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\*OSHPD REF: CL3.23

?" FURRING CHANNEL.

11. 1 DIA MACHINE BOLT AND WASHER

THE KICKER.

SADDLE TIE SHALL FULLY WRAP AROUND

## REFER TO A1/A11.10.1 FOR ADDITIONAL NOTES AND REFERENCES.

- FACE OF CONCRETE. ₹" DIA HILTI KBIII WITH 4" MIN. EMBEDMENT. (ICC ESR-1385)
- 3. 3" WIDE, 13 GA. CEILING CLIP. FOR T-BAR CEILING USE: 12 GA. SPLAY WITH 4 TIGHT TURNS IN 1. 3" SPLICES NOT PERMITTED.

(C5) HANGER WIRE FROM CONCRETE

REFER TO A1/A11.10.1 FOR ADDITIONAL NOTES AND REFERENCES.

2- #10 S.M.S. AT EACH END OF KICKER.

CHANNEL KICKER TO MATCH VERTICAL.

8. CUT FLANGES OF KICKER AT MAIN RUNNER.

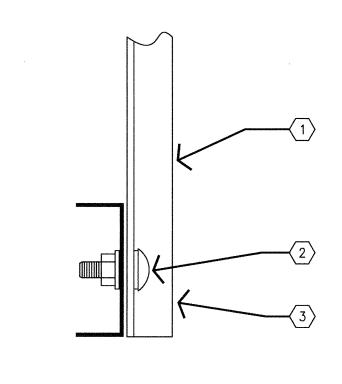
COMPRESSION STRUT.

HANGER WIRE, TYPICAL.

MAIN RUNNER (09 5323).

OBSTRUCTION.

SPLAY WIRES.



CHANNEL SCHEDULE	
LENGTH	CHANNEL
< OR = 2'-0"	1 ½" X ½" X 16GA. C.RC.
< OR = 6'-0"	250t125-33 (20GA.) TRACK
< OR = 8'-0"	400s137-33 (20GA.) STUD

## REFER TO A1/A11.10.1 FOR ADDITIONAL NOTES AND REFERENCES.

REFER TO A1/A11.10.1 FOR ADDITIONAL NOTES AND REFERENCES.

1"X1"X16GA. CONTINUOUS PERIMETER ANGLE.

SADDLE TIE HAT CHANNEL TO MAIN RUNNER

" HAT FURRING CHANNEL WATER RESISTANT

GYP. BD. FRAMING CHANNEL AT 12 ON CENTER.

#10 S.M.S. AT FIXED SIDES ONLY.

MAIN RUNNER (09 5323).

VERTICAL COMPRESSION STRUT AT MAIN RUNNER

1 3" MAIN RUNNER (09 5323). " DIA MACHINE BOLT AND WASHER. COMPRESSION STRUT PER CHANNEL SCHEDULE

STEEL BEAM. CUT FLANGES AND BEND. REMOVE AND REPLACE FIREPROOFING FOR CONNECTION OF STRUT.

2- 0.145" SHOT PINS.

REFER TO A1/A11.10.1 FOR ADDITIONAL NOTES AND REFERENCES.

REFER TO A1/A11.10.1 FOR ADDITIONAL NOTES AND REFERENCES.

3" DIA HILTI KBIII WITH 4" MIN. EMBEDMENT (ICC

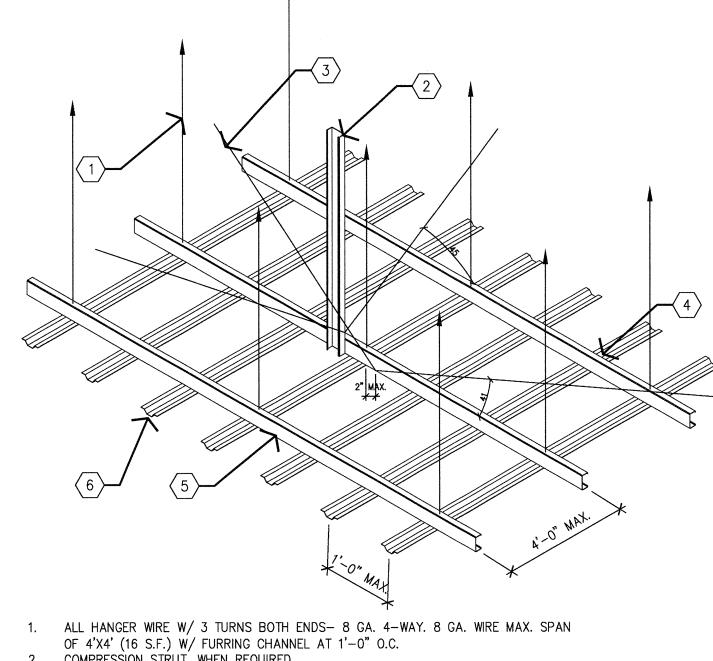
LIGHTWEIGHT WEIGHT CONCRETE.

