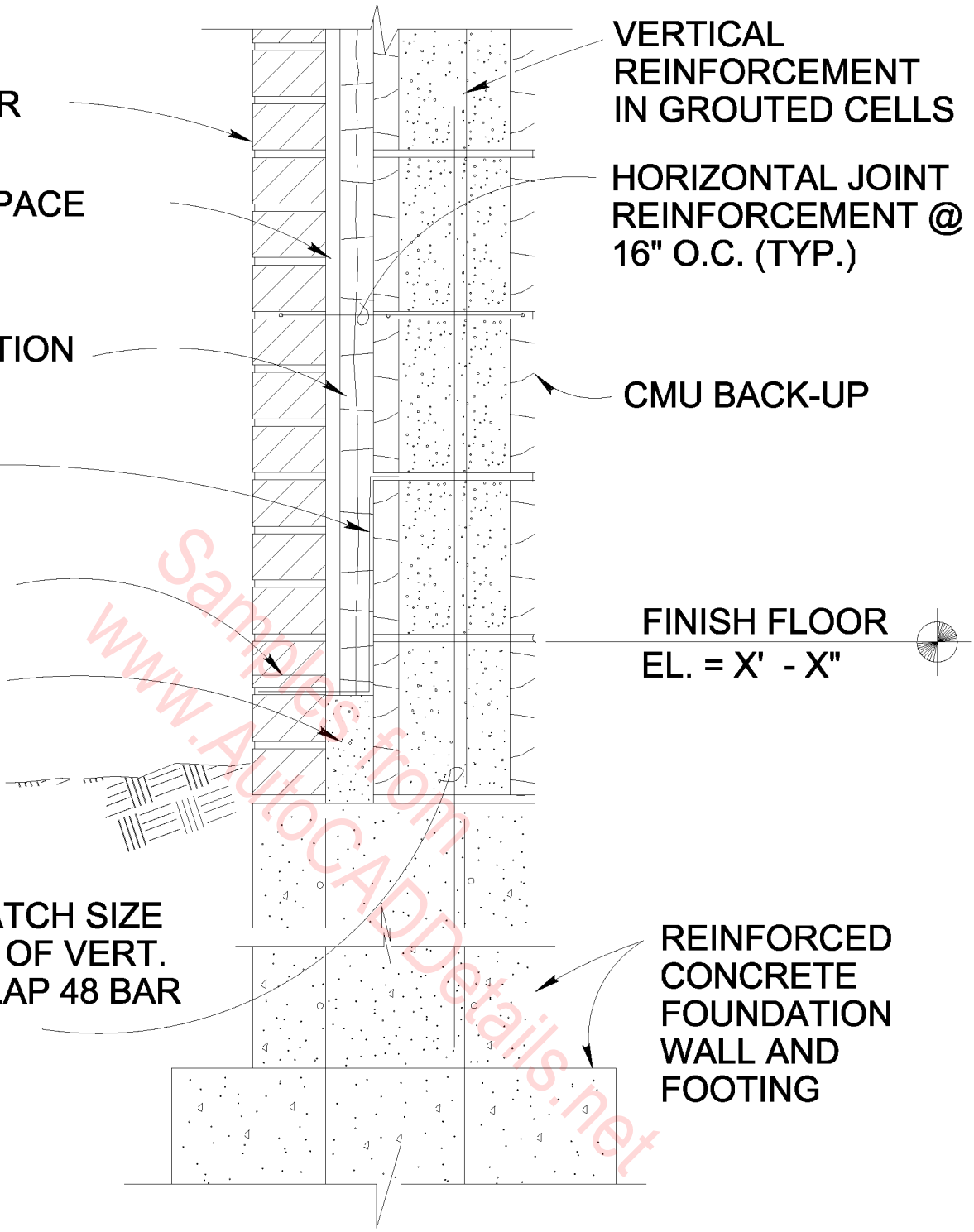
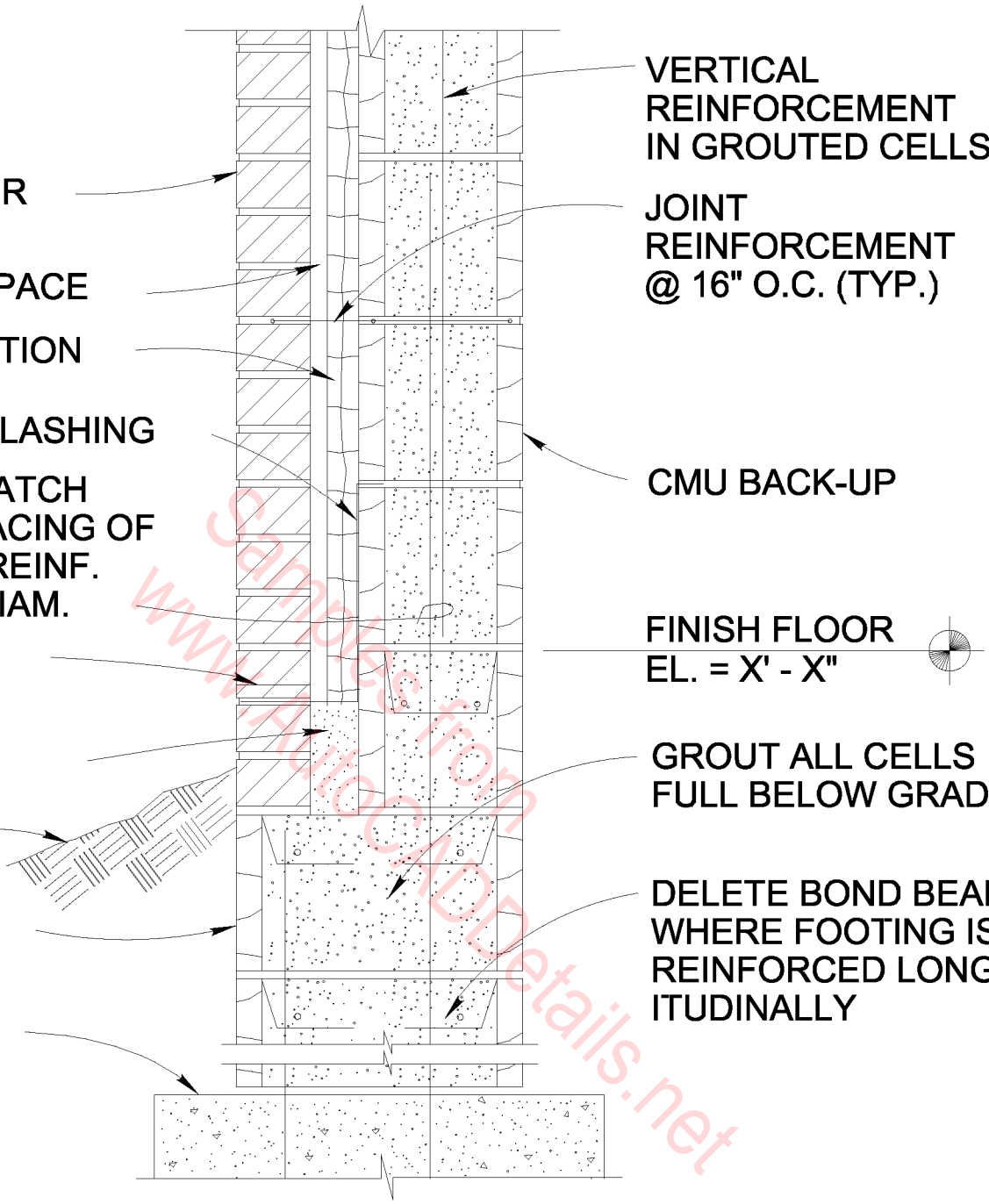


NOTE:
TOP OF DOOR FRAME MUST MATCH COURSING TO PREVENT CUTTING CMU.
OPTIONS ARE: VARYING DOOR FRAME HEAD OR VARYING DOOR HEIGHT.
STARTING COURSING AT OTHER THAN FINISH FLOOR LEVEL
IS NOT RECOMMENDED SINCE INTERIOR MASONRY WALLS PLACED
ON THE FINISHED FLOOR MAY NEED TO COURSE WITH THE OTHER WALLS.

ANCHORED VENEER SECTION AT BASE (CONCRETE FOUND.)

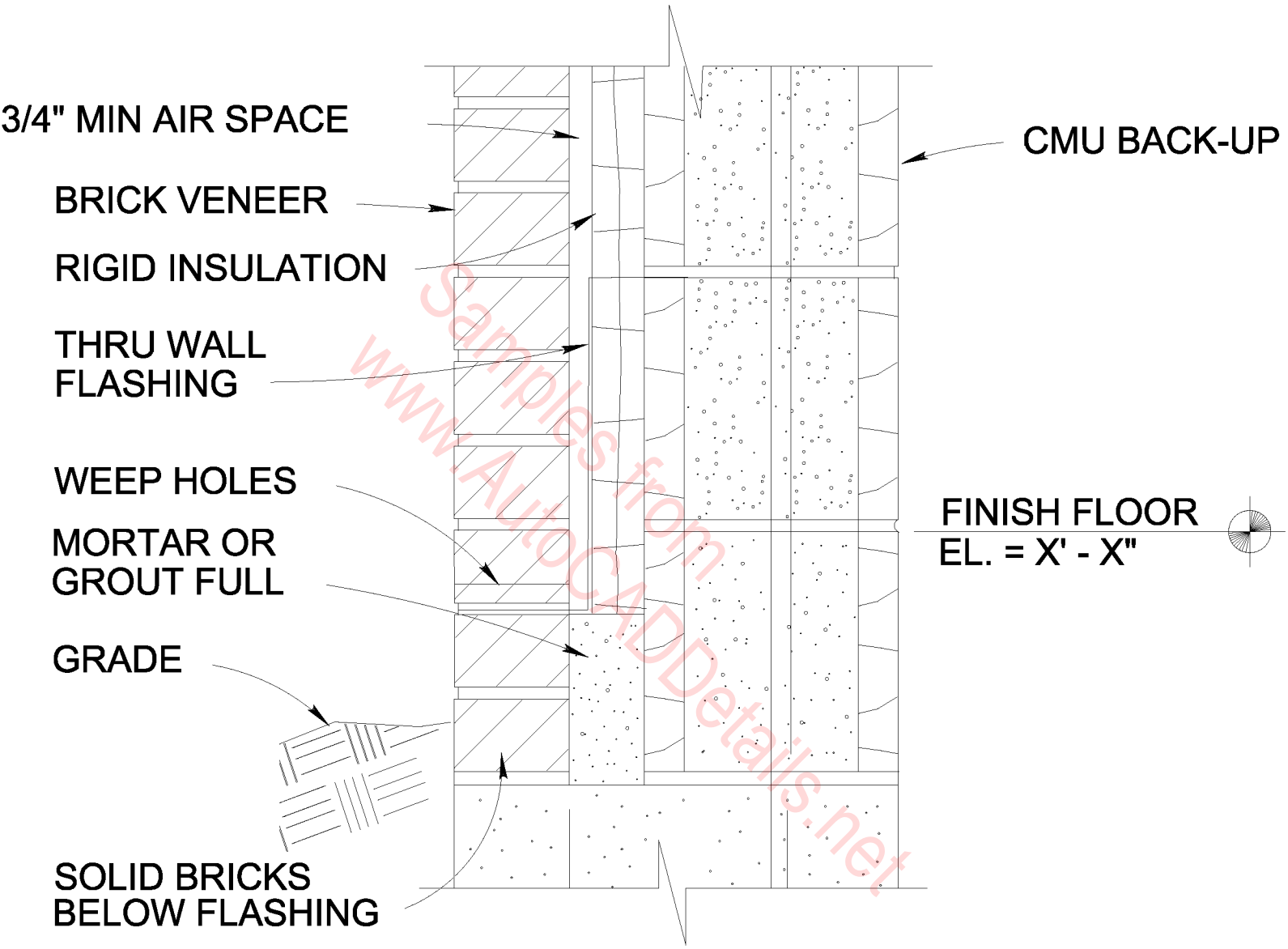
N.T.S.



NOTE:
TOP OF DOOR FRAME MUST MATCH COURSING TO PREVENT CUTTING CMU.
OPTIONS ARE: VARYING DOOR FRAME HEAD OR VARYING DOOR HEIGHT.
STARTING COURSING AT OTHER THAN FINISH FLOOR LEVEL
IS NOT RECOMMENDED SINCE INTERIOR MASONRY WALLS PLACED
ON THE FINISHED FLOOR MAY NEED TO COURSE WITH THE OTHER WALLS.

ANCHORED VENEER SECTION AT BASE (CMU FOUNDATION)

N.T.S.



THRU-WALL FLASHING OPTION

N.T.S.

GENERAL STRUCTURAL NOTES:

DESIGN DATA:

CODE:	UNIFORM BUILDING CODE, 1991 EDITION
DEAD LOAD:	FIBERGLASS SHINGLES – 25 PSF
LIVE LOAD:	40 P.S.F FLOORS
WIND LOAD.	BASIC WIND SPEED = 80 M.P.H.; EXPOSURE 'C', METHOD 2 16.4 X 1.23 X 1.3 = 26 P.S.F
SEISMIC:	ZONE 1/BEARING WALL SYSTEM V=(0.075)(1.00)(2 75)W/G=0 034W
SOILS REPORT BY:	[COMPANY], JOB #[NUMBER], DATED [DATE]
SOIL PRESSURE:	1,000 PSF
SNOW LOAD:	65 PSF

FOUNDATION AND EARTHWORK:

EARTHWORK SHALL CONFORM TO THE ABOVE MENTIONED SOILS REPORT.

MINIMUM DEPTH TO BOTTOM OF FOOTINGS SHALL BE 3'–6" BELOW LOWEST ADJACENT FINISHED GRADE FOR EXTERIOR FOOTINGS AND 1'–0" BELOW FINISHED FLOOR FOR INTERIOR FOOTINGS, U.O.N.

SPACING OF CONTROL JOINTS AND CONSTRUCTION JOINTS SHALL BE 20 FEET MAXIMUM IN EACH DIRECTION AND MAXIMUM ASPECT RATIO OF RESULTING PANELS SHALL BE 1.5 TO 1 U.O.N. JOINTS SHALL BE CONSTRUCTED PER DETAIL ENTITLED "TYPICAL JOINTS IN SLAB", DETAIL 1, SHEET A3

THE TOP 4" BELOW CONCRETE SLABS ON GRADE SHALL CONSIST OF AN AGGREGATE BASE COURSE MEETING THE REQUIREMENTS OF THE SOILS REPORT, U.O.N.

EXCAVATIONS FOR FOUNDATIONS SHALL BE TO NEAT LINES OF FOOTINGS. ALL LOOSE MATERIAL SHALL BE REMOVED FROM SURFACES TO RECEIVE CONCRETE. ALL FOOTING EXCAVATIONS SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE CONCRETE IS PLACED, U.O.N.

CONCRETE:

CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.
MINIMUM STRENGTH:
F'c = 2500 PSI AT 28 DAYS FOR FOUNDATION
F'c = 3000 PSI AT 28 DAYS FOR SLABS ON GRADE; DEPUTY SPECIAL INSPECTION NOT REQUIRED BY ENGINEER.

SLUMP: 4" ± 1". NO WATER SHALL BE ADDED ON SITE WHICH WILL INCREASE SLUMP ABOVE 5".
CONCRETE TO BE MIXED PER ASTM C94.

MAXIMUM TEMPERATURE IN MIXER: 90 DEGREES F.

CURING SHALL IMMEDIATELY FOLLOW THE FINISH OPERATION. KEEP CONCRETE CONTINUOUSLY MOIST FOR AT LEAST 7 DAYS USING A POLYETHYLENE FILM SECURELY HELD IN PLACE OR AN ALTERNATE METHOD APPROVED BY THE ARCHITECT.

PLACEMENT: PER ACI STANDARD 614.

TESTS: 3 CYLINDERS FOR EACH POUR, FOR EACH 150 CU. YDS OR EACH 5000 SQ. FEET OR SURFACE AREA, WHICHEVER IS LESS.

GROUT UNDER COLUMN BASE PLATES, ETC.: HIGH STRENGTH, NON–SHRINK, NON–METALLIC GROUT EQUIVALENT TO MASTERFLOW NO. 713, APPLIED PER MANUFACTURER'S RECOMMENDATIONS.

CEMENT SHALL BE PER ASTM C150, TYPE II, LOW ALKALI.

MIX DESIGNS: SUBMIT TO ARCHITECT FOR REVIEW BY ENGINEER A MINIMUM OF ONE WEEK PRIOR TO FIRST CONCRETE DELIVERY.

MAXIMUM WATER/CEMENT RATIO.	(BY WEIGHT)
F'c = 2500 PSI	W/c = 0.72
F'c = 3000 PSI	W/c = 0 64

AGGREGATE: PER ASTM C33, MAXIMUM 1".

NO ADMIXTURES CONTAINING CHLORIDE SALTS ARE PERMITTED. CONCRETE SHALL NOT BE IN CONTACT WITH ALUMINUM.

REINFORCING STEEL:

BARS: INTERMEDIATE GRADE, NEW BILLET PER ASTM SPEC. A615, GRADE 40. ALL REBAR BENDS TO BE MAKE COLD.

BAR LAP. CONCRETE: 40 DIA., U.O.N. MASONRY: 45 BAR DIA., U.O.N. OR 24" MINIMUM, WHICHEVER IS GREATER. STAGGER SPLICES.

FABRICATION AND PLACEMENT: PER CRSI STANDARDS.

CONCRETE STEMS AND WALLS SHALL BE PER DETAIL ENTITLED "TYPICAL REINF. AT CONC. WALLS & FTS.", DETAIL 3, SHEET A3.

MASONRY STEMS AND WALLS SHALL BE PER DETAIL ENTITLED "TYPICAL REINF. AT CONC. WALLS & FTS.", DETAIL 3, SHEET A3.

LAYOUT OF VERTICAL AND HORIZONTAL REINFORCEMENT IN MASONRY WALLS SHALL BE PER DETAIL 2, SHEET A3.

DETAILING: PER ACI STANDARD 315.

SHOP DRAWINGS: SUBMIT TO ARCHITECT FOR REVIEW BY ENGINEER PRIOR TO FABRICATION.

CONCRETE PROTECTION:
SLABS AND WALLS NOT EXPOSED TO EARTH OR WEATHER......1" CLEAR.
CONCRETE DEPOSITED AGAINST EARTH WITHOUT FORMS.. .... ..3" CLEAR.

CONCRETE EXPOSED TO WEATHER AFTER FORMING:
#6 AND LARGER.............2" CLEAR.
#5 AND SMALLER .. .. 1–1/2" CLEAR

REINFORCING IN CONCRETE PLACED AGAINST EARTH WITHOUT FORMS IS TO BE SUPPORTED BY CONCRETE BLOCK, APPROVED NON–METALLIC CHAIRS, OR ANOTHER METHOD APPROVED BY THE ENGINEER.

DOWELS: MATCH MASONRY VERTICALS IN SIZE AND SPACING, U.O.N.; MINIMUM 24" LAP.

REINFORCED HOLLOW–UNIT MASONRY:

CONCRETE MASONRY UNITS: PER ASTM SPEC C90, GRADE N–1.
AGGREGATE SHALL CONFORM TO ASTM SPEC. C331.
ALLOWABLE DESIGN STRENGTH: F'm = 1350 PSI, N=44
LAY BLOCK IN RUNNING BOND, U.O.N.

MORTAR: PER ASTM SPEC. C270, TYPE M OR TYPE S.
F'c = 1800 PSI AT 28 DAYS.

GROUT: PER ASTM SPEC. C476 F'c = 2000 PSI AT 28 DAYS WITH PEA GRAVEL AGGREGATE AND NOT LESS THAN A 6 1/2" SACK MIX. SLUMP 8" ± SUBMIT DESIGN MIX TO ARCHITECT FOR REVIEW BY ENGINEER A MINIMUM OF ONE WEEK PRIOR TO FIRST GROUT DELIVERY. NO FLY ASH (POZZOLAN) PERMITTED IN MORTAR OR GROUT.

GROUT ALL BOND BEAMS, LINTELS AND REINFORCED CELLS. GROUT UNREINFORCED CELLS AS NOTED ON THE DRAWINGS. MASONRY BELOW GRADE SHALL HAVE ALL CELLS GROUTED SOLID.

REINFORCE AND GROUT AROUND ALL EMBEDDED ITEMS PER STRUCTURAL DRAWINGS. ALL EMBEDDED STRUCTURAL ITEMS SHALL BE POSITIVELY SECURED IN PROPER POSITION BEFORE GROUTING. ALL ANCHOR BOLTS SHALL BE EMBEDDED IN A REINFORCED GROUTED CELL.

HOLD GROUT 1/2" BELOW TOP OF VERTICALLY REINFORCED CELL TO FORM A "GROUT KEY" WITH LIFT ABOVE.

ROD GROUT IMMEDIATELY AFTER PLACING AND AGAIN 5 MINUTES LATER.

MAXIMUM VERTICAL LIFT: 8'–0" PROVIDE CLEANOUTS FOR ALL LIFTS EXCEEDING 4'–0".

HORIZONTAL REINFORCEMENT: USE TWO #4 CONTINUOUS IN ALL BOND BEAMS, U.O.N LAP CONTINUOUS REINFORCEMENT 45 BAR DIAMETERS MINIMUM AND ADDITIONALLY AT CORNERS AND WALL INTERSECTIONS PER DETAIL ENTITLED "TYPICAL REINF. AT CONC. WALLS $ FTS.", DETAIL 3, SHEET A3.

HORIZONTAL GROUT STOP IN BOND BEAMS SHALL BE METAL LATH OR FIBERGLASS; PAPER NOT PERMITTED

USE HORIZONTAL JOINT REINFORCEMENT, TWO #9 GA. WIRE, TRUSS OR LADDER DESIGN, AT 16" O.C. BETWEEN BOND BEAMS.

VERTICAL REINFORCEMENT: AS NOTED ON THE DRAWINGS AND A MINIMUM OF #4 VERTICAL CONTINUOUS AT ALL CORNERS, JAMBS, WALL INTERSECTIONS, AND EACH SIDE OF CONTROL JOINTS. HOLD VERTICALS IN PROPER POSITION WITH WIRE SPACERS. VERTICAL REINFORCEMENT WHICH IS INTERRUPTED BY POCKETS OR OPENINGS SHALL BE MADE CONTINUOUS EACH SIDE PER DETAIL ENTITLED "TYPICAL REINF. AT MASONRY OPENINGS AND POCKETS", DETAIL 4, SHEET A3

CONTROL JOINTS: PER DETAIL ENTITLED "TYP. MASONRY CONTROL JOINT DETAIL", DETAIL 2, SHEET A3, AT LOCATIONS NOTED ON THE DRAWINGS. CONTROL JOINT MATERIAL PER SPECIFICATIONS.

LINTELS: AS NOTED ON DRAWINGS. SUBMIT SHOP DRAWINGS OF STEEL LINTELS TO ARCHITECT FOR REVIEW BY THE ENGINEER PRIOR TO FABRICATION. USE OPEN–ENDED BLOCKS FOR ALL MASONRY LINTELS.

STRUCTURAL STEEL:

ROLLED SHAPES AND PLATES: PER ASTM SPEC. A572, F'y = 50 PSI.

PIPES: PER ASTM SPEC. A501. F'y = 36 PSI.

STRUCTURAL TUBING: PER ASTM A500, GRADE B, F'y = 46 PSI.

FABRICATION AND ERECTION: PER AISC MANUAL OF STEEL CONSTRUCTION.

DETAILING: PER AISC STRUCTURAL STEEL DETAILING.

SHOP DRAWINGS: SUBMIT TO ARCHITECT FOR REVIEW BY ENGINEER PRIOR TO FABRICATION.

BOLTS: ASTM SPEC. A307.

HOLES: 1/16" GREATER THAN BOLT SIZE, EXCEPT FOR ANCHOR BOLTS WHICH ARE 3/16" GREATER THAN BOLT SIZE., U.O.N.
WELDING: PER STANDARDS OF THE AMERICAN WELDING SOCIETY. ELECTRODES AWS A 5.1. E–70 SERIES. SHOP AND FIELD WELDING SHALL BE PERFORMED BY PROPERLY CERTIFIED WELDERS.

PAINT: PAINT ALL STRUCTURAL STEEL WITH ONE SHOP COAT PRIMER OVER CLEAN METAL.

COPES, BLOCK AND CUTS: ALL REENTRANT CORNERS SHALL BE SHAPED, NOTCH–FREE, TO A RADIUS OF AT LEAST 1/2".

TIMBER:

GLU–LAM BEAMS: COMB. 24F–V4 DOUG. FIR FOR SIMPLE SPANS, COMB. 24F–8V DOUG. FIR FOR CONT. SPANS, W/ MELAMINE UREA END AND FACE GLUE, INDUSTRIAL FINISH U.O.N., CAR WRAPPED, FABRICATED IN ACCORDANCE WITH COMMERCIAL STANDARD ANSI/AITC A190. 1–1983. FOR STRUCTURAL GLU–LAM TIMBER. ALL STRUCTURAL GLU–LAM LUMBER SHALL BE INSPECTED DURING LAMINATION BY AN APPROVED INSPECTION AGENCY. EACH STRUCTURAL GLU–LAM MEMBER SHALL BE STAMPED WITH AN IDENTIFYING NUMBER. A CERTIFICATE OF INSPECTION CERTIFYING THAT THE MEMBERS HAVE BEEN INSPECTED AND MEET THE REQUIREMENTS ABOVE SHALL BE FURNISHED TO THE ARCHITECT BY THE SUPPLIER.

LEDGERS AND OTHER STRUCTURAL TIMBER: D.F. GRADE #2, U.O.N.; LEDGERS OR ANY MEMBER IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE TREATED.

STUDS: D.F. GRADE #3.

RAFTERS AND JOISTS (2X'S): D.F. GRADE #2, F'b = 1450 PSI (REP), F'v = 95 PSI, E=1. 7x10 PSI.

BEAMS (3X's, 4X's AND 6X's): D.F. GRADE #1, U.O.N. ALL BEAMS TO BE SUPPORTED WITH FULL WIDTH BEARING.

PREFABRICATED TRUSS JOISTS/WOOD TRUSSES: SHALL BE SIZED AND DETAILED TO FIT THE DIMENSIONS AND LOADS INDICATED ON THE PLANS. ALL DESIGNS SHALL BE IN ACCORDANCE WITH ALLOWABLE VALUES AND SECTION PROPERTIES ASSIGNED AND APPROVED BY THE BUILDING CODE. COMPLETE DESIGN CALCULATIONS SHALL BE FURNISHED TO THE ENGINEER FOR EACH JOIST. CALCULATIONS SHALL BE SEALED BY AN ENGINEER REGISTERED IN THE STATE OF COLORADO.

ALL LIGHT GAUGE METAL CONNECTORS TO BE FULLY MAILED AND BOLTED.

SHOP DRAWINGS SHALL BE SUBMITTED TO AND REVIEWED BY THE ENGINEER PRIOR TO FABRICATION.

INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS

MINIMUM AREA OF PLYWOOD SHEET SHALL BE 8 SQUARE FEET, WITH A MINIMUM DIMENSION OF 24"

ROOF SHEATHING: 5/8" APA RATED, EXPOSURE 1, 32/16.

WALL SHEATHING: 1/2" APA RATED, STRUCTURAL I, 24/0. ALL WALL PLYWOOD PANEL EDGES TO BE BACKED BY 2x BLOCKING FROM ROOF LINE TO FINISHED FLOOR.

INTERIOR FLOOR SHEATHING: 3/4" MINIMUM, T & G. APA RATED, EXPOSURE 1, 40/20.

BALCONY SHEATHING: 3/4" MINIMUM APA, T & G. RATED, EXPOSURE 1, 40/20.

ALL PLYWOOD SHALL CONFORM TO U.S. DEPT. OF COMMERCE PRODUCT STANDARD PS–1.

INSTALLATION: ALL WALL PLYWOOD PANEL EDGES SHALL BE BACKED WITH 2–INCH NOMINAL FRAMING (BLOCKED). LAY HORIZONTAL PLYWOOD SHEETS ON FLOORS AND ROOFS WITH LONG DIMENSIONS PERPENDICULAR TO JOISTS AS DETAILED. PLYWOOD FOR WALLS MAY BE INSTALLED HORIZONTALLY OR VERTICALLY. ALL VERTICAL JOINTS SHALL OCCUR OVER STUDS.

ALL PLYWOOD, LIGHT FRAMING, DIMENSIONAL LUMBER AND GLU–LAMS SHALL BE STAMPED WITH THE APPROPRIATE IDENTIFYING MARK ON AN APPROVED INSPECTION AGENCY AND/OR LUMBER GRADING AGENCY.

STEEL HANGERS, SADDLES & SEATS: SIMPSON OR APPROVED EQUAL, SECURED PER MANUFACTURER'S RECOMMENDATIONS AND AS NOTED ON THE DRAWINGS.

BOLTS AND BOLT HOLES: 3/4" DIA. IN 13/16" DIA. HOLES, U.O.N.

OPENINGS FOR ROOF PENETRATIONS. U.O.N. SHALL BE LOCATED BETWEEN JOISTS OR OTHER STRUCTURAL MEMBERS.

BLOCK JOISTS AT MID–SPAN AND AT POINTS OF BEARING.

OTHER NAILING: PER NAILING SCHEDULE BELOW.

NOTE TO CONTRACTOR:

THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURES DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, BRACING AND SHORING FOR LOADS IMPOSED DURING CONSTRUCTION, ETC.

OPTIONS ARE FOR THE CONTRACTOR'S CONVENIENCE. HE SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY IF HE CHOOSES AN OPTION AND SHALL COORDINATE ALL DETAILS.

THE COST OF ADDITIONAL DESIGN OR REVIEW WORK BY THE ARCHITECT/ENGINEER DUE TO SELECTION OF AN OPTION BY THE CONTRACTOR, OR DUE TO ERRORS OR OMISSIONS IN CONSTRUCTION BY THE CONTRACTOR, SHALL BE BORNE BY THE CONTRACTOR.

ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER

REGISTERED IN COLORADO.

GENERAL NOTES – STRUCTURAL

NOT TO SCALE

01A–5001

GENERAL STRUCTURAL NOTES:

DESIGN DATA:

CODE:	UNIFORM BUILDING CODE, 1991 EDITION
DEAD LOAD	FIBERGLASS SHINGLES – 25 PSF
LIVE LOAD	40 P.S.F. FLOORS
WIND LOAD:	BASIC WIND SPEED = 80 M.P.H.; EXPOSURE 'C'; METHOD 2 16 x 1.23 x 1.3 = 26 P.S.F.
SEISMIC:	ZONE 1/BEARING WALL SYSTEM V=(0.075)(1.00)(2.75)W/G=0.034W
SOILS REPORT BY:	[COMPANY] JOB #(NUMBER), DATED [DATE]
SOIL PRESSURE:	1,000 PSF
SNOW LOAD:	65 PSF

FOUNDATION AND EARTHWORK:

EARTHWORK: SHALL CONFORM TO THE ABOVE MENTIONED SOILS REPORT

MINIMUM DEPTH TO BOTTOM OF FOOTINGS SHALL BE 3'-6" BELOW LOWEST ADJACENT FINISHED GRADE FOR EXTERIOR FOOTINGS AND 1'-0" BELOW FINISHED FLOOR FOR INTERIOR FOOTINGS, U.O.N.

SPACING OF CONTROL JOINTS AND CONSTRUCTION JOINTS SHALL BE 20 FEET MAXIMUM IN EACH DIRECTION AND MAXIMUM ASPECT RATIO OF RESULTING PANELS SHALL BE 1.5 TO 1 U.O.N. JOINTS SHALL BE CONSTRUCTED PER DETAIL ENTITLED "TYPICAL JOINTS IN SLAB", DETAIL 1, SHEET A3.

THE TOP 4" BELOW CONCRETE SLABS ON GRADE SHALL CONSIST OF AN AGGREGATE BASE COURSE MEETING THE REQUIREMENTS OF THE SOILS REPORT, U.O.N

EXCAVATIONS FOR FOUNDATIONS SHALL BE TO NEAT LINES OF FOOTINGS. ALL LOOSE MATERIAL SHALL BE REMOVED FROM SURFACES TO RECEIVE CONCRETE. ALL FOOTING EXCAVATIONS SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE CONCRETE IS PLACED, U.O.N.

CONCRETE:

CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.
MINIMUM STRENGTH:
- F'c = 2500 PSI AT 28 DAYS FOR FOUNDATION
- F'c = 3000 PSI AT 28 DAYS FOR SLABS ON GRADE; DEPUTY SPECIAL INSPECTION NOT REQUIRED BY ENGINEER

SLUMP: 4" ± 1". NO WATER SHALL BE ADDED ON SITE WHICH WILL INCREASE SLUMP ABOVE 5".
CONCRETE TO BE MIXED PER ASTM C94.

MAXIMUM TEMPERATURE IN MIXER: 90 DEGREES F.

CURING SHALL IMMEDIATELY FOLLOW THE FINISH OPERATION. KEEP CONCRETE CONTINUOUSLY MOIST FOR AT LEAST 7 DAYS USING A POLYETHYLENE FILM SECURELY HELD IN PLACE OR AN ALTERNATE METHOD APPROVED BY THE ARCHITECT.

PLACEMENT: PER ACI STANDARD 614.

TESTS: 3 CYLINDERS FOR EACH POUR, FOR EACH 150 CU. YDS. OR EACH 5000 SQ. FEET OR SURFACE AREA, WHICHEVER IS LESS.

GROUT UNDER COLUMN BASE PLATES, ETC.: HIGH STRENGTH, NON-SHRINK, NON-METALLIC GROUT EQUIVALENT TO MASTERFLOW NO. 713. APPLIED PER MANUFACTURER'S RECOMMENDATIONS.

CEMENT SHALL BE PER ASTM C150, TYPE I, LOW ALKALI.

MIX DESIGNS: SUBMIT TO ARCHITECT FOR REVIEW BY ENGINEER A MINIMUM OF ONE WEEK PRIOR TO FIRST CONCRETE DELIVERY.

MAXIMUM WATER/CEMENT RATIO:	(BY WEIGHT)
F'c = 2500 PSI	W/c = 0.72
F'c = 3000 PSI	W/c = 0.64

AGGREGATE: PER ASTM C33, MAXIMUM 1"

NO ADMIXTURES CONTAINING CHLORIDE SALTS ARE PERMITTED. CONCRETE SHALL NOT BE IN CONTACT WITH ALUMINUM.

REINFORCING STEEL:

BARS: INTERMEDIATE GRADE, NEW BILLET PER ASTM SPEC. A615, GRADE 40. ALL REBAR BENDS TO BE MAKE COLD

BAR LAP: CONCRETE: 40 DIA., U.O.N. MASONRY: 45 BAR DIA., U.O.N. OR 24" MINIMUM, WHICHEVER IS GREATER. STAGGER SPLICES.

FABRICATION AND PLACEMENT: PER CRSI STANDARDS.

CONCRETE STEMS AND WALLS SHALL BE PER DETAIL ENTITLED "TYPICAL REINF. AT CONC. WALLS & FTS.", DETAIL 3, SHEET A3.

MASONRY STEMS AND WALLS SHALL BE PER DETAIL ENTITLED "TYPICAL REINF. AT CONC. WALLS & FTS.", DETAIL 3, SHEET A3.

LAYOUT OF VERTICAL AND HORIZONTAL REINFORCEMENT IN MASONRY WALLS SHALL BE PER DETAIL 2, SHEET A3.

DETAILING: PER ACI STANDARD 315.

SHOP DRAWINGS: SUBMIT TO ARCHITECT FOR REVIEW BY ENGINEER PRIOR TO FABRICATION.

CONCRETE PROTECTION:
- SLABS AND WALLS NOT EXPOSED TO EARTH OR WEATHER.....1" CLEAR.
- CONCRETE DEPOSITED AGAINST EARTH WITHOUT FORMS.....3" CLEAR.

CONCRETE EXPOSED TO WEATHER AFTER FORMING:
- #6 AND LARGER.....2" CLEAR
- #5 AND SMALLER.....1-1/2" CLEAR.

REINFORCING IN CONCRETE PLACED AGAINST EARTH WITHOUT FORMS IS TO BE SUPPORTED BY CONCRETE BLOCK, APPROVED NON-METALLIC CHAIRS, OR ANOTHER METHOD APPROVED BY THE ENGINEER.

DOWELS: MATCH MASONRY VERTICALS IN SIZE AND SPACING, U.O.N.; MINIMUM 24" LAP.

REINFORCED HOLLOW-UNIT MASONRY:

CONCRETE MASONRY UNITS: PER ASTM SPEC. C90, GRADE N-1. AGGREGATE SHALL CONFORM TO ASTM SPEC. C331. ALLOWABLE DESIGN STRENGTH: f'm = 1350 PSI, N=44
LAY BLOCK IN RUNNING BOND, U.O.N.

MORTAR: PER ASTM SPEC. C270, TYPE M OR TYPE S.
f'c = 1800 PSI AT 28 DAYS.

GROUT: PER ASTM SPEC. C476 f'c = 2000 PSI AT 28 DAYS WITH PEA GRAVEL AGGREGATE AND NOT LESS THAN A 6 1/2" SLACK MIX.
SLUMP 8" ±. SUBMIT DESIGN MIX TO ARCHITECT FOR REVIEW BY ENGINEER A MINIMUM OF ONE WEEK PRIOR TO FIRST GROUT DELIVERY. NO FLY ASH (POZZOLAN) PERMITTED IN MORTAR OR GROUT.

GROUT ALL BOND BEAMS, LINTELS AND REINFORCED CELLS. GROUT UNREINFORCED CELLS AS NOTED ON THE DRAWINGS. MASONRY BELOW GRADE SHALL HAVE ALL CELLS GROUTED SOLID

REINFORCE AND GROUT AROUND ALL EMBEDDED ITEMS PER STRUCTURAL DRAWINGS. ALL EMBEDDED STRUCTURAL ITEMS SHALL BE POSITIVELY SECURED IN PROPER POSITION BEFORE GROUTING. ALL ANCHOR BOLTS SHALL BE EMBEDDED IN A REINFORCED GROUTED CELL.

HOLD GROUT 1/2" BELOW TOP OF VERTICALLY REINFORCED CELL TO FORM A "GROUT KEY" WITH LIFT ABOVE.

ROD GROUT IMMEDIATELY AFTER PLACING AND AGAIN 5 MINUTES LATER.

MAXIMUM VERTICAL LIFT: 8'-0". PROVIDE CLEANOUTS FOR ALL LIFTS EXCEEDING 4'-0".

HORIZONTAL REINFORCEMENT: USE TWO #4 CONTINUOUS IN ALL BOND BEAMS, U.O.N. LAP CONTINUOUS REINFORCEMENT 48 BAR DIAMETERS MINIMUM AND ADDITIONALLY AT CORNERS AND WALL INTERSECTIONS PER DETAIL ENTITLED "TYPICAL REINF. AT CONC. WALLS $ FTS.", DETAIL 3, SHEET A3.

HORIZONTAL GROUT STOP IN BOND BEAMS SHALL BE METAL LATH OR FIBERGLASS; PAPER NOT PERMITTED.

USE HORIZONTAL JOINT REINFORCEMENT, TWO #9 GA. WIRE, TRUSS OR LADDER DESIGN, AT 16" O.C. BETWEEN BOND BEAMS.

VERTICAL REINFORCEMENT: AS NOTED ON THE DRAWINGS AND A MINIMUM OF #4 VERTICAL CONTINUOUS AT ALL CORNERS, JAMBS, WALL INTERSECTIONS, AND EACH SIDE OF CONTROL JOINTS. HOLD VERTICALS IN PROPER POSITION WITH WIRE SPACERS. VERTICAL REINFORCEMENT WHICH IS INTERRUPTED BY POCKETS OR OPENINGS SHALL BE MADE CONTINUOUS EACH SIDE PER DETAIL ENTITLED "TYPICAL REINF. AT MASONRY OPENINGS AND POCKETS", DETAIL 4, SHEET A3.

CONTROL JOINTS: PER DETAIL ENTITLED "TYP. MASONRY CONTROL JOINT DETAIL", DETAIL 2, SHEET A3, AT LOCATIONS NOTED ON THE DRAWINGS. CONTROL JOINT MATERIAL PER SPECIFICATIONS.

LINTELS: AS NOTED ON DRAWINGS. SUBMIT SHOP DRAWINGS OF STEEL LINTELS TO ARCHITECT FOR REVIEW BY THE ENGINEER PRIOR TO FABRICATION. USE OPEN-ENDED BLOCKS FOR ALL MASONRY LINTELS.

STRUCTURAL STEEL:

ROLLED SHAPES AND PLATES: PER ASTM SPEC. A572, F'y = 50 PSI.

PIPES: PER ASTM SPEC. A501. F'y = 36 PSI.

STRUCTURAL TUBING: PER ASTM A500, GRADE B, F'y = 46 PSI.

FABRICATION AND ERECTION: PER AISC MANUAL OF STEEL CONSTRUCTION.

DETAILING: PER AISC STRUCTURAL STEEL DETAILING.

SHOP DRAWINGS: SUBMIT TO ARCHITECT FOR REVIEW BY ENGINEER PRIOR TO FABRICATION.

BOLTS: ASTM SPEC. A307.

HOLES: 1/16" GREATER THAN BOLT SIZE, EXCEPT FOR ANCHOR BOLTS WHICH ARE 3/16" GREATER THAN BOLT SIZE, U.O.N.
WELDING: PER STANDARDS OF THE AMERICAN WELDING SOCIETY. ELECTRODES AWS A 5.1. E-70 SERIES. SHOP AND FIELD WELDING SHALL BE PERFORMED BY PROPERLY CERTIFIED WELDERS.

PAINT: PAINT ALL STRUCTURAL STEEL WITH ONE SHOP COAT PRIMER OVER CLEAN METAL.

COPES, BLOCK AND CUTS: ALL REENTRANT CORNERS SHALL BE SHAPED, NOTCH-FREE, TO A RADIUS OF AT LEAST 1/2".

TIMBER:

GLU-LAM BEAMS: COMB. 24F-V4 DOUG. FIR FOR SIMPLE SPANS, COMB. 24F-8V DOUG. FIR FOR CONT SPANS, W/ MELAMINE UREA END AND FACE GLUE, INDUSTRIAL FINISH U.O.N., CAP WRAPPED, FABRICATED IN ACCORDANCE WITH COMMERCIAL STANDARD ANSI/AITC A190. 1-1983, FOR STRUCTURAL GLU-LAM TIMBER. ALL STRUCTURAL GLU-LAM LUMBER SHALL BE INSPECTED DURING LAMINATION BY AN APPROVED INSPECTION AGENCY. EACH STRUCTURAL GLU-LAM MEMBER SHALL BE STAMPED WITH AN IDENTIFYING NUMBER. A CERTIFICATE OF INSPECTION CERTIFYING THAT THE MEMBERS HAVE BEEN INSPECTED AND MEET THE REQUIREMENTS ABOVE SHALL BE FURNISHED TO THE ARCHITECT BY THE SUPPLIER.

LEDGERS AND OTHER STRUCTURAL TIMBER: D.F. GRADE #2, U.O.N.; LEDGERS OR ANY MEMBER IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE TREATED.

STUDS D.F GRADE #3

RAFTERS AND JOISTS (2X'S): D.F. GRADE #2, F'b = 1450 PSI (REP), F'v = 95 PSI, E=1.7X10 PSI.

BEAMS (3X'S, 4X'S AND 6X'S) D.F. GRADE #1, U.O.N. ALL BEAMS TO BE SUPPORTED WITH FULL WIDTH BEARING.

PREFABRICATED TRUSS JOISTS/WOOD TRUSSES. SHALL BE SIZED AND DETAILED TO FIT THE DIMENSIONS AND LOADS INDICATED ON THE PLANS. ALL DESIGNS SHALL BE IN ACCORDANCE WITH ALLOWABLE VALUES AND SECTION PROPERTIES ASSIGNED AND APPROVED BY THE BUILDING CODE. COMPLETE DESIGN CALCULATIONS SHALL BE FURNISHED TO THE ENGINEER FOR EACH JOIST. CALCULATIONS SHALL BE SEALED BY AN ENGINEER REGISTERED IN THE STATE OF COLORADO.

ALL LIGHT GAUGE METAL CONNECTORS TO BE FULLY NAILED AND BOLTED

SHOP DRAWINGS SHALL BE SUBMITTED TO AND REVIEWED BY THE ENGINEER PRIOR TO FABRICATION.

INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS.

MINIMUM AREA OF PLYWOOD SHEET SHALL BE 8 SQUARE FEET, WITH A MINIMUM DIMENSION OF 24".

ROOF SHEATHING: 5/8" APA RATED, EXPOSURE 1, 32/16.

WALL SHEATHING: 1/2" APA RATED, STRUCTURAL I, 24/0. ALL WALL PLYWOOD PANEL EDGES TO BE BACKED BY 2x BLOCKING FROM ROOF LINE TO FINISHED FLOOR.

INTERIOR FLOOR SHEATHING: 3/4" MINIMUM, T & G. APA RATED, EXPOSURE 1, 40/20.

BALCONY SHEATHING: 3/4" MINIMUM APA, T & G. RATED, EXPOSURE 1, 40/20.

ALL PLYWOOD SHALL CONFORM TO U.S. DEPT. OF COMMERCE PRODUCT STANDARD PS-1.

INSTALLATION: ALL WALL PLYWOOD PANEL EDGES SHALL BE BACKED WITH 2-INCH NOMINAL FRAMING (BLOCKED). LAY HORIZONTAL PLYWOOD SHEETS ON FLOORS AND ROOFS WITH LONG DIMENSIONS PERPENDICULAR TO JOISTS AS DETAILED. PLYWOOD FOR WALLS MAY BE INSTALLED HORIZONTALLY OR VERTICALLY. ALL VERTICAL JOINTS SHALL OCCUR OVER STUDS.

ALL PLYWOOD, LIGHT FRAMING, DIMENSIONAL LUMBER AND GLU-LAMS SHALL BE STAMPED WITH THE APPROPRIATE IDENTIFYING MARK OF AN APPROVED INSPECTION AGENCY AND/OR LUMBER GRADING AGENCY.

STEEL HANGERS, SADDLES & SEATS: SIMPSON OR APPROVED EQUAL, SECURED PER MANUFACTURER'S RECOMMENDATIONS AND AS NOTED ON THE DRAWINGS.

BOLTS AND BOLT HOLES: 3/4" DIA. IN 13/16" DIA. HOLES, U.O.N.

OPENINGS FOR ROOF PENETRATIONS: U.O.N. SHALL BE LOCATED BETWEEN JOISTS OR OTHER STRUCTURAL MEMBERS.

BLOCK JOISTS AT MID-SPAN AND AT POINTS OF BEARING.

OTHER NAILING: PER NAILING SCHEDULE BELOW.

NOTE TO CONTRACTOR:

THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURES DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, BRACING AND SHORING FOR LOADS IMPOSED DURING CONSTRUCTION, ETC.

OPTIONS ARE FOR THE CONTRACTOR'S CONVENIENCE. HE SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY IF HE CHOOSES AN OPTION AND SHALL COORDINATE ALL DETAILS

THE COST OF ADDITIONAL DESIGN OR REVIEW WORK BY THE ARCHITECT/ ENGINEER DUE TO SELECTION OF AN OPTION BY THE CONTRACTOR, OR DUE TO ERRORS OR OMISSIONS IN CONSTRUCTION BY THE CONTRACTOR, SHALL BE BORNE BY THE CONTRACTOR.

ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER

REGISTERED IN COLORADO.

GENERAL NOTES – STRUCTURAL

NOT TO SCALE

01A-5001

GENERAL SPECIFICATIONS:

DESIGN DATA:
CODE: UNIFORM BUILDING CODE, 1994 EDITION
DEAD LOAD: 21 PSF
LIVE LOAD: 20 PSF (REDUCABLE)
WIND LOAD: BASIC WIND SPEED = 70 M.P.H.; EXPOSURE "C"; METHOD 2
10.6 X 1.19 X 1.3 = 16.5 PSF
SEISMIC: ZONE 1/BEARING WALL SYSTEM V=(1.0/15)(1.00)(2.75)W/R=0.034W
(NO SOILS REPORT AVAILABLE)
ASSUMED SOIL BEARING: 1,500 PSF

FOUNDATION AND EARTHWORK:
EARTHWORK SHALL CONFORM TO THE ABOVE MENTIONED SOILS REPORT.

MINIMUM DEPTH TO BOTTOM OF FOOTINGS SHALL BE 1'-6" BELOW LOWEST ADJACENT FINISHED GRADE FOR EXTERIOR FOOTINGS AND 1'-6" BELOW FINISHED FLOOR FOR INTERIOR FOOTINGS, U.O.N.

SPACING OF CONTROL JOINTS AND CONSTRUCTION JOINTS SHALL BE 20 FEET MAXIMUM IN EACH DIRECTION AND MAXIMUM ASPECT RATIO OF RESULTING PANELS SHALL BE 1.5 TO 1 U.O.N. JOINTS SHALL BE CONSTRUCTED PER DETAIL ENTITLED "JOINTS IN SLAB ON GRADE" 1/S-3.

REFER TO PLAN FOR CONTROL JOINTS IN CONCRETE PAVEMENT
THE TOP 4" BELOW CONCRETE SLABS ON GRADE SHALL CONSIST OF AN AGGREGATE BASE COURSE MEETING THE REQUIREMENTS OF THE SOILS REPORT, U.O.N.

EXCAVATIONS FOR FOUNDATIONS SHALL BE TO NEAT LINES OF FOOTINGS. ALL LOOSE MATERIAL SHALL BE REMOVED FROM SURFACES TO RECEIVE CONCRETE. ALL FOOTING EXCAVATIONS SHALL BE APPROVED BY A QUALIFIED SOILS ENGINEER BEFORE CONCRETE IS PLACED, U.O.N.

CONCRETE:
CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.
MINIMUM STRENGTH:
Fc = 2500 PSI AT 28 DAYS FOR FOUNDATION AND WALLS
Fc = 3000 PSI AT 28 DAYS FOR SLABS ON GRADE.
DEPUTY SPECIAL INSPECTION
NOT REQUIRED BY ENGINEER, SINCE STRUCTURAL DESIGN IS BASED ON 2500 PSI CONCRETE.

SLUMP: 4" ± 1". NO WATER SHALL BE ADDED ON SITE WHICH WILL INCREASE SLUMP ABOVE 5"
MAXIMUM TEMPERATURE IN MIXER: 90 DEGREES F.
CONCRETE TO BE MIXED PER ASTM C94.
CURING SHALL IMMEDIATELY FOLLOW THE FINISH OPERATION.
KEEP CONCRETE CONTINUOUSLY MOIST FOR AT LEAST 7 DAYS USING A POLYETHYLENE FILM SECURELY HELD IN PLACE OR AN ALTERNATE METHOD APPROVED BY THE ARCHITECT.

PLACEMENT: PER ACI STANDARD 614.

TESTS: 3 CYLINDERS FOR EACH POUR, FOR EACH 150 CU. YDS. OR EACH 5000 SQ. FEET OR SURFACE AREA, WHICHEVER IS LESS

GROUT UNDER COLUMN BASE PLATES, ETC.: HIGH STRENGTH, NON-SHRINK, NON-METALLIC GROUT EQUIVALENT TO MASTERFLOW NO 713, APPLIED PER MANUFACTURER'S RECOMMENDATIONS.

CEMENT SHALL BE PER ASTM C150, TYPE II, LOW ALKALI.

MIX DESIGNS: SUBMIT TO ARCHITECT FOR REVIEW BY ENGINEER A MINIMUM OF ONE WEEK PRIOR TO FIRST CONCRETE DELIVERY.

MAXIMUM WATER/CEMENT RATIO: (BY WEIGHT)
Fc = 2500 PSI W/c = 0.72
Fc = 3000 PSI W/c = 0.64
AGGREGATE: PER ASTM C33, MAXIMUM 1"

NO ADMIXTURES CONTAINING CHLORIDE SALTS ARE PERMITTED. CONCRETE SHALL NOT BE IN CONTACT WITH ALUMINUM.

REINFORCING STEEL:
BARS: INTERMEDIATE GRADE, NEW BILLET PER ASTM SPEC. A615, GRADE 60. ALL REBAR BENDS TO BE MADE COLD.
BAR LAP: CONCRETE, 48 DIA., U.O.N. OR
24" MINIMUM, WHICHEVER IS GREATER. STAGGER SPLICES.
FABRICATION AND PLACEMENT: PER CRSI STANDARDS.
CONCRETE STEMS AND WALLS SHALL BE PER DETAIL ENTITLED "TYPICAL REINF. AT CORNERS & INTERSECTIONS", DETAIL 9/S-5
DETAILING: PER ACI STANDARD 315

SHOP DRAWINGS: SUBMIT TO ARCHITECT FOR REVIEW BY ENGINEER PRIOR TO FABRICATION.

CONCRETE PROTECTION:
SLABS AND WALLS NOT EXPOSED TO EARTH OR WEATHER.....1" CLEAR.
CONCRETE DEPOSITED AGAINST EARTH WITHOUT FORMS.....3" CLEAR.

CONCRETE EXPOSED TO WEATHER AFTER FORMING:
#6 AND LARGER.....2" CLEAR
#5 AND SMALLER.....1-1/2" CLEAR

REINFORCING IN CONCRETE PLACED AGAINST EARTH WITHOUT FORMS IS TO BE SUPPORTED BY CONCRETE BLOCK, APPROVED NON-METALLIC CHAIRS, OR ANOTHER METHOD APPROVED BY THE ENGINEER.

DOWELS: MATCH VERTICALS IN SIZE AND SPACING, U.O.N.;
MINIMUM 30" LAP, U.O.N.

STEEL:
ALL STEEL NOT OTHERWISE NOTED SHALL BE PER ASTM A572 (Fy = 50 KSI) PER LATEST AISC SPECIFICATIONS.

MACHINE BOLTS, ANCHOR BOLTS, AND THREADED STUDS SHALL BE PER ASTM A307, U.O.N.

HOLES: 1/16" GREATER THAN BOLT SIZE, EXCEPT FOR ANCHOR BOLTS WHICH ARE 3/16" GREATER THAN BOLT SIZE., U.O.N.

PIPE COLUMNS SHALL BE PER ASTM A53, GRADE B, Fy = 35 KSI, OR ASTM A501, Fy = 36 KSI.

TUBE STEEL SHALL BE PER ASTM A500, GRADE B, Fy = 46 KSI.

ALL WELDING SHALL BE PER AWS STANDARDS, LATEST EDITION.
COPES, BLOCK AND CUTS: ALL REENTRANT CORNERS SHALL BE SHAPED, NOTCH-FREE, TO A RADIUS OF AT LEAST 1/2".

ALL WELDING SHALL BE DONE BY SHIELDED ARC METHOD. ALL WELDERS SHALL BE PROPERLY QUALIFIED AND AWS CERTIFIED FOR THE KIND OF WELD THEY PERFORM. SURPLUS WELD SHALL BE DRESSED OFF TO SMOOTH, EVEN SURFACES WHERE WELDS ARE EXPOSED TO VIEW.

ALL FIELD WELDING SHALL BE INSPECTED BY A TESTING LABORATORY APPROVED BY THE ENGINEER.

ALL STEEL NOT ENCASED IN CONCRETE OR MASONRY SHALL HAVE ONE SHOP COAT OF RED LEAD OR ZINC CHROMATE.

WELDING RODS SHALL BE LOW-HYDROGEN TYPE, E70.

ALL BUTT WELDED SPLICES IN MATERIAL THICKER THAN 5/16" SHALL BE INSPECTED BY A TESTING LABORATORY APPROVED BY THE ENGINEER, TO CERTIFY ALL SPLICES AS MEETING OR EXCEEDING STRENGTH OF MATERIALS SPLICED. COPIES OF TEST REPORTS AND LETTER OF CERTIFICATION SHALL BE SUBMITTED TO ENGINEER.

WELDS INDICATED MAY BE MAKE IN SHOP OR FIELD WITH APPROVAL.

CONCRETE EXPANSION ANCHORS: PHILLIPS REDHEAD CONCRETE ANCHOR BY PHILLIPS DRILL COMPANY, INC., OR HILTI CONCRETE EXPANSION ANCHORS.

OPEN WEB STEEL JOISTS AND JOIST GIRDERS:
STEEL JOISTS AND JOIST GIRDERS SHALL BE DESIGNED, DETAILED AND MANUFACTURED TO FIT THE DIMENSIONS AND LOADS INDICATED ON THE PLANS AND IN THE STRUCTURAL NOTES. ENDS OF STEEL JOISTS SHALL BE FABRICATED TO ACCOUNT FOR JOIST SLOPE AND END BEARING CONDITIONS. THE ENDS OF K-SERIES STEEL JOISTS SHALL EXTEND A MINIMUM OF 2 1/2" OVER STEEL END SUPPORTS.

DESIGN, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH LATEST EDITION OF STEEL JOIST INSTITUTE BY A MEMBER OF SJI APPROVED FOR THE TYPE OF JOIST BEING USED

ALL STEEL JOISTS SHALL BE MANUFACTURED WITH A POSITIVE CAMBER AS RECOMMENDED BY THE STEEL JOIST INSTITUTE.

JOISTS AND GIRDERING SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE STEEL JOIST INSTITUTE. BRIDGING SHALL BE WELDED TO THE LEDGE ANGLES OR TO WELD PLATES AS SHOWN ON THE STRUCTURAL DRAWINGS.

DO NOT DRILL THROUGH OR WELD TO JOIST OR GIRDER MEMBERS WITHOUT PRIOR APPROVAL. SEE DETAIL FOR ADDITIONAL WEB ANGLE REQUIREMENTS AT MISCELLANEOUS FRAMING CONDITIONS.

WHERE JOISTS OR GIRDERS ARE CUSTOM DESIGNED TO MEET MINIMUM LOAD REQUIREMENTS ON DRAWINGS, CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS AND DETAILED SHOP DRAWINGS BOTH BEARING THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECTS IS LOCATED, FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL INDICATE MEMBER SIZES AND JOINT WELDING.

COLD-FORMED LIGHT GAUGE METAL FRAMING:
STEEL FOR ALL 18 GAUGE AND HEAVIER STUDS, JOISTS, TRACKS AND STRAPS SHALL BE PER ASTM A570, GRADE 50, Fy = 50,000 PSI.
STEEL FOR ALL 19 GAUGE AND LIGHTER STUDS, JOISTS, BRIDGING, AND ACCESSORIES SHALL BE PER ASTM A611, GRADE C (CARBON STEEL), Fy = 33,000 PSI, U.O.N.

STUDS SHALL BE CHANNEL OR "C" SHAPE, OF THE DEPTHS AND SPACINGS

SHOWN ON THE DRAWINGS. TRACKS SHALL BE 16 GAUGE WITH A MINIMUM FLANGE OF 1 5/16".

PROVIDE SOLID WEB 16 GAUGE CHANNEL, FULL DEPTH, BRIDGING AT BEARING WALLS NOT SHEATHED ON BOTH SIDES.

BRIDGING SHALL BE COLD-ROLLED CHANNEL, MINIMUM 1 1/2" DEEP WITH 9/16" FLANGE WIDTH. SPACE BRIDGING AT 4'-0" MAXIMUM O.C. VERTICALLY. DOUBLE UP STUDS AT ALL JAMBS. PROVIDE TRUSS-TYPE LINTEL PER MANUFACTURER'S CATALOG DETAILS

ALL CONNECTIONS SHALL BE PER MANUFACTURER'S RECOMMENDATIONS. ANCHOR TRACK TO CONCRETE WITH 1/2" DIAMETER BOLTS AT 4'-0" MAXIMUM O.C. OR WITH 1/4" DIAMETER POWER DRIVEN INSERTS AT 2'-0" O.C., U.O.N. MINIMUM 2 BOLTS OR INSERTS PER ANY TRACK SECTION.

EXPOSED STEEL ROOF DECK:
STEEL DECK INSTITUTE SPECIFICATIONS AND RECOMMENDATIONS APPLY.

MATERIAL, DESIGN, MANUFACTURE, AND INSTALLATION SHALL BE EQUIVALENT TO VERCO MANUFACTURING, INC., OR EQUAL, U.O.N.

DECK: SHALL BE 1 1/2" DEEP, TYPE WR-2, 22 GAUGE, PAINTED, WITH MINIMUM I = 0.183 IN 4, S = 0.209 IN 3, PER FOOT WIDTH OF DECK.

STRUCTURAL CONSTRUCTION OBSERVATION:
IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT ALL STRUCTURAL WORK FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY STRUCTURAL CONSTRUCTION OBSERVATION PROVIDED BY OTHERS DOES NOT RELIEVE CONTRACTOR FROM THE APPROVED PLANS THAT ARE FOUND AT A LATER DATE AND ARE DECLARED TO BE SIGNIFICANT WITH ALL DISPATCH AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE FACILITIES FOR THE STRUCTURAL CONSTRUCTION OBSERVED, TO ALLOW HIM TO PERFORM HIS WORK SAFELY AND EFFICIENTLY.

WELDING OF ROOF DECK:
INTERMEDIATE AND END WELDS AT EACH TRANSVERSE SUPPORT (JOISTS, BEAMS, ANGLES, PLATES, ETC.)
EXPOSED ROOF DECK:
1/2" EFFECTIVE DIAMETER PUDDLE WELD IN FIVE VALLEYS OF DECK.
MARGINAL WELDS (SUPPORT PARALLEL TO CORRUGATIONS):
ROOF DECK WITH LIGHTWEIGHT INSULATING CONCRETE:
3/8" EFFECTIVE DIAMETER PLUG WELD, IN 14 GAUGE WELD WASHER, AT 24" O.C.
EXPOSED ROOF DECK:
1/2" EFFECTIVE DIAMETER PUDDLE WELD AT 24" O.C.

SIDE LAPS.
ROOF DECK WITH LIGHTWEIGHT INSULATING CONCRETE: N/A
EXPOSED ROOF DECK:
BUTTON PUNCH AT 24" O.C.

SHEAR TIE ANGLES, BRAG STRUTS, AND DIAPHRAGM CHORDS (SUPPORT PARALLEL TO CORRUGATIONS):
1/2" EFFECTIVE DIAMETER PUDDLE WELD AT 24" O.C.;
(SUPPORT PERPENDICULAR TO CORRUGATIONS):
1/2" EFFECTIVE DIAMETER PUDDLE WELD IN ALL VALLEYS OF DECK.
PERIMETER @ OPENING FRAMING:
1/2" EFFECTIVE DIAMETER PUDDLE WELD @ 12" O.C. ALL SIDES.

REINFORCED HOLLOW-MASONRY UNIT:
CONCRETE MASONRY UNITS: PER ASTM SPEC C90, GRADE N-1, f'm = 1350 PSI
AGGREGATE SHALL CONFORM TO ASTM SPEC. C331.

MORTAR: PER ASTM SPEC. C270, TYPE M OR TYPE S.
f'c = 1800 PSI AT 28 DAYS.

GROUT: PER ASTM SPEC. C476 f'c = 2000 PSI AT 28 DAYS WITH PEA GRAVEL AGGREGATE AND NOT LESS THAN A 6 1/2" SACK MIX.
SLUMP 8" ±. SUBMIT DESIGN MIX TO ARCHITECT FOR REVIEW BY ENGINEER A MINIMUM OF ONE WEEK PRIOR TO FIRST GROUT DELIVERY. NO FLY ASH (POZZOLAN) PERMITTED IN MORTAR OR GROUT.

GROUT ALL BOND BEAMS, LINTELS AND REINFORCED CELLS. GROUT UNREINFORCED CELLS AS NOTED ON THE DRAWINGS. MASONRY BELOW GRADE SHALL HAVE ALL CELLS GROUTED SOLID.
REINFORCE AND GROUT AROUND ALL EMBEDDED ITEMS PER STRUCTURAL DRAWINGS. ALL EMBEDDED STRUCTURAL ITEMS SHALL BE POSITIVELY SECURED IN PROPER POSITION BEFORE GROUTING. ALL ANCHOR BOLTS SHALL BE EMBEDDED IN A REINFORCED GROUTED CELL.

HOLD GROUT 1/2" BELOW TOP OF VERTICALLY REINFORCED CELL TO FORM A "GROUT KEY" WITH LIFT ABOVE.

ROD GROUT IMMEDIATELY AFTER PLACING AND AGAIN 5 MINUTES LATER.

MAXIMUM VERTICAL LIFT 8'-0". PROVIDE CLEANOUTS FOR ALL LIFTS EXCEEDING 4'-0".

HORIZONTAL REINFORCEMENT: USE TWO #4 CONTINUOUS IN ALL BOND BEAMS, U.O.N. LAP CONTINUOUS REINFORCEMENT 45 BAR DIAMETERS MINIMUM AND ADDITIONALLY AT CORNERS AND WALL INTERSECTIONS PER DETAIL ENTITLED "TYPICAL REINF. AT CORNERS & INTERSECTIONS", DETAIL 3/S-11.

HORIZONTAL GROUT STOP IN BOND BEAMS SHALL BE METAL LATH OR FIBERGLASS; PAPER NOT PERMITTED.

USE HORIZONTAL JOINT REINFORCEMENT, TWO #9 GA. WIRE, TRUSS OR LADDER DESIGN, AT 16" O.C. BETWEEN BOND BEAMS.

VERTICAL REINFORCEMENT: AS NOTED ON THE DRAWINGS AND A MINIMUM OF #5 VERTICAL CONTINUOUS AT ALL CORNERS, JAMBS, WALL INTERSECTIONS, AND EACH SIDE OF CONTROL JOINTS. HOLD VERTICALS IN PROPER POSITION WITH WIRE SPACERS. VERTICAL REINFORCEMENT WHICH IS INTERRUPTED BY POCKETS OR OPENINGS SHALL BE MADE CONTINUOUS EACH SIDE.

CONTROL JOINTS: PER DETAIL ENTITLED "TYP. MASONRY CONTROL JOINT DETAIL 3/S-11 AT LOCATIONS NOTED ON THE DRAWINGS. CONTROL JOINT MATERIAL PER SPECIFICATIONS

MASONRY:
- CONCRETE BLOCK SHALL MANUFACTURED FROM LIGHTWEIGHT AGGREGATE AND SHALL BE PER ASTM C90, GRADE N. f'm = 1350 PSI (PARTIAL GROUTED) OR, f'm = 1500 PSI (SOLID GROUTED).
- MORTAR SHALL BE TYPE "S", f'm = 1800 PSI @ 28 DAYS.
- GROUT SHALL BE PORTLAND CEMENT TYPE PER ASTM C476. f'c = 2000 PSI @ 28 DAYS WITH PEA GRAVEL AGGREGATE, 8" ± NOT LESS THAN 6 1/2 SACK MIX. SLUMP = 8" .
- LAY BLOCK IN RUNNING BOND
- MAXIMUM VERTICAL LIFT SHALL BE 8'-0". PROVIDE CLEANOUTS FOR ALL LIFTS EXCEEDING 4'-0"
- ROD GROUT IMMEDIATELY AFTER PLACING, AND AGAIN 5 MINUTES LATER.
- HOLD GROUT 1/2" BELOW LIFT TO FORM A "GROUT KEY" WITH THE LIFT ABOVE.
- REINFORCING BARS SHALL BE NEW AND UNUSED, FREE OF EXCESSIVE RUST AND SCALE, INTERMEDIATE GRADE PER ASTM A615.
- SPLICES OF REINFORCING BARS SHALL BE 45 DIAMETERS OR 24", WHICHEVER IS GREATER, UNLESS NOTED OTHERWISE, AND SECURELY TIED TOGETHER.
- NO FLY ASH (POZZOLAN) IS PERMITTED IN MORTAR OR GROUT.
- STAY EACH END VERTICAL REBAR USING SINGLE WIRE AND LOOP TYPE TIES MAXIMUM VERTICAL SPACING OF TIES = 8'-0"

MASONRY REINFORCING:
- SEE ARCHITECTURAL DRAWINGS FOR EXPANSION OR CONTROL JOINTS. LOCATE AT 20'-0" MAXIMUM O.C. BUT NOT LESS THAN 7'-0" FROM A BEARING PLATE OR FROM A JAMB OF AN OPENING WIDER THAN 4'-0"
- 8" WALL VERTICAL REINFORCING: IN CENTER OF GROUT, AT CENTER OF WALL, CONTINUOUS FULL HEIGHT OF WALL AS FOLLOWS:
  1-#5 AT ALL CORNERS, INTERSECTIONS, WALL ENDS AND EACH SIDE OF EXPANSION OR CONTROL JOINTS. SEE PLANS AND DETAILS FOR JAMB REINFORCING.
  1-#5 AT 16" O.C. ELSEWHERE.
- HORIZONTAL REINFORCING: 9-#5 IN MINIMUM 16" DEEP GROUTED CONTINUOUS BOND BEAM AT ROOF LINES AND FLOOR LINES. (2) #5 IN MAXIMUM 8" DEEP GROUTED CONTINUOUS BOND BEAM AT 8'-0" O.C. ON WALLS HIGHER THAN 12'-0" BETWEEN SUPPORTS & WHERE WALLS ARE ANCHORED TO FLOORS. PLACE REBARS AT ROOF AND FLOOR LINES CONTINUOUS THROUGH EXPANSION JOINTS. 2-#5 IN MINIMUM 16" DEEP BOND BEAM AT TOP OF PARAPETS. PROVIDE LADDER TYPE #9 JOINT REINFORCING AT ALL 16" O.C. GROUT BARRIER BELOW BOND BEAMS SHALL BE CONTINUOUS WIRE LATH.

- LINTELS: SEE LINTEL SCHEDULE.

NOTE TO CONTRACTOR:
THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURES DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, BRACING AND SHORING FOR LOADS IMPOSED DURING CONSTRUCTION, ETC.

OPTIONS ARE FOR THE CONTRACTOR'S CONVENIENCE. HE SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY IF HE CHOOSES AN OPTION AND SHALL COORDINATE ALL DETAILS.

THE COST OF ADDITIONAL DESIGN OR REVIEW WORK BY THE ARCHITECT/ ENGINEER DUE TO SELECTION OF AN OPTION BY THE CONTRACTOR, OR DUE TO ERRORS OR OMISSIONS IN CONSTRUCTION BY THE CONTRACTOR, SHALL BE BORNE BY THE CONTRACTOR.

ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN [STATE].

SPECIAL INSPECTIONS:
DEPUTY SPECIAL INSPECTIONS IN ACCORDANCE WITH THE UBC IS REQUIRED FOR THE FOLLOWING:

1. GROUT PLACEMENT OF PREFABRICATED STEEL LINTELS.
2. FIELD WELDING.

GENERAL
SPEC'S - STRUCTURAL
NOT TO SCALE

01A-5002

STRUCTURAL NOTES

DESIGN CRITERIA:

ROOF LIVE LOAD	54 PSF
FLOOR LIVE LOAD (RESIDENTIAL)	40 PSF
FLOOR LIVE LOAD (COMMERCIAL)	75 PSF
ROADWAY LIVE LOAD	AASHTO HS-20
STAIR/CORRIDOR LIVE LOAD	100 PSF
BASIC WIND SPEED	80 MPH (EXP. B)
SEISMIC ZONE	1
UBC EDITION	1991

FOUNDATION DESIGN:

A. DESIGN OF INDIVIDUAL AND CONTINUOUS FOOTINGS IS BASED ON A MAXIMUM ALLOWABLE BEARING PRESSURE OF 8000 PSF (DEAD LOAD PLUS FULL LIVE LOAD).
B. FOUNDATION DESIGN IS BASED ON SOILS REPORT #94625G BY INTER-MOUNTAIN ENGINEERING. REFER TO REPORT FOR ADDITIONAL CONSTRUCTION REQUIREMENTS REGARDING SOILS.
C. FOOTINGS SHALL BE PLACED ON THE NATURAL UNDISTURBED SOIL, OR COMPACTED STRUCTURAL FILL, BELOW FROST DEPTH.
D. PROVIDE CONTINUOUS FOUNDATION DRAINS AROUND THE PERIMETER OF ALL FOUNDATION WALLS AND AT THE BASE OF RETAINING WALLS. CONTACT SOILS ENGINEER FOR DETAILS.
E. SOIL CONDITIONS AND TYPES SHALL BE VERIFIED BY A REPRESENTATIVE OF THE SOILS ENGINEER DURING EXCAVATION. REPORT ANY DISCREPANCIES FROM ORIGINAL FINDINGS TO STRUCTURAL ENGINEER FOR RE-EVALUATION OF FOUNDATION DESIGN.

REINFORCED CONCRETE:

A. CONCRETE DESIGN IS BASED ON THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-89).
B. STRUCTURAL CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI.
C. SPECIAL INSPECTION FOR THE TAKING OF TEST SPECIMENS AND PLACEMENT OF CONCRETE AND REINFORCING STEEL SHALL BE PROVIDED ACCORDING TO UBC SECTION 306.
D. CONCRETE SHALL BE PROPORTIONED USING TYPE II CEMENT. ADMIXTURES CONTAINING CHLORIDE SALTS SHALL NOT BE USED.
E. SUBMIT MIX DESIGN TO ENGINEER FOR REVIEW.
F. COLD WEATHER CONCRETING PROCEDURES SHALL BE PROVIDED AS RECOMMENDED IN THE ACI MANUAL OF CONCRETE PRACTICE.
G. ANCHOR BOLTS FOR BEAM AND COLUMN BEARING PLATES SHALL BE PLACED WITH SETTING TEMPLATES.
H. EXPANSION BOLTS SHALL BE LOCATED AT A MINIMUM OF 6 BOLT DIAMETERS FROM CONCRETE EDGE AND SPACED AT 10 BOLT DIAMETERS UNLESS NOTED OTHERWISE.
I. ALL EXPOSED EDGES AND CORNERS SHALL BE CHAMFERED 3/4".
J. CONCRETE COVERAGE FOR REINFORCING STEEL (ACI 318):

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER:	
#5 BAR AND SMALLER	1-1/2"
#6 THROUGH #18 BAR	2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
SLABS, WALLS, JOISTS (#11 BAR AND SMALLER)	3/4"
BEAMS, COLUMNS	1-1/2"

REINFORCING STEEL:

A. DETAILING, FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE ACI MANUAL OF CONCRETE PRACTICE.
B. EXCEPT WHERE OTHERWISE NOTED ON THE DRAWINGS, REINFORCING BARS SHALL CONFORM TO ASTM SPECIFICATION A615-79 AND SHALL BE MINIMUM GRADE 60 EXCEPT TIES, FIELD BENT BARS WHERE PERMITTED BY NOTE ON PLAN, OR BARS TO BE WELDED, WHICH SHALL BE GRADE 40.
C. AT SPLICES IN CONCRETE, LAP BARS 36 DIAMETERS. DO NOT WELD OR USE MECHANICAL SPLICING DEVICES UNLESS SPECIFICALLY APPROVED BY ENGINEER.
D. AT CORNERS, MAKE HORIZONTAL BARS CONTINUOUS OR PROVIDE CORNER BARS. AROUND OPENINGS AND STEPS IN CONCRETE, PROVIDE (2)-#5'S EXTENDING 2'-0" BEYOND EDGE OF OPENING OR STEP.
E. EXTEND REINFORCING STEEL A MINIMUM OF 24" THROUGH COLD JOINTS. UNLESS SPECIFICALLY LOCATED ON PLAN OR DETAILS, COORDINATE COLD JOINT LOCATIONS WITH ENGINEER.
F. WELDED WIRE FABRIC SHALL CONFORM TO ASTM SPECIFICATION A-185. LAP WELDED WIRE FABRIC A MINIMUM OF ONE FULL MESH PLUS TWO INCHES. LAPS SHALL BE WIRED TOGETHER.

STRUCTURAL STEEL:

A. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE MOST CURRENT EDITIONS OF AISC SPECIFICATIONS AND CODE OF STANDARD PRACTICE.
B. STRUCTURAL STEEL ROLLED SHAPES, INCLUDING PLATES AND ANGLES, SHALL BE ASTM A572. TUBE SHAPES SHALL BE ASTM A500 GRADE B. PIPES SHALL BE ASTM A53 GRADE B OR ASTM A501.
C. ALL BOLTS USED IN STEEL FRAMING SHALL CONFORM TO ASTM SPECIFICATION A325. ANCHOR BOLTS AND BOLTS USED IN TIMBER CONNECTIONS MAY BE ASTM A307. BOLT SIZES SHALL BE 3/4" DIAMETER UNLESS NOTED OTHERWISE.
D. TYPICAL FRAMED BEAM CONNECTIONS SHALL CONSIST OF PAIRS OF 1/4" ANGLES USING THE MAXIMUM NUMBER OF BOLTS CALLED FOR IN TABLE II-A OF THE AISC MANUAL (ASD NINTH EDITION).
E. ALL WELDING SHALL BE DONE BY AN AWS CERTIFIED WELDER.
F. DELAY PAINTING WITHIN 3" OF FIELD WELDS UNTIL WELDS ARE COMPLETED.
G. EXPANSION BOLTS SHALL BE WEDGE TYPE "HILTI", "RAWL", OR "RED HEAD" OR APPROVED EQUIVALENT WITH THE FOLLOWING MINIMUM EMBEDMENTS:

1/2" DIAMETER ---- 2-1/2"
5/8" DIAMETER ---- 3"
3/4" DIAMETER ---- 4"

H. ADHESIVE ANCHORS CALLED FOR ON THE DRAWINGS SHALL BE GLASS CAPSULE TYPE SUCH AS "MOLLY PARABOND" OR "HILTI HVA" ANCHOR SYSTEMS. MINIMUM EMBEDMENTS, IF NOT SPECIFICALLY INDICATED ON THE DRAWINGS, SHALL BE ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

BACKFILLING:

A. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL SUPPORTING ELEMENTS ARE IN PLACE AND SECURELY ANCHORED, OR ADEQUATE SHORING IS INSTALLED. CONCURRENT BACKFILLING OF EACH SIDE OF A RETAINING WALL TO FINAL GRADES AS INDICATED ON PLAN OR SECTIONS IS REQUIRED UNLESS TEMPORARY SHORING IS INSTALLED.
B. VERIFY TYPE OF FILL WITH SOILS ENGINEER AND STRUCTURAL ENGINEER PRIOR TO BACKFILLING.

GROUT:

A. ALL GROUT BENEATH COLUMN BASE PLATES AND STEEL BEAMS AT BEARING SHALL BE NON-SHRINK, NON-METALLIC TYPE GROUT. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI.

PRECAST CONCRETE:

A. PRECAST CONCRETE MEMBERS AND CONNECTIONS SHALL BE DESIGNED BY THE PRECAST SUPPLIER TO SATISFY THE LOADING REQUIREMENTS SHOWN ON THE DRAWINGS.
B. DESIGN AND FABRICATION SHALL BE IN ACCORDANCE WITH "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-83, 1986 REVISION).
C. PRECAST MEMBERS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5000 PSI.
D. SHOP AND ERECTION DRAWINGS, INCLUDING CALCULATIONS, SHALL BE SUBMITTED TO ENGINEER FOR REVIEW PRIOR TO FABRICATION.
E. HANDLING AND ERECTION METHODS SHALL ENSURE THAT NO DAMAGE OR OVERSTRESSING OF MEMBERS OCCURS.
F. THE FLOOR SLAB HAS NOT BEEN DESIGNED TO SUPPORT CRANE WHEEL LOADS.
G. ALL WELDING SHALL BE DONE BY AN AWS CERTIFIED WELDER.
H. CONNECTIONS WHICH ARE EXPOSED TO SOILS OR WEATHER SHALL BE PROTECTED FROM CORROSION BY A FIELD-APPLIED COATING APPROVED BY THE ARCHITECT.

STEEL DECK:

A. STEEL ROOF AND FLOOR DECK SHALL BE THE DEPTH, GAUGE AND RIB TYPE INDICATED ON THE DRAWINGS.
B. DECK SHALL BE FABRICATED FROM STEEL SHEET CONFORMING TO ASTM A.611 OR A.446 HAVING A MINIMUM YIELD STRENGTH OF 33 KSI.
C. DECK SHALL BE MANUFACTURED AND ERECTED IN ACCORDANCE WITH STANDARD RECOMMENDATIONS OF THE STEEL DECK INSTITUTE.
D. WELDING PATTERNS AND DETAILS SHALL BE INDICATED ON THE MANUFACTURER'S SHOP DRAWINGS. REQUIRED DIAPHRAGM SHEAR VALUES ARE INDICATED ON THE STRUCTURAL DRAWINGS.
E. SHEETS SHALL BE FINISHED BY PHOSPHATIZING AND PAINTING WITH A BAKED-ON ACRYLIC PRIMER. WHERE DECK IS USED AS A CONCRETE FORM, THE SIDE OF THE DECK IN CONTACT WITH THE CONCRETE SHALL BE PHOSPHATIZED BUT NOT PAINTED.
F. OPENINGS LARGER THAN 6" IN DIAMETER SHALL BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO BEING CUT INTO THE DECK.

STEEL STUDS AND JOISTS:

A. STUD SUBCONTRACTOR SHALL PROVIDE BRIDGING AND BLOCKING AS REQUIRED FOR STABILITY AND STIFFNESS OF THE FINAL WALL OR FLOOR/ROOF ASSEMBLY.
B. METAL STUDS AND JOISTS SHALL BE OF THE TYPE, SIZE, GAUGE AND SPACING INDICATED ON THE DRAWINGS, WITH MINIMUM SECTION PROPERTIES AS SPECIFIED.
C. INSTALL "C" SHAPED HEADERS OVER OPENINGS WITH WEBS BACK-TO-BACK.
E. ALL 16-GAUGE, 14-GAUGE AND 12-GAUGE STRUCTURAL STUDS AND JOISTS SHALL BE FORMED FROM STEEL THAT CONFORMS TO THE REQUIREMENTS OF ASTM 570-79 OR ASTM A-446-D WITH A 50,000 PSI MINIMUM YIELD STRESS.
A. ALL 18-GAUGE AND LIGHTER STRUCTURAL STUDS AND JOISTS SHALL BE FORMED FROM STEEL THAT CONFORMS TO THE REQUIREMENTS OF ASTM 570-79 OR ASTM A-446-C WITH A 33,000 PSI MINIMUM YIELD STRESS.
F. STRUCTURAL STUDS AND JOISTS SHALL BE COATED WITH RED ZINC OXIDE PAINT, OR SHALL BE GALVANIZED.
G. ALL FIELD WELDED JOINTS OR GROUND AREAS SHALL BE TOUCHED UP WITH A SIMILAR RUST-INHIBITIVE MATERIAL.

GENERAL REQUIREMENTS:

A. STRUCTURAL ERECTION AND BRACING: THE STRUCTURAL DRAWINGS ILLUSTRATE THE COMPLETED STRUCTURE WITH ALL ELEMENTS IN THEIR FINAL POSITIONS, PROPERLY SUPPORTED AND BRACED. THE CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PROVIDE SHORING AND BRACING AS MAY BE REQUIRED DURING CONSTRUCTION TO ACHIEVE THE FINAL COMPLETED STRUCTURE. CONTACT STRUCTURAL ENGINEER FOR CONSULTATION (NOT IN CONTRACT) AS REQUIRED.
B. SHOP DRAWINGS: SUBMIT SHOP AND ERECTION DRAWINGS FOR STRUCTURAL STEEL, MISCELLANEOUS STEEL, STEEL JOISTS AND GIRDERS, STEEL DECK, MASONRY REINFORCING STEEL, WOOD TRUSSES, AND MANUFACTURED WOOD JOISTS TO ENGINEER FOR REVIEW PRIOR TO FABRICATION.
C. EXISTING STRUCTURES: IF CONSTRUCTION ADJOINS AN EXISTING STRUCTURE, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS, ELEVATIONS, FRAMING, FOUNDATIONS AND ANYTHING ELSE THAT MAY AFFECT THE WORK SHOWN ON THE DRAWINGS. UNDERPINNING, SHORING AND BRACING OF EXISTING STRUCTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
D. DIMENSIONS: CHECK ALL DIMENSIONS AGAINST ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. DO NOT SCALE DRAWINGS.
E. CONSTRUCTION PRACTICES: GENERAL CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES FOR CONSTRUCTION OF THIS PROJECT. NOTIFY STRUCTURAL ENGINEER OF OMISSIONS OR CONFLICTS BETWEEN THE WORKING DRAWINGS AND EXISTING CONDITIONS. COORDINATE REQUIREMENTS FOR MECHANICAL/ELECTRICAL/PLUMBING PENETRATIONS THROUGH STRUCTURAL ELEMENTS WITH STRUCTURAL ENGINEER. JOBSITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ALL METHODS USED FOR CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE UBC.
F. THOUGH EVERY EFFORT IS MADE TO PROVIDE A COMPLETE AND CLEAR SET OF CONSTRUCTION DOCUMENTS, DISCREPANCIES OR OMISSIONS MAY OCCUR. RELEASE OF THESE DRAWINGS ANTICIPATES COOPERATION AND CONTINUED COMMUNICATION BETWEEN CONTRACTOR, ARCHITECT AND ENGINEER TO PROVIDE THE BEST POSSIBLE STRUCTURE.

GENERAL NOTES - STRUCTURAL

NOT TO SCALE

01A-5003

PLAN NOTES

1. ELEVATIONS OF CONCRETE FOUNDATION ELEMENTS INDICATED ON PLAN THUS:
   T.O.W.=TOP OF CONCRETE WALL T.O.F.=TOP OF CONCRETE FOOTING T.O.S.=TOP OF CONCRETE SLAB

2. TOP OF FOOTING ELEVATIONS ARE BASED ON FINDING ADEQUATE SOIL BEARING CONDITIONS AT THAT DEPTH. CONTACT ENGINEER IF OVEREXCAVATION IS REQUIRED.

3. STEPS IN TOP OF CONCRETE WALL INDICATED:

4. CONTINUOUS CONCRETE FOOTINGS ARE CENTERED BENEATH CONCRETE FOUNDATION WALLS UNLESS NOTED OTHERWISE.

5. CONCRETE FOUNDATION WALLS ARE 10" THICK AND CONTINUOUS FOOTINGS ARE 10" THICK x 18" WIDE UNLESS NOTED OTHERWISE.

6. DO NOT SCALE DRAWINGS. FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING STRUCTURE.

PLAN NOTES

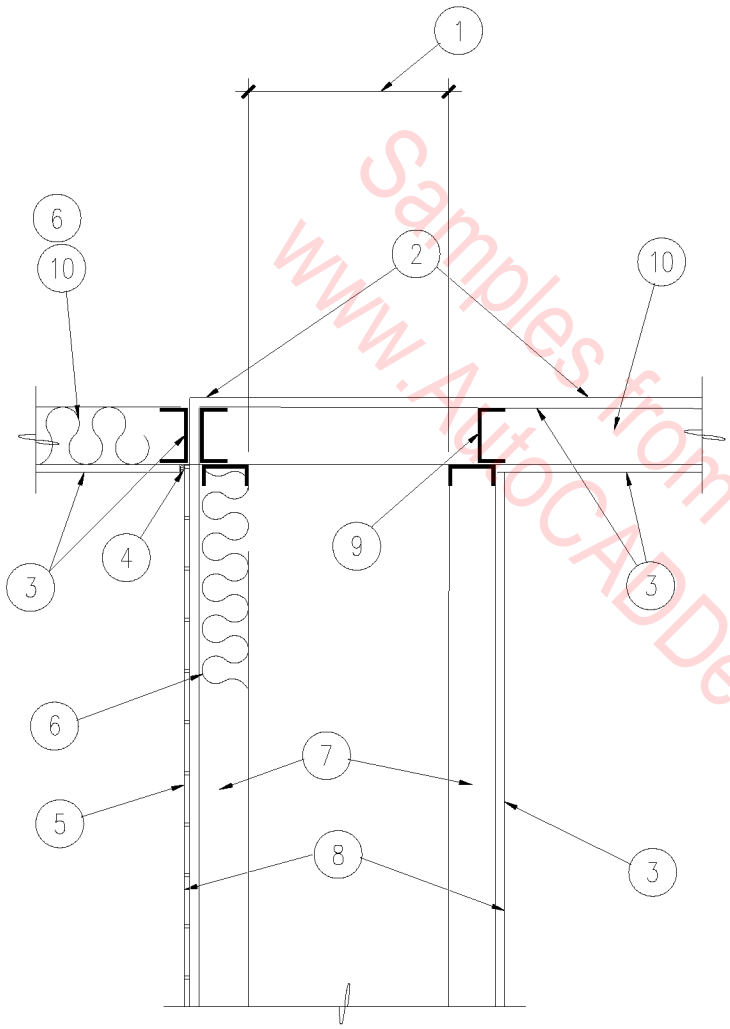
NOT TO SCALE

PLAN NOTES

1. COLUMNS BELOW ARE INDICATED: ☐ CONTINUOUS PC COLUMNS ARE INDICATED: ▬
2. DEAD AND LIVE LOADS FROM FRAMING ABOVE ARE INDICATED AT COLUMNS ON PLAN.
3. DESIGN LIVE LOADS AT THIS LEVEL:
   - RETAIL AREA: LL = 75 psf
   - SIDEWALK: LL = 85 psf
   - ROADWAY: AASHTO HS-20 LOADING
4. FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING STRUCTURE.
5. TOP OF CONCRETE ELEVATIONS INDICATED THUS:

PLAN NOTES

NOT TO SCALE

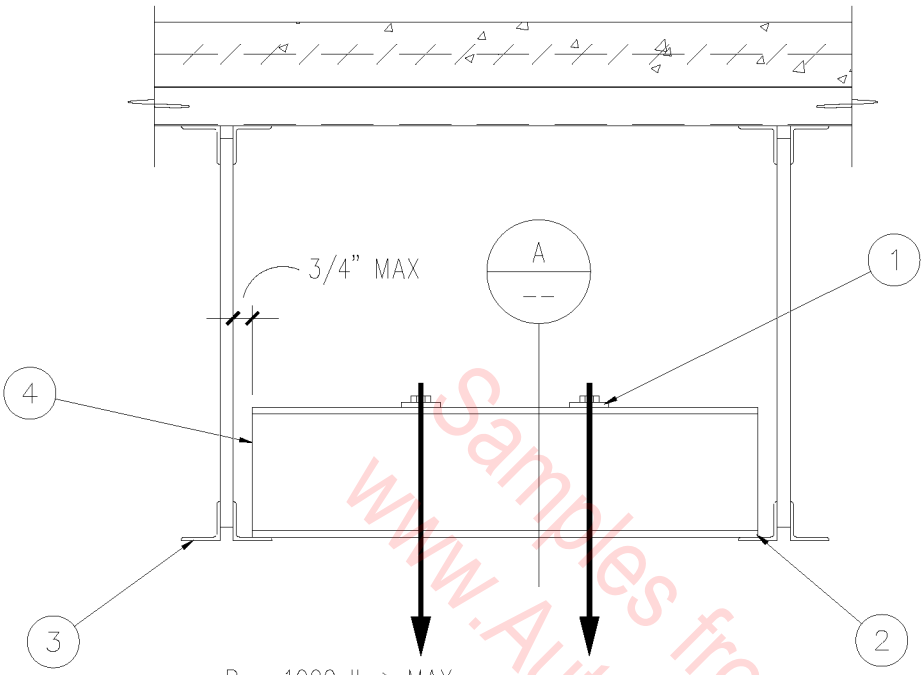


1. VERIFY W/ PLUMBING.
2. ONE HOUR CEILING ASSEMBLY.
3. 5/8" TYPE "X" GYP. BD.
4. SEALANT.
5. CERAMIC TILE ON GLASS MESH MORTAR UNIT.
6. R-11 SOUND BATT INSULATION.
7. 3-5/8" METAL STUDS AT 16" O.C.
8. ONE HOUR WALL ASSEMBLY (PLUMBING CHASE).
9. CEILING JOIST BLOCKING.
10. CEILING JOIST.

PLUMBING CHASE

3/4" = 1'-0"

13A-3001

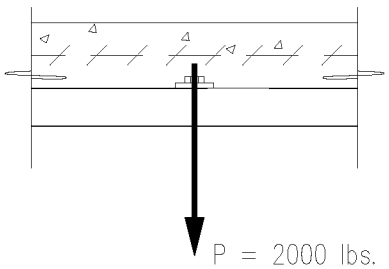


P_2 = 1000 lbs> MAX. P_1 = 1000 lbs> MAX.

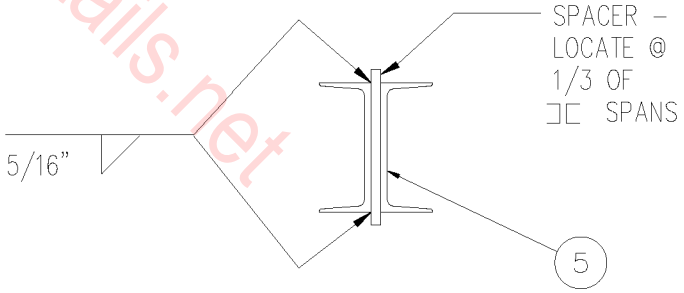
$P_1 + P_2$ = 2000 lbs. MAX.

SUSPENDED FROM GIRDERS

1. 4" X 4" X 1/4" CUT WASHER – TYP.
2. FIELD WELD OR CLAMP ENDS OF CHANNELS TO BEAM OR GIRDER
3. MAXIMUM LOAD TO ANY BEAM OR GIRDER NOT TO EXCEED 2000 LBS.
4. (2) C5 X 6.7 CHANNELS LOCATE AS REQUIRED FOR MECHANICAL EQUIPMENT
5. (2) C5 X 6.7 CHANNELS



SUSPENDED FROM SLAB

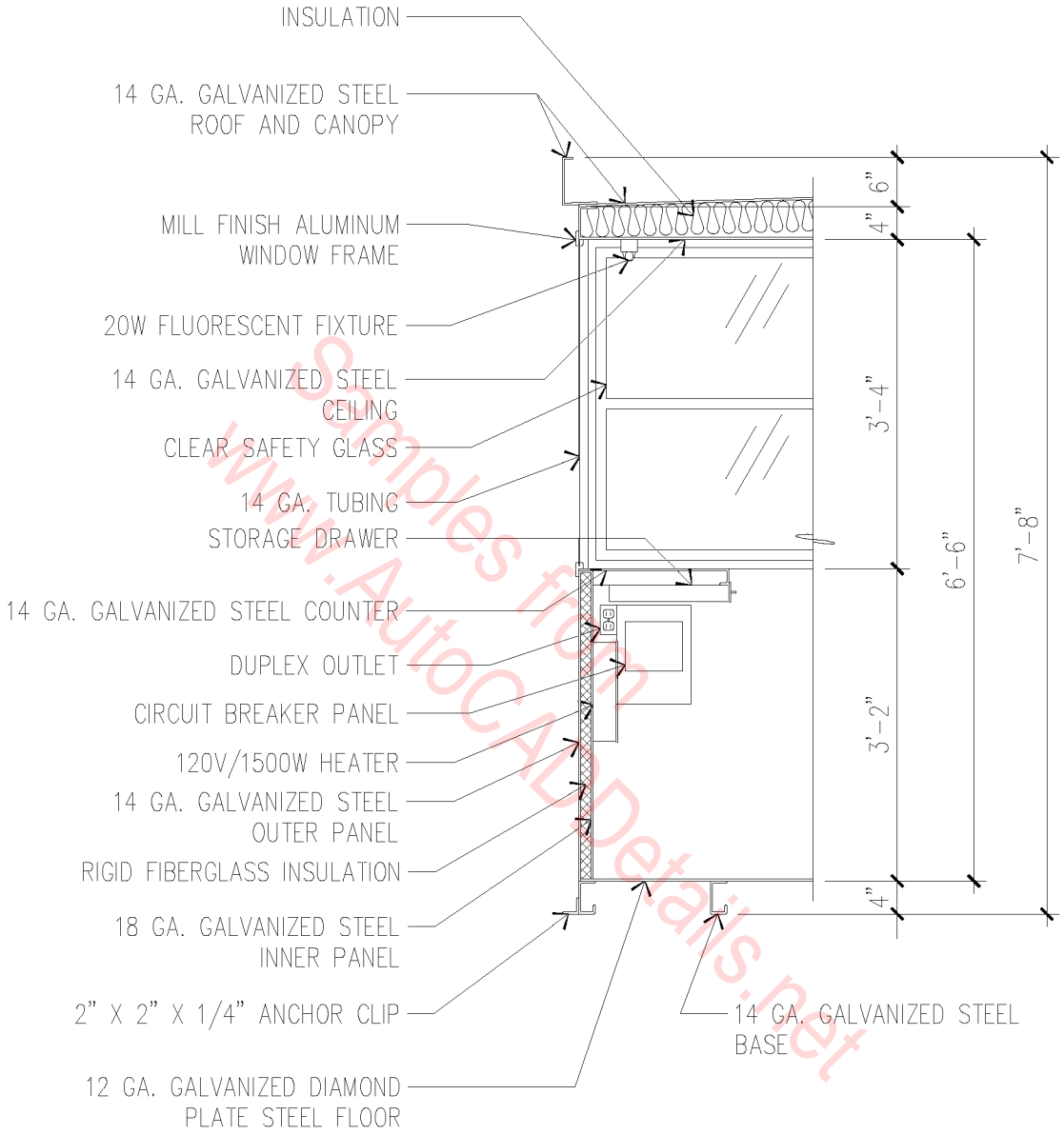


SECTION A

MECHANICAL HANGER

N.T.S.

