITY.
2. * SEE S-S2.10 FOR REQUIRED NUMBER OF BOLTS.
3. ** WT-SHAPE MAY BE SUBSTITUTED FOR THRU-PLATE
   - TS4 – WT4x6.5
   - TS6 – WT4x6.5
   - TS8 – WT4x14
   - TS10 – WT5x22.5
   - TS12 – WT6x28.5

   WELD ALL AROUND
4. EXTEND DEEPER BEAM OVER TOP OF ALL COLUMNS AND FRAME OTHER MEMBERS INTO IT.
5. AT CORNERS OR END WALLS USE 2 BOLTS AND EXTEND BEAM AND CAP PLATE ½" BEYOND EXTERIOR FACE OF COLUMN.
6. BEARING STIFFENERS MAY BE OMITTED WHERE AISC SPECIFICATIONS ALLOW AND WHERE NEGATIVE MOMENT IS NOT DEVELOPED OVER COLUMN.
7. SHEAR PLATES WELDED TO FACE OF COLUMN MAY BE USED IN LIEU OF THRU PLATES FOR COLUMNS WITH WALL THICKNESSES OF ⅜" OR GREATER.

3 TYP STEEL BEAM DETAILS

NTS

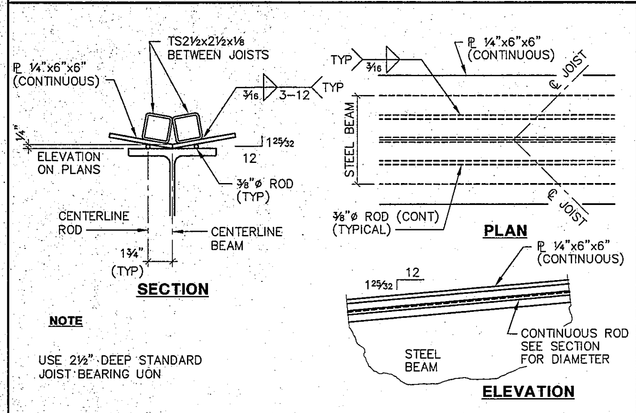
1. STEEL ROOF DECK SHALL BE 1½" STANDARD WIDE RIB DECK (WR20), GALVANIZED 20 GAGE CONFORMING TO THE STEEL DECK INSTITUTE AND FACTORY MUTUAL STANDARDS. (TWO OR MORE SPAN LOADING CONDITIONS). TYPICAL ALL ROOF AREAS UNLESS OTHERWISE NOTED.
2. ACCOUSTICAL ROOF DECK SHALL BE 1½" STANDARD WIDE RIB DECK (WR20A), GALVANIZED 20 GAGE CONFORMING TO THE STEEL DECK INSTITUTE AND FACTORY MUTUAL STANDARDS. (TWO OR MORE SPAN LOADING CONDITIONS). SEE PLANS FOR LOCATIONS
3. ACCOUSTICAL ROOF DECK OVER THE GYMNASIUM AND FIELD HOUSE SHALL BE 3", DEEP RIB DECK (30R18A) GALVANIZED 18 GAGE CONFORMING TO THE STEEL DECK INSTITUTE AND FACTORY MUTUAL STANDARDS. (TWO OR MORE SPAN LOADING CONDITIONS).
4. STEEL FLOOR DECK SHALL BE 2" DEEP GALVANIZED RIBBED COMPOSITE STEEL DECKING, 22 GAGE CONFORMING TO THE STEEL DECK INSTITUTE (TWO OR MORE SPAN LOADING CONDITIONS). TYPICAL ALL FLOOR AREAS UNLESS OTHERWISE NOTED.
5. STEEL JOISTS AND JOIST GIRDERS SHALL CONFORM TO THE STEEL JOIST INSTITUTE SPECIFICATIONS.
6. JOIST BEARING DEPTHS SHALL CONFORM TO SJI STANDARDS UNLESS OTHERWISE NOTED.