ESR-1385).

SUSPENDED GYP.BD. CLG. PARALLEL MAIN RUNNER (B3) COMP. STRUCT. CONNECTION AT METAL DECK

CUT FLANGES AND BEND.

## COMP. STRUT CONNECTION AT STRUCTURAL STEEL

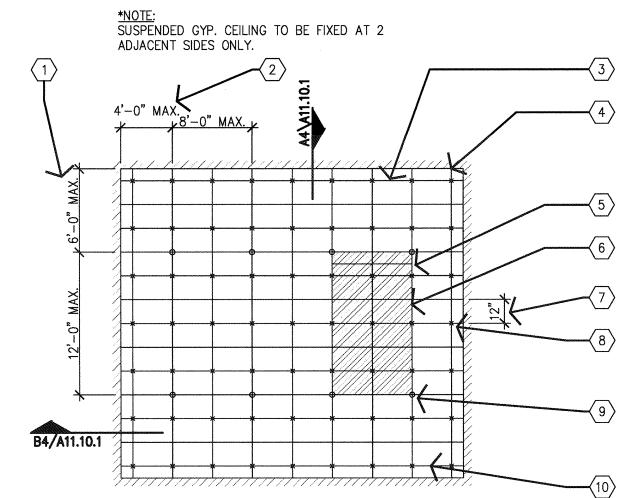


COMPRESSION STRUT. WHEN REQUIRED. 12 GA. 4-WAY SPLAY WIRE IN FOUR DIRECTIONS, 90 DEGREES APART AT 12'-0"X8'-0"

EACH WAY WITH 4 TURNS, BOTH ENDS. 4. SADDLE TIE CROSS RUNNER TO MAIN RUNNER W/ ONE STRAND 16 GA. OR TWO STRANDS 18 GA. WIRE (TYP.). 5. 1 1/2"X1.12 POUND PER FOOT MIN. HOT ROLLED STEEL CHANNEL GALV. OR BLACK ASPHALTUM PAINTED MAIN RUNNER AT 4'-0" O.C. (TYP).

SUSPENDED GYPSUM BOARD CEILING ISOMETRIC

6. 20 GA. 7/8"X2 9/16" GALVANIZED STEEL HAT CHANNEL CROSS RUNNER AS REQUIRED.



SEE A1/A11.10.1 FOR GENERAL CEILING NOTES. BRACING WIRES AND COMPRESSION STRUT SHALL OCCUR AT EVERY 96 SQUARE FEET, MAXIMUM, IN ROOMS OVER 96 SQUARE FEET.

6'-0" MAX. FROM SPLAY WIRE TO WALL.

4'-0" MAX. FROM SPLAY WIRE TO WALL. 8" MAX. FIRST CROSS RUNNER TO WALL CONTINUOUS WALL ANGLE AT PERIMETER. MAIN RUNNERS AT 4'-0" ON CENTER.

overhead congestion

from running to the wall

RFI 4061.1

8. SPLAY WIRE BRACING AT 8'-0" X 12'-0".

1. 12" GA. (MIN) HANGER WIRES MAY BE USED FOR UP TO AND INCLUDING 4'-0" x 4'-0" GRID SPACING ALONG MAIN RUNNERS. SPLICES WILL NOT BE PERMITTED IN ANY HANGER WIRES UNLESS SPECIFICALLY APPROVED BY O.S.H.P.D.

PROVIDE 12 GA. HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN 8" FROM THE SUPPORT OR WITHIN 1/4 OF THE LENGTH OF THE END TEE, WHICHEVER IS LEAST, FOR THE PERIMETER OF THE CEILING AREA. PROVIDE TRAPEZE OR OTHER SUPPLEMENTARY SUPPORT MEMBERS AT OBSTRUCTIONS TO MAIN HANGER SPACING. PROVIDE ADDITIONAL HANGERS, STRUTS OR BRACES AS REQUIRED AT ALL CEILING BREAKS, SOFFITS OR DISCONTINUOUS AREAS. HANGER WIRES THAT ARE MORE TNAN 1 IN 6 OUT OF PLUMB ARE

TO HAVE COUNTER-SLOPING WIRES. 4. CEILING GRID MEMBERS MAY BE ATTACHED TO NOT MORE THAN 2 ADJACENT WALLS. CEILING GRID MEMBERS SHOULD BE AT LEAST 1/2 INCH FREE OF OTHER WALLS. IF WALLS RUN DIAGONALLY TO CEILING GRID SYSTEM RUNNERS, ONE END OF MAIN AND CROSS RUNNERS SHOULD BE FREE AND A MINIMUM OF 1/2 INCH CLEAR OF WALL.