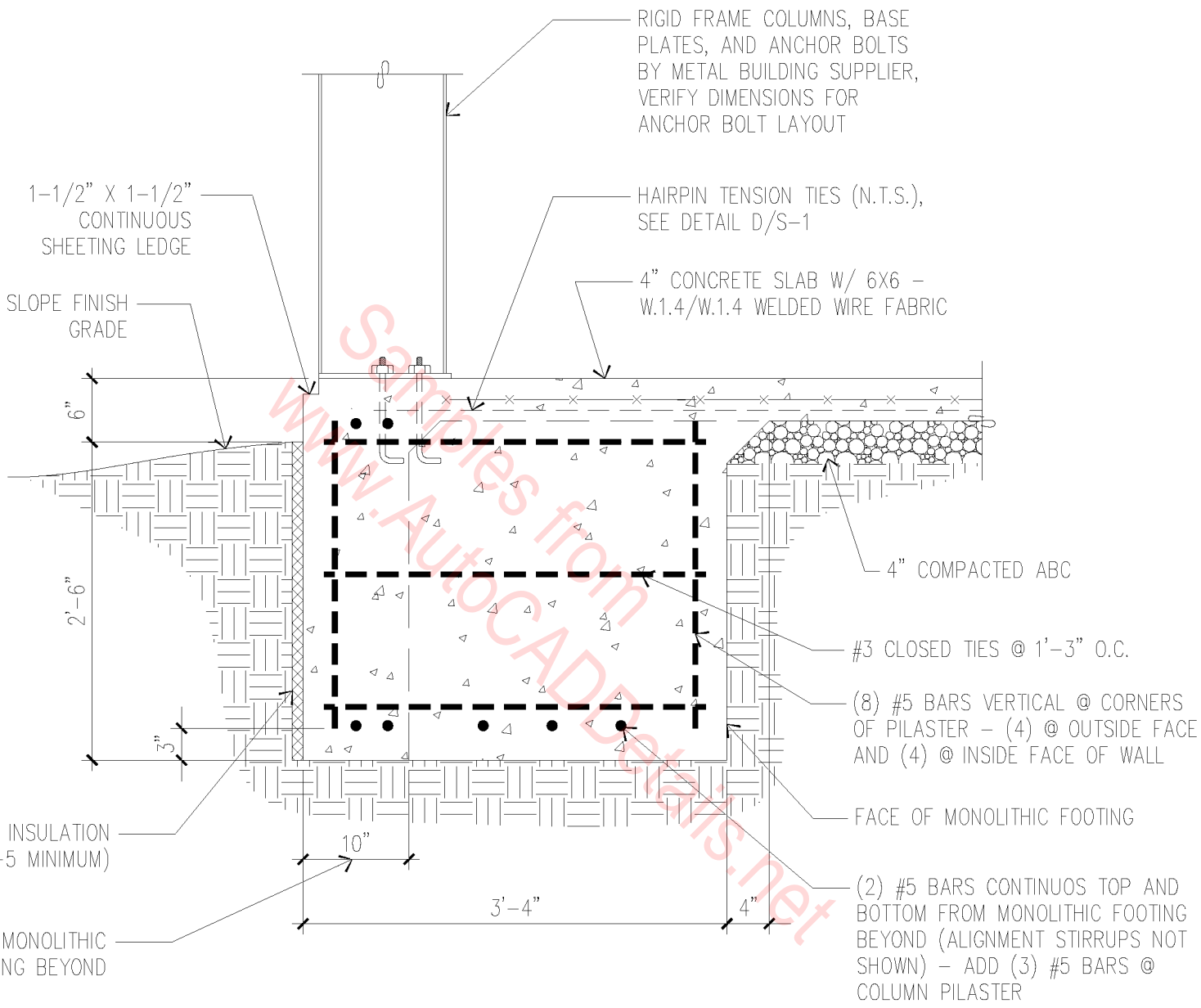
13A-3002



TYP. WALL SECTION OF PRE-ENGINEERED SHELTER

1/2" = 1'-0"

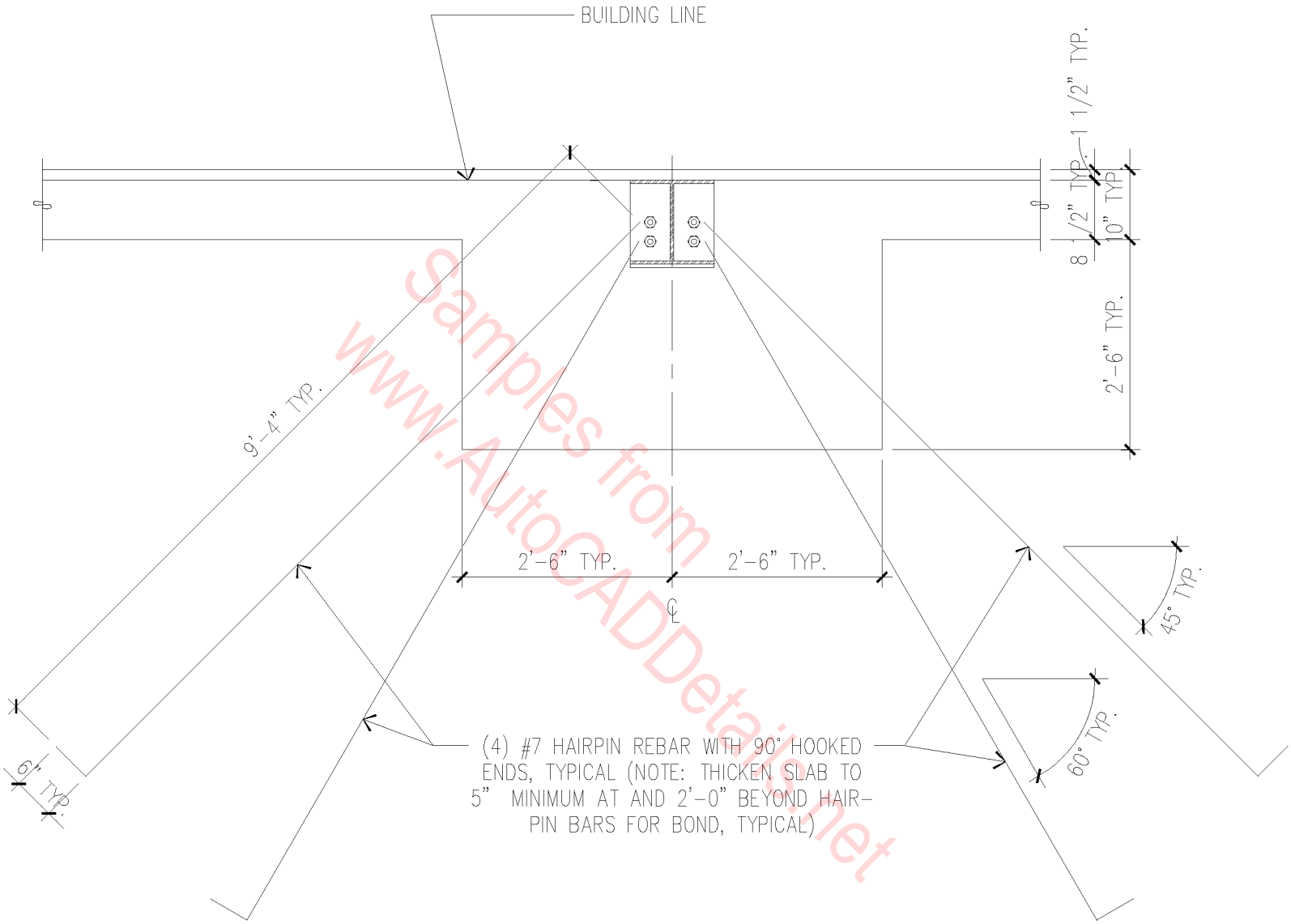
13A-2001



MONOLITHIC FOOTING @ RIGID FRAME COLUMN

3/4" = 1'-0"

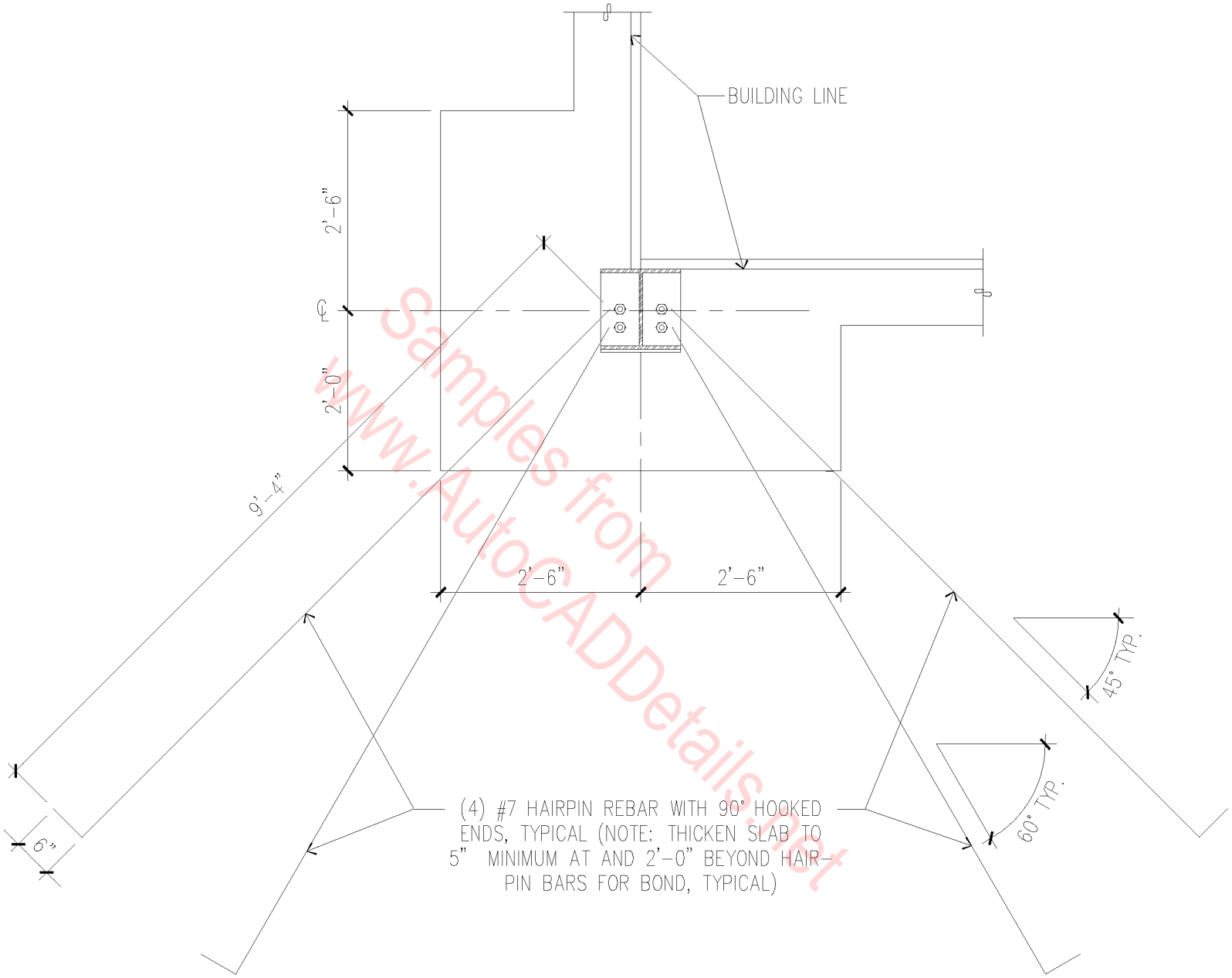
13A-2002



RIGID FRAME COLUMN FOOTING

1/2" = 1'-0"

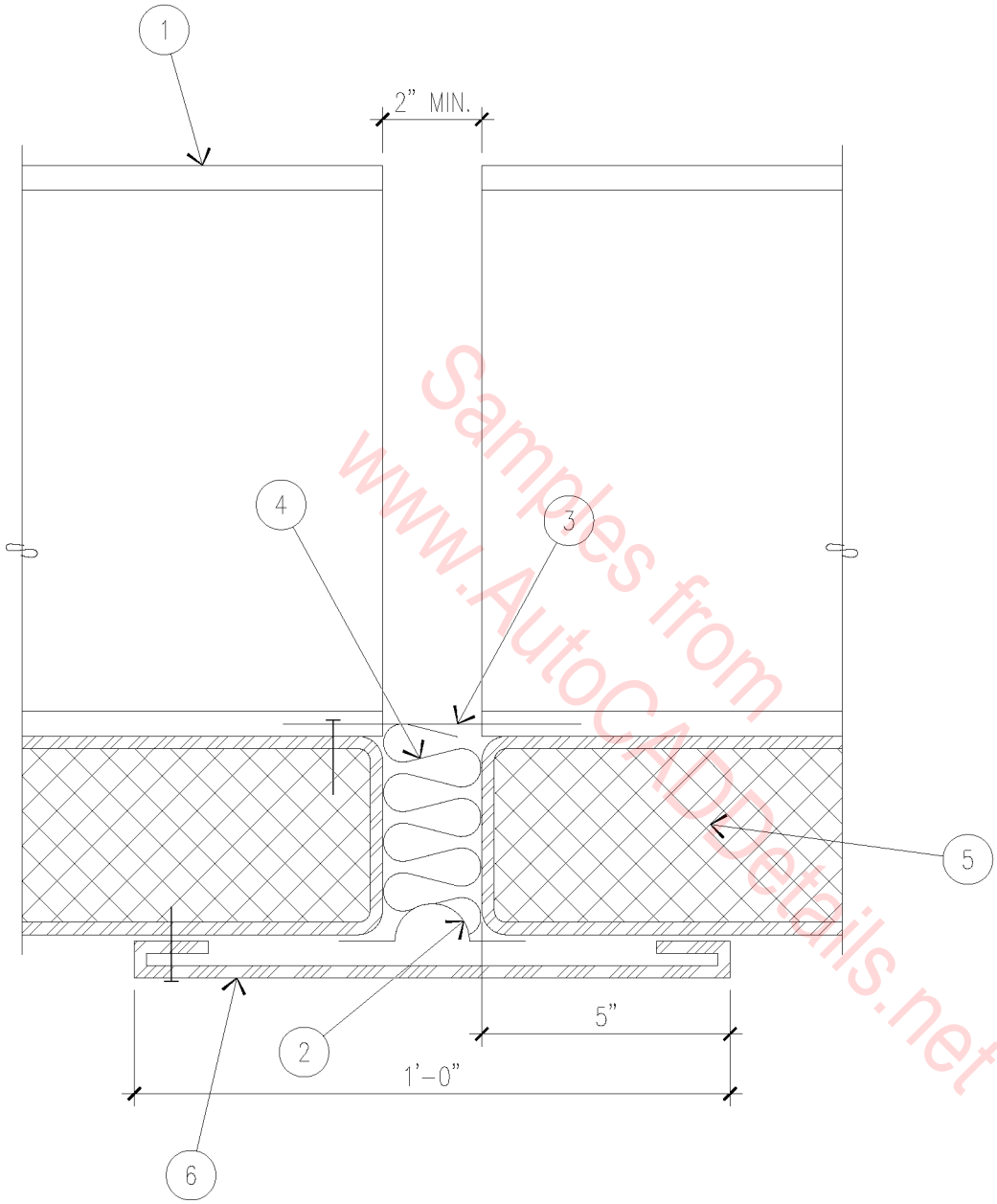
13A-2003



RIGID FRAME COLUMN FOOTING

1/2" = 1'-0"

13A-2004

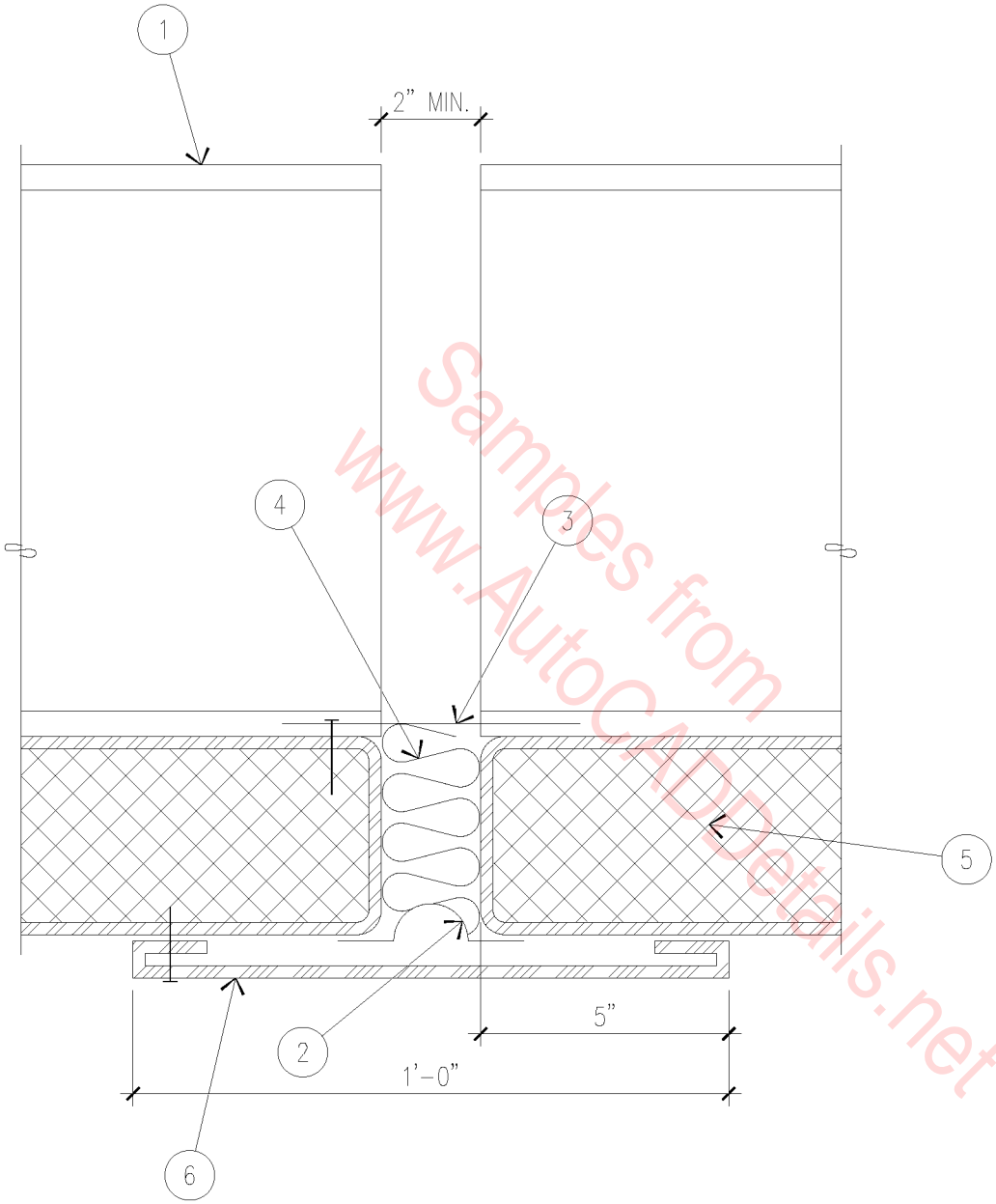


1. STEEL GIRT BELOW – SEE STRUCTURAL.
2. ELASTOMERIC BELLOWS.
3. SHEET METAL CLOSURE – FASTEN TO ONE SIDE ONLY.
4. FIBERGLASS BATT INSULATION.
5. INSULATED METAL WALL PANEL.
6. PREFINISHED ALUMINUM EXPANSION JOINT COVER – FASTEN TO ONE SIDE ONLY, MATCH WALL COLOR.

WALL PANEL EXPANSION JOINT

3" = 1'-0"

13A–2005

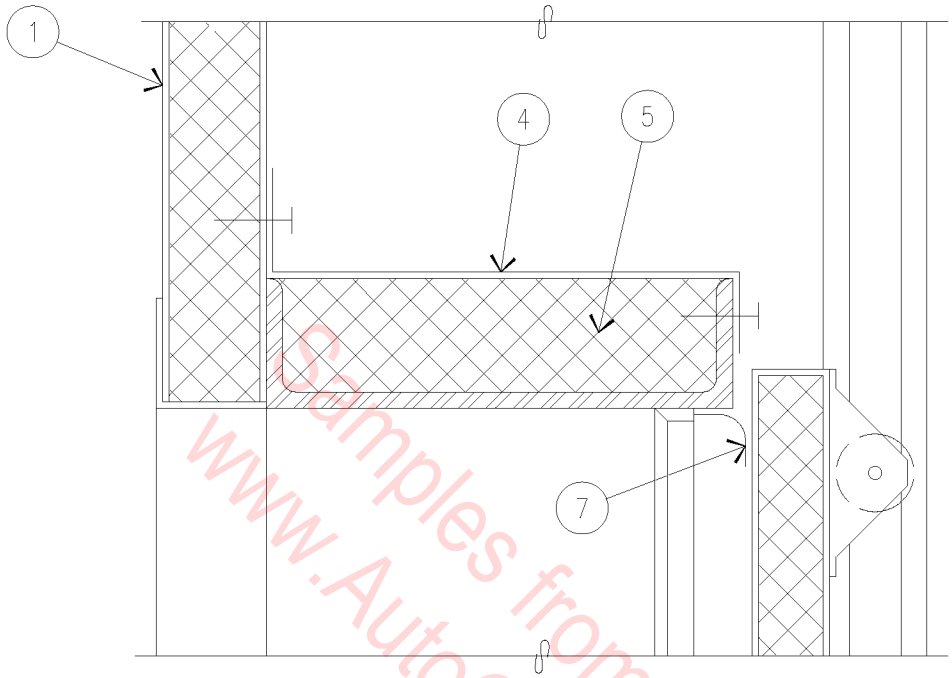


1. STEEL GIRT BELOW – SEE STRUCTURAL.
2. ELASTOMERIC BELLOWS.
3. SHEET METAL CLOSURE – FASTEN TO ONE SIDE ONLY.
4. FIBERGLASS BATT INSULATION.
5. INSULATED METAL WALL PANEL.
6. PREFINISHED ALUMINUM EXPANSION JOINT COVER – FASTEN TO ONE SIDE ONLY, MATCH WALL COLOR.

WALL PANEL EXPANSION JOINT

3" = 1'-0"

13A–2005

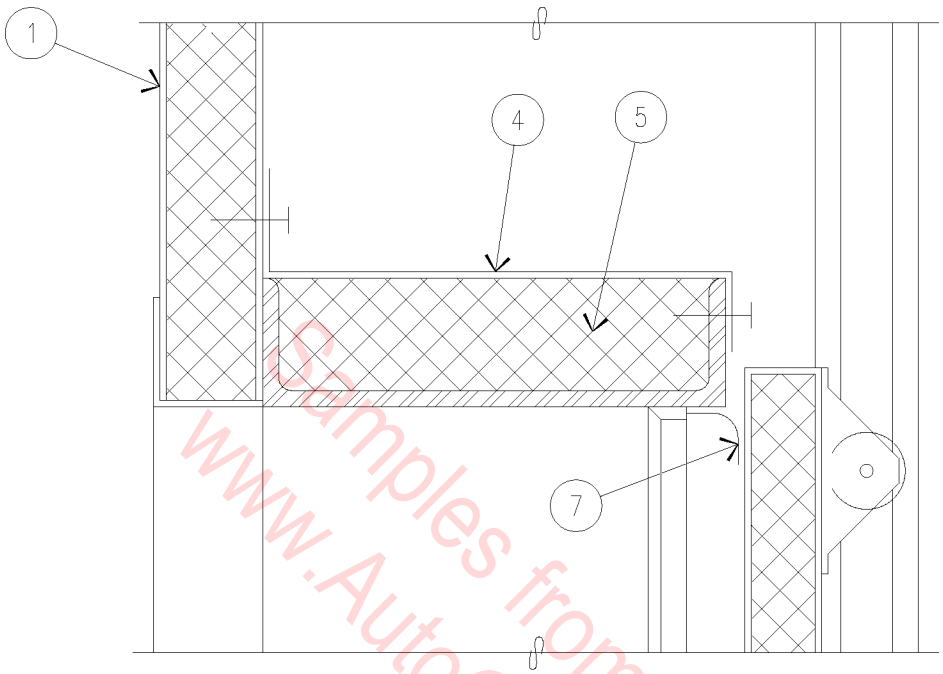


1. METAL WALL PANEL.
2. 6" ø STEEL PIPE GUARD FILLED WITH CONCRETE.
3. EXPANSION JOINT BELOW.
4. 20 GAUGE SHEET METAL CLOSURE.
5. R-10 RIGID INSULATION.
6. ?
7. PERIMETER WEATHERSTRIPPING.
8. WALL PANEL JAMB TRIM.
9. INSULATED OVERHEAD SECTIONAL DOOR.

SECTIONAL DOOR JAMB

3" = 1'-0"

13A-2006

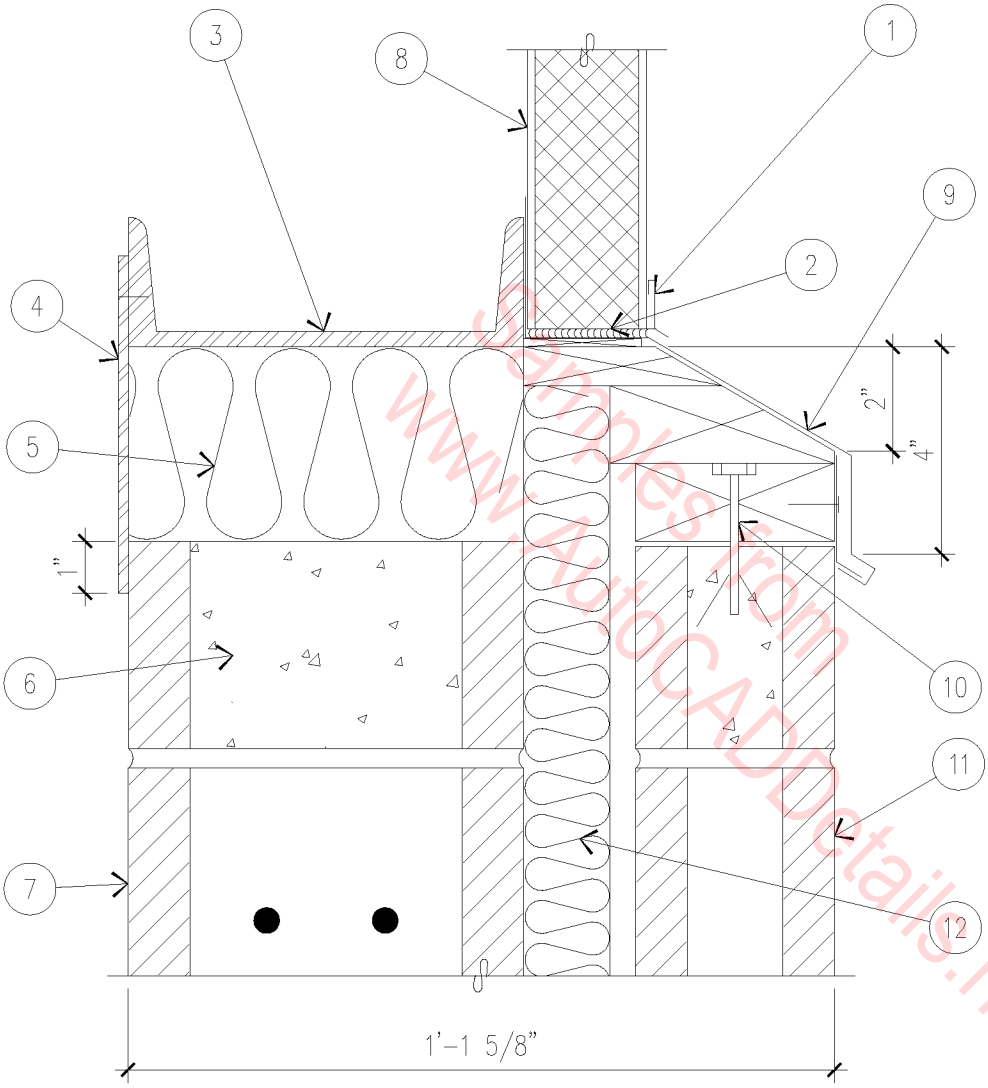


1. METAL WALL PANEL.
2. 6" ø STEEL PIPE GUARD FILLED WITH CONCRETE.
3. EXPANSION JOINT BELOW.
4. 20 GAUGE SHEET METAL CLOSURE.
5. R-10 RIGID INSULATION.
6. ?
7. PERIMETER WEATHERSTRIPPING.
8. WALL PANEL JAMB TRIM.
9. INSULATED OVERHEAD SECTIONAL DOOR.

SECTIONAL DOOR JAMB

3" = 1'-0"

13A-2006

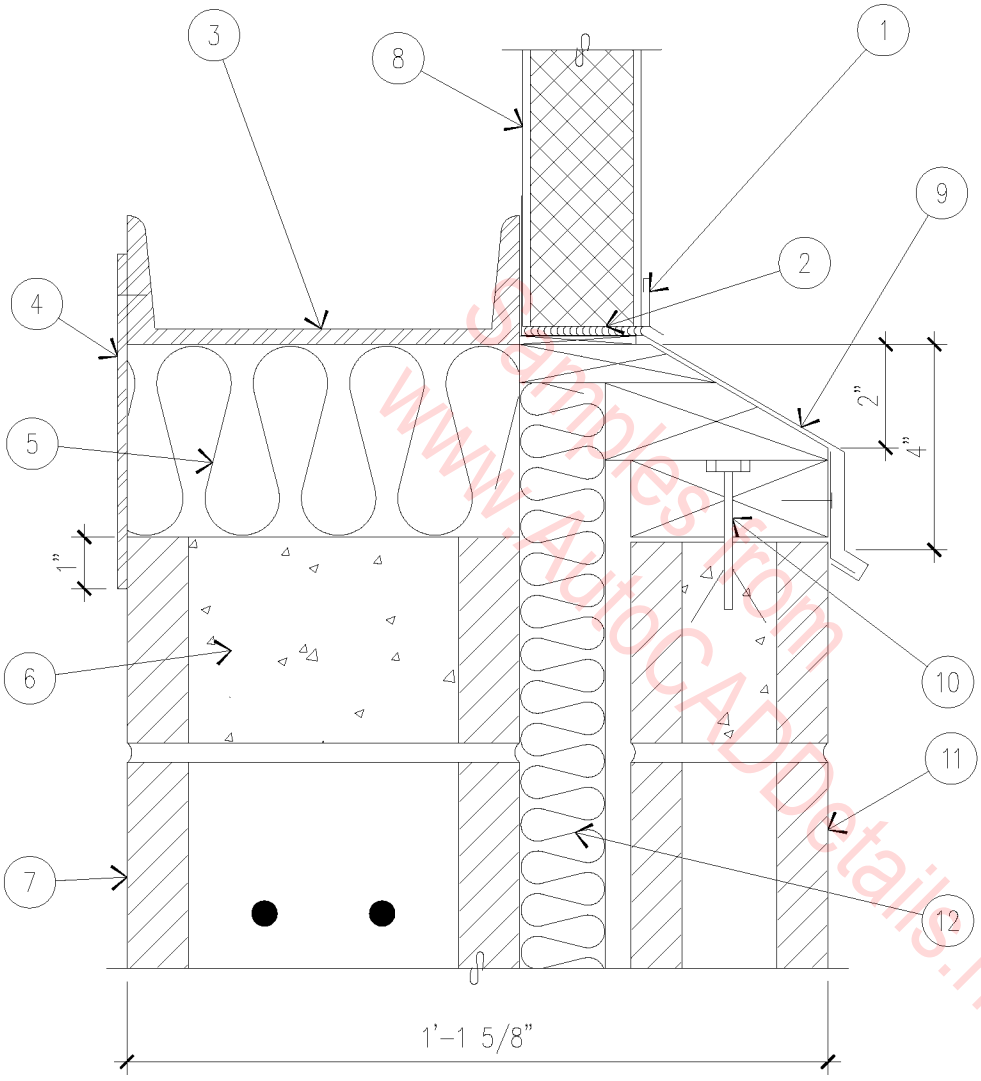


1. ALUMINUM BASE FLASHING WITH DRIP EDGE.
2. SEALANT NO. 2 OR 4.
3. STEEL GIRT – TYPICAL POSITION WHERE WINDOWS DO NOT EXIST.
4. 16 GAUGE GALVANIZED SHEET METAL CLOSURE, PAINT TO MATCH C.M.U. WAINSCOT.
5. FILL VOID WITH FIBERGLASS INSULATION.
6. 8" C.M.U. BLOCK CUT TO 4", GROUTED FULL.
7. 8" C.M.U. WAINSCOT.
8. FACTORY FINISHED INSULATED METAL WALL PANEL.
9. ALUMINUM SILL FLASHING WITH DRIP ANCHOR WITH CONTINUOUS HOLD DOWN CLIP AT DRIP EDGE.
10. TREATED WOOD BLOCKING ANCHORED TO 4" C.M.U. WITH 3/8" EXPANDING BOLTS AT 16" O.C. (TYPICAL).
11. 4" C.M.U. WAINSCOT.
12. R-11 BATT INSULATION.

C.M.U. WALL

3" = 1'-0"

13A-2007

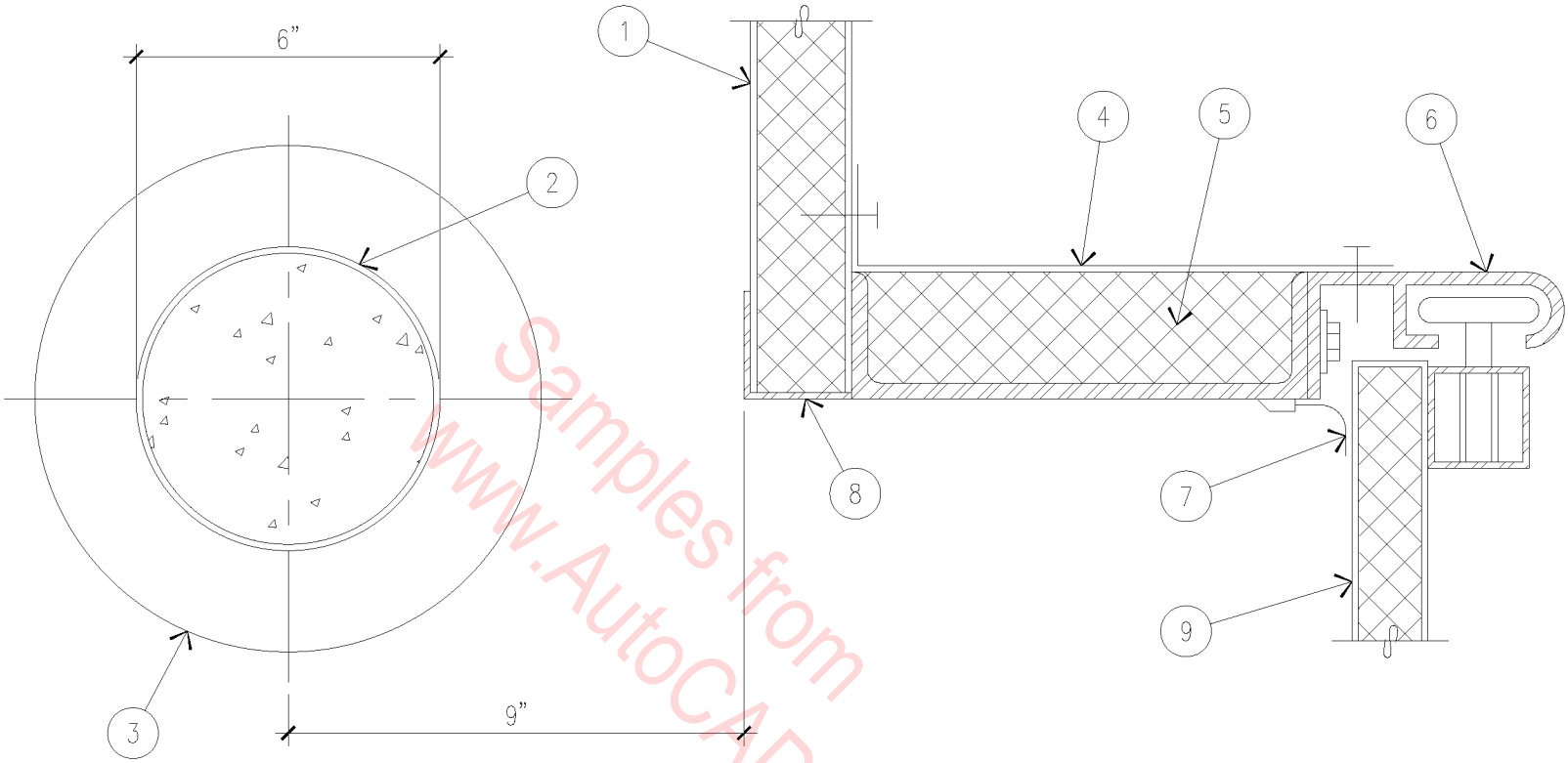


1. ALUMINUM BASE FLASHING WITH DRIP EDGE.
2. SEALANT NO. 2 OR 4.
3. STEEL GIRT – TYPICAL POSITION WHERE WINDOWS DO NOT EXIST.
4. 16 GAUGE GALVANIZED SHEET METAL CLOSURE, PAINT TO MATCH C.M.U. WAINSCOT.
5. FILL VOID WITH FIBERGLASS INSULATION.
6. 8" C.M.U. BLOCK CUT TO 4", GROUTED FULL.
7. 8" C.M.U. WAINSCOT.
8. FACTORY FINISHED INSULATED METAL WALL PANEL.
9. ALUMINUM SILL FLASHING WITH DRIP ANCHOR WITH CONTINUOUS HOLD DOWN CLIP AT DRIP EDGE.
10. TREATED WOOD BLOCKING ANCHORED TO 4" C.M.U. WITH 3/8" EXPANDING BOLTS AT 16" O.C. (TYPICAL).
11. 4" C.M.U. WAINSCOT.
12. R-11 BATT INSULATION.

C.M.U. WALL

3" = 1'-0"

13A-2007

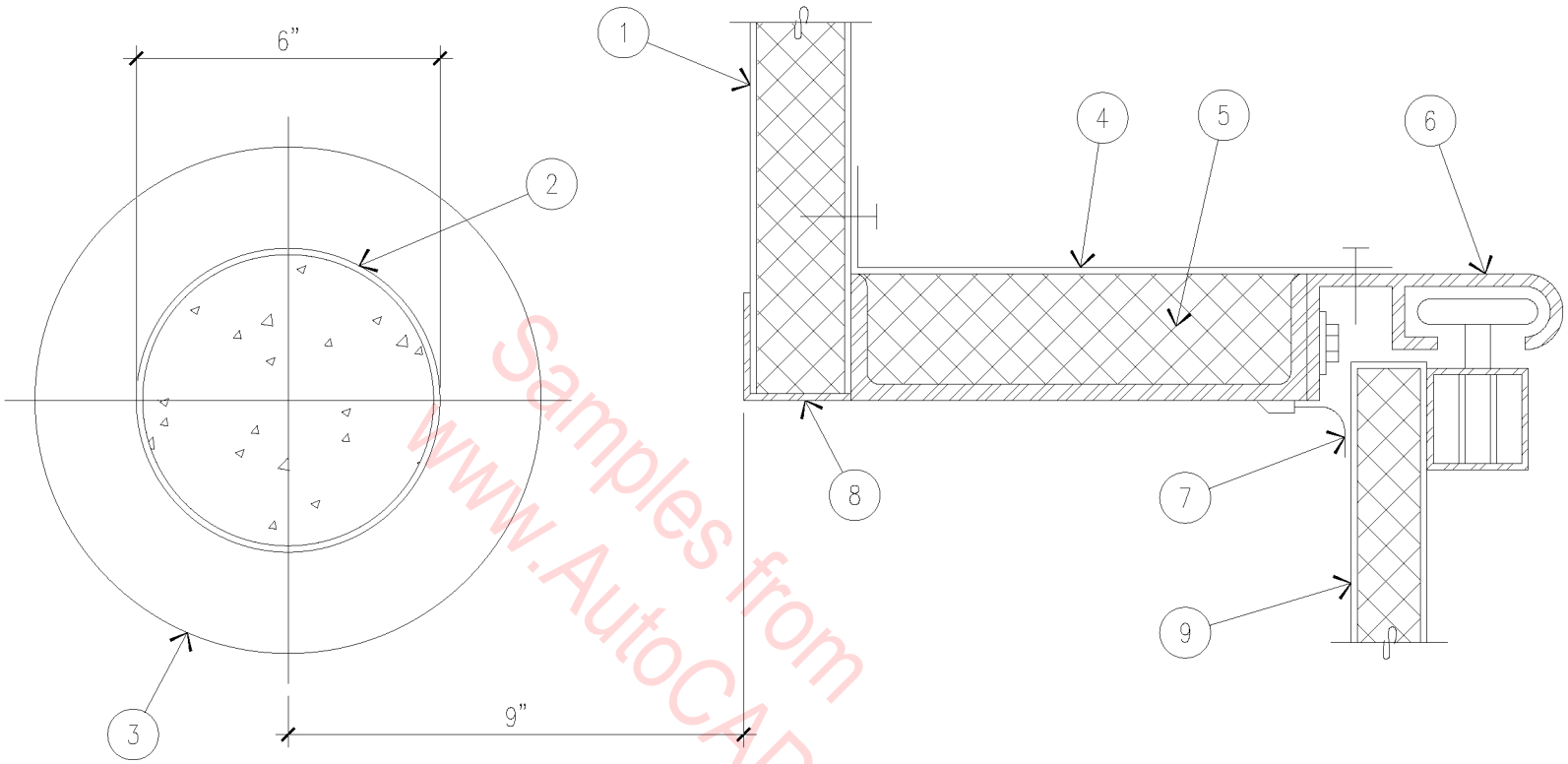


1. METAL WALL PANEL.
2. 6" ø STEEL PIPE GUARD FILLED WITH CONCRETE.
3. EXPANSION JOINT BELOW.
4. 20 GAUGE SHEET METAL CLOSURE.
5. R-10 RIGID INSULATION.
6. GUIDE TRACK.
7. PERIMETER WEATHERSTRIPPING.
8. WALL PANEL JAMB TRIM.
9. INSULATED OVERHEAD SECTIONAL DOOR.

SECTIONAL DOOR JAMB

3" = 1'-0"

13A-2008

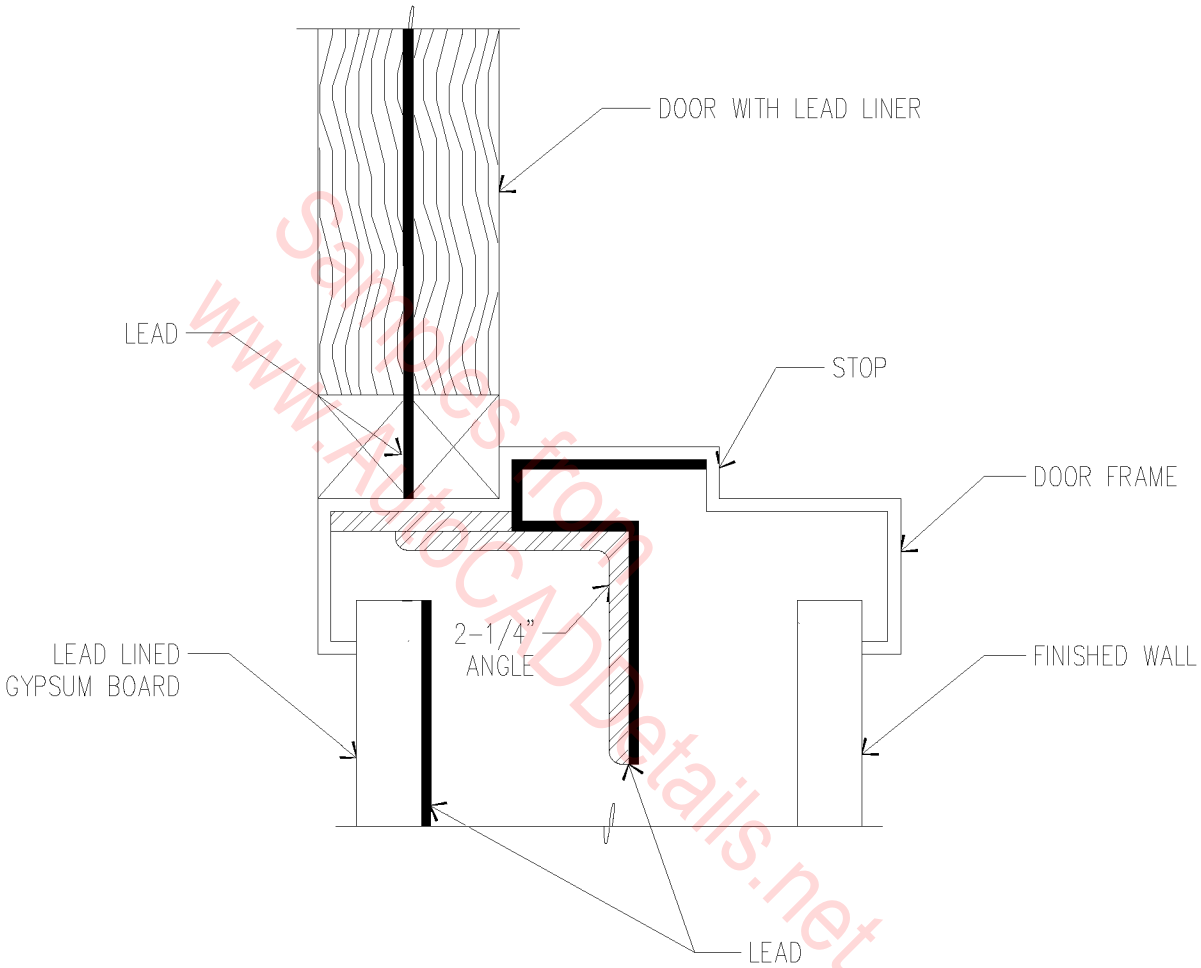


1. METAL WALL PANEL.
2. 6" ø STEEL PIPE GUARD FILLED WITH CONCRETE.
3. EXPANSION JOINT BELOW.
4. 20 GAUGE SHEET METAL CLOSURE.
5. R-10 RIGID INSULATION.
6. GUIDE TRACK.
7. PERIMETER WEATHERSTRIPPING.
8. WALL PANEL JAMB TRIM.
9. INSULATED OVERHEAD SECTIONAL DOOR.

SECTIONAL DOOR JAMB

3" = 1'-0"

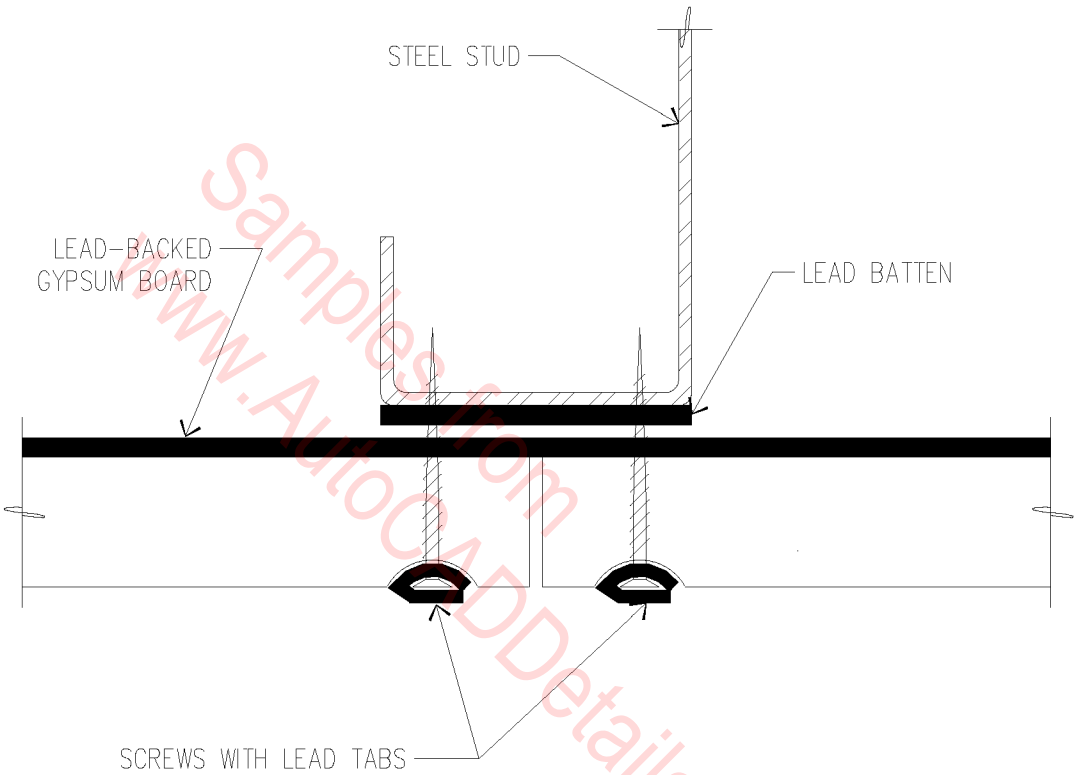
13A-2008



HOLLOW METAL FRAME SHOWING LEAD LINING

6" = 1'-0"

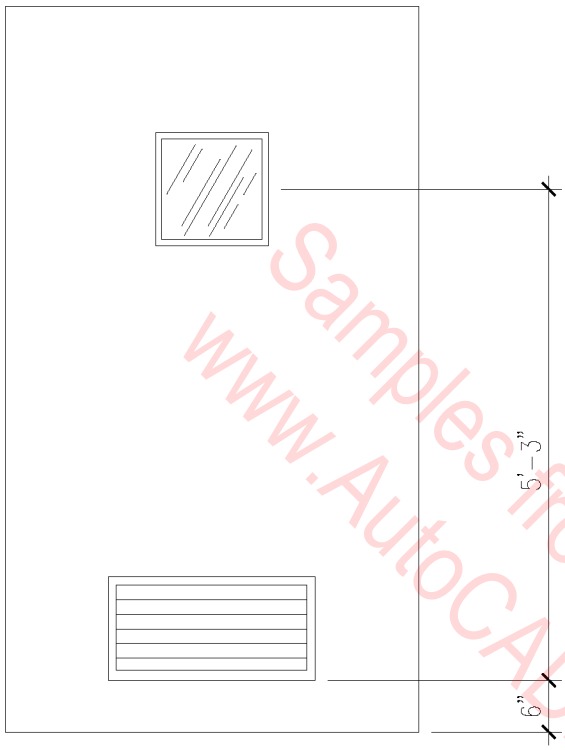
13A-1001



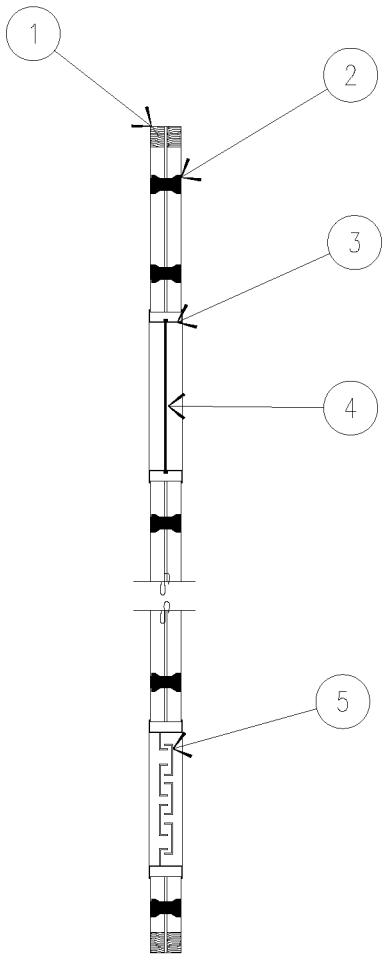
USING BATTENS & TABS TO STEEL STUDS

1" = 1"

13A-1002



ELEVATION



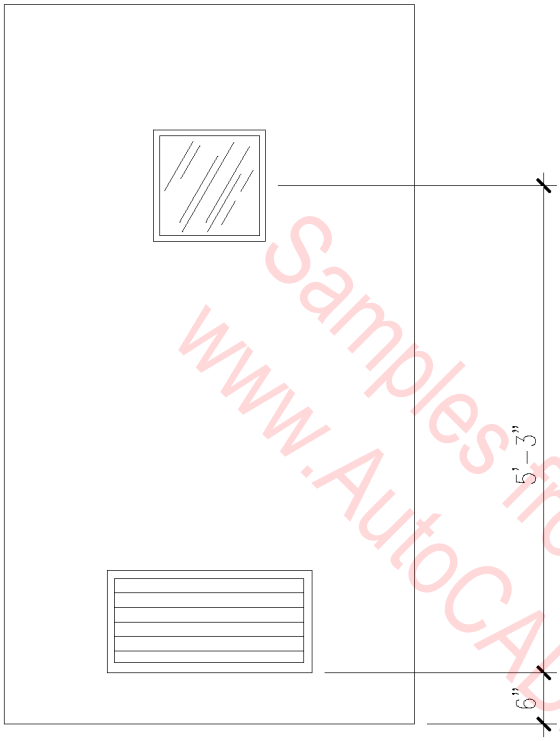
SECTION

1. MATCHING HARDWOOD EDGES ALL AROUND.
2. POURED LEAD DOWELS, 8" O.C., 1 1/2" FROM EDGES.
3. HARDWOOD TRIM.
4. LEAD GLASS EQUAL TO LEAD IN DOOR.
5. LEAD LOUVER EQUAL TO LEAD IN DOOR.

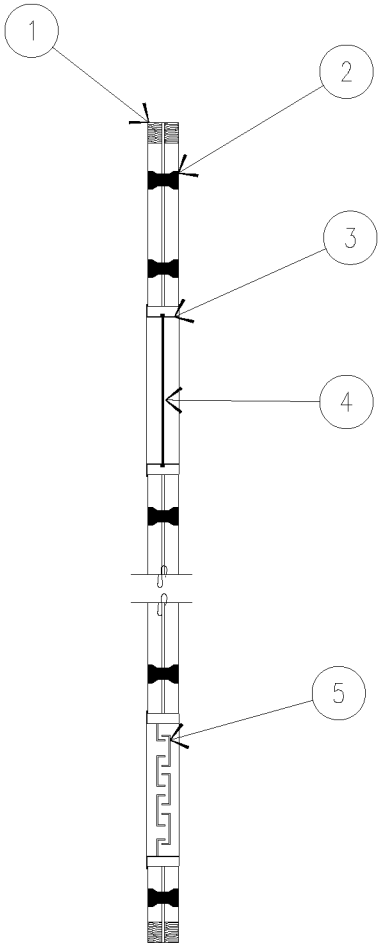
LEAD LINED DOOR

1/2" = 1'-0"

13A-1003



ELEVATION



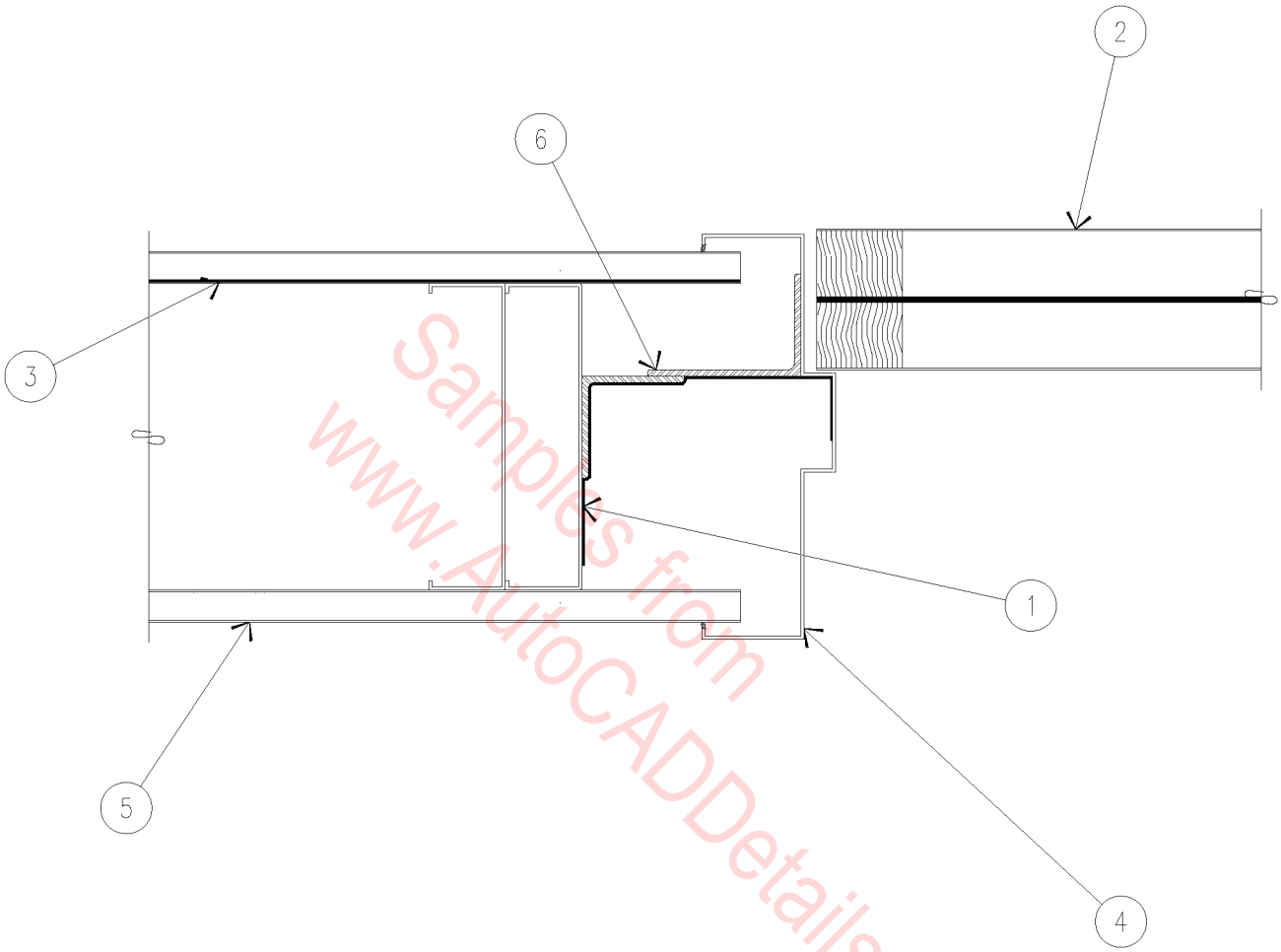
SECTION

1. MATCHING HARDWOOD EDGES ALL AROUND.
2. POURED LEAD DOWELS, 8" O.C., 1 1/2" FROM EDGES.
3. HARDWOOD TRIM.
4. LEAD GLASS EQUAL TO LEAD IN DOOR.
5. LEAD LOUVER EQUAL TO LEAD IN DOOR.

LEAD LINED DOOR

1/2" = 1'-0"

13A-1003

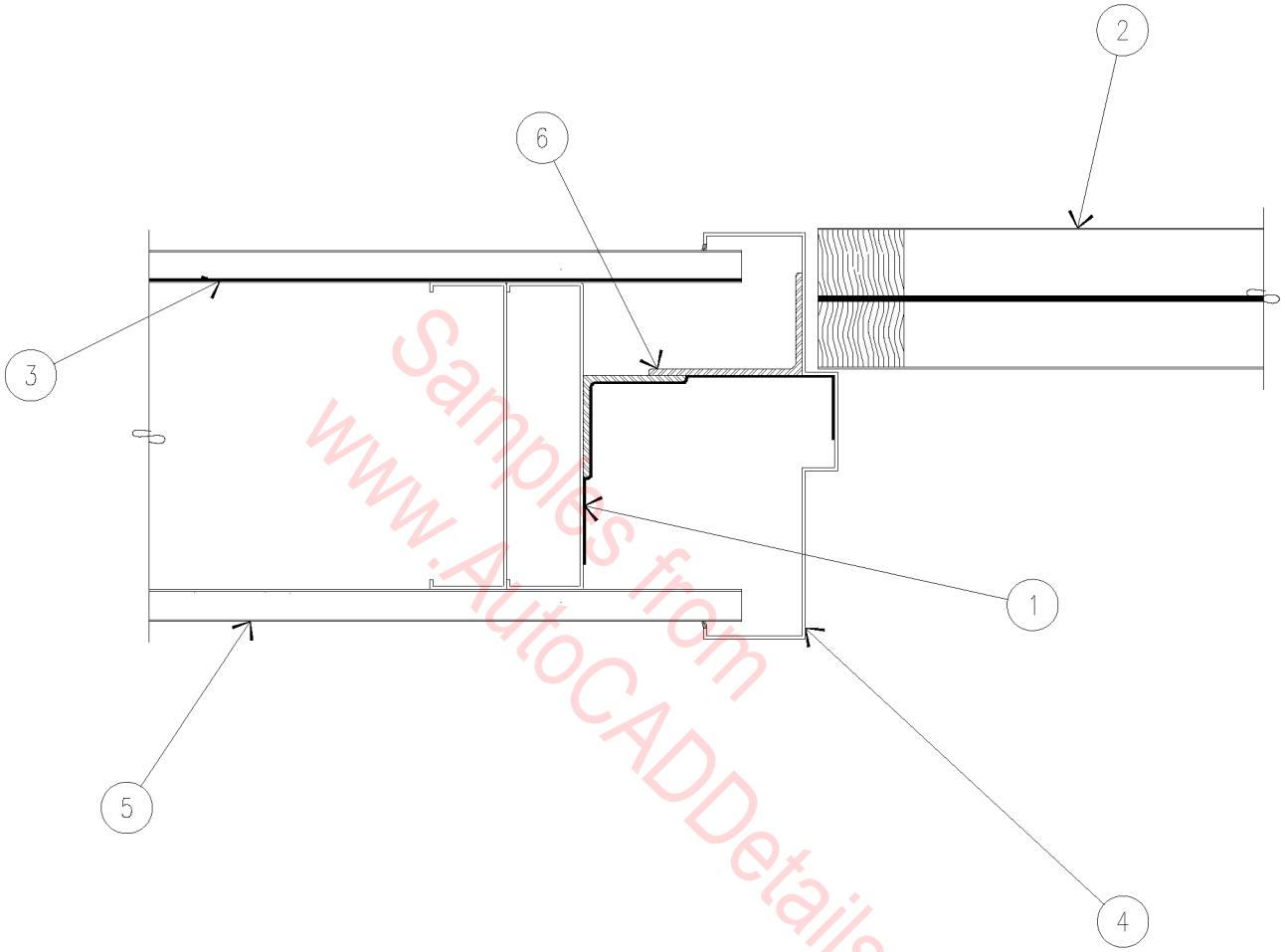


1. LEAD OVER STEEL FRAME.
2. DOOR WITH LEAD LINING.
3. LEAD LINED 5/8" GYPSUM BOARD.
4. HOLLOW METAL FRAME.
5. 5/8" GYPSUM BOARD.
6. ANGLE IRON.

LEAD LINED DOOR JAMB

3" = 1'-0"

13A-1004



1. LEAD OVER STEEL FRAME.
2. DOOR WITH LEAD LINING.
3. LEAD LINED 5/8" GYPSUM BOARD.
4. HOLLOW METAL FRAME.
5. 5/8" GYPSUM BOARD.
6. ANGLE IRON.

LEAD LINED DOOR JAMB

3" = 1'-0"

13A-1004

NOMINAL

SHEET LEAD SIZES & WEIGHTS*

ACTUAL THICKNESS	POUNDS PER SQ. FT.	APP. THICKNESS IN INCHES	
		DECIMAL	FRACTION
	1	.0156	1/64 – .5 mm
	1 1/2	.0234	3/128
	2	.0312	1/32
	2 1/2	.0391	5/128 – 1.0 mm
	3	.0468	3/64
	3 1/2	.0547	7/128
	4	.0625	1/16 – 1.58 mm
	5	.0781	5/64 – 2.1 mm
	6	.0937	3/32 – 2.5 mm
	7 1/2	.1250	1/8
	10	.1563	5/32
	12	.1875	3/16
	14	.2188	7/32
	15	.2500	1/4
	20	.3333	1/3
	24	.4000	2/5
	30	.5000	1/2
	40	.6667	2/3
	60	1.0000	1"

*THE WEIGHTS GIVEN APPLY TO COMMON LEAD ONLY.
OTHER TYPES OF LEAD, SUCH AS ANTIMONIAL OR HARD LEAD,
WEIGH SLIGHTLY LESS FOR A GIVEN THICKNESS.

LEAD SHIELDING

1" = 1"

13A–1005

NOMINAL

SHEET LEAD SIZES & WEIGHTS*

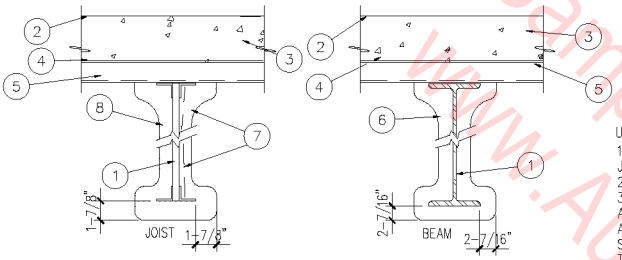
ACTUAL THICKNESS	POUNDS PER SQ. FT.	APP. THICKNESS IN INCHES	
		DECIMAL	FRACTION
	1	.0156	1/64 – .5 mm
	1 1/2	.0234	3/128
	2	.0312	1/32
	2 1/2	.0391	5/128 – 1.0 mm
	3	.0468	3/64
	3 1/2	.0547	7/128
	4	.0625	1/16 – 1.58 mm
	5	.0781	5/64 – 2.1 mm
	6	.0937	3/32 – 2.5 mm
	7 1/2	.1250	1/8
	10	.1563	5/32
	12	.1875	3/16
	14	.2188	7/32
	15	.2500	1/4
	20	.3333	1/3
	24	.4000	2/5
	30	.5000	1/2
	40	.6667	2/3
	60	1.0000	1"

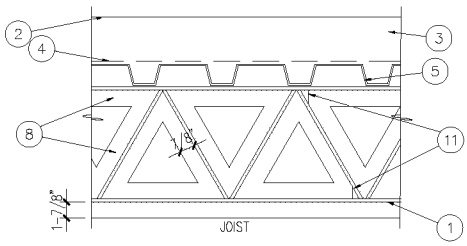
*THE WEIGHTS GIVEN APPLY TO COMMON LEAD ONLY.
OTHER TYPES OF LEAD, SUCH AS ANTIMONIAL OR HARD LEAD,
WEIGH SLIGHTLY LESS FOR A GIVEN THICKNESS.

LEAD SHIELDING

1" = 1"

13A–1005





2 HOUR ROOF

3" = 1'-0"

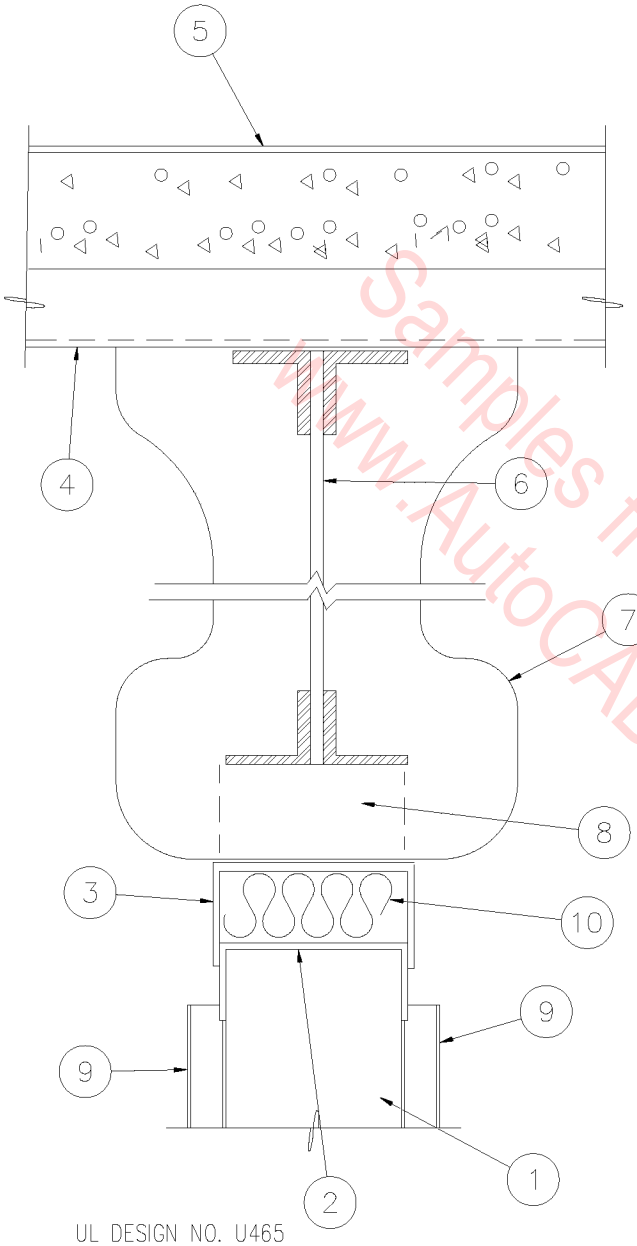
UL DESIGN NO. P908

1. W6X16 OR W8X18 MIN. SIZE FOR 2 HOUR UNRESTRAINED OR TYPE 12J4 STEEL JOIST FOR 2 HOUR UNRESTRAINED
2. ROOF COVERING – CLASS A
3. INSULATING CONCRETE VERMICULITE CONCRETE, 6 CF OF VERMICULITE AGGREGATE TO 94 LB OF PORTLAND CEMENT AND 0.11LB OF AIR ENTRAINING AGENT MIXED WITH APPROXIMATELY 25 GAL. OF WATER. MINIMUM COMPRESSIVE STRENGTH SHALL BE 125 PSI WHEN TESTED IN ACCORDANCE WITH ASTM C495. THE VERMICULITE CONCRETE SHALL BE POURED TO A DEPTH SUFFICIENT TO PROVIDE A MINIMUM THICKNESS OF 2 1/4" ABOVE THE CRESTS OF THE ROOF DECK UNITS (ITEM 5) AND TO PROVIDE A MINIMUM VOLUME OF 24.5 CF PER 100 SF OF ROOF DECK AREA. ZONOLITE CONSTRUCTION PRODUCTS DIVISION OF W.R. GRACE & CO.
4. REINFORCING MESH NO. 19 GA. GALVANIZED STEEL WIRE TWISTED TO FORM HEXAGONS 2" WIDE IN ADDITION, STRAIGHT 16 GA. GALV. STEEL WIRE WOVEN INTO THE MESH AND SPACED 3" APART FOR STIFFNESS. MESH INSTALL WITHOUT ATTACHMENTS AND OVERLAPPED 6" AT THE SIDES. STIFFENERS INSTALLED PARALLEL WITH CORRUGATIONS. AS AN ALTERNATE, 4 X 8, 12/14 GA. OR 2 X 2, 14/14 GA. OR 2 X 2, 14/14 GA. WELDED WIREWELDED WIRE FABRIC MAY BE USED.
5. STEEL ROOF DECK – 1 1/2" DEEP, 36" WIDE, GALV. FLUTED STEEL DECK. FLUTES 6" O.C., CREST WIDTH 3 1/2" 'VERCO' MFG. INC. – TYPE HSB-36
6. HANGER WIRE, NO. 6 GA. GALV. STEEL WIRE, SPACED 16" O.C.
7. SPRAY APPLICATION OF CEMENTITIOUS MIXTURE ON STEEL BAR JOISTS AND TRUSSES. THE DIAMOND MESH 3/8" EXPANDED STEEL LATH 1.7 TO 3.4 LB/SQ YD IS SECURED TO ONE SIDE OF EACH STEEL JOIST WITH NO.18 GA. GALV STEEL WIRE AT JOIST WEB AND BOTTOM CHORD MEMBERS SPACED 15" O.C. MAX. WHEN USED THE METAL LATH IS TO BE FULLY COVERED WITH CEMENTITIOUS MIXTURE WITH NO MIN THICKNESS REQUIREMENTS
7A. NON-METALLIC FABRIC MESH – OPTIONAL – AS AN ALTERNATE TO METAL LATH, GLASS FIBER FABRIC MESH, WEIGHING APPROX. 2.5 OZ/SQ YD POLYPROPYLENE FABRIC MESH, WEIGHING APPROX. 1.25 OZ/SQ YD OR EQUIVALENT MAY BE USED TO FACILITATE THE SPRAY APPLICATION. THE MESH IS SECURED TO ONE SIDE OF EACH JOIST WEB MEMBER. THE METHOD OF ATTACHING THE MESH MUST BE SUFFICIENT TO HOLD THE MESH AND THE SPRAY-APPLIED CEMENTITIOUS MIXTURE MATERIAL IN PLACE DURING APPLICATION UNTIL IT HAS CURED. AN ACCEPTABLE METHOD TO ATTACH THE MESH IS BY EMBEDDING THE MESH IN MIN 1/4" LONG BEADS OF HOT-MELTED GLUE. THE BEADS OF GLUE SHALL BE PLACED A MAX OF 12" O.C. ALONG THE TOP CHORD OF THE BAR JOIST. ANOTHER METHOD TO SECURE THE MESH IS BY 1 1/4" LONG BY 1/2" WIDE HAIRPIN CLIPS FORMED FROM NO. 18 GA. OR HEAVIER STEEL WIRE
8. CEMENTITIOUS MIXTURE – SPRAY APPLIED TO BEAM OR JOIST IN MORE THAN ONE COAT TO A FINAL THICKNESS OF 1-3/8". MINIMUM BEAM SIZE W6X16 MINIMUM JOIST SIZE 12J4. CREST AREAS OF STEEL ROOF UNITS SHALL BE FILLED WITH CEMENTITIOUS MIXTURE ABOVE THE BEAM OR JOIST. BEAM OR JOIST SURFACES MUST BE CLEAN AND FREE OF DIRT, LOOSE SCALE AND OIL. MINIMUM AVERAGE DENSITY OF 15/14 PCF RESPECTIVELY. FOR METHOD OF DENSITY DETERMINATION, REFER TO DESIGN INFORMATION SECTION. ZONOLITE CONSTRUCTION PRODUCTS DIVISION, W. R. GRACE & CO. TYPE MK-6/CBF FOR TYPE 12J4 STEEL JOISTS, THE JOIST PROTECTION SHALL CONSIST OF THE ABOVE CEMENTITIOUS MIXTURES APPLIED IN A MANNER AND AT THE THICKNESSES SHOWN BELOW. WHEN METAL LATH (ITEM 7) IS USED, LATH SECURED TO ONE SIDE OF JOIST WITH 18 GA. GALVANIZED STEEL WIRE AT JOIST WEB AND BOTTOM CHORD MEMBERS SPACED 15" O.C.

THICKNESS OF CEMENTITIOUS MIXTURE, INCHES	TYPE OF APPLICATION	UNRESTRAINED ASSEMBLY RATING, HOUR
1-7/8	APPLIED TO LATH WRAPPED ON ONE SIDE OF JOIST	2 HOUR
2-7/16	APPLIED DIRECTLY TO JOIST IN A CONTOUR MANNER	2 HOUR

11. STEEL BRIDGING – IN ACCORDANCE WITH AISC CURRENT SPECIFICATIONS. CONTINUOUS STEEL ANGLE, MIN. SIZE 1-1/4 BY 1-1/4 BY 1/8" WELDED TO TOP AND BOTTOM CHORDS. BRIDGING COATED WITH 3" THICKNESS OF CEMENTITIOUS MIXTURE FOR THE 2 ASSEMBLY AND BEAM RATINGS.

05C-4001



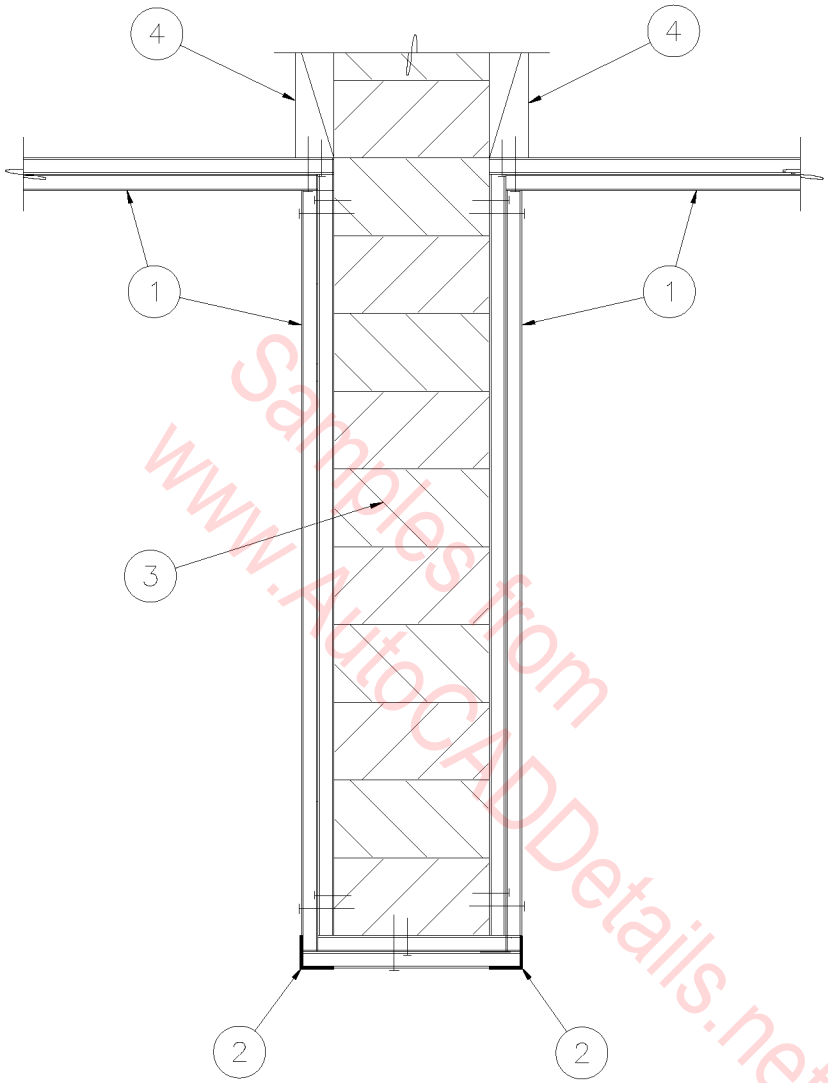
1. 3 5/8" METAL STUDS AT 16" O.C.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. ROOFING SYSTEM.
6. STEEL JOIST OR BEAM.
7. SPRAYED-ON FIREPROOFING ON JOIST OR BEAM.
8. 2 CLIP ANGLES AT 48" O.C. ANCHOR THRU FIREPROOFING.
9. 5/8" TYPE X GYPSUM WALLBOARD.
10. FIRE SAFING INSULATION.

UL DESIGN NO. U465

WALL AT JOIST/BEAM

3" = 1'-0"

05C-4002

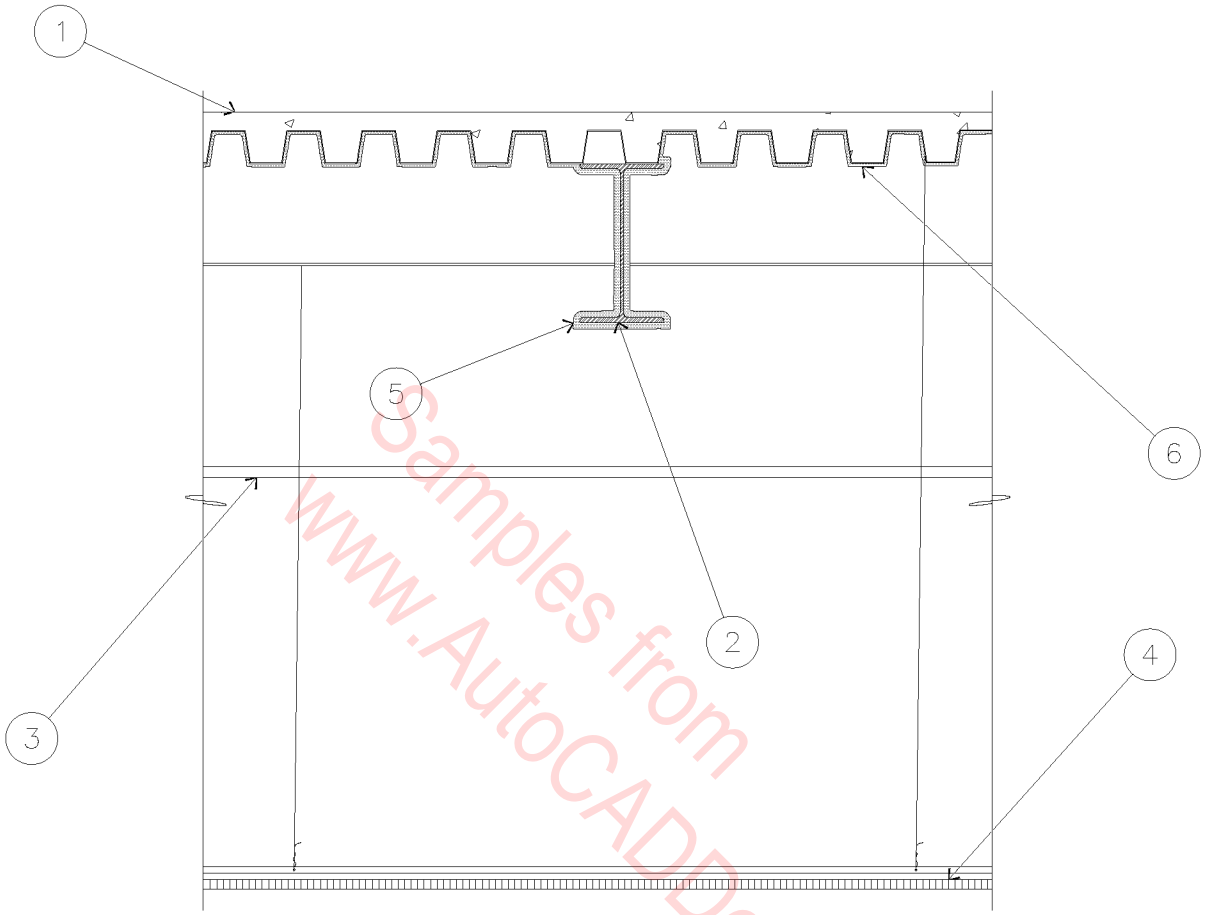


1. (2) LAYERS, 5/8" TYPE 'X' GYPSUM BOARD. 1 HOUR CONSTRUCTION.
2. METAL CORNER BEAD.
3. STRUCTURAL GLU-LAM BEAM.
4. 2X BLOCKING - FIRE RETARDANT TREATED.

1 HOUR GLU-LAM

3" = 1'-0"

05C-4003



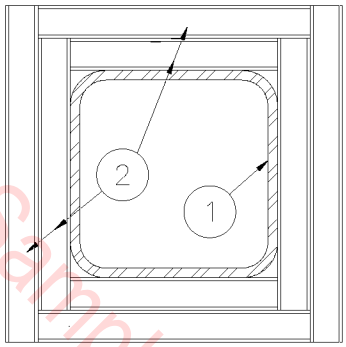
1. CONCRETE FLOOR OVER FLUTED STEEL DECK – STEEL DECK SHALL BE WELDED TO STEEL BEAMS.
2. WIDE FLANGE BEAM.
3. BEAM BEYOND.
4. SUSPENDED "TEE" GRID CEILING.
5. SPRAYED ON FIRE RESISTIVE FIBER COAT – 1/2" THICK (MINIMUM) AT STEEL BEAMS.
6. SPRAYED ON FIRE RESISTIVE FIBER COAT – 1/4" THICK (MINIMUM) AT STEEL DECK.

U.L. DESIGN NO. N805

1 HOUR FLOOR ASSEMBLY

3/4" = 1'-0"

05C-4004



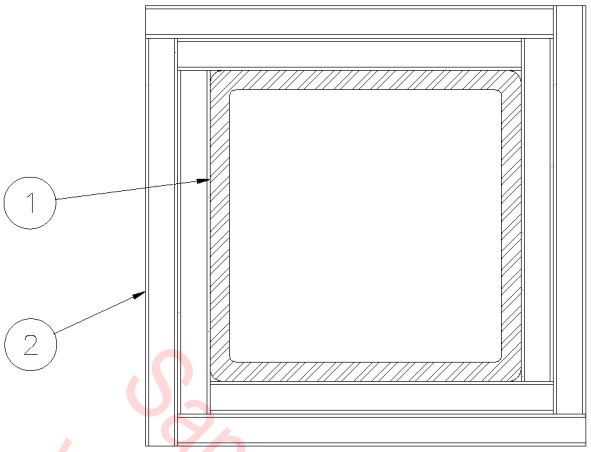
1. 4 X 4 X 3/16 STEEL TUBE COLUMN.
   (4 X 6 AND 6 X 6 COLUMNS SIMILAR).
2. 2 LAYERS OF 1/2" GYPSUM WALLBOARD ADHESIVELY SECURED TO COLUMN. AND SUCCESSIVE LAYERS, WALLBOARD APPLIED WITHOUT HORIZONTAL JOINTS. CORNER EDGES OF EACH LAYER STAGGERED. WALLBOARD LAYER BELOW OUTER LAYER SECURED TO COLUMN WITH DOUBLED NO. 18 GAUGE WIRE TIES SPACED 15" ON CENTER. EXPOSED CORNERS TAPED AND TREATED.

1 HOUR FIRE RATED COLUMN PROTECTION 1-7.1
TABLE 43-A, 1991 UNIFORM BUILDING CODE

1 HOUR COLUMN

3" = 1'-0"

05C-3001



1. TUBE STEEL COLUMN.
2. 2 LAYERS OF 5/8" TYPE 'X' GYP. BD. ADHESIVELY APPLIED TO COLUMN AND SUCCESSIVE LAYERS. WALLBOARD APPLIED WITHOUT HORIZONTAL JOINTS. CORNER EDGES OF EACH LAYER STAGGERED. WALLBOARD LAYER BELOW OUTER LAYER SECURED TO COLUMN WITH DOUBLED NO. 18 GAUGE WIRE TIES SPACES 15" O.C. EXPOSED CORNERS TAPED & TREATED.

GENERAL NOTES:

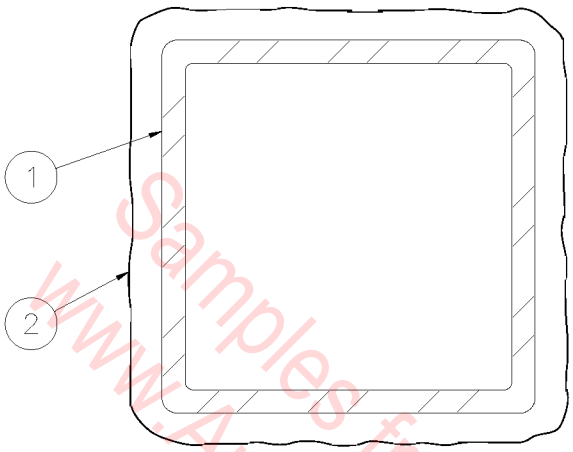
A. DETAIL PROVIDES ONE-HOUR FIRE RESISTIVE RATING PER ITEM 1-7.1 OF TABLE 43-A, 1988 U.B.C.

B. AT CONTRACTORS OPTION, CEMENTITIOUS FIREPROOFING, MAY BE USED TO ACHIEVE ONE-HOUR FIRE RESISTANCE.

FIRE RESISTIVE COLUMN

3" = 1'-0"

05C-3002



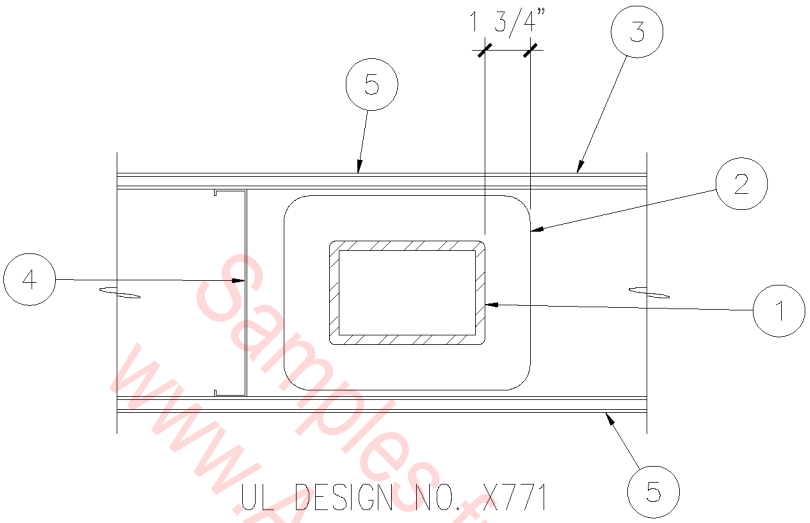
1. TUBE STEEL COLUMN
2. CEMENTITIOUS SPRAY – APPLIED FIREPROOFING: 1" THICK FOR 4X4X1/4 T.S. COLUMNS AND 9/16" THICK FOR 6X6X3/8" T.S. COLUMNS

NOTE: DETAIL PROVIDES ONE-HOUR FIRE RESISTANCE PER U.L. DESIGN NO. X752

FIRE RESISTIVE COLUMN

3" = 1'-0"

05C-3003



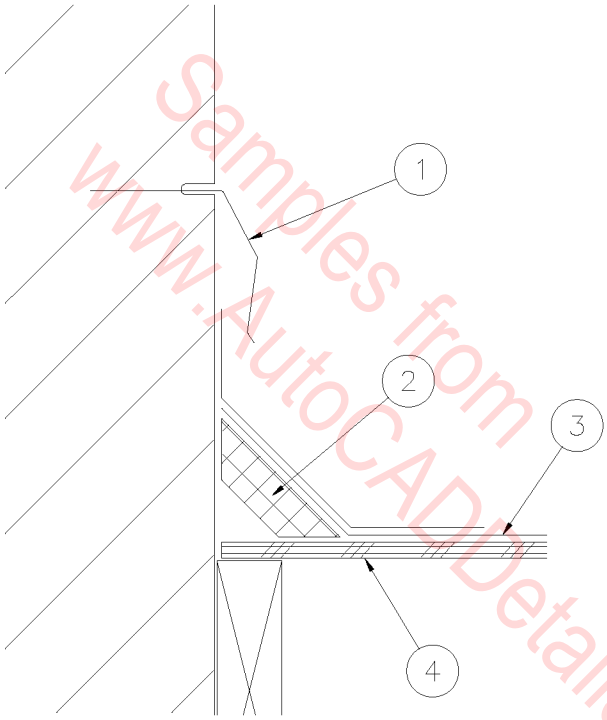
UL DESIGN NO. X771

1. TUBE STEEL COLUMN.
2. CEMENTITIOUS MIXTURE – APPLIED BY MIXING WATER AND SPRAYING IN ONE OR MORE COATS TO STEEL SURFACE WHICH MUST BE CLEAN AND FREE OF DIRT, LOOSE SCALE AND OIL. MINIMUM AVERAGE AND INDIVIDUAL DENSITY OF 15/14 PCF RESPECTIVELY. FOR METHOD OF DENSITY DETERMINATION, SEE DESIGN INFORMATION SECTION, PRECEDING THESE DESIGNS.
   APPLY 1-3/4 THICK UNIFORM COAT.
   ZONOLITE CONSTRUCTION PRODUCTS DIVISION, W. R. GRACE & CO. TYPE MK-6CBF.
3. 1 HOUR WALL.
4. 8" 25 GA. METAL STUDS AT 16" O.C.
5. 5/8" TYPE "X" GYPSUM WALLBOARD.

2 HOUR COLUMN

SCALE: 3" = 1'-0"

05C-3004

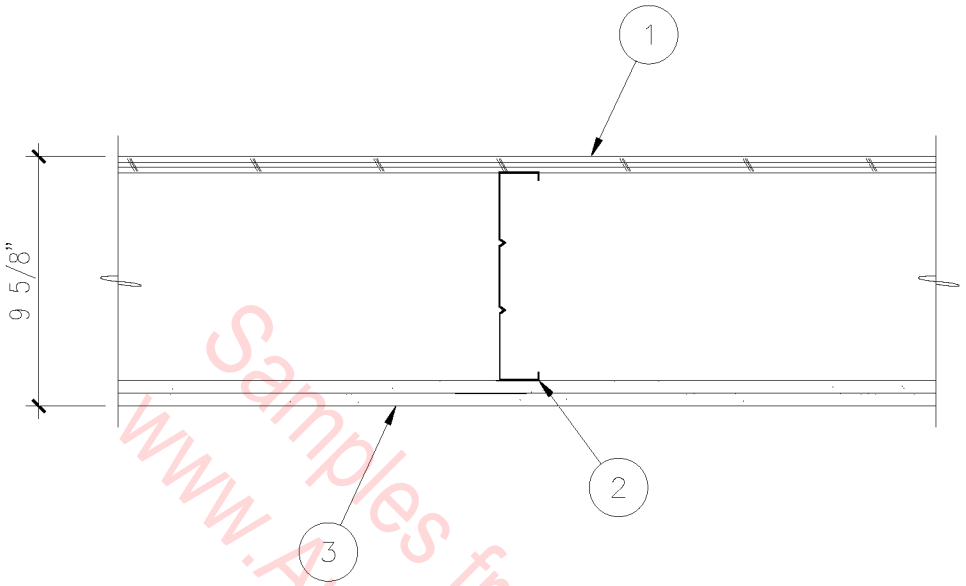


1. "FRY" TYPE REGLET
2. FIBER CANT STRIP.
3. CLASS "A" BUILT UP ROOFING.
4. PLYWOOD SHEATHING.

CANT DETAIL

3" = 1'-0"

05C-1001



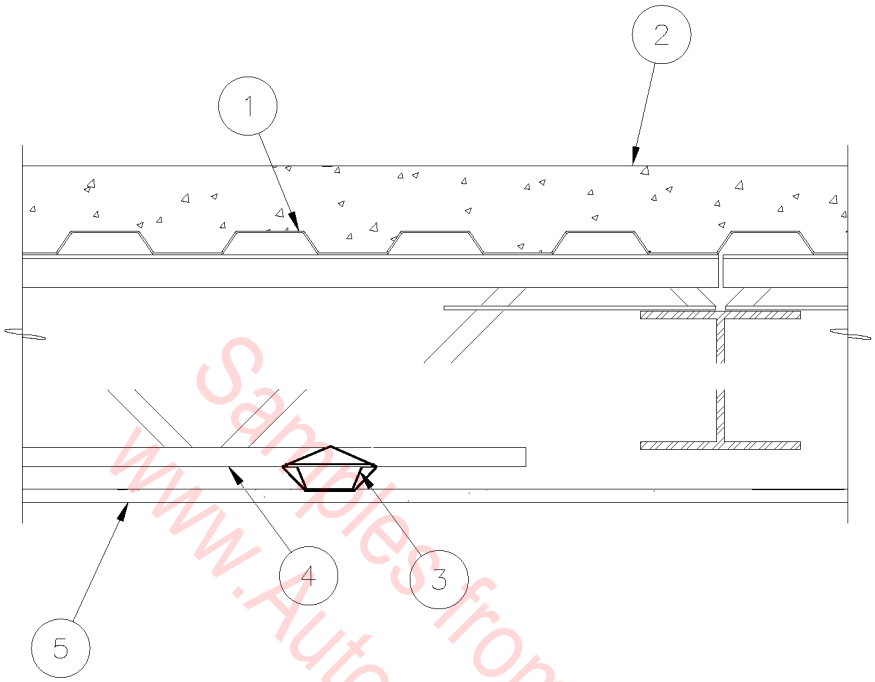
1. 5/8" T&G PLYWOOD FLOORING ATTACHED TO JOISTS WITH TYPE S-12 SCREWS.
2. 725SJ18 STEEL JOISTS AT 24" ON CENTER.
3. DOUBLE LAYER 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANEL CEILING.

NOTES:
A. JOINTS UNFINISHED.
B. DOUBLE LAYER GYPSUM PANELS AROUND BEAM.

1 HOUR UL DES L524 (WITH 1 HOUR BEAM)

1 1/2" = 1'-0"

05C-1002



1. ROOF DECK.
2. 2 1/2" CONCRETE ON RIBLATH OR CORRUGATED STEEL DECK OVER BAR JOIST.
3. METAL FUR CHANNEL AT 24" ON CENTER.
4. BAR JOIST.
5. 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANEL CEILING FURRED OR SUSPENDED.

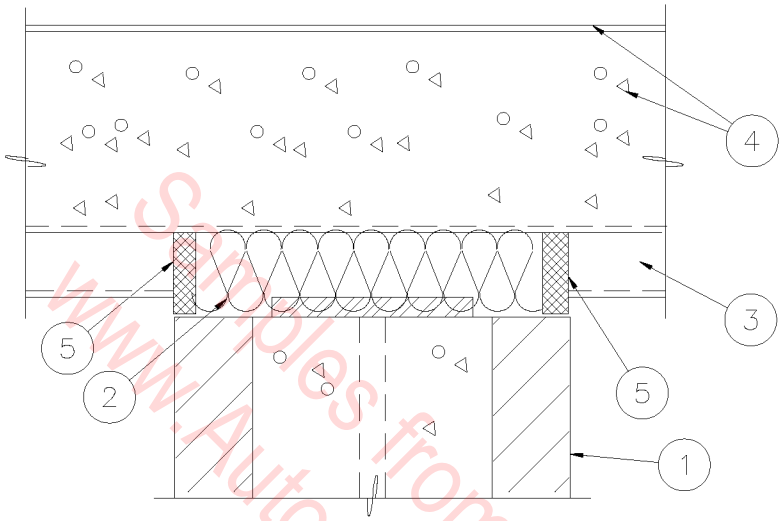
NOTES:

A. PANELS ATTACHED WITH 1" TYPE "S" SCREWS AT 12" ON CENTER.
B. JOINTS EXPOSED OR FINISHED.

2 HOUR UL DES G515 (WITH 2 HOUR BEAM)

1 1/2" = 1'-0"

05C-1003



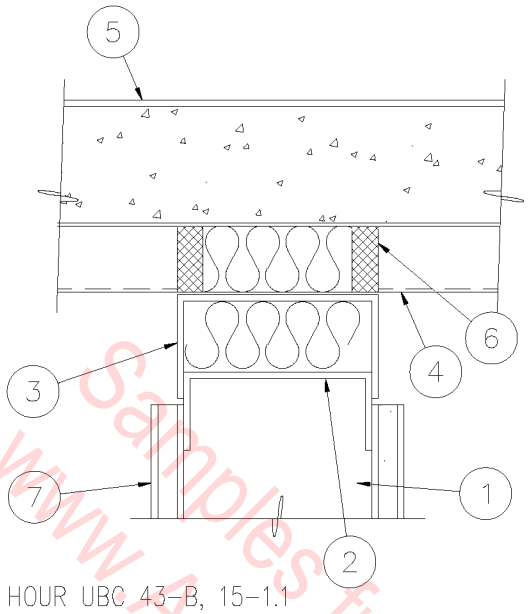
UL THROUGH-PENETRATION FIRESTOP SYSTEMS DESIGN NO. 327

1. RATED C.M.U. WALL.
2. FIRE SAFING INSULATION.
3. METAL DECK.
4. CLASS A ROOFING SYSTEM OVER LIGHT WEIGHT CONCRETE FILL.
5. 1/2" 'TREMCO' FYRE-SIL SEALANT.

RESISTIVE WALL AT ROOF

3" = 1'-0"

05C-1004



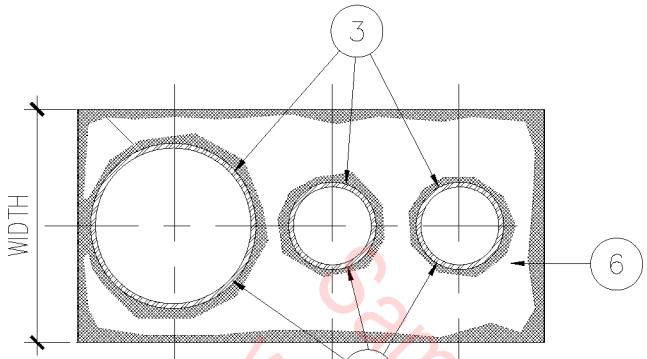
ONE HOUR UBC 43-B, 15-1.1
UL THROUGH-PENETRATION FIRESTOP SYSTEM DESIGN NO. 327

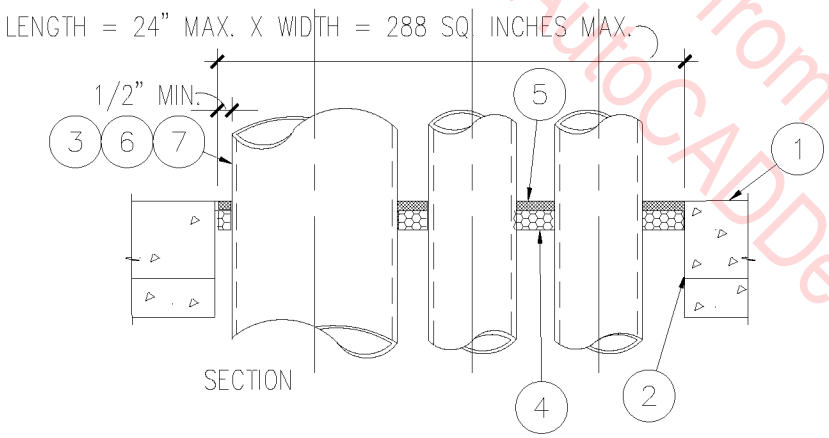
1. 3 5/8" METAL STUDS AT 16" O.C.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. CLASS "A" ROOFING SYSTEM ON LIGHT WEIGHT CONCRETE.
6. 1/2" 'TREMCO' FYRE-SIL SEALANT ON EACH SIDE OF FIRE SAFING MATERIAL.
7. 5/8" TYPE "X" GYPSUM BOARD.
8. FIRE SAFING INSULATION.