7. CAMBER JOISTS IN ACCORDANCE WITH SJI SPECIFICATIONS, UON.
8. EXTEND ALL BOTTOM CHORDS OF JOISTS TO COLUMNS. REF TYPICAL JOIST CONNECTIONS.
9. ALL JOIST EXTENDED ENDS SHALL BE DESIGNED TO CARRY THE ALLOWABLE UNIFORM LOAD FOR THAT JOIST, UNLESS OTHERWISE NOTED.
10. FURNISH BRIDGING BETWEEN JOISTS IN ACCORDANCE WITH THE STEEL JOIST INSTITUTE SPECIFICATIONS UNLESS OTHERWISE NOTED. ATTACH BRIDGING TO END MASONRY WALLS, USING ⅜"ø HILTI HIT C20 GROUTED ANCHOR BOLTS.
11. STRUCTURAL STEEL SHALL BE AS FOLLOWS EXCEPT AS OTHERWISE NOTED:
    - STRUCTURAL SHAPES – ASTM A572 (Fy = 50KSI)
    - STRUCTURAL TUBES – ASTM A500 (Fy = 46KSI) GRADE B
    - STRUCTURAL PIPE – ASTM A501 (Fy = 36KSI) OR ASTM A53, TYPE E OR S, GRADE B (Fy = 36KSI)
    - STRUCTURAL PLATES AND ANGLES – ASTM A36 (Fy = 36KSI)
12. FIELD CONNECTIONS SHALL BE BOLTED WITH ¾"ø, ASTM A325 BOLTS EXCEPT AS OTHERWISE NOTED AND WHERE WELDING IS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS. USE BEARING-TYPE CONNECTIONS WITH THREADS IN THE SHEAR PLANE AND SNUG TIGHT.
13. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION'S "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" AND THE SPECIFICATIONS. REF SECTION 05100, PARAGRAPH 1.03 FOR SHOP DRAWING REQUIREMENTS.
14. FABRICATE AND ERECT ALL STRUCTURAL STEEL WITH RESIDUAL MILL CAMBER UPWARDS.
15. ALL MASONRY WALLS SHALL BE ANCHORED TO STEEL COLUMNS WITH FLEXIBLE TIES. REF SPECIFICATIONS SECTION 04150.
16. 10# W12x16 10# (110'-8½") — INDICATES THAT THE W12x16 BEAM IS LEVEL WITH THE TOP FLANGE AT ELEVATION 110'-8½" WITH A 10 KIP REACTION AT EACH END. THE 'P' AT THE LEFT COLUMN INDICATES A POST, A COLUMN BEARING ON THE TOP FLANGE OF THE BEAM BELOW. THE 'H' AT THE RIGHT COLUMN INDICATES A HANGER, A COLUMN BOLTED TO BOTTOM FLANGE OF THE BEAM ABOVE.

