

## CEILING NOTES:

## LAY-IN CEILING

- 12 GA. (MIN.) HANGER WIRES MAY BE USED FOR UP TO AND INCLUDING 4'X4' GRID SPACING ALONG MAIN RUNNERS.
   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. END CONNECTIONS FOR RUNNERS WHICH ARE DESIGNED AND DETAILED TO RESIST THE APPLIED HORIZONTAL FORCES MAY BE USED IN LIEU OF THE 12 GA. HANGER WIRES
- 3. 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 THAN 1 IN 6 OUT OF PLUMB ARE TO HAVE COUNTER-SLOPING WIRES
- 4. CEILING GRID MEMBERS MAY BE ATTACHED TO NOT MORE THAN 2 AD-ADJACENT WALLS. CEILING GRID MEMBERS SHOULD BE AT LEAST 1/2" 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" 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.
- 6. FASTEN HANGER WIRES WITH NOT LESS THAN THREE TIGHT TURNS. FASTEN BRACING WIRES WITH FOUR TIGHT TURNS. MAKE ALL TIGHT TURNS WITHIN A DISTANCE OF 1 1/2" 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 ON THE WIRE.
- 7. SEPARATE ALL CEILING HANGING AND BRACING WIRES AT LEAST 6" FROM ALL UNBRACED DUCTS, PIPES, CONDUITS, ETC.
- 8. WHEN DRILLED-IN CONCRETE ANCHORS OR SHOT-IN ANCHORS ARE USED IN REINFORCED CONCRETE FOR HANGER WIRES, 1 OUT OF 10 MUST BE FIELD TESTED FOR 198 LBS. OF TENSION. WHEN DRILLED-IN CONCRETE ANCHORS ARE USED FOR BRACING WIRES, 1 OUT OF 2 MUST BE FIELD-TESTED FOR 440 LBS. OF TEN-SION. SHOT-IN ANCHORS IN CONCRETE ARE NOT PERMITTED FOR BRACING WIRES. IF ANY SHOT-IN OR DRILLED-IN ANCHOR FAILS, ALL ADJACENT ANCHORS MUST BE TESTED. SUBMIT ICBO REPORTS FOR ALL EXPANSION ANCHORS OR SHOT-IN ANCHORS BEFORE USE FOR APPROVAL.
- 9. ATTACH ALL LIGHT FIXTURES TO THE CEILING GRID RUNNERS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURES.
- FLUSH OR RECESSED LIGHT FIXTURES AND AIR TERMINALS OR SERVICES WEIGHING LESS THAN 56 LBS. 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'X4' LIGHT FIXTURES MUST HAVE SLACK SAFETY WIRES AT EACH CORNER.
   ALL FLUSH OR RECESSED LIGHT FIXTURES AND AIR TERMINALS OR SERVICES WEIGHING 56 LBS. OR MORE MUST BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN 4 TAUT 12 GA. WIRES EACH ATTACHED TO THE FIXTURE AND TO THE STRUCTURE ABOVE
- REGARDLESS OF THE TYPE OF CEILING GRID SYSTEM USED. THE 4 TAUT 12 GA. WIRES INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE MUST BE CAPABLE OF SUPPORTING 4 TIMES THE WEIGHT OF THE UNIT.
- 1. 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'-0" OR LONGER.
  12. 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 FIXTURES. (SEE ALSO NOTE 10 ABOVE.)

13. ALL CEILING SUSPENSION SYSTEM COMPONENTS SHALL BE "HEAVY DUTY" TYPE REFER TO DETAILS 1, 2, 4, 5 & 7.

## GYP. BRD. CLG.

- HANGER WIRES SHALL BE 8 GA. SADDLE-TIED TO MAIN RUNNER MAX. HANGER WIRE SPACING = 4'-0" AND SPACED TO SUPPORT MAXIMUM CEILING AREA OF 10 SQ. FT., SPLICES WILL NOT BE PERMITTED IN ANY HANGER WIRES. PROVIDE COMRESSION STRUTS AND SPLAY WIRE BRACING AT 12'-0" O.C. EACH WAY SEE DETAIL.
- HANGER WIRES MUST BE FASTENED WITH NO LESS THAN 3 TIGHT TURNS. SPLAY WIRES MUST HAVE 4 TIGHT TURNS. ALL TURNS MUST BE MADE WITHIN 1 1/2" AT BOTH ENDS OF WIRES.
- 3. FURRING CHANNELS SHALL BE SADDLE-TIED AT EACH RUNNER WITH TWO LOOPS OF 16 GA. WIRE.
- 4. MAIN RUNNERS SHALL BE COLD ROLLED STEEL, 1 1/2" WEIGHING 1 LBS. PER 12"
- CROSS FURRING CHANNELS FOR SUPPORT OF GYPSUM BOARD SHALL BE ROLLED FROM 25 GA. GALVANIZED STEEL, 7/8" DEEP HAT SECTIONS AT A MAX. 24" O.C. SPACING.
- a. DRY WALL SCREWS FOR 15MM GYPSUM BOARD SHALL BE #8 X 1" SCREWS SPACED AT 12" O.C. MAX.
   SCREW EDGE DISTANCE IN GYP. BD. SHALL BE 3/8" MIN.
- 6. MAIN RUNNERS SHALL BE SPLICED BY LAPPING AND INTERLOCKING FLANGES 12" MINIMUM AND TYING NEAR EACH END WITH DOUBLE LOOPS OF 16 GA. WIRE.
- 7. CROSS-FURRING SHALL BE SPLICED BY LAPPING AND INTERLOCKING FLANGES 8" MINIMUM AND TYING NEAR EACH END WITH DOUBLE LOOPS OF 16 GA. WIRE.
- 8. 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 THAN 1 IN 6 OUT OF PLUMB ARE TO HAVE COUNTER-SLOPING WIRES.
- ALL RECESSED OR DROP IN LIGHT FIXTURES AND AIR TERMINALS OR SERVICES WEIGHING <u>LESS THAN 25 Kg.</u> MAY BE SUPPORTED DIRECT-LY BY MAIN RUNNERS OR BY SUPPLEMENTAL FRAMING WHICH IS SUPPORTED BY MAIN RUNNERS.
- 10. ALL RECESSED OR DROP IN LIGHT FIXTURES AND AIR TERMINALS OR SERVICES WEIGHING 55 LBS. OR MORE MUST BE INDEPENDENTLY SUP-PORTED BY NOT LESS THAN 4 TAUT 12 GA. WIRES EACH ATTACHED TO THE FIXTURE AND TO THE STRUCTURE ABOVE REGARDLESS OF THE TYPE OF CEILING SYSTEM USED. (THE 4 TAUT 12 GA. WIRES IN-CLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE MUST BE CAPABLE OF SUPPORTING 4 TIMES THE WEIGHT OF THE UNIT.)
- 11. SURFACE-MOUNTED FIXTURES SHALL BE ATTACHED TO A MAIN RUNNER WITH A POSITIVE CLAMPING DEVICE MADE OF MATERIAL WITH A MIN. OF 14 GA.- TOGGLE BOLTS AND ROTATIONAL SPRING CATCHES DO NOT COMPLY.
- 12ALL RECESSED OR DROP IN LIGHT FIXTURES AND AIR TERMINALS OR SERVICES WEIGHING <u>LESS THAN 55 LBS.</u> MAY BE SUPPORTED DIRECT-LY BY MAIN RUNNERS OR BY SUPPLEMENTAL FRAMING WHICH IS SUPPORTED BY MAIN RUNNERS. REFER TO DETAILS 1, 5, 6, 7, 8 & 9.