1HR. WALL AT ROOF

3" = 1'-0"

05C-1005





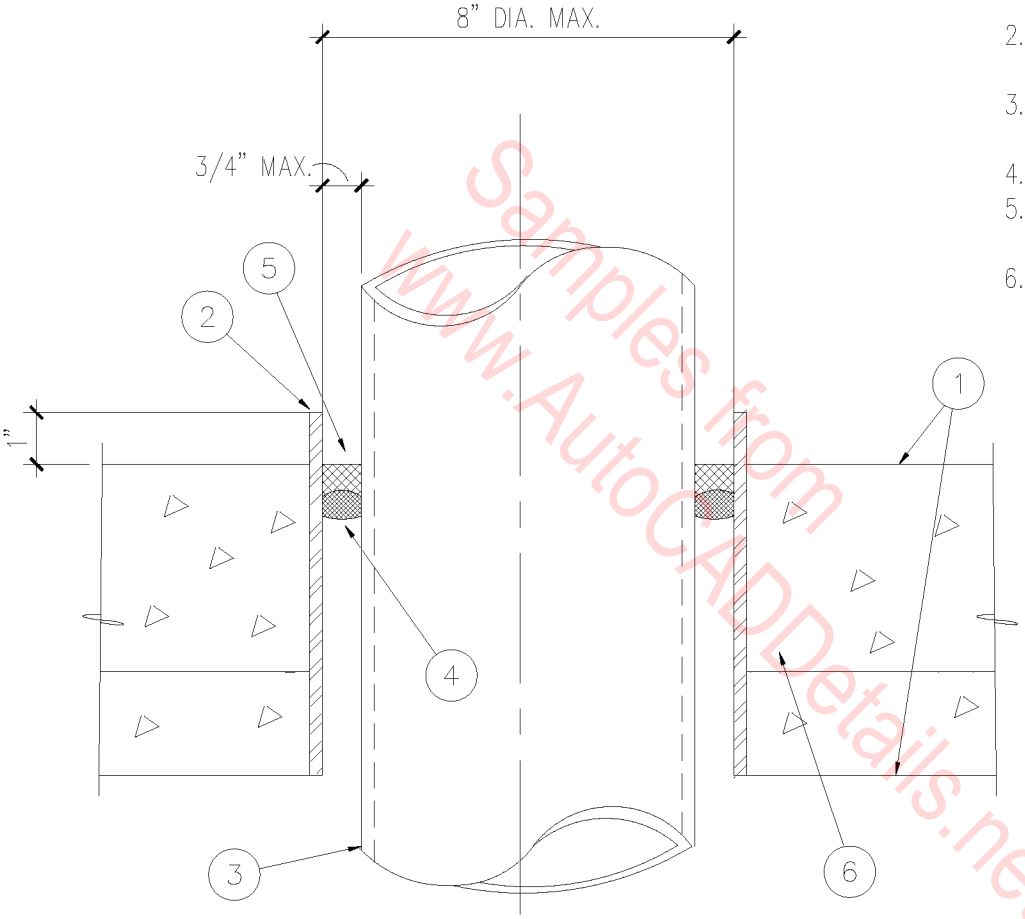
1. PRECAST CONCRETE DOUBLE TEE WITH 4" CONCRETE TOPPING
   2 HOUR RATED, UL DESIGN NO. J941.
2. FORM SMOOTH OPENING THRU FLOOR WITH CONCRETE TOPPING.
3. 8" DIA STEEL PIPE, SCHEDULE 40, OR SMALLER.
4. FORMING MATERIAL.
5. 1/2" MIN 'TREMCO' FYRE-SHIELD SEALANT.
6. A MAXIMUM OF THREE PENETRATING ITEMS MAY BE INSTALLED WITHIN THE OPENING. OF THE THREE PENETRATING ITEMS, ONLY ONE OF THE PIPES CAN HAVE A DIAMETER GREATER THAN 4".
7. 4" DIA COPPER PIPE OR SMALLER.

ASTM-E814 (UL 1479) AND
UL THROUGH-PENETRATION FIRESTOP SYSTEMS (XHEZ) SYSTEM NO. 326

2 HR PIPE PENETRATION

1" = 1'-0"

05C-1006



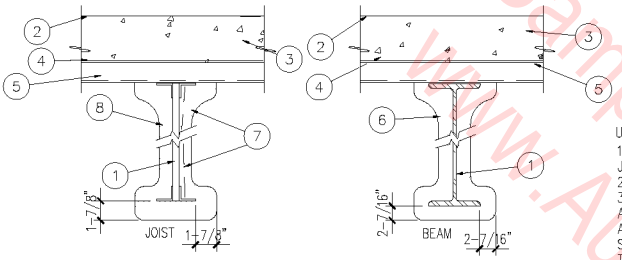
1. PRECAST CONCRETE DOUBLE TEE WITH 4" CONCRETE TOPPING UL DESIGN NO. J941.
2. STEEL PIPE SLEEVE SCHEDULE 40.
3. 6" DIA (MAX) STEEL PIPE OR CONDUIT.
4. POLYURETHANE BACKER ROD.
5. 1/2" MIN 'TREMCO' FYRE-SHIELD SEALANT.
6. ENCASE SLEEVE IN CONCRETE.

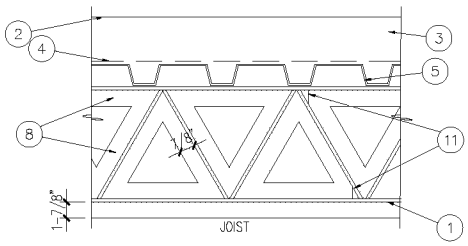
ASTM-E814 (UL1479) AND
UL THROUGH-PENETRATION FIRESTOP SYSTEMS (XHEZ) SYSTEM NO. 208

2 HR FLOOR PENETRATION

3" = 1'-0"

05C-1007





2 HOUR ROOF

3" = 1'-0"

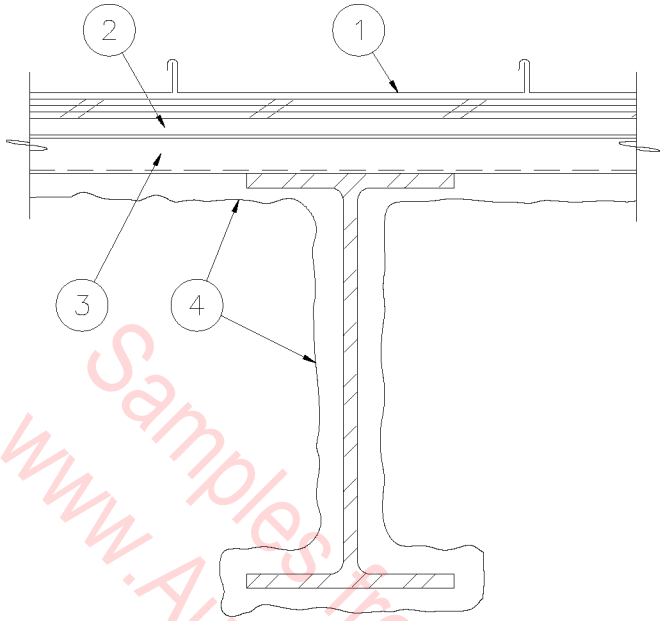
05C-1008

UL DESIGN NO. P908

1. W6X16 OR W8X18 MIN. SIZE FOR 2 HOUR UNRESTRAINED OR TYPE 12J4 STEEL JOIST FOR 2 HOUR UNRESTRAINED
2. ROOF COVERING – CLASS A
3. INSULATING CONCRETE VERMICULITE CONCRETE, 6 CF OF VERMICULITE AGGREGATE TO 94 LB OF PORTLAND CEMENT AND 0.11LB OF AIR ENTRAINING AGENT MIXED WITH APPROXIMATELY 25 GAL. OF WATER. MINIMUM COMPRESSIVE STRENGTH SHALL BE 125 PSI WHEN TESTED IN ACCORDANCE WITH ASTM C495. THE VERMICULITE CONCRETE SHALL BE POURED TO A DEPTH SUFFICIENT TO PROVIDE A MINIMUM THICKNESS OF 2 1/4" ABOVE THE CRESTS OF THE ROOF DECK UNITS (ITEM 5) AND TO PROVIDE A MINIMUM VOLUME OF 24.5 CF PER 100 SF OF ROOF DECK AREA. ZONOLITE CONSTRUCTION PRODUCTS DIVISION OF W.R. GRACE & CO.
4. REINFORCING MESH NO. 19 GA. GALVANIZED STEEL WIRE TWISTED TO FORM HEXAGONS 2" WIDE IN ADDITION, STRAIGHT 16 GA. GALV. STEEL WIRE WOVEN INTO THE MESH AND SPACED 3" APART FOR STIFFNESS. MESH INSTALL WITHOUT ATTACHMENTS AND OVERLAPPED 6" AT THE SIDES. STIFFENERS INSTALLED PARALLEL WITH CORRUGATIONS. AS AN ALTERNATE, 4 X 8, 12/14 GA. OR 2 X 2, 14/14 GA. OR 2 X 2, 14/14 GA. WELDED WIREWELDED WIRE FABRIC MAY BE USED.
5. STEEL ROOF DECK – 1 1/2" DEEP, 36" WIDE, GALV. FLUTED STEEL DECK. FLUTES 6" O.C., CREST WIDTH 3 1/2" 'VERCO' MFG. INC. – TYPE HSB-36
6. HANGER WIRE, NO. 6 GA. GALV. STEEL WIRE, SPACED 16" O.C.
7. SPRAY APPLICATION OF CEMENTITIOUS MIXTURE ON STEEL BAR JOISTS AND TRUSSES. THE DIAMOND MESH 3/8" EXPANDED STEEL LATH 1.7 TO 3.4 LB/SQ YD IS SECURED TO ONE SIDE OF EACH STEEL JOIST WITH NO.18 GA. GALV STEEL WIRE AT JOIST WEB AND BOTTOM CHORD MEMBERS SPACED 15" O.C. MAX. WHEN USED THE METAL LATH IS TO BE FULLY COVERED WITH CEMENTITIOUS MIXTURE WITH NO MIN THICKNESS REQUIREMENTS
7A. NON-METALLIC FABRIC MESH – OPTIONAL – AS AN ALTERNATE TO METAL LATH, GLASS FIBER FABRIC MESH, WEIGHING APPROX. 2.5 OZ/SQ YD POLYPROPYLENE FABRIC MESH, WEIGHING APPROX. 1.25 OZ/SQ YD OR EQUIVALENT MAY BE USED TO FACILITATE THE SPRAY APPLICATION. THE MESH IS SECURED TO ONE SIDE OF EACH JOIST WEB MEMBER. THE METHOD OF ATTACHING THE MESH MUST BE SUFFICIENT TO HOLD THE MESH AND THE SPRAY-APPLIED CEMENTITIOUS MIXTURE MATERIAL IN PLACE DURING APPLICATION UNTIL IT HAS CURED. AN ACCEPTABLE METHOD TO ATTACH THE MESH IS BY EMBEDDING THE MESH IN MIN 1/4" LONG BEADS OF HOT-MELTED GLUE. THE BEADS OF GLUE SHALL BE PLACED A MAX OF 12" O.C. ALONG THE TOP CHORD OF THE BAR JOIST. ANOTHER METHOD TO SECURE THE MESH IS BY 1 1/4" LONG BY 1/2" WIDE HAIRPIN CLIPS FORMED FROM NO. 18 GA. OR HEAVIER STEEL WIRE
8. CEMENTITIOUS MIXTURE – SPRAY APPLIED TO BEAM OR JOIST IN MORE THAN ONE COAT TO A FINAL THICKNESS OF 1-3/8". MINIMUM BEAM SIZE W6X16 MINIMUM JOIST SIZE 12J4. CREST AREAS OF STEEL ROOF UNITS SHALL BE FILLED WITH CEMENTITIOUS MIXTURE ABOVE THE BEAM OR JOIST. BEAM OR JOIST SURFACES MUST BE CLEAN AND FREE OF DIRT, LOOSE SCALE AND OIL. MINIMUM AVERAGE DENSITY OF 15/14 PCF RESPECTIVELY. FOR METHOD OF DENSITY DETERMINATION, REFER TO DESIGN INFORMATION SECTION. ZONOLITE CONSTRUCTION PRODUCTS DIVISION, W. R. GRACE & CO. TYPE MK-6/CBF FOR TYPE 12J4 STEEL JOISTS, THE JOIST PROTECTION SHALL CONSIST OF THE ABOVE CEMENTITIOUS MIXTURES APPLIED IN A MANNER AND AT THE THICKNESSES SHOWN BELOW. WHEN METAL LATH (ITEM 7) IS USED, LATH SECURED TO ONE SIDE OF JOIST WITH 18 GA. GALVANIZED STEEL WIRE AT JOIST WEB AND BOTTOM CHORD MEMBERS SPACED 15" O.C.

THICKNESS OF CEMENTITIOUS MIXTURE, INCHES	TYPE OF APPLICATION	UNRESTRAINED ASSEMBLY RATING, HOUR
1-7/8	APPLIED TO LATH WRAPPED ON ONE SIDE OF JOIST	2 HOUR
2-7/16	APPLIED DIRECTLY TO JOIST IN A CONTOUR MANNER	2 HOUR

11. STEEL BRIDGING – IN ACCORDANCE WITH AISC CURRENT SPECIFICATIONS. CONTINUOUS STEEL ANGLE, MIN. SIZE 1-1/4 BY 1-1/4 BY 1/8" WELDED TO TOP AND BOTTOM CHORDS. BRIDGING COATED WITH 3" THICKNESS OF CEMENTITIOUS MIXTURE FOR THE 2 ASSEMBLY AND BEAM RATINGS.



THIS PORTION OF DETAIL APPLIES TO U.L. #P710

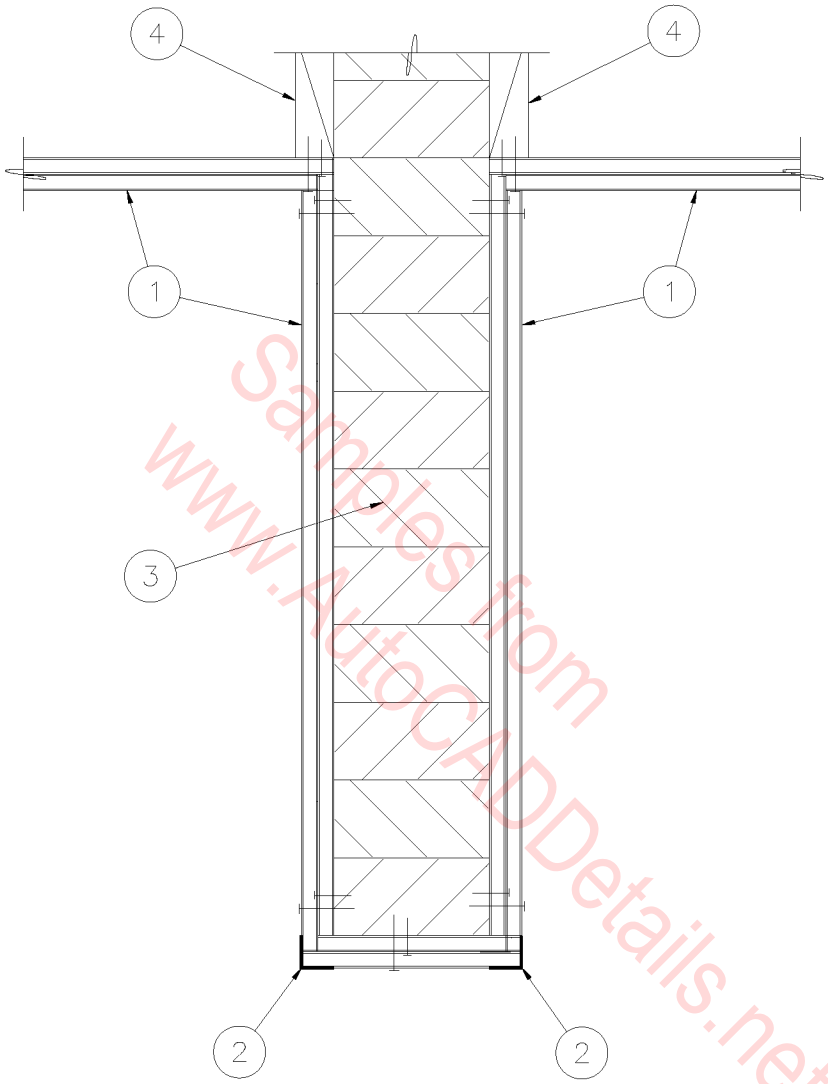
1. METAL ROOF SYSTEM OVER PLYWOOD DECK.
2. 5/8" TYPE 'X' GYP. BOARD IN 4 FT. WIDE SHEETS INSTALLED PERPENDICULAR TO STEEL ROOF DECK WITH JOINTS STAGGERED AND OCCURRING OVER THE CRESTS OF ROOF DECK. SECURE TO DECK WITH ADHESIVE BEARING U.L. CLASSIFICATION MARKING.
3. 1-1/2" MINIMUM THICKNESS STEEL ROOF DECK.
4. CEMENTITIOUS SPRAYED-ON FIRE-PROOFING - MINIMUM 7/8" THICK OVER BOTH STEEL BEAM AND STEEL DECK.

NOTE: DETAIL PROVIDES ONE-HOUR FIRE RESISTIVE RATING FOR BEAM AND DECK PER U.L. #P710.

FIRE RESISTANT BEAM @ DECK

3" = 1'-0"

05C-1009

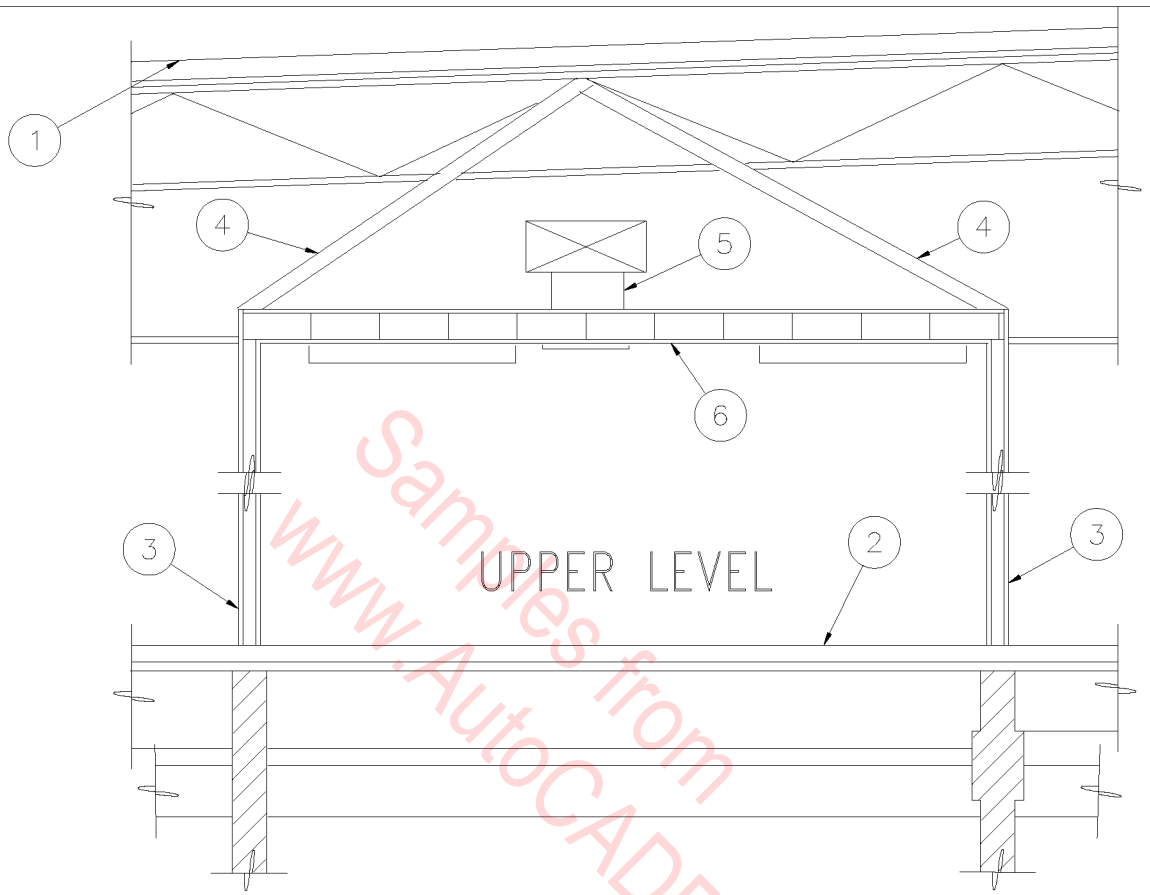


1. (2) LAYERS, 5/8" TYPE 'X' GYPSUM BOARD. 1 HOUR CONSTRUCTION.
2. METAL CORNER BEAD.
3. STRUCTURAL GLU-LAM BEAM.
4. 2X BLOCKING - FIRE RETARDANT TREATED.

1 HOUR GLU-LAM

3" = 1'-0"

05C-1010

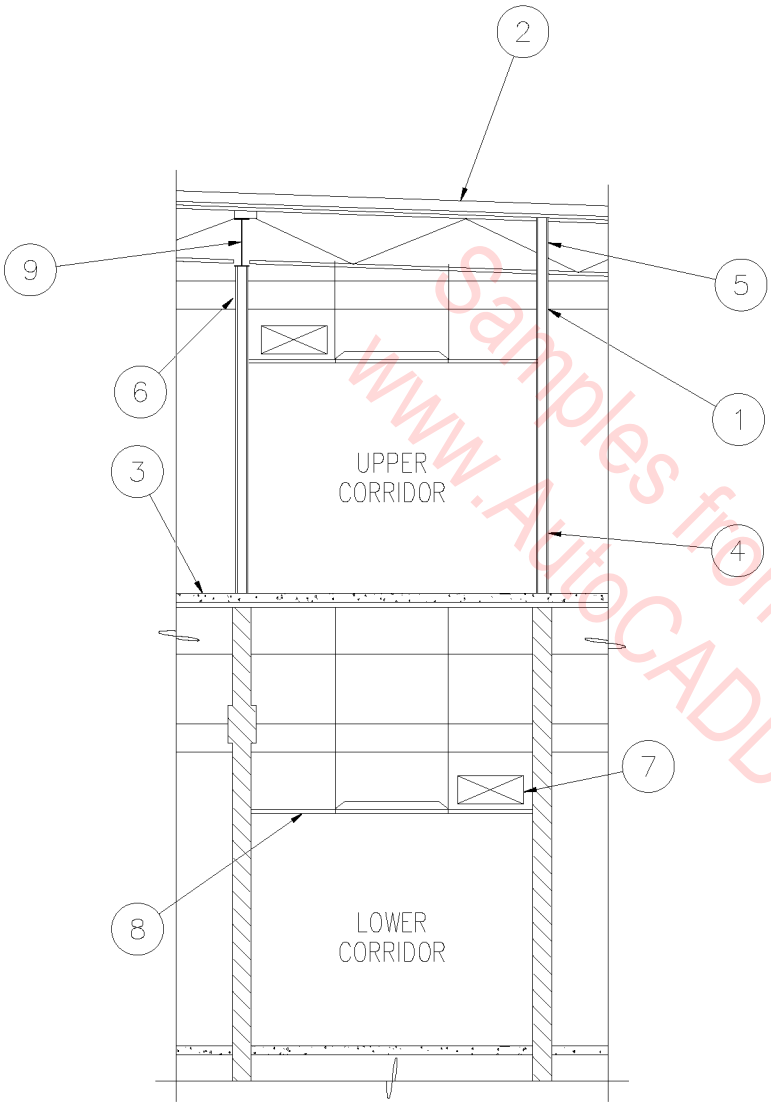


1. 2 HOUR RATED ROOF ASSEMBLY – LIGHT WEIGHT CONCRETE TOPPING ON STEEL DECK ON STEEL JOIST, UL DESIGN NO. P908.
2. 2 HOUR RATED FLOOR ASSEMBLY – 10' CONCRETE DOUBLE TEES WITH 4" CONCRETE TOPPING, UL DESIGN NO. J941.
3. 1 HOUR RATED WALL, 3–5/8" METAL STUDS AT 16" O.C. WITH 5/8" TYPE X GYPSUM WALLBOARD EACH SIDE.
4. 3–5/8 25 GAUGE METAL STUD BRACES AT 48" O.C.
5. PENETRATIONS THRU THE CEILING SHALL BE PROTECTED WITH EITHER FIRE DAMPERS OR UL LISTED POKE THRU DETAILS.
6. 1 HOUR RATED CEILING SYSTEM, METAL STUDS AT 16" O.C. WITH 5/8" TYPE X GYPSUM WALLBOARD EACH SIDE. FIRE TAPE ATTIC SIDE OF CEILING. SEE SPECIFICATIONS FOR DEPTH OF METAL STUD REQUIRED BY SPAN. SEE DETAIL 5 ON SHEET A902 FOR ADDITIONAL ONE HOUR REQUIREMENTS

1 HOUR ENCLOSURE

3" = 1'–0"

05C–1011



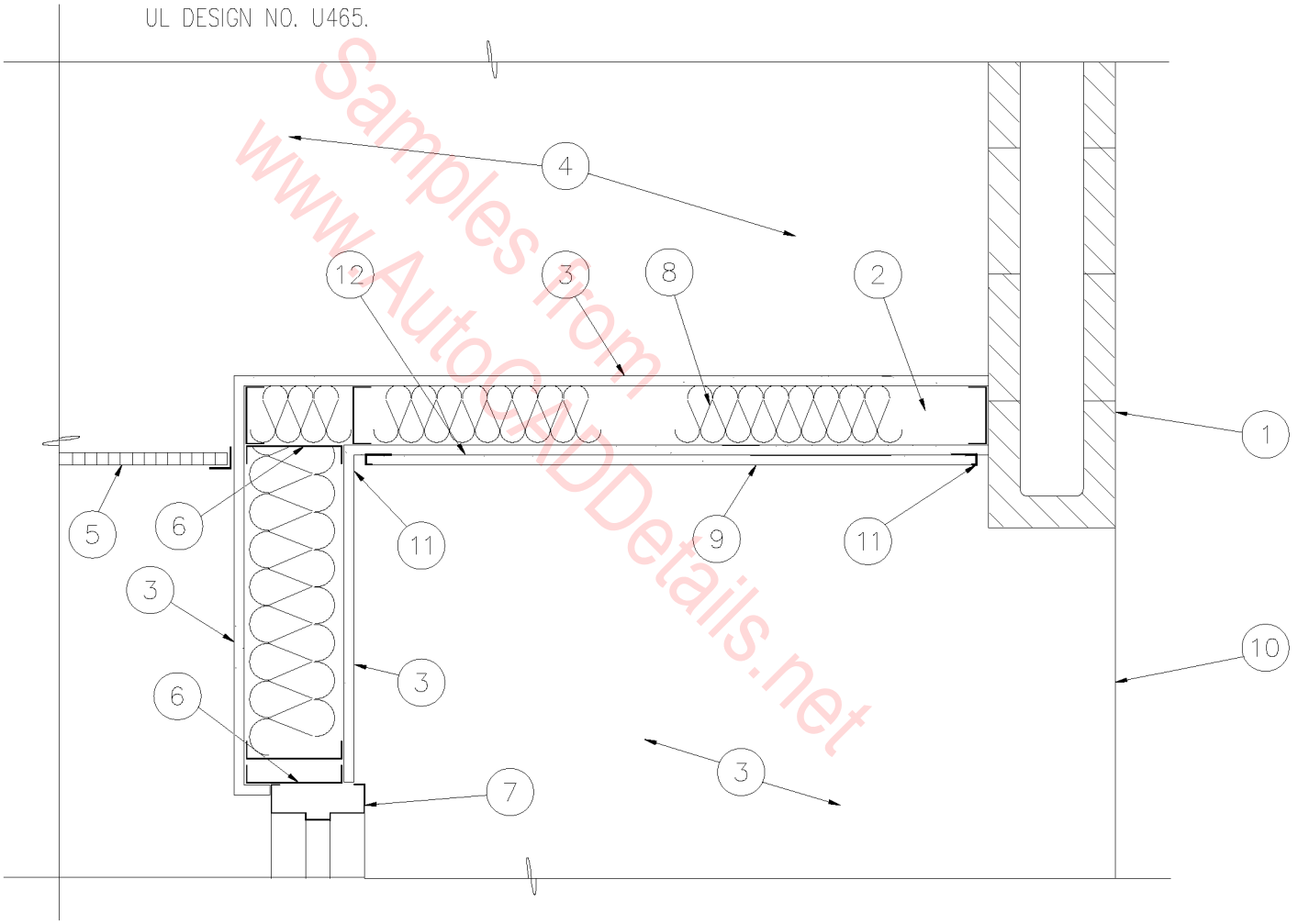
1. FIRE STOPPING SEALANT, 'TREMCO' DYMETRIC, POLYTREMDYNE TERPOLYMER.
2. 2 HOUR RATED ROOF ASSEMBLY – LIGHT WEIGHT CONCRETE TOPPING ON STEEL DECK ON STEEL JOIST, UL DESIGN NO. P908.
3. 2 HOUR RATED FLOOR ASSEMBLY – 10' CONCRETE DOUBLE TEES WITH 4" CONCRETE TOPPING, UL DESIGN NO. J941.
4. 1 HOUR RATED WALL, 3-5/8" METAL STUDS AT 16" O.C. WITH 5/8" TYPE 'X' GYPSUM WALLBOARD EACH SIDE.
5. EXTEND ONE HOUR RATED WALL TO ROOF DECK.
6. PENETRATIONS THRU THE WALLS SHALL BE PROTECTED WITH EITHER FIRE DAMPERS OR UL LISTED POKE THRU DETAILS.
7. DUCTS THAT ARE A MINIMUMS OF 0.19 INCH (26 GAUGE) STEEL DO NOT REQUIRE FIRE DAMPERS WHEN THE DUCT HAS NO OPENINGS INTO THE CORRIDOR.
8. UNRATED SUSPENDED CEILING AND UNPROTECTED LIGHT FIXTURES.
9. CEMENTITIOUS FIREPROOFING APPLIED IN A CONTOUR MANNER AT BEAM. AT JOIST APPLY IN A CONTOUR MANNER TO CREATE 1 HR. RATING FULL HEIGHT OF MEMBER.

1 HOUR CORRIDOR

1/8" = 1'-0"

05C-1012

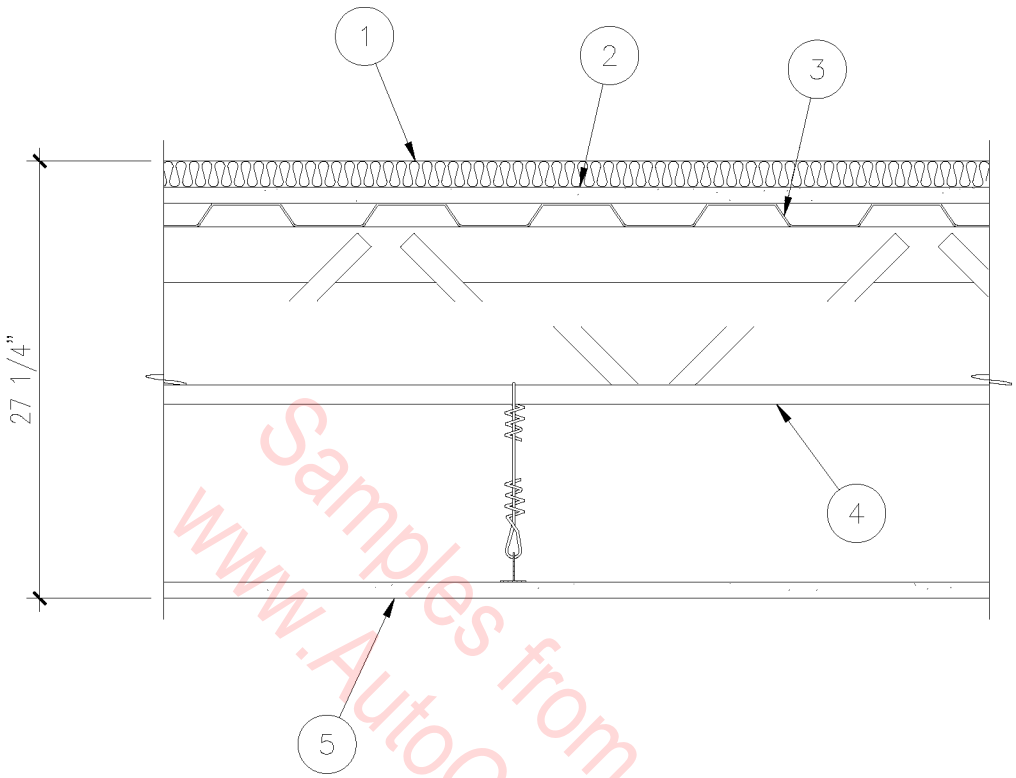
1. MASONRY WALL.
2. 3-5/8" X 18 GAUGE METAL STUDS AT 16" O.C.
3. 5/8" TYPE 'X' GYPSUM BOARD.
4. 1 HOUR WALL SYSTEM. UL DESIGN NO. U465, WHERE OCCURS.
5. ACOUSTICAL CEILING.
6. 6" METAL STUDS AT 16" O.C. UL DESIGN NO. U465.
7. HOLLOW METAL FRAME.
8. FULL SOUND DEADENING INSULATION.
9. (2) LAYERS OF 1/2" TYPE 'X' GYPSUM BOARD.
10. EDGE OF WALL BEYOND.
11. 1/2" REVEAL.
12. 1 HOUR CEILING SIMILAR TO UL DESIGN NO. L524.



DOOR ALCOVE SECTION

1" = 1'-0"

05C-1013



1. MINIMUM OF 1" ROOF INSULATION.
2. 5/8" GYPSUM BOARD OVER STEEL DECK.
3. STEEL ROOF DECK.
4. BAR JOIST.
5. 5/8" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANEL CEILING.

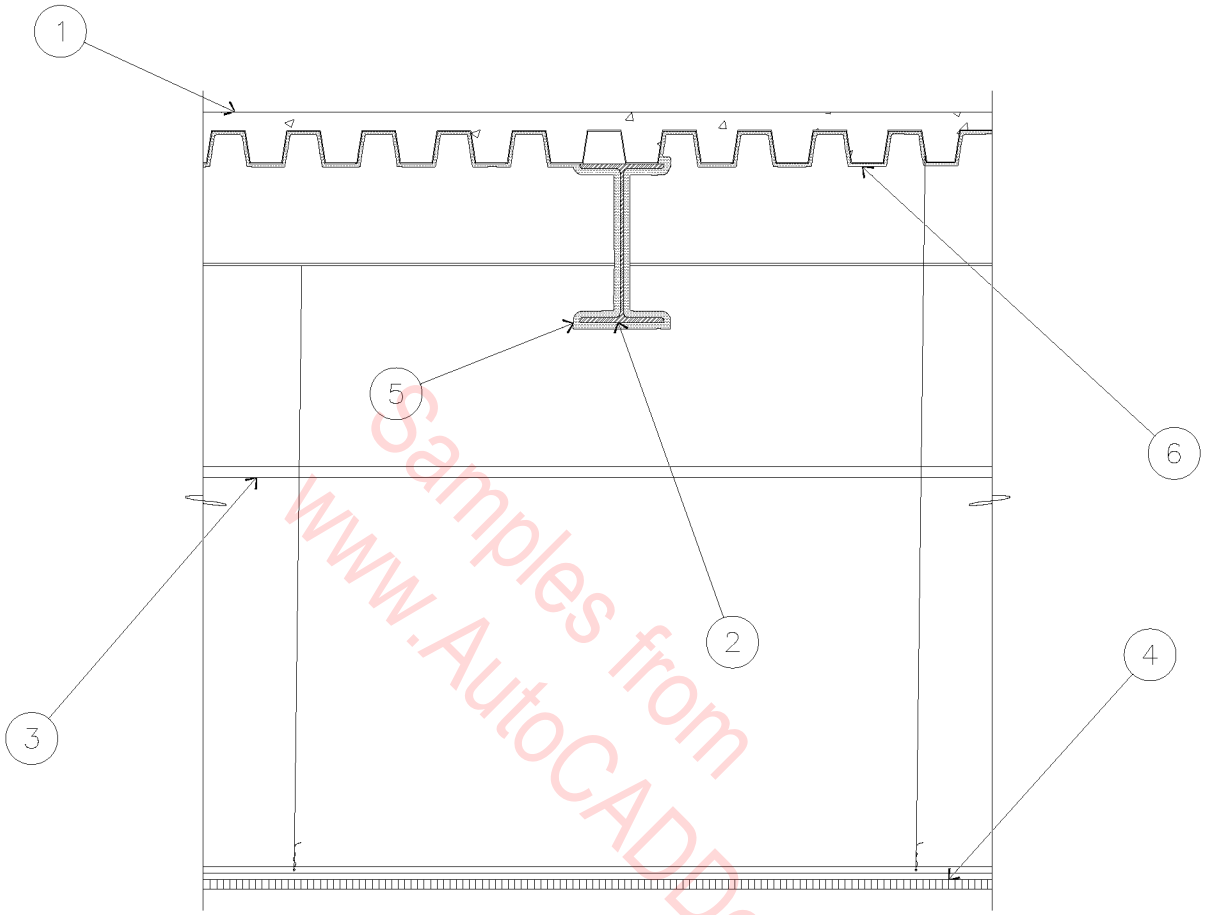
NOTES:

A. SUSPENDED GRID WITH MAIN RUNNER AT 4'-0" ON CENTER AND CROSS TEE AT 2'-0" ON CENTER.
B. GYPSUM PANELS SCREW ATTACHED BELOW GRID.
C. JOINTS STAGGERED AND FINISHED.
D. 1 HOUR RATING BASED ON ASSEMBLY WITH 1/2" THICK PANELS.

1-1/2 HOUR UL DES P510

1 1/2" = 1'-0"

05C-1014



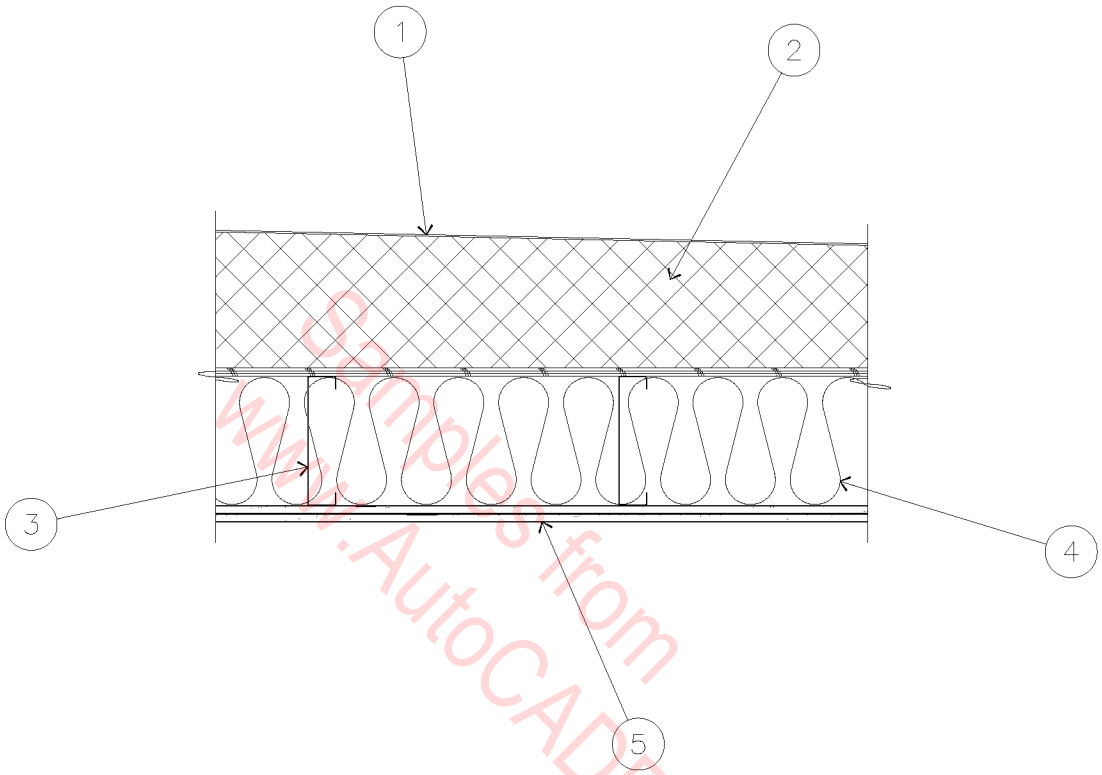
1. CONCRETE FLOOR OVER FLUTED STEEL DECK – STEEL DECK SHALL BE WELDED TO STEEL BEAMS.
2. WIDE FLANGE BEAM.
3. BEAM BEYOND.
4. SUSPENDED "TEE" GRID CEILING.
5. SPRAYED ON FIRE RESISTIVE FIBER COAT – 1/2" THICK (MINIMUM) AT STEEL BEAMS.
6. SPRAYED ON FIRE RESISTIVE FIBER COAT – 1/4" THICK (MINIMUM) AT STEEL DECK.

U.L. DESIGN NO. N805

1 HOUR FLOOR ASSEMBLY

3/4" = 1'-0"

05C-1015



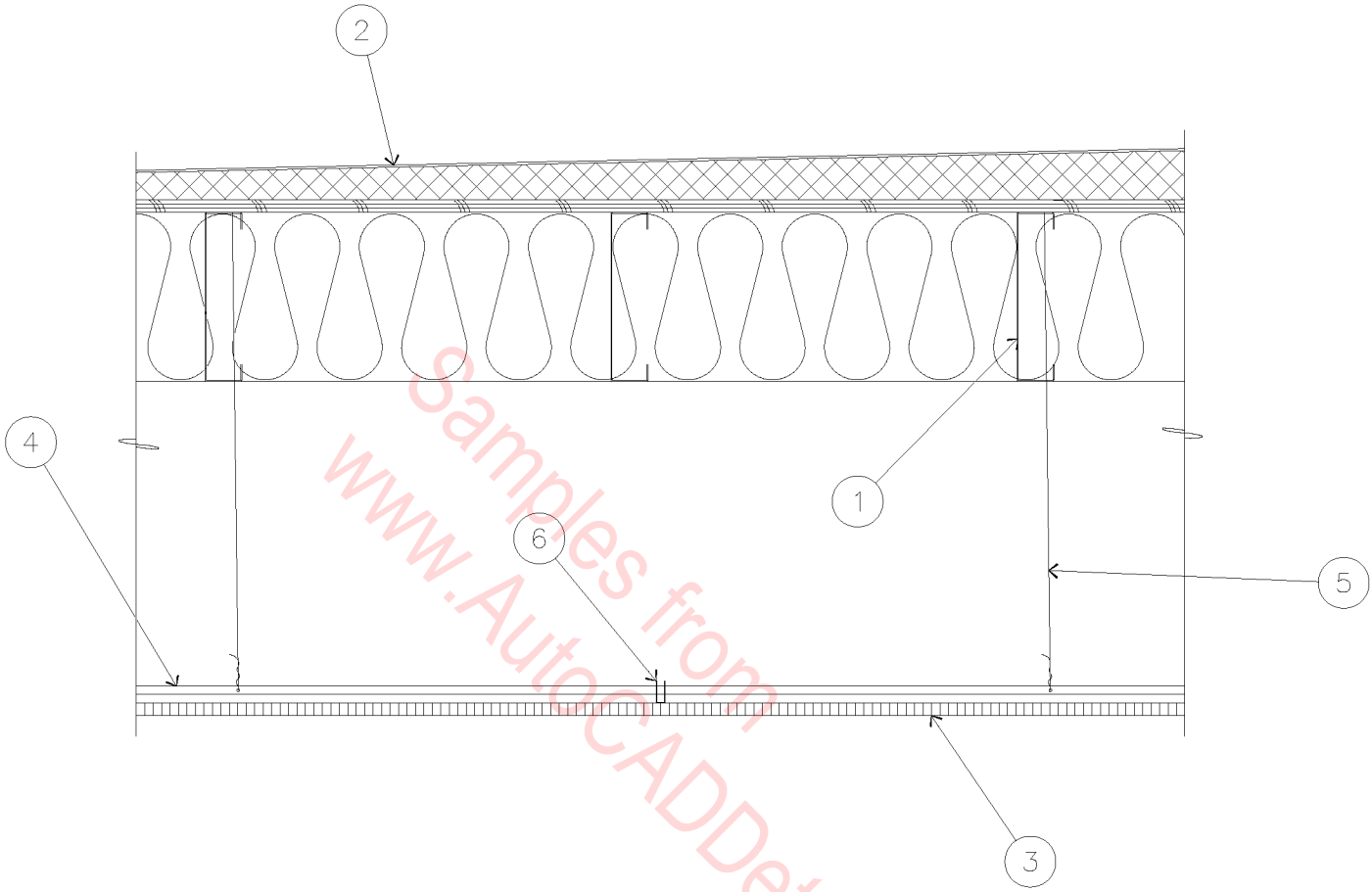
1. SINGLE PLY MEMBRANE ROOFING.
2. TAPERED RIGID INSULATION.
3. 10" X 16 GA. STEEL CHANNEL ROOF JOISTS.
4. FIBERGLASS BATT INSULATION.
5. 2 LAYERS 5/8" TYPE "X" GYPSUM BOARD. FIRE TAPE ALL JOINTS AND FASTENERS.

SIMILAR TO U.L. DESIGN NO. P512.

1 HOUR CEILING

3/4" = 1'-0"

05C-1016



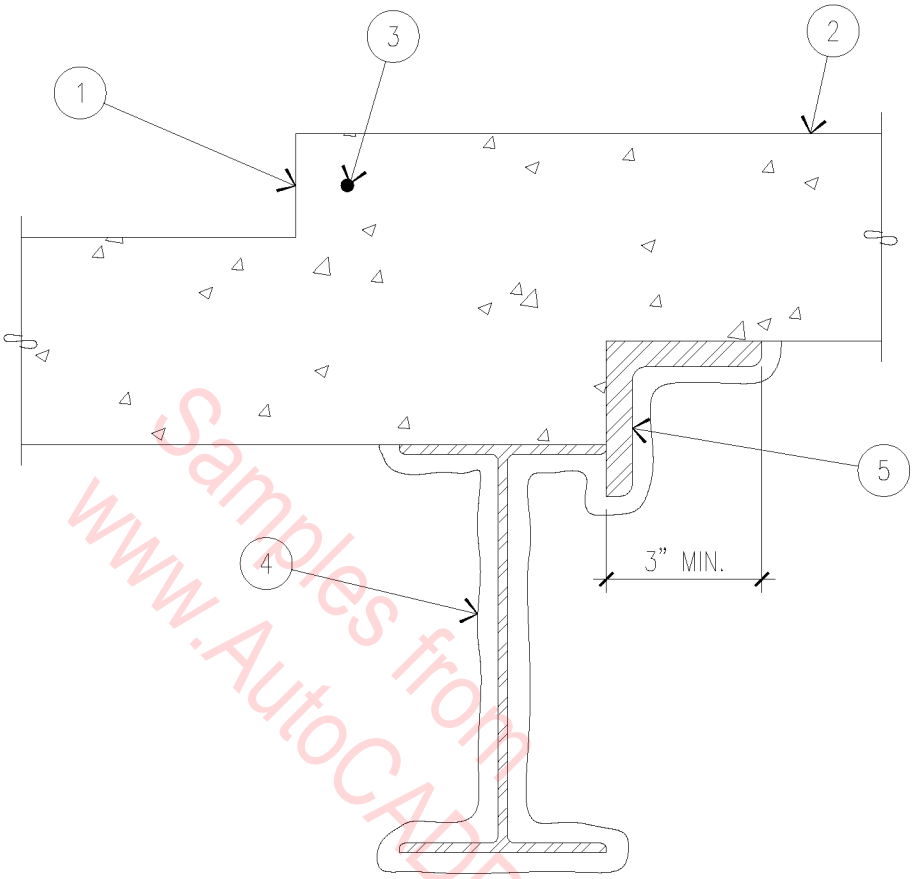
1. 10" X 16 GA. STEEL CHANNEL ROOF JOIST @ 24" O.C.
2. SINGLE PLY MEMBRANE ROOF OVER TAPERED INSULATION.
3. 24" X 24" LAY-IN ACOUSTICAL CEILING PANELS
4. STEEL SUSPENDED CEILING FRAMING MEMBERS.
5. 12 SWG GALVANIZED HANGER WIRE SPACED @ 48" O.C. ALONG MAIN RUNNERS.
6. 28 MSG SPRING STEEL HOLD DOWN CLIPS @ 24" O.C.

SIMILAR TO U.L. DESIGN NO. G241

1 HOUR SUSPENDED CEILING

1" = 1'-0"

05C-1017

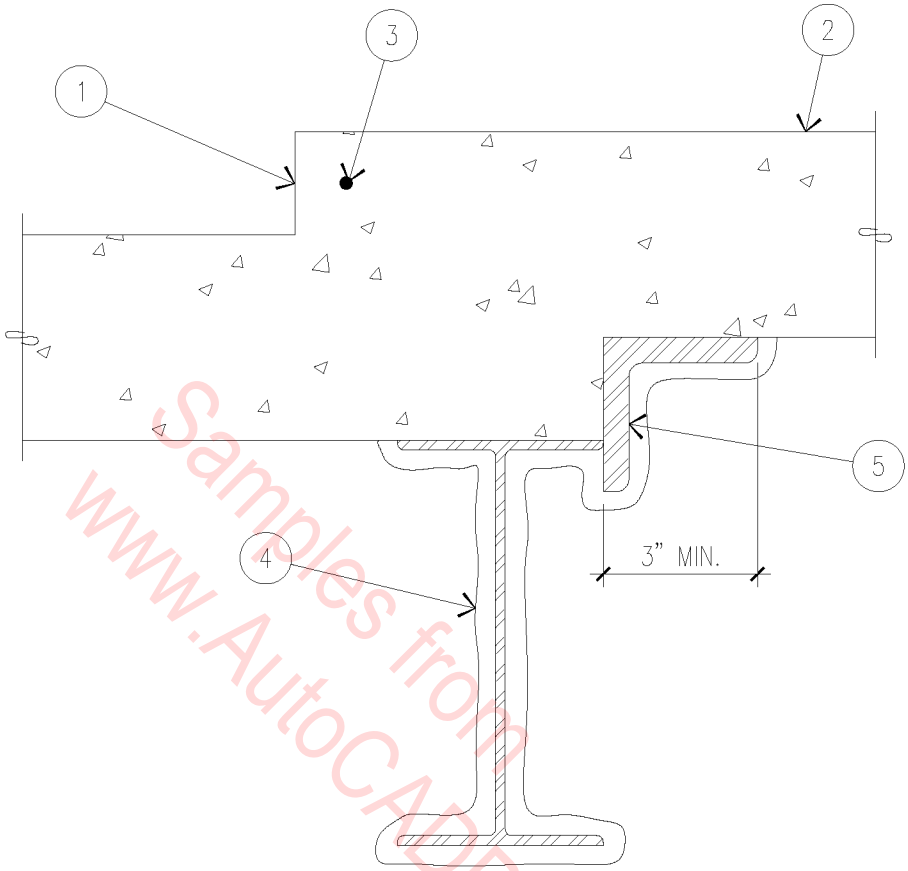


1. DEPRESSION – SEE PLAN.
2. SLAB ON METAL DECK – FOR THICKNESS, SEE PLAN.
3. (1) #4 REBAR, CONTINUOUS.
4. SPRAYED ON FIREPROOFING.
5. ANGLE WELDED TO BEAM – SIZE TO FIT DEPRESSION (1/2" THICK, MINIMUM).

DEPRESSED SLAB

3" = 1'-0"

05C-1018

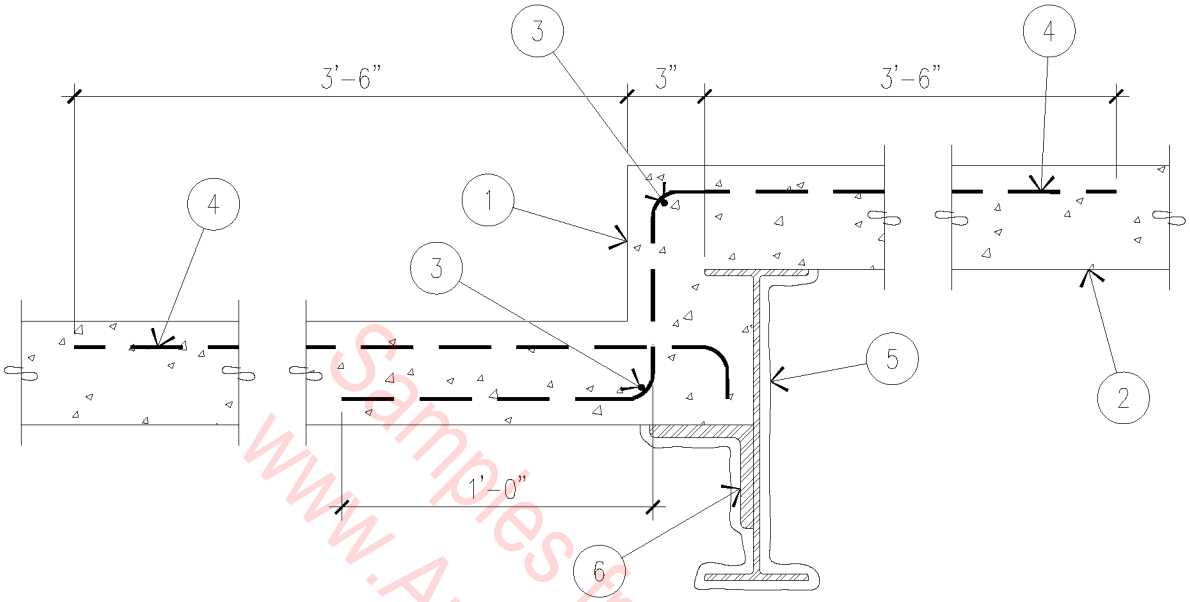


1. DEPRESSION – SEE PLAN.
2. SLAB ON METAL DECK – FOR THICKNESS, SEE PLAN.
3. (1) #4 REBAR, CONTINUOUS.
4. SPRAYED ON FIREPROOFING.
5. ANGLE WELDED TO BEAM – SIZE TO FIT DEPRESSION (1/2" THICK, MINIMUM).

DEPRESSED SLAB

3" = 1'-0"

05C–1018

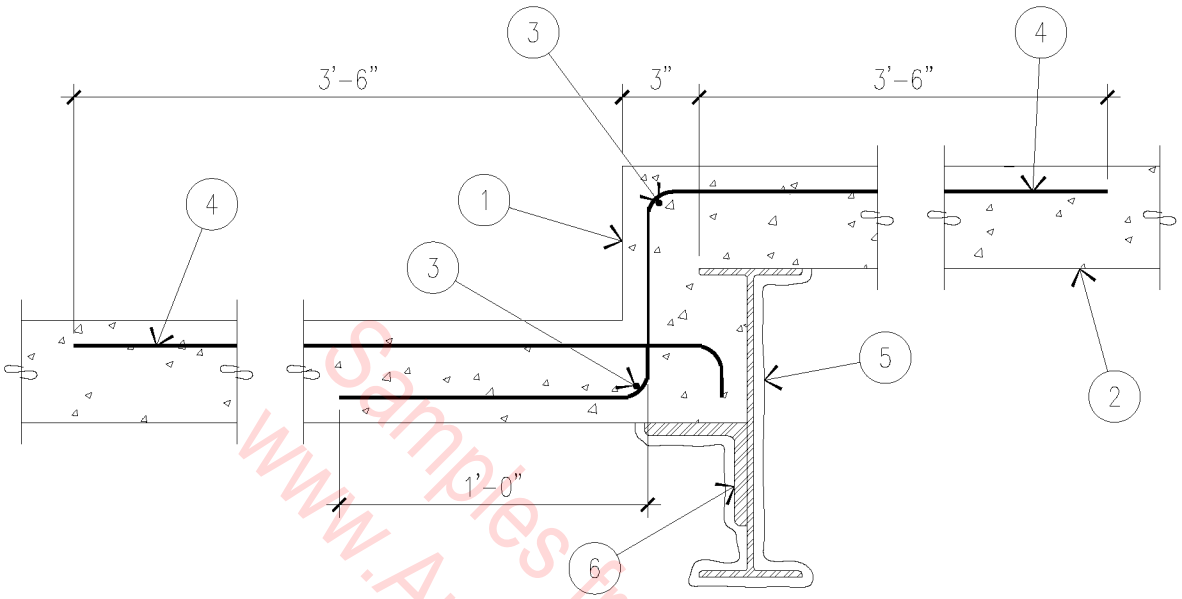


1. DEPRESSION – SEE PLAN.
2. SLAB ON METAL DECK – FOR THICKNESS, SEE PLAN.
3. (1) #4 REBAR, CONTINUOUS.
4. #4 REBAR AT 12" O.C., MINIMUM.
5. SPRAYED ON FIREPROOFING.
6. L 4" X 4" X 1/2", CONTINUOUS, WELDED TO BEAM.

DEPRESSED SLAB

1 1/2" = 1'-0"

05C-1019

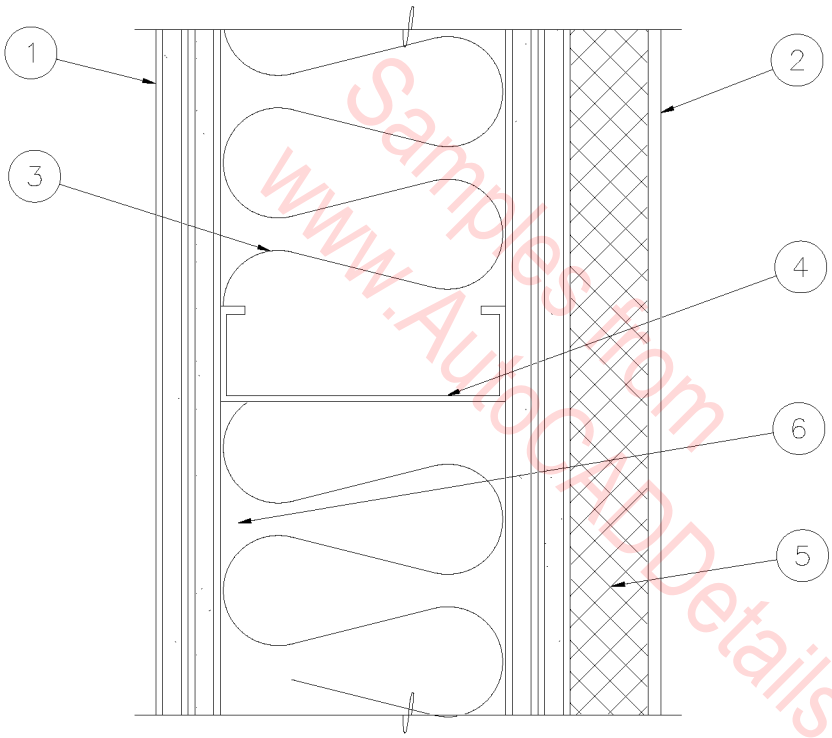


1. DEPRESSION – SEE PLAN.
2. SLAB ON METAL DECK – FOR THICKNESS, SEE PLAN.
3. (1) #4 REBAR, CONTINUOUS.
4. #4 REBAR AT 12" O.C., MINIMUM.
5. SPRAYED ON FIREPROOFING.
6. L 4" X 4" X 1/2", CONTINUOUS, WELDED TO BEAM.

DEPRESSED SLAB

1 1/2" = 1'-0"

05C-1019

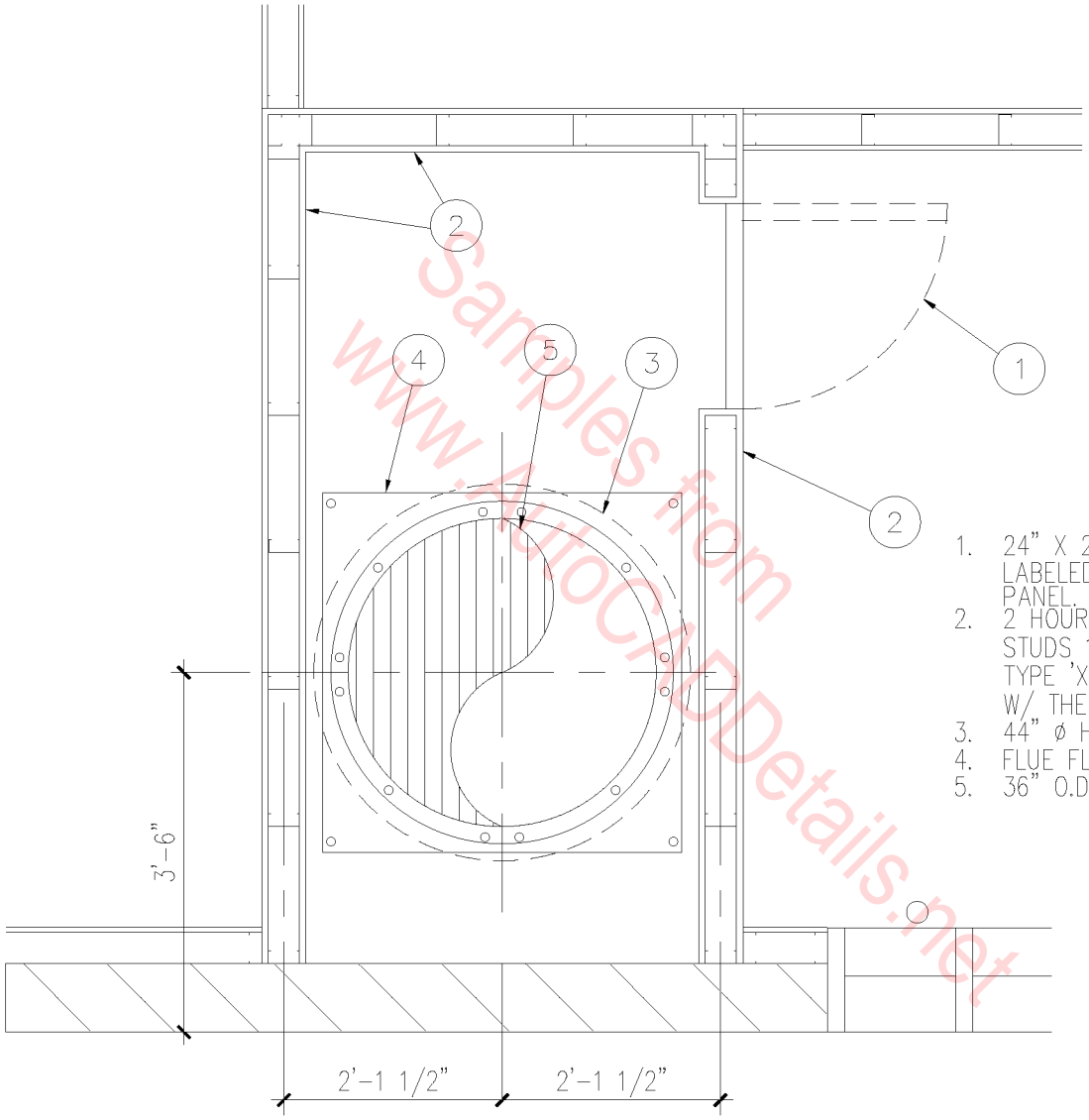


1. (2) LAYERS 5/8" TYPE "X" GYPSUM BOARD.
2. SYNTHETIC STUCCO.
3. 5 1/2" BATT INSULATION.
4. 6" METAL STUDS.
5. 1 1/2" POLYSTYRENE INSULATION BOARD MECHANICALLY FASTENED AND GLUED.
6. 4 MIL. POLY VAPOR BARRIER.

2 HOUR EXTERIOR WALL

3" = 1'-0"

05C-2001

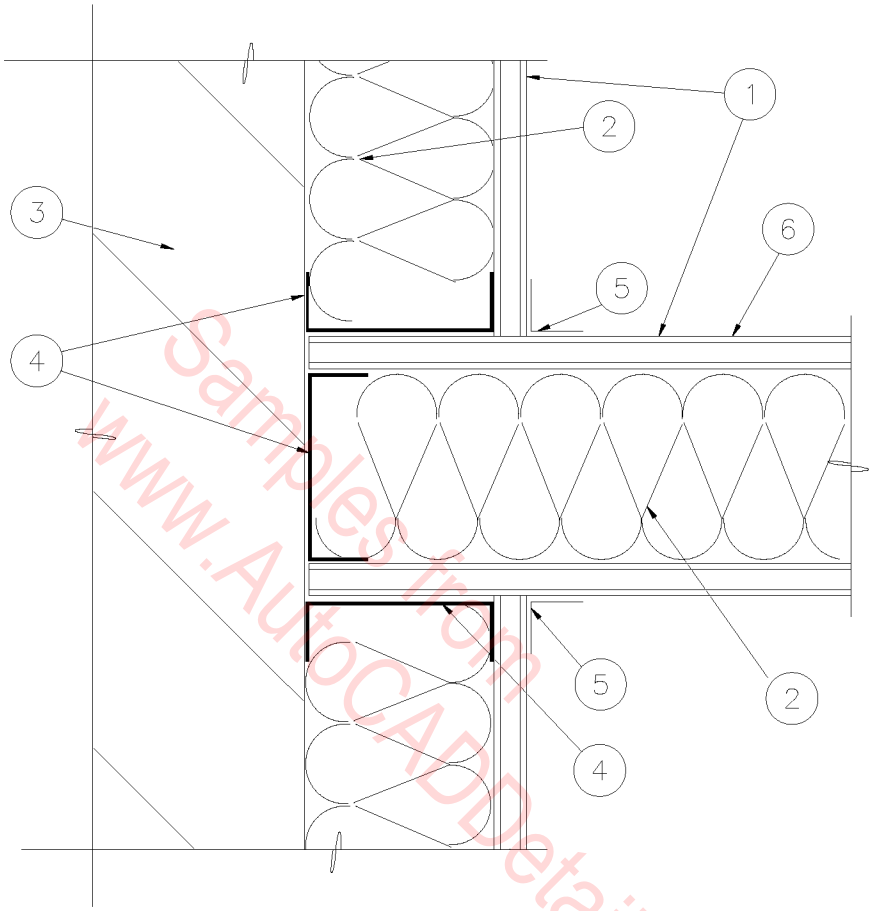


1. 24" X 24" 1-1/2 HOUR LABELED ACCESS PANEL.
2. 2 HOUR WALL 3-5/8" MTL. STUDS 16" O.C. WITH ONE LAYER OF 3/4" TYPE 'X' GYP. BD. EA. SIDE, INSULATED W/ THERMOFIBER INSULATION.
3. 44" ø HOLE IN FLOOR.
4. FLUE FLOOR PLATE.
5. 36" O.D. FLUE PIPE FROM BELOW.

FLUE CHASE

1" = 1'-0"

05C-2002

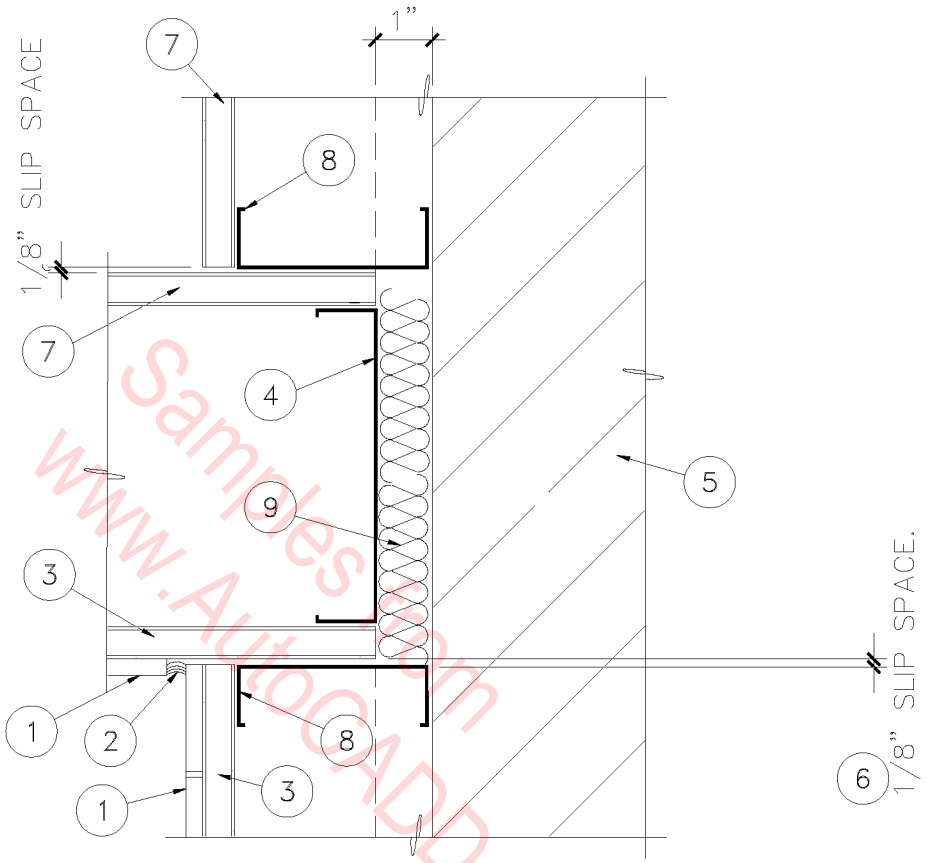


1. 5/8" TYPE 'X' GYPSUM BOARD.
2. INSULATION WHERE OCCURS.
3. MASONRY WALL.
4. 3-5/8" METAL STUDS
5. TAPE ALL JOINTS.
6. 1 HR CONSTRUCTION NON-BEARING WALL ASSEMBLY.
   UL DESIGN NO. U465.

RESISTIVE WALL AT CMU

3" = 1'-0"

05C-2003

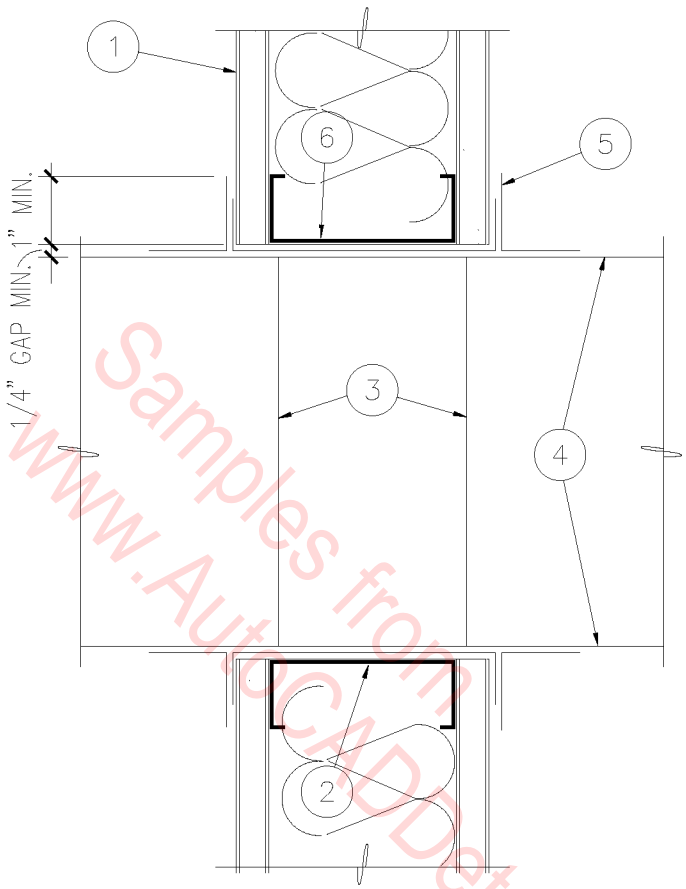


1. CERAMIC TILE.
2. SEALANT.
3. 5/8" MOISTURE-RESISTANT GYPSUM BOARD.
4. METAL STUD. DO NOT ATTACH TO MASONRY WALL.
5. MASONRY WALL.
6. EXPANSION JOINT SPACE.
7. 5/8" TYPE 'X' GYPSUM BOARD.
8. METAL STUDS.
9. FIRE SAFING MATERIAL.

1 HOUR EXPANSION JOINT

3" = 1'-0"

05C-2004



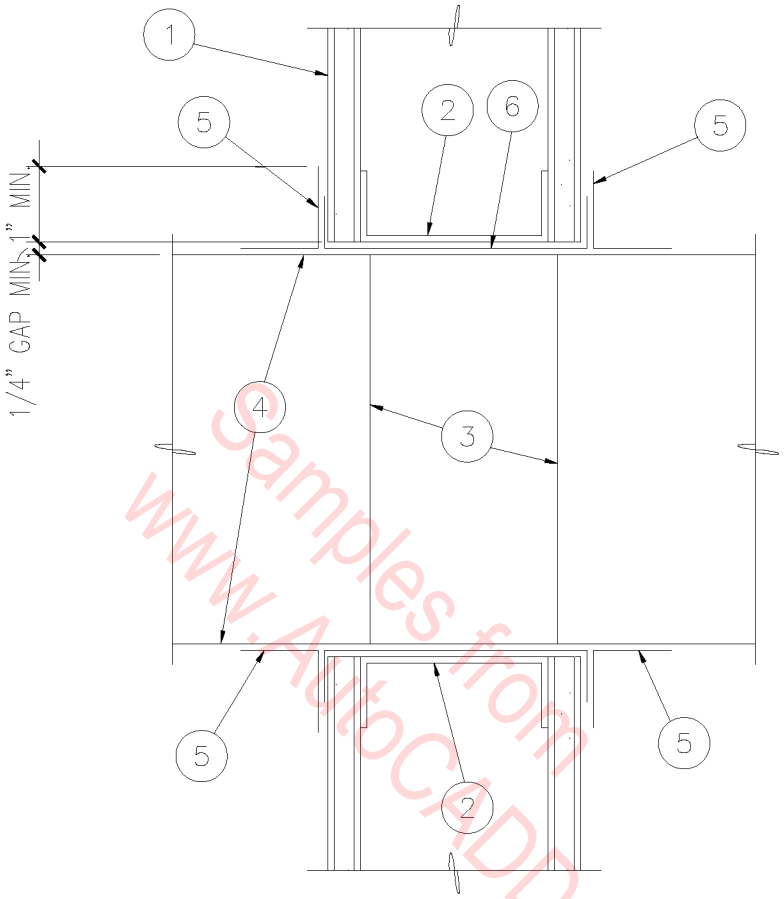
UL SAFETY STANDARD 555 AND NFPA 90A

1. ONE HOUR WALL UL DESIGN NO. U465.
2. METAL RUNNER.
3. FIRE OR LEAKAGE (SMOKE) DAMPER. SEE MECHANICAL FOR TYPE AND LOCATION.
4. DAMPER SLEEVE SHALL NOT EXTEND MORE MORE THAN 9" ON THE OPERATOR/ACTUATOR SIDE.
5. ANGLE 1-1/2" X 1-1/2" X 14 GAGE.
6. 22 GA. G. I. SLEEVE.

DUCT THRU WALL

3" = 1'-0"

05C-2005



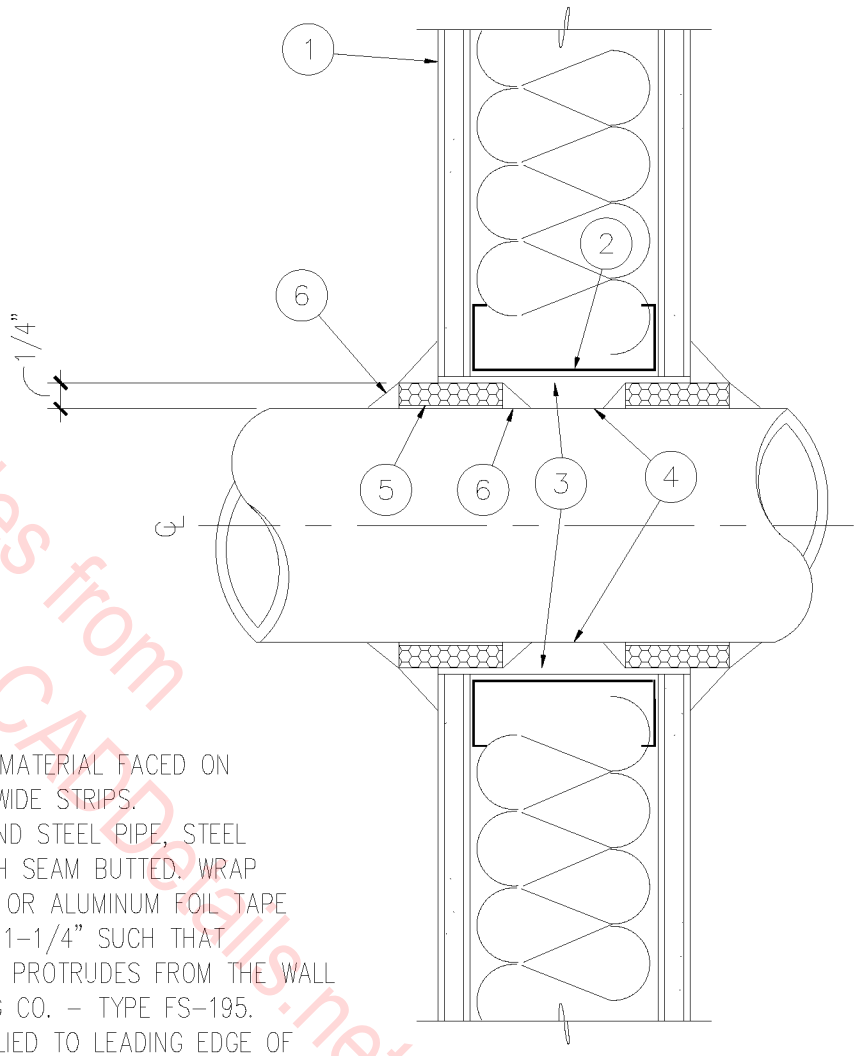
UL SAFETY STANDARD 555 AND NFPA 90A

1. ONE HOUR WALL UBC 43-B, 15-1.1.
2. METAL RUNNER.
3. FIRE OR LEAKAGE (SMOKE) DAMPER. SEE MECHANICAL FOR TYPE AND LOCATION.
4. DAMPER SLEEVE SHALL NOT EXTEND MORE THAN 6" BEYOND THE FIRE WALL AND NOT MORE THAN 9" ON THE OPERATOR/ACTUATOR SIDE.
5. ANGLE 1-1/2" X 1-1/2" X 14 GAGE.
6. 22 GA. G. I. SLEEVE.

1 HR. DUCT PENETRATION

3" = 1'-0"

05C-2006

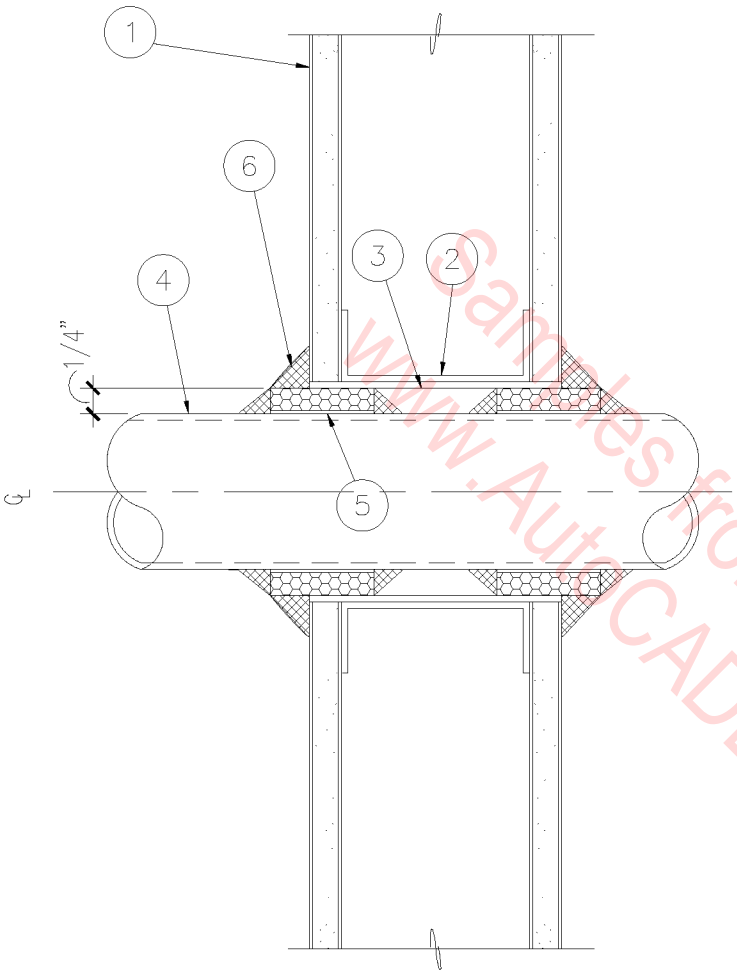


1. ONE HOUR WALL, UL DESIGN NO. U465.
2. 25 GA. G.I. RUNNER.
3. 22 GA. G.I. SLEEVE.
4. STEEL PIPE OR CONDUIT.
5. WRAP STRIP – 1/4" INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN 2" WIDE STRIPS. NOMINAL 2" WIDE STRIP TIGHTLY WRAPPED AROUND STEEL PIPE, STEEL CONDUIT OR PIPE COVERING (FOIL SIDE OUT) WITH SEAM BUTTED. WRAP STRIP LAYER SECURELY BOUND WITH STEEL WIRE OR ALUMINUM FOIL TAPE AND SLID INTO ANNULAR SPACE APPROXIMATELY 1-1/4" SUCH THAT APPROXIMATELY 3/4" OF THE WRAP STRIP WIDTH PROTRUDES FROM THE WALL SURFACE. MINNESOTA MINING & MANUFACTURING CO. – TYPE FS-195.
6. CAULK – MIN. 1/4" DIA. CONTINUOUS BEAD APPLIED TO LEADING EDGE OF WRAP STRIP PRIOR TO INSERTION OF WRAP STRIP LAYER IN ANNULAR SPACE. AFTER INSERTION OF WRAP STRIP LAYER IN ANNULAR SPACE A NOMINAL 1/4" DIA. CONTINUOUS BEAD IS TO BE APPLIED TO THE WRAP STRIP/WALL INTERFACE AND TO THE EXPOSED EDGE OF THE STRIP LAYER APPROXIMATELY 3/4" FROM THE WALL SURFACE. MINNESOTA MINING & MANUFACTURING CO. – TYPES CP-25 S/L, CP-25 N/S UL THROUGH-PENETRATION FIRESTOP SYSTEMS (XHEZ) SYSTEM NO. 148.

PIPE THRU RESIST. WALL

3" = 1'-0"

05C-2007



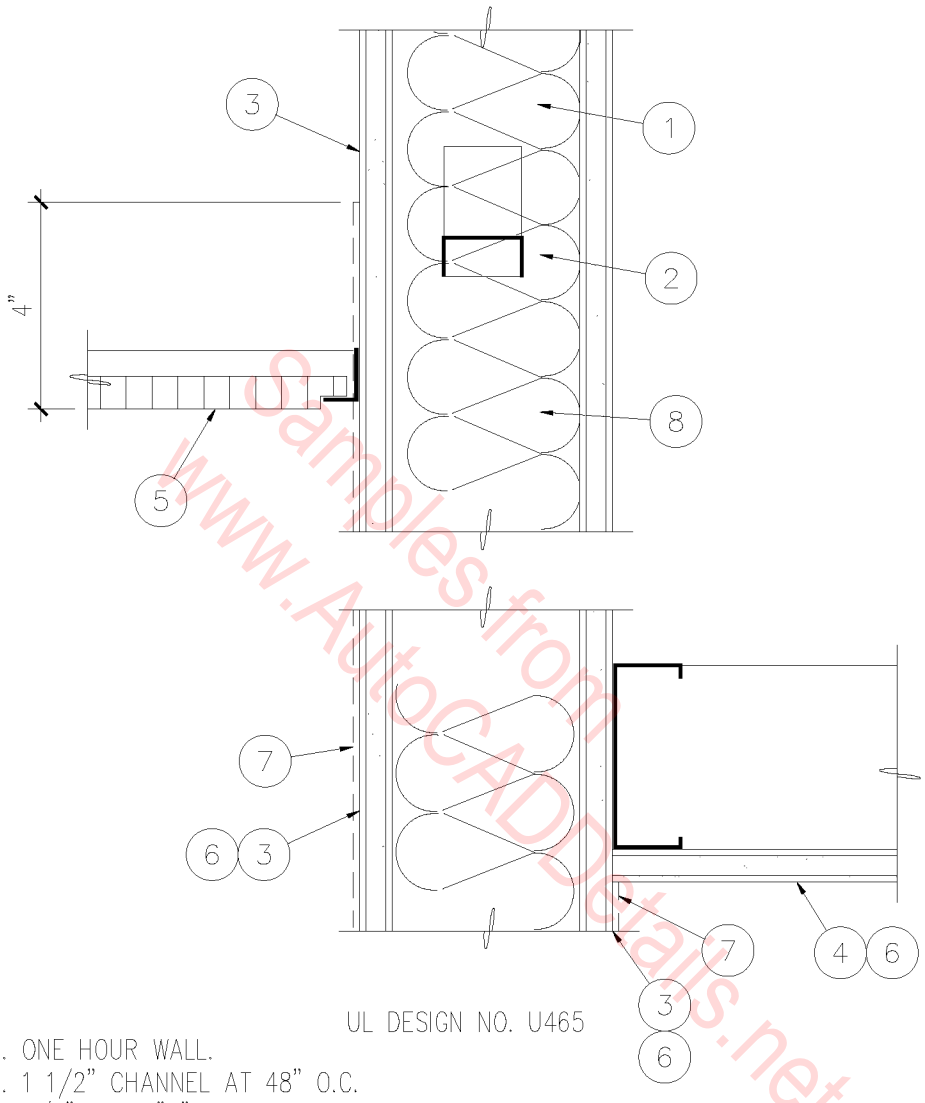
UL THROUGH-PENETRATION FIRESTOP SYSTEMS
(XHEZ) SYSTEM NO. 148

1. ONE HOUR WALL, UBC 43-B, 15-1.1.
2. 25 GA. G.I. RUNNER.
3. 22 GA. G.I. SLEEVE.
4. STEEL PIPE OR CONDUIT.
5. WRAP STRIP - 1/4" INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN 2" WIDE STRIPS. NOMINAL 2" WIDE STRIP TIGHTLY WRAPPED AROUND STEEL PIPE, STEEL CONDUIT OR PIPE COVERING (FOIL SIDE OUT) WITH SEAM BUTTED. WRAP STRIP LAYER SECURELY BOUND WITH STEEL WIRE OR ALUMINUM FOIL TAPE AND SLID INTO ANNULAR SPACE APPROXIMATELY 1-1/4" SUCH THAT APPROXIMATELY 3/4" OF THE WRAP STRIP WIDTH PROTRUDES FROM THE WALL SURFACE.
   MINNESOTA MINING & MANUFACTURING CO. TYPE FS-195.
6. CAULK - MIN. 1/4" DIA. CONTINUOUS BEAD APPLIED TO LEADING EDGE OF WRAP STRIP PRIOR TO INSERTION OF WRAP STRIP LAYER IN ANNULAR SPACE. AFTER INSERTION OF WRAP STRIP LAYER IN ANNULAR SPACE A NOMINAL 1/4" DIA. CONTINUOUS BEAD IS TO BE APPLIED TO THE WRAP STRIP / WALL INTERFACE AND TO THE EXPOSED EDGE OF THE STRIP LAYER APPROXIMATELY 3/4" FROM THE WALL SURFACE.
   MINNESOTA MINING & MANUFACTURING CO. TYPES CP-25 S/L, CP-25 N/S.

CONDUIT PENETRATION

3" = 1'-0"

05C-2008



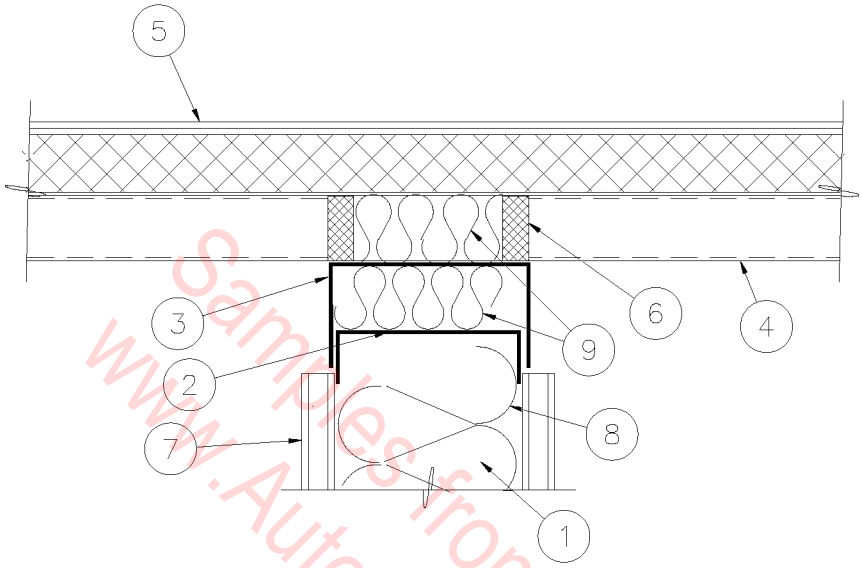
UL DESIGN NO. U465

1. ONE HOUR WALL.
2. 1 1/2" CHANNEL AT 48" O.C.
3. 5/8" TYPE "X" GYPSUM BOARD.
4. 5/8" TYPE "X" GYPSUM BOARD ON METAL STUDS (CEILING JOISTS).
5. LAY-IN ACOUSTICAL PANELS IN SUSPENDED TEE GRID - WHERE APPLICABLE.
6. SEE ROOM FINISH SCHEDULE FOR FINISH.
7. CERAMIC TILE ON GLASS MESH MORTAR UNITS, IN LIEU OF GYPSUM BOARD WHERE APPLICABLE.
8. 3-5/8" METAL STUDS UNLESS NOTED OTHERWISE.

CEILING AT 1 HR. WALL

3" = 1'-0"

05C-2009



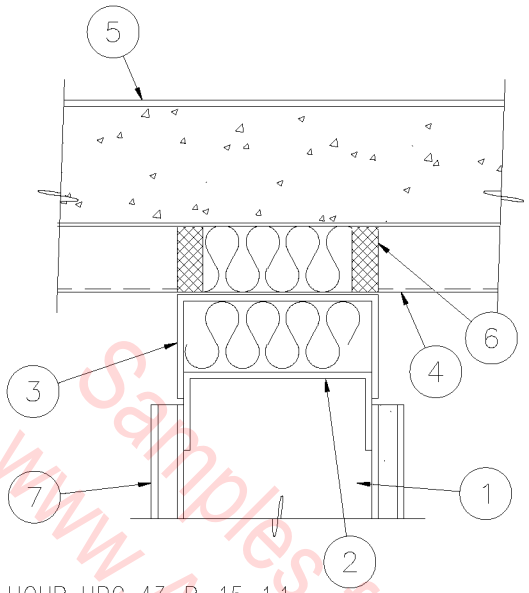
UL DESIGN NO. U465 ONE HOUR RATED WALL
UL THROUGH-PENETRATION FIRESTOP SYSTEM DESIGN NO. 327

1. 3 5/8" METAL STUDS AT 16" O.C.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. ROOFING SYSTEM.
6. 1/2" 'TREMCO' FYRE-SIL SEALANT ON EACH SIDE OF FIRE SAFING.
7. 5/8" TYPE "X" GYPSUM BOARD.
8. R-11 3 1/2" BATT SOUND INSULATION WHERE APPLICABLE.
9. FIRE SAFING INSULATION.

WALL AT ROOF DECK

3" = 1'-0"

05C-2010



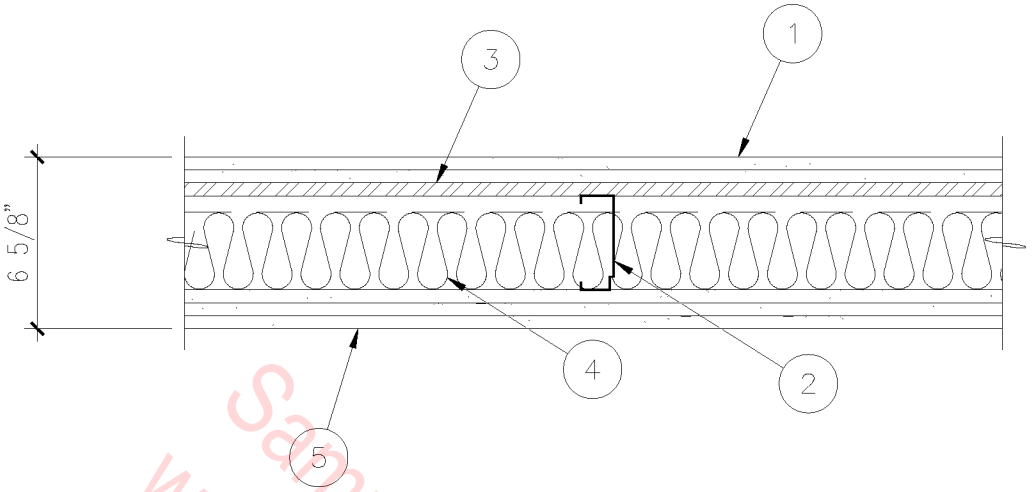
ONE HOUR UBC 43-B, 15-1.1
UL THROUGH-PENETRATION FIRESTOP SYSTEM DESIGN NO. 327

1. 3 5/8" METAL STUDS AT 16" O.C.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. CLASS "A" ROOFING SYSTEM ON LIGHT WEIGHT CONCRETE.
6. 1/2" 'TREMCO' FYRE-SIL SEALANT ON EACH SIDE OF FIRE SAFING MATERIAL.
7. 5/8" TYPE "X" GYPSUM BOARD.
8. FIRE SAFING INSULATION.

1HR. WALL AT ROOF

3" = 1'-0"

05C-2011



1. TWO LAYERS 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS SCREW ATTACHED TO CHANNEL.
2. 362SJ20 METAL STUDS AT 24" ON CENTER.
3. RC-1 CHANNEL ONE SIDE SPACED AT 24" SCREW ATTACHED TO STUDS.
4. 3" THERMAFIBER SAFB.
5. THREE LAYERS 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS SCREW ATTACHED TO STUDS.

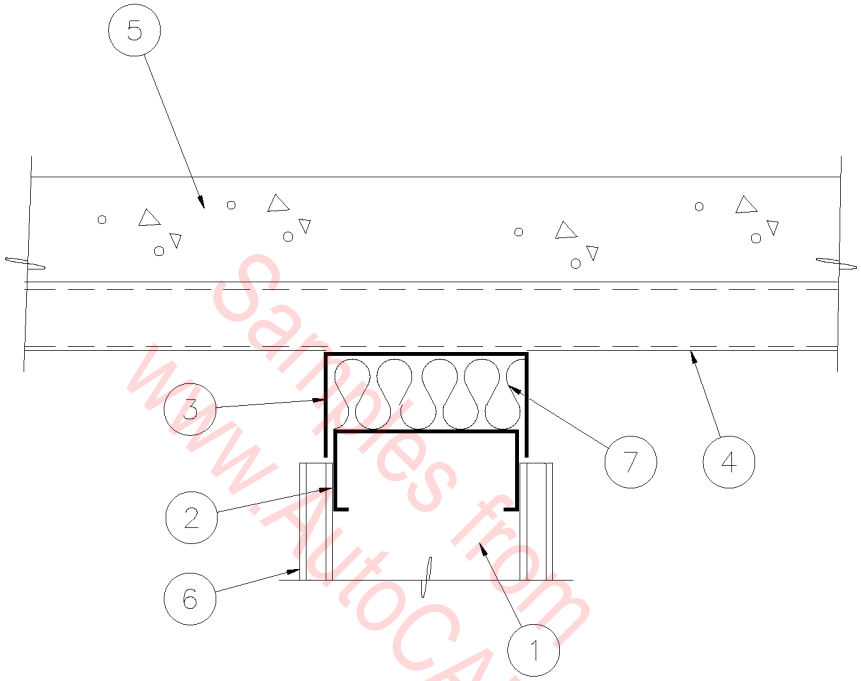
NOTES:

A. PANELS APPLIED VERTICALLY WITH JOINTS STAGGERED.
B. JOINTS FINISHED.
C. CAULK PERIMETER.
D. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.
E. ASSEMBLIES WITH RC-1 RESILIENT CHANNEL REQUIRE LATERAL BRACING AND OFFER ESTIMATED FIRE RATING.

3 HOUR UL DES U455

1 1/2" = 1'-0"

05C-2012

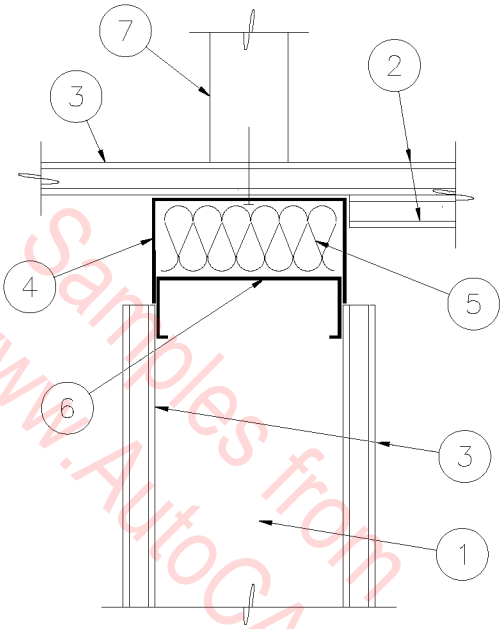


1. 3 5/8" METAL STUDS AT 16" O.C.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. LIGHT WEIGHT CONCRETE.
6. 5/8" TYPE "X" GYPSUM BOARD.
7. FIRE SAFING MATERIAL.

1 HR. WALL AT DECK

1" = 1'-0"

05C-2013

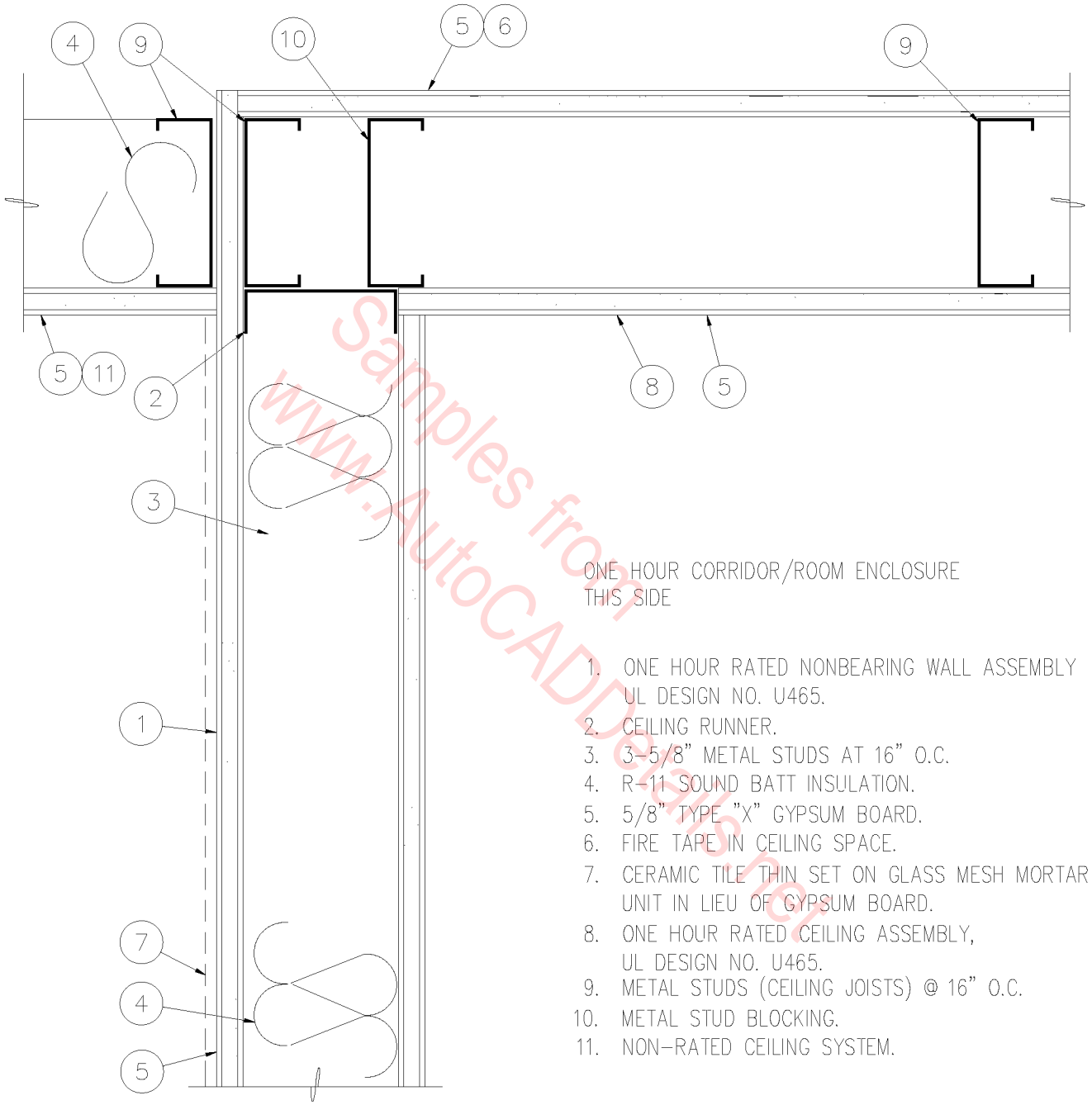


1. 1 HOUR PARTITION. UL DESIGN NO. U465.
2. (2) LAYERS, 5/8" TYPE 'X' GYPSUM BOARD.
3. 5/8" TYPE 'X' GYPSUM BOARD.
4. METAL RUNNER WITH 2" LEG.
5. FIRE SAFING INSULATION.
6. METAL RUNNER.
7. JOIST.