5. AT THE PERIMETER OF THE CEILING AREA WHERE MAIN OR CROSS RUNNERS ARE NOT CONNECTED TO THE ADJACENT WALL, PROVIDE INTERCONNECTION BETWEEN THE RUNNERS AT THE FREE END TO PREVENT LATERAL SPREADING. A METAL STRUT OR A 16 GA WIRE WITH A POSITIVE MECHANICAL CONNECTION TO THE RUNNER MAY BE USED. WHERE THE PERPENDICULAR DISTANCE FROM THE WALL TO THE FIRST PARALLEL RUNNER IS 12" OR LESS, THIS INTERLOCK IS NOT REQUIRED. PROVIDE SETS OF FOUR 12 GA. SPLAYED BRACING WIRES ORIENTED 90 DEGREES FROM EACH OTHER AT

THE FOLLOWING SPACING: A. FOR HOSPITAL BUILDINGS, PLACE SETS OF BRACING WIRES NOT MORE THAN 8 FEET BY 12 FEET ON

B. PROVIDE BRACING WIRES AT LOCATIONS NOT MORE THAN 1/2 THE SPACING GIVEN IN (A) ABOVE FROM EACH PERIMETER WALL AND AT THE EDGE OF VERTICAL CEILING OFFSETS FOR HOSPITAL

THE SLOPE OF THESE WIRES SHOULD NOT EXCEED 45 DEGREES FROM THE PLANE OF THE CEILING AND SHOULD BE TAUT WITHOUT CAUSING THE CEILING TO LIFT. SPLICES IN BRACING WIRES WILL NOT BE PERMITTED WITHOUT SPECIAL OSHPD APPROVAL ANCHOR HANGER WIRES WITH HILTI .145 SHANK DIAMETER POWDER DRIVEN FASTERNERS. HANGER OR BRACING WIRE ANCHORS TO THE STRUCTURE SHOULD BE INSTALLED IN SUCH A MANNER THAT THE

DIRECTION OF THE WIRE ALIGNS AS CLOSELY AS POSSIBLE WITH THE DIRECTION OF THE FORCES ACTING 8. SEPARATE ALL CEILING HANGING AND BRACING WIRES AT LEAST 6 INCHES FROM ALL UNBRACED DUCTS, PIPES, CONDUIT, ETS. IT IS ACCEPTABLE TO ATTACH LIGHTWEIGHT ITEMS, SUCH AS SINGLE ELECTRICAL CONDUIT NOT EXCEEDING 3/4" NOMINAL DIAMETER, TO HANGER WIRES USING CONNECTORS ACCEPTABLE

9. ATTACH ALL LIGHT FIXTURES TO THE CEILING GRID RUNNERS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURES. 10. FLUSH OR RECESSED LIGHT FIXTURES AND AIR TERMINALS OR SERVICES WEIGHING LESS THAN 56 POUNDS MAY BE SUPPORTED DIRECTLY ON THE RUNNERS OF A HEAVY DUTY GRID SYSTEM BUT, IN ADDITION, THEY MUST HAVE A MINIMUM OF TWO 12 GA. SLACK SAFETY WIRES ATTACHED TO THE FIXTURE AT DIAGONAL CORNERS AND ANCHORED TO THE STRUCTURE ABOVE. ALL 4'-0" x 4'-0" LIGHT FIXTURES MUST HAVE SLACK SAFETY WIRES AT EACH CORNER. ALL FLUSH OR RECESSED LIGHT FIXTURES AND AIR TERMINALS OR SERVICES WEIGHING 56 POUNDS OR MORE MUST BE INDEPENDANTLY SUPPORTED BY NOT LESS THAN FOUR TAUT 12 GA WIRES, EACH ATTACHED TO THE FIXTURE AND TO THE STRUCTURE ABOVE, REGARDLESS OF THE TYPE OF CEILING GRID SYSTEM USED. THE FOUR TAUT 12