    W12x16 (SLOPED) (110'-10¾") (110'-0") — INDICATES THAT THE W12x16 BEAM IS SLOPED WITH THE TOP OF ITS FLANGE AT ELEVATION 110'-0" AND ELEVATION 110'-10¾", RESPECTIVELY, AT THE CENTERLINE OF THE TWO COLUMNS. THE BEAM FRAMES OVER THE TOP OF THE RIGHT COLUMN AND INTO THE SIDE OF THE LEFT COLUMN.
17. ALL STRUCTURAL ELEVATIONS ARE BASED ON THE TOP SURFACE OF THE FINISHED FLOOR AT THE MAIN ENTRANCE BEING EL 100'-0".
18. JS1, JS3, ETC, ON FRAMING PLANS INDICATE JOIST SUBSTITUTES WHICH SHALL BE 2½" DEEP AND SHALL HAVE THE FOLLOWING PROPERTIES:

MARK/TYPE	RESISTING MOMENT (IN-KIPS)	ALLOWABLE REACTION (LBS)	MIN MOMENT OF INERTIA (IN⁴)
JS1	15	1500	0.7
JS3	21	2100	0.9
JS5	29	2900	1.2
JS7	149	4900	2.1

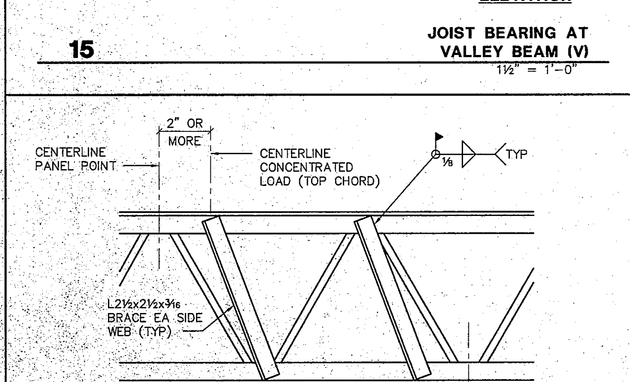
19. ALL ROOF JOISTS SHALL BE DESIGNED AND BRACED FOR 10 PSF NET UPLIFT.
20. THE CONTRACTOR FOR DIV 5 SHALL INCLUDE IN HIS BID AN ALLOWANCE FOR 5000 POUNDS OF MISCELLANEOUS STEEL FRAMING AND BRACING. THIS ALLOWANCE SHALL BE IDENTIFIED PRIOR TO THE START OF CONSTRUCTION.
21. THE CONTRACTOR SHALL INCLUDE IN HIS BID AN ALLOWANCE FOR 5000 POUNDS OF MISCELLANEOUS STEEL FOR LINTELS.. THIS ALLOWANCE SHALL BE IDENTIFIED PRIOR TO THE START OF CONSTRUCTION.
22. ALL BEAMS BEARING ON MASONRY REQUIRE MASONRY BEARING PLATES. USE BP5 FOR BEAMS UNLESS OTHERWISE NOTED ON PLANS.

1 STRUCTURAL STEEL NOTES



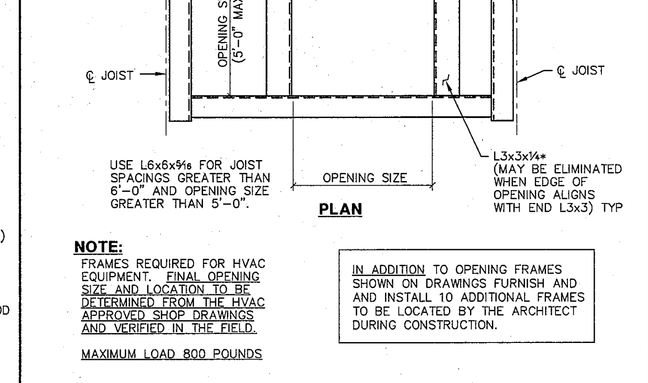
14 JOIST BEARING AT HIP BEAM (H)

1½" = 1'-0"



15 JOIST BEARING AT VALLEY BEAM (V)

1½" = 1'-0"



NOTE:

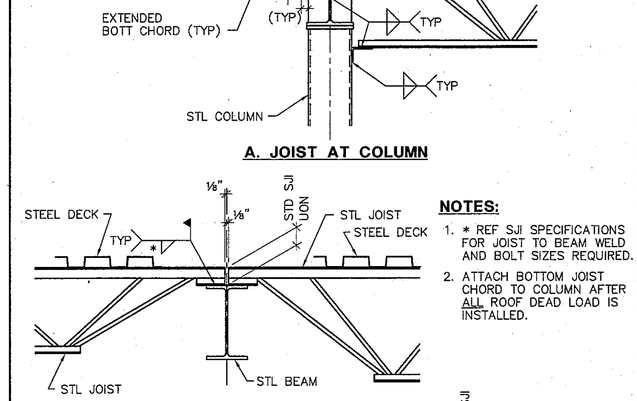
FRAMES REQUIRED FOR HVAC EQUIPMENT. FINAL OPENING SIZE AND LOCATION TO BE DETERMINED FROM THE HVAC APPROVED SHOP DRAWINGS AND VERIFIED IN THE FIELD.

MAXIMUM LOAD 800 POUNDS

IN ADDITION TO OPENING FRAMES SHOWN ON DRAWINGS FURNISH AND AND INSTALL 10 ADDITIONAL FRAMES TO BE LOCATED BY THE ARCHITECT DURING CONSTRUCTION.

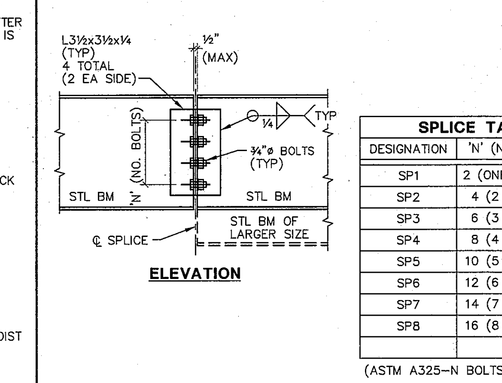
11 TYPICAL OPENING FRAME (FO) (RD) (RV) (RH)