1 HOUR WALL AT CEILING

3" = 1'-0"

05C-2014



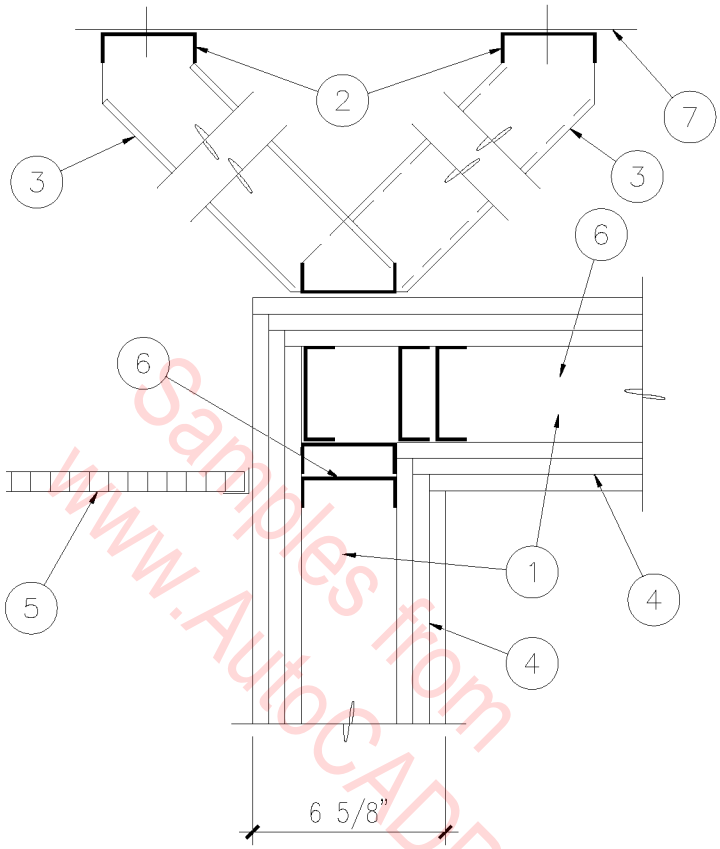
ONE HOUR CORRIDOR/ROOM ENCLOSURE
THIS SIDE

1. ONE HOUR RATED NONBEARING WALL ASSEMBLY UL DESIGN NO. U465.
2. CEILING RUNNER.
3. 3-5/8" METAL STUDS AT 16" O.C.
4. R-11 SOUND BATT INSULATION.
5. 5/8" TYPE "X" GYPSUM BOARD.
6. FIRE TAPE IN CEILING SPACE.
7. CERAMIC TILE THIN SET ON GLASS MESH MORTAR UNIT IN LIEU OF GYPSUM BOARD.
8. ONE HOUR RATED CEILING ASSEMBLY, UL DESIGN NO. U465.
9. METAL STUDS (CEILING JOISTS) @ 16" O.C.
10. METAL STUD BLOCKING.
11. NON-RATED CEILING SYSTEM.

1 HOUR CORRIDOR

3" = 1'-0"

05C-2015

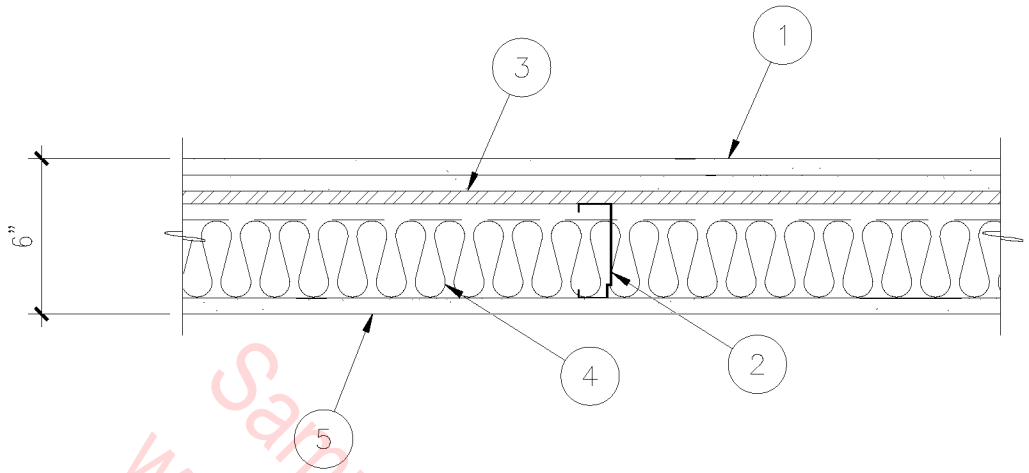


1. 3 HOUR FIRE ASSEMBLY. UL DESIGN NO. U425.
2. ANCHOR RUNNER TO STRUCTURE ABOVE.
3. 3-5/8" METAL STUD BRACING AT 48" O.C. STAGGERED.
4. (3) LAYERS OF 1/2" TYPE 'X' GYPSUM BOARD BOTH SIDES.
5. LAY-IN ACOUSTICAL CEILING.
6. 3-5/8" METAL STUDS.
7. STRUCTURE ABOVE.

3 HOUR WALL/CEILING

3" = 1'-0"

05C-2016



1. TWO LAYERS 5/8" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS SCREW ATTACHED TO CHANNEL.
2. 362SJ20 METAL STUDS AT 24" ON CENTER.
3. RC-1 CHANNEL ONE SIDE SPACED AT 24" SCREW ATTACHED TO STUDS.
4. 3" THERMAFIBER SAFB.
5. ONE LAYER 5/8" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANEL SCREW ATTACHED TO STUDS.

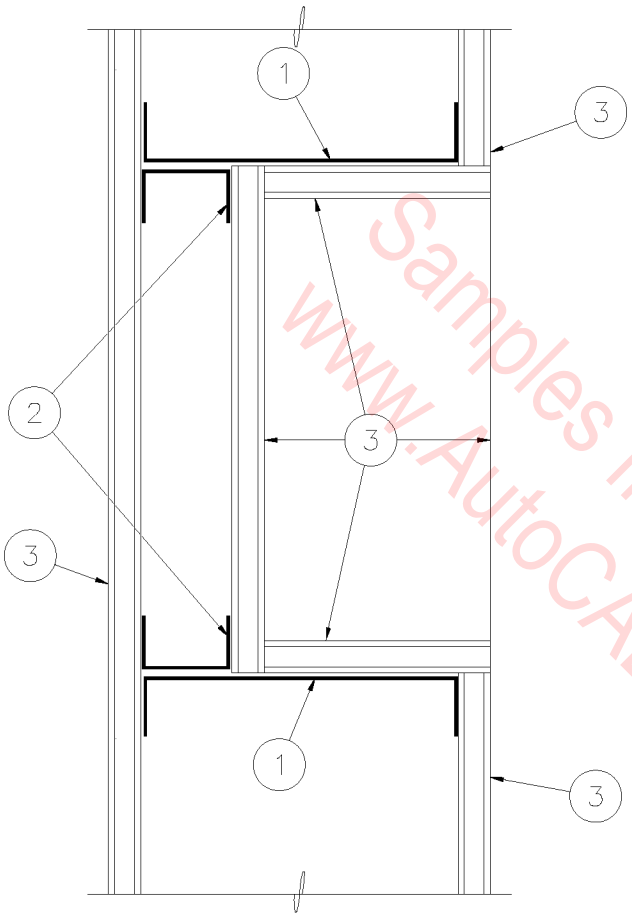
NOTES:

A. PANELS APPLIED VERTICALLY WITH JOINTS STAGGERED.
B. JOINTS FINISHED.
C. CAULK PERIMETER.
D. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.
E. ASSEMBLIES WITH RC-1 RESILIENT CHANNEL REQUIRE LATERAL BRACING AND OFFER ESTIMATED FIRE RATING.

2 HOUR UL DES U453

1 1/2" = 1'-0"

05C-2017



PLAN OR SECTION.

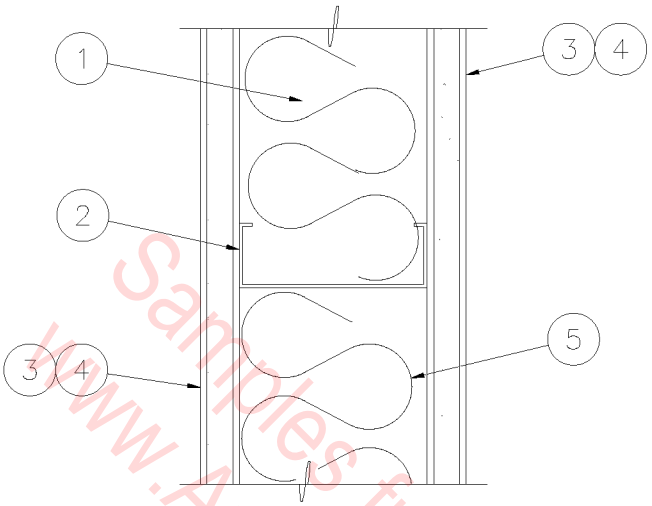
UL DESIGN
NO. U465.

1. 6" METAL STUDS AT 16" O.C.
2. 1-5/8" METAL STUDS.
3. 5/8" TYPE 'X' GYPSUM BOARD, MUST COMPLETELY ENCLOSE RECESS ON ALL SIDES, TOP AND BOTTOM.

RECESS IN 1 HOUR WALL

3" = 1'-0"

05C-2018



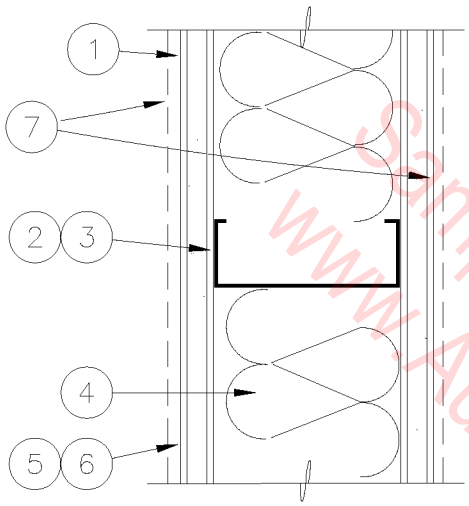
TWO HOUR RATED NONBEARING WALL ASSEMBLY, UL DESIGN NO. U491

1. FLOOR & CEILING RUNNER (NOT SHOWN) 25 GA. WITH 1" HIGH RETURN LEGS, 3-5/8" WIDE. ANCHOR TO FLOOR AND CEILING WITH FASTENERS AT 24" O.C.
2. 3-5/8" WIDE X 1-5/16 LEGS, 3/8" RETURN X 25 GA. METAL STUDS AT 16" O.C.
3. 3/4" TYPE "X" GYPSUM BOARD WITH 1" TYPE "S" NO. 6 DRYWALL SCREWS TO EACH STUD. SELF-TAPPING STEEL SCREWS AT 8" O.C. ALONG EDGES OF BOARD AND 12" O.C. IN THE FIELD. JOINTS STAGGERED ON OPPOSITE SIDES OF THE ASSEMBLY.
4. JOINT TAPE AND COMPOUND - PREMIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS; PAPER TAPE, 2" WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS IN CEILING SPACE, ADDITIONAL COMPOUND AND TEXTURE REQUIRED IN EXPOSED AREAS.
5. 3" 'THERMAFIBER SAFB' BATT INSULATION.

2 HOUR WALL

3" = 1'-0"

05C-2019



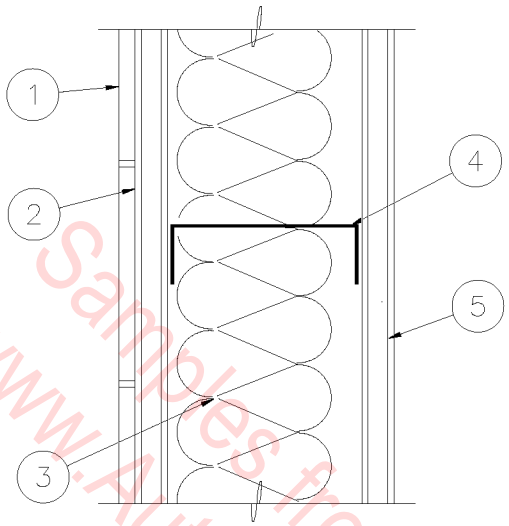
UL DESIGN NO. U465

1. ONE HOUR NONBEARING WALL ASSEMBLY UL DESIGN NO. U465.
2. FLOOR & CEILING RUNNER (NOT SHOWN) 25 GA. WITH 1" HIGH RETURN LEGS, 3-5/8" WIDE. ANCHOR TO FLOOR AND CEILING WITH FASTENERS AT 24" O.C.
3. 3-5/8" WIDE X 1-5/16 LEGS, 3/8" RETURN X 25 GA. METAL STUDS AT 16" O.C. 1-5/16" LEGS, 3/8" RETURN.
4. R-11, 3-1/2" SOUND BATT INSULATION, WHERE APPLICABLE.
5. 5/8" TYPE "X" GYPSUM BOARD WITH 1" TYPE "S" SELF-TAPPING STEEL SCREWS AT 8" O.C. ALONG EDGES OF BOARD AND 12" O.C. IN THE FIELD. JOINTS STAGGERED ON OPPOSITE SIDES OF THE ASSEMBLY.
6. JOINT TAPE AND COMPOUND - PREMIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS; PAPER TAPE, 2" WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS IN CEILING SPACE (FIRE TAPE), ADDITIONAL COMPOUND AND TEXTURE REQUIRED IN EXPOSED AREAS.
7. CERAMIC TILE ON GLASS MESH MORTAR UNIT IN LIEU OF GYPSUM BOARD WHERE APPLICABLE.

1 HOUR WALL

3" = 1'-0"

05C-2020



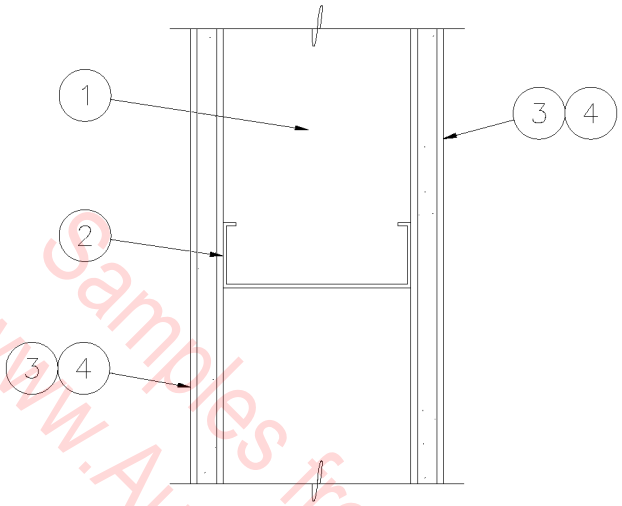
UL DESIGN NO. U445 SIMILAR

1. CERAMIC TILE.
2. 1/2" CEMENT BOARD ATTACHED TO STUDS WITH 1-5/8" LONG TYPE 'S' CORROSION RESISTANT SCREWS AT 6" O.C. TAPE JOINTS WITH GLASS FIBER MESH TAPE.
3. BATT INSULATION.
4. 3-5/8" METAL STUDS AT 16" O.C.
5. 5/8" TYPE 'X' GYPSUM BOARD ATTACHED TO STUDS WITH 1" LONG SELF-TAPPING SCREWS AT 8" O.C.

1 HOUR RESISTIVE WALL

3" = 1'-0"

05C-2021



ONE HOUR RATED NONBEARING WALL ASSEMBLY, UBC 43-B, 15-1.1

1. FLOOR & CEILING RUNNER (NOT SHOWN) 25 GA. WITH 1" HIGH RETURN LEGS, 3-5/8" WIDE. ANCHOR TO FLOOR AND CEILING WITH FASTENERS AT 24" O.C.
2. 3-5/8" WIDE X 1-5/16 LEGS, 3/8" RETURN X 25 GA. METAL STUDS AT 16" O.C.
3. 5/8" TYPE X GYPSUM BOARD WITH 1" TYPE S NO. 6 DRYWALL SCREWS TO EACH STUD. SELF-TAPPING STEEL SCREWS AT 8" O.C. ALONG EDGES OF BOARD AND 12" O.C. IN THE FIELD. JOINTS STAGGERED ON OPPOSITE SIDES OF THE ASSEMBLY.
4. JOINT TAPE AND COMPOUND - PREMIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS; PAPER TAPE, 2" WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS IN CEILING SPACE, ADDITIONAL COMPOUND AND TEXTURE REQUIRED IN EXPOSED AREAS, SEE SPECIFICATIONS AND ROOM FINISH SCHEDULE.

1 HOUR RESISTIVE WALL

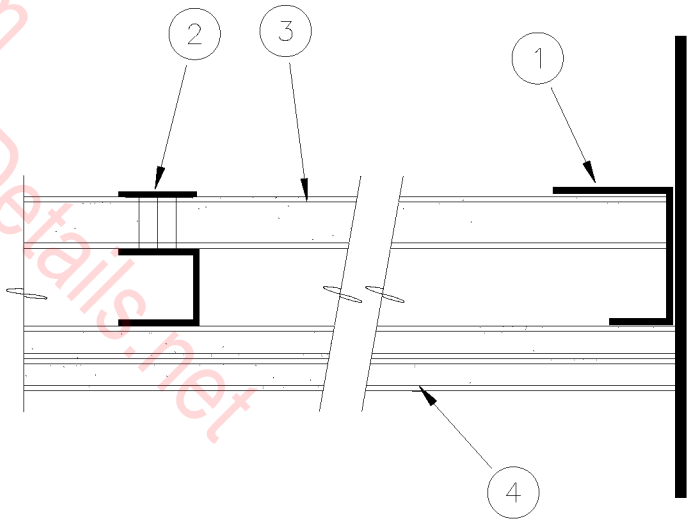
3" = 1'-0"

05C-2022

FIRE-RESISTIVE CONSTRUCTION

1. 'J' SHAPED RUNNER CHANNEL, 2-1/2" WIDE W/ UNEQUAL LEGS OF 1" AND 2", MIN. 24 GA. STEEL. RUNNER POSITIONED W/ SHORT LEG TOWARD FINISHED SIDE OF WALL. RUNNERS ATTACHED TO STRUCTURAL SUPPORT OR ADJACENT RUNNERS W/ STEEL FASTENERS LOCATED NOT GREATER THAN 2" FROM ENDS AND NOT GREATER THAN 24" O.C.
2. 2-1/2" WIDE 25 GA. STEEL "C-H" STUDS. MAX. 24" O.C.
3. 1" THICK GYP. BD. LINER PANELS BEARING U.L. CLASSIFICATION MARKING. EDGES INSERTED IN 'H' - SHAPED SECTION OF 'C-H' STUDS W/ FREE END OF PANEL ATTACHED TO LONG LEG OF J-RUNNER W/ 1-5/8" LONG TYPE "S" SELF-DRILLING STEEL SCREWS @ 12" O.C. MAX.
4. TWO LAYERS 5/8" TYPE "X" GYP. BD. BASE LAYER ATTACHED TO STUDS W/ 1" LONG TYPE S SELF-DRILLING STEEL SCREWS @ 24" O.C. ALONG THE EDGES AND IN THE FIELD OF THE BOARDS. FACE LAYER ATTACHED TO STUDS AND 'J' RUNNERS W/ 1-5/8" LONG TYPE S SELF-DRILLING STEEL SCREWS AT 12" O.C. ALONG THE EDGES AND IN THE FIELD OF THE BOARDS. STAGGER SCREWS AND PANEL JOINTS BETWEEN INNER AND OUTER LAYER.

NOTE: DETAIL PROVIDES 2-HR FIRE RESISTIVE SHAFT WALL ASSEMBLY PER U.L. DESIGN NO. U438



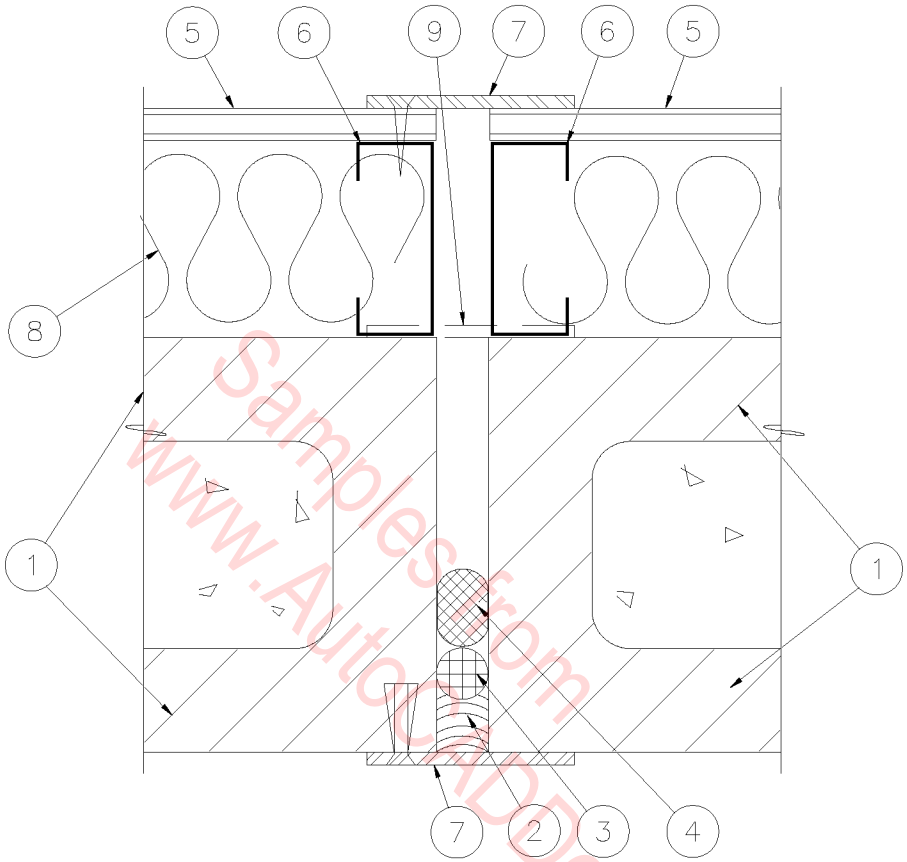
GENERAL NOTE

ALL PENETRATIONS OF FIRE-RESISTANT WALLS SHALL BE PROTECTED BY MATERIALS AND INSTALLATION DETAILS THAT CONFORM TO UNDERWRITERS LABORATORIES LISTINGS FOR "THROUGH-PENETRATION FIRE STOP SYSTEMS". THE CONTRACTOR SHALL SUBMIT SHOP DRAWING DETAILS, FURNISHED BY THE MANUFACTURER OF THE FIRE STOP MATERIAL, WHICH SHOW COMPLETE CONFORMANCE TO THE UL LISTING TO THE ARCHITECT, AND SUCH DRAWINGS SHALL BE AVAILABLE TO THE LOCAL BUILDING INSPECTORS. THE DRAWINGS SHALL BE SPECIFIC FOR EACH PENETRATION, WITH ALL VARIABLES DEFINED.

2 HOUR SHAFT WALL

3' = 1'-0"

05C-2023

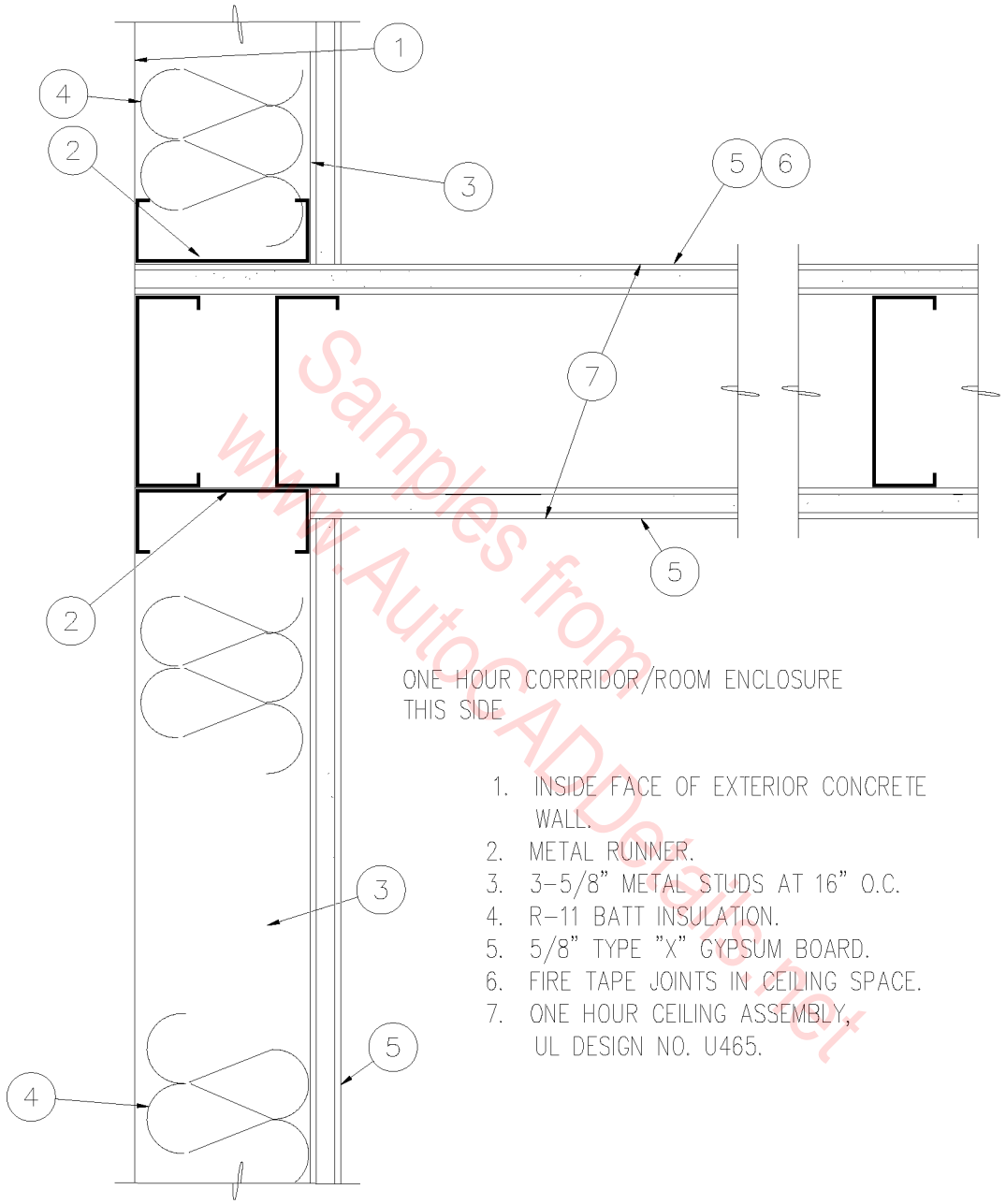


1. MASONRY WALL.
2. SEALANT, 7/8" MIN. DEPTH.
3. BACKER ROD.
4. CERAMIC FIBER BLANKET INSULATION: 1-1/2" AT 1 HOUR WALL, 4-1/2" AT 4 HOUR RATED WALL.
5. 5/8" TYPE 'X' GYPSUM BOARD WHERE OCCURS.
6. 3-5/8" METAL STUDS, WHERE OCCURS.
7. 4" WIDE X 1/4" THICK STEEL PLATE CLOSURE. SECURE AT EXTERIOR WITH 1/4" FLAT HEAD EXPANSION ANCHORS IN COUNTERSUNK HOLES AT 24" O.C. SECURE AT INTERIOR WITH #12 SHEET METAL SCREWS AT 6" O.C. IN COUNTER-SUNK HOLES. SECURE AT ONE SIDE OF EXPANSION JOINT ONLY.
8. WALL INSULATION BATTS, WHERE OCCURS.
9. STEEL CLOSURE LOCATION AT INTERIOR MASONRY CONDITION.

2 & 4 HOUR EXPANSION JOINT

3" = 1'-0"

05C-2024



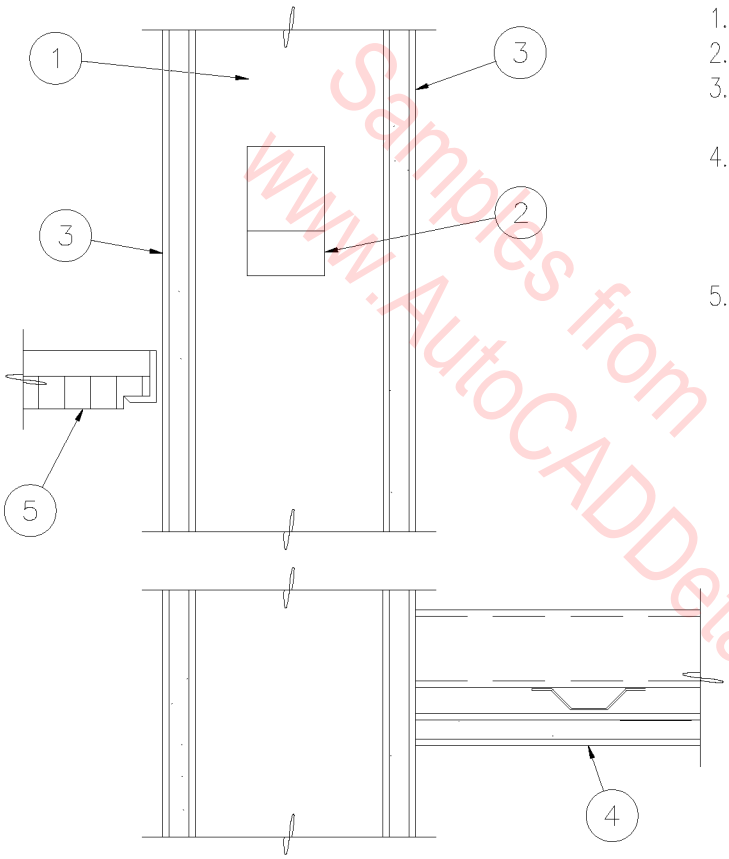
ONE HOUR CORRRIDOR/ROOM ENCLOSURE
THIS SIDE

1. INSIDE FACE OF EXTERIOR CONCRETE WALL.
2. METAL RUNNER.
3. 3-5/8" METAL STUDS AT 16" O.C.
4. R-11 BATT INSULATION.
5. 5/8" TYPE "X" GYPSUM BOARD.
6. FIRE TAPE JOINTS IN CEILING SPACE.
7. ONE HOUR CEILING ASSEMBLY, UL DESIGN NO. U465.

1 HOUR ENCLOSURE

3" = 1'-0"

05C-2025



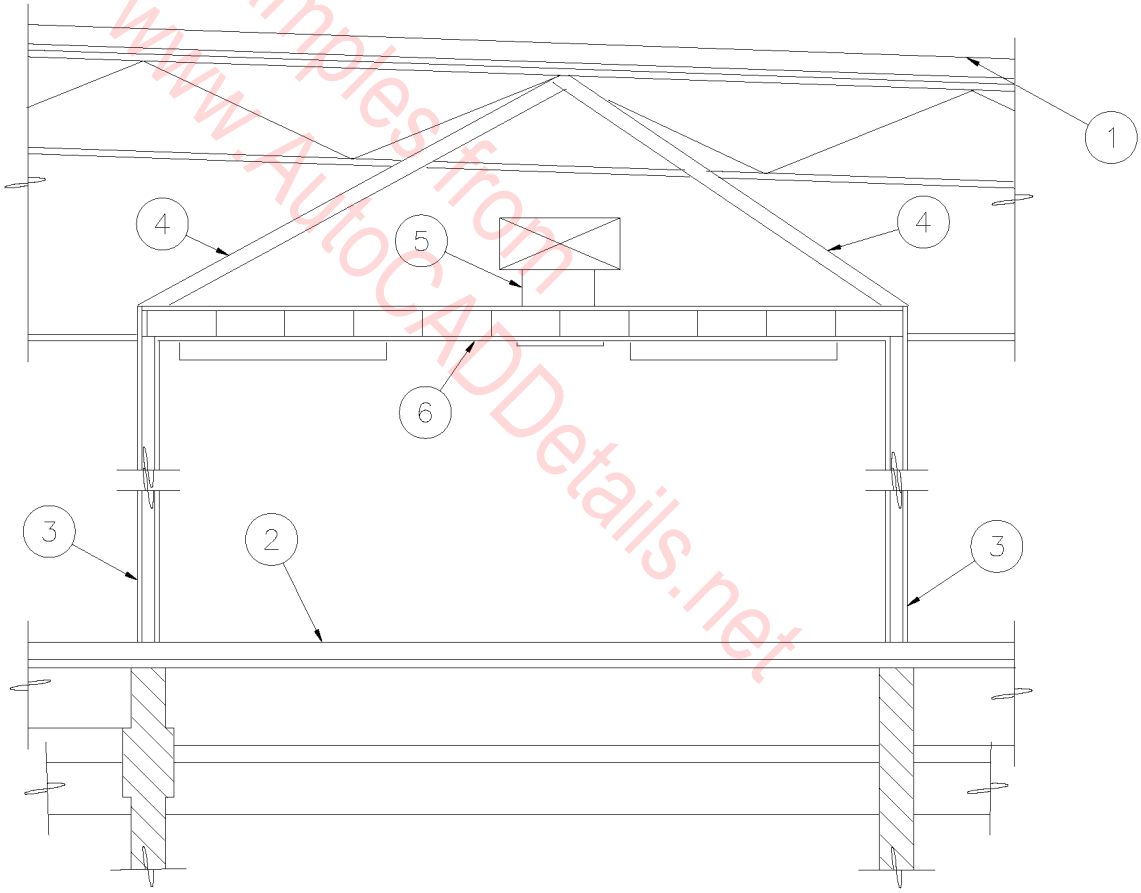
1. METAL STUDS @ 16" O.C.
2. 1-1/2" CHANNEL AT 48" O.C.
3. 5/8" TYPE "X" GYPSUM BOARD WHERE APPLICABLE.
4. 5/8" TYPE "X" GYPSUM BOARD CEILING ON METAL HAT CHANNELS WHERE APPLICABLE SEE SCHEDULE.
5. LAY-IN ACOUSTICAL PANELS IN SUSPENDED TEE GRID -WHERE APPLICABLE.

CEILING AT FIRE WALL

3" = 1'-0"

05C-2026

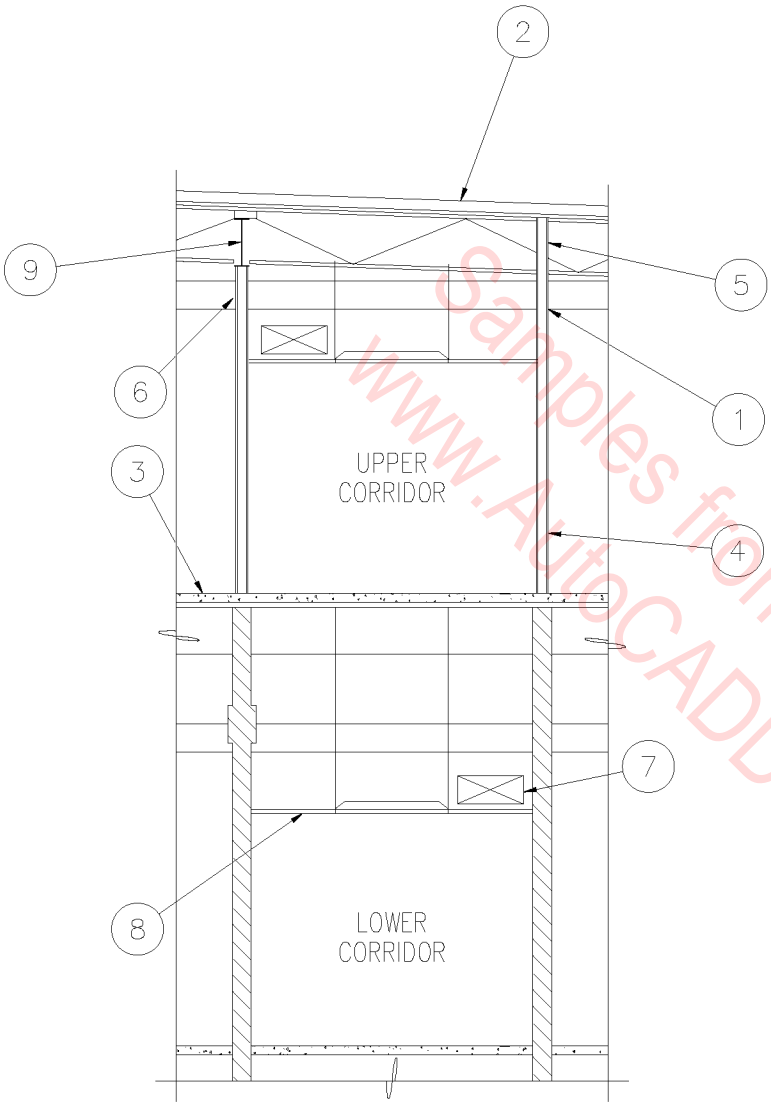
1. 2 HOUR RATED ROOF ASSEMBLY – LIGHT WEIGHT CONCRETE TOPPING ON STEEL DECK ON STEEL JOIST, UL DESIGN NO. P908.
2. 2 HOUR RATED FLOOR ASSEMBLY – 10' CONCRETE DOUBLE TEES WITH 4" CONCRETE TOPPING, UL DESIGN NO. J941.
3. 1 HOUR RATED WALL, 3-5/8" METAL STUDS AT 16" O.C. WITH 5/8" TYPE X GYPSUM WALLBOARD EACH SIDE.
4. 3-5/8 25 GAUGE METAL STUD BRACES AT 48" O.C.
5. PENETRATIONS THRU THE CEILING SHALL BE PROTECTED WITH EITHER FIRE DAMPERS OR UL LISTED POKE THRU DETAILS.
6. 1 HOUR RATED CEILING SYSTEM, METAL STUDS AT 16" O.C. WITH 5/8" TYPE X GYPSUM WALLBOARD EACH SIDE. FIRE TAPE ATTIC SIDE OF CEILING. SEE SPECIFICATIONS FOR DEPTH OF METAL STUD REQUIRED BY SPAN. SEE DETAIL 5 ON SHEET A902 FOR ADDITIONAL ONE HOUR REQUIREMENTS



1 HOUR ENCLOSURE

3" = 1'-0"

05C-2027

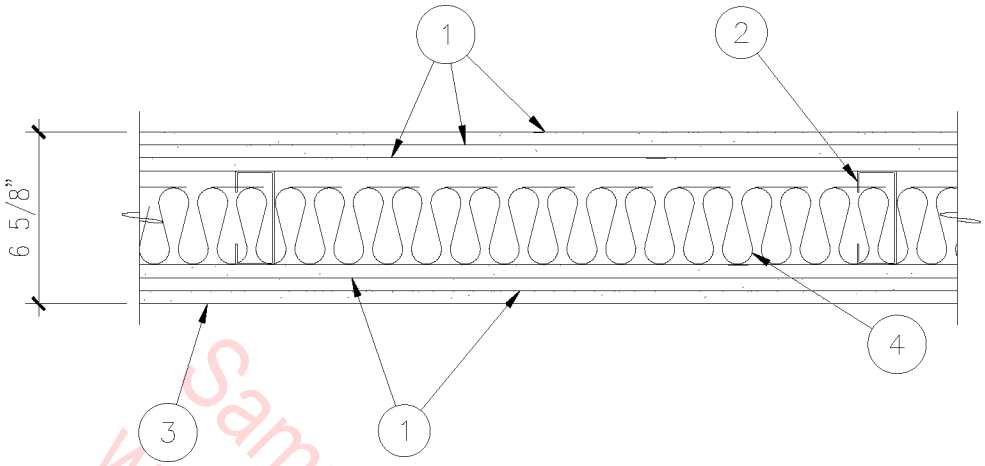


1. FIRE STOPPING SEALANT, 'TREMCO' DYMETRIC, POLYTREMDYNE TERPOLYMER.
2. 2 HOUR RATED ROOF ASSEMBLY – LIGHT WEIGHT CONCRETE TOPPING ON STEEL DECK ON STEEL JOIST, UL DESIGN NO. P908.
3. 2 HOUR RATED FLOOR ASSEMBLY – 10' CONCRETE DOUBLE TEES WITH 4" CONCRETE TOPPING, UL DESIGN NO. J941.
4. 1 HOUR RATED WALL, 3-5/8" METAL STUDS AT 16" O.C. WITH 5/8" TYPE 'X' GYPSUM WALLBOARD EACH SIDE.
5. EXTEND ONE HOUR RATED WALL TO ROOF DECK.
6. PENETRATIONS THRU THE WALLS SHALL BE PROTECTED WITH EITHER FIRE DAMPERS OR UL LISTED POKE THRU DETAILS.
7. DUCTS THAT ARE A MINIMUMS OF 0.19 INCH (26 GAUGE) STEEL DO NOT REQUIRE FIRE DAMPERS WHEN THE DUCT HAS NO OPENINGS INTO THE CORRIDOR.
8. UNRATED SUSPENDED CEILING AND UNPROTECTED LIGHT FIXTURES.
9. CEMENTITIOUS FIREPROOFING APPLIED IN A CONTOUR MANNER AT BEAM. AT JOIST APPLY IN A CONTOUR MANNER TO CREATE 1 HR. RATING FULL HEIGHT OF MEMBER.

1 HOUR CORRIDOR

1/8" = 1'-0"

05C-2028



1. 1/2" SHEETROCK BRAND FIRECODE 'C' CORE GYPSUM PANELS.
2. 3 5/8" METAL STUDS AT 24" O.C.
3. 1/2" CEMENTITIOUS BACKER BOARD.
4. 3" THERMAFIBER SAFB.

NOTES:

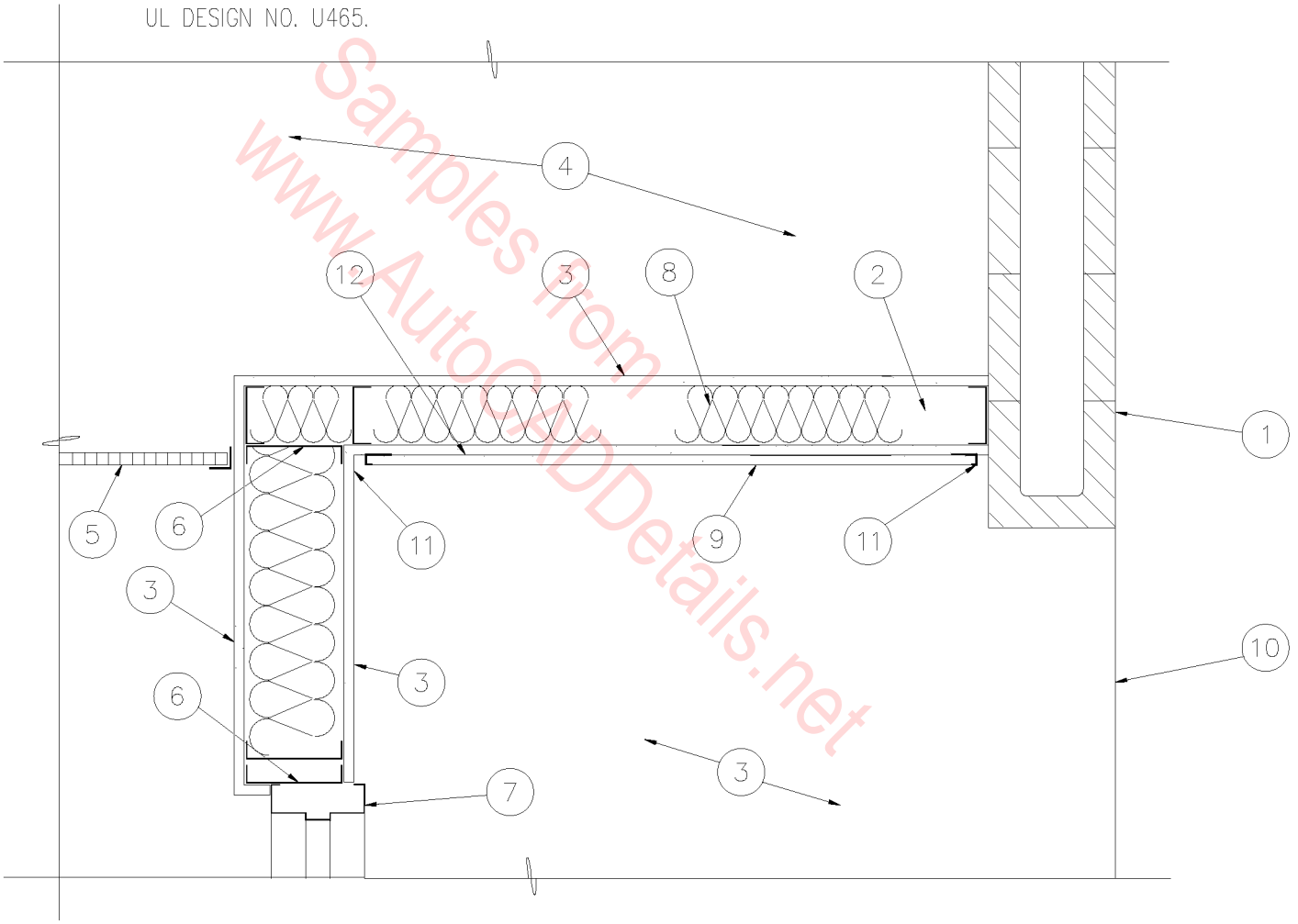
A. PANELS APPLIED VERTICALLY WITH JOINTS STAGGERED.
B. JOINTS FINISHED.
C. CAULK PERIMETER.
D. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.

3 HOUR UL DES U478

1 1/2" = 1'-0"

05C-2029

1. MASONRY WALL.
2. 3-5/8" X 18 GAUGE METAL STUDS AT 16" O.C.
3. 5/8" TYPE 'X' GYPSUM BOARD.
4. 1 HOUR WALL SYSTEM. UL DESIGN NO. U465, WHERE OCCURS.
5. ACOUSTICAL CEILING.
6. 6" METAL STUDS AT 16" O.C. UL DESIGN NO. U465.
7. HOLLOW METAL FRAME.
8. FULL SOUND DEADENING INSULATION.
9. (2) LAYERS OF 1/2" TYPE 'X' GYPSUM BOARD.
10. EDGE OF WALL BEYOND.
11. 1/2" REVEAL.
12. 1 HOUR CEILING SIMILAR TO UL DESIGN NO. L524.

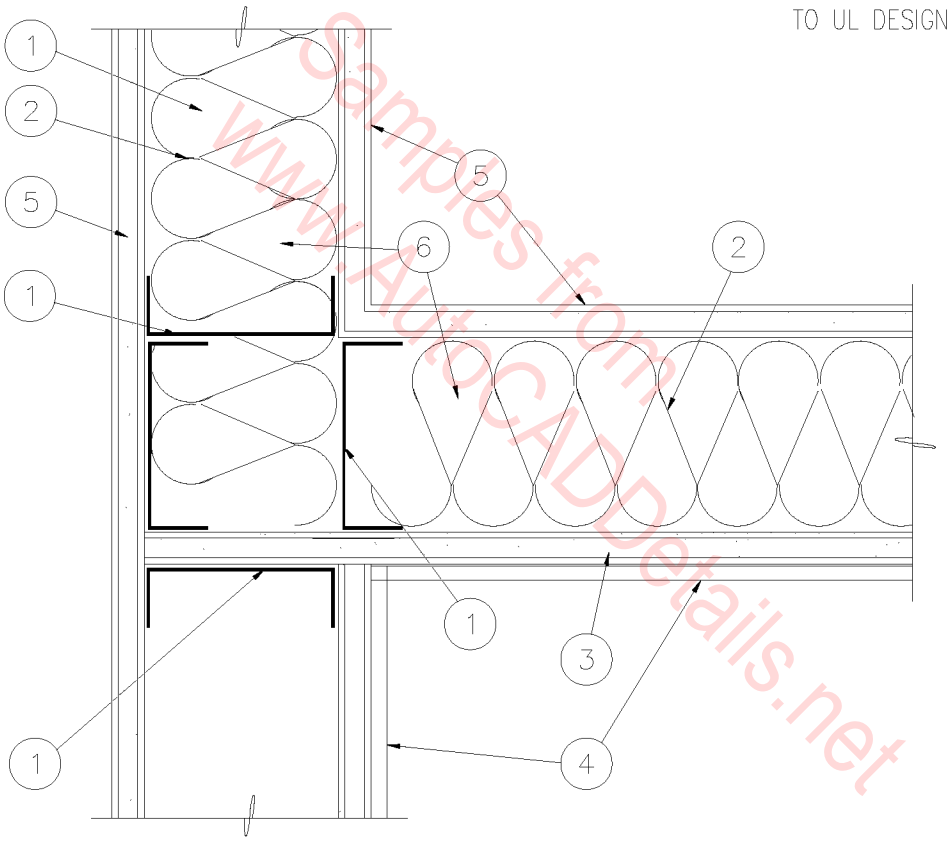


DOOR ALCOVE SECTION

1" = 1'-0"

05C-2030

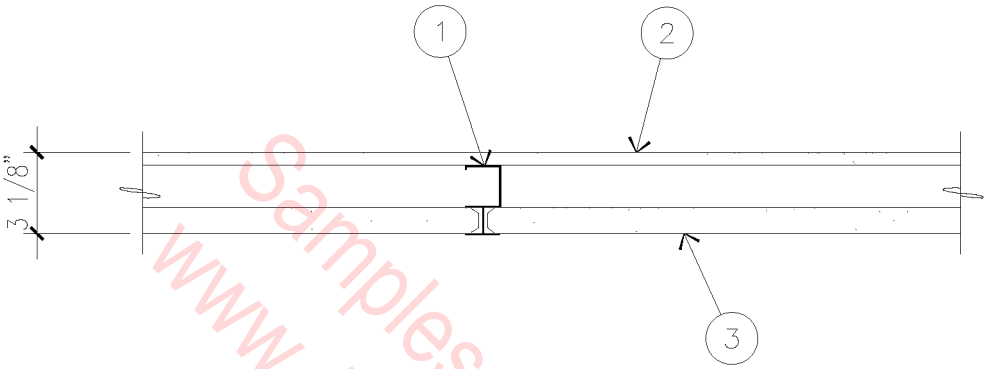
1. 3-5/8" METAL STUDS.
2. BATT INSULATION.
3. 1/2" CEMENTITIOUS BACKER BOARD.
4. CERAMIC TILE ON THIN SET.
5. 5/8" TYPE 'X' GYPSUM BOARD.
6. 1 HR WALL SIMILAR
   TO UL DESIGN NO. U445.



TILE TO RESISTIVE WALL

3" = 1'-0"

05C-2031



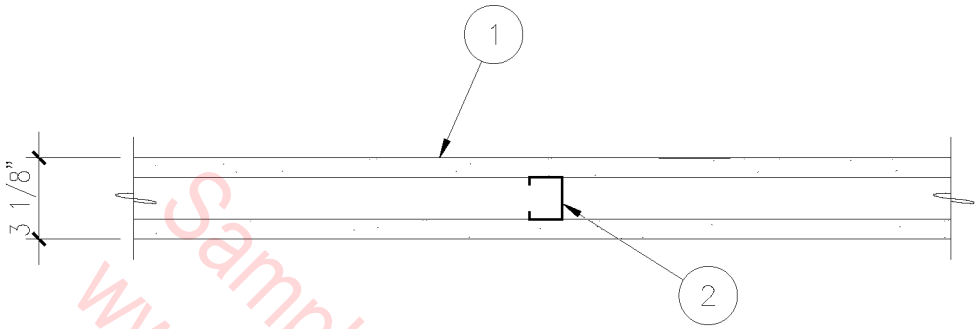
1. USG STEEL C-H STUDS AT 24" ON CENTER.
2. 5/8" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS ATTACHED WITH SCREWS.
3. 1" SHEETROCK BRAND LINER PANELS SET BETWEEN C-H STUDS.

NOTES:
- JOINTS FINISHED.
- FIRE RATING ALSO APPLIES WITH IMPERIAL FIRECODE C BASE AND VENEER FINISH SURFACES.

1 HOUR UL DES U469

1-1/2" = 1'-0"

05C-2032



1. 3/4" SHEETROCK BRAND ULTRACODE CORE GYPSUM PANELS.
2. 1 5/8" METAL STUDS AT 24" ON CENTER.

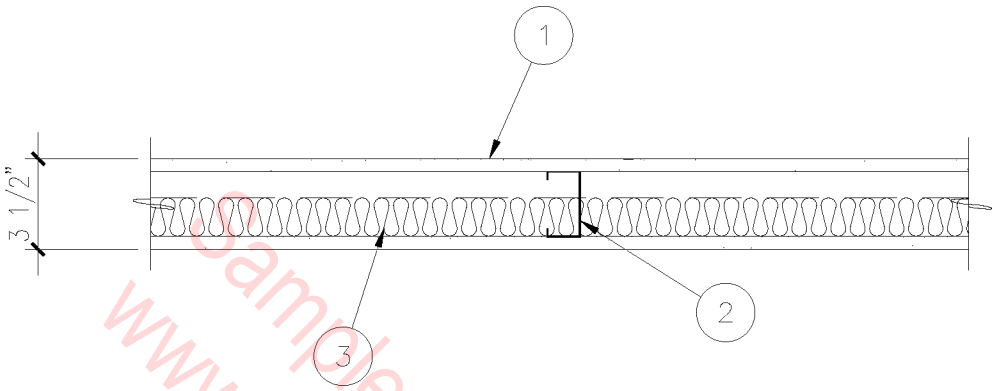
NOTES:

A. PANELS VERTICALLY ATTACHED TO STUDS WITH 1 1/2" TYPE "S" SCREWS 8" ON CENTER AT PERIMETER AND 12" ON CENTER FIELD.
B. STAGGER AND FINISH JOINTS.

1 HOUR UL DES U496

1-1/2" = 1'-0"

05C-2033



1. 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS.
2. 2 1/2" METAL STUDS AT 24" ON CENTER.
3. 1 1/2" THERMAFIBER SAFB.

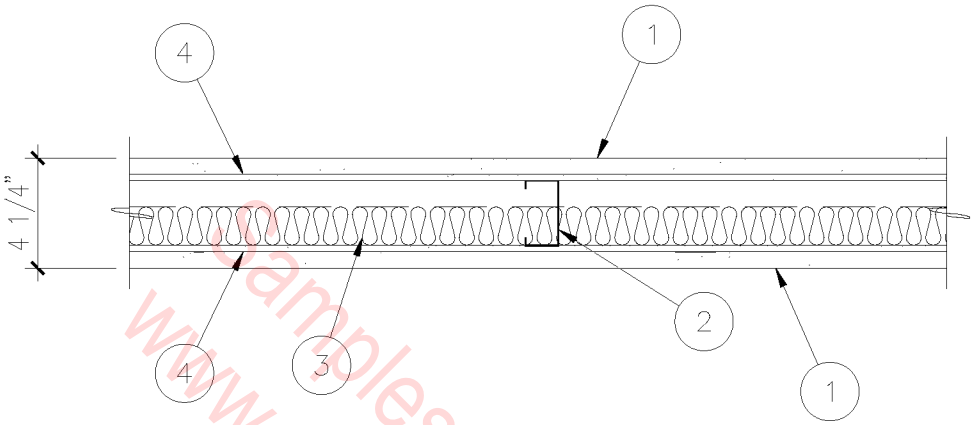
NOTES:

A. SINGLE LAYER PANELS EACH SIDE APPLIED VERTICALLY AND SCREW ATTACHED.
B. JOINTS FINISHED.
C. PERIMETER CAULKED.
D. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.

1 HOUR UL DES U448

1-1/2" = 1'-0"

05C-2034



1. 5/8" SHEETROCK BRAND FIRECODE CORE GYPSUM PANELS FACE LAYER SCREW ATTACHED.
2. 2 1/2" METAL STUDS AT 24" ON CENTER.
3. 1 1/2" THERMAFIBER SAFB.
4. 1/4" SHEETROCK BRAND GYPSUM BOARD BASE LAYER SCREW ATTACHED.

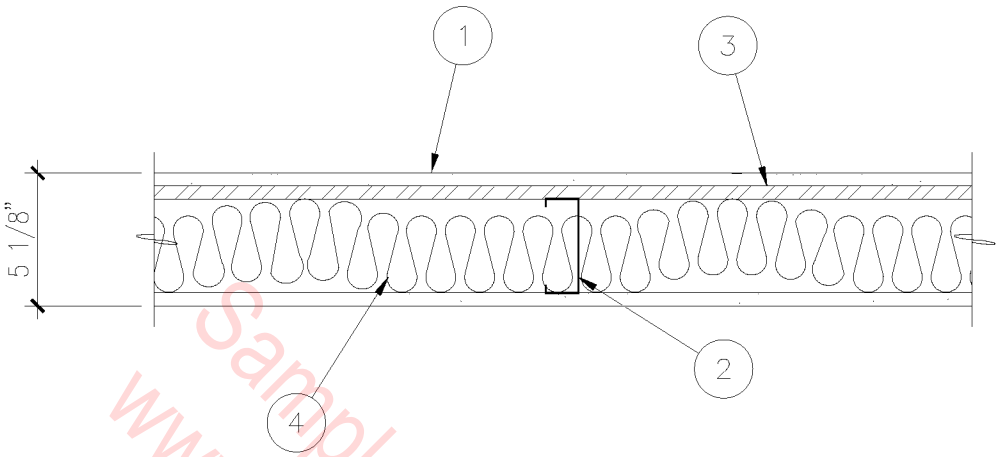
NOTES:

A. ESTIMATED FIRE RATING BASED ON T-1174-OSU
B. JOINTS FINISHED.
C. PERIMETER CAULKED.
D. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.

1 HOUR EST. T-1174-OSU

1-1/2" = 1'-0"

05C-2035



1. 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS, OR 5/8" SHEETROCK BRAND FIRECODE CORE GYPSUM PANELS.
2. 3 5/8" METAL STUDS AT 24" ON CENTER. ON CENTER.
3. RC-1 CHANNEL ONE SIDE SPACED AT 24" ON CENTER SCREW ATTACHED.
4. 3" THERMAFIBER SAFB 25" WIDE CREASED TO FIT CAVITY.

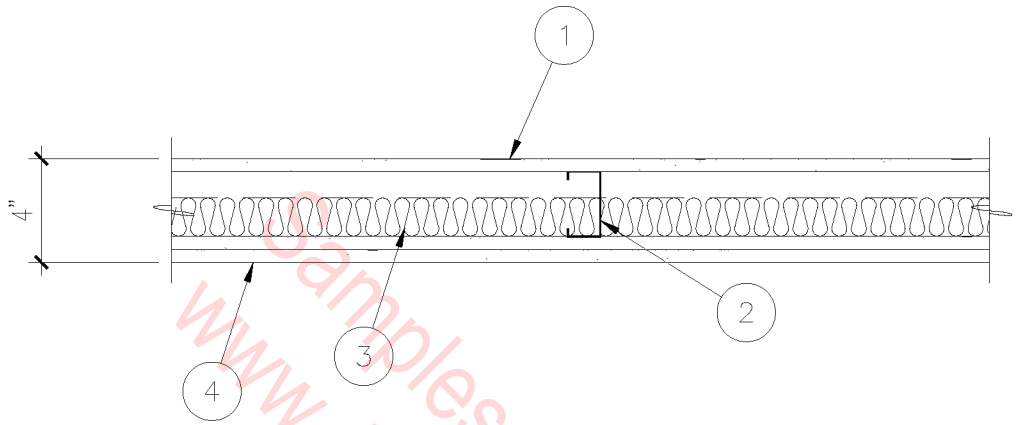
NOTES:

A. PANELS VERTICALLY APPLIED AND SCREW ATTACHED.
B. JOINTS STAGGERED FINISHED.
C. CAULK PERIMETER.
D. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.
E. ASSEMBLIES WITH RC-1 RESILIENT CHANNEL REQUIRE LATERAL BRACING AND OFFER ESTIMATED FIRE RATING.

1 HOUR UL DES U451

1-1/2" = 1'-0"

05C-2036



1. 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS.
2. 2 1/2" METAL STUDS AT 24" ON CENTER.
3. 1 1/2" THERMAFIBER SAFB.
4. TWO LAYERS 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS.

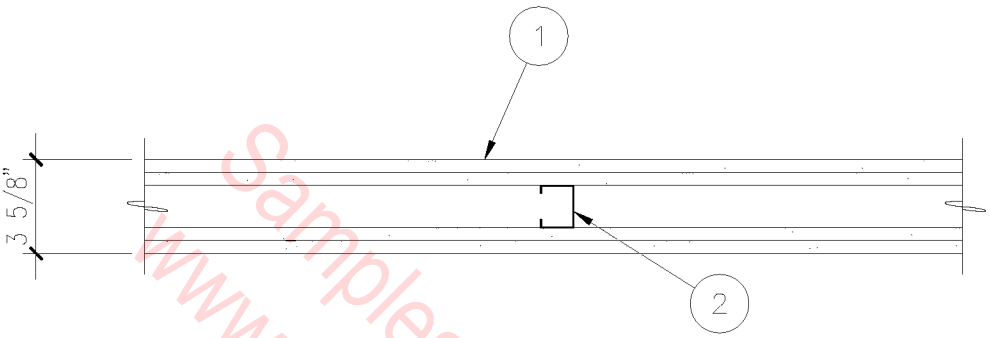
NOTES:

A. PANELS APPLIED VERTICALLY AND SCREW ATTACHED.
B. JOINTS STAGGERED AND FINISHED.
C. PERIMETER CAULKED.
D. ESTIMATED FIRE RATING BASED ON T-3362-OSU.
E. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.

1 HOUR EST. T-3362-OSU

1-1/2" = 1'-0"

05C-2037



1. TWO LAYERS 1/2" SHEETROCK BRAND GYPSUM PANELS EACH SIDE.
2. 1 5/8" METAL STUDS AT 24" ON CENTER.

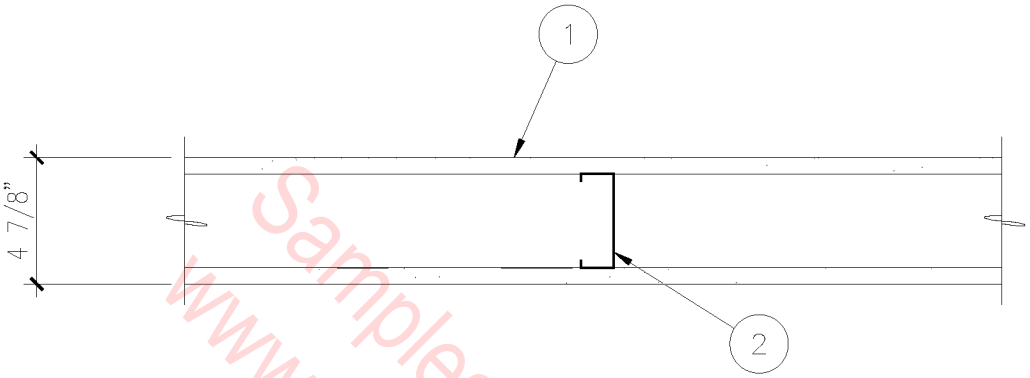
NOTES:

A. PANELS APPLIED VERTICALLY AND SCREW ATTACHED.
B. STAGGER AND FINISH JOINTS.
C. CAULK PERIMETER.

1 HOUR U OF C 9-21-64

1-1/2" = 1'-0"

05C-2038



1. 5/8" SHEETROCK BRAND FIRECODE CORE GYPSUM PANELS.
2. 3 5/8" METAL STUDS AT 24" ON CENTER.

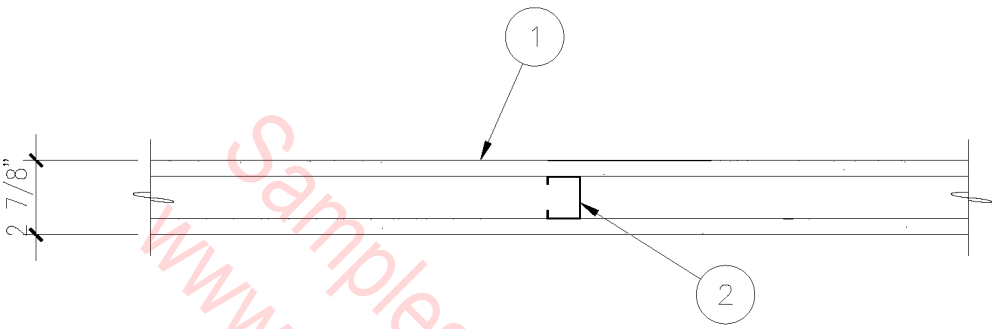
NOTES:

A. SINGLE LAYER PANELS APPLIED VERTICALLY OR HORIZONTALLY AND SCREW ATTACHED.
B. STAGGER AND FINISH JOINTS.
C. CAULK PERIMETER.
D. GA-WP-1200 BASE ON PANELS APPLIED HORIZONTALLY.

1 HOUR UL DES U465

1-1/2" = 1'-0"

05C-2039



1. 5/8" SHEETROCK BRAND FIRECODE CORE GYPSUM PANELS.
2. 1 5/8" METAL STUDS AT 24" ON CENTER.

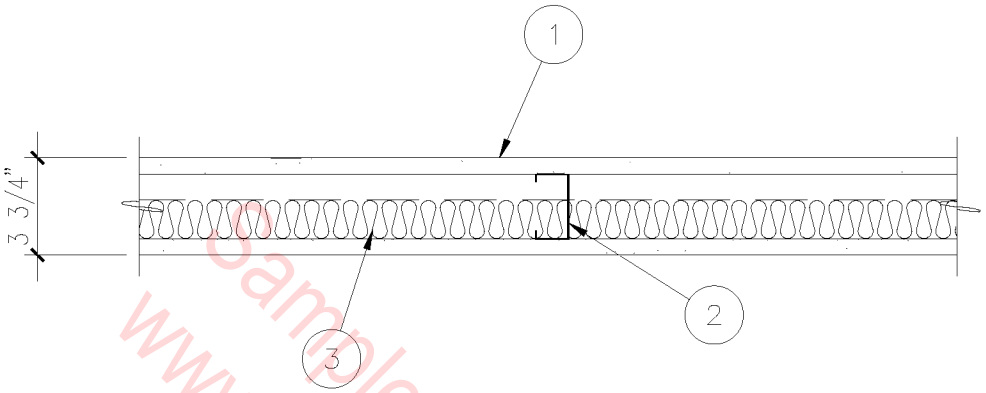
NOTES:

A. SINGLE LAYER PANELS APPLIED VERTICALLY SCREW ATTACHED AT 12" ON CENTER.
B. JOINTS FINISHED.
C. CAULK PERIMETER.

1 HOUR U OF C 7-31-62

1-1/2" = 1'-0"

05C-2040



1. 5/8" SHEETROCK BRAND FIRECODE CORE GYPSUM PANELS.
2. 2 1/2" METAL STUDS AT 24" ON CENTER.
3. 1 1/2" THERMAFIBER SAFB.

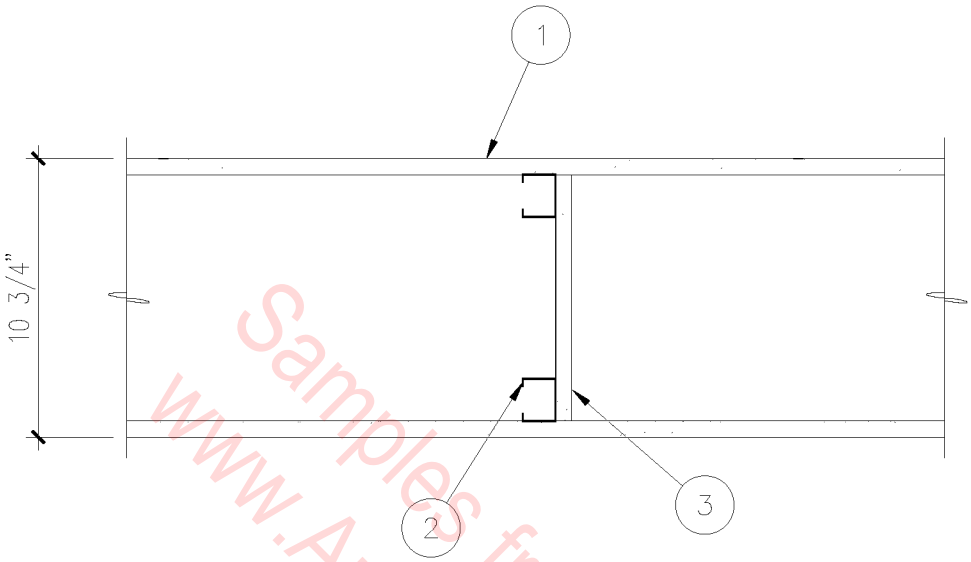
NOTES:

A. PANELS APPLIED HORIZONTALLY AND SCREW ATTACHED, JOINTS FINISHED.
B. OPPOSITE PANELS APPLIED VERTICALLY, JOINTS UNFINISHED.
C. RATING ALSO APPLIES TO ASSEMBLY WITH 1/2" SHEETROCK BRAND GYPSUM PANELS FIRECODE C CORE, JOINTS FINISHED CEG 5-9-84.
D. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.

1 HOUR CEG 8-11-83

1-1/2" = 1'-0"

05C-2041



1. 5/8" SHEETROCK BRAND FIRECODE CORE GYPSUM PANELS EACH SIDE.
2. 1 5/8" METAL STUDS AT 24" ON CENTER IN TWO ROWS SPACED 6 1/4" APART.
3. 5/8" GYPSUM PANEL GUSSETS OR STEEL RUN BRACES SPANNING CHASE SCREW ATTACHED TO STUDS.

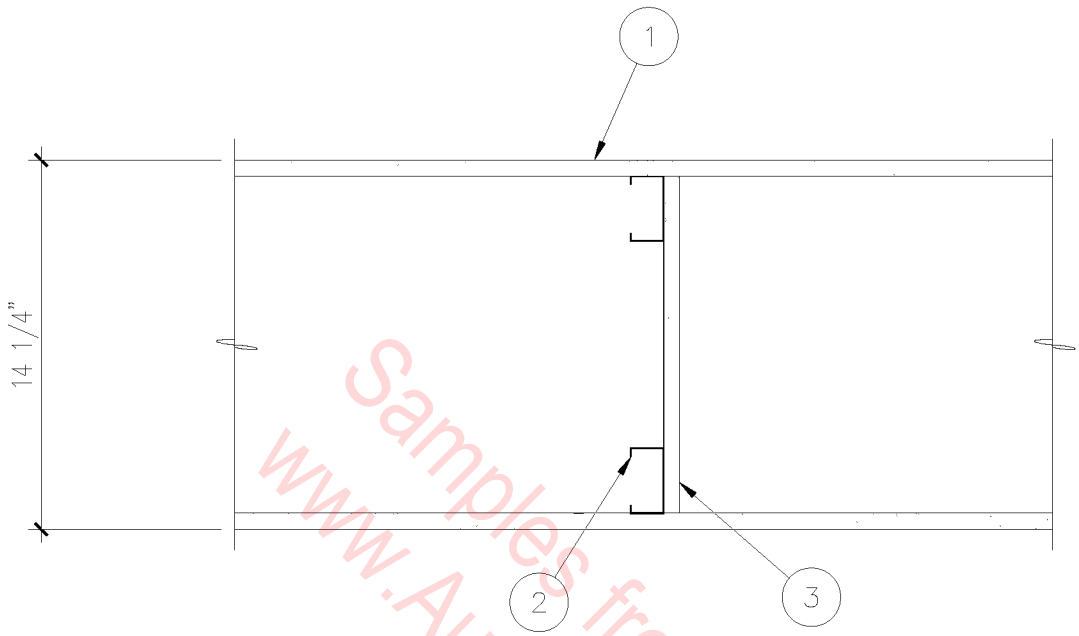
NOTES:

A. PANELS APPLIED VERTICALLY AND SCREW ATTACHED.
B. JOINTS STAGGERED AND FINISHED.

1 HOUR UL DES U420

1-1/2" = 1'-0"

05C-2042



1. 5/8" SHEETROCK BRAND FIRECODE CORE GYPSUM PANELS EACH SIDE.
2. 2 1/2" METAL STUDS AT 24" ON CENTER IN TWO ROWS SPACED 8" APART.
3. 5/8" GYPSUM PANEL GUSSETS SPANNING CHASE ATTACHED TO STUDS AT QUARTER AND CENTER POINTS.

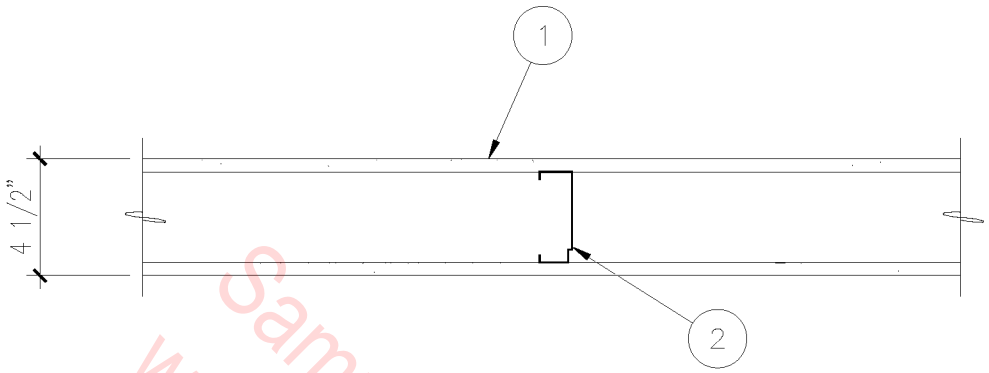
NOTES:

A. PANELS APPLIED VERTICALLY AND SCREW ATTACHED.
B. JOINTS STAGGERED AND FINISHED.

1 HOUR UL DES U805

1-1/2" = 1'-0"

05C-2043



1. 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS.
2. 35SJ20 METAL STUDS AT 24" ON CENTER.

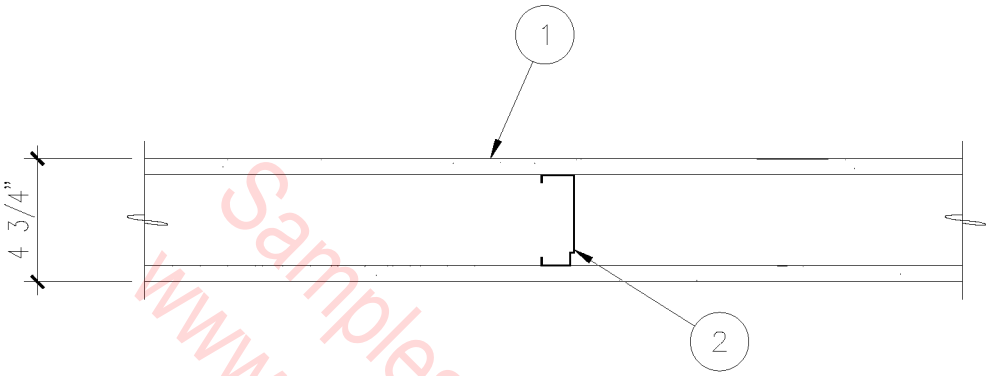
NOTES:

A. PANELS APPLIED VERTICALLY AND ATTACHED WITH 1" TYPE S-12 SCREWS AT 12" ON CENTER.
B. FINISH JOINTS.
C. LOAD BEARING UP TO 100% ALLOWABLE STUD AXIAL.

45 MIN. UL DES U425

1-1/2" = 1'-0"

05C-4044



1. 5/8" SHEETROCK BRAND FIRECODE CORE GYPSUM PANELS.
2. 35SJ20 METAL STUDS AT 24" ON CENTER.

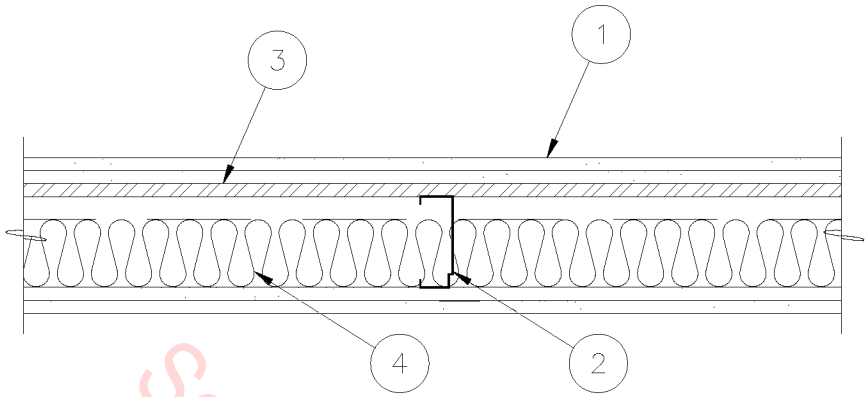
NOTES:

A. PANELS APPLIED VERTICALLY AND ATTACHED WITH 1" TYPE S-12 SCREWS AT 12" ON CENTER.
B. FINISH JOINTS.
C. LOAD BEARING UP TO 100% ALLOWABLE STUD AXIAL.

1 HOUR UL DES U425

1-1/2" = 1'-0"

05C-2045



1. TWO LAYERS 1/2" SHEETROCK BRAND FIRECODE CORE GYPSUM PANELS.
2. 35SJ20 METAL STUDS AT 24" ON CENTER.
3. RC-1 CHANNEL ONE SIDE SPACED AT 24" SCREW ATTACHED TO STUDS
4. 1", 1 1/2", 2", OR 3" THERMAFIBER SAFB.

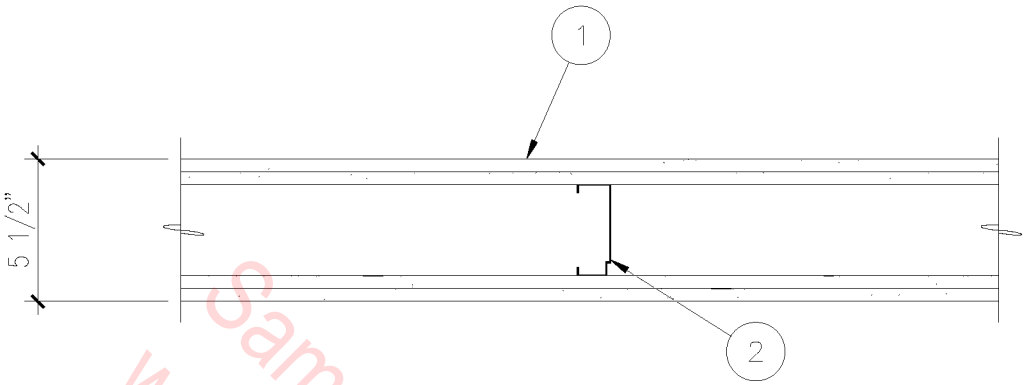
NOTES:

A. PANELS APPLIED VERTICALLY WITH JOINTS STAGGERED .
B. BASE LAYER ATTACHED WITH 1" TYPE S-12 SCREWS AT 12" ON CENTER.
C. FACE LAYER ATTACHED WITH 1 5/8" TYPE S-12 SCREWS AT 12" ON CENTER.
D. JOINTS FINISHED.
E. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.
F. LOAD BEARING UP TO 100% ALLOWABLE STUD AXIAL LOAD.
G. RATING ALSO APPLIES WITH IMPERIAL FIRECODE C BASE AND VENEER FINISH SURFACE.
H. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.

1 HOUR UL DES U440

1-1/2" = 1'-0"

05C-2046



1. TWO LAYERS 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS.
2. 35SJ20 METAL STUDS AT 24" ON CENTER.

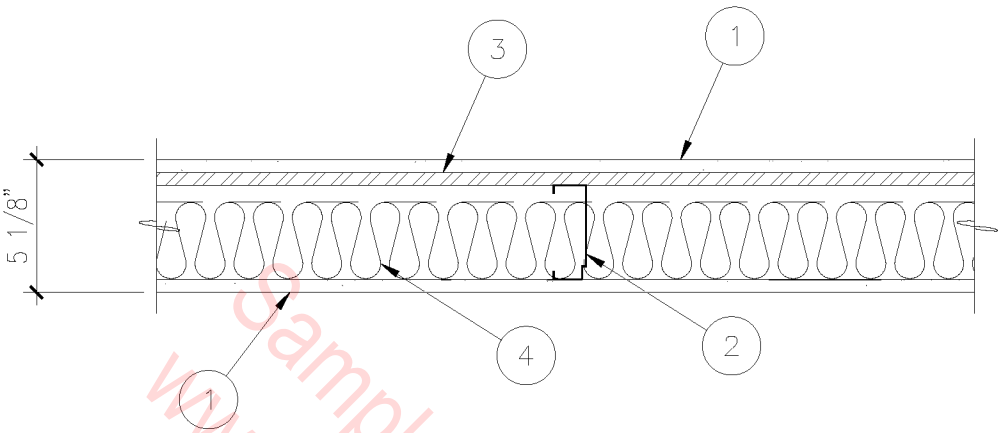
NOTES:

A. PANELS APPLIED VERTICALLY.
B. BASE LAYER ATTACHED WITH 1" TYPE S-12 SCREWS AT 12" ON CENTER.
C. FACE LAYER ATTACHED WITH 1 5/8" TYPE S-12 SCREWS AT 12" ON CENTER.
D. JOINTS FINISHED.
E. LOAD BEARING UP TO 100% ALLOWABLE STUD AXIAL LOAD.

1-1/2 HOUR UL DES U425

1-1/2" = 1'-0"

05C-2047



1. 1/2" SHEETROCK BRAND FIRECODE50 C CORE GYPSUM PANELS SCREW ATTACHED TO CHANNEL AND/OR STUDS.
2. 362SJ20 METAL STUDS AT 24" ON CENTER.
3. RC-1 CHANNEL ONE SIDE SPACED AT 24" SCREW ATTACHED TO STUDS.
4. 3" THERMAFIBER SAFB.

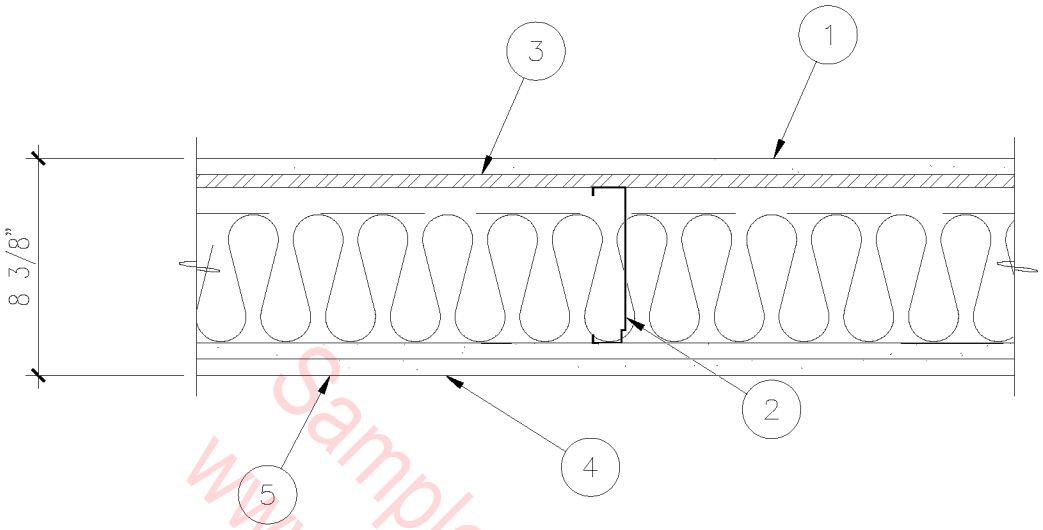
NOTES:

A. PANELS APPLIED VERTICALLY WITH JOINTS STAGGERED.
B. JOINTS FINISHED.
C. CAULK PERIMETER.
D. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.
E. ASSEMBLIES WITH RC-1 RESILIENT CHANNEL REQUIRE LATERAL BRACING AND OFFER ESTIMATED FIRE RATING.

1 HOUR UL DES U451

1-1/2" = 1'-0"

05C-2048



1. ONE LAYER 5/8" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANEL SCREW ATTACHED TO CHANNEL.
2. 60SJ20 METAL STUDS AT 24" ON CENTER.
3. RC-1 CHANNEL ONE SIDE SPACED AT 24" SCREW ATTACHED TO STUDS.
4. 5" THERMAFIBER SAFB.
5. TWO LAYERS 5/8" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANEL SCREW ATTACHED TO STUDS.

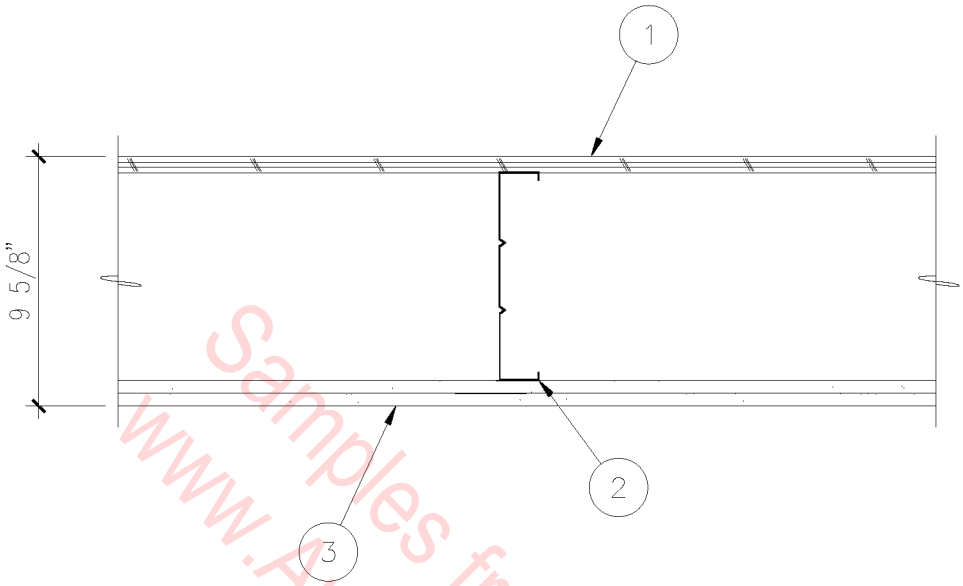
NOTES:

A. PANELS APPLIED VERTICALLY WITH JOINTS STAGGERED.
B. JOINTS FINISHED.
C. CAULK PERIMETER.
D. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.
E. ASSEMBLIES WITH RC-1 RESILIENT CHANNEL REQUIRE LATERAL BRACING AND OFFER ESTIMATED FIRE RATING.

1-1/2 HOUR UL DES U452

1-1/2" = 1'-0"

05C-2049



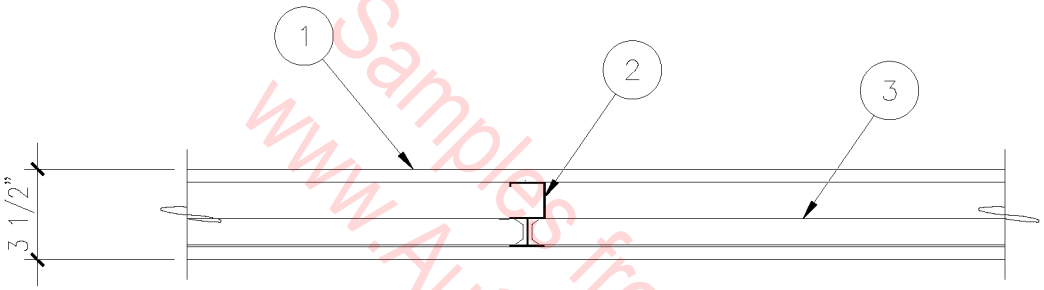
1. 5/8" T&G PLYWOOD FLOORING ATTACHED TO JOISTS WITH TYPE S-12 SCREWS.
2. 725SJ18 STEEL JOISTS AT 24" ON CENTER.
3. DOUBLE LAYER 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANEL CEILING.

NOTES:
A. JOINTS UNFINISHED.
B. DOUBLE LAYER GYPSUM PANELS AROUND BEAM.

1 HOUR UL DES L524 (WITH 1 HOUR BEAM)

1 1/2" = 1'-0"

05C-2050



1. 1/2" SHEETROCK BRAND, WATER RESISTANT, FIRECODE C CORE GYPSUM PANELS.
2. USG 25GA. STEEL C-H STUDS AT 24" ON CENTER.
3. 1" SHEETROCK BRAND GYPSUM LINER PANELS SET BETWEEN C-H STUDS.

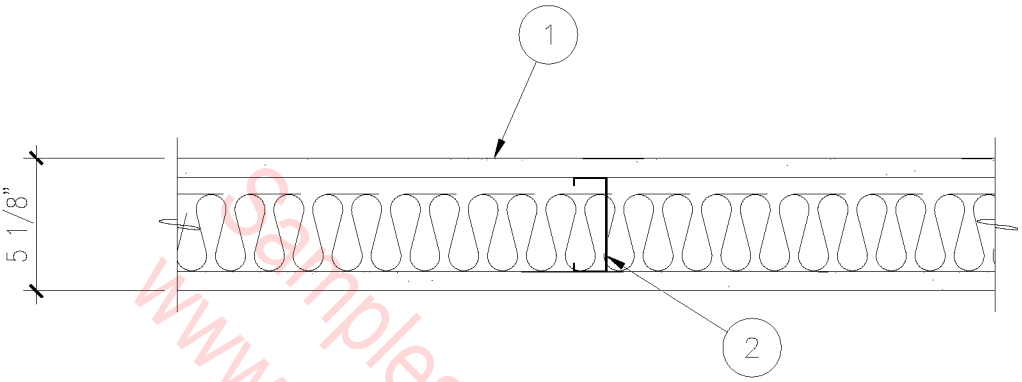
NOTES:

- SINGLE LAYER PANELS EACH SIDE APPLIED VERTICALLY AND SCREW ATTACHED.
- JOINTS STAGGERED OPPOSITE SIDES.
- JOINTS FINISHED.
- CAULK PERIMETER.

2 HOUR UL DES U467

1-1/2" = 1'-0"

05C-2051



1. 3/4" SHEETROCK BRAND ULTRACODE CORE GYPSUM PANELS EACH SIDE.
2. 3 5/8" OR 3 1/2" METAL STUDS AT 24" ON CENTER.
3. 3" THERMAFIBER SAFB.

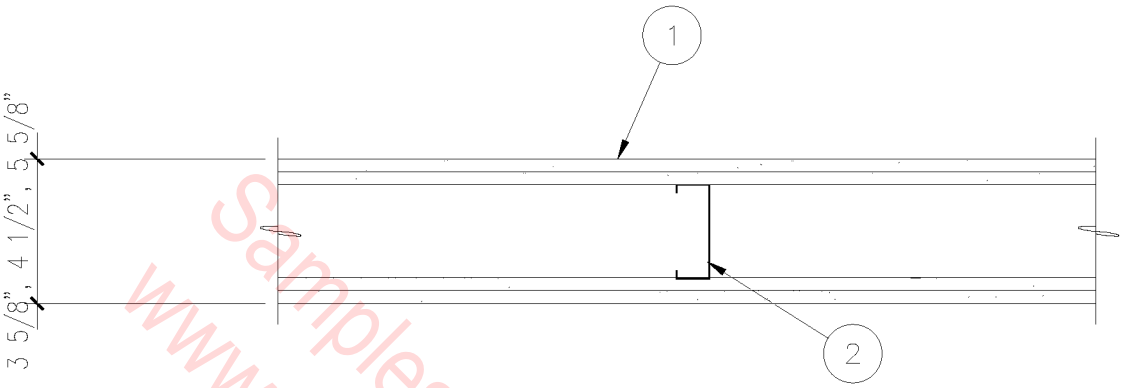
NOTES:

A. PANELS VERTICALLY APPLIED AND SCREW ATTACHED AT 8" ON CENTER AT PERIMETER AND 12" ON CENTER ON FIELD.
B. CAULK PERIMETER.
C. JOINTS STAGGERED AND FINISHED.
D. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.

2 HOUR UL DES U491

1-1/2" = 1'-0"

05C-2052



1. TWO LAYERS 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS EACH SIDE.
2. 1 5/8", 2 1/2", OR 3 5/8" METAL STUDS AT 24" ON CENTER.

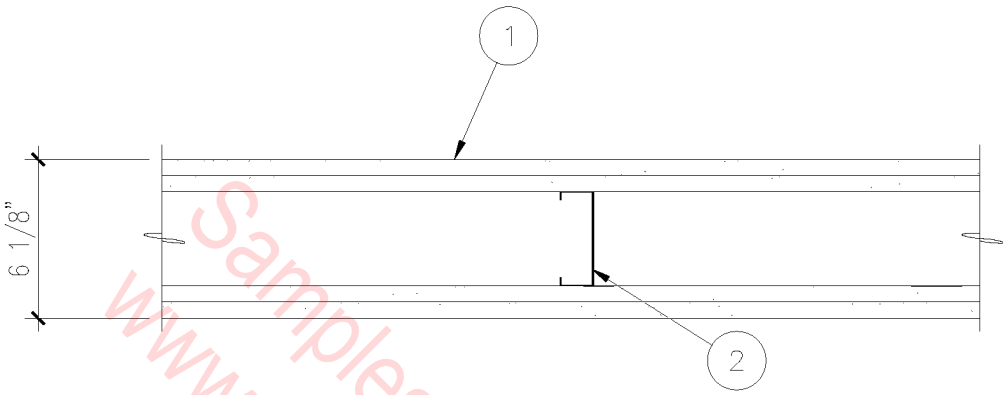
NOTES:

A. BASE LAYER APPLIED VERTICALLY, SCREW ATTACHED.
B. FACE LAYER APPLIED VERTICALLY OR HORIZONTALLY, JOINTS STAGGERED STRIP LAMINATE OR SCREW ATTACH.
C. JOINTS FINISHED.
D. CAULK PERIMETER.
E. RATING BASED ON ASSEMBLY WITHOUT SOUND BATTEN BLANKETS.

2 HOUR UL DES U412

1-1/2" = 1'-0"

05C-2053



1. TWO LAYERS 5/8" SHEETROCK BRAND FIRECODE CORE PLAIN OR VINYL FACED GYPSUM PANELS VERTICALLY APPLIED EACH SIDE.
2. 3 5/8" STUDS AT 24" ON CENTER.

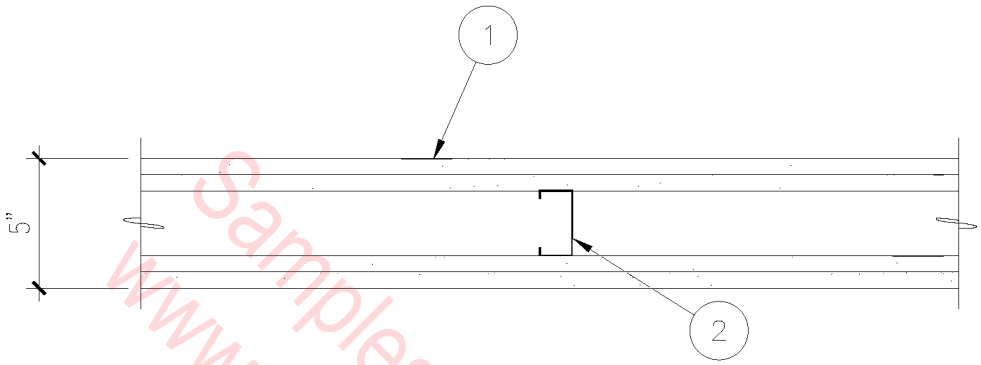
NOTES:

A. BASE LAYERS SCREW ATTACHED.
B. FACE LAYER LAMINATED OR SCREW ATTACHED.
C. JOINTS STAGGERED AND FINISHED OR UNFINISHED.
D. CAULK PERIMETER.

2 HOUR UL DES U411

1-1/2" = 1'-0"

05C-2054



1. TWO LAYERS 5/8" SHEETROCK BRAND FIRECODE CORE GYPSUM PANELS EACH SIDE.
2. 2 1/2" STUDS AT 24" ON CENTER.

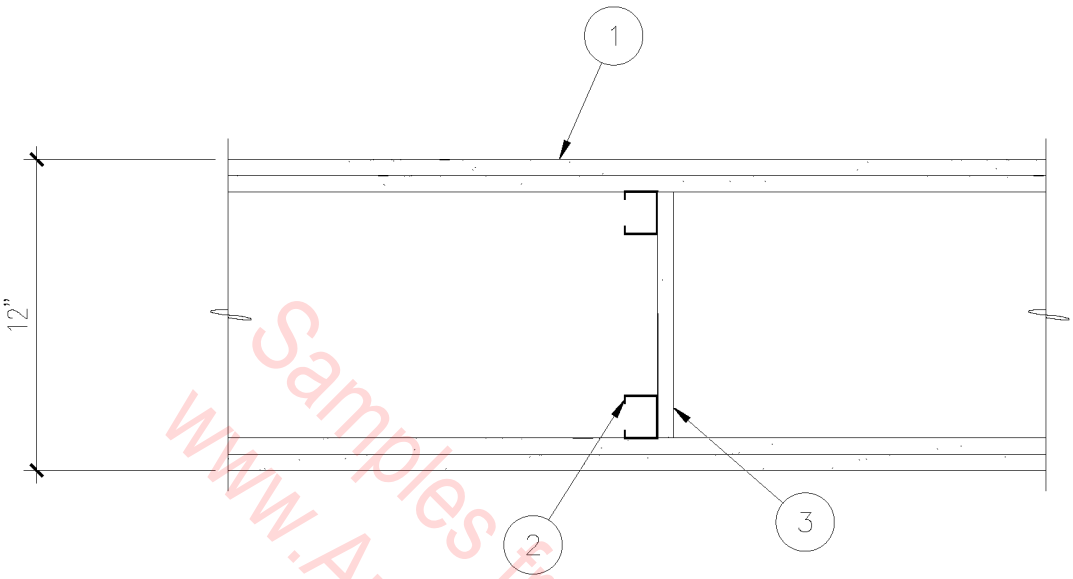
NOTES:

A. PANELS APPLIED HORIZONTALLY AND JOINTS STAGGERED.
B. BASE AND FACE LAYERS SCREW ATTACHED.
C. CAULK PERIMETER.
D. JOINTS FINISHED.

2 HOUR GA-WP-1548

1-1/2" = 1'-0"

05C-2055



1. TWO LAYERS 5/8" SHEETROCK BRAND FIRECODE CORE GYPSUM PANELS EACH SIDE.
2. 1 5/8" METAL STUDS AT 24" ON CENTER IN TWO ROWS SPACED 6 1/4" APART.
3. 5/8" GYPSUM PANEL GUSSETS OR STEEL RUN BRACES SPANNING CHASE SCREW ATTACHED TO STUDS.