GA. WIRES, INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE, MUST BE CAPABLE OF SUPPORTING 4 TIMES THE WEIGHT OF THE UNIT. SUPPORT SURFACE MOUNTED LIGHT FIXTURES BY AT LEAST TWO POSITIVE DEVICES WHICH SURROUND THE CEILING RUNNER AND WHICH ARE EACH SUPPORTED FROM THE STRUCTURE ABOVE BY A 12 GA. WIRE. SPRING CLIPS OR CLAMPS THAT CONNECT ONLY TO THE RUNNER ARE NOT ACCEPTABLE. PROVIDE ADDITIONAL SUPPORTS WHEN LIGHT FIXTURES ARE 8 FEET OR LONGER. SUPPORT PENDANT MOUNTED LIGHT FIXTURES DIRECTLY FROM THE STRUCTURE ABOVE WITH HANGER

WIRES OR CABLES PASSING THROUGH EACH PENDANT HANGER AND CAPABLE OF SUPPORTING 4 TIMES THE WEIGHT OF THE FIXTURE. SPECIAL DETAILS ARE NECESSARY FOR THIS CONDITION AT THE CEILING

13. CLASSIFICATION OF CEILING GRID. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION. 14. ALL CEILING SUPPORT MEMBERS, HANGER WIRES, SEISMIC SPLAY WIRES, SAFETY LIGHT WIRES AND ATTACHMENT OF WIRES TO STRUCTURE ABOVE ARE TO BE SUBMITTED IN DETAIL FORM FOR APPROVAL BY THE STRUCTURAL ENGINEER BEFORE INSTALLATION IS STARTED. CEILINGS SHALL CONFORM TO TITLE 24 - TABLE 16A-0 AND SECT. 2501A.5

15. WHEN DRILLED-IN CONCRETE ANCHORS OR SHOT-IN ARE USED IN REINFORCED CONCRETE FOR HANGER WIRES, 1 OUT OF 10 MUST BE FIELD TESTED FOR 200 POUNDS OF TENSION. WHEN DRILLED-IN CONCRETE ANCHORS ARE USED FOR BRACING WIRES, 1 OUT OF 2 MUST BE FIELD TESTED FOR 440 POUNDS IN TENSION. SHOT-IN ANCHORS IN CONCRETE ARE NOT PERMITTED FOR BRACING WIRES. IF ANY SHOT-IN OR DRILLED-IN ANCHOR FAILS, SEE SECTION 1923A.3.5 TITLE 24 NOTE: DRILLED-IN OR SHOT IN ANCHORS REQUIRE SPECIAL APPROVAL WHEN USED IN PRESTRESSED CONCRETE.

A. SEE C2/A11.10.1 FOR ISOMETRIC.

FOR DIFFERENT SIZES OF MAIN RUNNER AND CROSS-FURRING, SEE SPACING REQUIREMENT SHOWN IN CBC TABLE 25-A. E. REFER TO A1/A11.10.1 FOR ADDITIONAL NOTES AND REFERENCES.

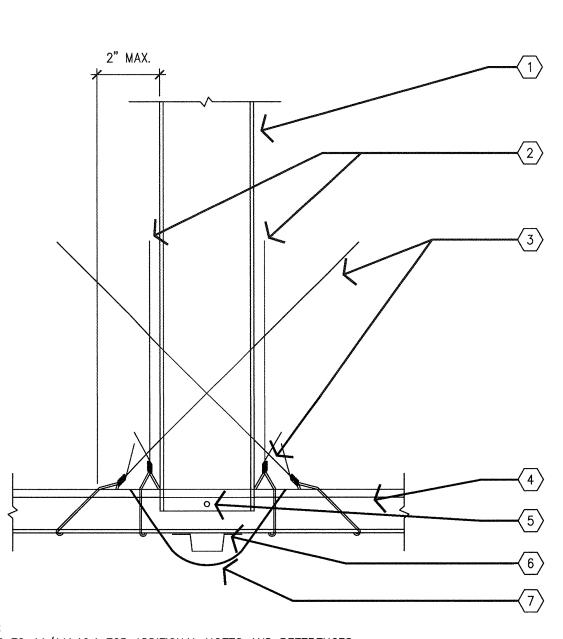
CROSS-RUNNERS. 10. 8" MAX. FIRST MAIN RUNNER TO WALL. 96 SQUARE FEET MAXIMUM. 12" BETWEEN CROSS RUNNERS, TYPICAL.