NTS



8 TYP JST BRG ON STL (LOW SLOPE)

NTS



SPLICE TABLE		
DESIGNATION	'N' (NO BOLTS)	LOADS (K)
SP1	2 (ONE EA SIDE)	19
SP2	4 (2 EA SIDE)	37
SP3	6 (3 EA SIDE)	56
SP4	8 (4 EA SIDE)	74
SP5	10 (5 EA SIDE)	93
SP6	12 (6 EA SIDE)	111
SP7	14 (7 EA SIDE)	130
SP8	16 (8 EA SIDE)	149

(ASTM A325-N BOLTS)

5 TYPICAL BEAM SPLICE

NTS

DESIGNED IN ACCORDANCE WITH THE UNIFORM BUILDING CODE – 1994

ROOF LOADS (LOW SLOPE)	CLASSROOM	CORRIDOR	CAFETERIA	MECHANICAL	KITCHEN
BALLASTED MEMBRANE	11 PSF	11 PSF	8 PSF	11 PSF	11 PSF
INSULATION	2 PSF	2 PSF	2 PSF	2 PSF	2 PSF
ROOF DECK	2 PSF	2 PSF	2 PSF	2 PSF	2 PSF
TOTAL D.L. ON DECK	15 PSF	15 PSF	12 PSF	15 PSF	15 PSF
JOISTS/BEAMS	5 PSF	8 PSF	5 PSF	10 PSF	6 PSF
CEILING AND LIGHTS	2 PSF	2 PSF	5 PSF	– ----	2 PSF
MECH/ELEC	5 PSF	40 PSF	8 PSF	50 PSF	15 PSF
SPRINKLER	3 PSF	5 PSF	5 PSF	5 PSF	7 PSF
EQUIPMENT	– ----	– ---	– ---	– ---	25 PSF
TOTAL D.L. ON JOISTS	30 PSF	70 PSF	35 PSF	80 PSF	70 PSF

ROOF LOADS (CURVED)	GYMNASIUM	AUDITORIUM
METAL ROOFING	8 PSF	8 PSF
INSULATION	2 PSF	2 PSF
ROOF DECK	2 PSF	2 PSF
TOTAL D.L. ON DECK	12 PSF	12 PSF
CEILING AND LIGHTS	3 PSF	8 PSF
MECH/ELEC	5 PSF	10 PSF
SPRINKLER	5 PSF	5 PSF
EQUIPMENT	10 PSF	10 PSF
TOTAL D.L. ON JOISTS	35 PSF	45 PSF

ROOF LOADS (LOW SLOPE)	GYMNASIUM
BALLASTED MEMBRANE	11 PSF
INSULATION	2 PSF
ROOF DECK	2 PSF
TOTAL D.L. ON DECK	15 PSF
CEILING AND LIGHTS	5 PSF
MECH/ELEC	5 PSF
SPRINKLER	5 PSF
EQUIPMENT	10 PSF
TOTAL D.L. ON JOISTS	40 PSF

ROOF LOADS (SLOPED)	CLASSROOM	CORRIDOR	NATATORIUM
METAL ROOFING	8 PSF	8 PSF	8 PSF
INSULATION	2 PSF	2 PSF	2 PSF
STEEL DECK	2 PSF	2 PSF	2 PSF
TOTAL D.L. ON DECK	12 PSF	12 PSF	12 PSF
JOISTS/BEAMS	4 PSF	8 PSF	8 PSF
CEILING AND LIGHTS	2 PSF	2 PSF	2 PSF
MECH/ELEC	5 PSF	40 PSF	5 PSF
SPRINKLER	2 PSF	8 PSF	2 PSF
EQUIPMENT	– ----	– ----	– ----
TOTAL D.L. ON JOISTS	25 PSF	70 PSF	30 PSF