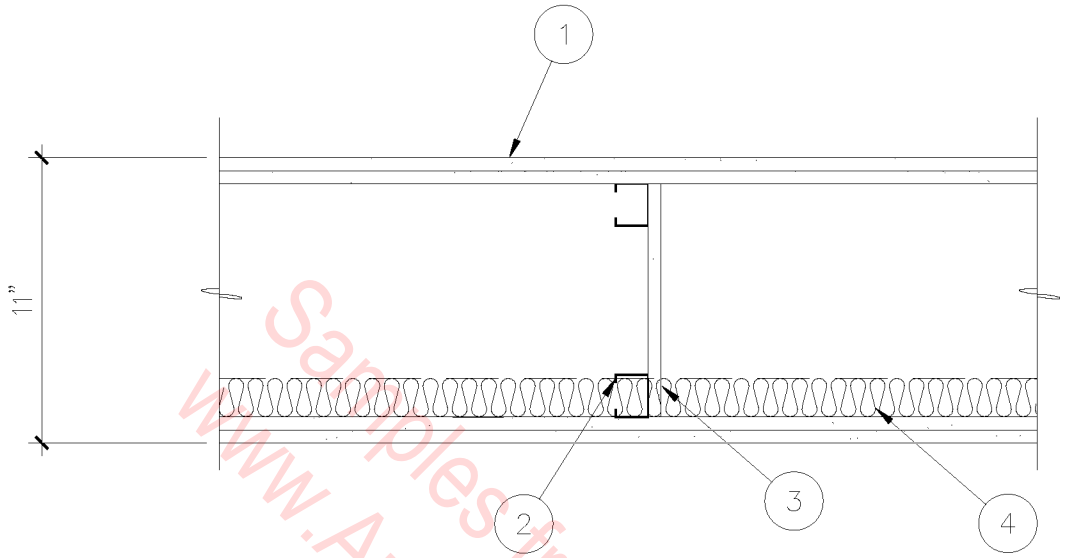
NOTES:

A. PANELS APPLIED VERTICALLY AND SCREW ATTACHED.
B. JOINTS STAGGERED AND FINISHED.

2 HOUR UL DES U420

1-1/2" = 1'-0"

05C-2056



1. TWO LAYERS 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS EACH SIDE.
2. 1 5/8" METAL STUDS AT 24" ON CENTER IN TWO ROWS SPACED 5 3/4" APART.
3. 1/2" GYPSUM PANEL GUSSETS SPANNING CHASE ATTACHED TO STUDS AT QUARTER POINTS.
4. 1 1/2" THERMAFIBER SAFB.

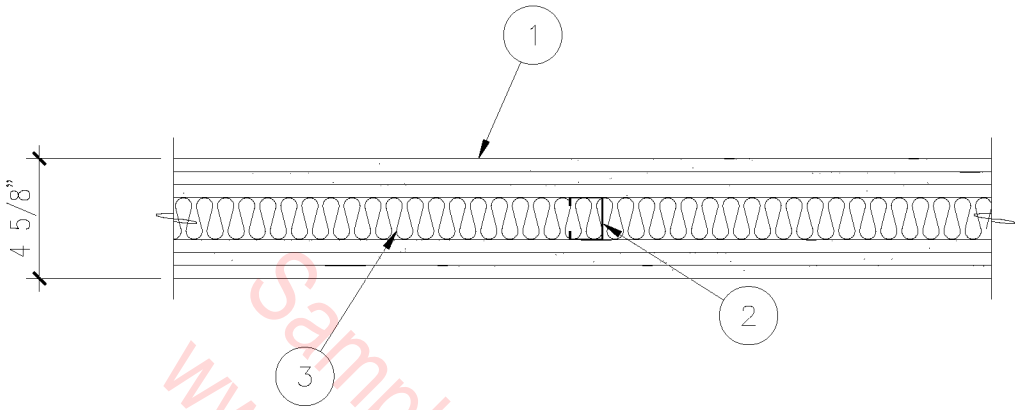
NOTES:

A. PANELS APPLIED VERTICALLY AND SCREW ATTACHED.
B. JOINTS STAGGERED AND FINISHED.
C. ESTIMATED FIRE RATING BASED ON UL DES U412.
D. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.

2 HOUR EST. UL DES U412

1-1/2" = 1'-0"

05C-2057



1. THREE LAYERS 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS EACH SIDE.
2. 1 5/8" METAL STUDS AT 24" ON CENTER.
3. THERMAFIBER SAFB (OPTIONAL).

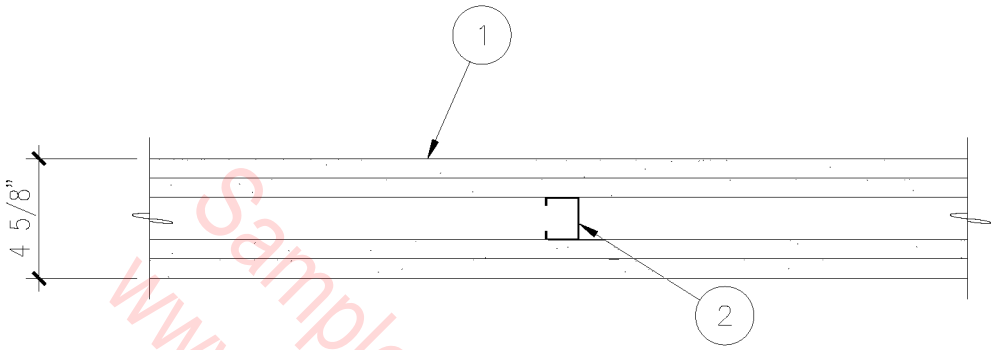
NOTES:

A. BASE LAYERS APPLIED VERTICALLY.
B. PANELS SCREW ATTACHED WITH JOINTS STAGGERED AND FINISHED.
C. CAULK PERIMETER.
D. RATING BASED ON ASSEMBLY WITH OR WITHOUT SAFB.
E. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.

3 HOUR UL DES U435

1-1/2" = 1'-0"

05C-2058



1. TWO LAYERS 3/4" SHEETROCK BRAND ULTRACODE CORE GYPSUM PANELS EACH SIDE.
2. 1 5/8" METAL STUDS AT 24" ON CENTER.

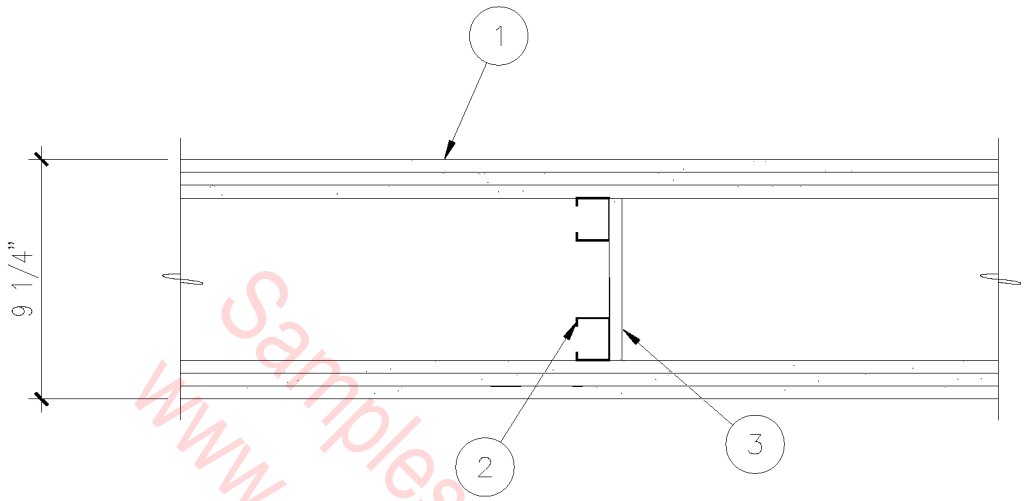
NOTES:

A. BASE LAYER APPLIED VERTICALLY AND ATTACHED WITH 1 1/4" TYPE "S" SCREWS AT 24" ON CENTER.
B. JOINTS FINISHED.
C. FACE LAYER ATTACHED VERTICALLY OR HORIZONTALLY WITH 2 1/4" TYPE "S" SCREWS AT 12" ON CENTER.
D. ATTACH HORIZONTAL JOINTS WITH TYPE "G" SCREWS MIDWAY BETWEEN FRAMING (24" ON CENTER).
E. CAULK PERIMETER.

3 HOUR UL DES U435

1-1/2" = 1'-0"

05C-2059



1. THREE LAYERS 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS EACH SIDE.
2. 1 5/8" METAL STUDS AT 24" ON CENTER IN TWO ROWS SPACED 3" APART.
3. GYPSUM PANEL GUSSETS OR STEEL RUN BRACES SPANNING CHASE SCREW ATTACHED TO STUDS.

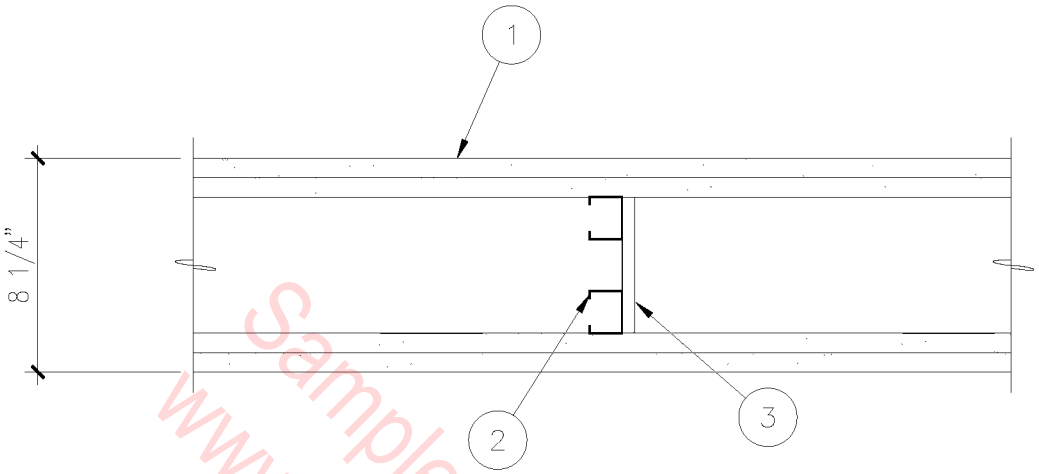
NOTES:

A. PANELS APPLIED VERTICALLY AND SCREW ATTACHED.
B. JOINTS STAGGERED AND FINISHED.
C. 2 HOUR RATING APPLIES WITH TWO LAYERS PANELS EACH SIDE.
D. 1 HOUR RATING APPLIES WITH ONE LAYER 5/8" PANELS EACH SIDE.

3 HOUR UL DES U436

1-1/2" = 1'-0"

05C-2060



1. TWO LAYERS 3/4" SHEETROCK BRAND ULTRACODE CORE GYPSUM PANELS EACH SIDE.
2. 1 5/8" METAL STUDS AT 24" ON CENTER IN TWO ROWS SPACED 2" APART.
3. GYPSUM PANEL GUSSETS OR STEEL RUN BRACES SPANNING CHASE SCREW ATTACHED TO STUDS.

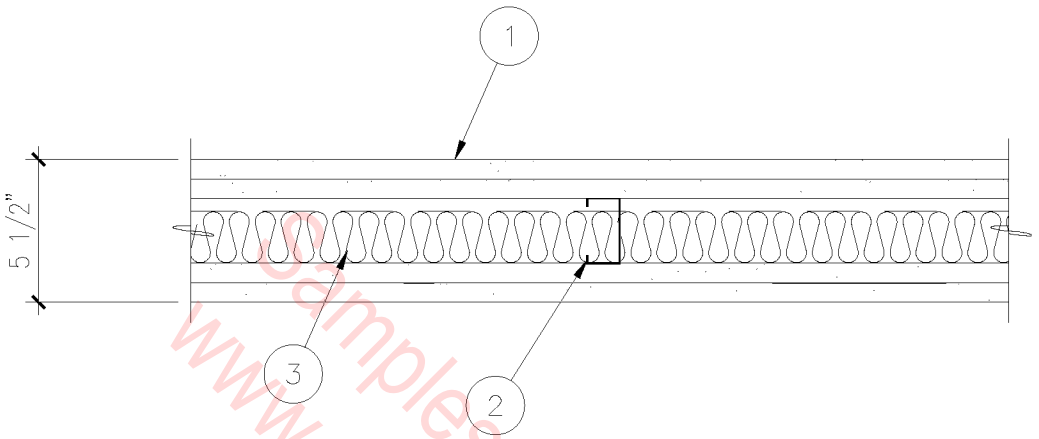
NOTES:

A. BASE LAYER APPLIED VERTICALLY AND ATTACHED WITH 1 1/4" TYPE "S" SCREWS AT 24" ON CENTER.
B. JOINTS STAGGERED AND FINISHED.
C. FACE LAYER ATTACHED VERTICALLY OR HORIZONTALLY WITH 2 1/4" TYPE "S" SCREWS AT 12" ON CENTER.
D. ATTACH HORIZONTAL JOINTS WITH TYPE "G" SCREWS MIDWAY BETWEEN FRAMING (24" ON CENTER).

3 HOUR UL DES U436

1-1/2" = 1'-0"

05C-2061



1. TWO LAYERS 3/4" SHEETROCK BRAND ULTRACODE CORE GYPSUM PANELS EACH SIDE.
2. 2 1/2" METAL STUDS AT 24" ON CENTER.
3. 2" THERMAFIBER SAFB.

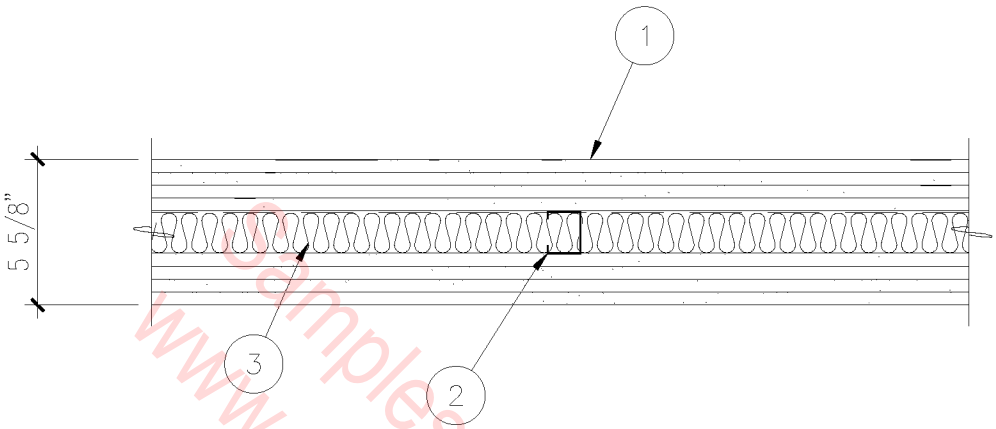
NOTES:

A. BASE LAYER APPLIED VERTICALLY, JOINTS STAGGERED AND SCREW ATTACHED AT 24" ON CENTER.
B. FACE LAYER APPLIED VERTICALLY OR HORIZONTALLY AND SCREW ATTACHED AT 12" ON CENTER.
C. ATTACH HORIZONTAL JOINTS WITH TYPE "G" SCREWS MIDWAY BETWEEN FRAMING (24" ON CENTER).
D. JOINTS FINISHED.
E. CAULK PERIMETER.
F. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.

4 HOUR UL DES U490

1-1/2" = 1'-0"

05C-2062



1. FOUR LAYERS 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS EACH SIDE.
2. 1 5/8" METAL STUDS AT 24" ON CENTER.
3. 2" THERMAFIBER SAFB (OPTIONAL).

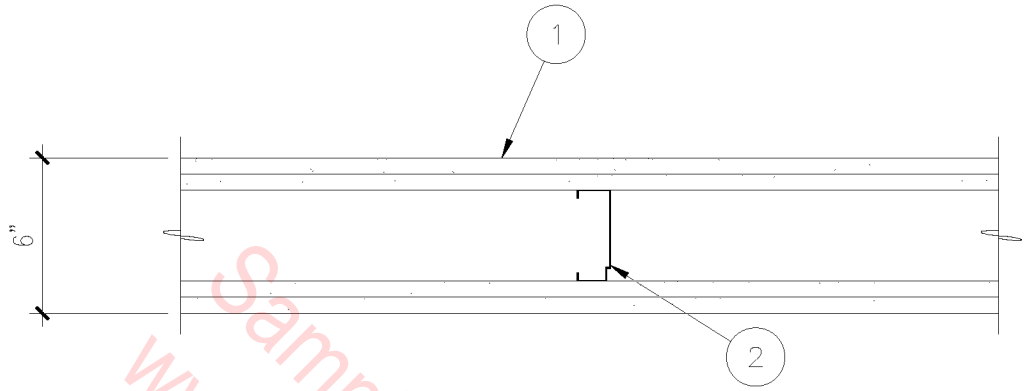
NOTES:

A. BASE LAYER APPLIED VERTICALLY.
B. FACE LAYER APPLIED HORIZONTALLY.
C. PANELS SCREW ATTACHED WITH JOINTS STAGGERED AND FINISHED.
D. CAULK PERIMETER.
E. RATING BASED ON ASSEMBLY WITH OR WITHOUT SOUND BATTEN FIRE BLANKETS.
F. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.

4 HOUR UL DES U435

1-1/2" = 1'-0"

05C-2063



1. TWO LAYERS 5/8" SHEETROCK BRAND FIRECODE CORE GYPSUM PANELS.
2. 35SJ20 METAL STUDS AT 24" ON CENTER.

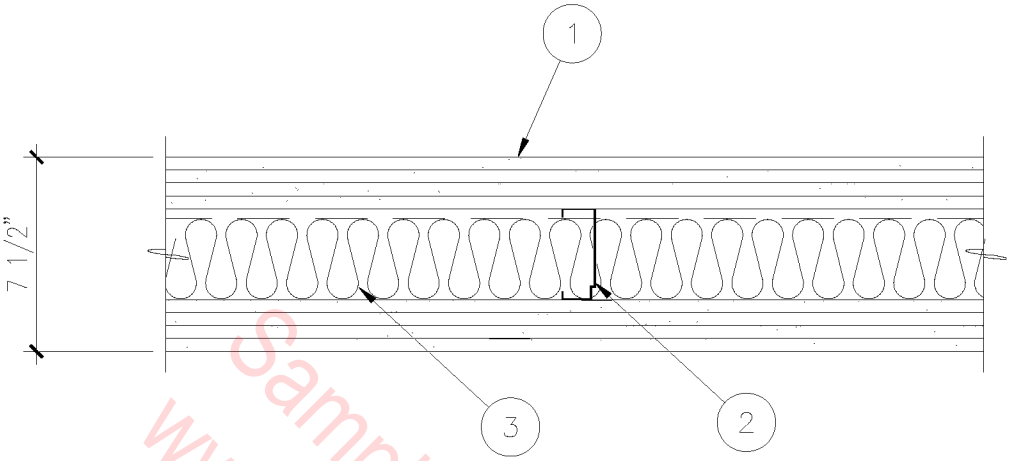
NOTES:

A. PANELS APPLIED VERTICALLY.
B. BASE LAYER ATTACHED WITH 1" TYPE S-12 SCREWS AT 12" ON CENTER.
C. FACE LAYER ATTACHED WITH 1 5/8" TYPE S-12 SCREWS AT 12" ON CENTER.
D. JOINTS FINISHED.
E. LOAD BEARING UP TO 100% ALLOWABLE STUD AXIAL LOAD.

2 HOUR UL DES U425

1-1/2" = 1'-0"

05C-2064



1. TWO LAYERS 5/8" SHEETROCK BRAND FIRECODE CORE GYPSUM PANELS.
2. 35SJ20 METAL STUDS AT 24" ON CENTER.
3. 1", 1 1/2", 2", OR 3" THERMAFIBER SAFB (OPTIONAL).

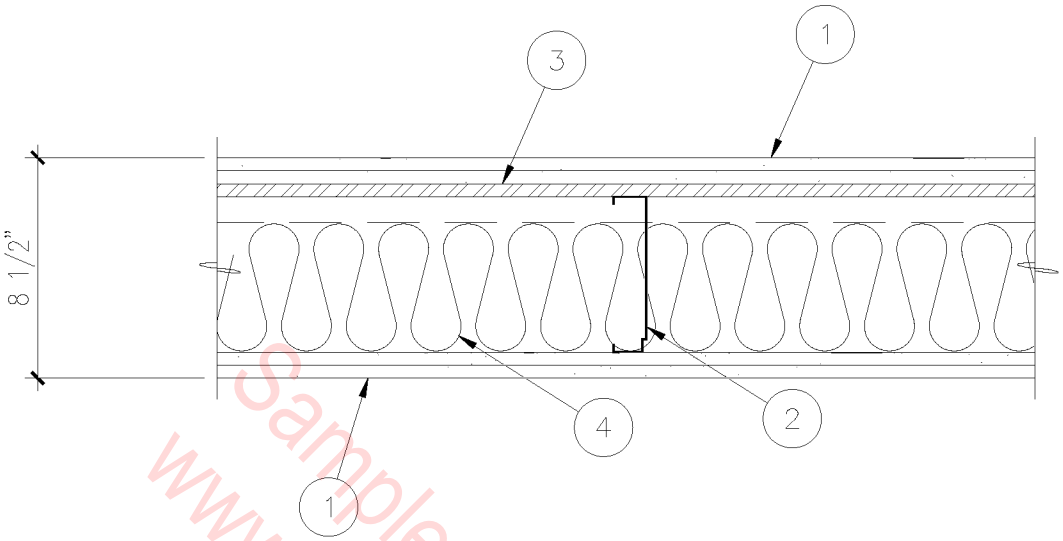
NOTES:

A. BASE LAYERS APPLIED VERTICALLY WITH JOINTS STAGGERED.
B. BASE PANELS ATTACHED WITH TYPE S-12 SCREWS AT 48" ON CENTER.
C. FACE LAYER APPLIED VERTICALLY OR HORIZONTALLY WITH 2 5/8" TYPE S-12 SCREWS AT 12" ON CENTER AND 1 1/2" TYPE "G" SCREWS IN PANELS.
D. RATING ALSO APPLIES WITH IMPERIAL FIRECODE C BASE AND VENEER FINISH SURFACES.
E. LOAD BEARING UP TO 100% ALLOWABLE STUD AXIAL LOAD.
F. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.

3 HOUR UL DES U426

1-1/2" = 1'-0"

05C-2065



1. TWO LAYERS 1/2" SHEETROCK BRAND FIRECODE C CORE GYPSUM PANELS SCREW ATTACHED TO CHANNEL AND/OR STUDS.
2. 60SJ20 METAL STUDS AT 24" ON CENTER.
3. RC-1 CHANNEL ONE SIDE SPACED AT 24" SCREW ATTACHED TO STUDS.
4. 5" THERMAFIBER SAFB.

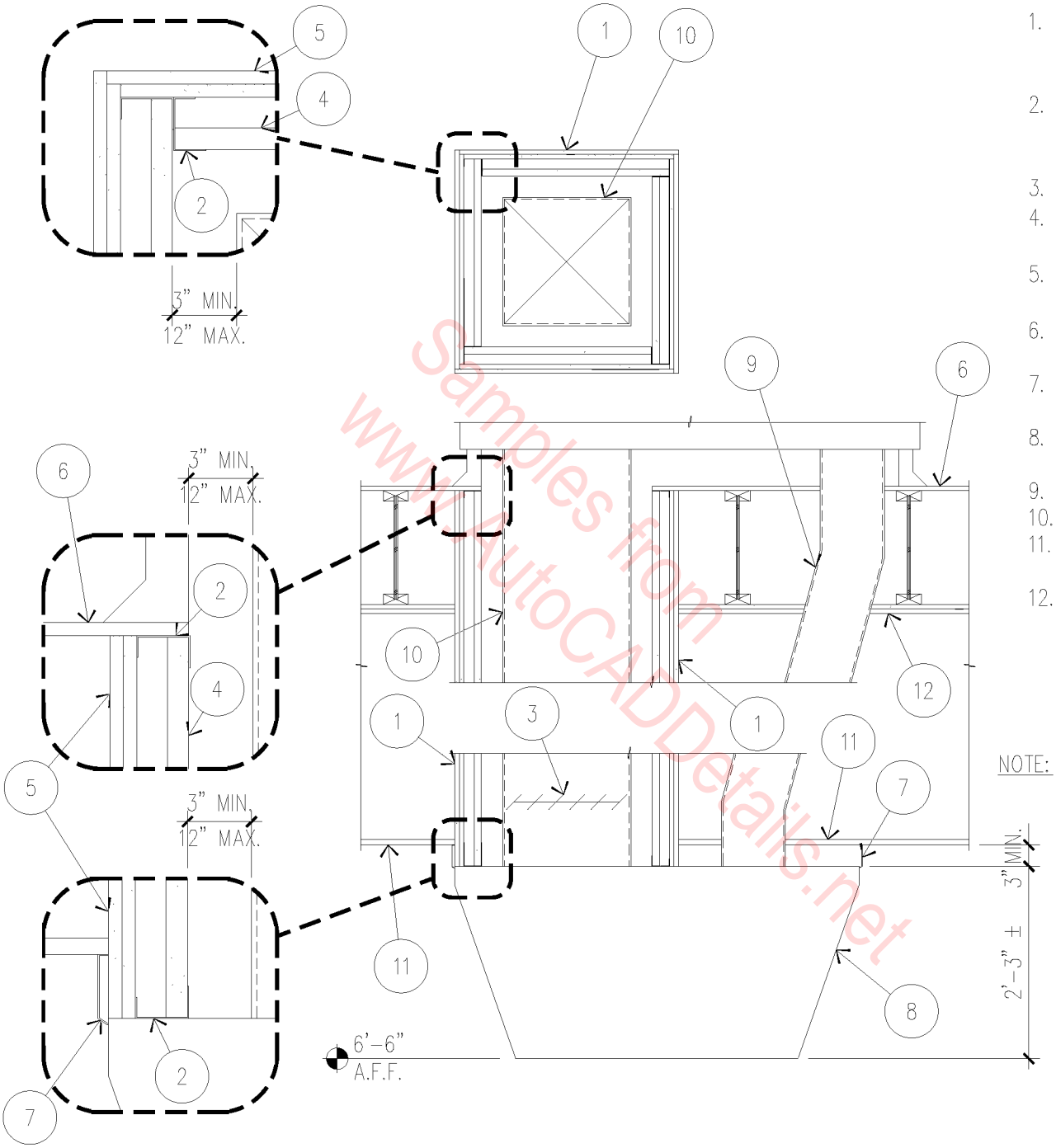
NOTES:

A. PANELS APPLIED VERTICALLY WITH JOINTS STAGGERED.
B. JOINTS FINISHED.
C. CAULK PERIMETER.
D. FIBERGLASS INSULATION CAN NOT BE SUBSTITUTED FOR THERMAFIBER INSULATION.
E. ASSEMBLIES WITH RC-1 RESILIENT CHANNEL REQUIRE LATERAL BRACING AND OFFER ESTIMATED FIRE RATING.

2 HOUR UL DES U454

1-1/2" = 1'-0"

05C-2066



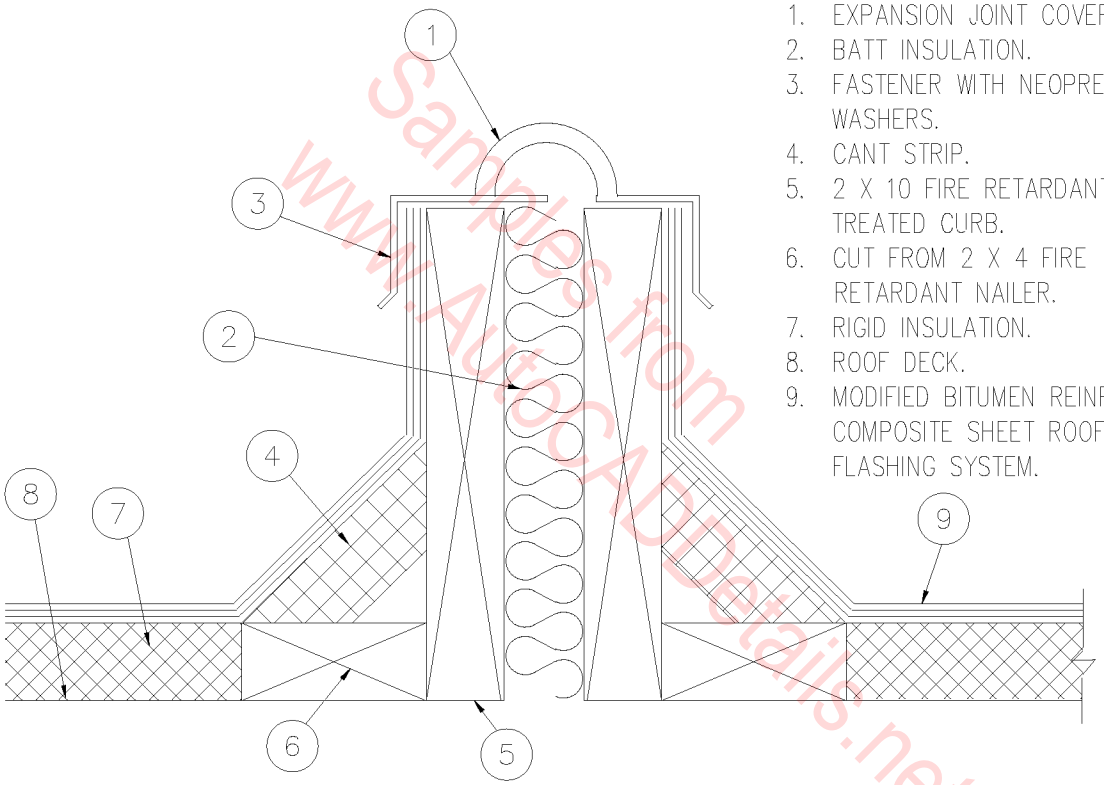
1. 2 HOUR SHAFT WALL, UL DESIGN U438, AT EXHAUST DUCT.
2. 'J' SHAPED RUNNER, 2-1/2" WIDE, 24 MSG GALVANIZED STEEL.
3. FIRE DAMPER.
4. 1" GYPSUM BOARD LINER PANELS.
5. (2) LAYERS 5/8" TYPE 'X' GYPSUM BOARD.
6. TOP OF ROOFING SYSTEM.
7. 22 GAUGE STAINLESS CLOSURE.
8. STAINLESS STEEL EXHAUST HOOD.
9. SUPPLY DUCT.
10. EXHAUST DUCT.
11. SUSPENDED CEILING SYSTEM.
12. ONE HOUR RATED ROOF SYSTEM - (2) LAYERS 5/8" TYPE 'X' GYPSUM BOARD ON JOISTS.

NOTE: ALL BLOW-UPS 1 1/2" = 1'-0"

KITCHEN DUCT ENCLOSURE

1/2" = 1'-0"

05C-2067



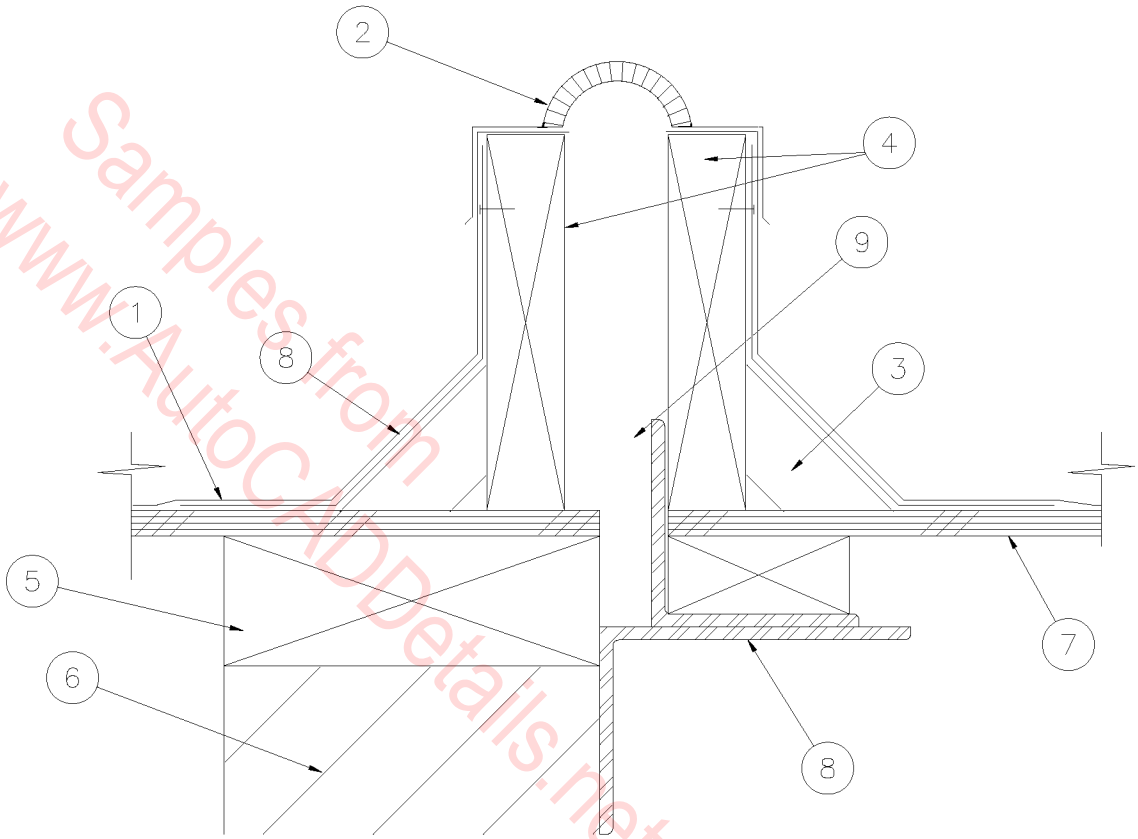
1. EXPANSION JOINT COVER.
2. BATT INSULATION.
3. FASTENER WITH NEOPRENE WASHERS.
4. CANT STRIP.
5. 2 X 10 FIRE RETARDANT TREATED CURB.
6. CUT FROM 2 X 4 FIRE RETARDANT NAILER.
7. RIGID INSULATION.
8. ROOF DECK.
9. MODIFIED BITUMEN REINFORCED COMPOSITE SHEET ROOFING FLASHING SYSTEM.

EXP. JOINT AT ROOF

3" = 1'-0"

05D-4001

1. MODIFIED BITUMEN REINFORCED COMPOSITE SHEET ROOFING OVER RIGID INSULATION.
2. EXPANSION JOINT COVER COAT ALL NEOPRENE MATERIAL WITH WHITE ELASTOMERIC COATING AFTER INSTALLATION.
3. 4" CANT STRIP.
4. 2 x 8 FIRE RETARDANT TREATED WOOD CURB.
5. STRUCTURAL NAILER.
6. MASONRY WALL.
7. PLYWOOD SHEATHING.
8. FLASHING SYSTEM BY ROOFING MANUFACTURER.
9. STRUCTURAL SLIP JOINT.

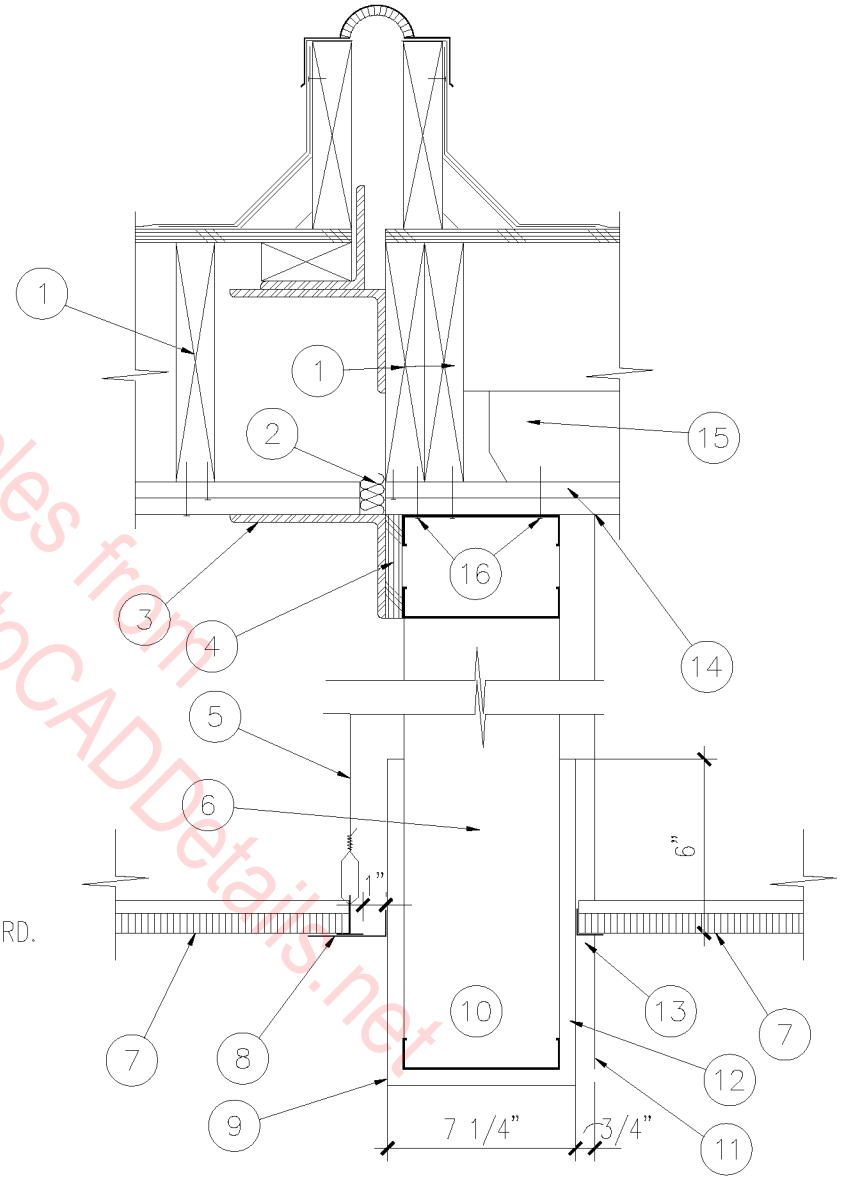


EXPANSION JOINT COVER

1" = 1'-0"

05D-4002

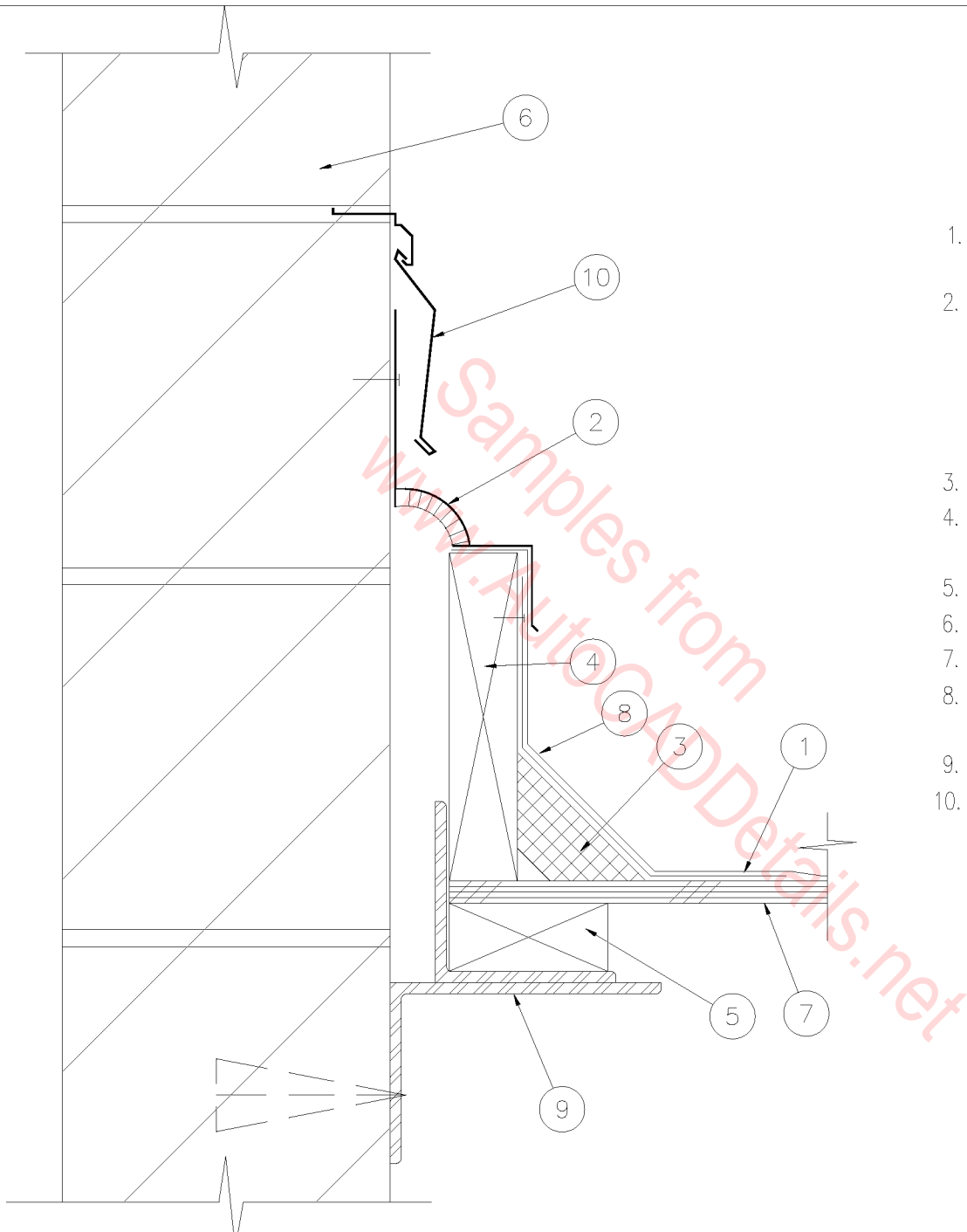
1. ROOF JOISTS.
2. FIRE SAFING MATERIAL.
3. 4" X 6" X 5/16" STRUCTURAL SLIP JOINT ANGLE. ATTACHED TO PLYWOOD SHEATHING.
4. 5/8" FIRE RETARDANT TREATED PLYWOOD ATTACHED TO METAL STUD BLOCKING.
5. HANGER WIRE.
6. 6" METAL STUDS AT 16" O.C.
7. ACOUSTICAL CEILING TILE.
8. 1" X 3" X 20GA SHEET METAL ANGLE. PAINT TO MATCH CEILING TEE GRID.
9. METAL CORNER BEAD.
10. METAL STUD BLOCKING.
11. EDGE OF WALL BEYOND.
12. 5/8" TYPE 'X' GYPSUM BOARD.
13. WALL MOLDING.
14. (2) LAYERS, 5/8" TYPE 'X' GYPSUM BOARD.
15. 2X FIRE RETARDANT TREATED BLOCKING. HUNG FROM STRUCTURAL JOISTS WITH JOIST HANGERS.
16. #12 X 2" LONG METAL SCREWS.



EXPANSION JOINT DETS.

1 1/2" = 1'-0"

05D-4003

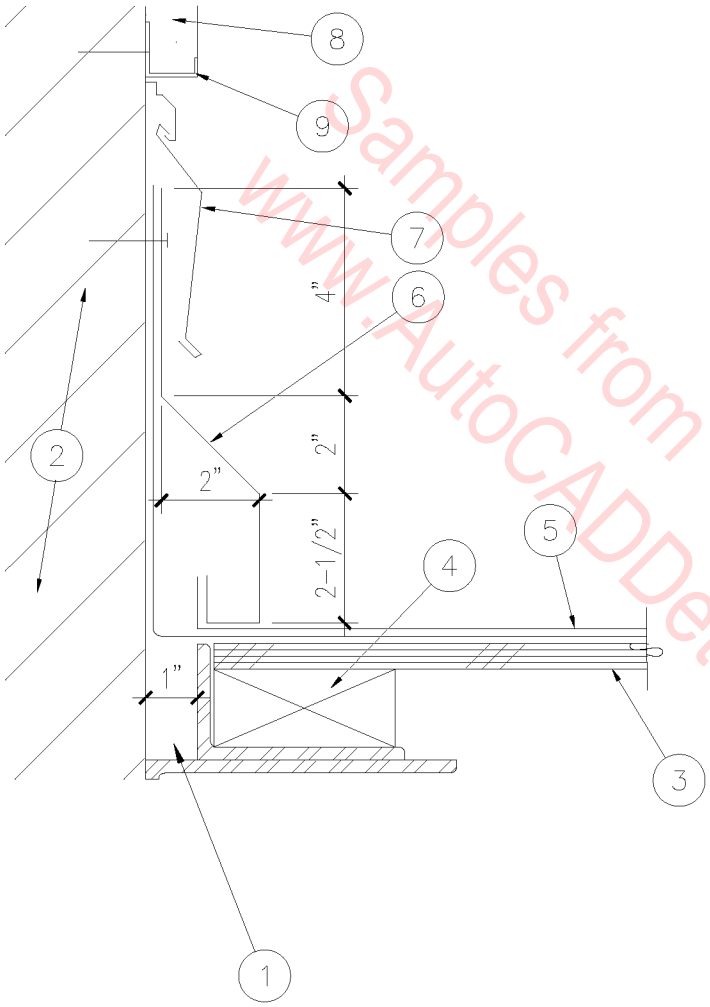


1. MODIFIED BITUMEN REINFORCED COMPOSITE SHEET ROOFING.
2. EXPANSION JOINT COVER, COAT ALL NEOPRENE MATERIAL WITH WHITE ELASTOMERIC COATING AFTER INSTALLATION.
3. 4" CANT STRIP.
4. 2 x 8 FIRE RETARDANT TREATED WOOD CURB.
5. STRUCTURAL NAILER.
6. MASONRY WALL.
7. PLYWOOD ROOF DECK.
8. FLASHING SYSTEM BY ROOFING MANUFACTURER.
9. STRUCTURAL SLIP JOINT.
10. REGLET AND COUNTERFLASHING.

EXPANSION JOINT COVER

1" = 1'-0"

05D-4004



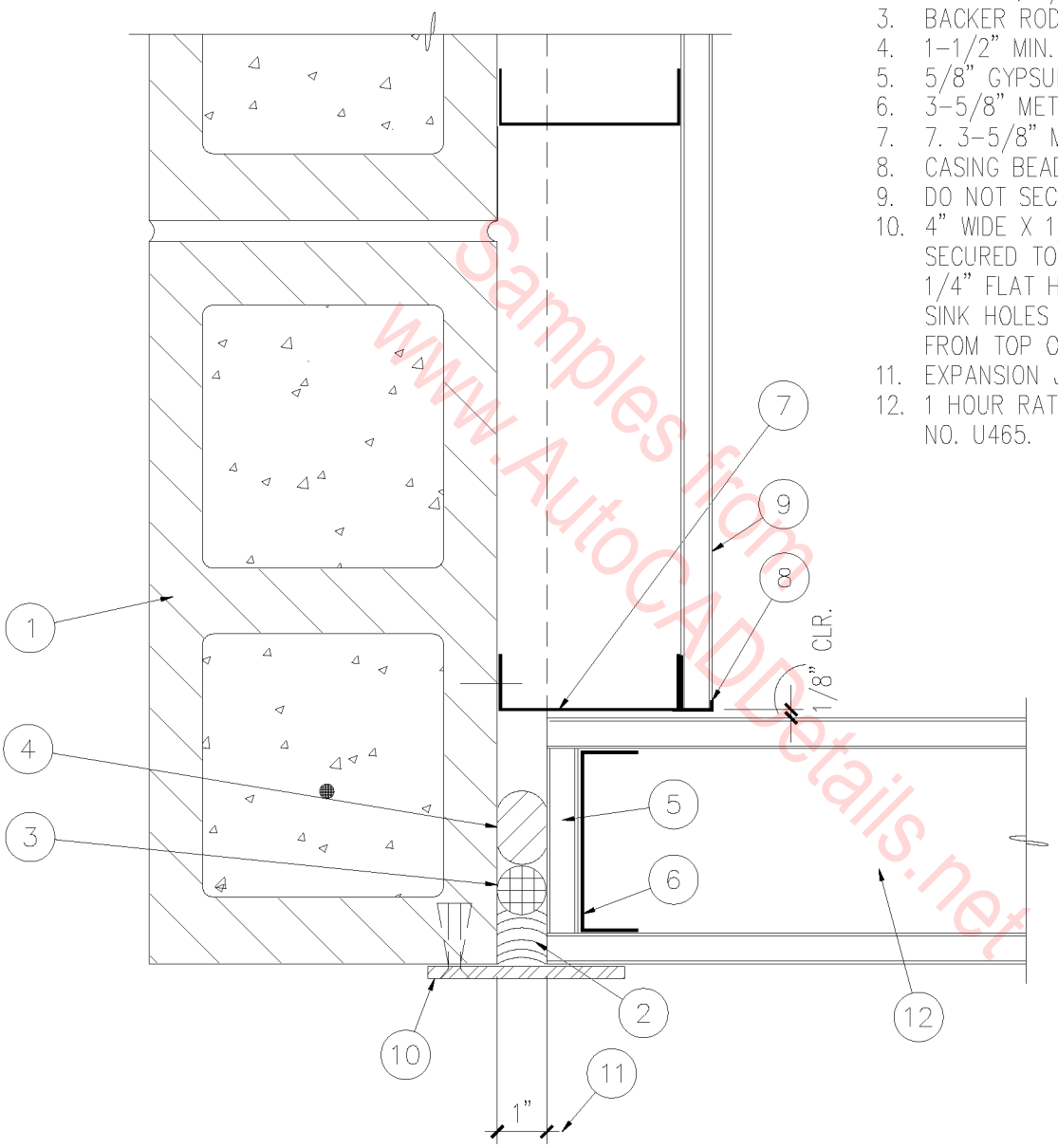
1. STRUCTURAL SLIP JOINT.
2. MASONRY WALL.
3. PLYWOOD DECK.
4. CONTINUOUS NAILER.
5. METAL ROOFING SYSTEM.
6. METAL FLASHING BY METAL ROOFING MANUFACTURER.
7. REGLET AND COUNTERFLASHING SURFACE ATTACHED UNDER STUCCO
8. CEMENT PLASTER.
9. CASING BEAD PARALLEL TO PLANE OF ROOF.
10. 40 MIL ELASTOMERIC MEMBRANE.

EXPANSION JOINT

3" = 1'-0"

05D-4005

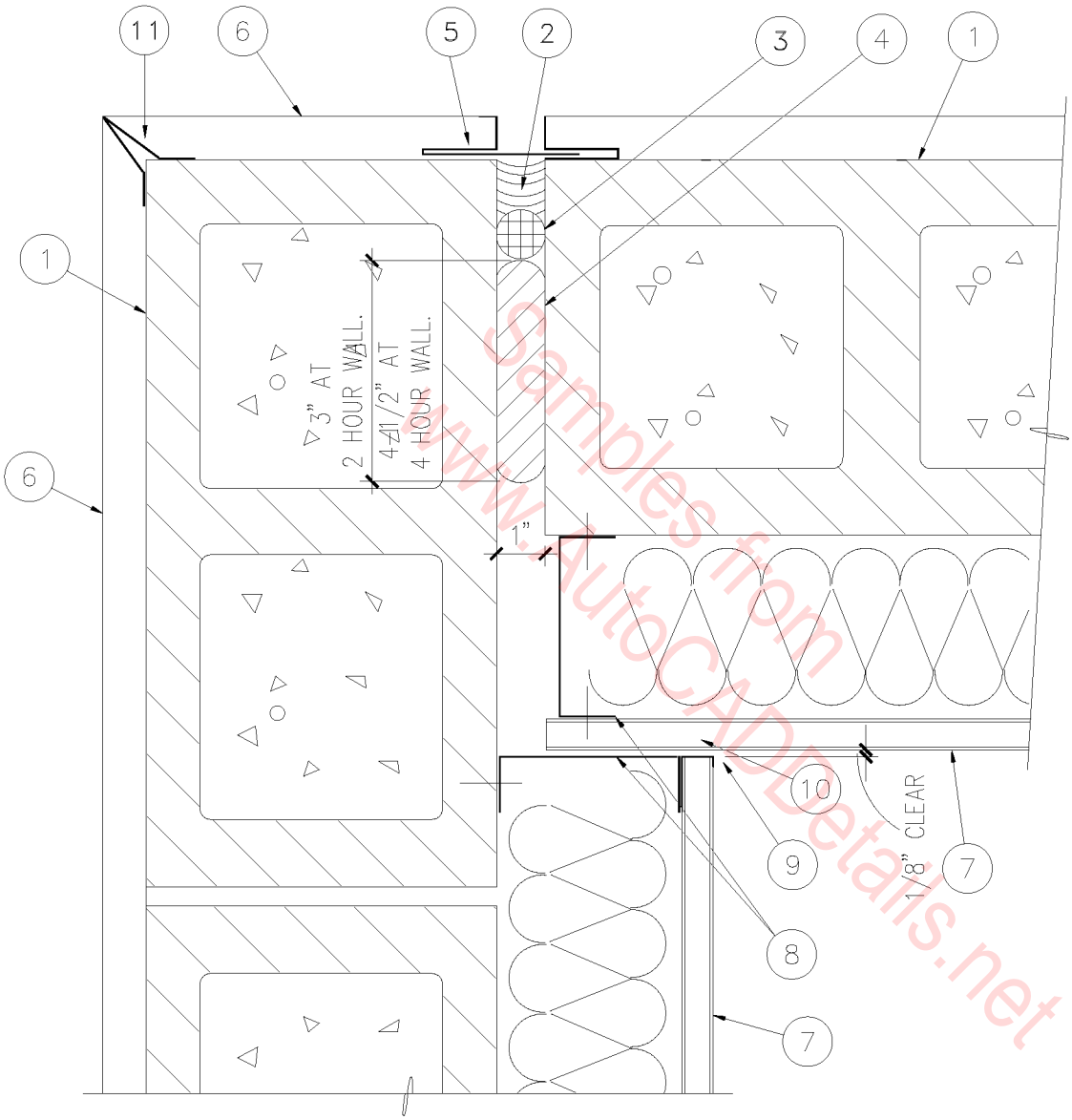
1. MASONRY WALL.
2. SEALANT, 7/8" MIN. DEPTH.
3. BACKER ROD.
4. 1-1/2" MIN. CERAMIC FIBER BLANKET INSULATION.
5. 5/8" GYPSUM BOARD. WRAP AROUND END STUD.
6. 3-5/8" METAL STUD.
7. 7. 3-5/8" METAL STUD. SECURE TO MASONRY.
8. CASING BEAD.
9. DO NOT SECURE WALLS TOGETHER AT CORNER.
10. 4" WIDE X 1/4" THICK STEEL PLATE CLOSURE. SECURED TO MASONRY AT ONE SIDE ONLY WITH 1/4" FLAT HEAD EXPANSION SCREWS IN COUNTER-SINK HOLES AT 24" O.C. PLATE CONTINUOUS FROM TOP OF BASE TO CEILING.
11. EXPANSION JOINT.
12. 1 HOUR RATED CONSTRUCTION PER UL DESIGN NO. U465.



1 HOUR EXPANSION JOINT

3" = 1'-0"

05D-4006

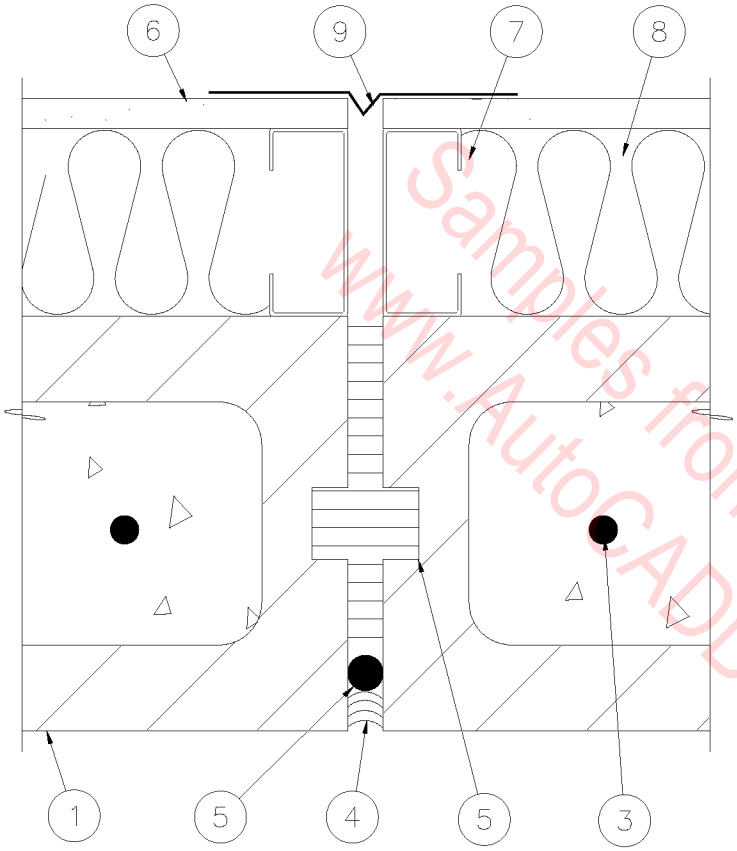


1. MASONRY WALL.
2. SEALANT, 7/8" MIN. DEPTH.
3. BACKER ROD.
4. CERAMIC FIBER BLANKET INSULATION.
5. PLASTER SLIP JOINT.
6. CEMENT PLASTER.
7. 5/8" "X" GYPSUM BOARD.
8. 3-5/8" METAL STUDS. SECURE TO MASONRY.
9. CASING BEAD.
10. DO NOT SECURE FURRED WALLS TOGETHER AT CORNER.
11. PLASTER CORNER BEAD.

2 & 4 HOUR EXP. JOINT

3" = 1'-0"

05D-4007

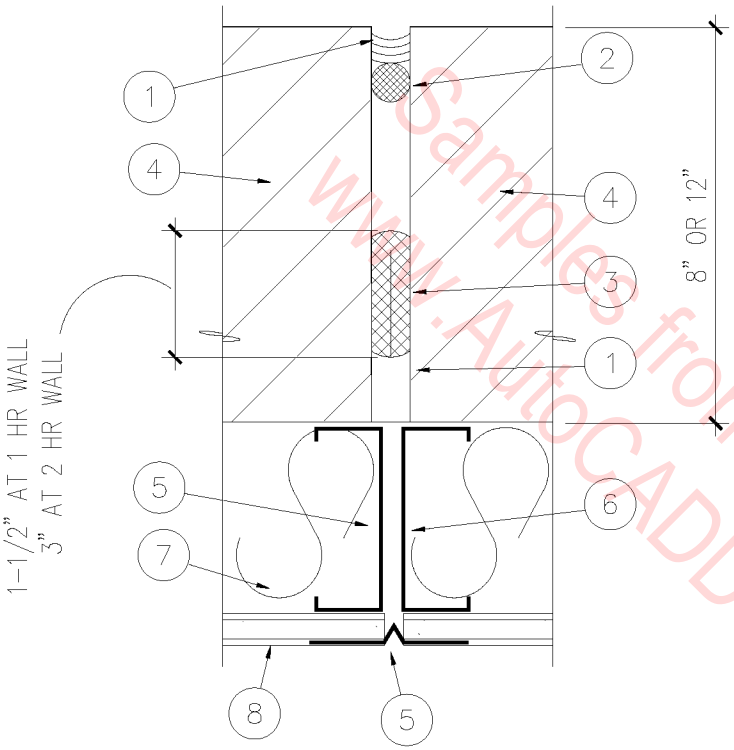


1. MASONRY WALL.
2. EXPANSION JOINT MATERIAL.
3. FULLY GROUTED CELL BOTH SIDES OF JOINT.
4. SEALANT.
5. BACKER ROD.
6. WALL FINISH AS SCHEDULED.
7. METAL STUDS.
8. BATT INSULATION.
9. GYPSUM BOARD CONTROL JOINT.

MASONRY CONTROL JOINT

3" = 1'-0"

05D-4008

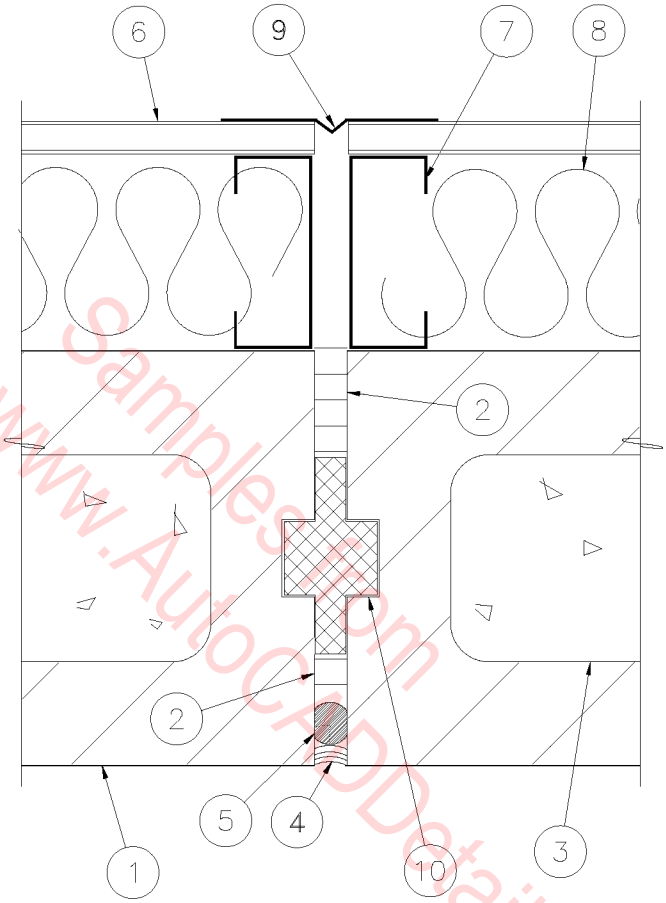


1. FIRE STOPPING SEALANT, 'TREMCO' DYMETRIC, POLYTREMDYNE TERPOLYMER.
2. JOINT FILLER – POLYETHYLENE CLOSED–CELL FOAM, BY 'DOW CHEMICAL'.
3. 3. 'CERABLANKET–FS' – CERAMIC FIBER BLANKET INSULATION, BY 'JOHNS–MANVILLE'.
4. CMU WALL.
5. METAL CONTROL JOINT.
6. METAL STUDS.
7. R–11 BATT INSULATION.
8. 5/8" GYPSUM BOARD.

1 & 2 HOUR CONTROL JOINT

3" = 1'–0"

05D–4009

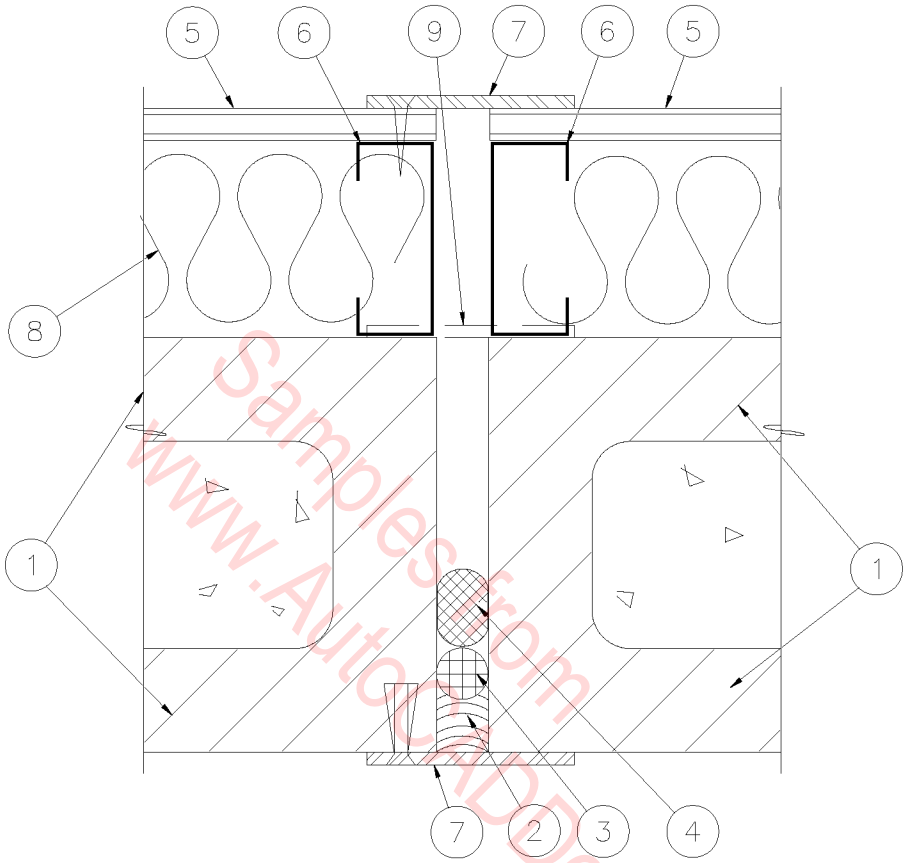


1. MASONRY.
2. COMPRESSIBLE JOINT MATERIAL.
3. FULLY GROUTED CELL BOTH SIDES OF JOINT.
4. SEALANT.
5. BACKER ROD.
6. WALL FINISH AS SCHEDULED.
7. METAL STUDS.
8. BATT INSULATION.
9. GYPSUM BOARD CONTROL JOINT.
10. PREMOLDED NEOPRENE GASKET.

MASONRY CONTROL JOINT

3" = 1'-0"

05D-4010

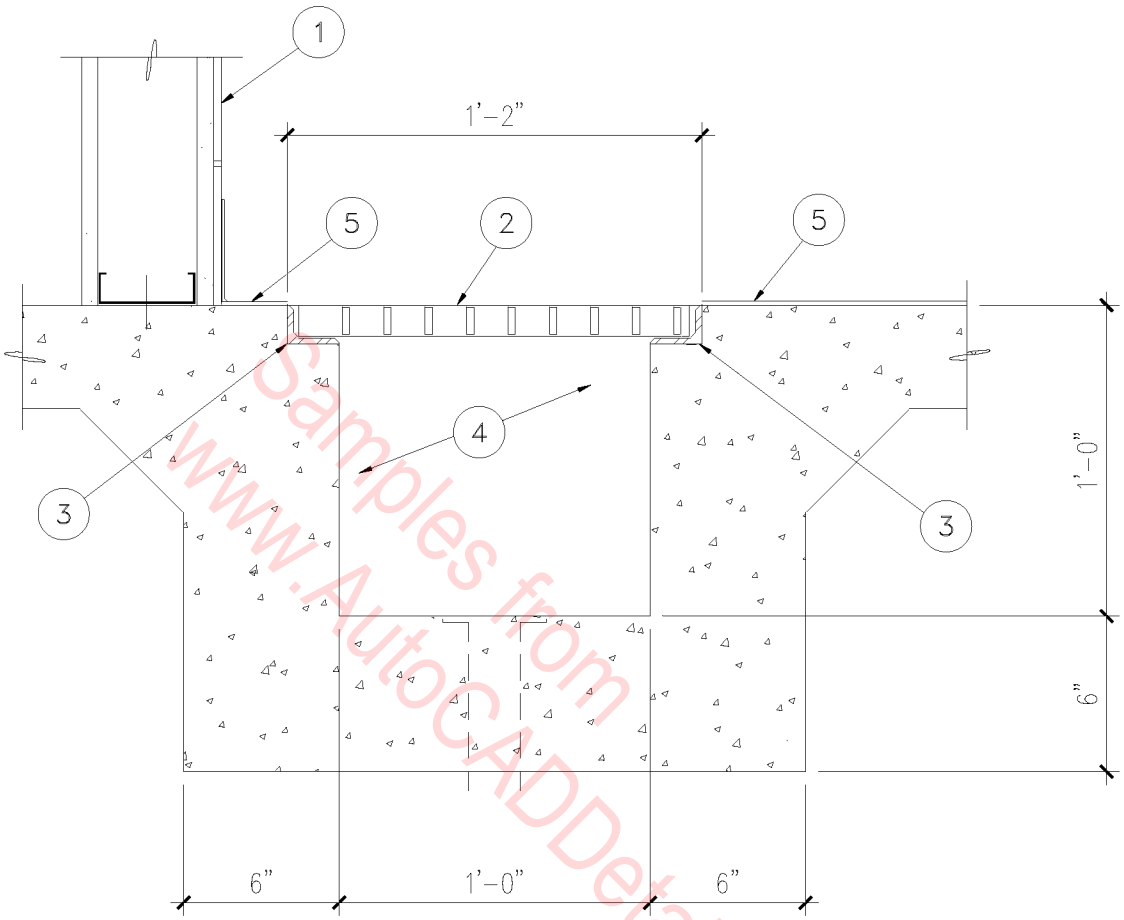


1. MASONRY WALL.
2. SEALANT, 7/8" MIN. DEPTH.
3. BACKER ROD.
4. CERAMIC FIBER BLANKET INSULATION: 1-1/2" AT 1 HOUR WALL, 4-1/2" AT 4 HOUR RATED WALL.
5. 5/8" TYPE 'X' GYPSUM BOARD WHERE OCCURS.
6. 3-5/8" METAL STUDS, WHERE OCCURS.
7. 4" WIDE X 1/4" THICK STEEL PLATE CLOSURE. SECURE AT EXTERIOR WITH 1/4" FLAT HEAD EXPANSION ANCHORS IN COUNTERSUNK HOLES AT 24" O.C. SECURE AT INTERIOR WITH #12 SHEET METAL SCREWS AT 6" O.C. IN COUNTER-SUNK HOLES. SECURE AT ONE SIDE OF EXPANSION JOINT ONLY.
8. WALL INSULATION BATTS, WHERE OCCURS.
9. STEEL CLOSURE LOCATION AT INTERIOR MASONRY CONDITION.

2 & 4 HOUR EXPANSION JOINT

3" = 1'-0"

05D-4011



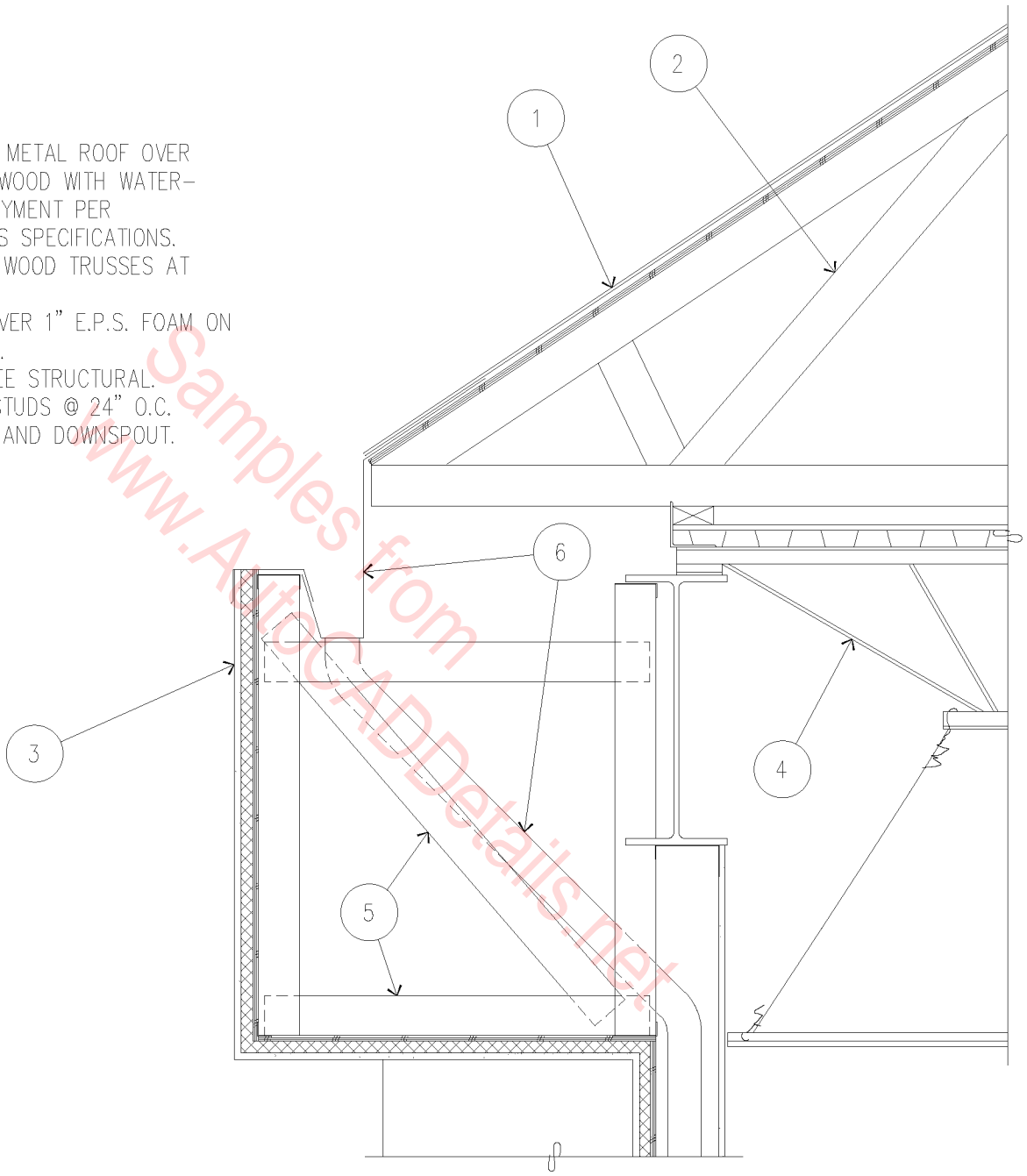
1. CERAMIC TILE.
2. 3/4" THICK STEEL TRENCH GRATE
3. STRUCTURAL STEEL ANGLE FRAME.
4. CONCRETE TRENCH.
5. FINISH FLOOR.

FLOOR TRENCH

1 1/2" = 1'-0"

05D-3001

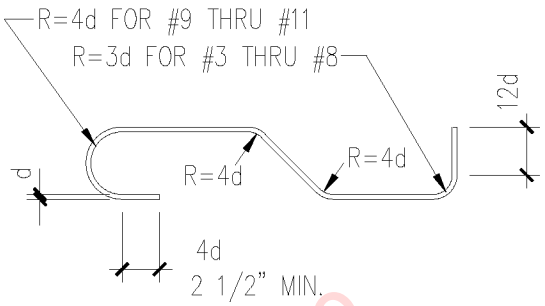
1. STANDING SEAM METAL ROOF OVER 1/2" O.S.B. PLYWOOD WITH WATER-PROOF UNDERLAYMENT PER MANUFACTURER'S SPECIFICATIONS.
2. PREFABRICATED WOOD TRUSSES AT 24" O.C.
3. 5/8" STUCCO OVER 1" E.P.S. FOAM ON 1/2" SHEATHING.
4. ROOF JOISTS, SEE STRUCTURAL.
5. 3 1/2" METAL STUDS @ 24" O.C.
6. HIDDEN GUTTER AND DOWNSPOUT.



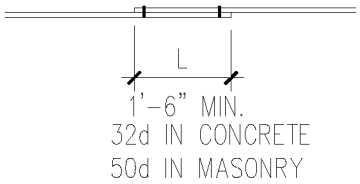
GUTTER IN WALL

3/4" = 1'-0"

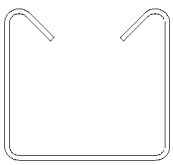
05D-3002



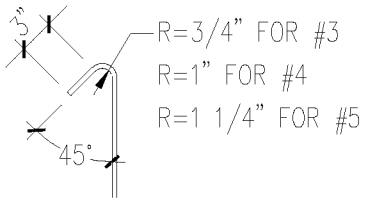
STANDARD HOOKS & BENDS



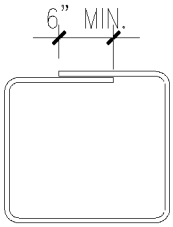
TYPICAL SPLICE



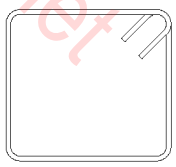
OPEN STIRRUP



TYP. STIRRUP & TIE BEND



CLOSED STIRRUP

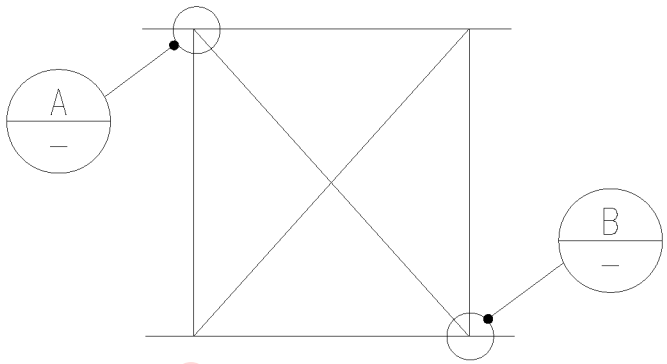


COLUMN TIE

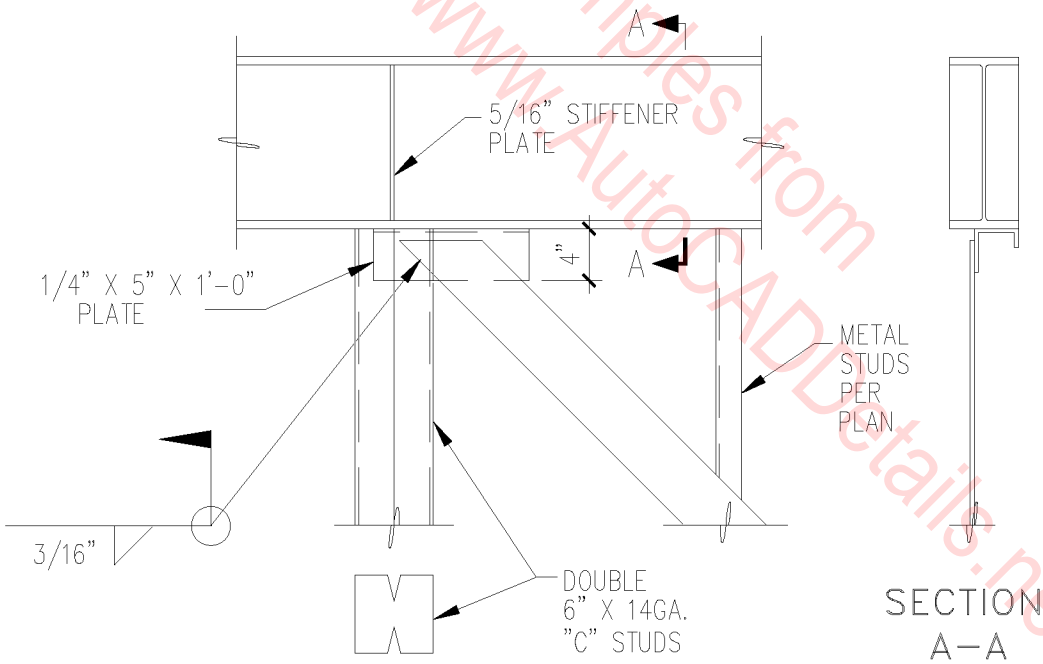
REINFORCING DETAILS

3/4" = 1'-0"

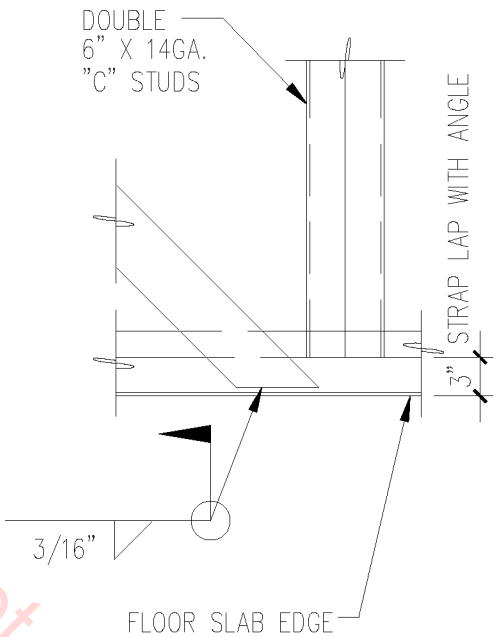
05D-1001



TYP. BRACE ELEVATION



SECTION A–A



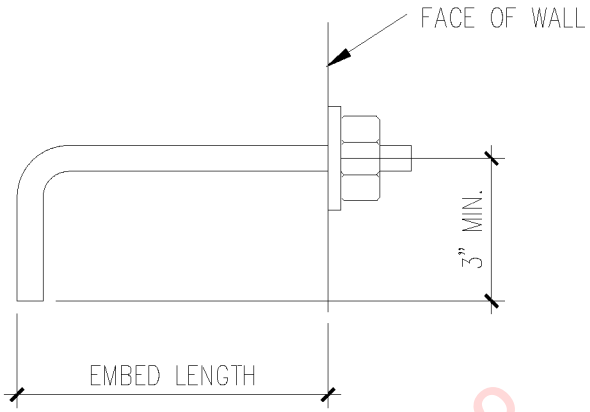
A DETAIL

B DETAIL

LATERAL BRACE DETAIL

3/4" = 1'-0"

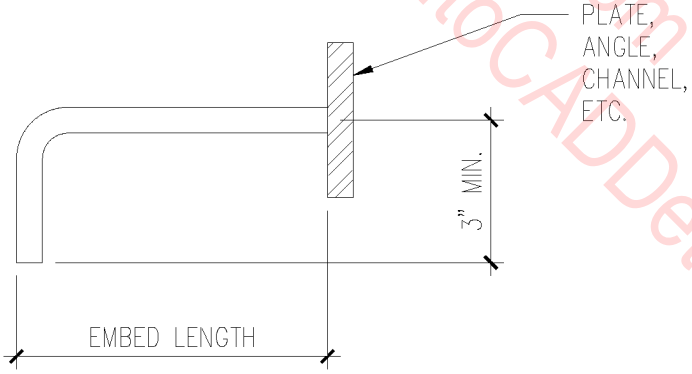
05D-1002



ANCHOR BOLT SCHEDULE		
BOLT DIAMETER	VERTICAL BOLT EMBED LENGTH	VERTICAL BOLT EMBED LENGTH
1/2"	6"	4"
5/8"	6"	4"
3/4"	7"	5"
7/8"	8"	6"
1"	9"	7"
1-1/4"	11"	9"
1-1/2"	12"	10"

A ANCHOR BOLT

DIMENSIONS NOT TO SCALE.



B ANCHOR

DIMENSIONS NOT TO SCALE.

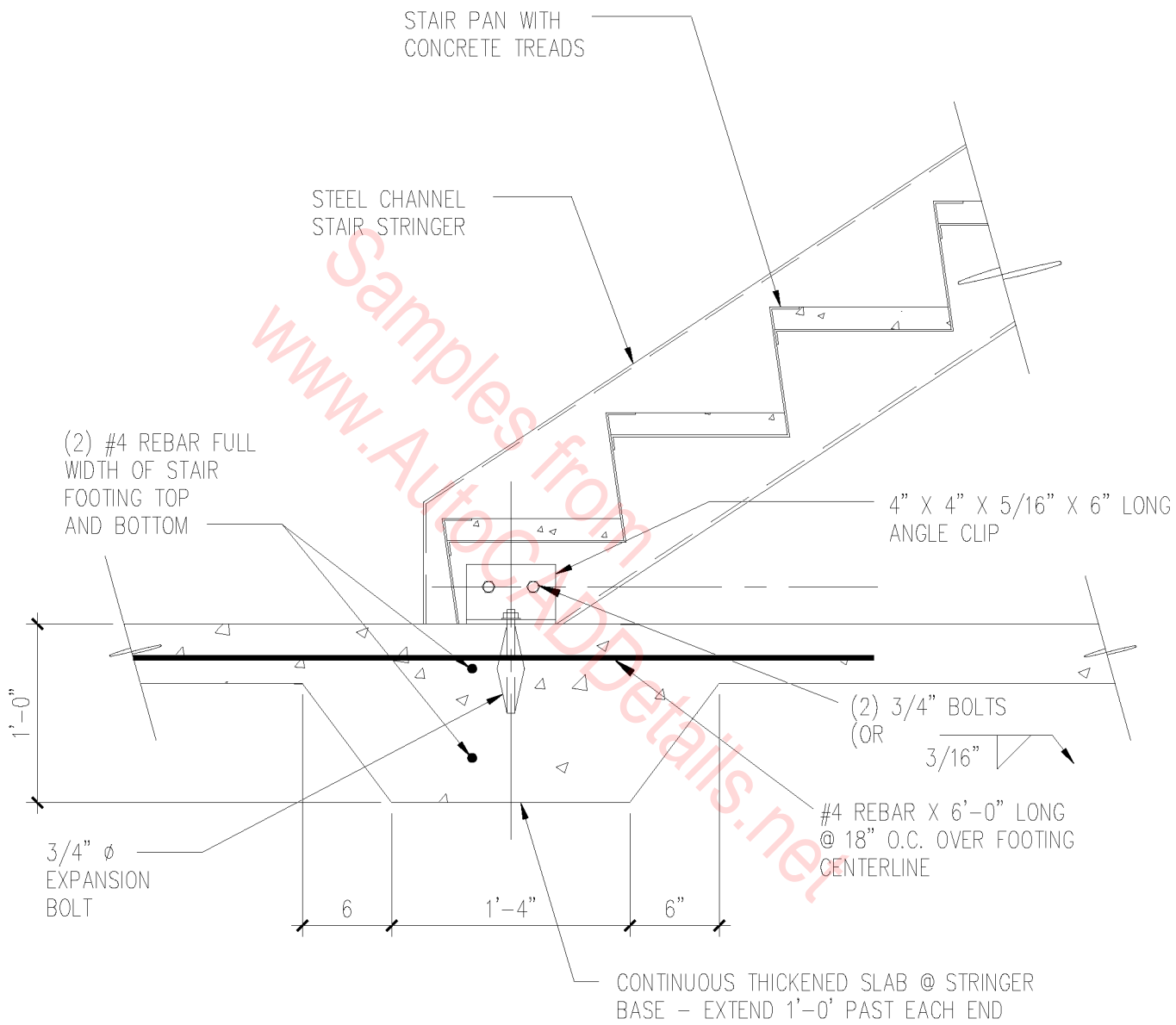
NOTE:

PROVIDE ANCHORS AND ANCHOR BOLTS PER THIS SCHEDULE UNLESS NOTED OTHERWISE ON PLANS OR DETAILS.

ANCHOR BOLT SCHEDULE

3/4" = 1'-0"

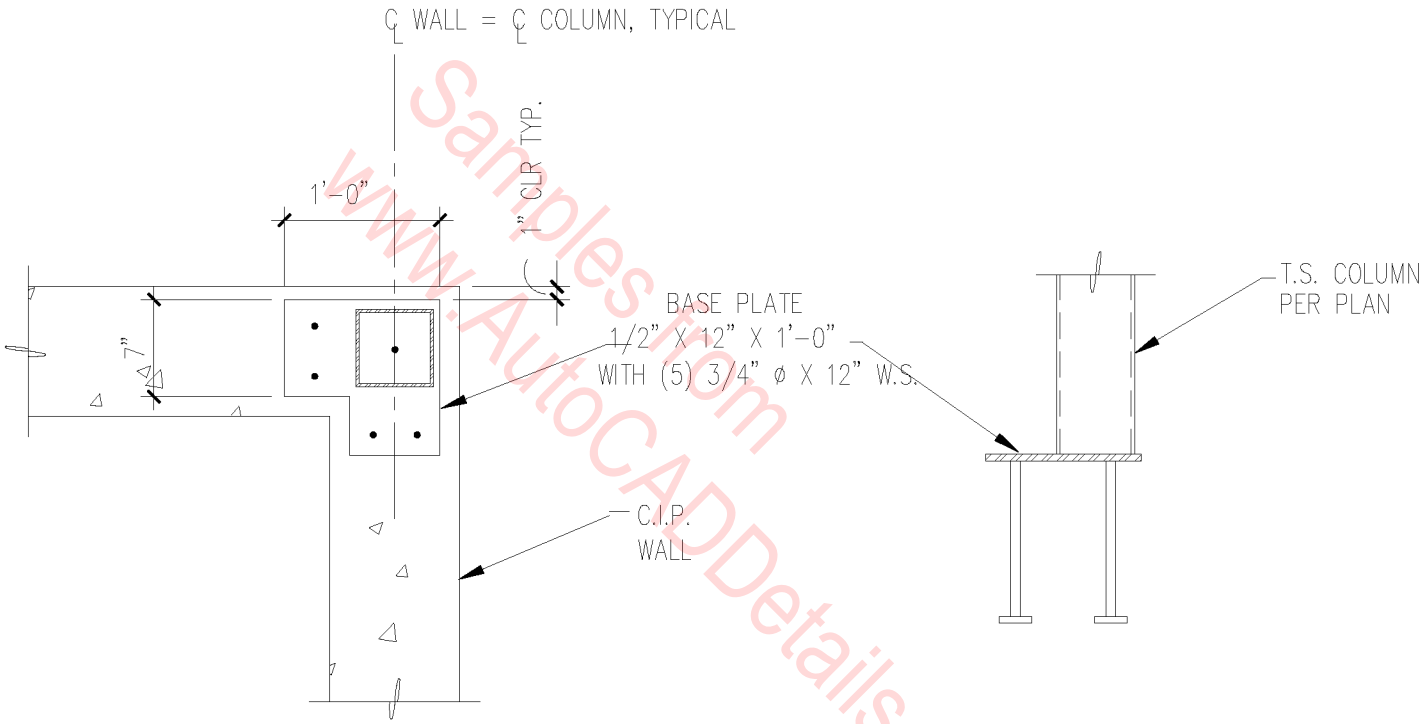
05D-1003



STRINGER AT SLAB

3/4" = 1'-0"

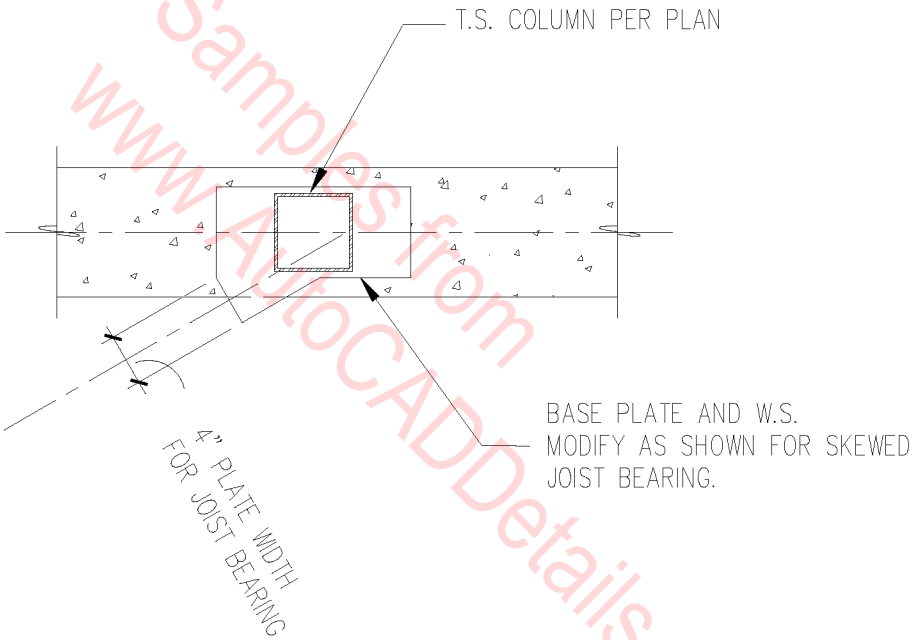
05D-1004



T.S. COL. AT C.I.P. WALL

3/4" = 1'-0"

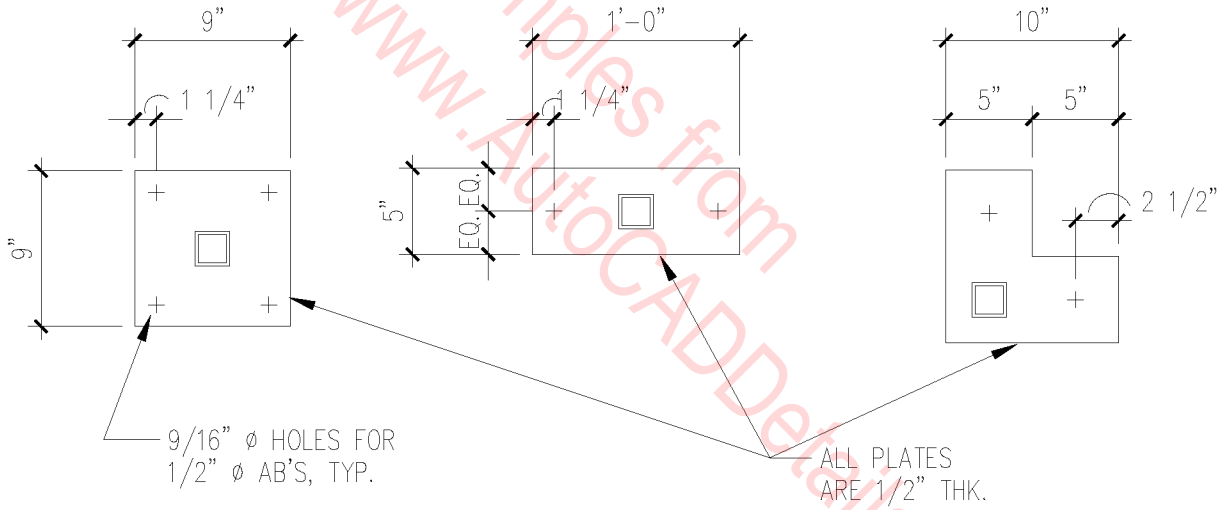
05D-1005



SKEWED JOIST BEARING

3/4" = 1'-0"

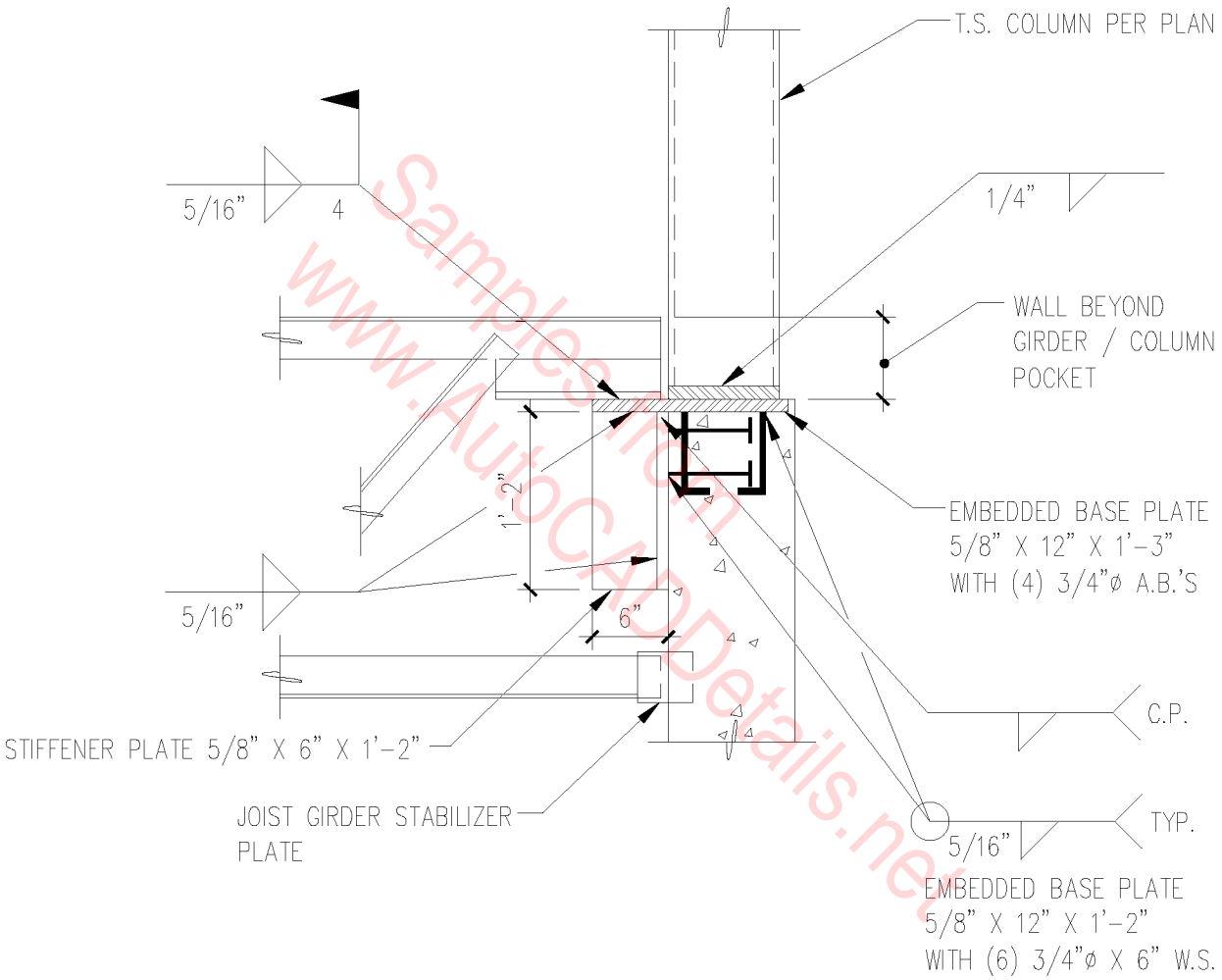
05D-1006



STEEL BASE PLATES

1" = 1'-0"

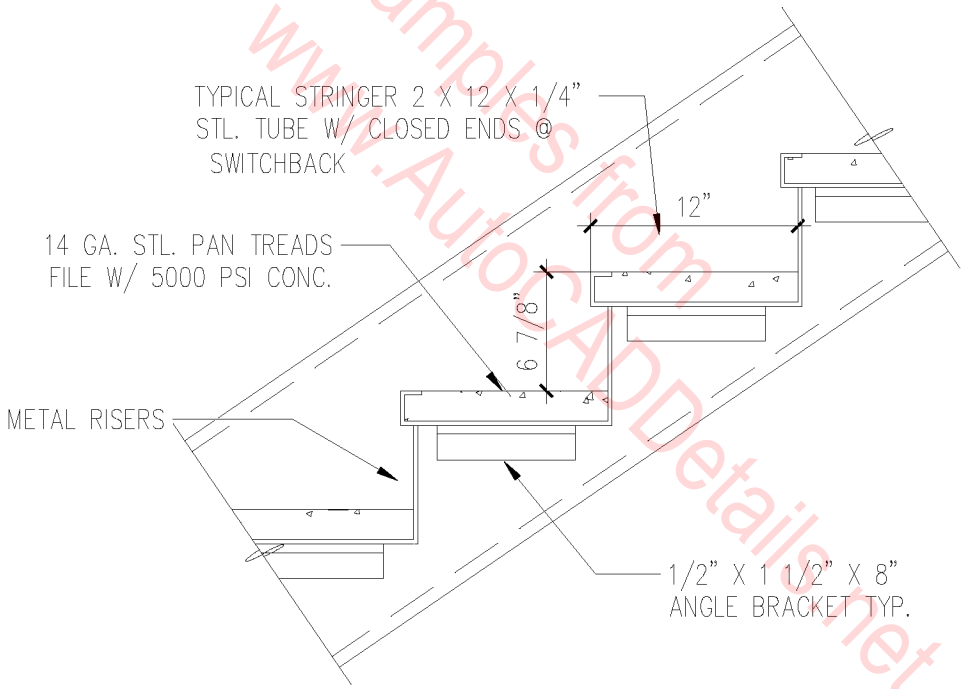
05D-1007



GIRDER/COLUMN TO WALL

3/4" = 1'-0"

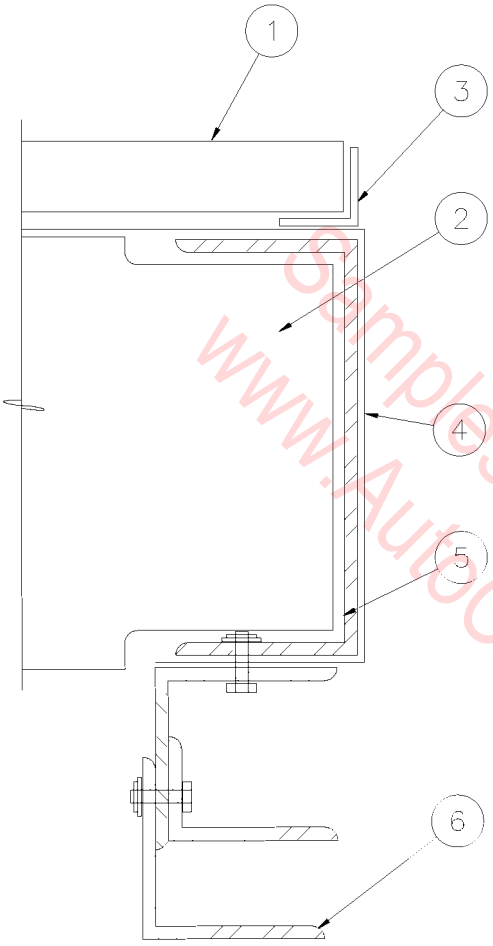
05D-1008



METAL STAIRS

1" = 1'-0"

05D-1009

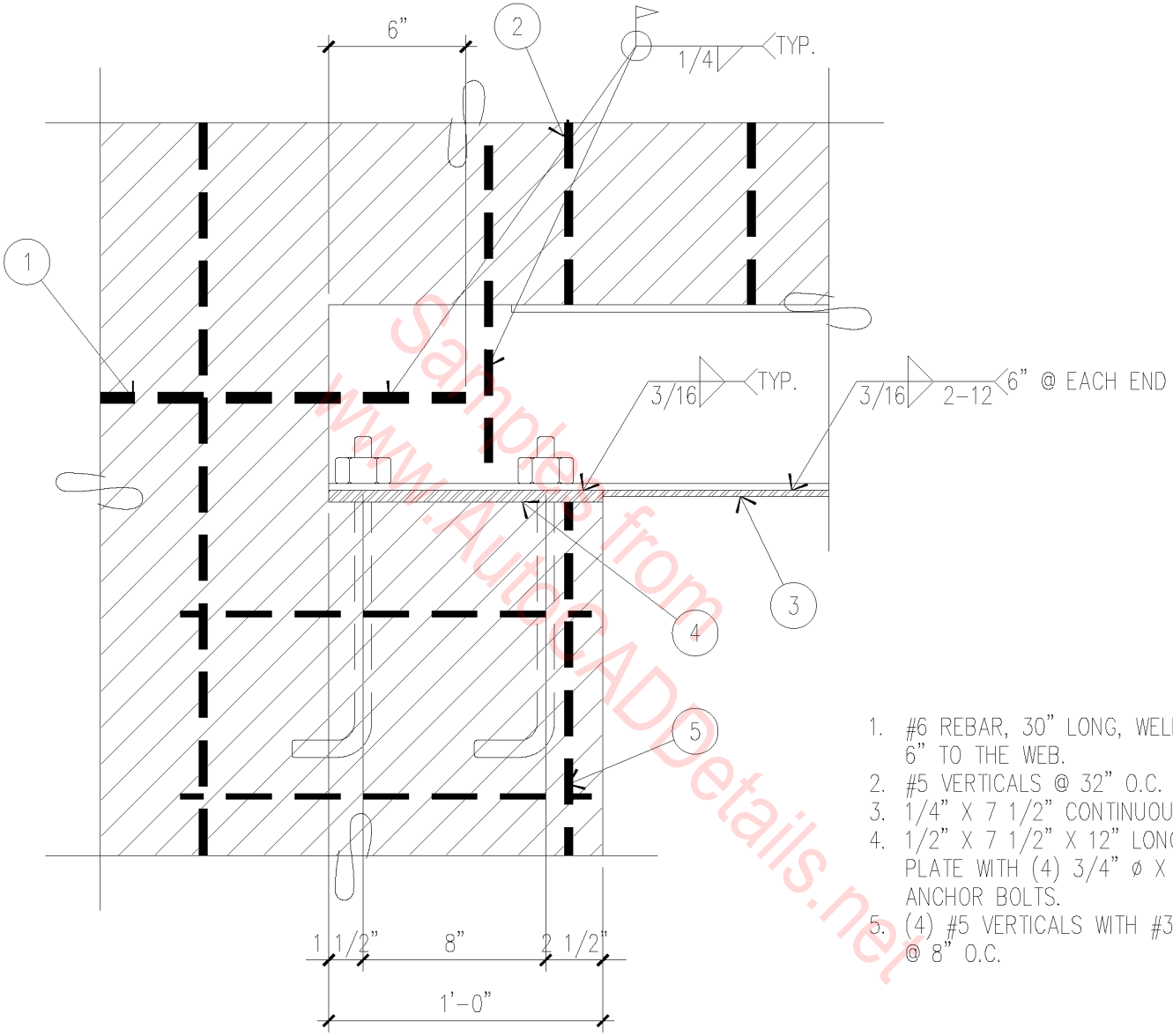


1. PREMANUFACTURED WALL PANEL SYSTEM.
2. PREMANUFACTURED GIRT WALL SYSTEM ATTACHED TO STEEL CHANNEL.
3. PREMANUFACTURED DOOR TRIM.
4. PREMANUFACTURED JAMB TRIM.
5. STRUCTURAL STEEL CHANNEL.
6. STEEL GUIDE FOR COILING. DOOR BOLTED TO STL. CHANNEL.