B2 SUSPENDED GYPSUM BOARD CEILING PLAN

See new detail for when the post cannot be attached to the deck due to

See new detail for when obstructions are not near enough for the joist to

connect directly to the wall or there are further obstructions prohibiting the joist

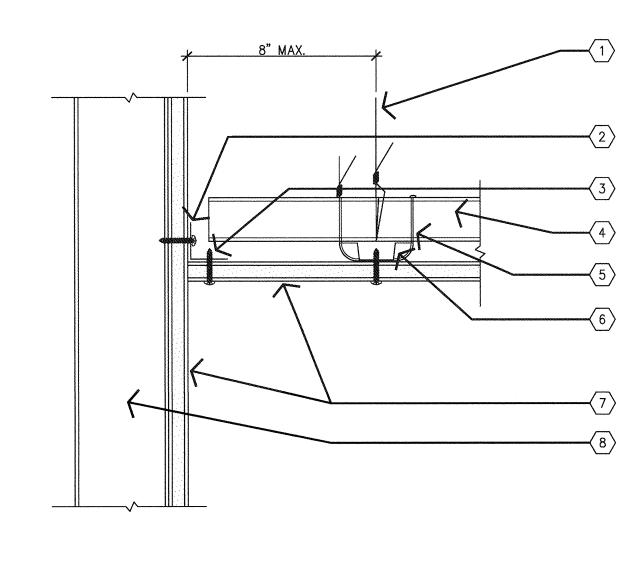


SUSPENDED GYP. BD. CLG. DIAGONAL BRACING

REFER TO A1/A11.10.1 FOR ADDITIONAL NOTES AND REFERENCES.

- COMPRESSION STRUT PER CHANNEL SCHEDULE C4/A11.10.1 (09 5323). HANGER WIRE.
- SPLAY WIRES. MAIN RUNNER. 5. ¼" DIA MACHINE BOLD AND WASHER X/AX.XX. FURRING CHANNEL.

SADDLE TIE.



7. GYPSUM BOARD WITH CASING BEAD (09

8. STEEL STUD PARTITION (05 4000).

REFER TO A1/A11.10.1 FOR ADDITIONAL NOTES AND REFERENCES.

- 7. GYPSUM BOARD WITH CASING BEAD (09 #8 S.M.S. EACH STUD. GYPSUM SCREW AT 12" ON CENTER (TYP.) AT 8. STEEL STUD PARTITION (05 4000). FIXED SIDES ONLY. MAIN RUNNER. SADDLE TIE BETWEEN MAIN RUNNER AND CROSS
- RUNNER. 6. CROSS RUNNER (09 5323). SUSPENDED GYP.BD. CLG. PERPENDIC. TO MAIN RUNNER
- REFER TO A1/A11.10.1 FOR ADDITIONAL NOTES AND REFERENCES. 2. L 1  $\frac{1}{2}$ " X 1  $\frac{1}{2}$ " X  $\frac{1}{8}$ " CONT. OVER 4 FLUTES. 3. 4 EACH 0.14 X 1 1 POWDER ACTUATED FASTENER IN LIGHTWEIGHT CONCRETE. METAL DECK (20GA. MIN.) SPLAY WIRE THRU. HOLE IN SUPPORT MEMBER AND WITH 4 TIGHT TURNS. 6. COMPRESSION STRUT WITH 1" M.B. CONNECT TO STEEL ANGLE. SPLAY WIRE HANGERS, COMP. STRUT FROM FLOOR AND ROOF

See calculations for max span by joist size See calculations for max span stud. Cable brace attachments are not to be attached to the joist.

> MUST BE FIELD TESTED FOR 440 POUNDS IN TENSION. SHOT-IN ANCHORS IN CONCRETE ARE NOT PERMITTED FOR BRACING WIRES. IF ANY SHOT-IN OR DRILLED-IN ANCHOR FAILS, SEE SECTION 1923A.3.5 TITLE 24.

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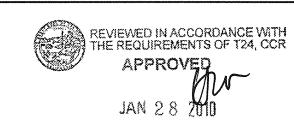
\*GYPSUM BOARD CEILING NOTE: SIMILAR DETAIL APPLIES FOR GYPSUM BOARD CEILINGS.

(A1) GENERAL NOTES



ARCHITECT OF RECORD Paul C. Gloriod





Office of Statewide Health Planning & Development
FACILITIES DEVELOPMENT DIVISION

CHILDREN'S HOSPITAL

OF ORANGE COUNTY 455 S. Main St. Orange, CA 92868-3874

TOWER II



12011.00 Increment #7

OSHPD - PROJECT NUMBER IL 072072-30

OSHPD PERMIT

01/27/2010

N.T.S. DRAWING TITLE

**CEILING DETAILS -MISCELLANEOUS** 

DRAWING NUMBER