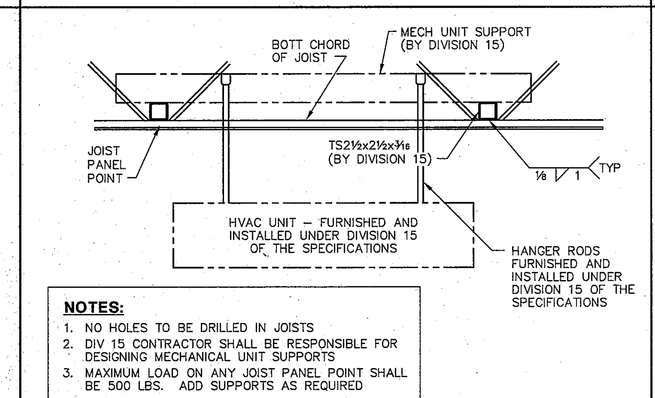
FLOOR LOADS	CLASSROOM	CORRIDOR	MECH'L MEZZ.
COMPOSITE SLAB (4½")	45 PSF	45 PSF	45 PSF
FLOOR COVERING	2 PSF	2 PSF	– ---
TOTAL DEAD LOAD ON DECK	47 PSF	47 PSF	45 PSF
JOISTS/BEAMS	4 PSF	5 PSF	7 PSF
CEILING AND LIGHTS	2 PSF	3 PSF	3 PSF
MECHANICAL/ELECTRICAL	5 PSF	50 PSF	60 PSF
SPRINKLER	2 PSF	5 PSF	5 PSF
EQUIPMENT	– ----	– ----	– ----
PARTITIONS (GWB)	25 PSF	– ----	– ----
TOTAL DEAD LOAD ON JOISTS	85 PSF	110 PSF	120 PSF

LIVE LOADS			
CLASSROOMS	40 PSF	STAIRS	100 PSF
CORRIDOR	80 PSF	MECH\HOUSEKEEPING PADS	50 PSF
MECHANICAL	125 PSF	STORAGE	125 PSF
WIND LOAD	85 MPH	BASIC SNOW LOAD	30 PSF
SEISMIC ZONE	1	DRIFTED SNOW LOAD	VARIES
UPLIFT ON JOIST	10 PSF		

2 DESIGN DATA

16 JOIST REINF AT CONCENTRATED LOAD

NTS

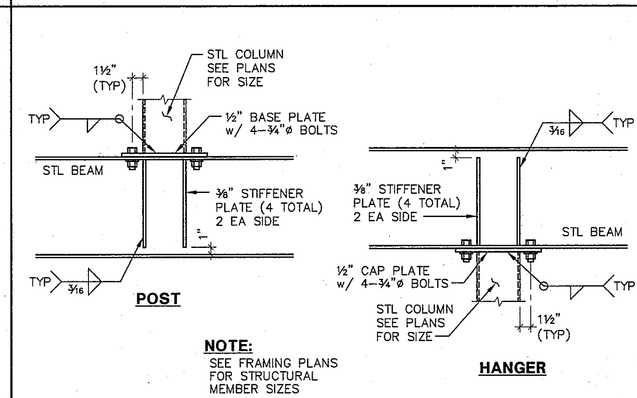


NOTES:

1. NO HOLES TO BE DRILLED IN JOISTS
2. DIV 15 CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING MECHANICAL UNIT SUPPORTS
3. MAXIMUM LOAD ON ANY JOIST PANEL POINT SHALL BE 500 LBS. ADD SUPPORTS AS REQUIRED

12 MECHANICAL EQUIPMENT SUPPORT

NTS

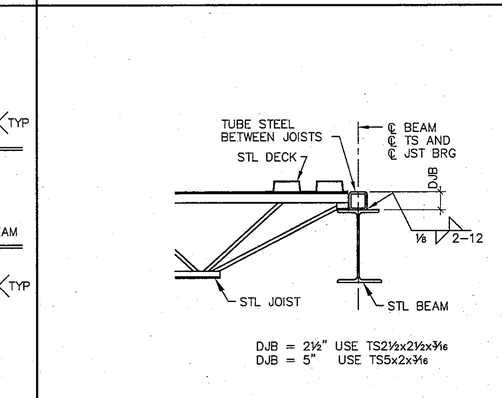


NOTE:

SEE FRAMING PLANS FOR STRUCTURAL MEMBER SIZES

9 POST (P) AND (H) HANGER DETAIL

1" = 1'-0"



NOTE:

SEE PLANS FOR FOR MEMBER SIZES

4 CONTINUOUS BEAM THRU COLUMN

NTS

DJB = 2½" USE TS2½x2½x3/16
DJB = 5" USE TS5x2x3/16

6 EDGE OF DECK SUPPORT (*)

NTS

97-E-48

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THE NEW
CHESTERTON HIGH SCHOOL
FOR THE
DUNELAND SCHOOL CORPORATION
CHESTERTON, INDIANA

Fanning/Howey Associates, Inc.
Architects Engineers Consultants

REVISIONS NO.	DATE

DRAWN BY: B.A.M.
CHECKED BY: D.D.F.
COMM. NO.: 95067.00
DATE: APRIL 21, 1997

FRAMING DETAILS

S2.27

CHESTERTON HIGH SCHOOL
95067.00

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