OVERHEAD DOOR JAMB

3" = 1'-0"

05D-1010



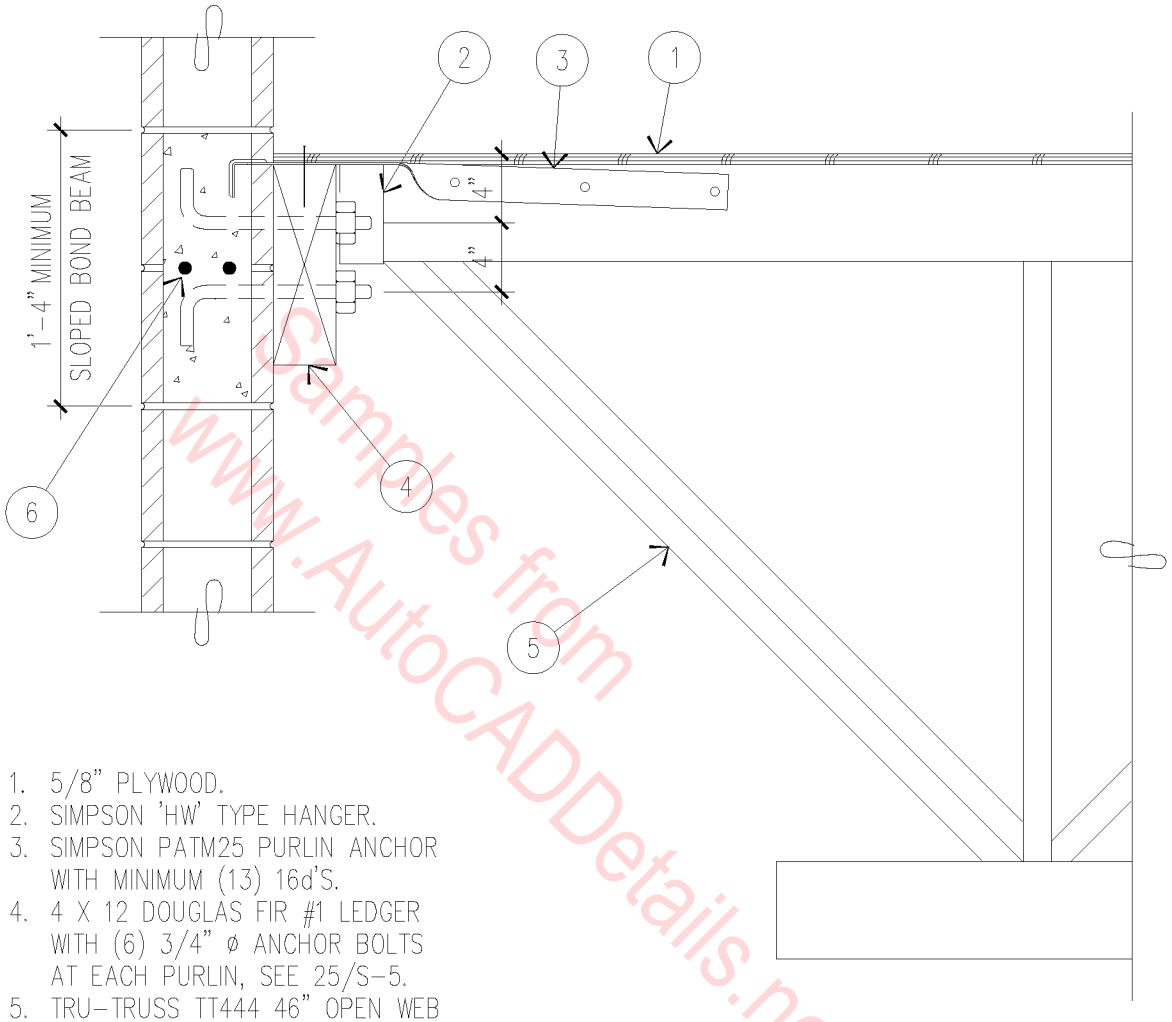
1. #6 REBAR, 30" LONG, WELD 6" TO THE WEB.
2. #5 VERTICALS @ 32" O.C.
3. 1/4" X 7 1/2" CONTINUOUS PLATE.
4. 1/2" X 7 1/2" X 12" LONG BEARING PLATE WITH (4) 3/4" ø X 12" LONG ANCHOR BOLTS.
5. (4) #5 VERTICALS WITH #3 TIES @ 8" O.C.

NOTE: ON SL1, BEARING PLATE CAN BE OMITTED.

LINTEL BEARING AT JAMB

1 1/2" = 1'-0"

05D-1011

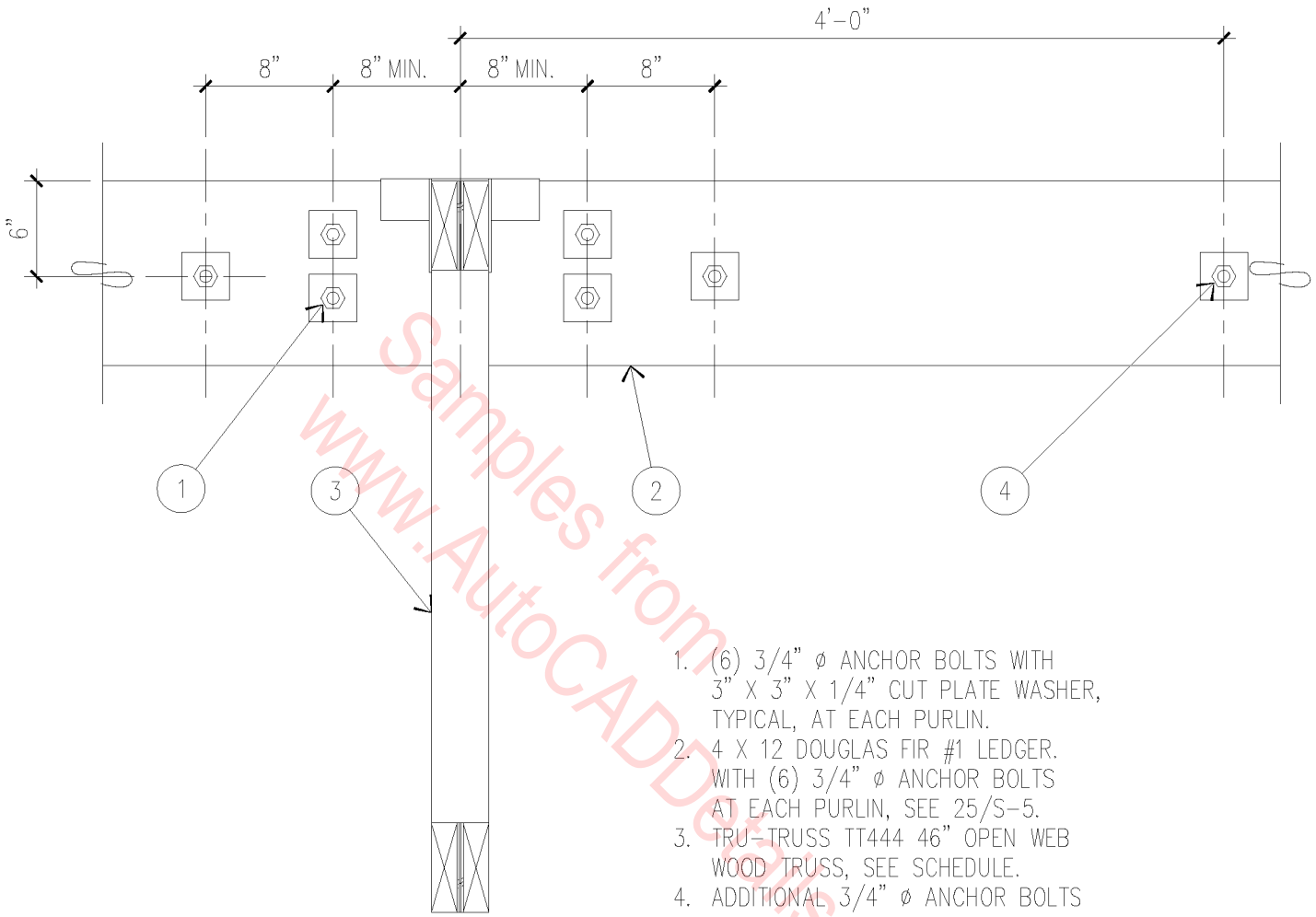


1. 5/8" PLYWOOD.
2. SIMPSON 'HW' TYPE HANGER.
3. SIMPSON PATM25 PURLIN ANCHOR WITH MINIMUM (13) 16d'S.
4. 4 X 12 DOUGLAS FIR #1 LEDGER WITH (6) 3/4" ø ANCHOR BOLTS AT EACH PURLIN, SEE 25/S-5.
5. TRU-TRUSS TT444 46" OPEN WEB WOOD TRUSS, SEE SCHEDULE.
6. (2) #5 REBARS, CONTINUOUS, IN 1'-4" SOLID GROUTED SLOPED BOND BEAM.

WOOD PURLIN @ LEDGER

1" = 1'-0"

05D-1012



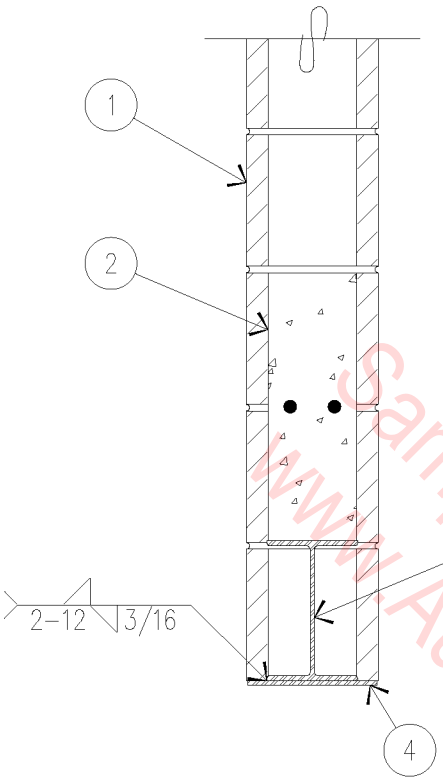
1. (6) 3/4" ø ANCHOR BOLTS WITH 3" X 3" X 1/4" CUT PLATE WASHER, TYPICAL, AT EACH PURLIN.
2. 4 X 12 DOUGLAS FIR #1 LEDGER. WITH (6) 3/4" ø ANCHOR BOLTS AT EACH PURLIN, SEE 25/S-5.
3. TRU-TRUSS TT444 46" OPEN WEB WOOD TRUSS, SEE SCHEDULE.
4. ADDITIONAL 3/4" ø ANCHOR BOLTS

NOTE: DO NOT SPLICE LEDGER AT PURLIN SUPPORT, PROVIDE 2'-0" MINIMUM FROM PURLIN TO SPLICE.

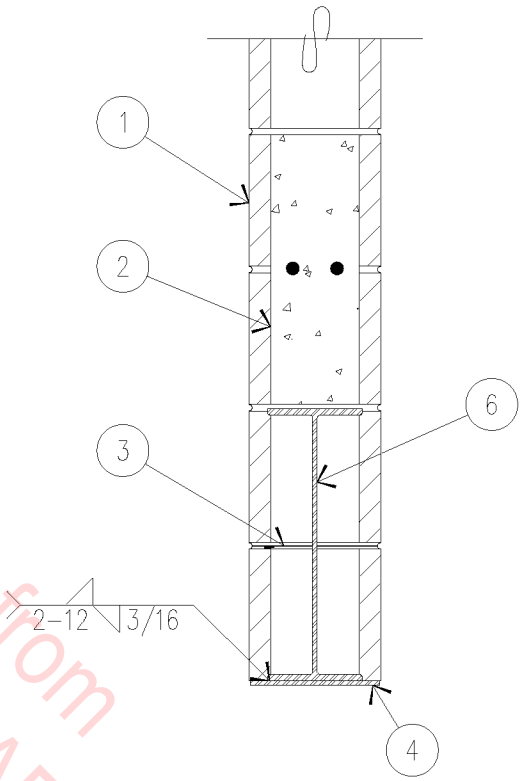
LEDGER ELEVATION AT PURLIN

1" = 1'-0"

05D-1013



W8 X 18 BEAM



W16 X 26 BEAM

1. 8" CMU WALL.
2. 1'-4" SOLID GROUTED BOND BEAM.
3. GALVANIZED 1" X 16 GAUGE VENEER ANCHORS AT 16" O.C. EACH SIDE.
4. 7-1/2" X 1/4" CONTINUOUS PLATE.
5. W8 X 18 WIDE FLANGE BEAM, SEE SCHEDULE ON SHEET S-2.
6. W16 X 26 WIDE FLANGE BEAM, SEE SCHEDULE ON SHEET S-2.

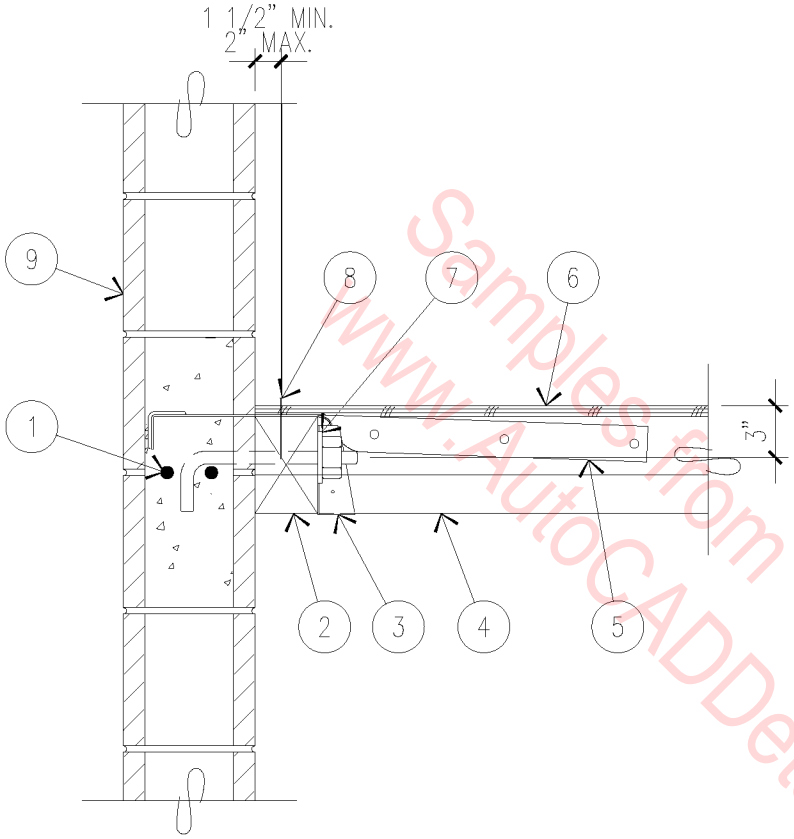
NOTES:

A. WELD VERTICAL WALL REINFORCEMENT TO STEEL LINTELS.
B. SHORE LINTEL AT MIDSPAN UNTIL CMU REACHES FULL STRENGTH.
C. SEE ROOF FRAMING PLAN ON SHEET S-2 FOR LINTEL LOCATIONS.

STEEL LINTELS @ CMU

1" = 1'-0"

05D-1014

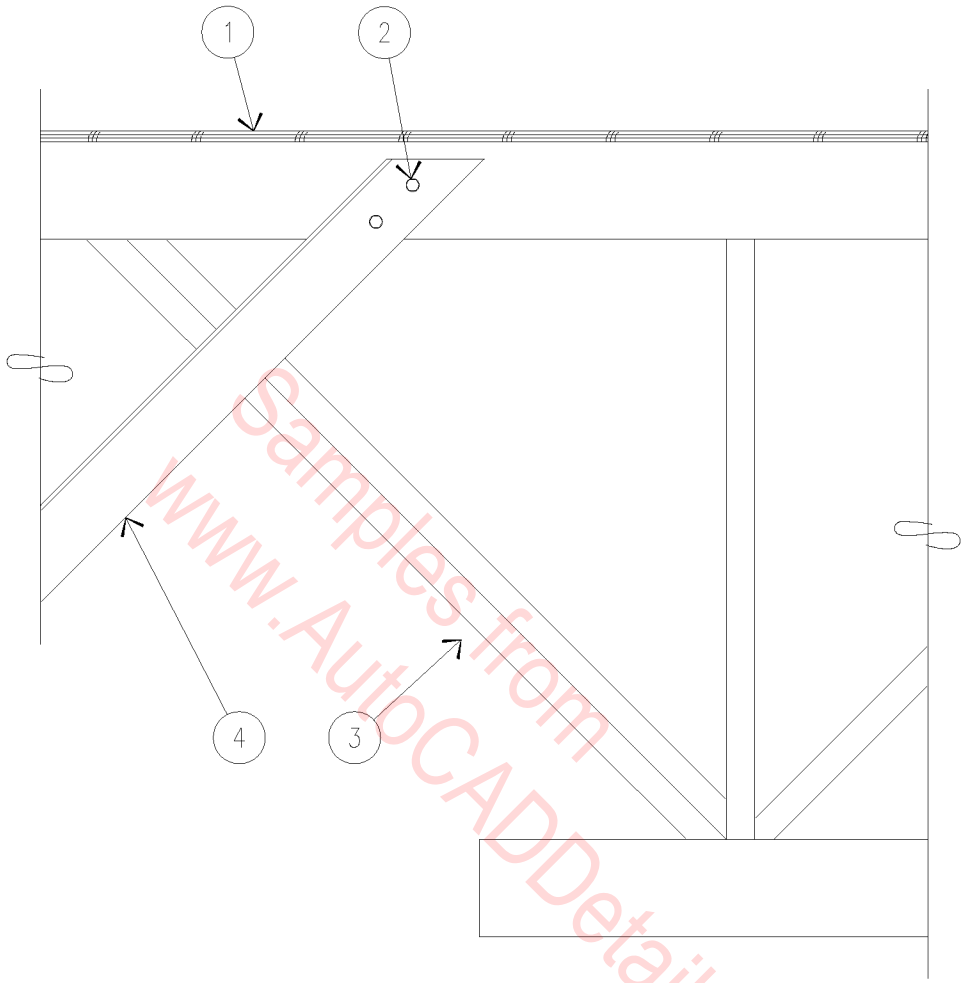


1. (2) #5 REBARS, CONTINUOUS, IN 1'-4" SOLID GROUTED BOND BEAM.
2. 4 X 6 DOUGLAS FIR LEDGER WITH 3/4" ø ANCHOR BOLTS @ 4'-0" O.C., MAXIMUM.
3. SIMPSON HUS26 HANGER, OR EQUAL.
4. 2 X 6 DOUGLAS FIR SUB-PURLIN.
5. SIMPSON PATM25 PURLIN ANCHOR WITH MINIMUM (13) 16d'S.
6. 5/8" PLYWOOD.
7. 3" X 3" X 1/4" PLATE WASHER @ 48" O.C., MAXIMUM.
8. BOUNDARY NAILING.
9. CMU WALL.

SUB-PURLIN @ LEDGER

1" = 1'-0"

05D-1015

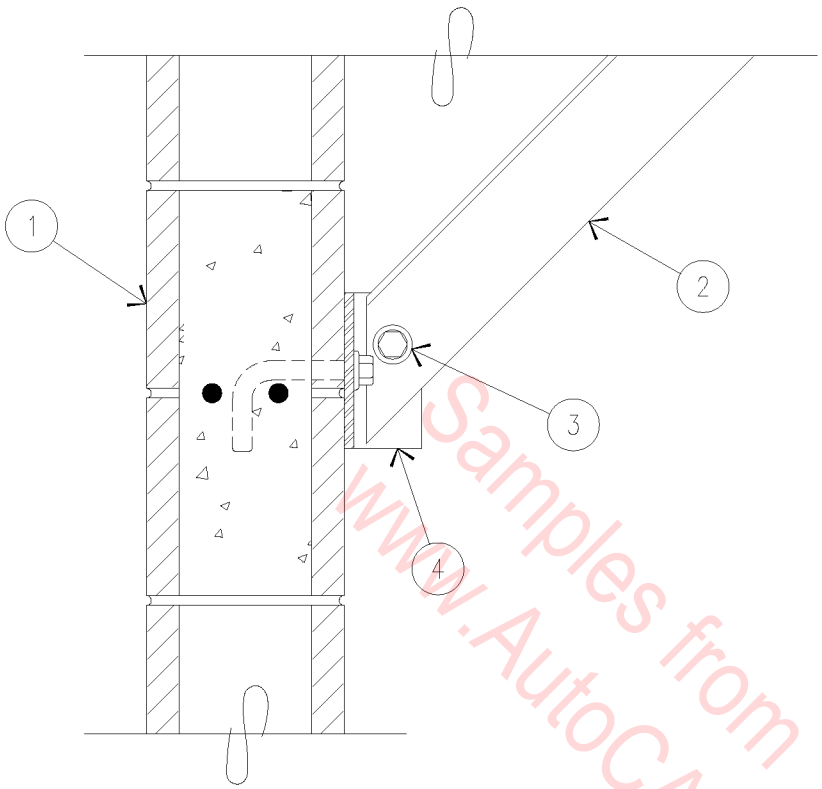


1. 5/8" PLYWOOD.
2. (2) 3/4" ø MACHINE BOLTS.
3. TT444 WOOD PURLIN @ 8'-0" O.C.
4. 4" X 4" X 1/4" STEEL ANGLE BRACE AT EACH PURLIN.

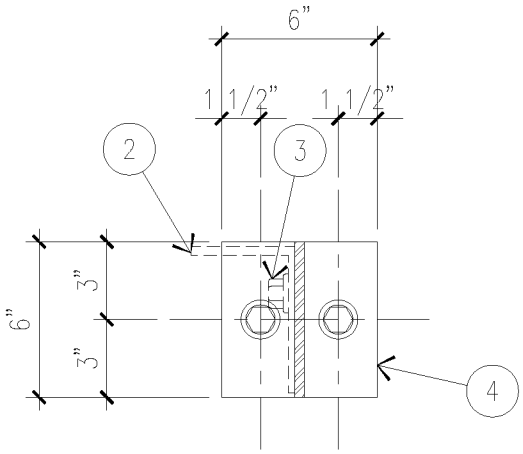
WALL BRACE @ ROOF CONNECTION

1" = 1'-0"

05D-1016



SECTION



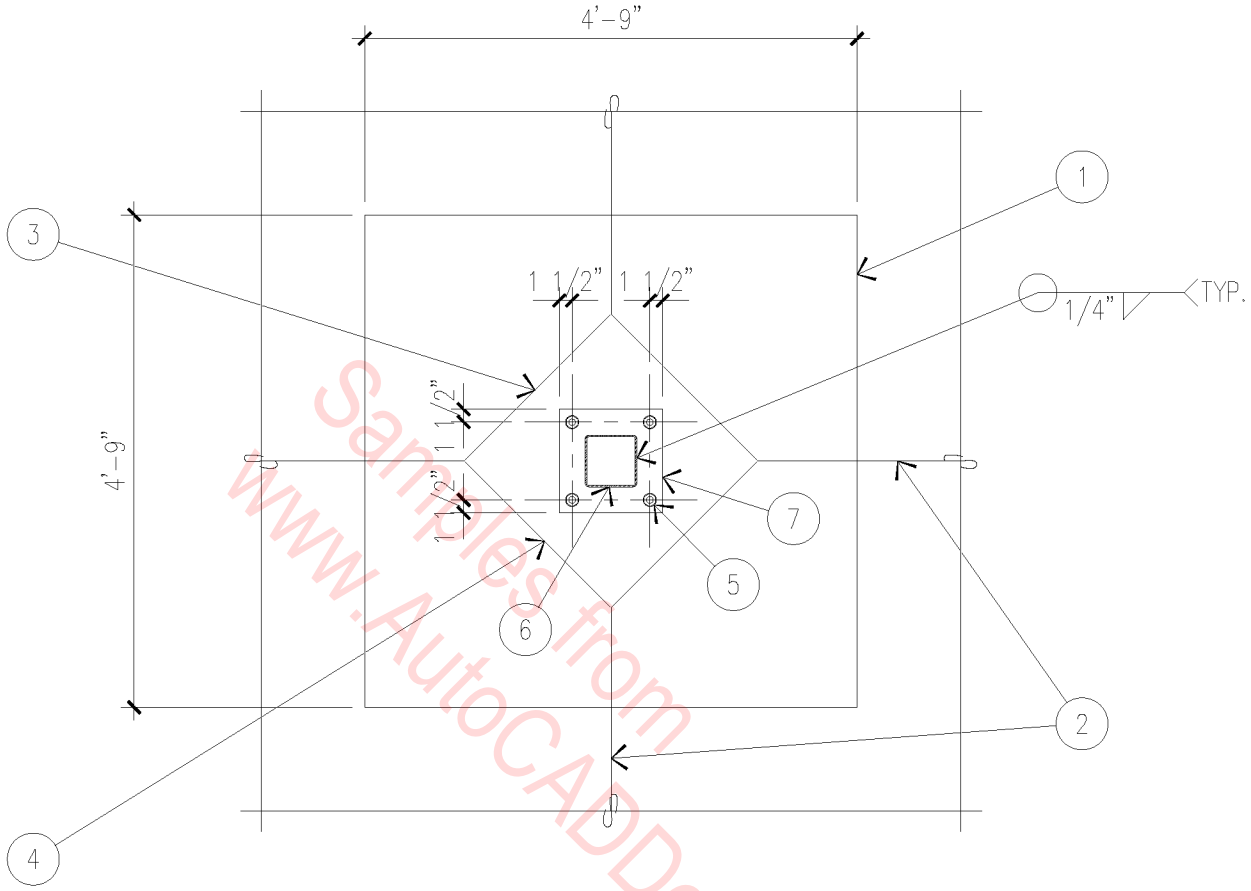
ELEVATION

1. 8" CMU WALL.
2. 4" X 4" X 1/4" STEEL ANGLE BRACE AT 8'-0" O.C.
3. (1) 3/4" MACHINE BOLT.
4. 6" X 6" X 3/8" STEEL ANGLE WITH (2) 3/4" 'RED-HEADS' OR N.S.

BRACE @ MASONRY WALL

1 1/2" = 1'-0"

05D-1017



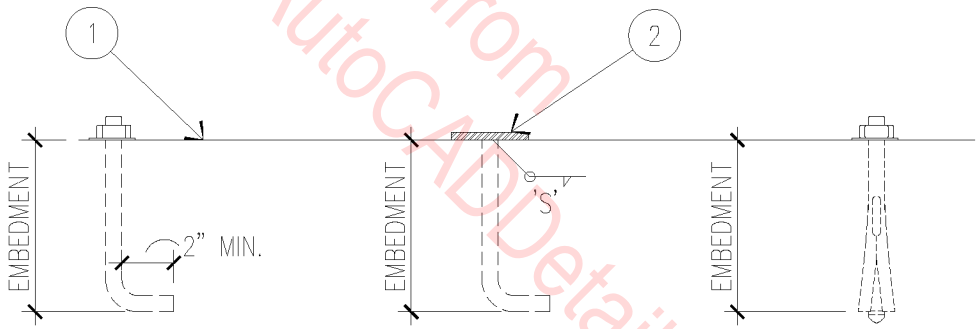
1. 4'-9" X 4'-9" X 15" THICK PAD WITH (4) #5 REBARS, EACH WAY.
2. WEAKENED PLANE OR CONSTRUCTION JOINT.
3. 24" BOX OUT, FILL WITH CONCRETE AFTER COLUMN IS SET.
4. TOOL JOINT.
5. (4) 3/4" ø ANCHOR BOLTS WITH 4" HOOK AND MINIMUM 8" EMBED.
6. 6" X 6" X 3/16" TUBE STEEL COLUMN.
7. 12" X 12" X 3/4" COLUMN BASE PLATE.

BASEPLATE @ TUBE STEEL COLUMN

1/2" = 1'-0"

05D-1018

BOLT DIAMETER	VERT. BOLT EMBEDMENT LENGTH	HORIZ. BOLT EMBEDMENT LENGTH	HEADED STUD FILLET WELD SIZE, 'S'
1/2"	6"	4"	1/4"
5/8"	6"	4"	5/16"
3/4"	7"	5"	5/16"
7/8"	8"	6"	5/16"
1"	9"	7"	3/8"
1 1/8"	10"	8"	------
1 1/4"	11"	9"	------



ANCHOR BOLT ANCHOR EXPANSION BOLT

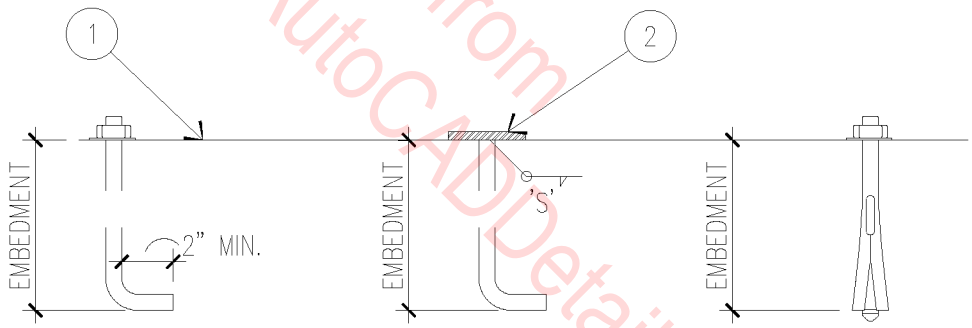
1. FACE OF WALL, TOP OF WALL, COLUMN, ETC.
2. PLATE, ANGLE, CHANNEL, ETC.

EMBEDS

1 1/2" = 1'-0"

05D-1019

BOLT DIAMETER	VERT. BOLT EMBEDMENT LENGTH	HORIZ. BOLT EMBEDMENT LENGTH	HEADED STUD FILLET WELD SIZE, 'S'
1/2"	6"	4"	1/4"
5/8"	6"	4"	5/16"
3/4"	7"	5"	5/16"
7/8"	8"	6"	5/16"
1"	9"	7"	3/8"
1 1/8"	10"	8"	------
1 1/4"	11"	9"	------



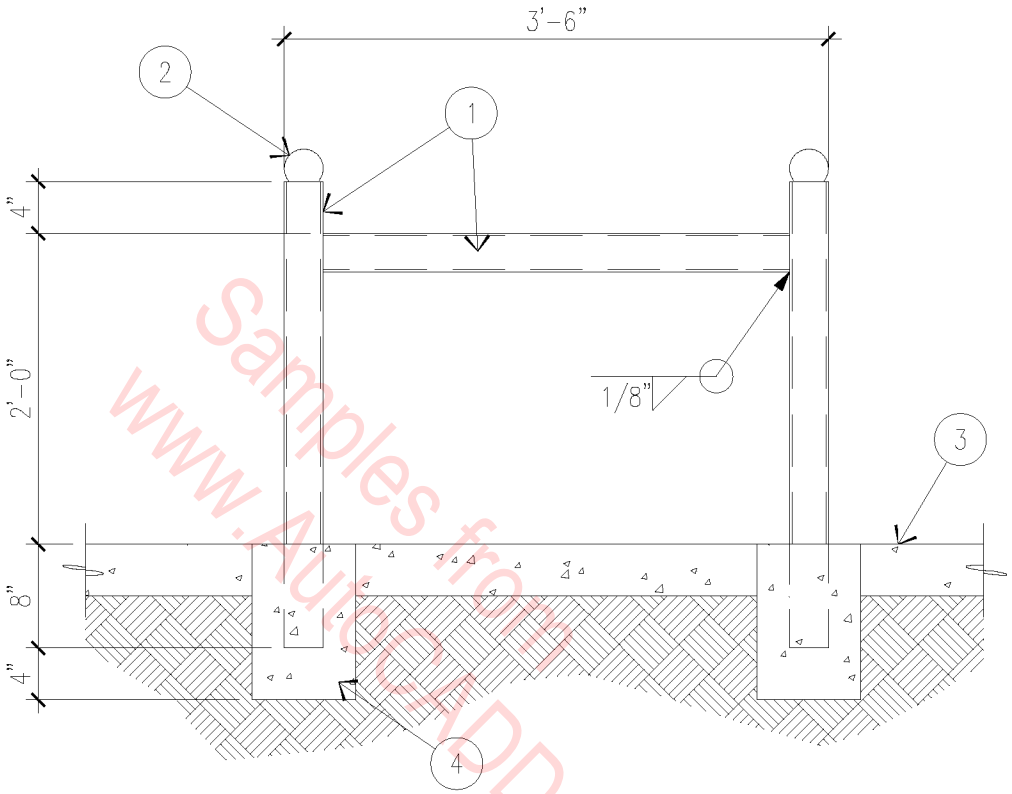
ANCHOR BOLT ANCHOR EXPANSION BOLT

1. FACE OF WALL, TOP OF WALL, COLUMN, ETC.
2. PLATE, ANGLE, CHANNEL, ETC.

EMBEDS

1 1/2" = 1'-0"

05D-1019

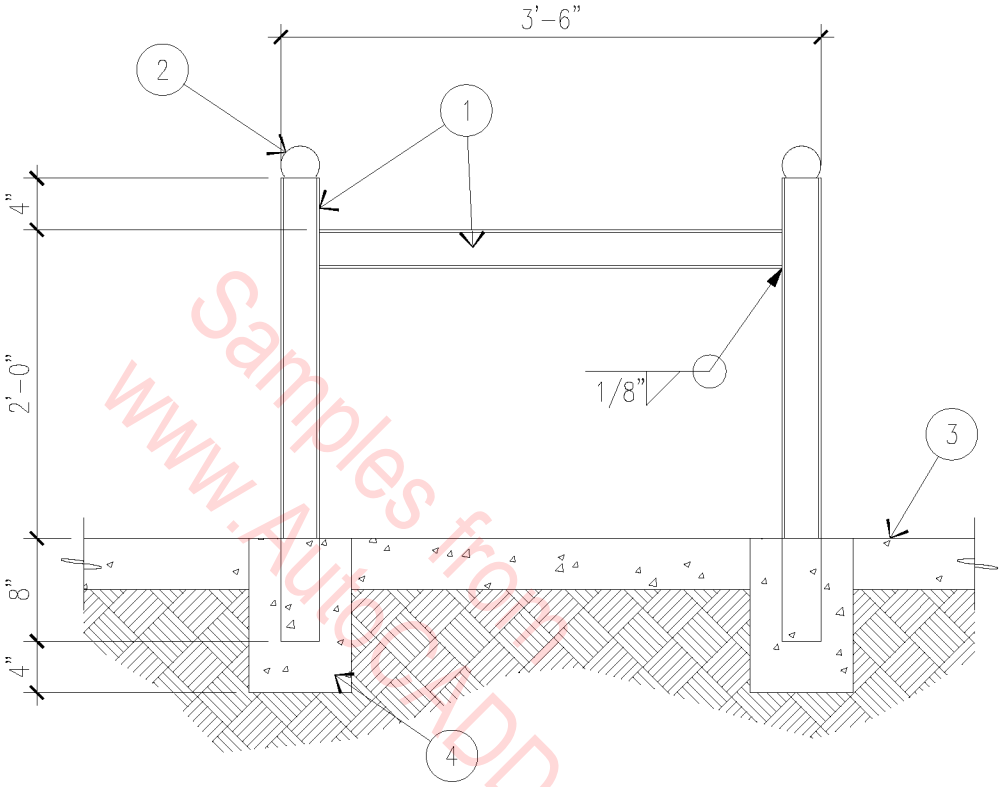


1. 3" X 3" X 3/16" TUBE STEEL.
2. 3" ø BALL CAP.
3. 4" CONCRETE SIDEWALK.
4. 8" ø X 12" FOOTING.

BIKE RACK

3/4" = 1'-0"

05D-1020

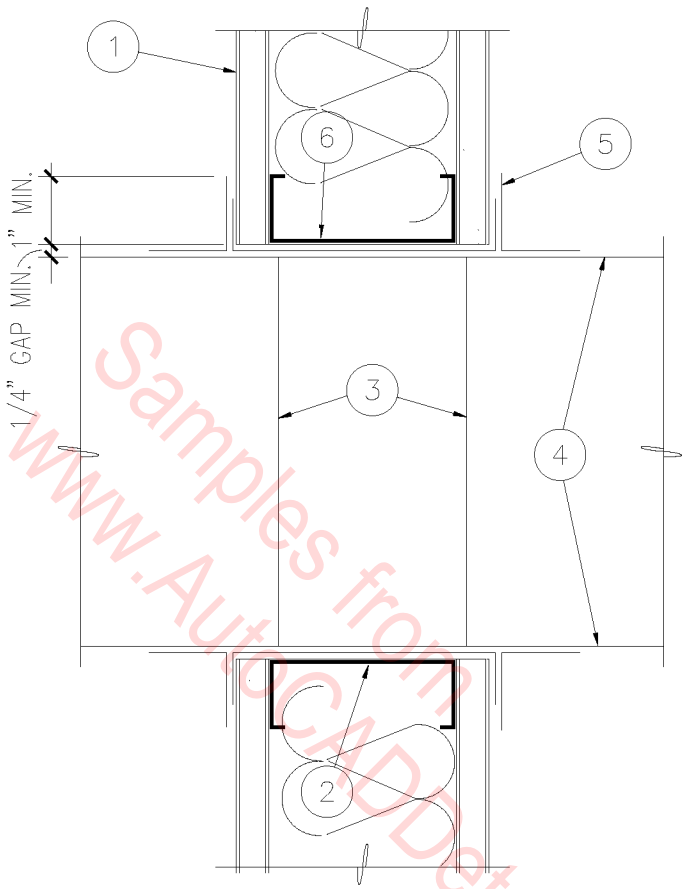


1. 3" X 3" X 3/16" TUBE STEEL.
2. 3" ø BALL CAP.
3. 4" CONCRETE SIDEWALK.
4. 8" ø X 12" FOOTING.

BIKE RACK

3/4" = 1'-0"

05D-1020



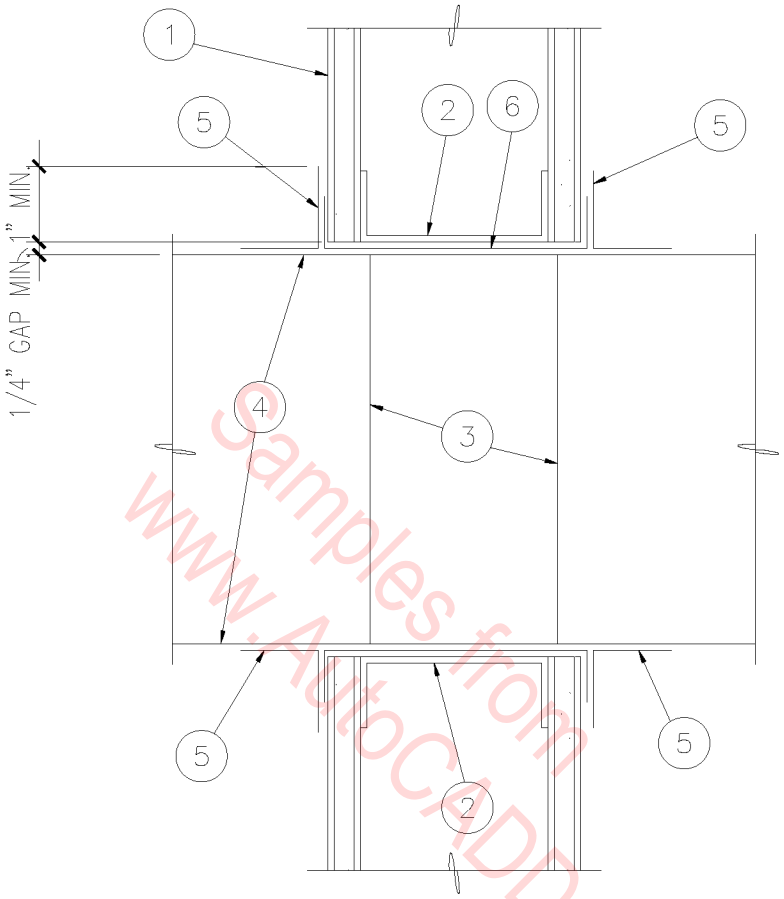
UL SAFETY STANDARD 555 AND NFPA 90A

1. ONE HOUR WALL UL DESIGN NO. U465.
2. METAL RUNNER.
3. FIRE OR LEAKAGE (SMOKE) DAMPER. SEE MECHANICAL FOR TYPE AND LOCATION.
4. DAMPER SLEEVE SHALL NOT EXTEND MORE MORE THAN 9" ON THE OPERATOR/ACTUATOR SIDE.
5. ANGLE 1-1/2" X 1-1/2" X 14 GAGE.
6. 22 GA. G. I. SLEEVE.

DUCT THRU WALL

3" = 1'-0"

05D-2001



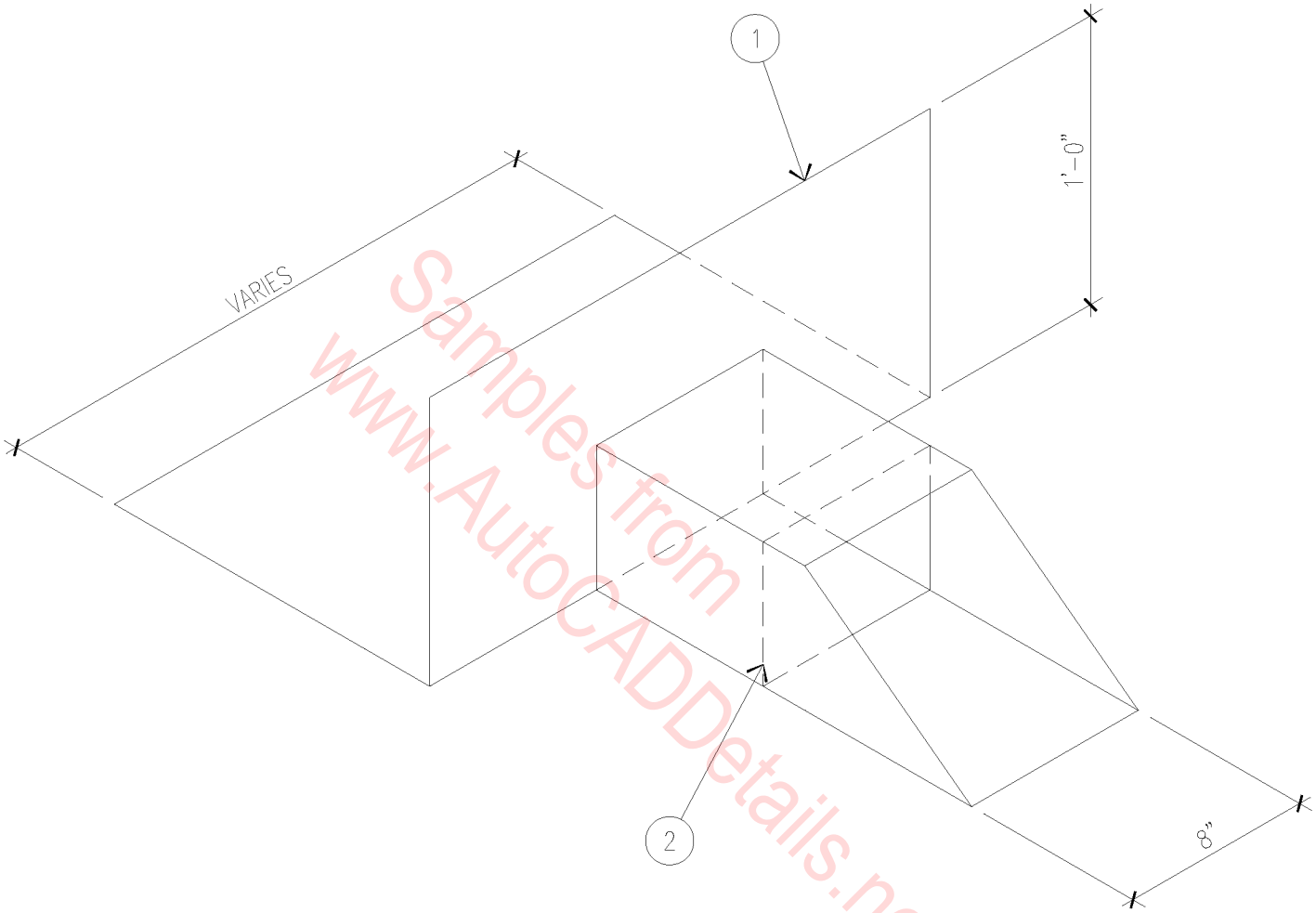
UL SAFETY STANDARD 555 AND NFPA 90A

1. ONE HOUR WALL UBC 43-B, 15-1.1.
2. METAL RUNNER.
3. FIRE OR LEAKAGE (SMOKE) DAMPER. SEE MECHANICAL FOR TYPE AND LOCATION.
4. DAMPER SLEEVE SHALL NOT EXTEND MORE THAN 6" BEYOND THE FIRE WALL AND NOT MORE THAN 9" ON THE OPERATOR/ACTUATOR SIDE.
5. ANGLE 1-1/2" X 1-1/2" X 14 GAGE.
6. 22 GA. G. I. SLEEVE.

1 HR. DUCT PENETRATION

3" = 1'-0"

05D-2002

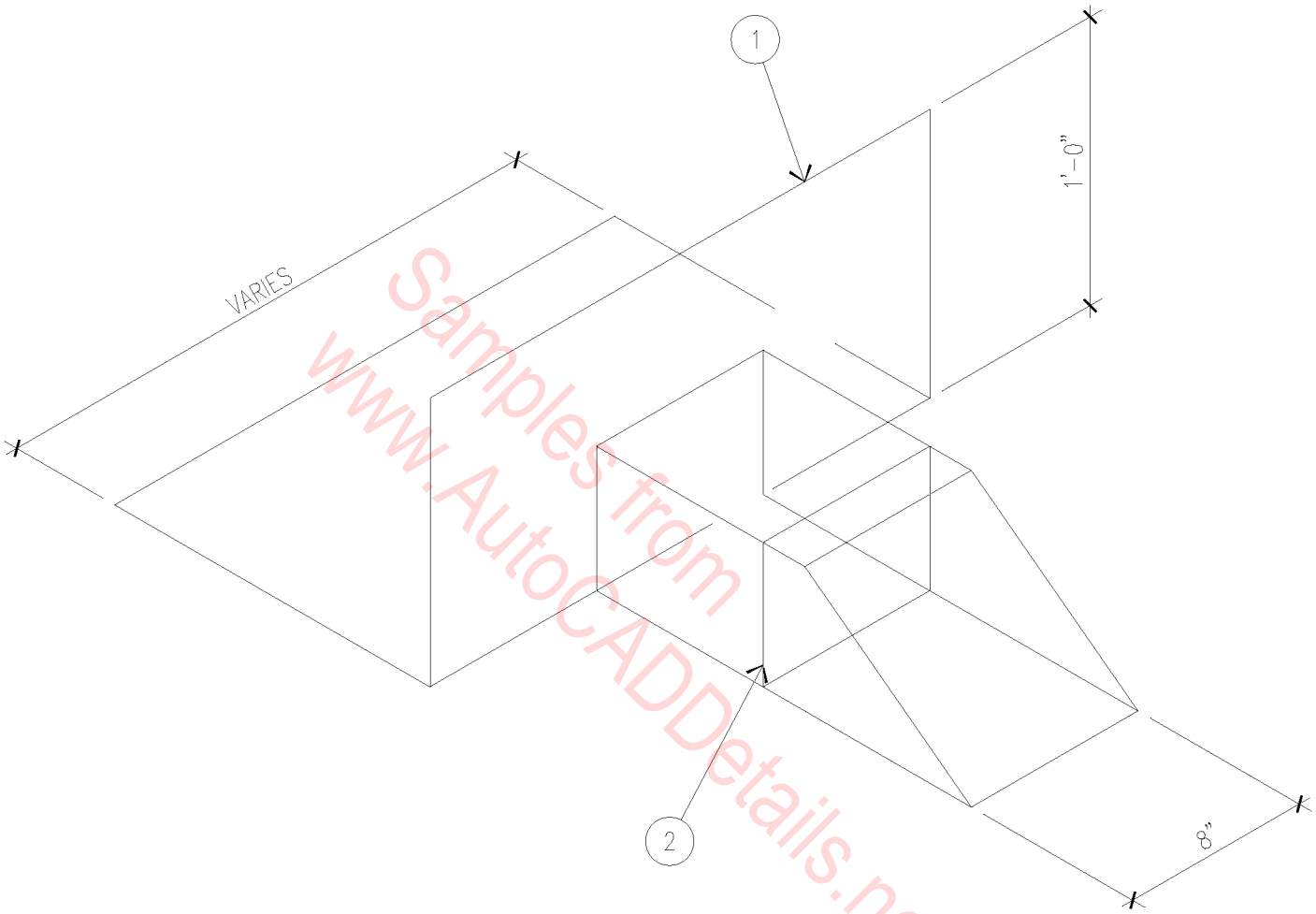


1. 20 GAUGE GALVANIZED IRON – SOLDER ALL JOINTS.
2. SEAL AT MASONRY OPENING.

SCUPPER FLASHING

1 1/2" = 1'-0"

05D-2003

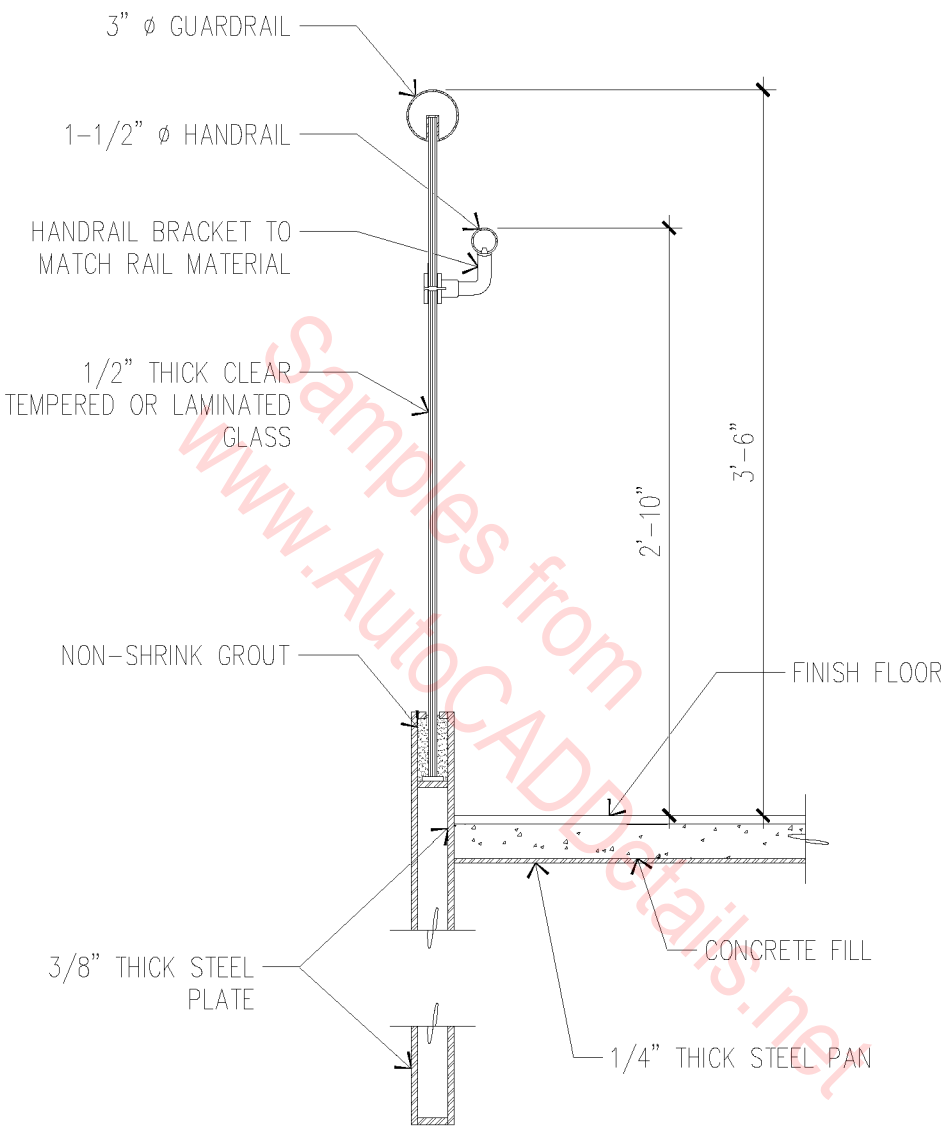


1. 20 GAUGE GALVANIZED IRON – SOLDER ALL JOINTS.
2. SEAL AT MASONRY OPENING.

SCUPPER FLASHING

1 1/2" = 1'-0"

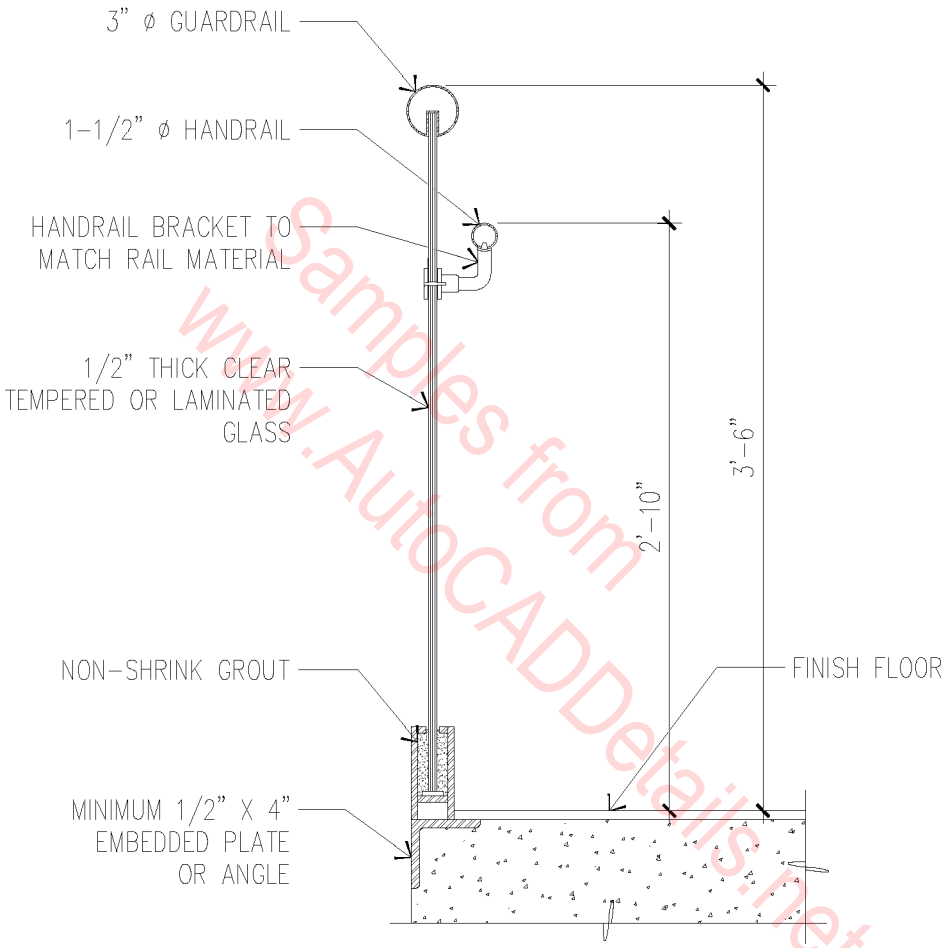
05D–2003



HANDRAIL

1" = 1'-0"

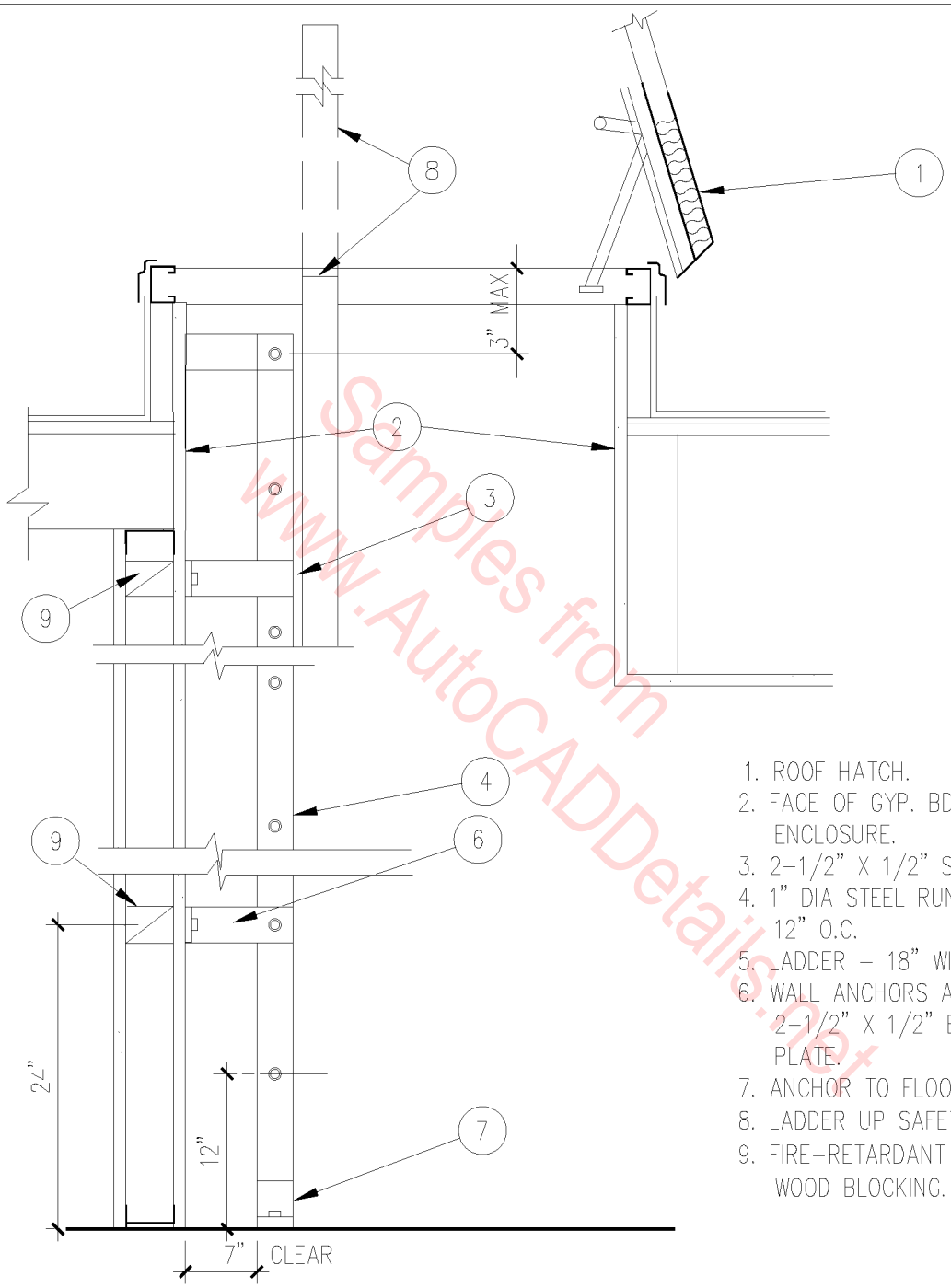
05E-4001



HANDRAIL

1" = 1'-0"

05E-4002

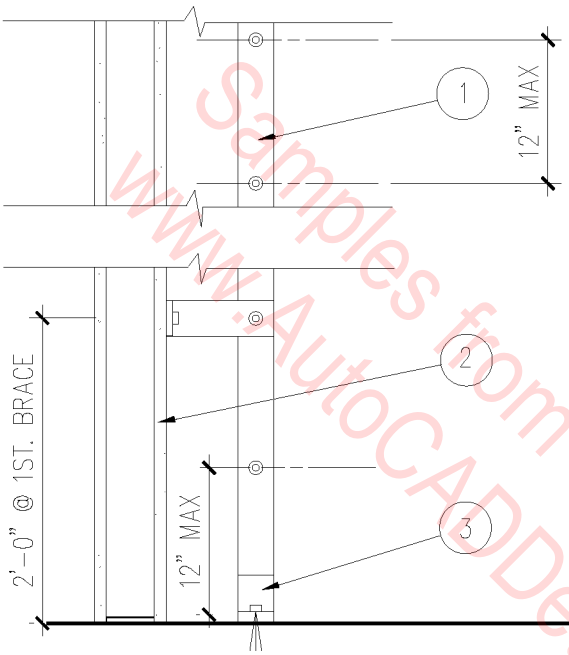


1. ROOF HATCH.
2. FACE OF GYP. BD. ENCLOSURE.
3. 2-1/2" X 1/2" STRINGER.
4. 1" DIA STEEL RUNGS AT 12" O.C.
5. LADDER - 18" WIDE.
6. WALL ANCHORS AT 60" O.C. 2-1/2" X 1/2" BENT PLATE.
7. ANCHOR TO FLOOR.
8. LADDER UP SAFETY POST.
9. FIRE-RETARDANT WOOD BLOCKING.

LADDER TO SCUTTLE

3" = 1'-0"

05E-3001

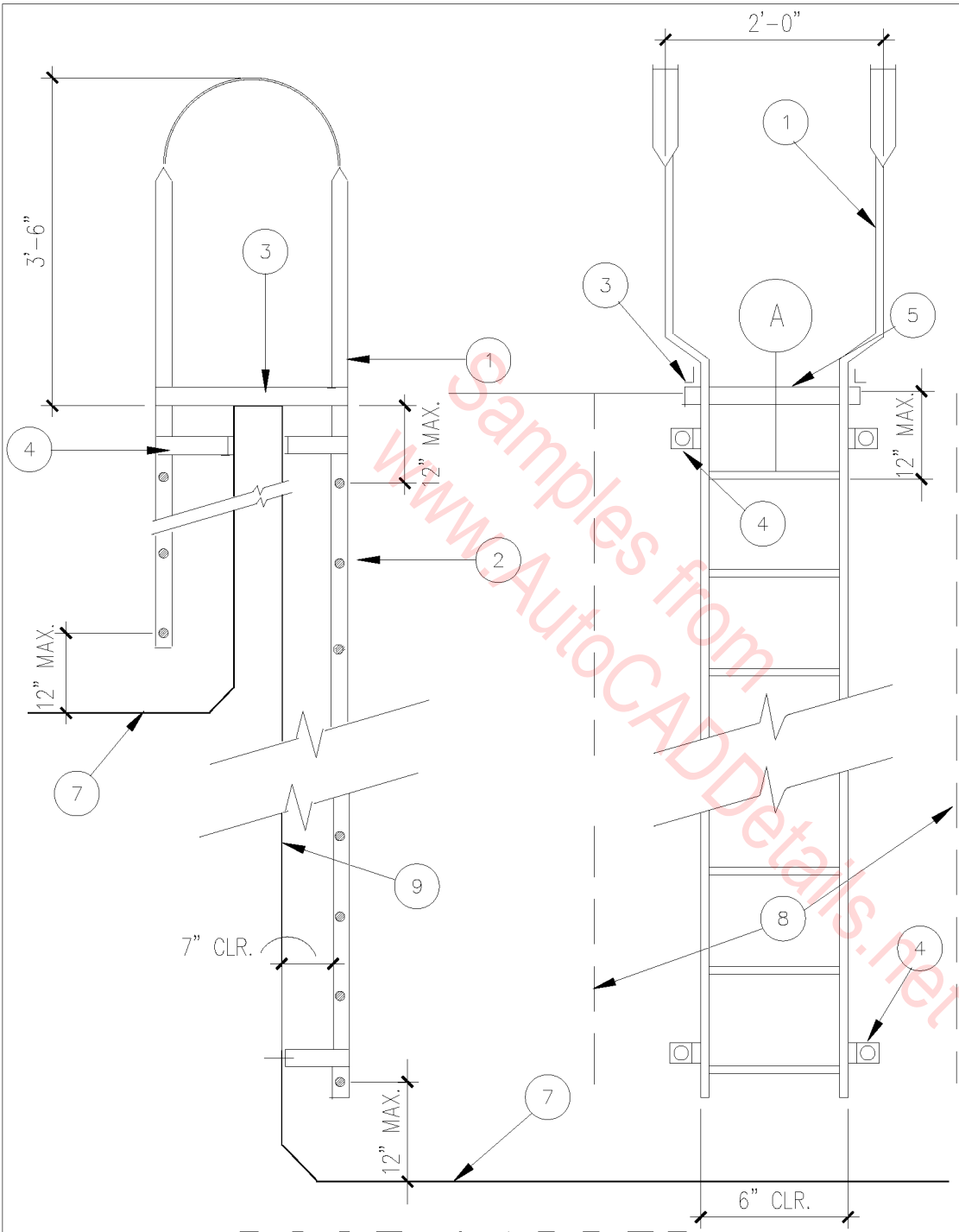


1. ACCESS LADDER (16" MIN. CLEAR INSIDE SIDE RAIL TO SIDE RAIL).
2. REINFORCE STUD WALL TO SUPPORT LADDER.
3. ANCHOR TO FLOOR.

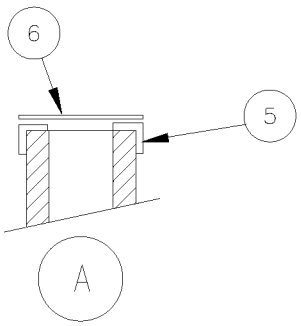
ROOF LADDER

3/4" = 1'-0"

05E-3002



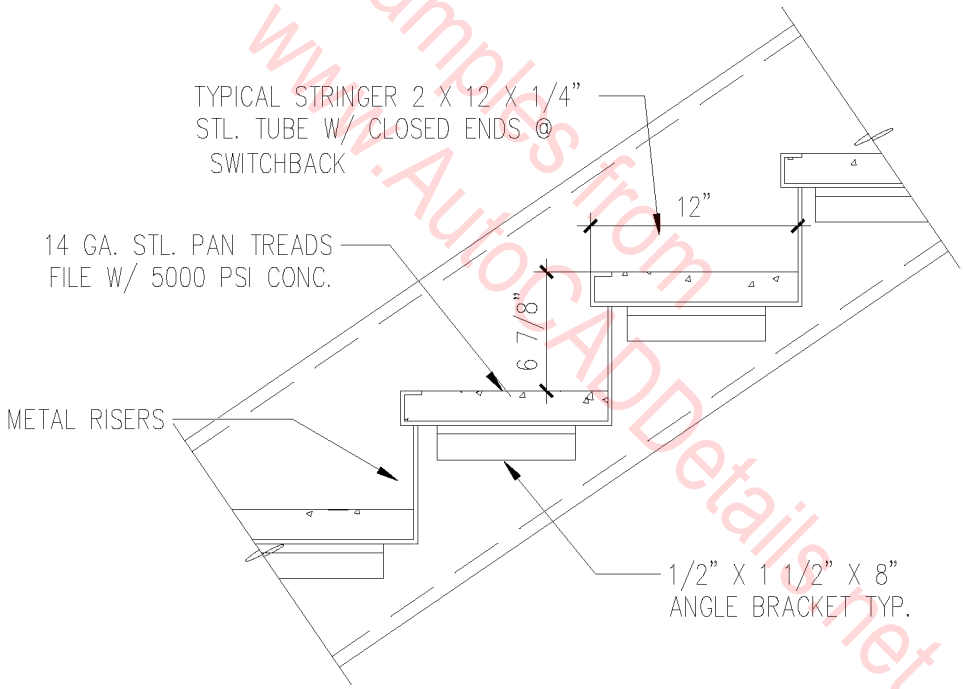
1. 2-1/2" X 1/2" STEEL BAR STRINGERS.
2. STEEL RUNGS AT 12" O.C.
3. 2-1/2" X 2-1/2" X 3/8" STEEL ANGLE. WELD TO STRINGERS AND TO CAP BLOCK CORNER ANGLE. ANCHOR TO TOP OF WALL WITH 3/4" O EXPANSION BOLTS IN GROUTED CELLS. 3" MINIMUM EMBEDMENT.
4. 2-1/2" X 3/8" STEEL BRACKETS AT 5'-0" O.C. MAXIMUM VERTICALLY. WELD TO STRINGER AND SECURE TO WALL WITH 3/4" O EXPANSION BOLT IN GROUTED CELL 3" MINIMUM EMBEDMENT. SEALANT ALL AROUND WHERE COMPOSITE ROOFING SYSTEM OCCURS.
5. 2-1/2" X 2-1/2" X 3/8" STEEL ANGLE AT CAP BLOCK.
6. 1/4" THICK CHECKERED STEEL PLATE. WELD TO CORNER ANGLES
7. TOP OF ROOFING SYSTEM.
8. GROUT MASONRY WALL SOLID, 4' WIDE BEHIND STEEL LADDER.
9. 8" WIDE OR 12" WIDE MASONRY.



ROOF LADDER

1" = 1'-0"

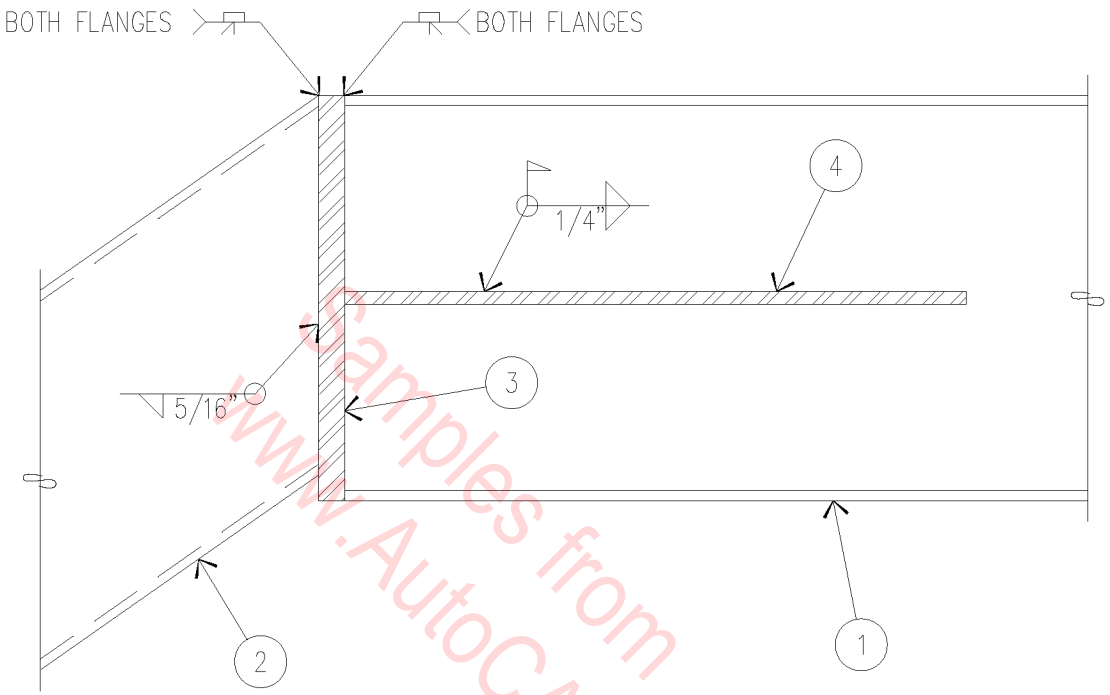
05E-3003



METAL STAIRS

1" = 1'-0"

05E-1001

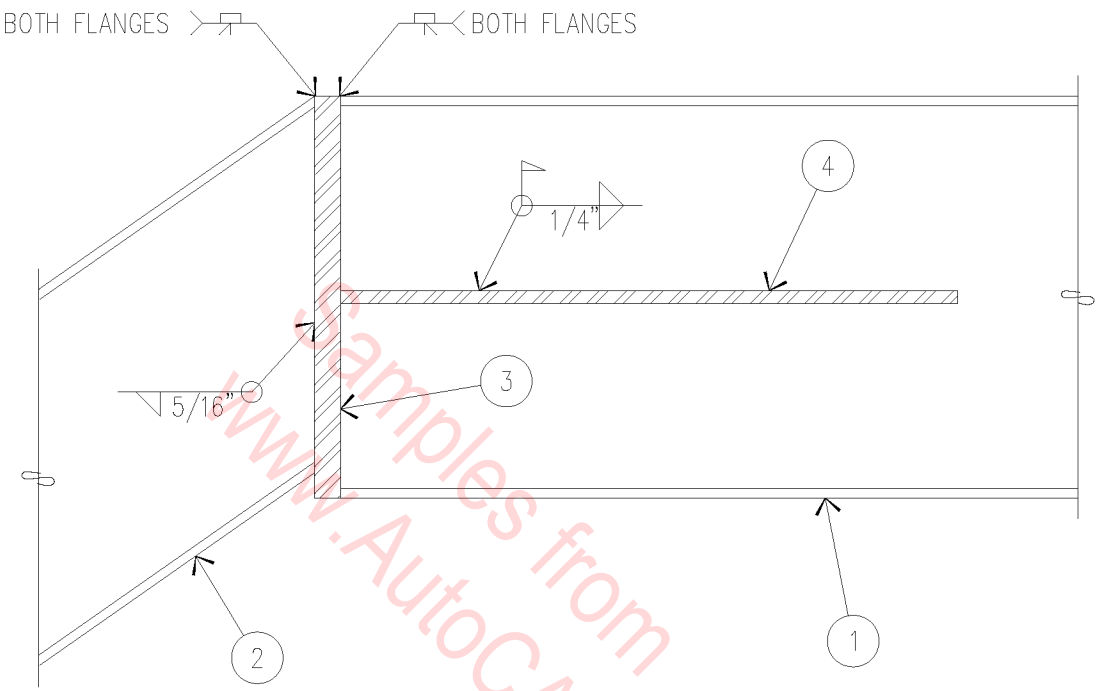


1. WIDE FLANGE BEAM PER PLAN.
2. TUBE STEEL STRINGER PER PLAN.
3. 1" X (BEAM DEPTH) X (BEAM FLANGE WIDTH) PLATE.
4. 1" X 2'-0" X 1/2" THICK PLATE, EACH SIDE.

STRINGER TO BEAM

1 1/2" = 1'-0"

05E-1002

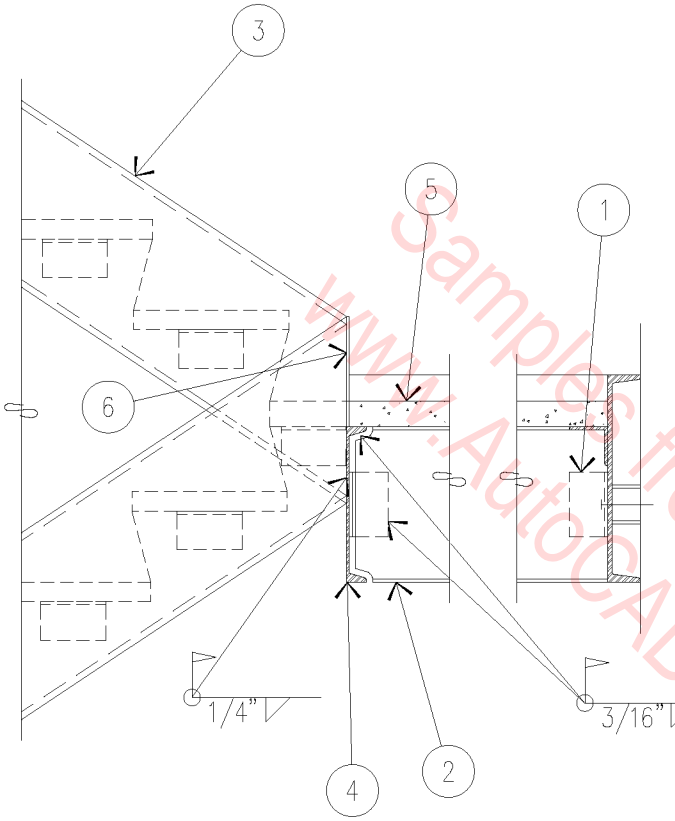


1. WIDE FLANGE BEAM PER PLAN.
2. TUBE STEEL STRINGER PER PLAN.
3. 1" X (BEAM DEPTH) X (BEAM FLANGE WIDTH) PLATE.
4. 1" X 2'-0" X 1/2" THICK PLATE, EACH SIDE.

STRINGER TO BEAM

1 1/2" = 1'-0"

05E-1002

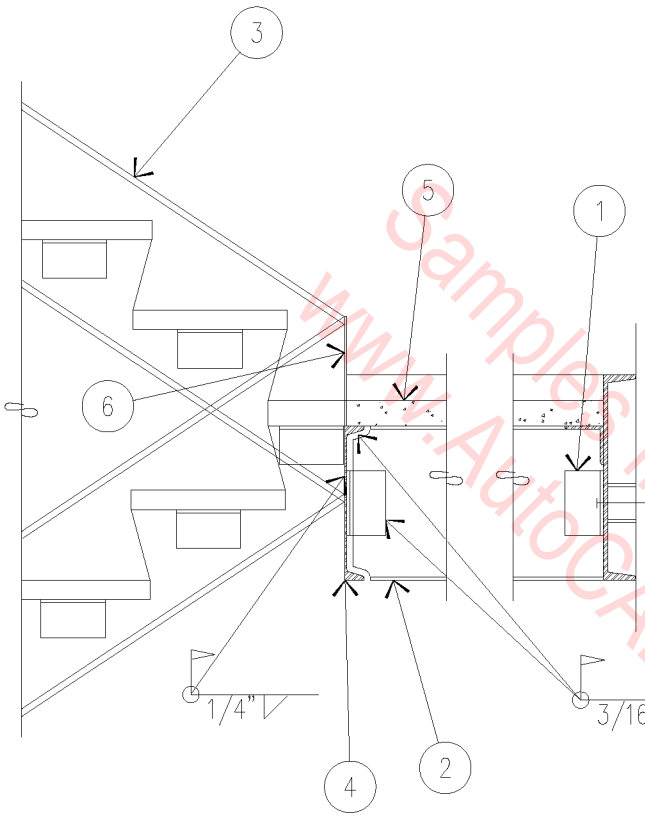


1. 3" X 3" X 1/4" X 5" ANGLE (TYPICAL) AT HEADER TO STRINGER OR STRINGER TO STRINGER.
2. STIFFENER.
3. MC 12 X 10.6 STRINGER (TYPICAL).
4. MC 12 X 10.6 HEADER.
5. 2" CONCRETE REINFORCED WITH 6 X 6 WELDED WIRE FABRIC (W2.9 X W2.9) ON A 12 GAUGE PAN OVER L 3" X 3" X 1/4" STIFFENERS (LLV) AT 24" O.C. ON LANDING.
6. 3/16" STEEL CLOSURE PLATE.

INTERIOR STAIR SUPPORT

3/4" = 1'-0"

05E-1003

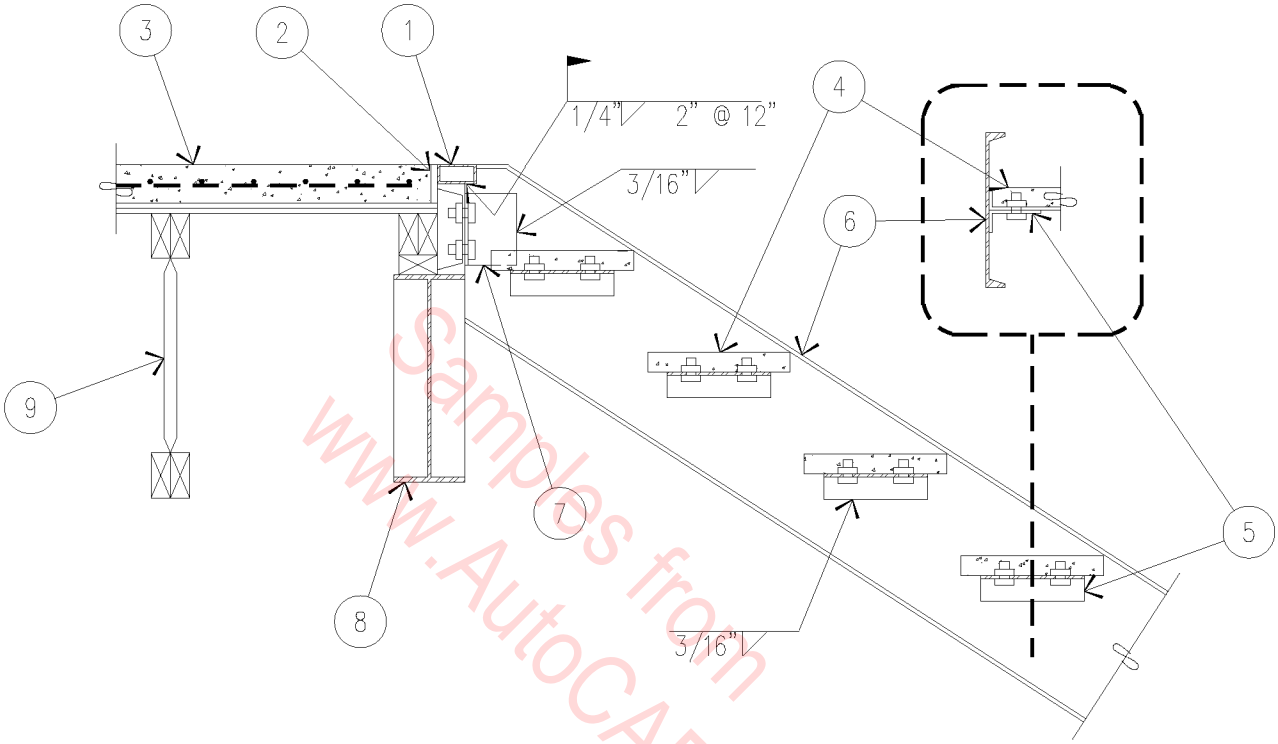


1. 3" X 3" X 1/4" X 5" ANGLE (TYPICAL) AT HEADER TO STRINGER OR STRINGER TO STRINGER.
2. STIFFENER.
3. MC 12 X 10.6 STRINGER (TYPICAL).
4. MC 12 X 10.6 HEADER.
5. 2" CONCRETE REINFORCED WITH 6 X 6 WELDED WIRE FABRIC (W2.9 X W2.9) ON A 12 GAUGE PAN OVER L 3" X 3" X 1/4" STIFFENERS (LLV) AT 24" O.C. ON LANDING.
6. 3/16" STEEL CLOSURE PLATE.

INTERIOR STAIR SUPPORT

3/4" = 1'-0"

05E-1003

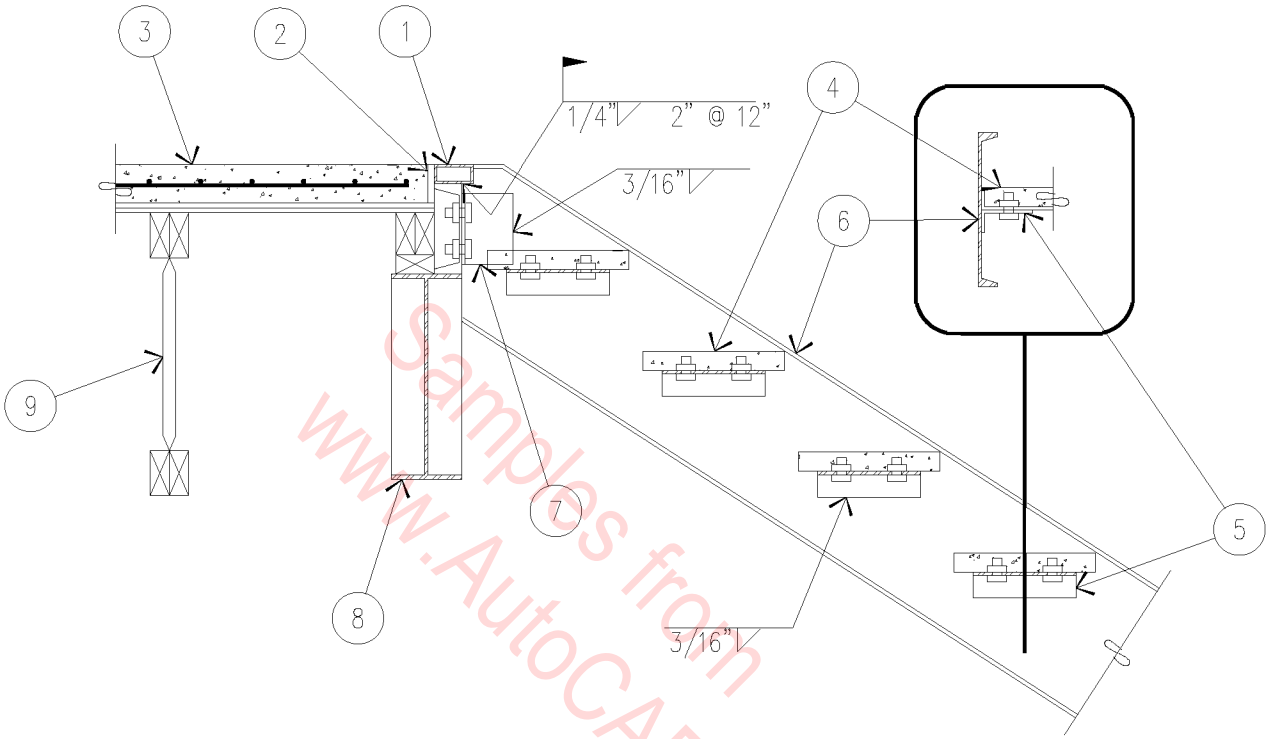


1. TUBE STEEL 3" X 1 1/2" X 3/16" WELDED TO C 7" X 9.8" HEADER.
2. 1/2" EXPANSION JOINT MATERIAL.
3. 3" CONCRETE SLAB OVER WATERPROOF MEMBRANE.
4. 1 1/2" CONCRETE TREAD PAN – SIZE AND STEP HEIGHT PER ARCHITECTURAL.
5. L 2" X 4" X 8" X 1/4" WITH (2) 1/2" ø THROUGH BOLTS.
6. MC 12 X 10.6 STRINGERS.
7. L 2" X 4" X 5 1/2" X 1/4" WITH (2) 3/4" ø THROUGH BOLTS.
8. W 16 X 26 WIDE FLANGE BEAM WITH WEB STIFFENER AT EACH BEARING.
9. 22" TJ's AT 24" O.C.

METAL STAIRS TO SLAB

3/4" = 1'-0"

05E-1004

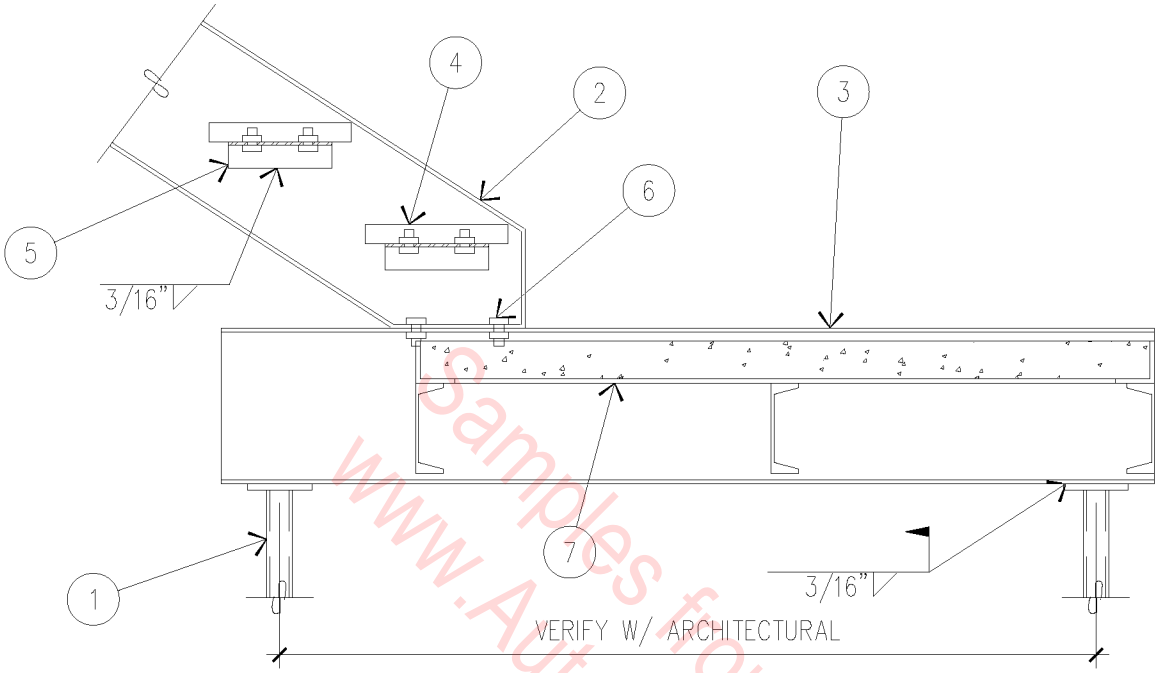


1. TUBE STEEL 3" X 1 1/2" X 3/16" WELDED TO C 7" X 9.8" HEADER.
2. 1/2" EXPANSION JOINT MATERIAL.
3. 3" CONCRETE SLAB OVER WATERPROOF MEMBRANE.
4. 1 1/2" CONCRETE TREAD PAN – SIZE AND STEP HEIGHT PER ARCHITECTURAL.
5. L 2" X 4" X 8" X 1/4" WITH (2) 1/2" ø THROUGH BOLTS.
6. MC 12 X 10.6 STRINGERS.
7. L 2" X 4" X 5 1/2" X 1/4" WITH (2) 3/4" ø THROUGH BOLTS.
8. W 16 X 26 WIDE FLANGE BEAM WITH WEB STIFFENER AT EACH BEARING.
9. 22" TJ's AT 24" O.C.

METAL STAIRS TO SLAB

3/4" = 1'-0"

05E-1004

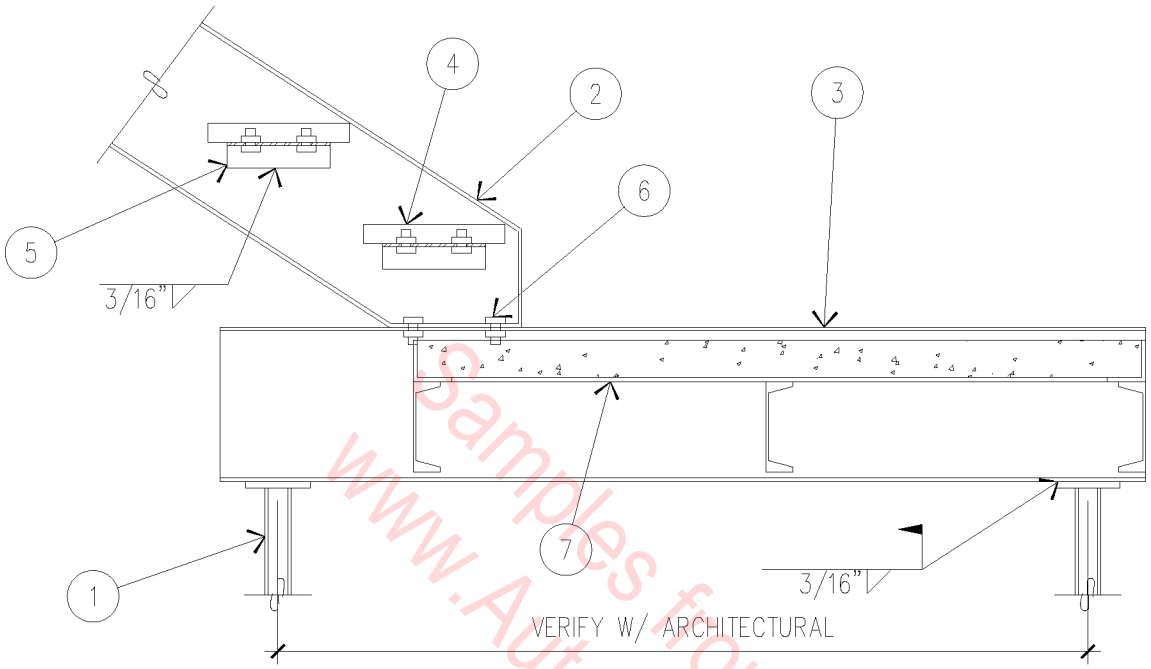


1. TUBE STEEL COLUMN WITH 3" X 3" X 3/8" CAP PLATE.
2. MC 12 X 10.6 STRINGERS.
3. 3" CONCRETE SLAB ON METAL DECKING – REINFORCE SLAB WITH 6 X 6 WELDED WIRE FABRIC.
4. 1 1/2" CONCRETE TREAD PAN – SIZE AND STEP HEIGHT PER ARCHITECTURAL.
5. L 2" X 4" X 8" X 1/4" WITH (2) 1/2" ø THROUGH BOLTS.
6. CONNECT STRINGERS WITH (2) 1/2" ø THROUGH BOLTS.
7. CONTINUOUS L 3" X 3" X 1/4" WELDED TO C 6 X 8.2.

METAL STAIRS TO SLAB

3/4" = 1'-0"

05E-1005

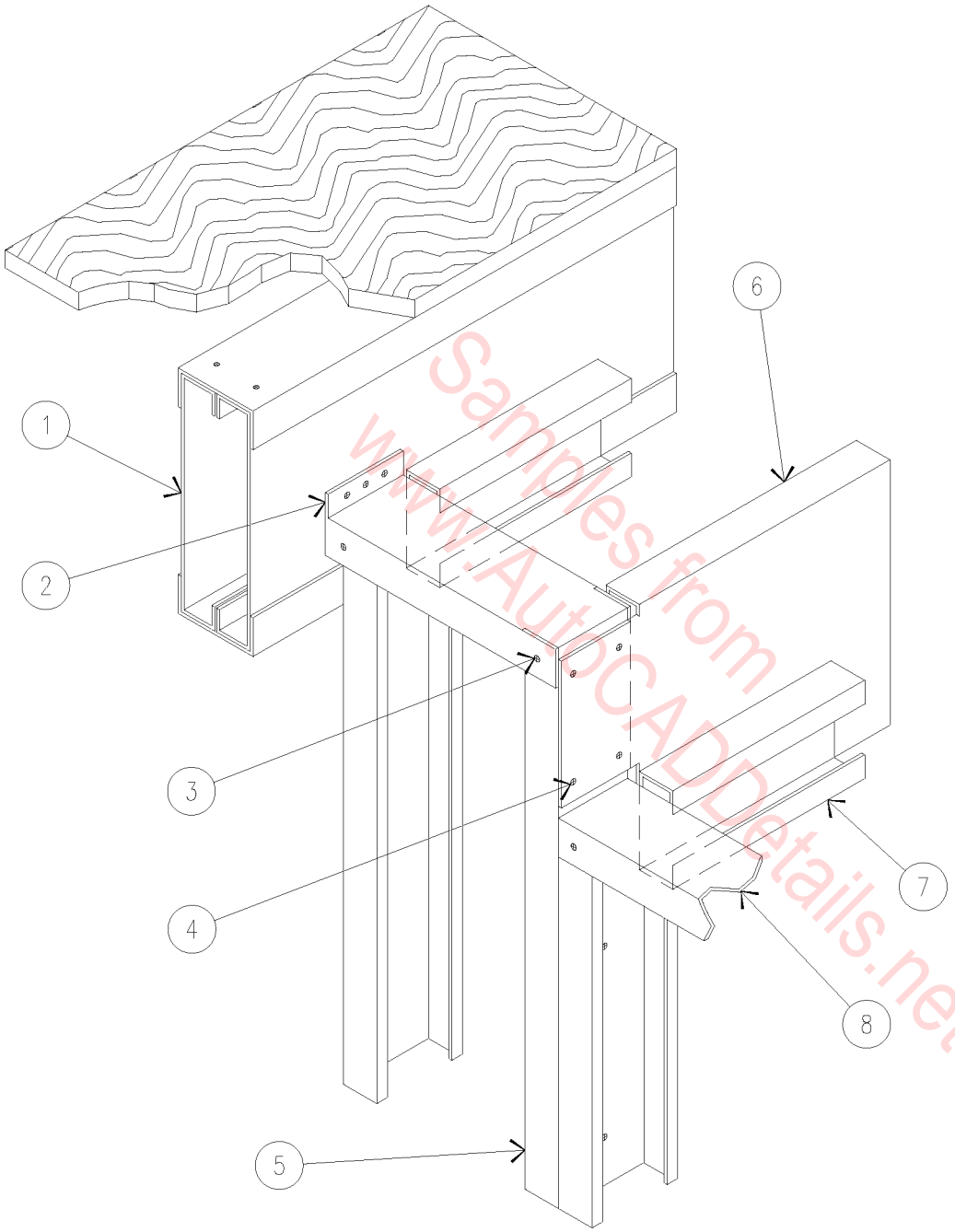


1. TUBE STEEL COLUMN WITH 3" X 3" X 3/8" CAP PLATE.
2. MC 12 X 10.6 STRINGERS.
3. 3" CONCRETE SLAB ON METAL DECKING – REINFORCE SLAB WITH 6 X 6 WELDED WIRE FABRIC.
4. 1 1/2" CONCRETE TREAD PAN – SIZE AND STEP HEIGHT PER ARCHITECTURAL.
5. L 2" X 4" X 8" X 1/4" WITH (2) 1/2" ø THROUGH BOLTS.
6. CONNECT STRINGERS WITH (2) 1/2" ø THROUGH BOLTS.
7. CONTINUOUS L 3" X 3" X 1/4" WELDED TO C 6 X 8.2.

METAL STAIRS TO SLAB

3/4" = 1'-0"

05E-1005

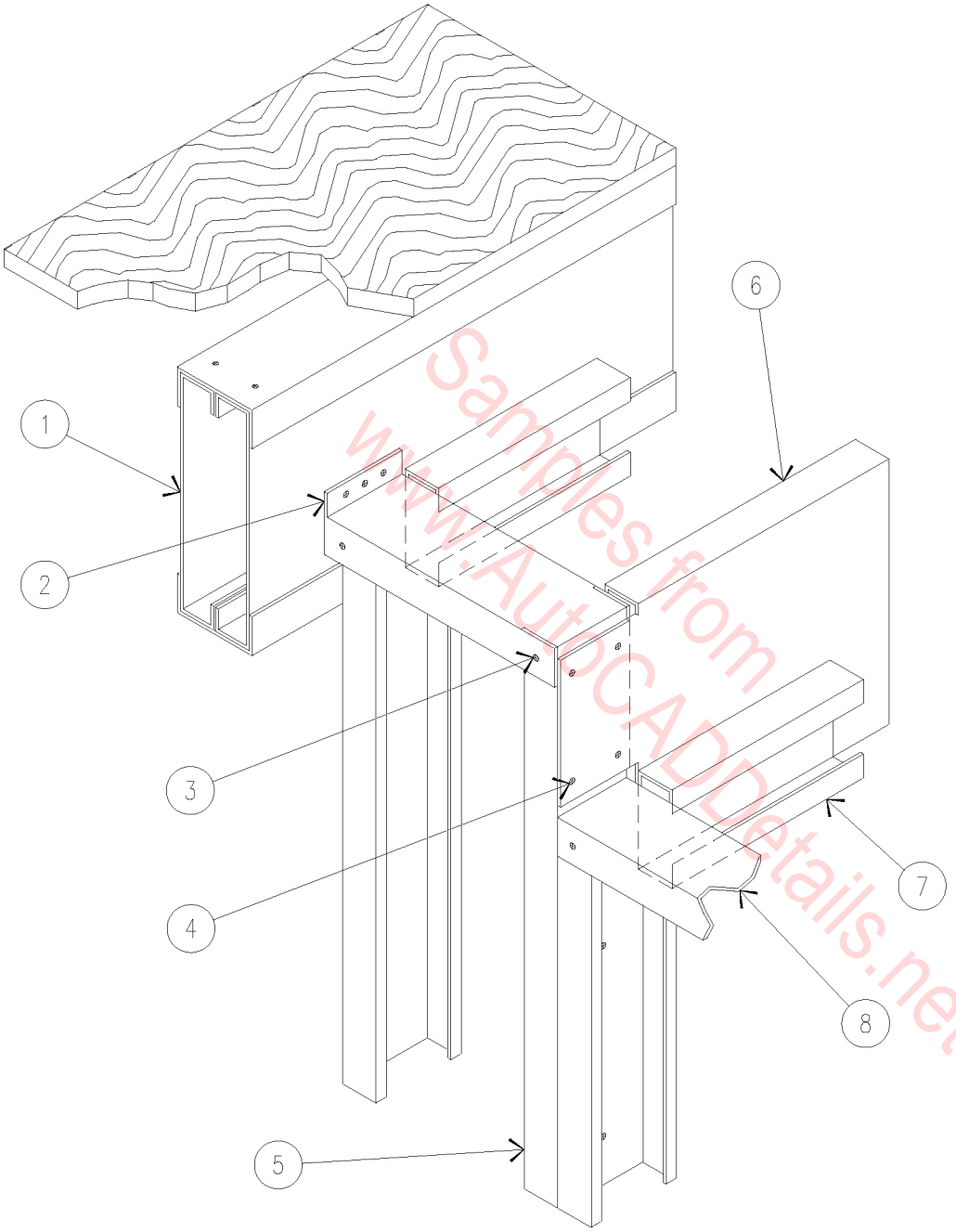


1. BOXED BEAM OR HEADER – SEE PLAN.
2. BEND WEB AND SCREW TO BEAM WITH (3) #10 SCREWS (TYPICAL).
3. (1) #8 SCREW EACH SIDE OF EACH STUD (TYPICAL).
4. CONNECT WITH (4) #10 SCREWS, MINIMUM, EACH END (TYPICAL).
5. DOUBLE STUD LOCATED AT EACH RISER – SCREW BACK TO BACK.
6. 10" X 16 GAUGE METAL STUD – CUT FLANGES AND EXTEND WEB FOR CONNECTION (TYPICAL FOR EACH RISER).
7. 2 1/2" X 20 GAUGE METAL STUD WITH #10 SCREWS AT 6" O.C. ACROSS STAIR WIDTH (TYPICAL).
8. 20 GAUGE TOP TRACK AT EACH LANDING (TYPICAL).

METAL STAIRS

N.T.S.

05E–1006

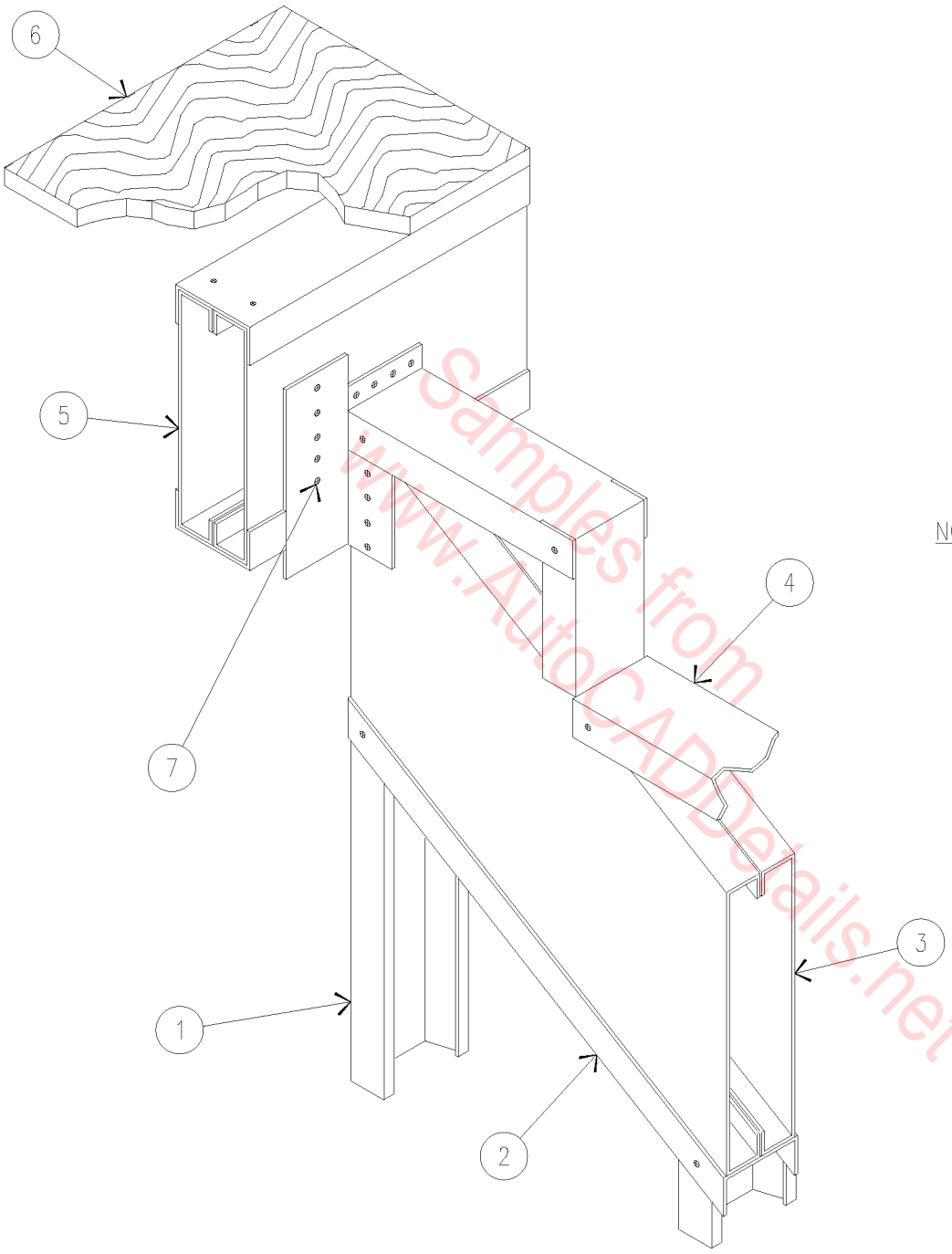


1. BOXED BEAM OR HEADER – SEE PLAN.
2. BEND WEB AND SCREW TO BEAM WITH (3) #10 SCREWS (TYPICAL).
3. (1) #8 SCREW EACH SIDE OF EACH STUD (TYPICAL).
4. CONNECT WITH (4) #10 SCREWS, MINIMUM, EACH END (TYPICAL).
5. DOUBLE STUD LOCATED AT EACH RISER – SCREW BACK TO BACK.
6. 10" X 16 GAUGE METAL STUD – CUT FLANGES AND EXTEND WEB FOR CONNECTION (TYPICAL FOR EACH RISER).
7. 2 1/2" X 20 GAUGE METAL STUD WITH #10 SCREWS AT 6" O.C. ACROSS STAIR WIDTH (TYPICAL).
8. 20 GAUGE TOP TRACK AT EACH LANDING (TYPICAL).

METAL STAIRS

N.T.S.

05E–1006



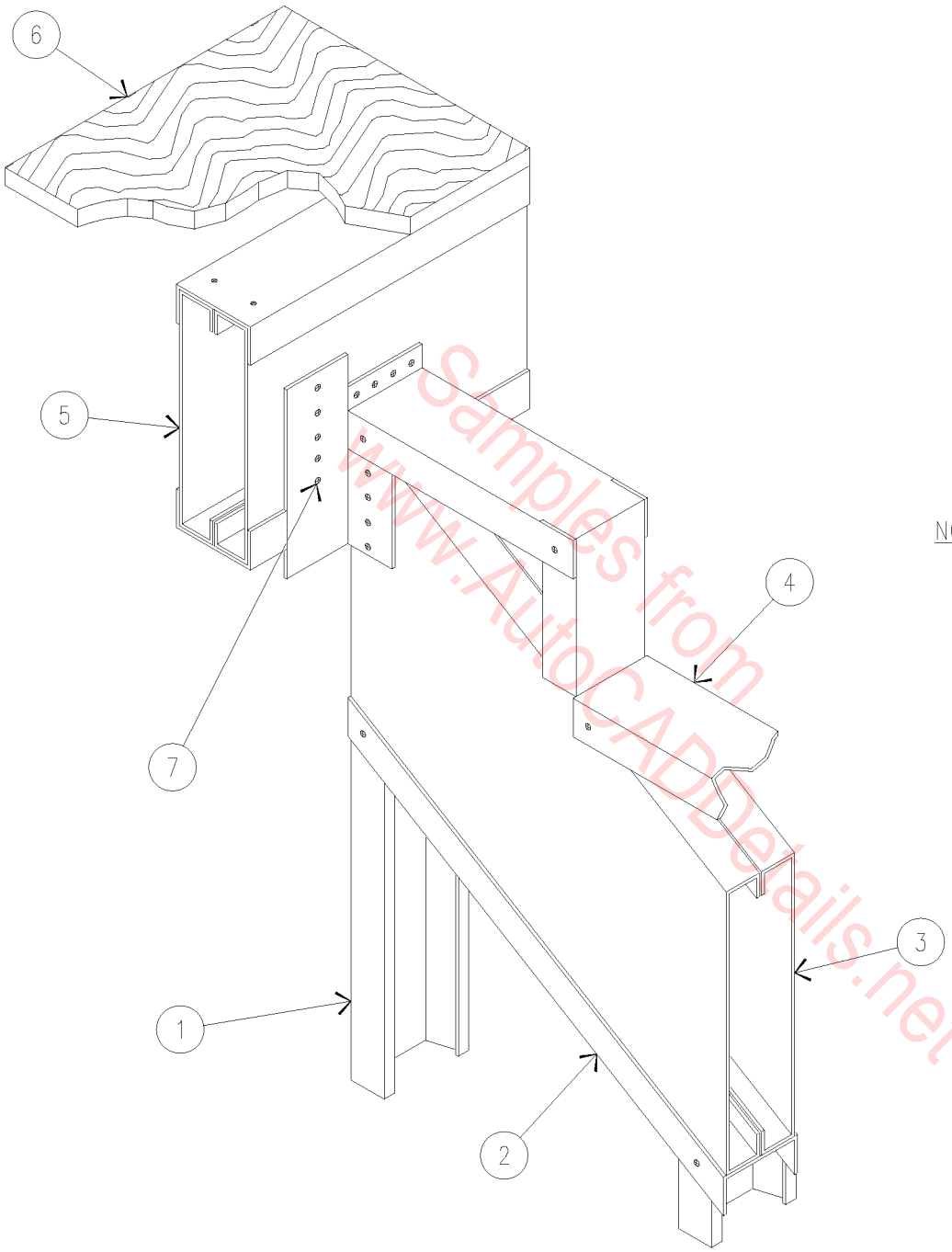
1. FILLER STUDS AS REQUIRED.
2. TRACK.
3. BOXED STRINGER.
4. CUT AND BEND TRACK AS SHOWN TO FORM STAIR – SEE ARCHITECTURAL FOR TREAD AND RISER MEASUREMENTS.
5. BOXED BEAM OR HEADER.
6. 3/4" A.P.A. RATED FLOOR SHEATHING.
7. 2" X 2" X 16 GAUGE ANGLE WITH #4 SCREWS TO EACH LEG.

NOTE: SEE STRUCTURAL DRAWINGS FOR THE NUMBER OF SCREWS AND METAL GAUGES.

METAL STAIRS

N.T.S.

05E–1007



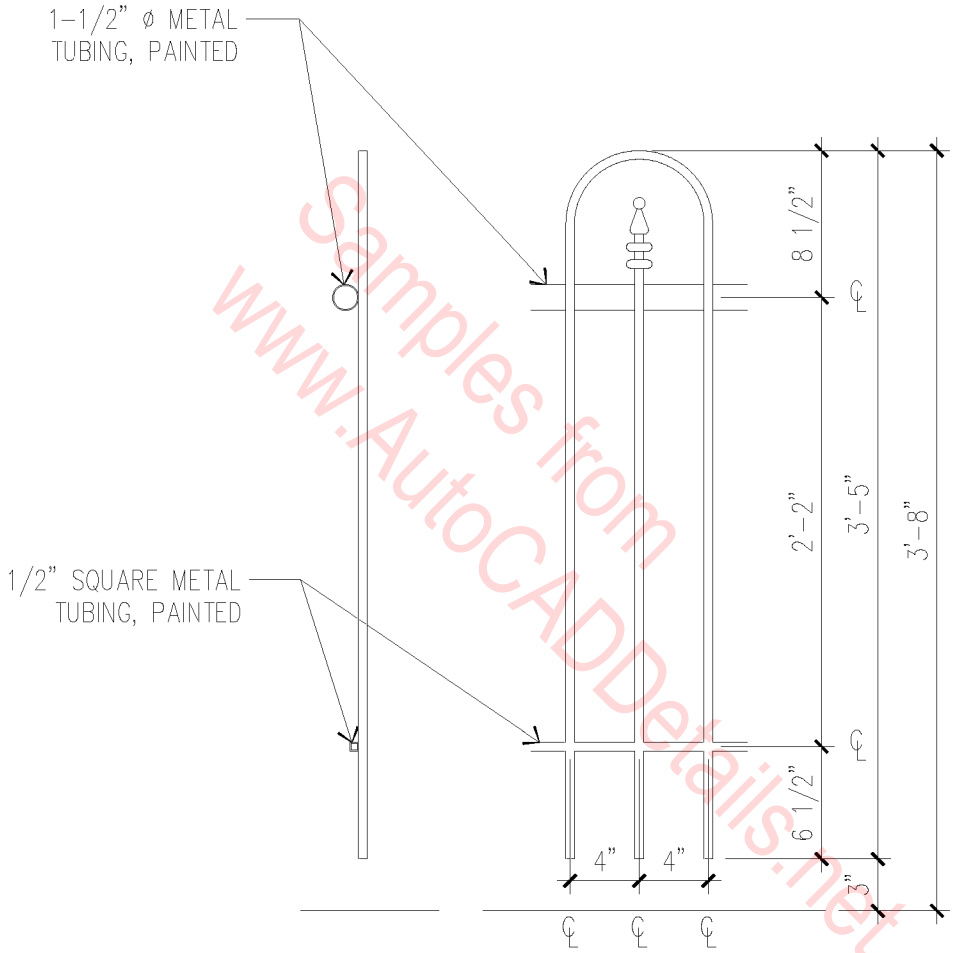
1. FILLER STUDS AS REQUIRED.
2. TRACK.
3. BOXED STRINGER.
4. CUT AND BEND TRACK AS SHOWN TO FORM STAIR – SEE ARCHITECTURAL FOR TREAD AND RISER MEASUREMENTS.
5. BOXED BEAM OR HEADER.
6. 3/4" A.P.A. RATED FLOOR SHEATHING.
7. 2" X 2" X 16 GAUGE ANGLE WITH #4 SCREWS TO EACH LEG.

NOTE: SEE STRUCTURAL DRAWINGS FOR THE NUMBER OF SCREWS AND METAL GAUGES.

METAL STAIRS

N.T.S.

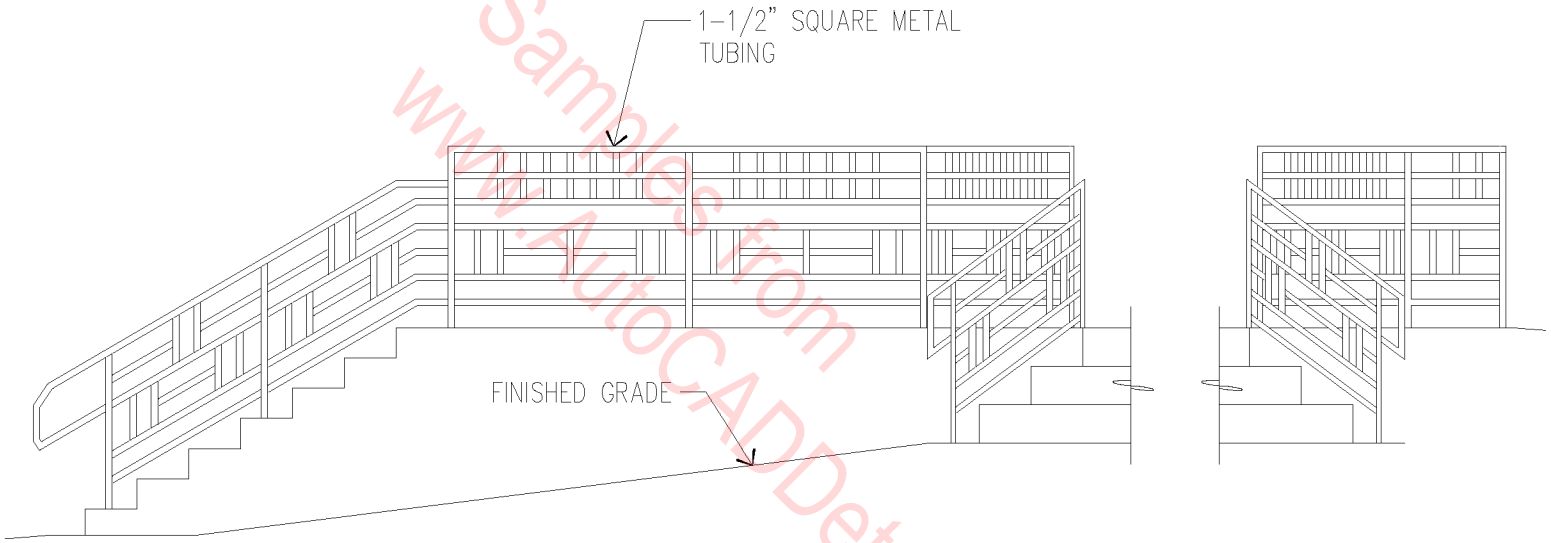
05E–1007



EXTERIOR GUARDRAIL

1" = 1'-0"

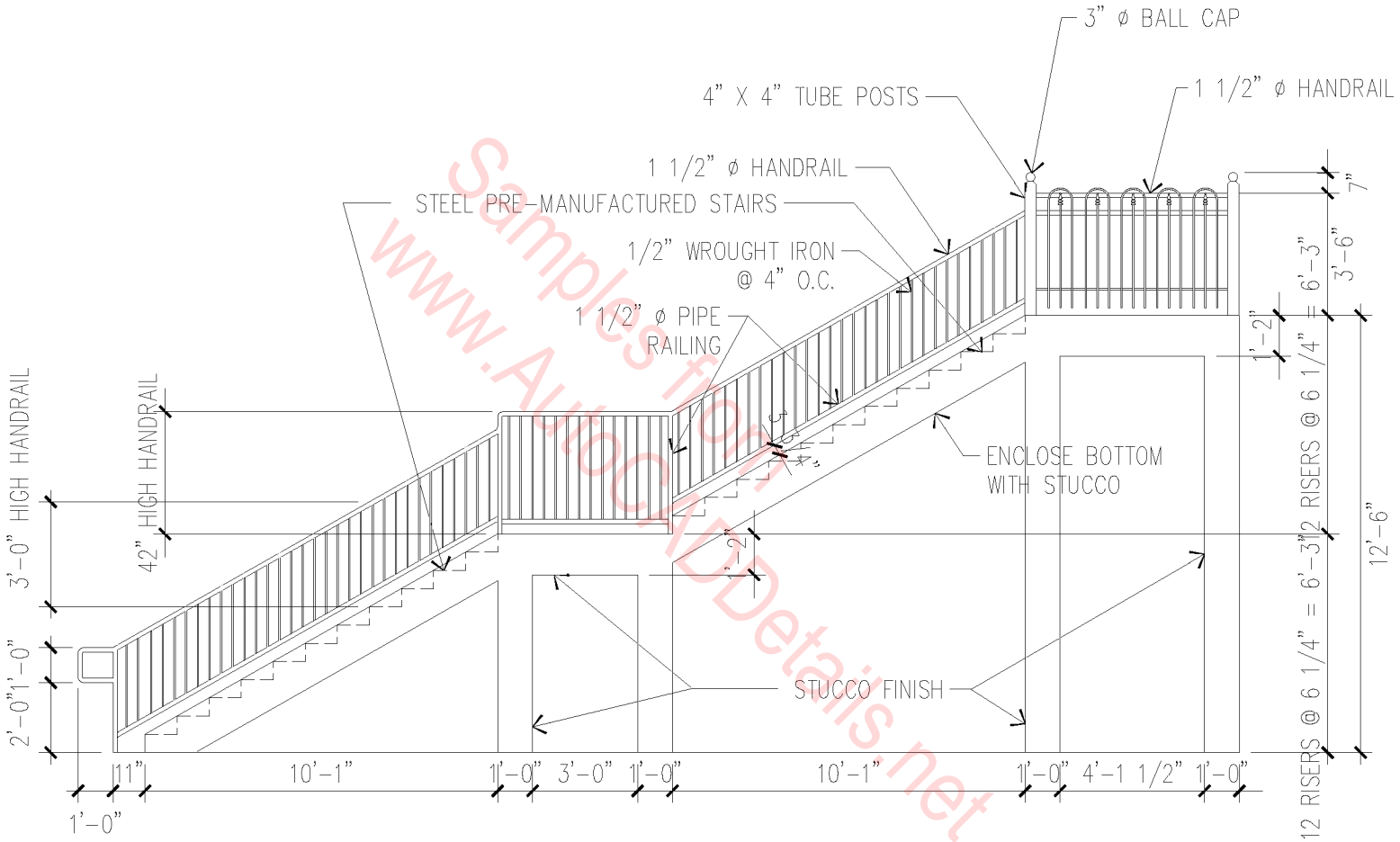
05E-7001



EXTERIOR GUARDRAIL

1/4" = 1'-0"

05E-7002

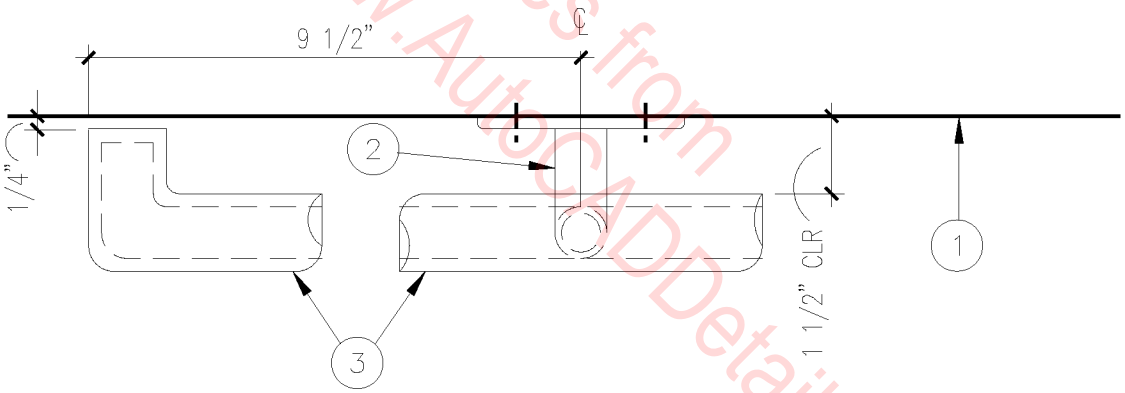


ORNAMENTAL STEEL STAIRS

3/16" = 1'-0"

05E-6001

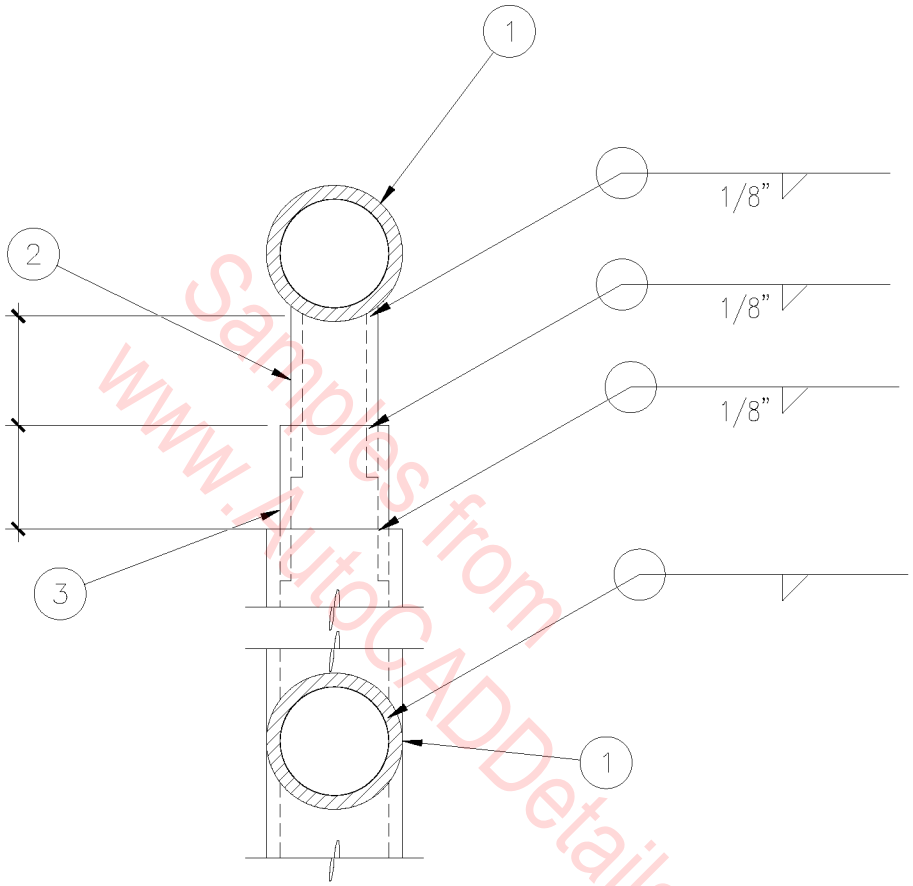
1. FINISH WALL.
2. BRACKET.
3. STEEL PIPE RAILING.



HANDRAIL TERMINATION

SCALE: 3" = 1'-0"

05E-5001

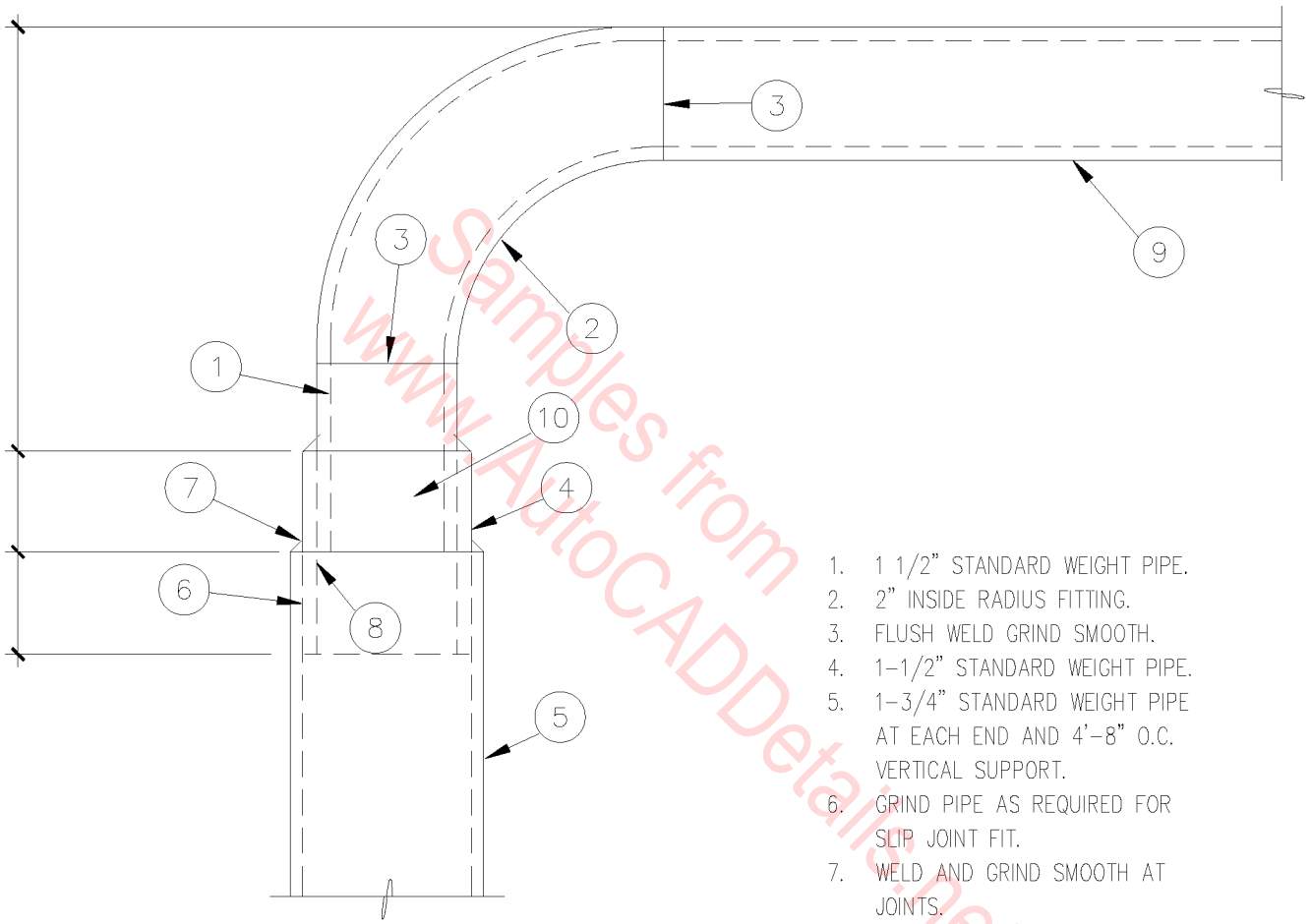


1. 1 1/2" STANDARD WEIGHT STEEL PIPE.
2. 1/2" STANDARD WEIGHT STEEL PIPE.
3. 3/4" STANDARD WEIGHT STEEL PIPE.

HANDRAIL CONNECTION

1" = 1'-0"

05E-5002

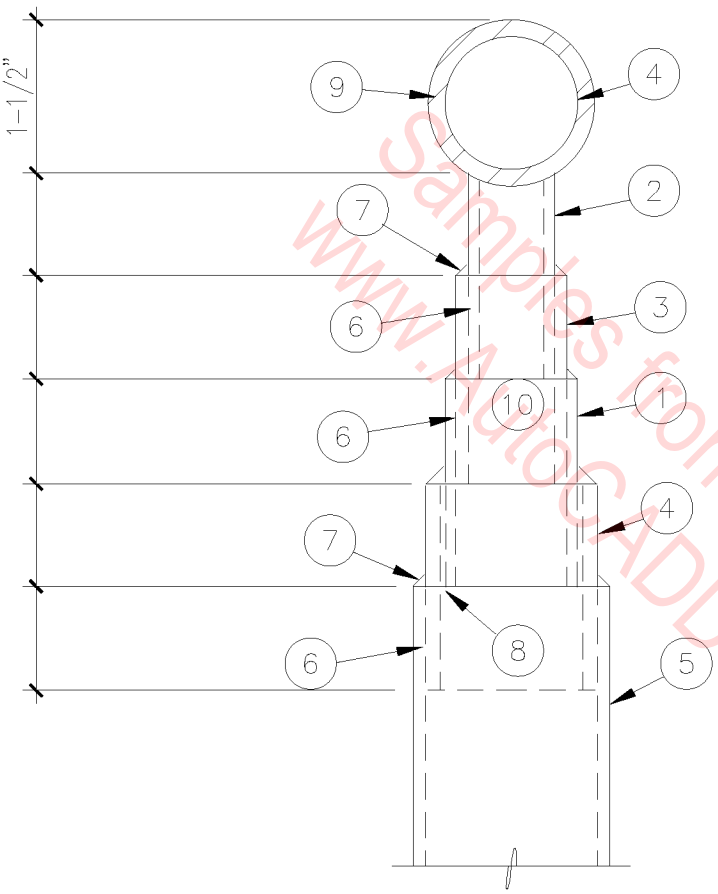


1. 1 1/2" STANDARD WEIGHT PIPE.
2. 2" INSIDE RADIUS FITTING.
3. FLUSH WELD GRIND SMOOTH.
4. 1-1/2" STANDARD WEIGHT PIPE.
5. 1-3/4" STANDARD WEIGHT PIPE AT EACH END AND 4'-8" O.C. VERTICAL SUPPORT.
6. GRIND PIPE AS REQUIRED FOR SLIP JOINT FIT.
7. WELD AND GRIND SMOOTH AT JOINTS.
8. WELD.
9. HANDRAIL.
10. TELESCOPING VERTICAL SUPPORT.

HANDRAIL RADIUS

3" = 1'-0"

05E-5003

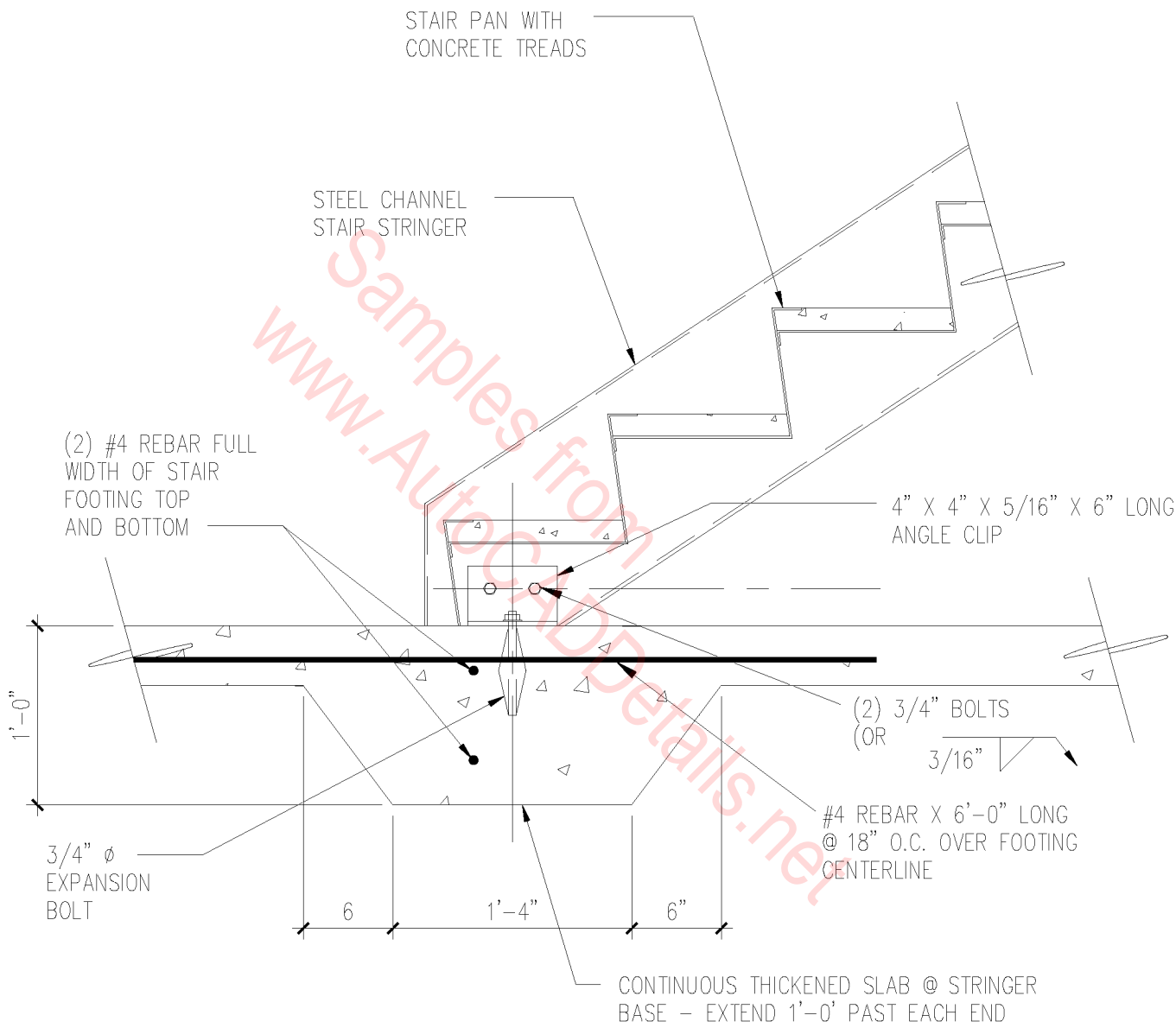


1. 1" STANDARD WEIGHT PIPE.
2. 1/2" STANDARD WEIGHT PIPE.
3. 3/4" STANDARD WEIGHT PIPE.
4. 1-1/4" STANDARD WEIGHT PIPE.
5. 1-1/2" STANDARD WEIGHT PIPE AT EACH END AND 4'-8" O.C. VERTICAL SUPPORT.
6. GRIND PIPE AS REQUIRED FOR SLIP JOINT FIT.
7. WELD AND GRIND SMOOTH AT JOINTS.
8. WELD.
9. 1 1/2" HANDRAIL.
10. TELESCOPING VERTICAL SUPPORT.

HANDRAIL SUPPORT

3" = 1'-0"

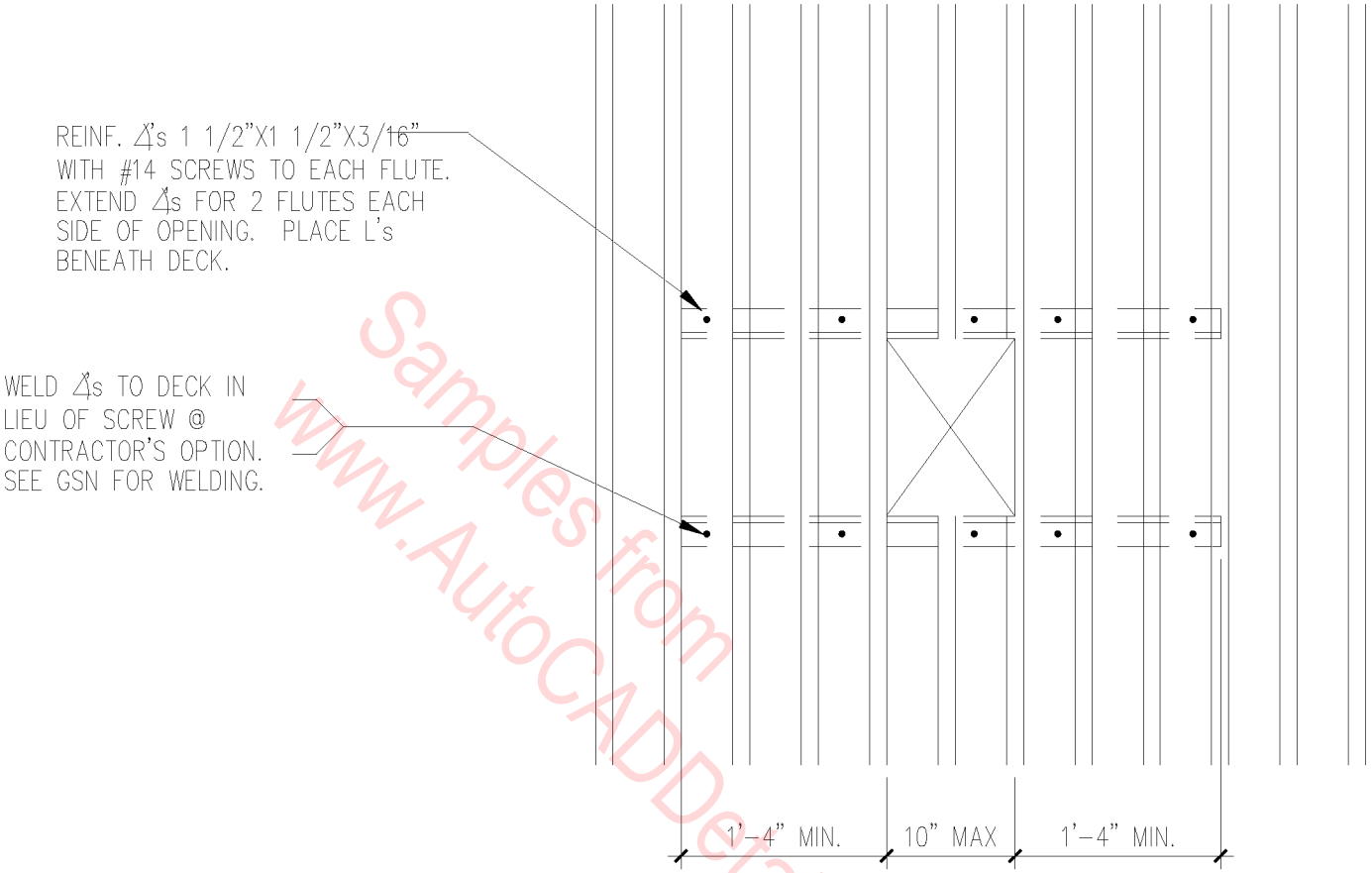
05E-5004



STRINGER AT SLAB

3/4" = 1'-0"

05E-2001

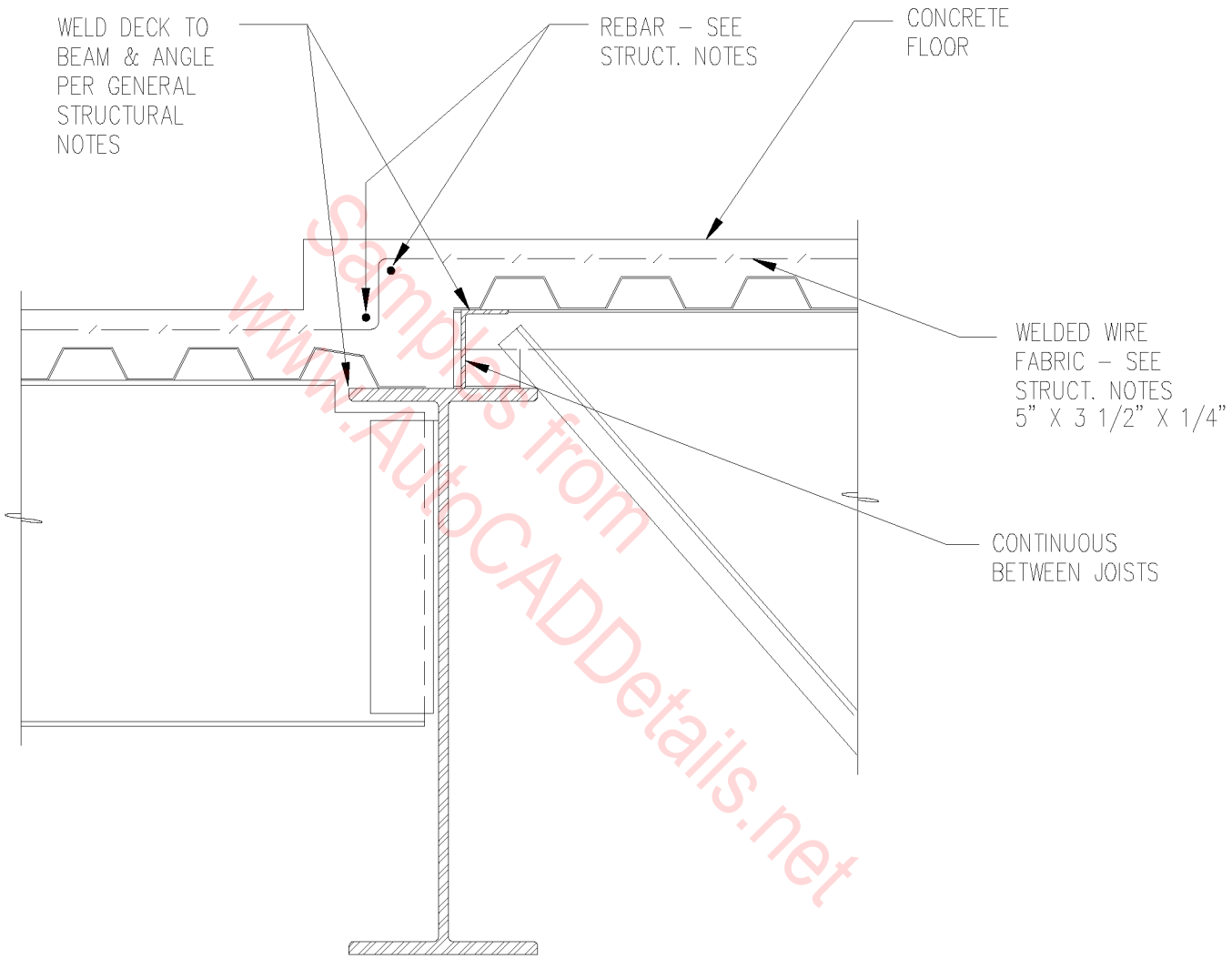


NOTES:
1. REINFORCE L's NOT REQUIRED AT OPENINGS LESS THAN 5" OR WHEN 1 DECK FLUTE IS CUT.
2. USE UP TO 10" WIDE WHEN NO MORE THAN 2 DECK FLUTES HAVE BEEN CUT. DECK SHALL BE CONTINUOUS OVER MINIMUM ONE ADJACENT SPAN.

OPENING IN METAL DECK

SCALE: 3/4" = 1'-0"

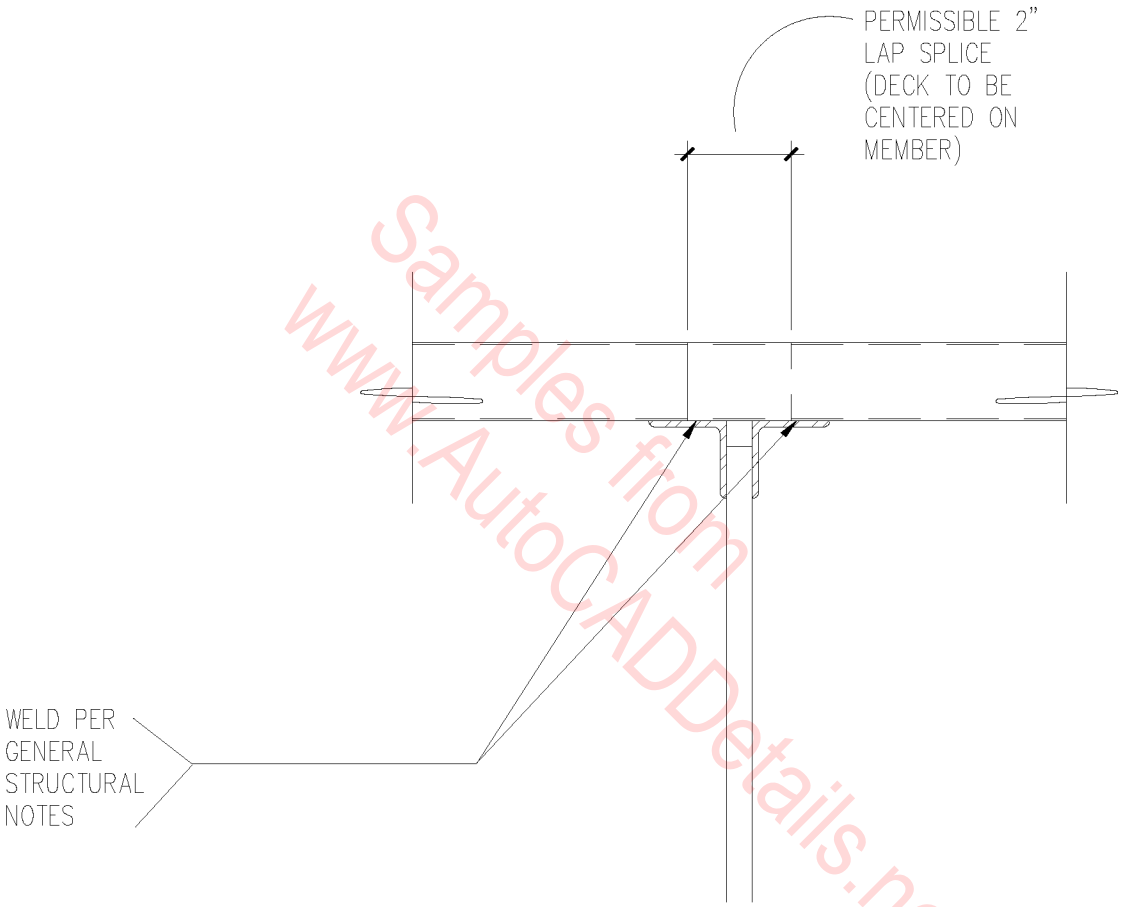
05A-3001



DROPPED FLOOR

SCALE: 3/4" = 1'-0"

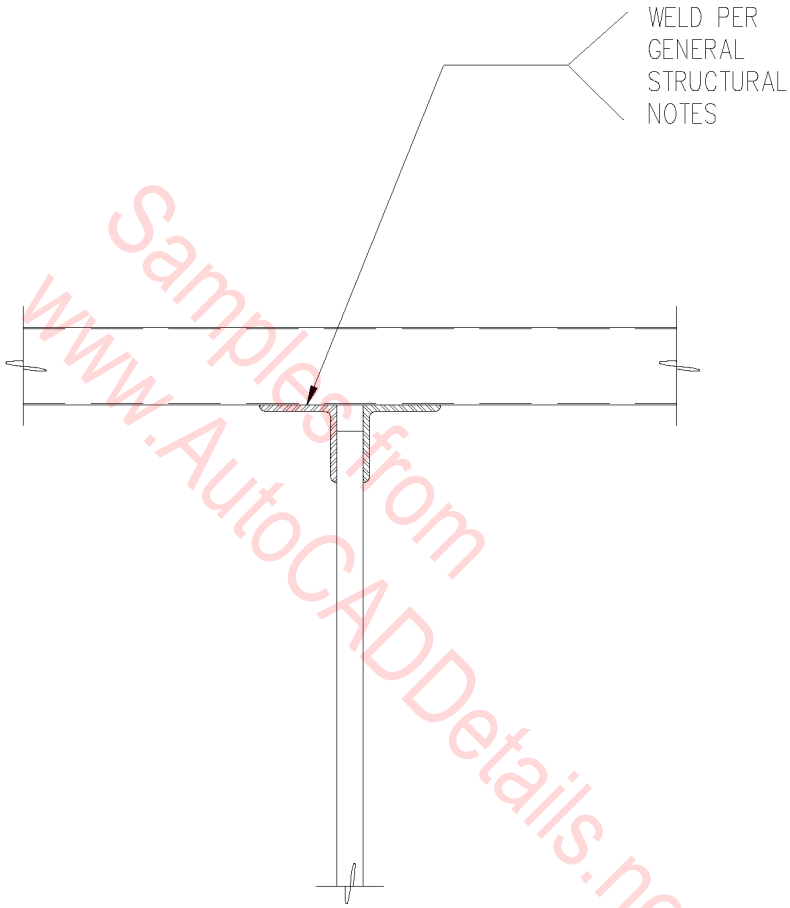
05A-3002



DECK SPLICE

SCALE: 3/4" = 1'-0"

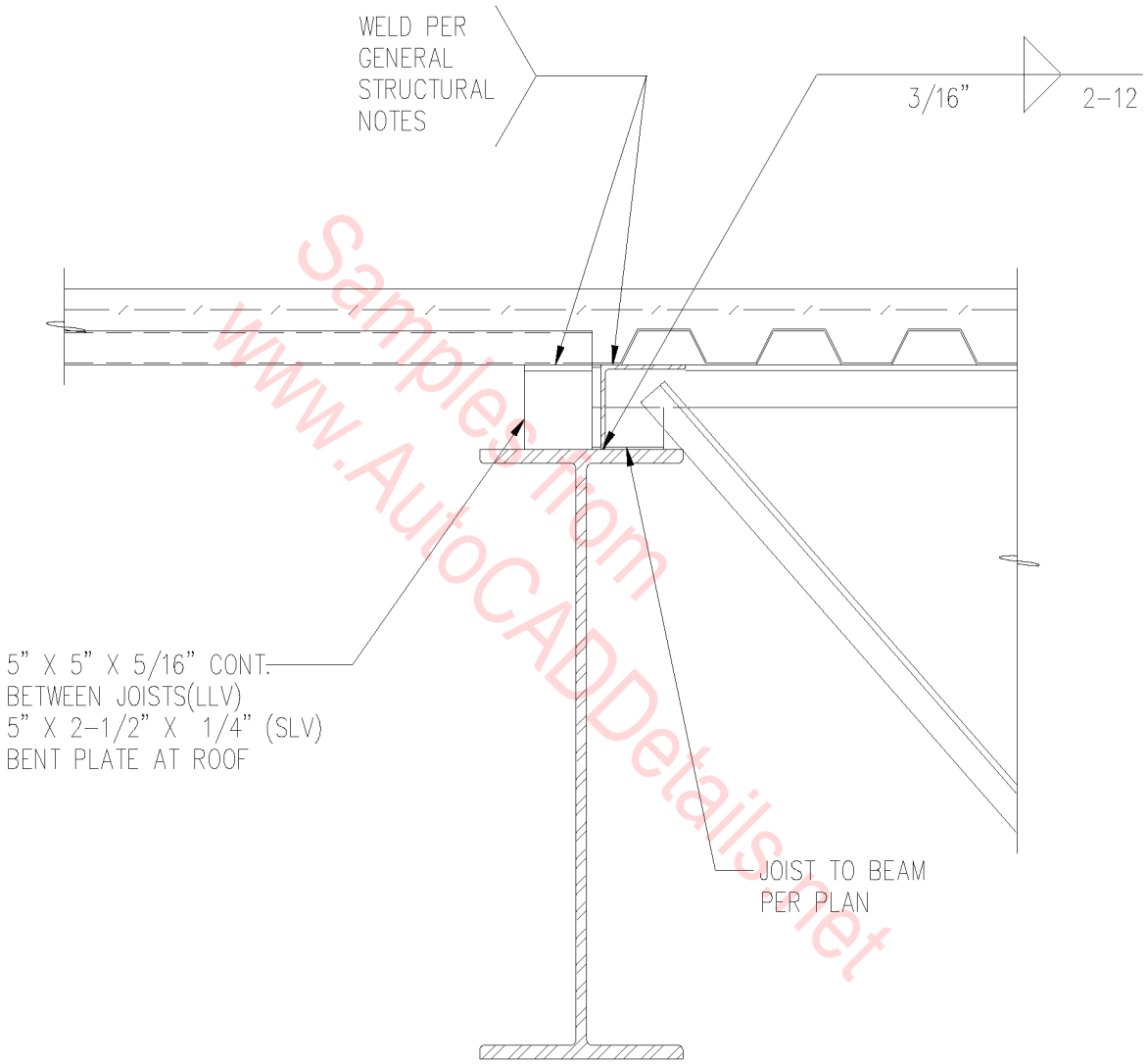
05A-3003



CONT. DECK OVER JOIST

SCALE: 3/4" = 1'-0"

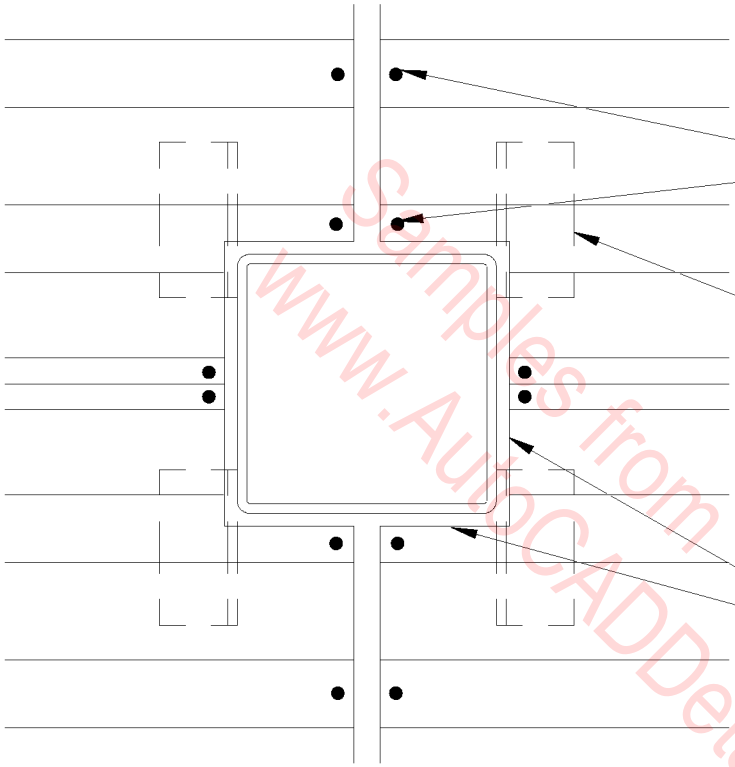
05A-3004



DECK DIRECTION CHANGE

SCALE: 3/4" = 1'-0"

05A-3005



TYPICAL DECK WELDING.
SEE GENERAL STRUCTURAL NOTES.

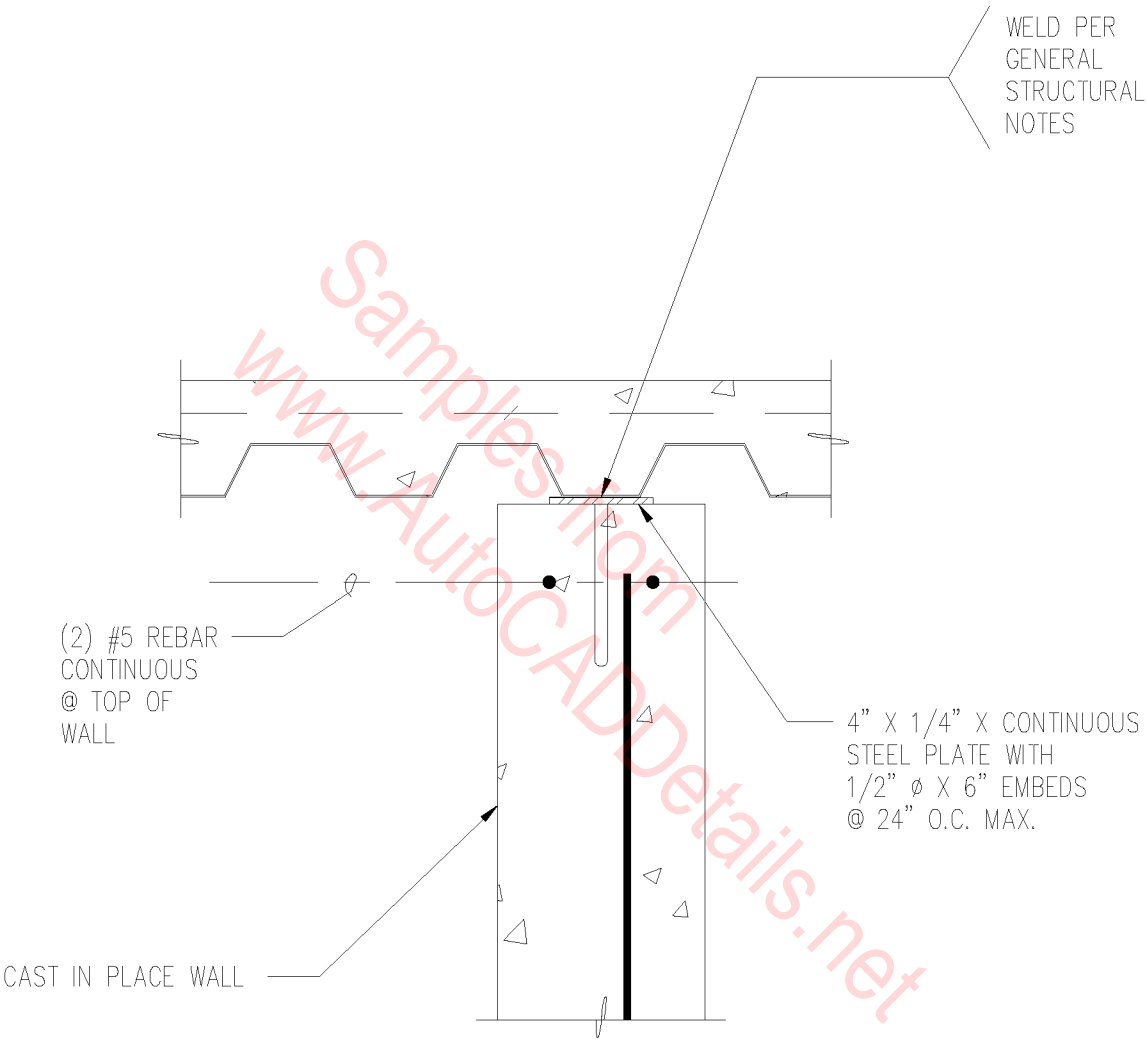
△3" X 3" X 1/4" WELDED TO COLUMNS AND BEAMS AS REQUIRED TO SUPPORT DECK RIBS.

FIELD CUT STEEL DECK TO CLEAR ALL COLUMNS. PROVIDE AND INSTALL SHEET METAL FILLERS, FLASHING CLOSURES, ETC., AS REQUIRED. TACK WELD IN PLACE.

DECK AT T.S. COLUMN

SCALE: 3/4" = 1'-0"

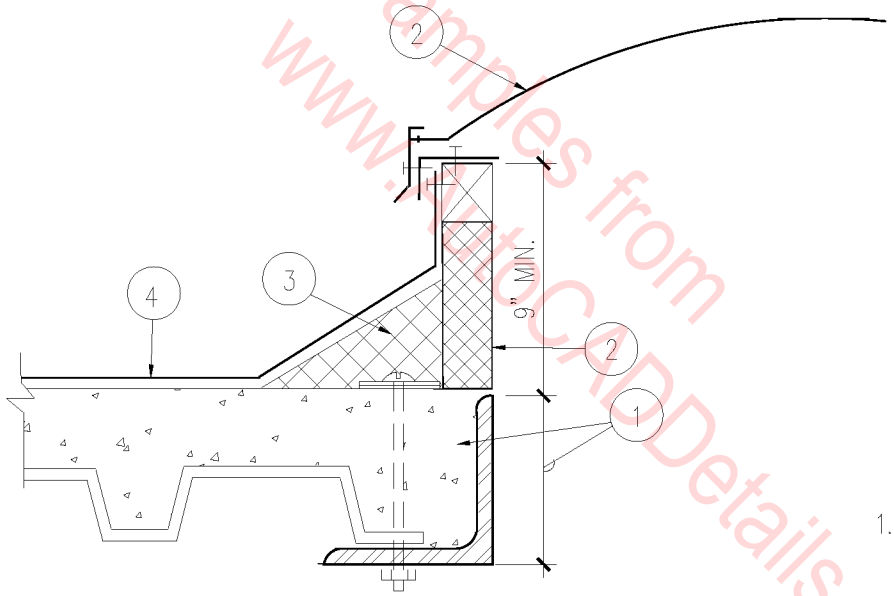
05A-3006



DECK TO TOP OF WALL

SCALE: 3/4" = 1'-0"

05A-3007

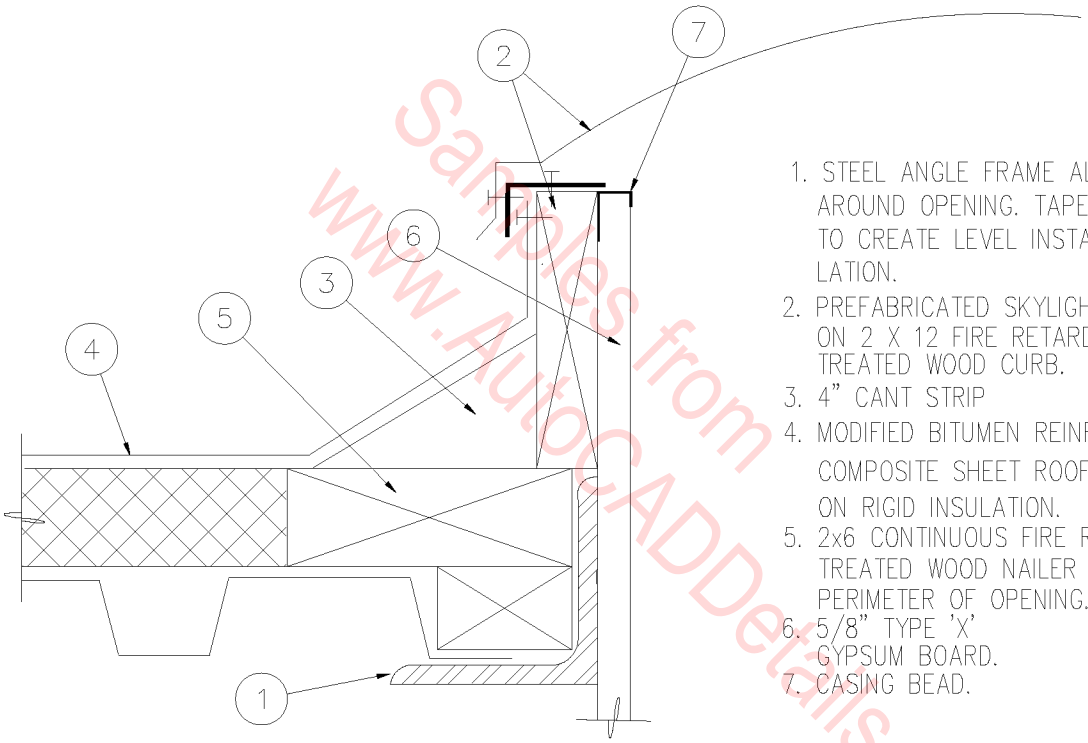


1. ANGLE IRON FRAME ALL AROUND OPENING. TAPER TO CREATE LEVEL INSTAL-LATION.
2. PREFABRICATED SKYLIGHT UNIT BOLTED TO FRAME @ 12" O.C. ALL AROUND.
3. 4" CANT STRIP.
4. MEMBRANE ROOFING OVER LIGHTWEIGHT FILL OVER 1 1/2" METAL DECKING.

SKYLIGHT CURB

SCALE: 1 1/2" = 1'-0"

05A-3008

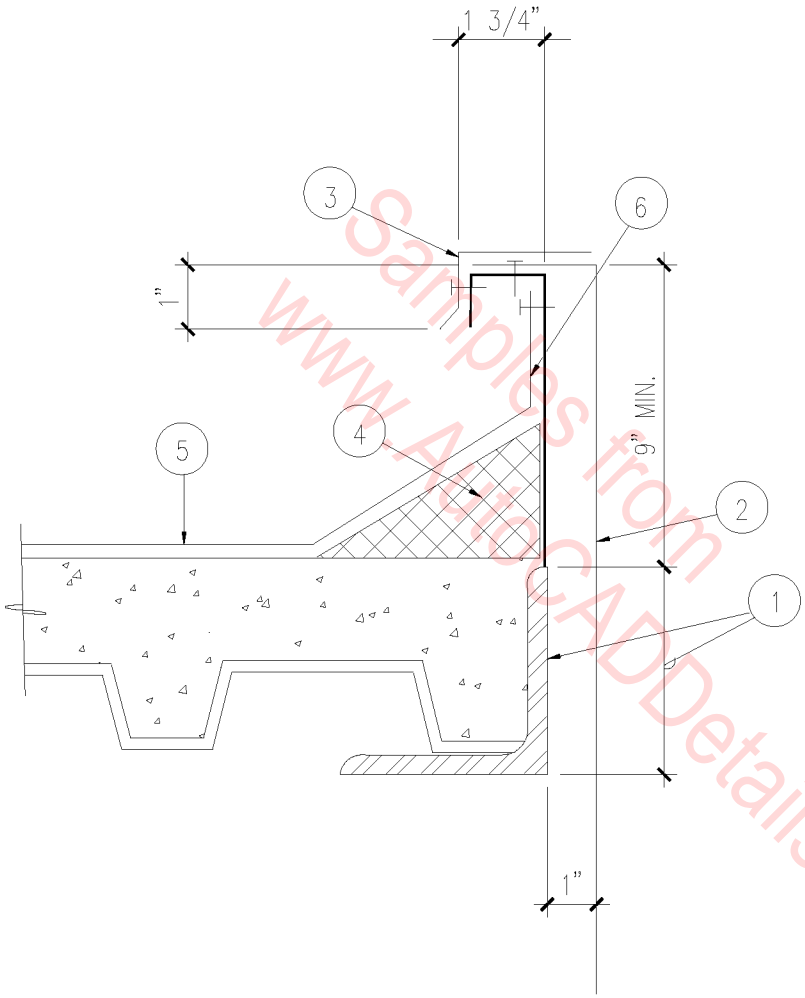


1. STEEL ANGLE FRAME ALL AROUND OPENING. TAPER TO CREATE LEVEL INSTAL-LATION.
2. PREFABRICATED SKYLIGHT UNIT ON 2 X 12 FIRE RETARDANT TREATED WOOD CURB.
3. 4" CANT STRIP
4. MODIFIED BITUMEN REINFORCED COMPOSITE SHEET ROOFING ON RIGID INSULATION.
5. 2x6 CONTINUOUS FIRE RETARDANT TREATED WOOD NAILER AT PERIMETER OF OPENING.
6. 5/8" TYPE 'X' GYPSUM BOARD.
7. CASING BEAD.

SKYLIGHT AT METAL DECK

SCALE: 1" = 1'-0"

05A-3009



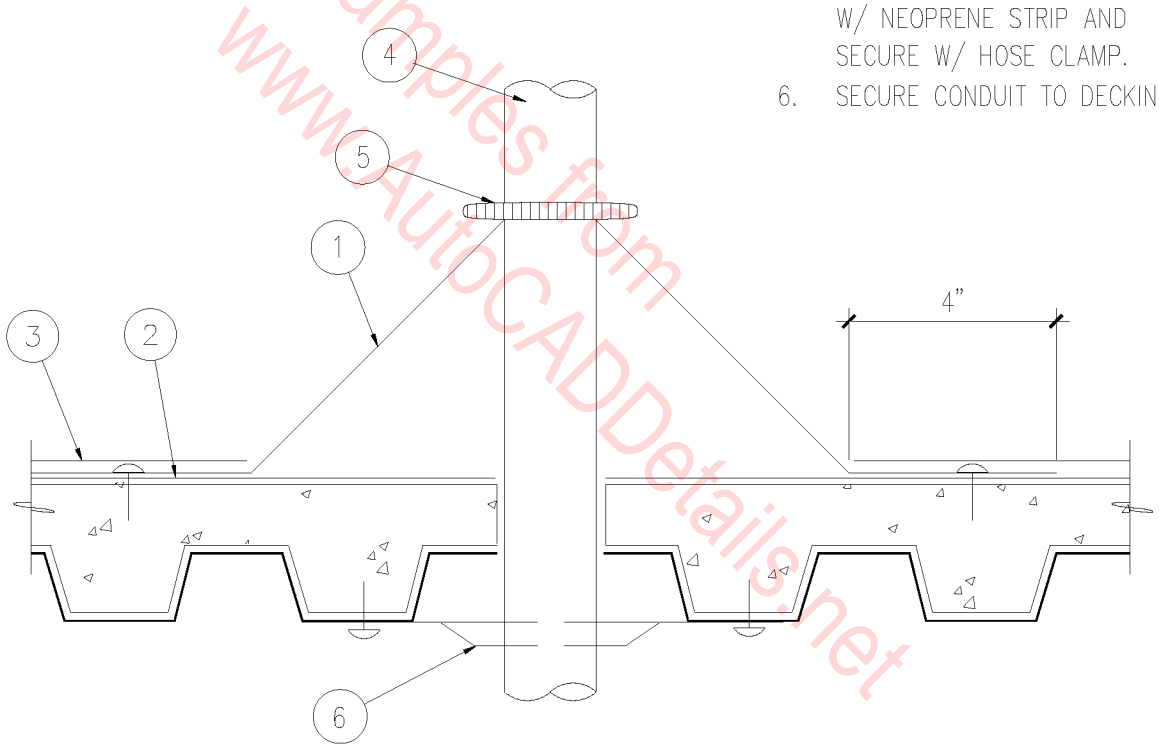
1. ANGLE IRON FRAME ALL AROUND OPENING. TAPER TO CREATE LEVEL INSTAL-LATION.
2. METAL DUCT-SEE MECHANICAL.
3. FAN UNIT-SEE MECHANICAL.
4. 4" CANT STRIP.
5. MEMBRANE ROOFING OVER LIGHTWEIGHT FILL OVER 1 1/2" METAL DECKING.
6. 18 GA. SHEET METAL CURBING WITH 4" FLANGE. BOLT TO FRAME @ 12" O.C. ALL AROUND.

EXHAUST FAN CURB

SCALE: 3" = 1'-0"

05A-3010

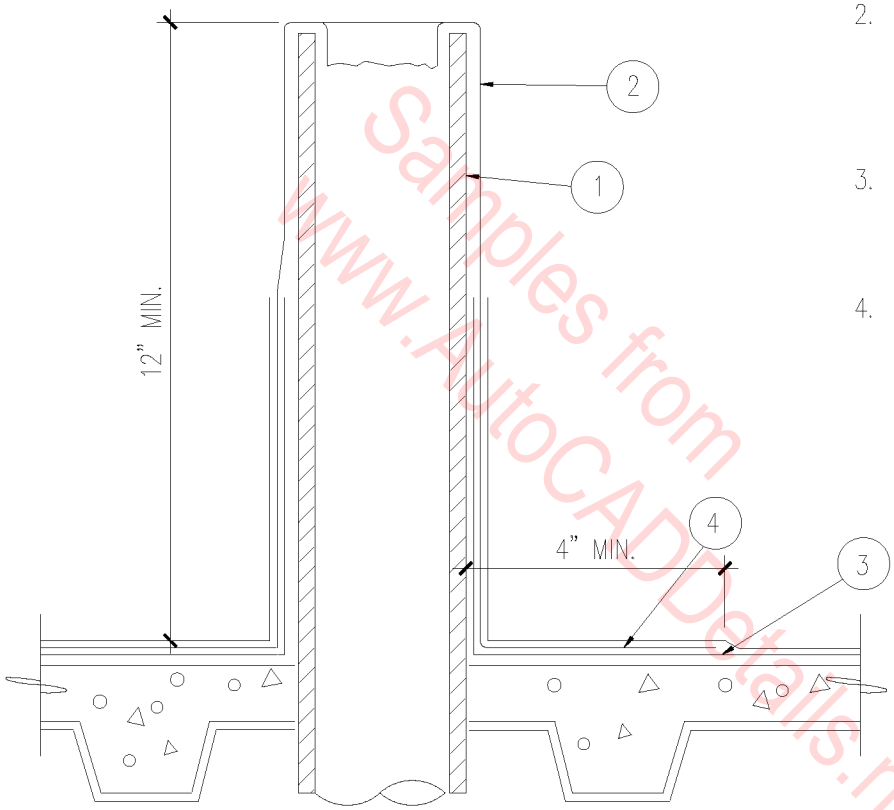
1. 24 GA SHEET METAL CONE W/ BASE PLATE.
2. MEMBRANE ROOFING OVER LIGHTWEIGHT FILL OVER 1 1/2" METAL DECKING.
3. LAP IN MEMBRANE ROOFING OVER BASE PLATE.
4. CONDUIT.
5. WRAP CONDUIT CONE CONNECTION W/ NEOPRENE STRIP AND SECURE W/ HOSE CLAMP.
6. SECURE CONDUIT TO DECKING.



CONDUIT THROUGH ROOF

3" = 1'-0"

05A-3011



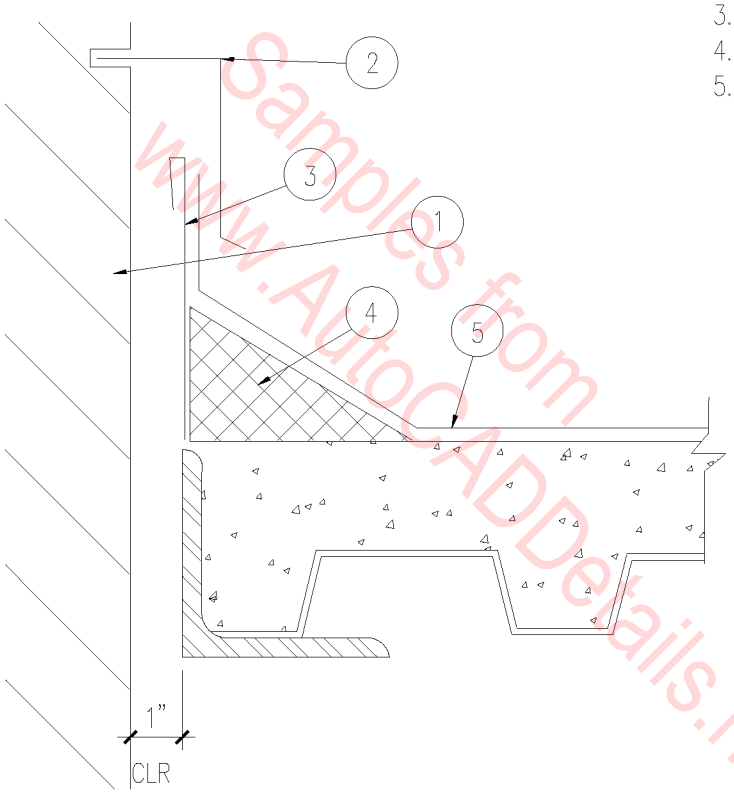
1. PLUMBING VENT PIPE.
2. 3.5# LEAD FLASHING SLEEVE WITH SQ. BASE PLATE. ROLL OVER INTO VENT PIPE 1/2" DEEP (MIN).
3. MEMBRANE ROOFING OVER LIGHTWEIGHT FILL OVER METAL DECK.
4. LAP IN ROOF MEMBRANE OVER LEAD BASE PLATE AND SEAL.

VENT THRU ROOF

SCALE: 3" = 1'-0"

05A-3012

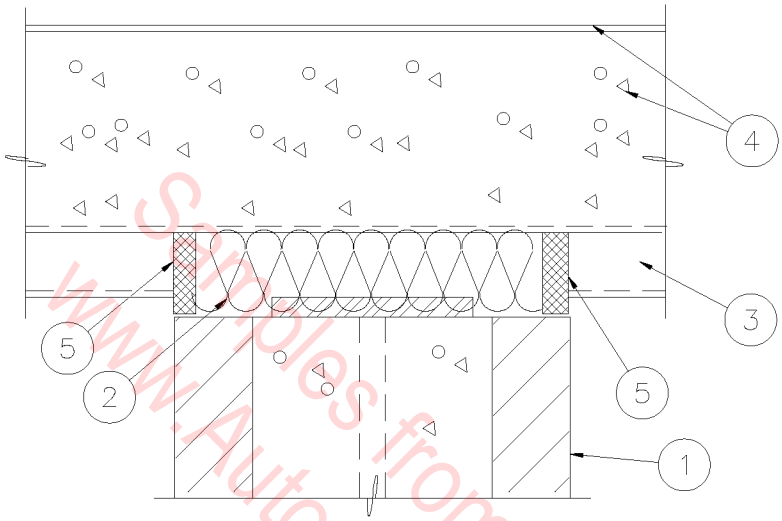
1. MASONRY WALL.
2. REGLET & COUNTER FLASHING.
3. 12 GA. GI CONT. FLASHING.
4. 4" CANT STRIP.
5. MEMBRANE ROOFING OVER LIGHTWEIGHT FILL OVER 1 1/2" METAL DECKING.



ROOFING EXPANSION JOINT

SCALE: 3" = 1'-0"

05A-3013



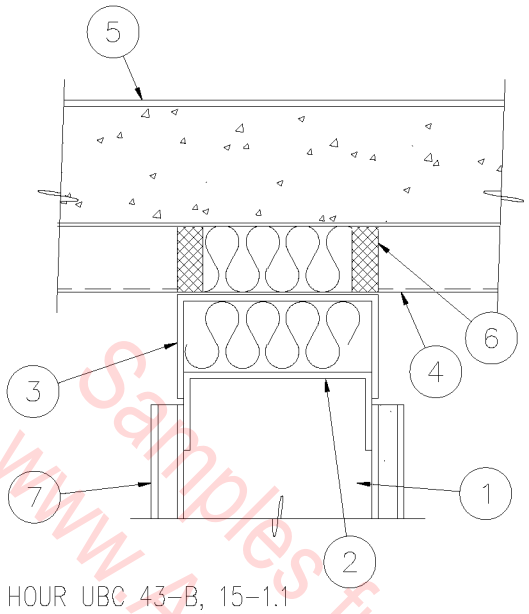
UL THROUGH-PENETRATION FIRESTOP SYSTEMS DESIGN NO. 327

1. RATED C.M.U. WALL.
2. FIRE SAFING INSULATION.
3. METAL DECK.
4. CLASS A ROOFING SYSTEM OVER LIGHT WEIGHT CONCRETE FILL.
5. 1/2" 'TREMCO' FYRE-SIL SEALANT.

RESISTIVE WALL AT ROOF

SCALE: 3" = 1'-0"

05A-3014



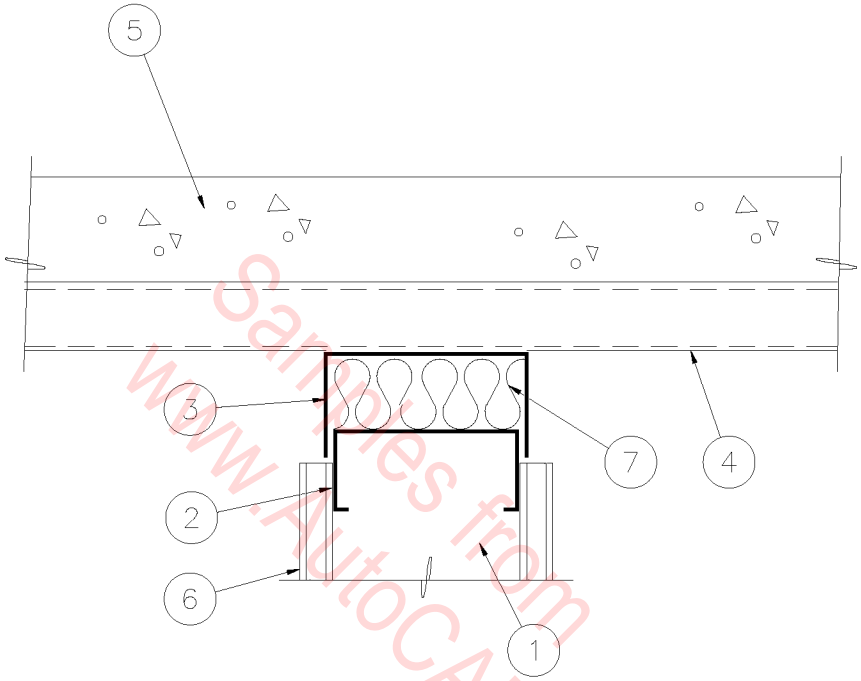
ONE HOUR UBC 43-B, 15-1.1
UL THROUGH-PENETRATION FIRESTOP SYSTEM DESIGN NO. 327

1. 3 5/8" METAL STUDS AT 16" O.C.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. CLASS "A" ROOFING SYSTEM ON LIGHT WEIGHT CONCRETE.
6. 1/2" 'TREMCO' FYRE-SIL SEALANT ON EACH SIDE OF FIRE SAFING MATERIAL.
7. 5/8" TYPE "X" GYPSUM BOARD.
8. FIRE SAFING INSULATION.

1HR. WALL AT ROOF

SCALE: 3" = 1'-0"

05A-3015

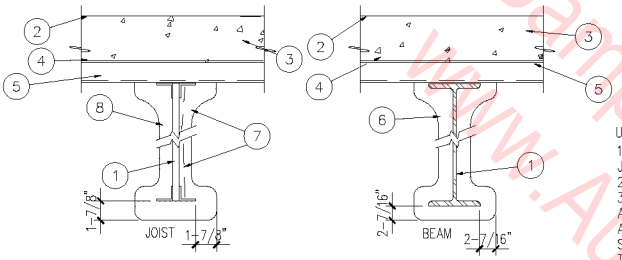


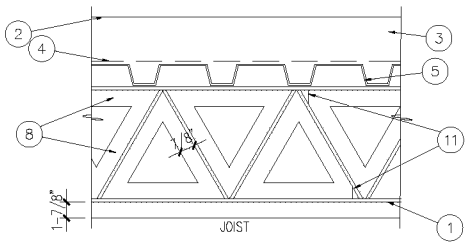
1. 3 5/8" METAL STUDS AT 16" O.C.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. LIGHT WEIGHT CONCRETE.
6. 5/8" TYPE "X" GYPSUM BOARD.
7. FIRE SAFING MATERIAL.

1 HR. WALL AT DECK

SCALE: 1" = 1'-0"

05A-3016





2 HOUR ROOF

3" = 1'-0"

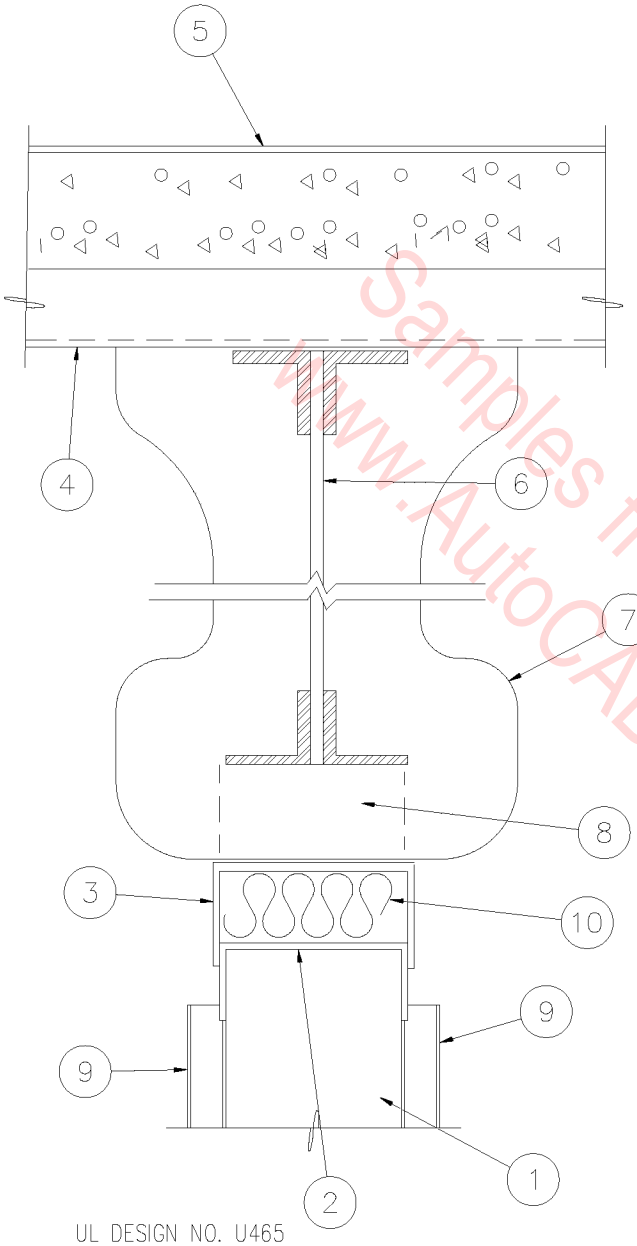
05A-3017

UL DESIGN NO. P908

1. W6X16 OR W8X18 MIN. SIZE FOR 2 HOUR UNRESTRAINED OR TYPE 12J4 STEEL JOIST FOR 2 HOUR UNRESTRAINED
2. ROOF COVERING – CLASS A
3. INSULATING CONCRETE VERMICULITE CONCRETE, 6 CF OF VERMICULITE AGGREGATE TO 94 LB OF PORTLAND CEMENT AND 0.11LB OF AIR ENTRAINING AGENT MIXED WITH APPROXIMATELY 25 GAL. OF WATER. MINIMUM COMPRESSIVE STRENGTH SHALL BE 125 PSI WHEN TESTED IN ACCORDANCE WITH ASTM C495. THE VERMICULITE CONCRETE SHALL BE POURED TO A DEPTH SUFFICIENT TO PROVIDE A MINIMUM THICKNESS OF 2 1/4" ABOVE THE CRESTS OF THE ROOF DECK UNITS (ITEM 5) AND TO PROVIDE A MINIMUM VOLUME OF 24.5 CF PER 100 SF OF ROOF DECK AREA. ZONOLITE CONSTRUCTION PRODUCTS DIVISION OF W.R. GRACE & CO.
4. REINFORCING MESH NO. 19 GA. GALVANIZED STEEL WIRE TWISTED TO FORM HEXAGONS 2" WIDE IN ADDITION, STRAIGHT 16 GA. GALV. STEEL WIRE WOVEN INTO THE MESH AND SPACED 3" APART FOR STIFFNESS. MESH INSTALL WITHOUT ATTACHMENTS AND OVERLAPPED 6" AT THE SIDES. STIFFENERS INSTALLED PARALLEL WITH CORRUGATIONS. AS AN ALTERNATE, 4 X 8, 12/14 GA. OR 2 X 2, 14/14 GA. OR 2 X 2, 14/14 GA. WELDED WIREWELDED WIRE FABRIC MAY BE USED.
5. STEEL ROOF DECK – 1 1/2" DEEP, 36" WIDE, GALV. FLUTED STEEL DECK. FLUTES 6" O.C., CREST WIDTH 3 1/2" 'VERCO' MFG. INC. – TYPE HSB-36
6. HANGER WIRE, NO. 6 GA. GALV. STEEL WIRE, SPACED 16" O.C.
7. SPRAY APPLICATION OF CEMENTITIOUS MIXTURE ON STEEL BAR JOISTS AND TRUSSES. THE DIAMOND MESH 3/8" EXPANDED STEEL LATH 1.7 TO 3.4 LB/SQ YD IS SECURED TO ONE SIDE OF EACH STEEL JOIST WITH NO.18 GA. GALV STEEL WIRE AT JOIST WEB AND BOTTOM CHORD MEMBERS SPACED 15" O.C. MAX. WHEN USED THE METAL LATH IS TO BE FULLY COVERED WITH CEMENTITIOUS MIXTURE WITH NO MIN THICKNESS REQUIREMENTS
7A. NON-METALLIC FABRIC MESH – OPTIONAL – AS AN ALTERNATE TO METAL LATH, GLASS FIBER FABRIC MESH, WEIGHING APPROX. 2.5 OZ/SQ YD POLYPROPYLENE FABRIC MESH, WEIGHING APPROX. 1.25 OZ/SQ YD OR EQUIVALENT MAY BE USED TO FACILITATE THE SPRAY APPLICATION. THE MESH IS SECURED TO ONE SIDE OF EACH JOIST WEB MEMBER. THE METHOD OF ATTACHING THE MESH MUST BE SUFFICIENT TO HOLD THE MESH AND THE SPRAY-APPLIED CEMENTITIOUS MIXTURE MATERIAL IN PLACE DURING APPLICATION UNTIL IT HAS CURED. AN ACCEPTABLE METHOD TO ATTACH THE MESH IS BY EMBEDDING THE MESH IN MIN 1/4" LONG BEADS OF HOT-MELTED GLUE. THE BEADS OF GLUE SHALL BE PLACED A MAX OF 12" O.C. ALONG THE TOP CHORD OF THE BAR JOIST. ANOTHER METHOD TO SECURE THE MESH IS BY 1 1/4" LONG BY 1/2" WIDE HAIRPIN CLIPS FORMED FROM NO. 18 GA. OR HEAVIER STEEL WIRE
8. CEMENTITIOUS MIXTURE – SPRAY APPLIED TO BEAM OR JOIST IN MORE THAN ONE COAT TO A FINAL THICKNESS OF 1-3/8". MINIMUM BEAM SIZE W6X16 MINIMUM JOIST SIZE 12J4. CREST AREAS OF STEEL ROOF UNITS SHALL BE FILLED WITH CEMENTITIOUS MIXTURE ABOVE THE BEAM OR JOIST. BEAM OR JOIST SURFACES MUST BE CLEAN AND FREE OF DIRT, LOOSE SCALE AND OIL. MINIMUM AVERAGE DENSITY OF 15/14 PCF RESPECTIVELY. FOR METHOD OF DENSITY DETERMINATION, REFER TO DESIGN INFORMATION SECTION. ZONOLITE CONSTRUCTION PRODUCTS DIVISION, W. R. GRACE & CO. TYPE MK-6/CBF FOR TYPE 12J4 STEEL JOISTS, THE JOIST PROTECTION SHALL CONSIST OF THE ABOVE CEMENTITIOUS MIXTURES APPLIED IN A MANNER AND AT THE THICKNESSES SHOWN BELOW. WHEN METAL LATH (ITEM 7) IS USED, LATH SECURED TO ONE SIDE OF JOIST WITH 18 GA. GALVANIZED STEEL WIRE AT JOIST WEB AND BOTTOM CHORD MEMBERS SPACED 15" O.C.

THICKNESS OF CEMENTITIOUS MIXTURE, INCHES	TYPE OF APPLICATION	UNRESTRAINED ASSEMBLY RATING, HOUR
1-7/8	APPLIED TO LATH WRAPPED ON ONE SIDE OF JOIST	2 HOUR
2-7/16	APPLIED DIRECTLY TO JOIST IN A CONTOUR MANNER	2 HOUR

11. STEEL BRIDGING – IN ACCORDANCE WITH AISC CURRENT SPECIFICATIONS. CONTINUOUS STEEL ANGLE, MIN. SIZE 1-1/4 BY 1-1/4 BY 1/8" WELDED TO TOP AND BOTTOM CHORDS. BRIDGING COATED WITH 3" THICKNESS OF CEMENTITIOUS MIXTURE FOR THE 2 ASSEMBLY AND BEAM RATINGS.



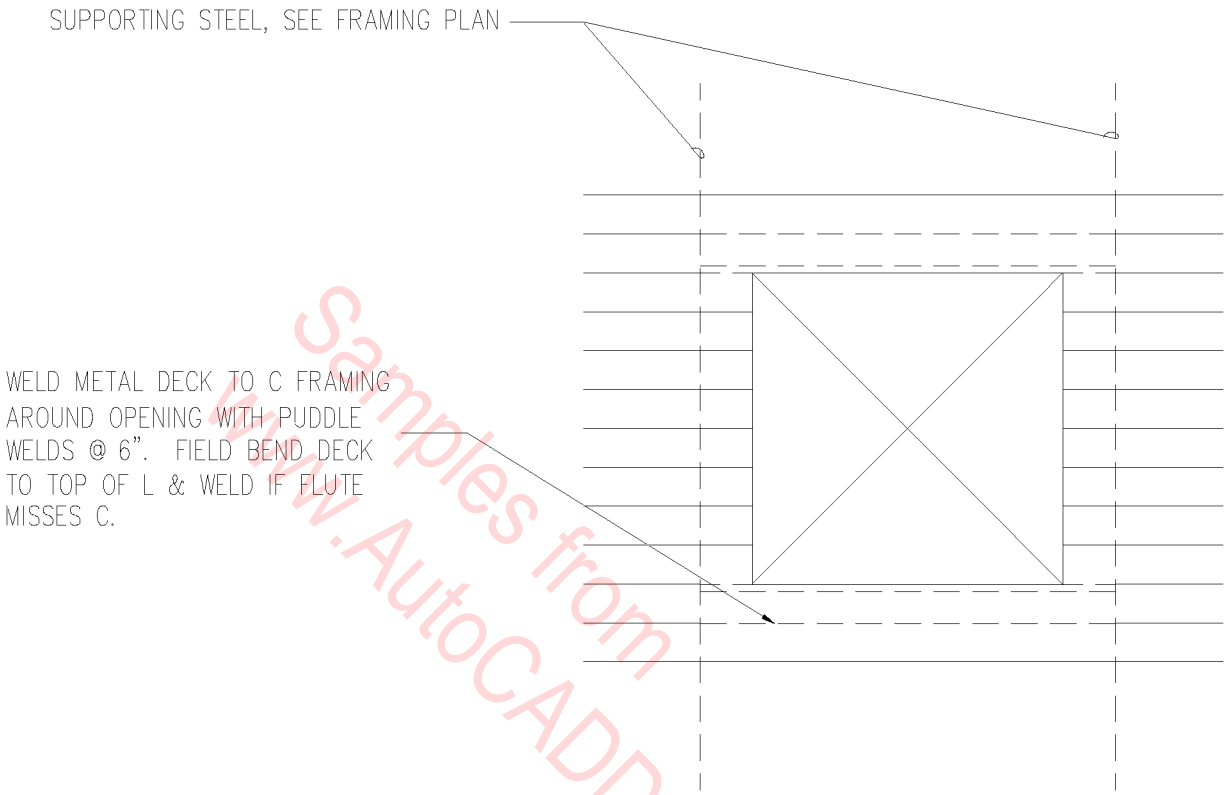
1. 3 5/8" METAL STUDS AT 16" O.C.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. ROOFING SYSTEM.
6. STEEL JOIST OR BEAM.
7. SPRAYED-ON FIREPROOFING ON JOIST OR BEAM.
8. 2 CLIP ANGLES AT 48" O.C. ANCHOR THRU FIREPROOFING.
9. 5/8" TYPE X GYPSUM WALLBOARD.
10. FIRE SAFING INSULATION.

UL DESIGN NO. U465

WALL AT JOIST/BEAM

SCALE: 3" = 1'-0"

05A-3018

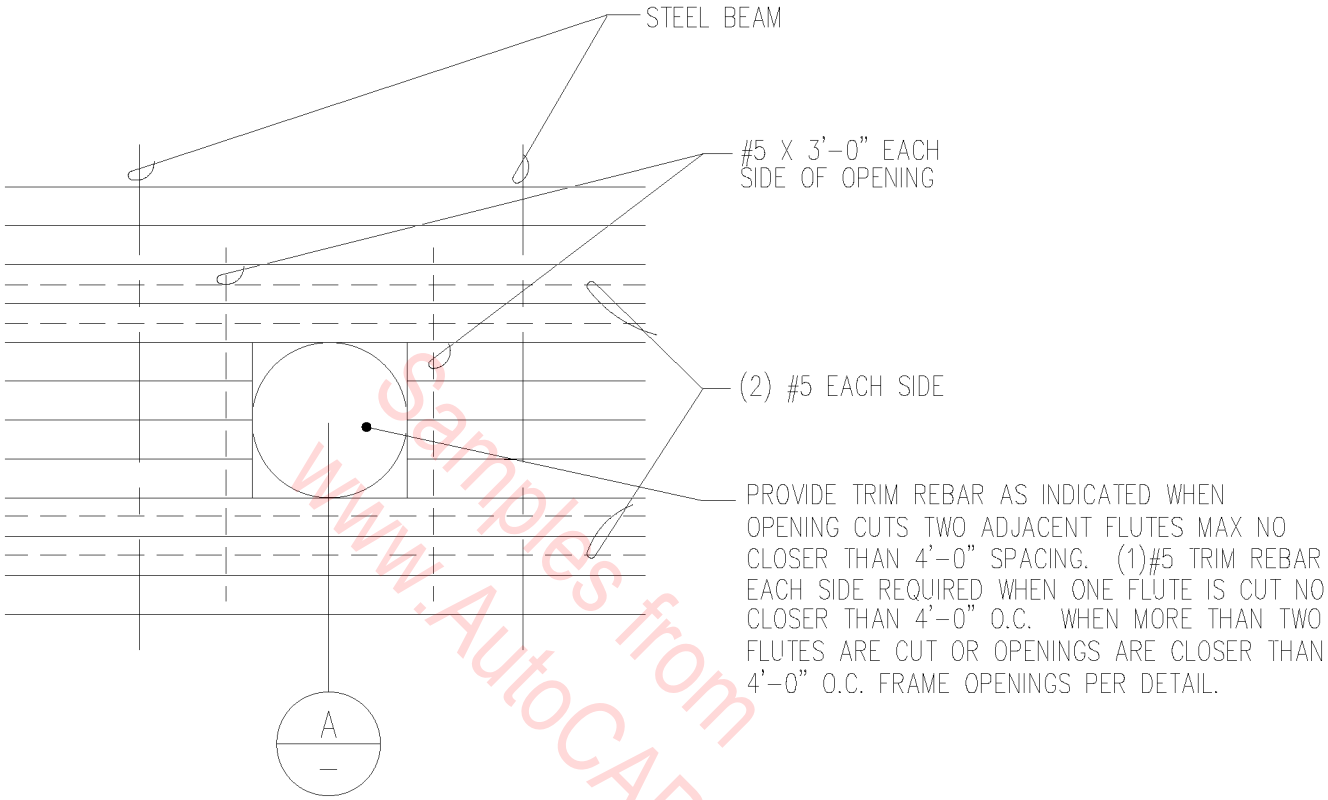


NOTES:
1. USE THIS DETAIL FOR OPENINGS WHERE MORE THAN ONE DECK FLUTE IS CUT AT THE ROOF AND TWO AT THE FLOOR.
2. WHEN CLEAR DISTANCE BETWEEN EDGE OF BEAM (BEAM NORMAL TO DECK) & EDGE OF OPENING IS LESS THAN 5", PARALLEL CHANNEL MAY BE OMITTED.
3. ALL OPENINGS & THEIR FRAMING PER ABOVE ARE NOT NECESSARILY SHOWN ON FRAMING PLANS. SEE MECHANICAL OR ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS.

OPENING IN METAL DECK

SCALE: 3/4" = 1'-0"

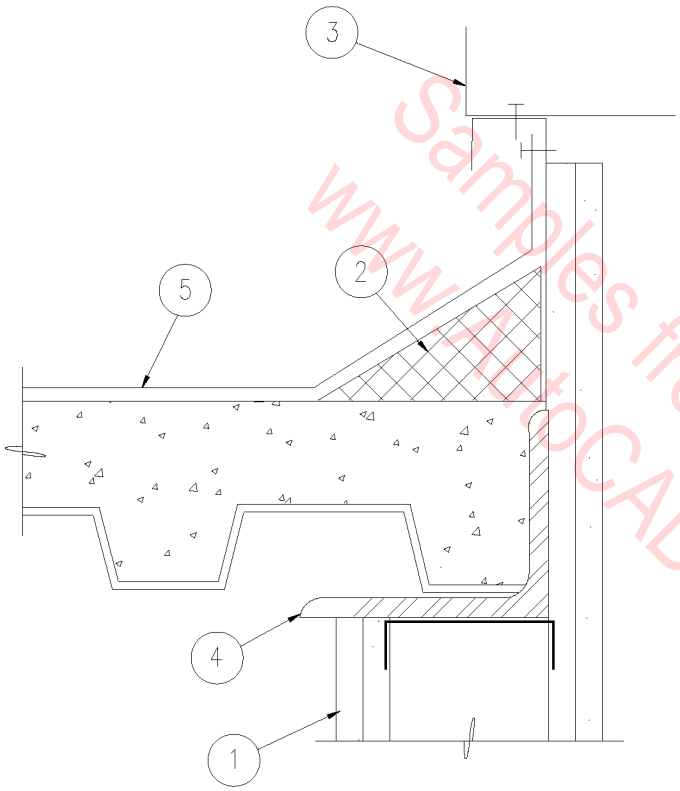
05A-3019



OPENING IN METAL DECK

SCALE: 3/4" = 1'-0"

05A-3020

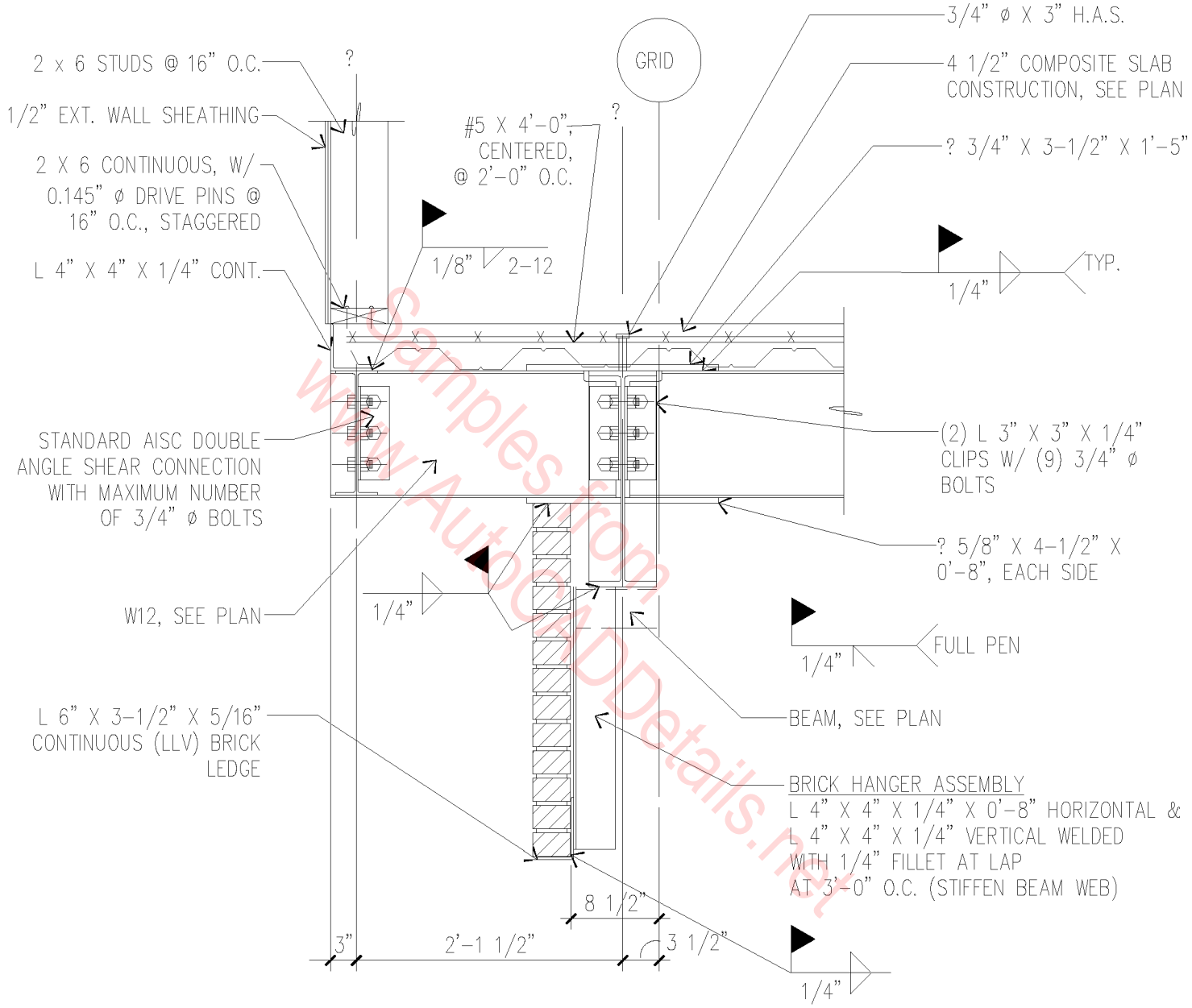


1. (2) LAYERS TYPE "X" GYP. BD. BOTH SIDES OVER METAL FRAMING MEMBERS.
2. 4" CANT STRIP.
3. MECHANICAL UNIT– SEE MECHANICAL PLANS.
4. STEEL ANGLE.
5. MEMBRANE ROOFING OVER LIGHTWEIGHT FILL OVER 1 1/2" METAL DECKING.

KITCHEN HOOD SHAFT

3" = 1'-0"

05A-3021

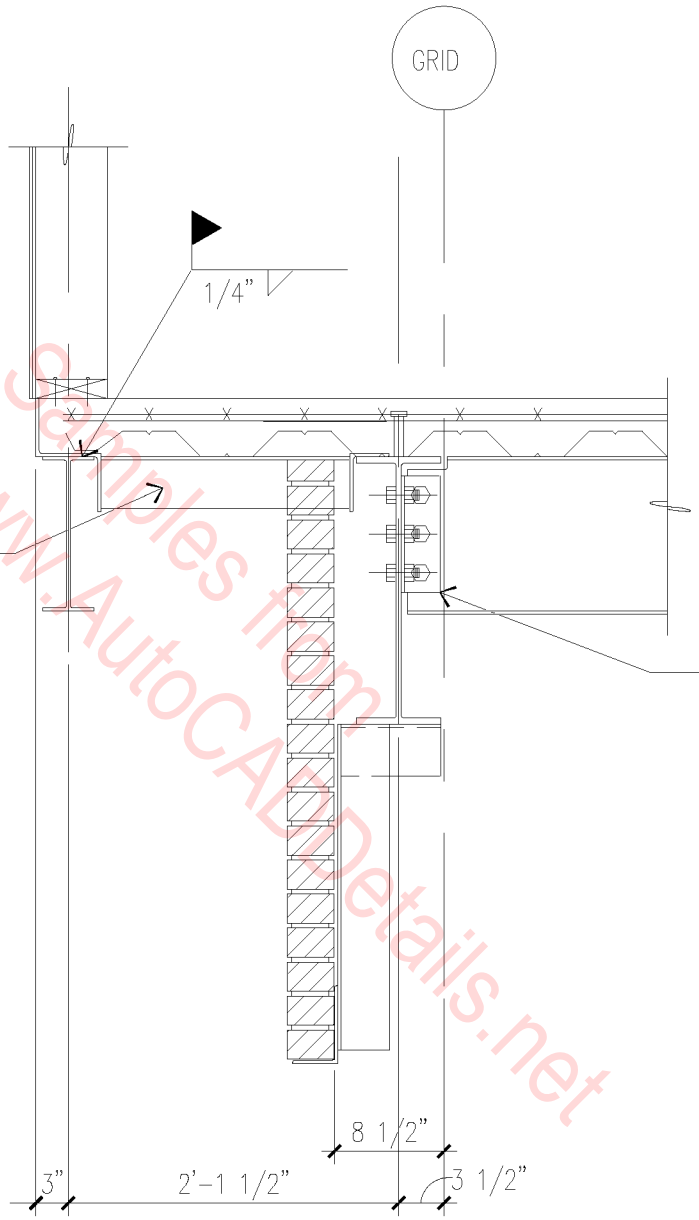


NOTE: AT LOCATIONS WHERE BEAM IS DROPPED, CUT OUT WEB OF W12 TO MAKE MOMENT CONNECTION.

FRAMING SECTION

3/4" = 1'-0"

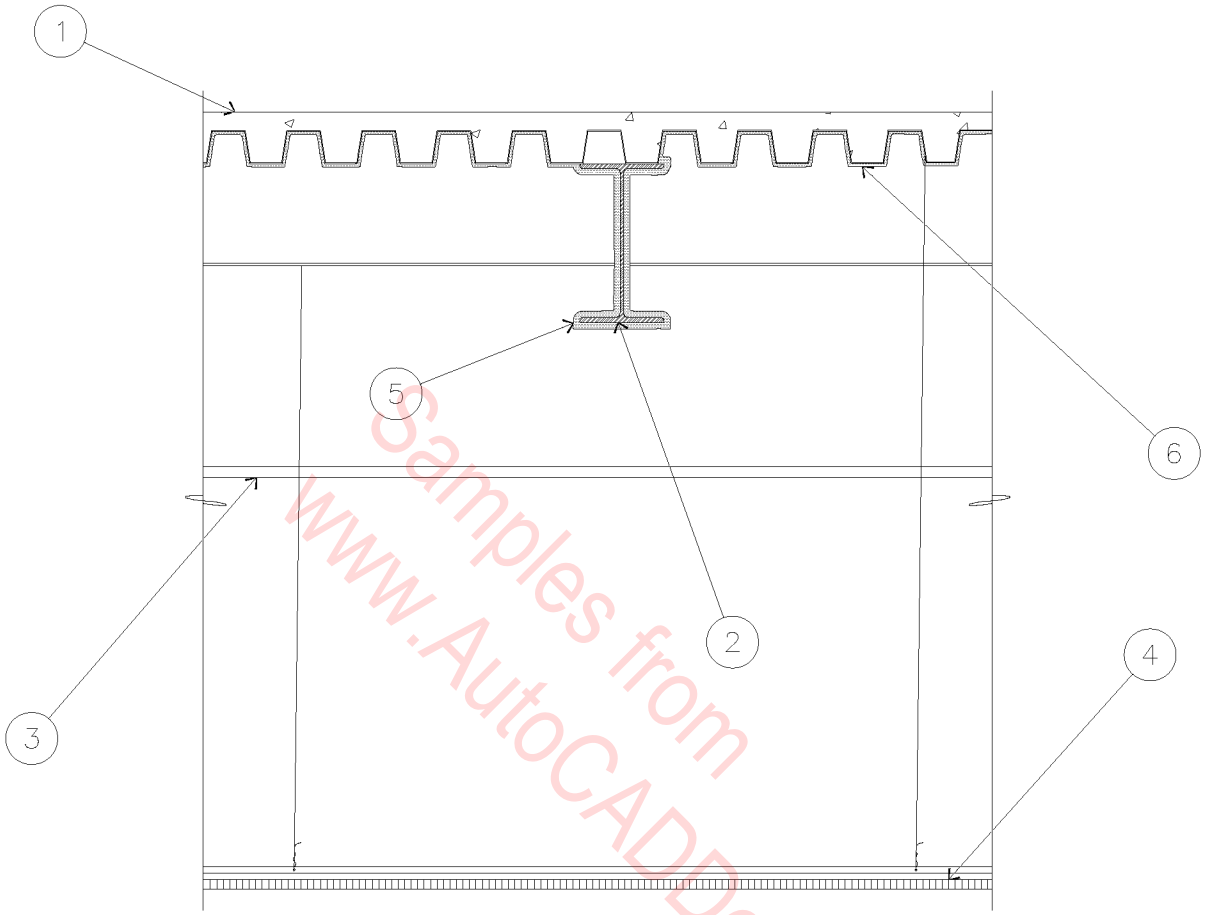
05A-3022



FRAMING SECTION

3/4" = 1'-0"

05A-3023



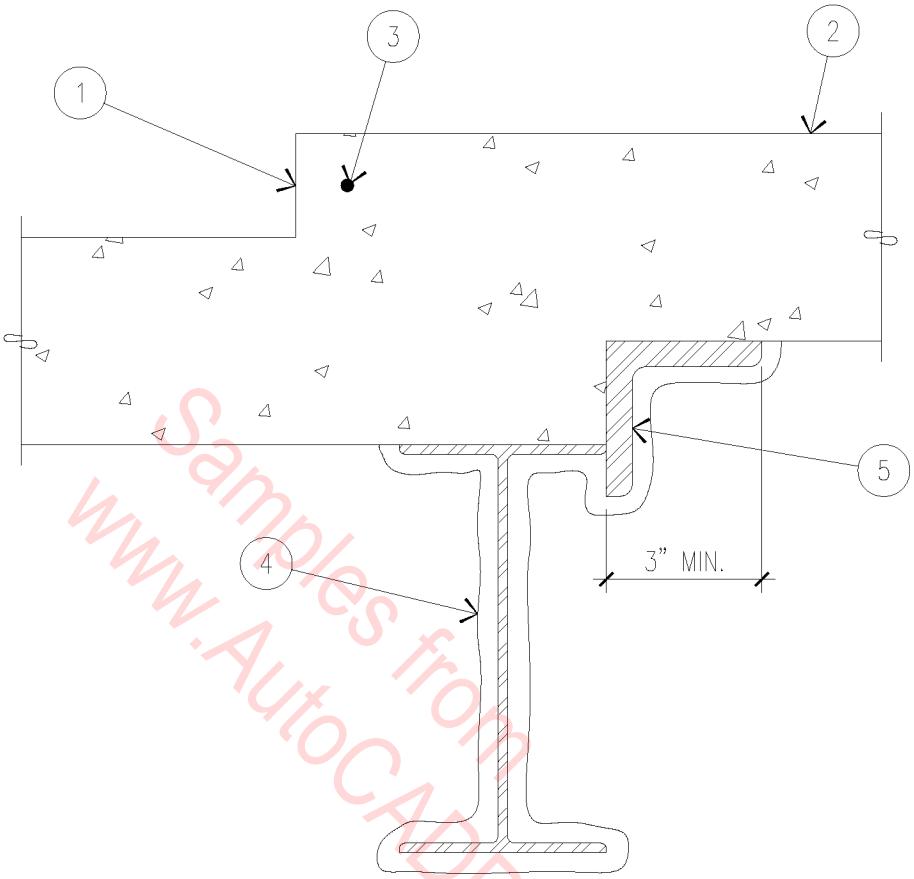
1. CONCRETE FLOOR OVER FLUTED STEEL DECK – STEEL DECK SHALL BE WELDED TO STEEL BEAMS.
2. WIDE FLANGE BEAM.
3. BEAM BEYOND.
4. SUSPENDED "TEE" GRID CEILING.
5. SPRAYED ON FIRE RESISTIVE FIBER COAT – 1/2" THICK (MINIMUM) AT STEEL BEAMS.
6. SPRAYED ON FIRE RESISTIVE FIBER COAT – 1/4" THICK (MINIMUM) AT STEEL DECK.

U.L. DESIGN NO. N805

1 HOUR FLOOR ASSEMBLY

3/4" = 1'-0"

05A-3024

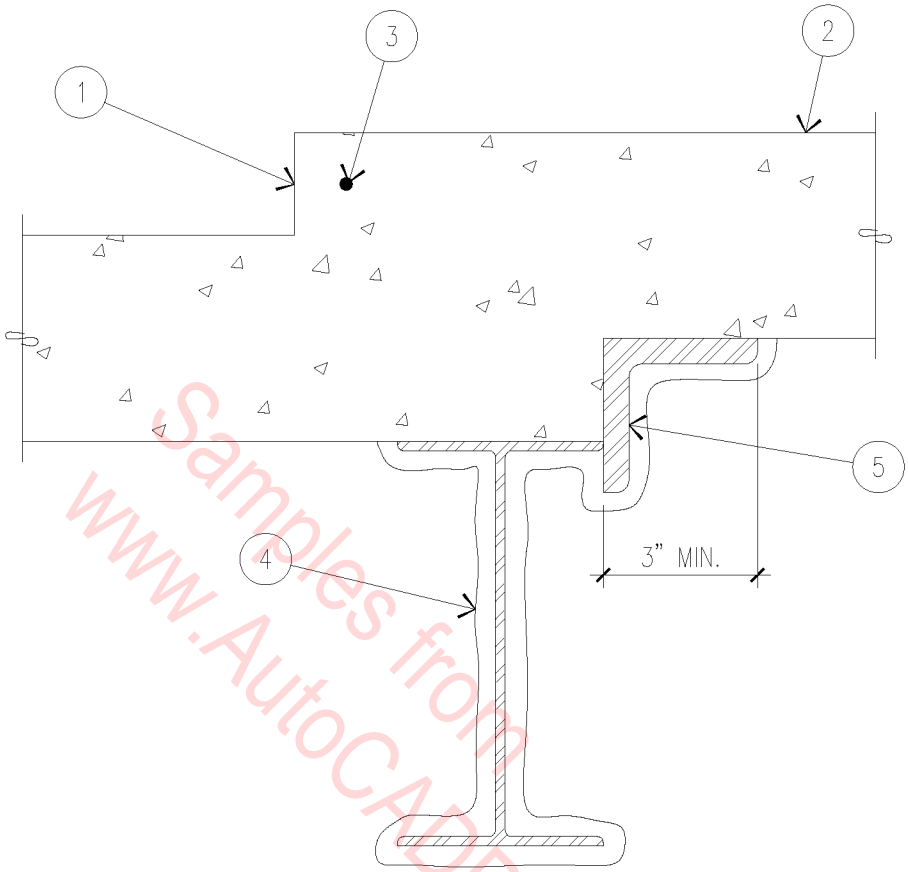


1. DEPRESSION – SEE PLAN.
2. SLAB ON METAL DECK – FOR THICKNESS, SEE PLAN.
3. (1) #4 REBAR, CONTINUOUS.
4. SPRAYED ON FIREPROOFING.
5. ANGLE WELDED TO BEAM – SIZE TO FIT DEPRESSION (1/2" THICK, MINIMUM).

DEPRESSED SLAB

3" = 1'-0"

05A-3025

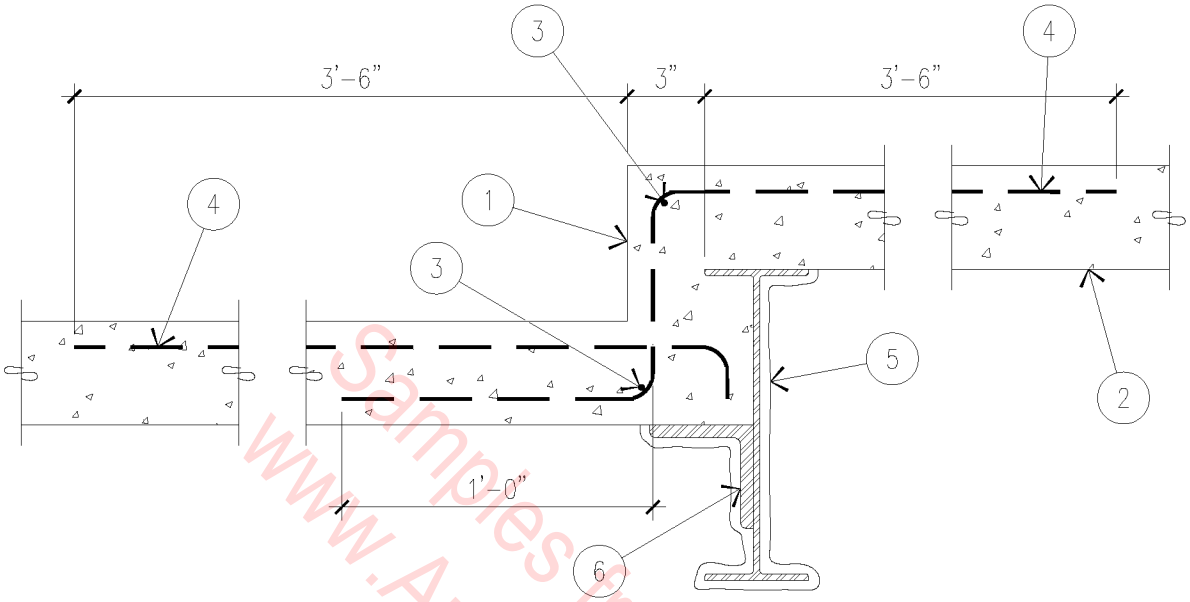


1. DEPRESSION – SEE PLAN.
2. SLAB ON METAL DECK – FOR THICKNESS, SEE PLAN.
3. (1) #4 REBAR, CONTINUOUS.
4. SPRAYED ON FIREPROOFING.
5. ANGLE WELDED TO BEAM – SIZE TO FIT DEPRESSION (1/2" THICK, MINIMUM).

DEPRESSED SLAB

3" = 1'-0"

05A–3025

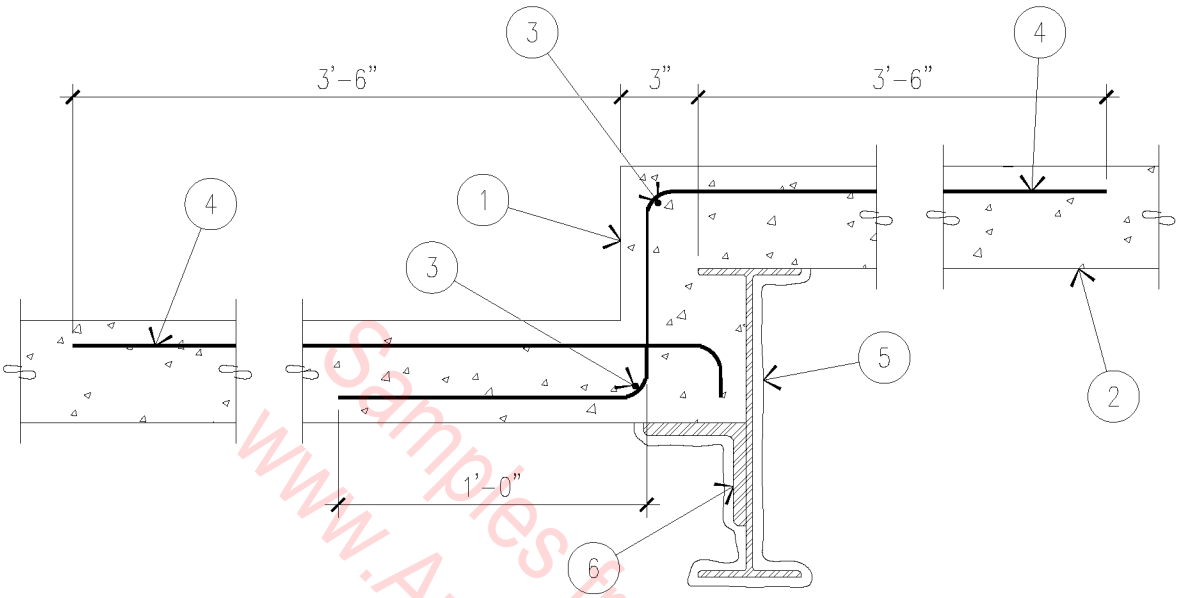


1. DEPRESSION – SEE PLAN.
2. SLAB ON METAL DECK – FOR THICKNESS, SEE PLAN.
3. (1) #4 REBAR, CONTINUOUS.
4. #4 REBAR AT 12" O.C., MINIMUM.
5. SPRAYED ON FIREPROOFING.
6. L 4" X 4" X 1/2", CONTINUOUS, WELDED TO BEAM.

DEPRESSED SLAB

1 1/2" = 1'-0"

05A-3026

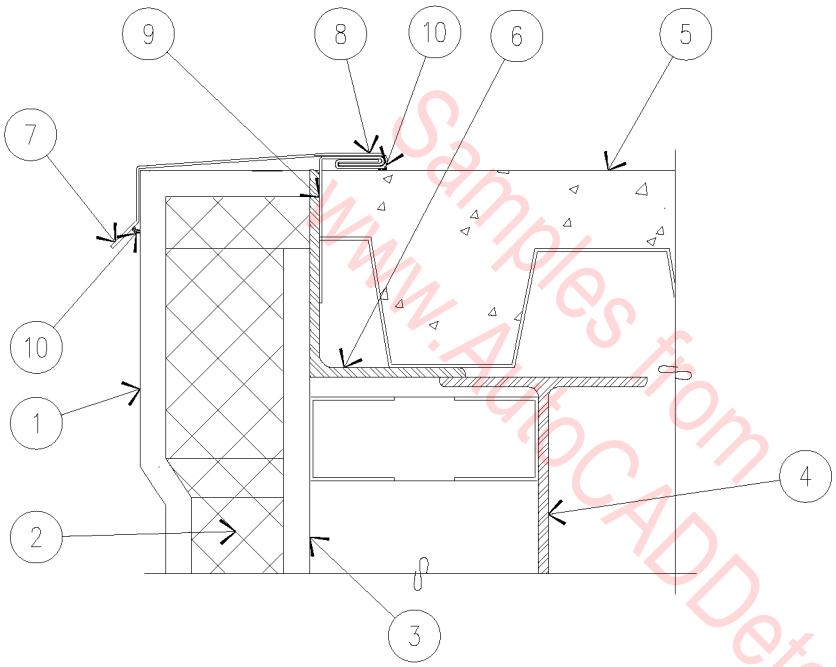


1. DEPRESSION – SEE PLAN.
2. SLAB ON METAL DECK – FOR THICKNESS, SEE PLAN.
3. (1) #4 REBAR, CONTINUOUS.
4. #4 REBAR AT 12" O.C., MINIMUM.
5. SPRAYED ON FIREPROOFING.
6. L 4" X 4" X 1/2", CONTINUOUS, WELDED TO BEAM.

DEPRESSED SLAB

1 1/2" = 1'-0"

05A-3026

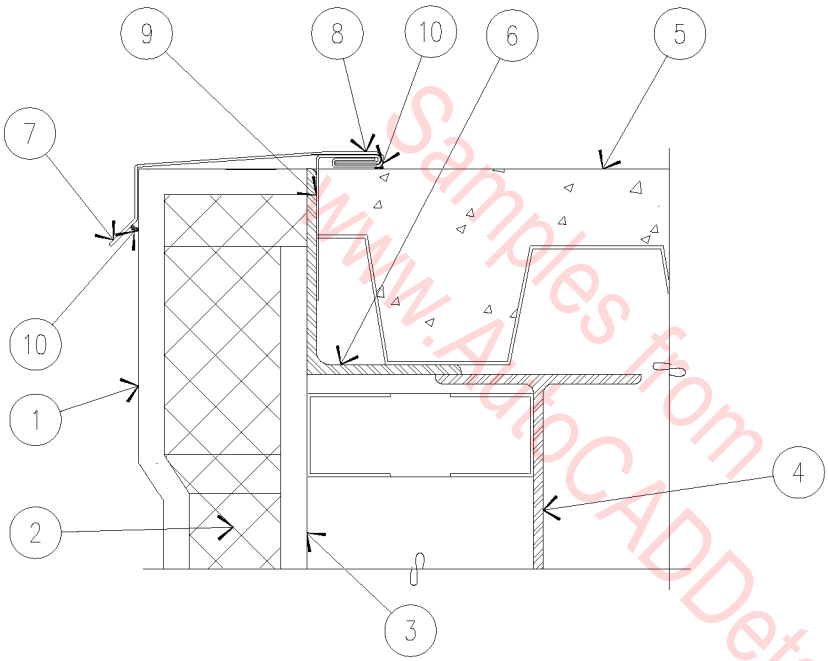


1. E.I.F.S.
2. RIGID INSULATION.
3. 1/2" GYPSUM SHEATHING.
4. WIDE FLANGE BEAM.
5. COMPOSITE ROOF DECK.
6. RETAINING ANGLE.
7. CONTINUOUS FLASHING WITH DRIP EDGE.
8. CONTINUOUS HEMMED SEAM.
9. CONTINUOUS SHEET METAL RETAINING FLANGE.
10. CONTINUOUS SEALANT.

ROOF PARAPET

3" = 1'-0"

05A-3027

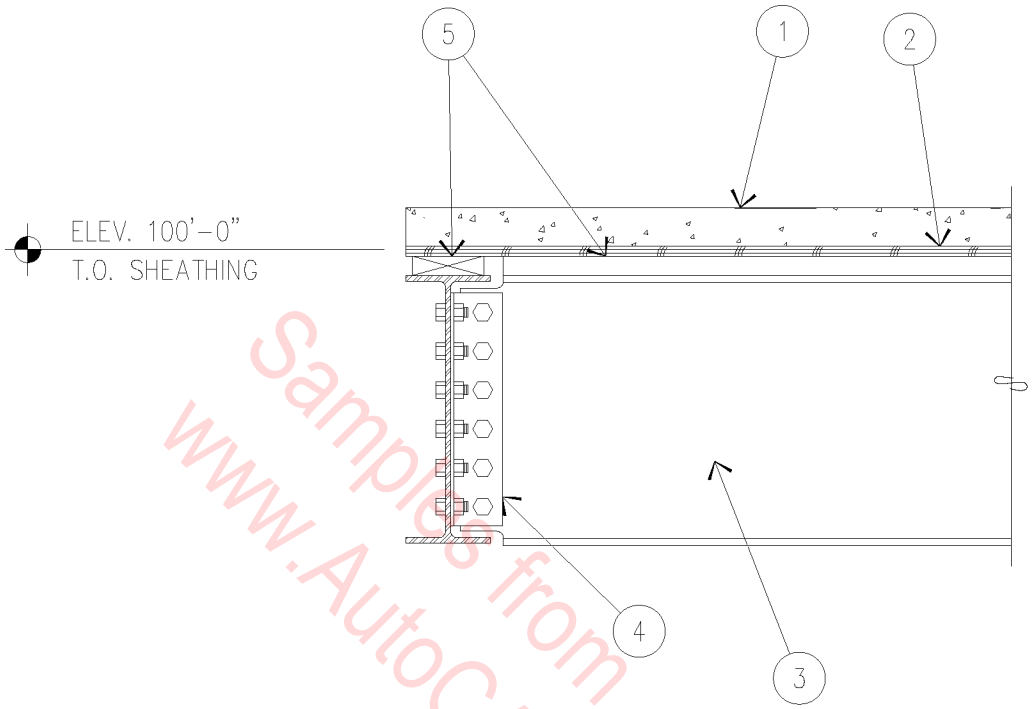


1. E.I.F.S.
2. RIGID INSULATION.
3. 1/2" GYPSUM SHEATHING.
4. WIDE FLANGE BEAM.
5. COMPOSITE ROOF DECK.
6. RETAINING ANGLE.
7. CONTINUOUS FLASHING WITH DRIP EDGE.
8. CONTINUOUS HEMMED SEAM.
9. CONTINUOUS SHEET METAL RETAINING FLANGE.
10. CONTINUOUS SEALANT.

ROOF PARAPET

3" = 1'-0"

05A-3027

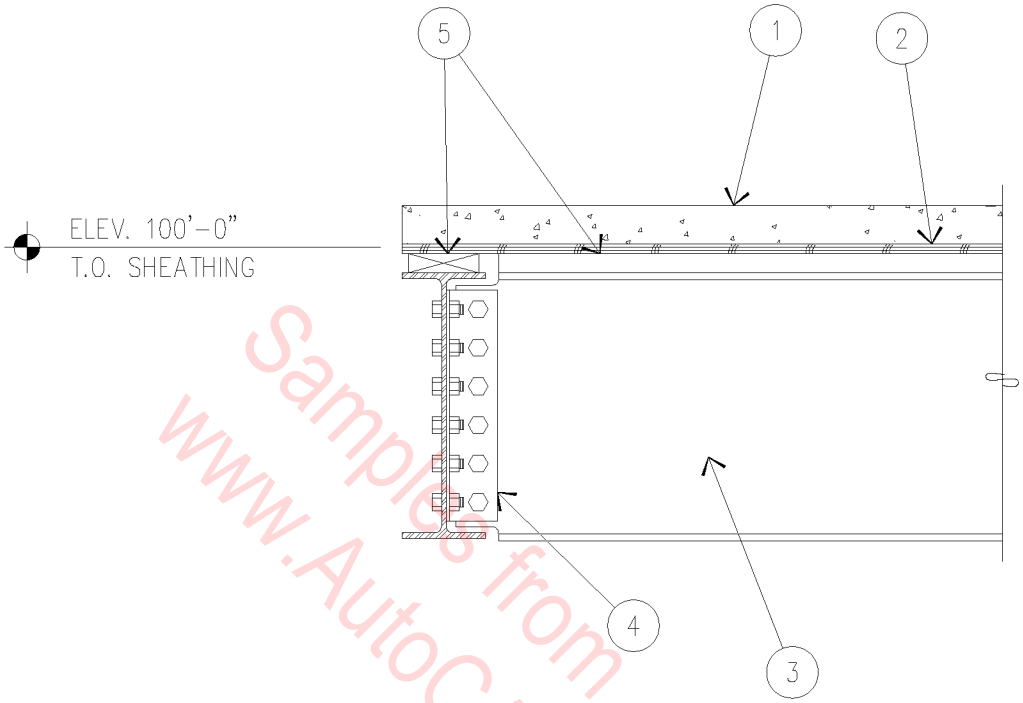


1. 1 1/2" CONCRETE TOPPING.
2. 3/4" A.P.A. RATED SHEATHING - SEE PLAN.
3. BEAM, PER PLAN.
4. STANDARD AISC DOUBLE-ANGLE SHEAR CONNECTION WITH MAXIMUM NUMBER OF 3/4" ø THROUGH BOLTS.
5. 2 X NAILER.

BEAM TO BEAM AT SLAB

3/4" = 1'-0"

05A-3028

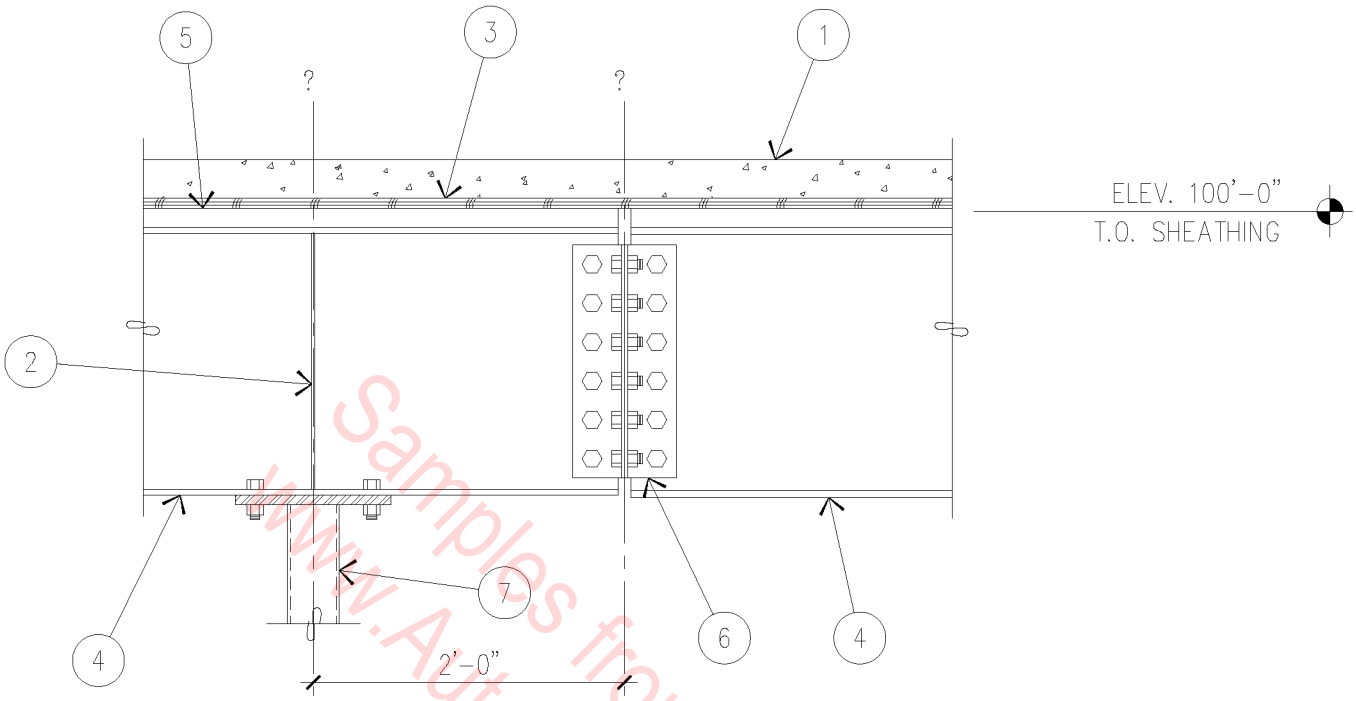


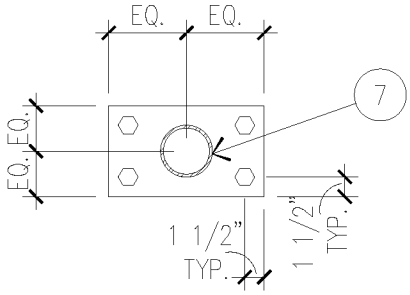
1. 1 1/2" CONCRETE TOPPING.
2. 3/4" A.P.A. RATED SHEATHING - SEE PLAN.
3. BEAM, PER PLAN.
4. STANDARD AISC DOUBLE-ANGLE SHEAR CONNECTION WITH MAXIMUM NUMBER OF 3/4" ø THROUGH BOLTS.
5. 2 X NAILER.

BEAM TO BEAM AT SLAB

3/4" = 1'-0"

05A-3028



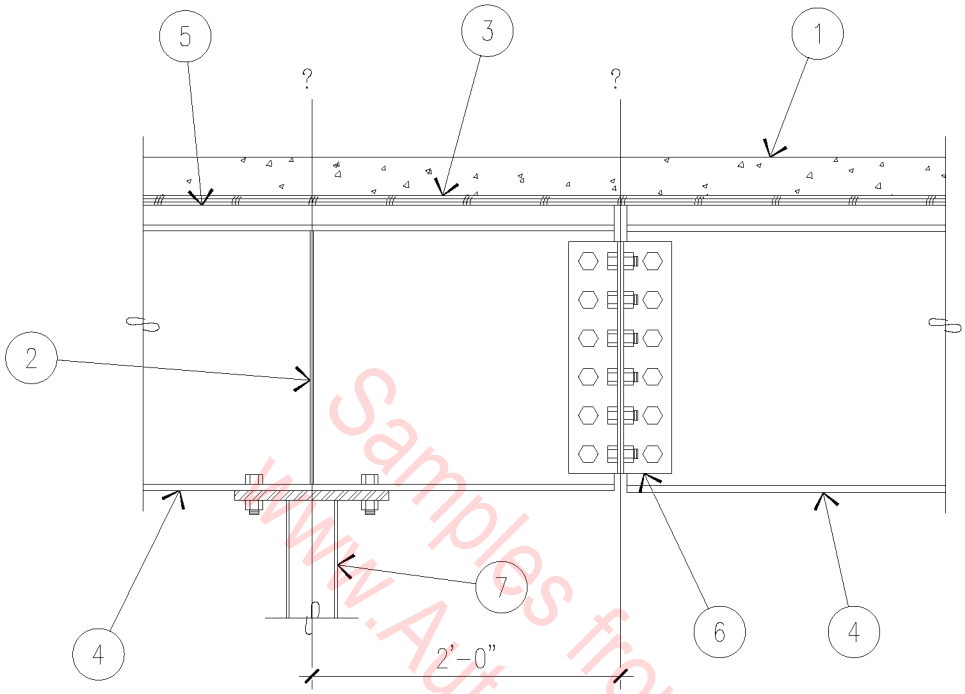


1. 1 1/2" CONCRETE TOPPING.
2. 1/4" WEB STIFFENER, EACH SIDE, CENTERED OVER COLUMN.
3. 3/4" A.P.A. RATED SHEATHING – SEE PLAN.
4. BEAM, PER PLAN.
5. 2 X NAILER.
6. STANDARD AISC DOUBLE-ANGLE SHEAR CONNECTION WITH MAXIMUM NUMBER OF 3/4" ø THROUGH BOLTS.
7. COLUMN, PER PLAN, WITH 1/2" PLATE ATTACHED BY (4) 3/4" ø THROUGH BOLTS.

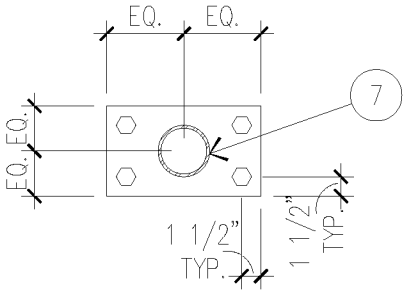
BEAM TO BEAM AT COLUMN

3/4" = 1'-0"

05A-3029



ELEV. 100'-0"
T.O. SHEATHING

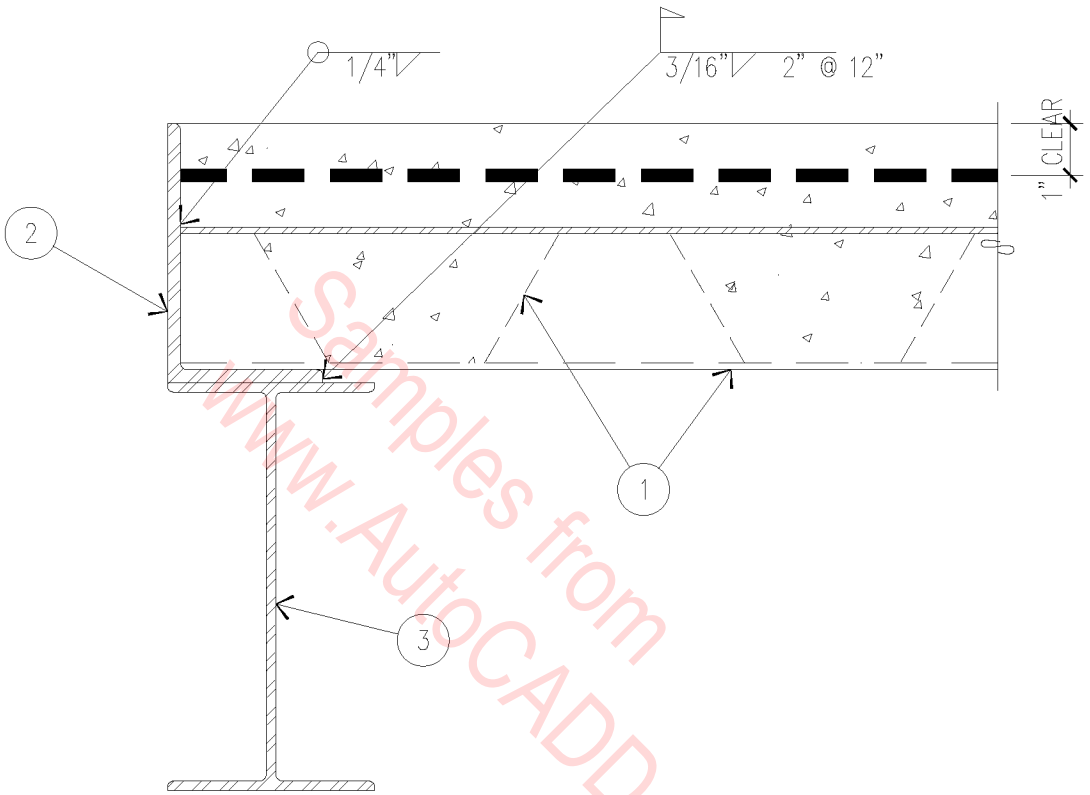


1. 1 1/2" CONCRETE TOPPING.
2. 1/4" WEB STIFFENER, EACH SIDE, CENTERED OVER COLUMN.
3. 3/4" A.P.A. RATED SHEATHING - SEE PLAN.
4. BEAM, PER PLAN.
5. 2 X NAILER.
6. STANDARD AISC DOUBLE-ANGLE SHEAR CONNECTION WITH MAXIMUM NUMBER OF 3/4" ø THROUGH BOLTS.
7. COLUMN, PER PLAN, WITH 1/2" PLATE ATTACHED BY (4) 3/4" ø THROUGH BOLTS.

BEAM TO BEAM AT COLUMN

3/4" = 1'-0"

05A-3029

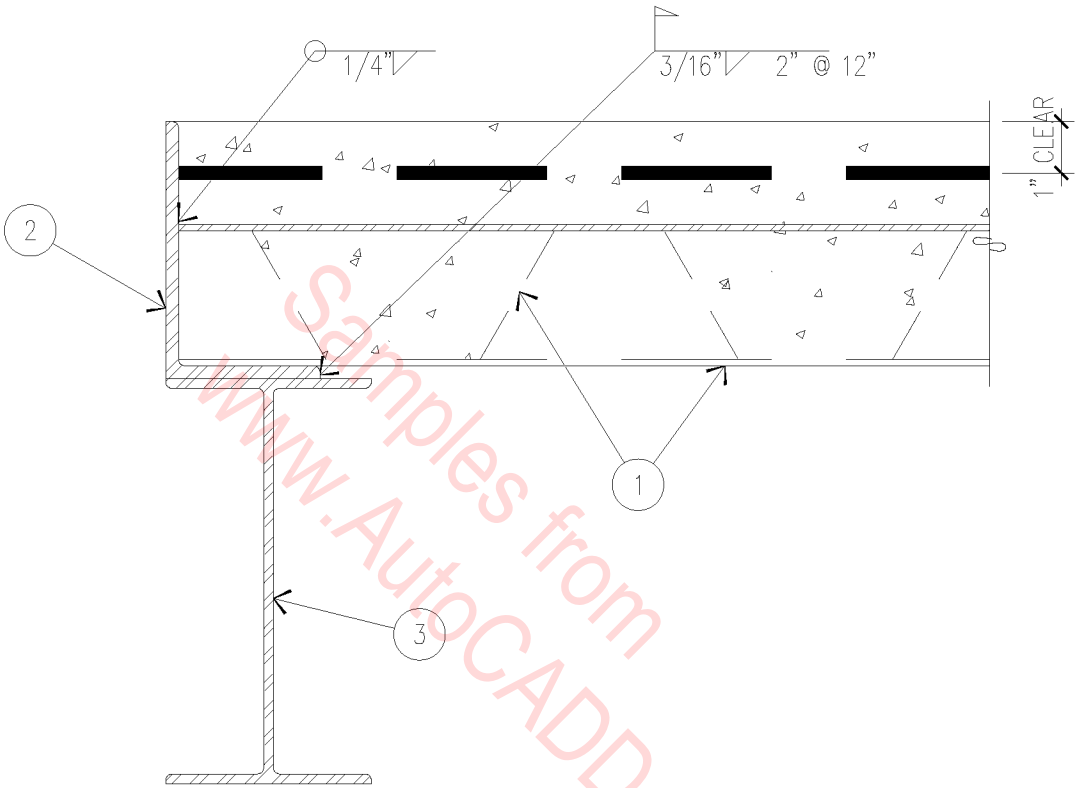


1. PLAN FOR DECK DIRECTION.
2. TYPICAL EDGE BENT PLATE OR L 3" X 5" X 1/4" (LLV), CONTINUOUS, WITH #4 X 1'-6" AT 24" O.C.
3. BEAM PER STRUCTURAL.

SLAB EDGE

3" = 1'-0"

05A-3030

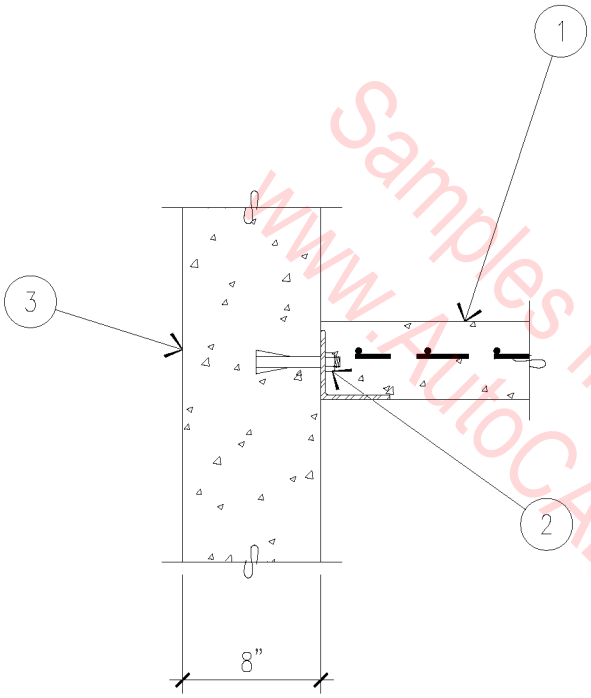


1. PLAN FOR DECK DIRECTION.
2. TYPICAL EDGE BENT PLATE OR L 3" X 5" X 1/4" (LLV), CONTINUOUS, WITH #4 X 1'-6" AT 24" O.C.
3. BEAM PER STRUCTURAL.

SLAB EDGE

3" = 1'-0"

05A-3030

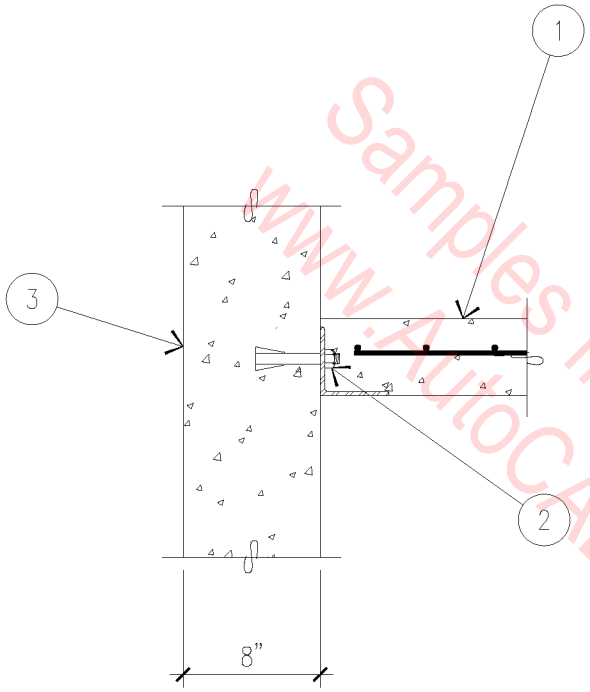


1. 2 1/2" CONCRETE SLAB OVER 2" METAL DECKING.
2. 5/8" ø EXPANSION BOLTS AT 24" O.C.
3. 8" PRECAST CONCRETE WALL.

SLAB TO WALL

1" = 1'-0"

05A-3031

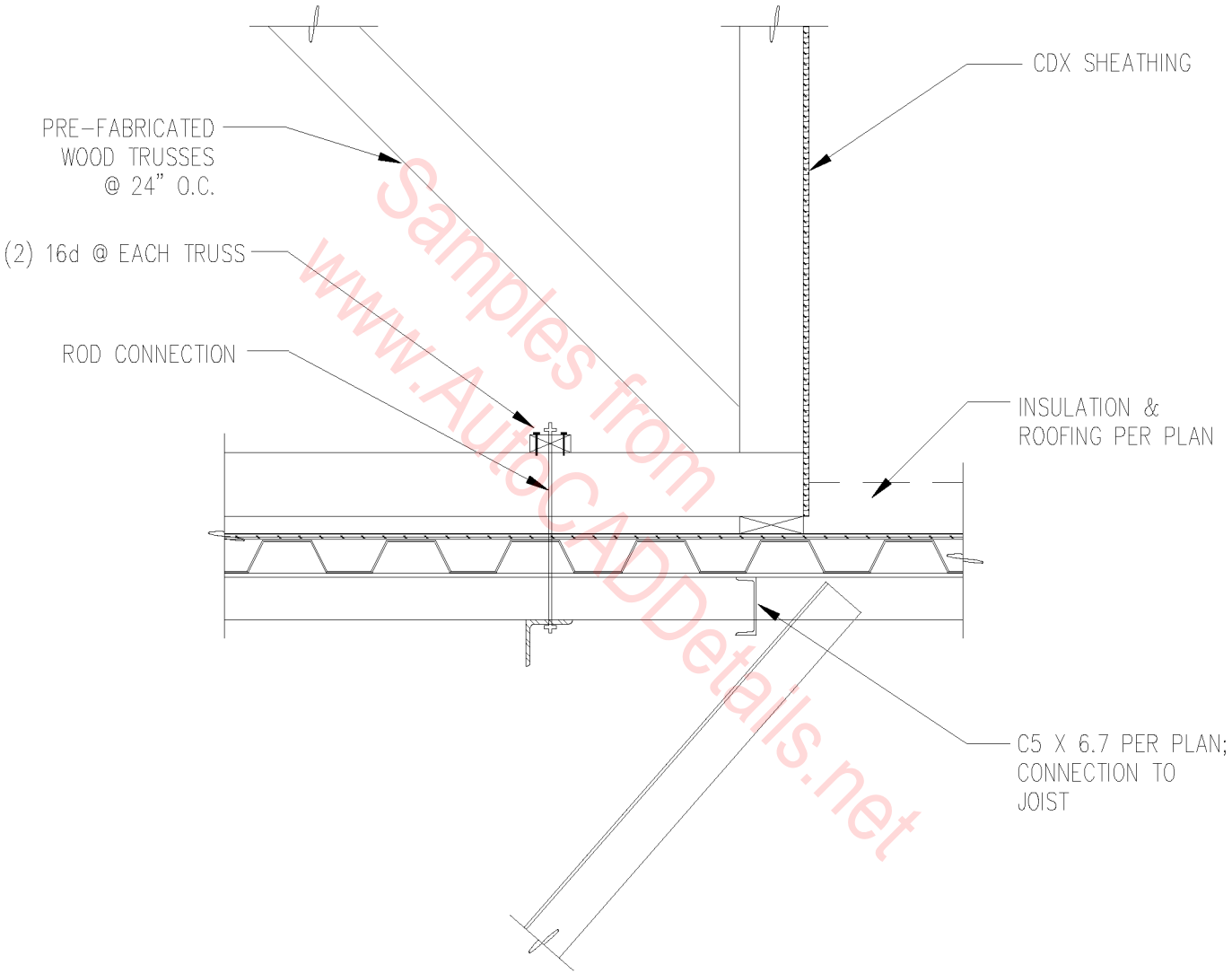


1. 2 1/2" CONCRETE SLAB OVER 2" METAL DECKING.
2. 5/8" ø EXPANSION BOLTS AT 24" O.C.
3. 8" PRECAST CONCRETE WALL.

SLAB TO WALL

1" = 1'-0"

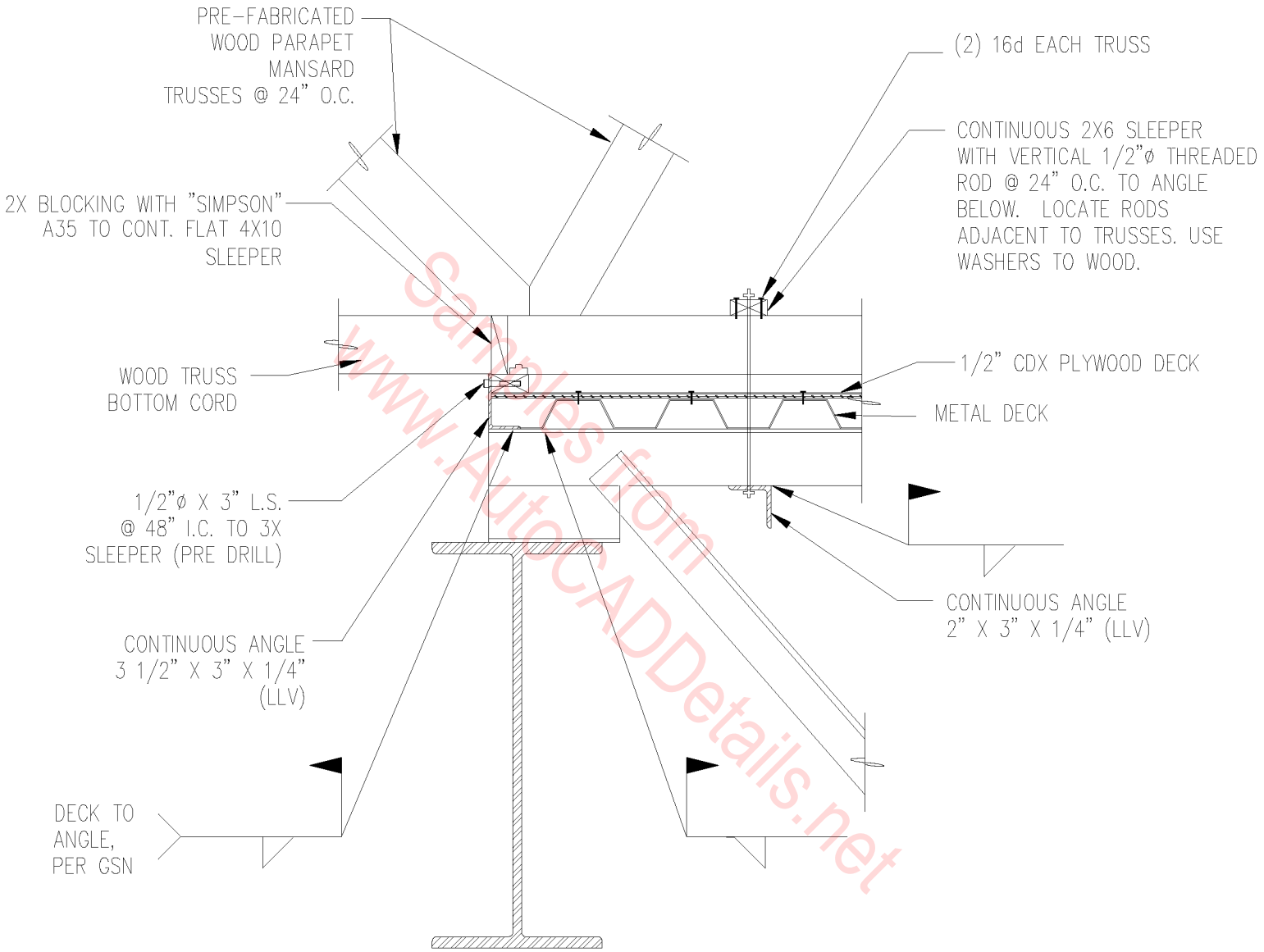
05A-3031



MANSARD TRUSS TO ROOF

3/4" = 1'-0"

05A-6001

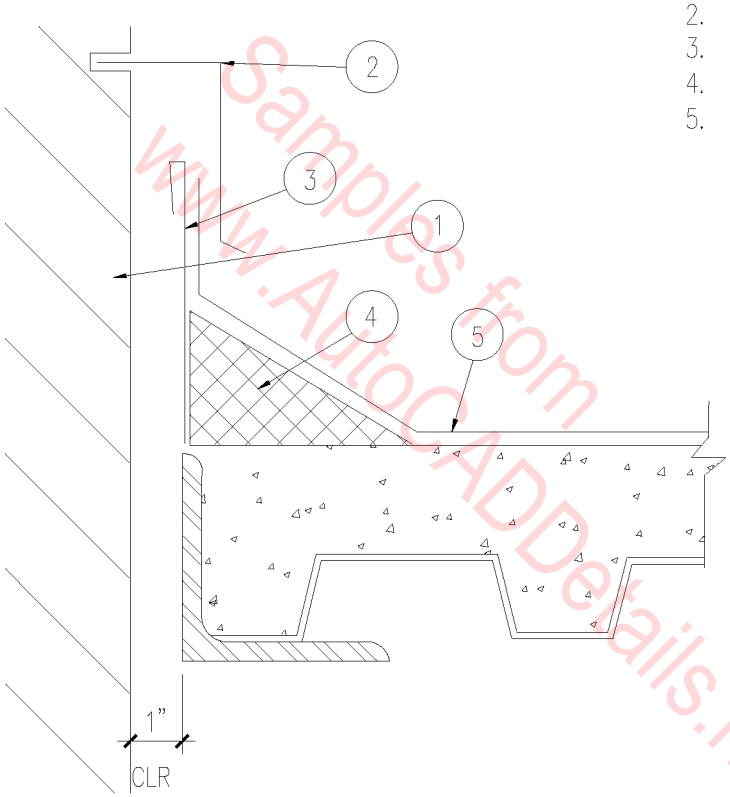


REINFORCED FRAMING @ PARAPET

SCALE: 3/4" = 1'-0"

05A-6002

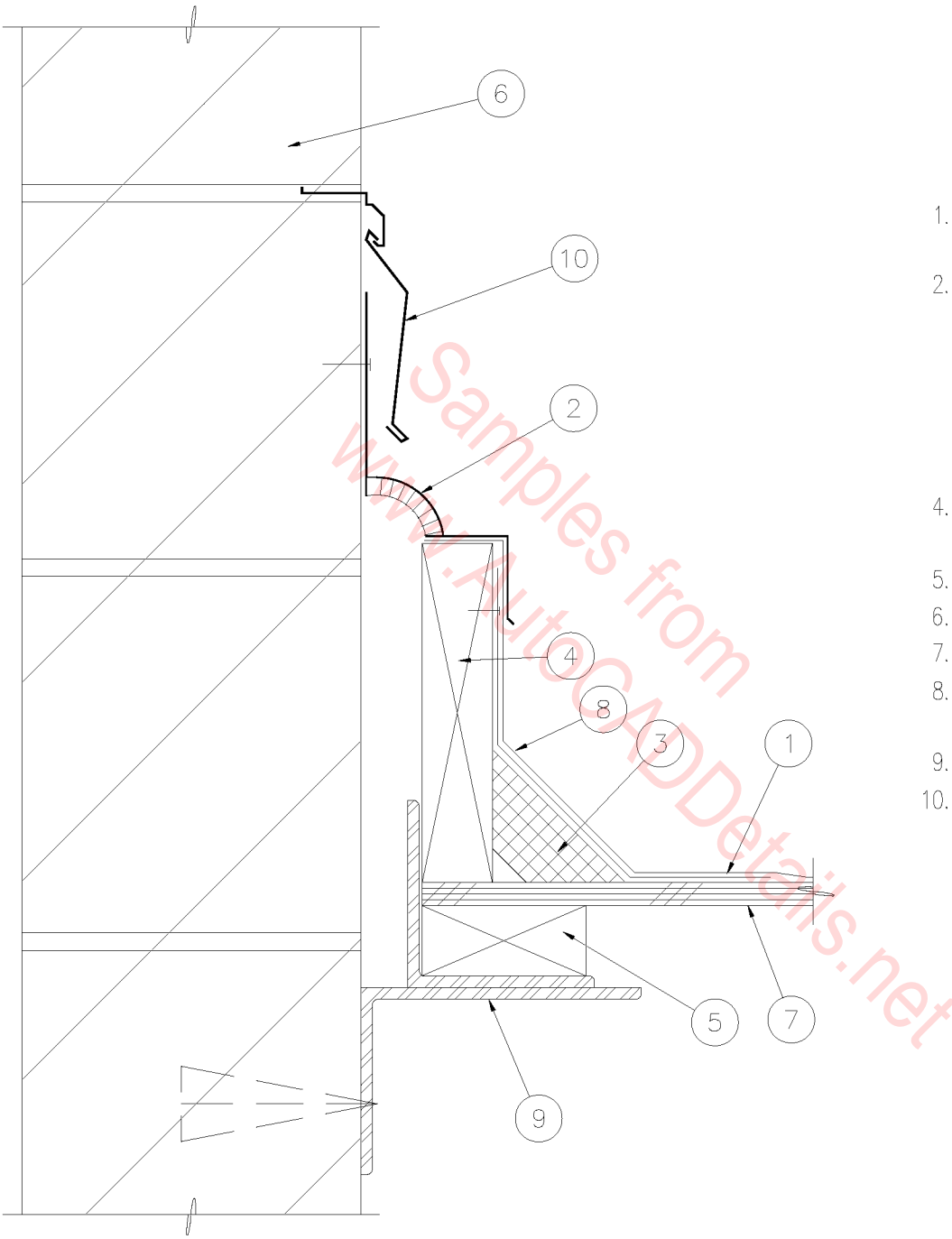
1. MASONRY WALL.
2. REGLET & COUNTER FLASHING.
3. 12 GA. GI CONT. FLASHING.
4. 4" CANT STRIP.
5. MEMBRANE ROOFING OVER LIGHTWEIGHT FILL OVER 1 1/2" METAL DECKING.



ROOFING EXPANSION JOINT

SCALE: 3" = 1'-0"

05A-6003

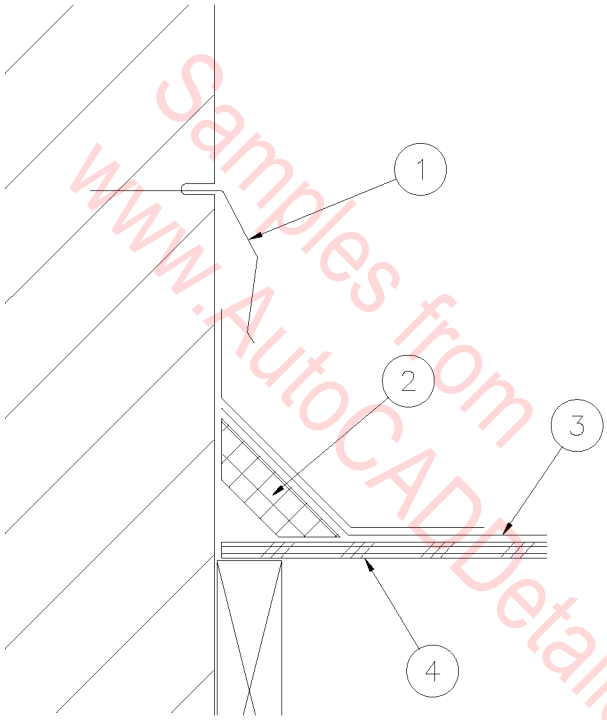


1. MODIFIED BITUMEN REINFORCED COMPOSITE SHEET ROOFING.
2. EXPANSION JOINT COVER, COAT ALL NEOPRENE MATERIAL WITH WHITE ELASTOMERIC COATING AFTER INSTALLATION.
3. 4" CANT STRIP.
4. 2 x 8 FIRE RETARDANT TREATED WOOD CURB.
5. STRUCTURAL NAILER.
6. MASONRY WALL.
7. PLYWOOD ROOF DECK.
8. FLASHING SYSTEM BY ROOFING MANUFACTURER.
9. STRUCTURAL SLIP JOINT.
10. REGLET AND COUNTERFLASHING.

EXPANSION JOINT COVER

SCALE: 1" = 1'-0"

05A-6004

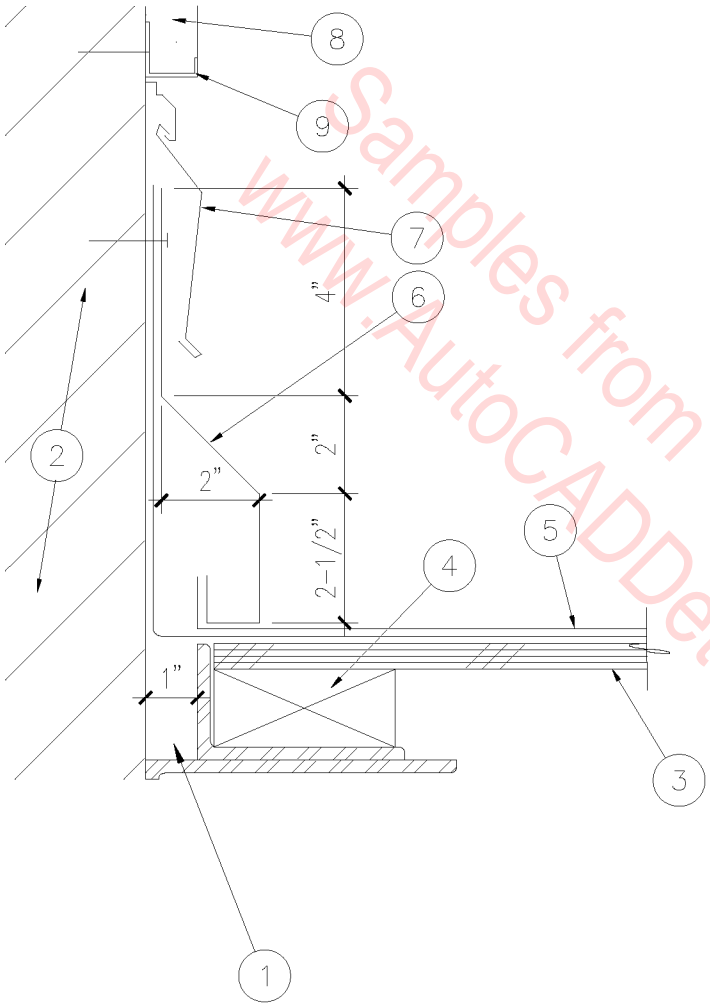


1. "FRY" TYPE REGLET
2. FIBER CANT STRIP.
3. CLASS "A" BUILT UP ROOFING.
4. PLYWOOD SHEATHING.

CANT DETAIL

SCALE: 3" = 1'-0"

05A-6005



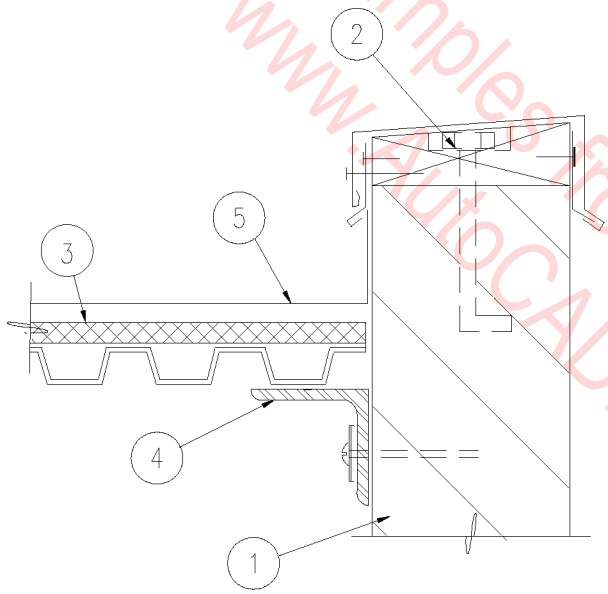
1. STRUCTURAL SLIP JOINT.
2. MASONRY WALL.
3. PLYWOOD DECK.
4. CONTINUOUS NAILER.
5. METAL ROOFING SYSTEM.
6. METAL FLASHING BY METAL ROOFING MANUFACTURER.
7. REGLET AND COUNTERFLASHING SURFACE ATTACHED UNDER STUCCO
8. CEMENT PLASTER.
9. CASING BEAD PARALLEL TO PLANE OF ROOF.
10. 40 MIL ELASTOMERIC MEMBRANE.

EXPANSION JOINT

SCALE: 3" = 1'-0"

05A-6006

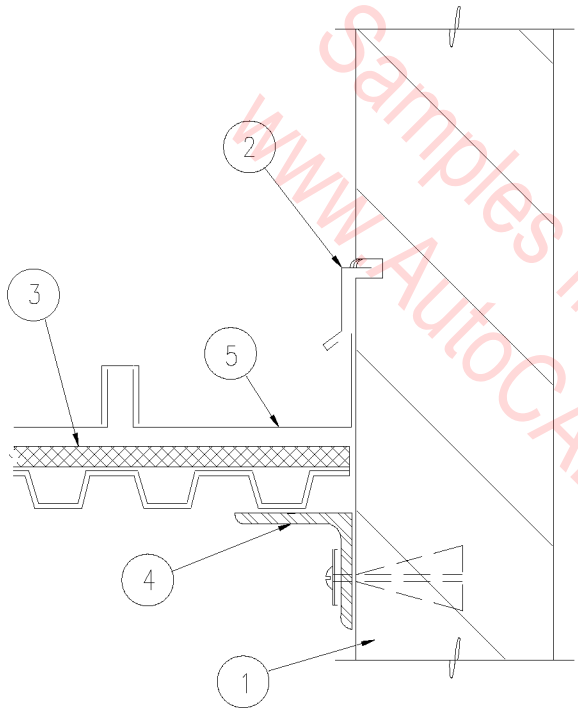
1. MASONRY WALL.
2. PARAPET CAP.
3. RIGID INSULATION OVER METAL DECK.
4. STEEL ANGLE LEDGER.
5. METAL ROOFING.



METAL ROOF AT PARAPET

SCALE: 1 1/2" = 1'-0"

05A-6007



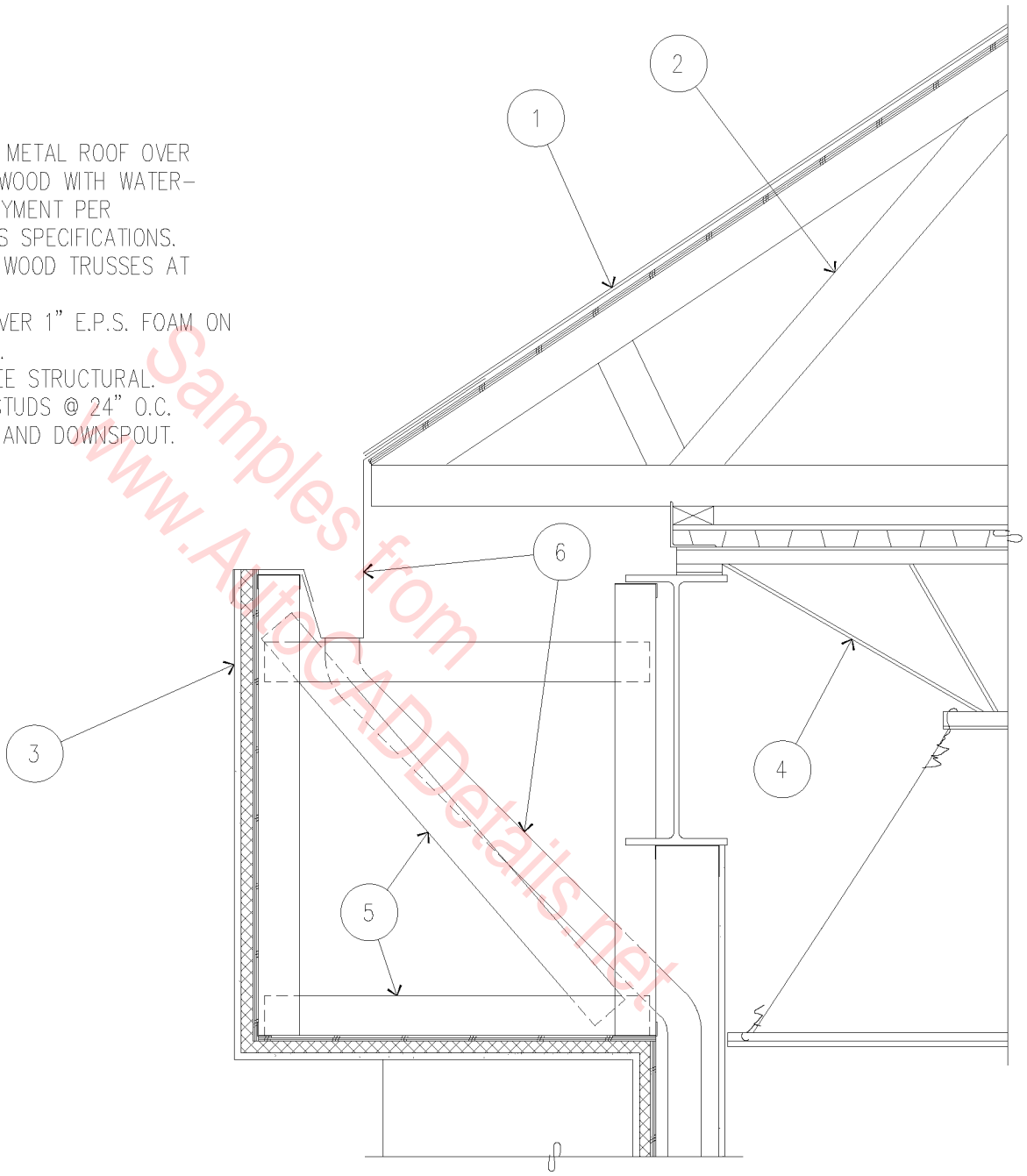
1. MASONRY WALL.
2. REGLET AND COUNTER FLASHING.
3. RIGID INSULATION OVER METAL DECK.
4. STEEL ANGLE LEDGER.
5. STANDING SEAM METAL ROOF.

METAL ROOF AT PARAPET

SCALE: 1 1/2" = 1'-0"

05A-6008

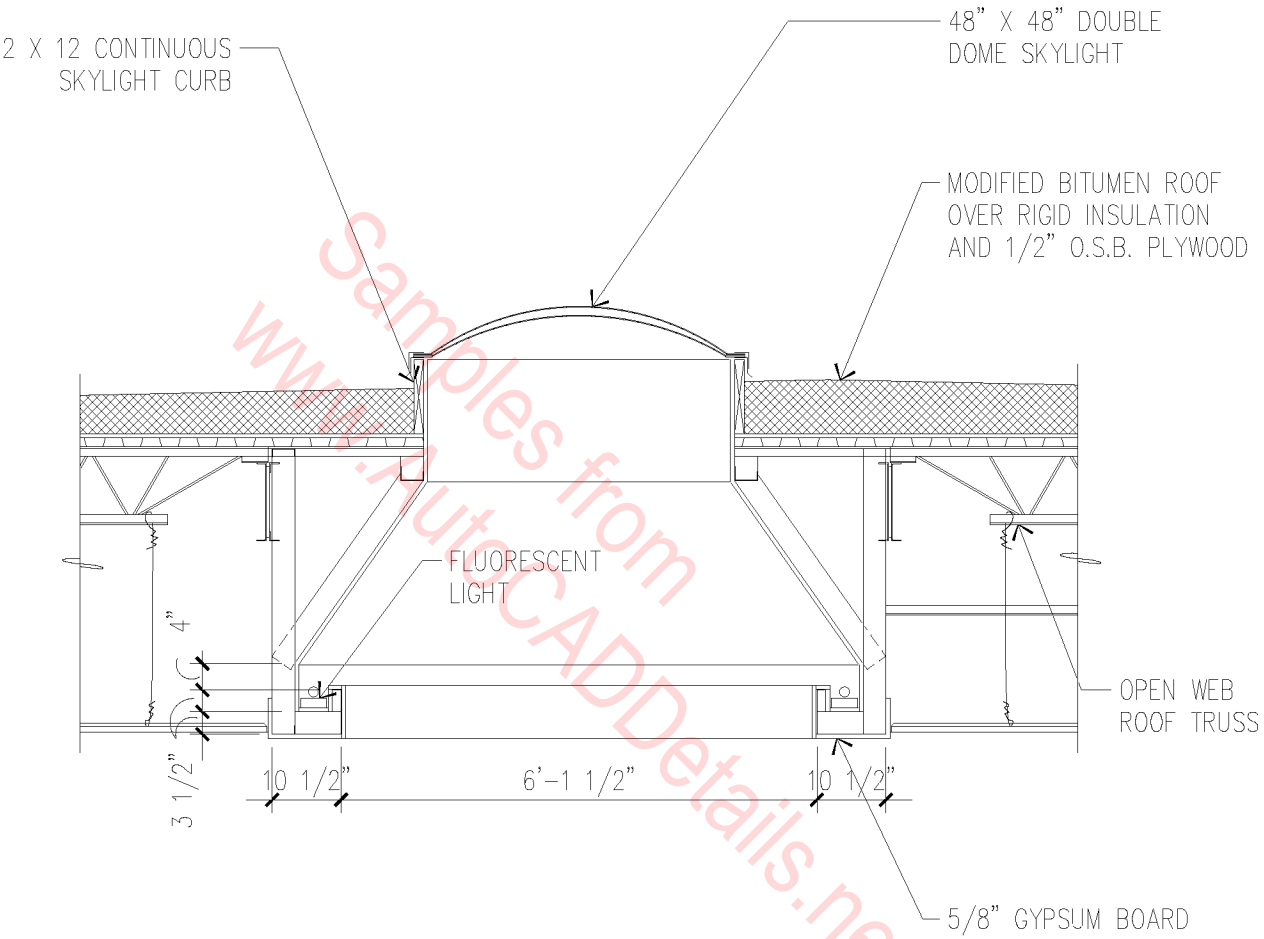
1. STANDING SEAM METAL ROOF OVER 1/2" O.S.B. PLYWOOD WITH WATER-PROOF UNDERLAYMENT PER MANUFACTURER'S SPECIFICATIONS.
2. PREFABRICATED WOOD TRUSSES AT 24" O.C.
3. 5/8" STUCCO OVER 1" E.P.S. FOAM ON 1/2" SHEATHING.
4. ROOF JOISTS, SEE STRUCTURAL.
5. 3 1/2" METAL STUDS @ 24" O.C.
6. HIDDEN GUTTER AND DOWNSPOUT.



GUTTER IN WALL

3/4" = 1'-0"

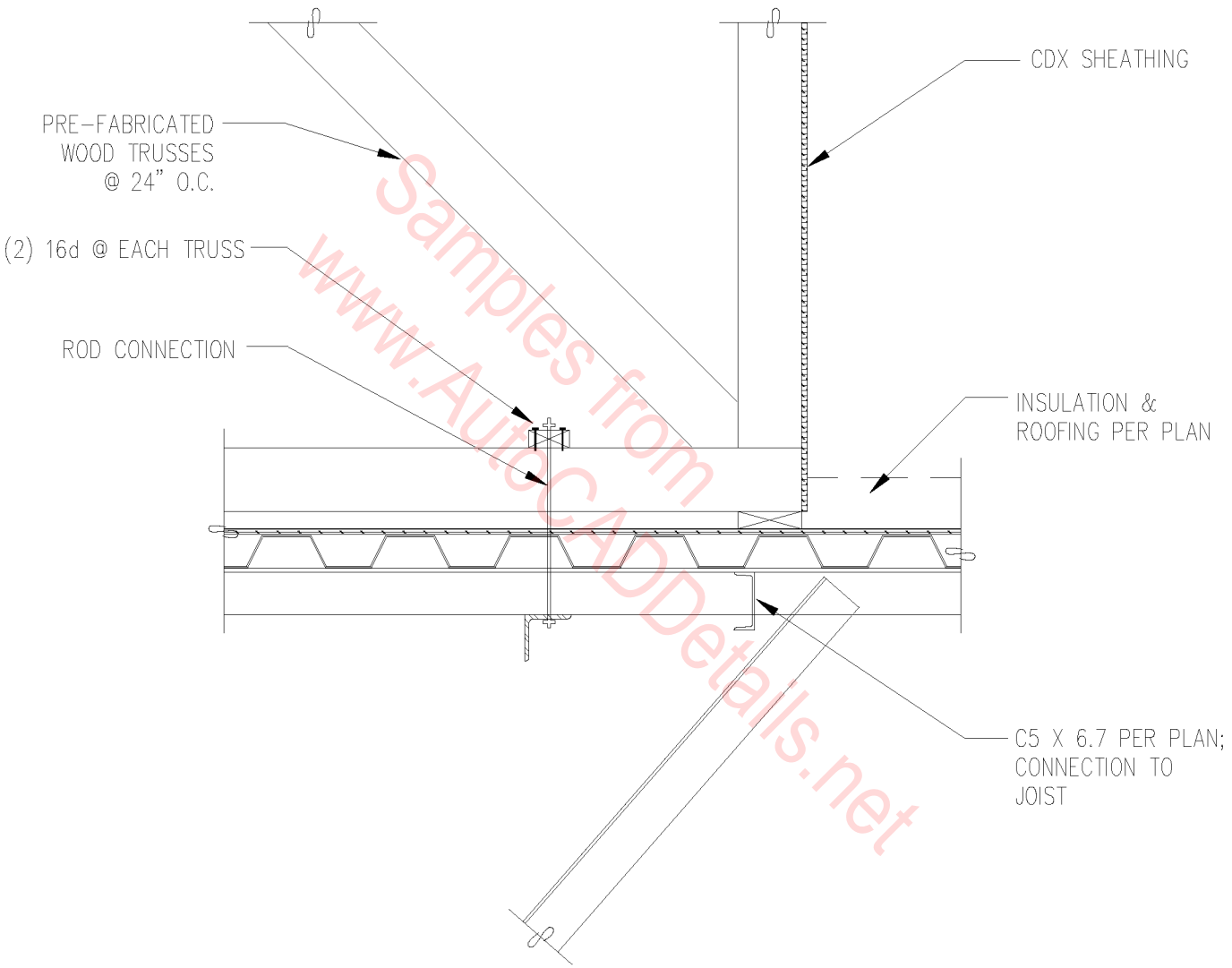
05A-6009



SKYLIGHT — LIGHT WELL

3/8" = 1'-0"

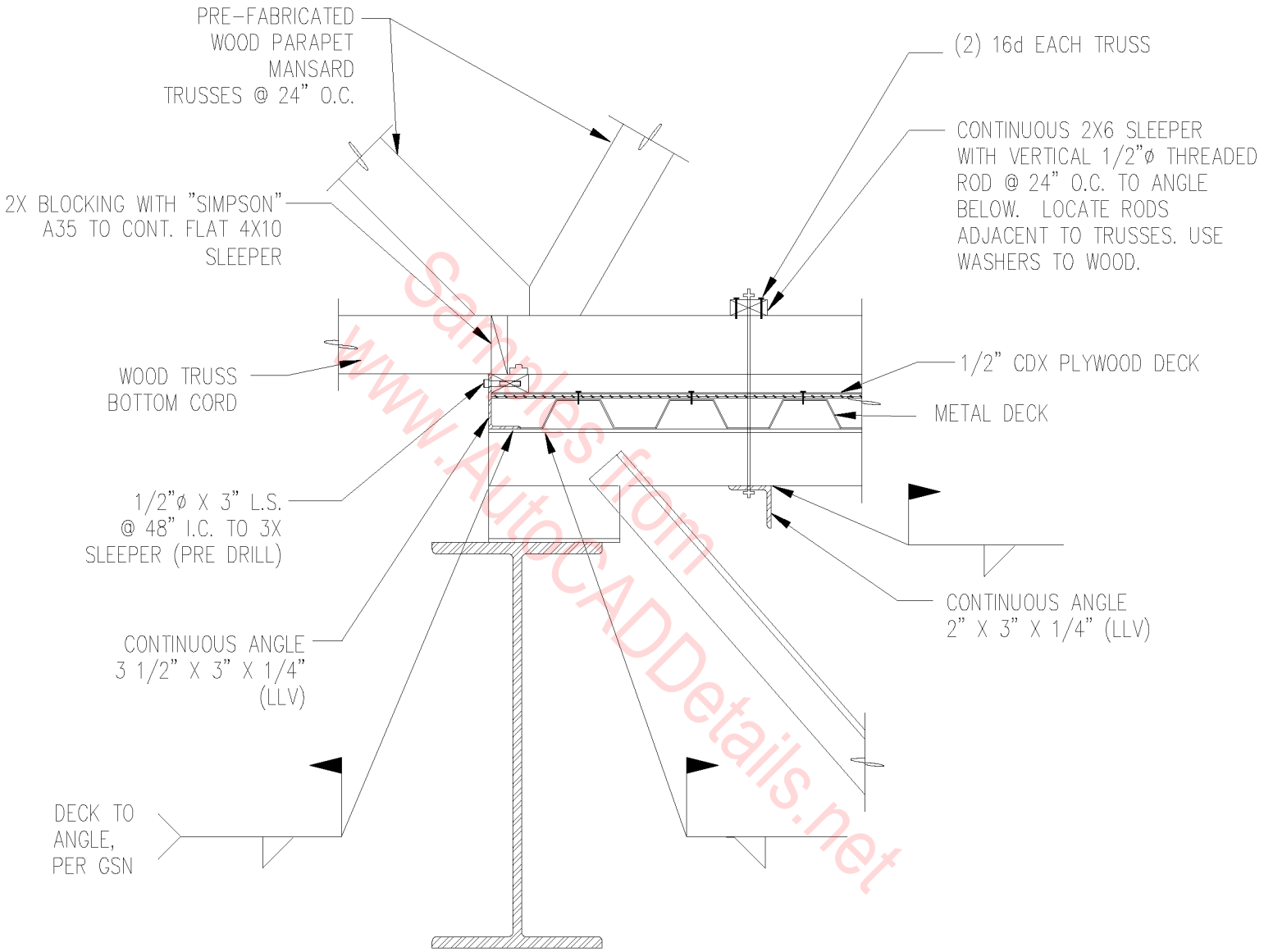
05A-5001



MANSARD TRUSS TO ROOF

3/4" = 1'-0"

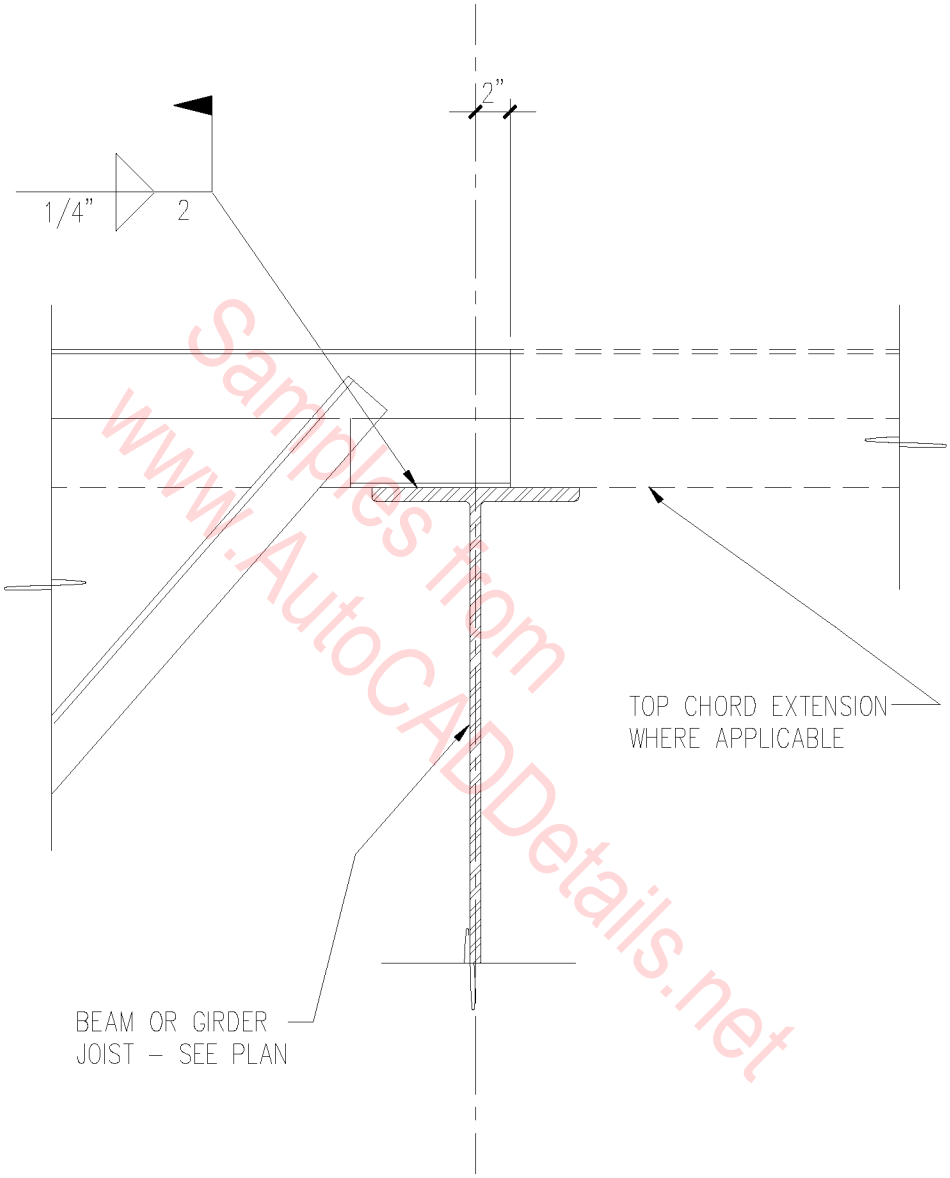
05A-2001



REINFORCED FRAMING @ PARAPET

SCALE: 3/4" = 1'-0"

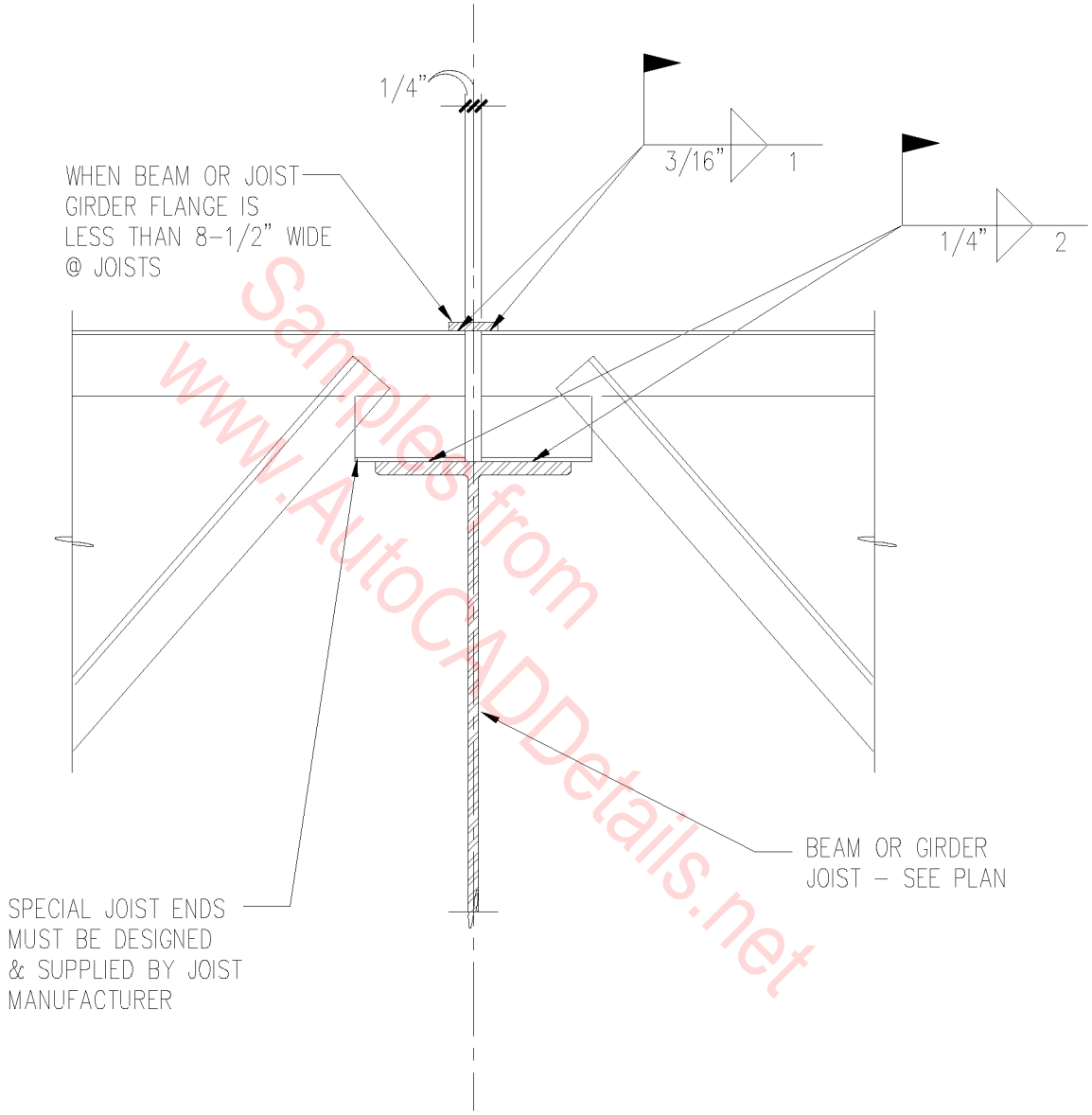
05A-2002



END BEARING JOIST

SCALE: 3/4" = 1'-0"

05A-2003

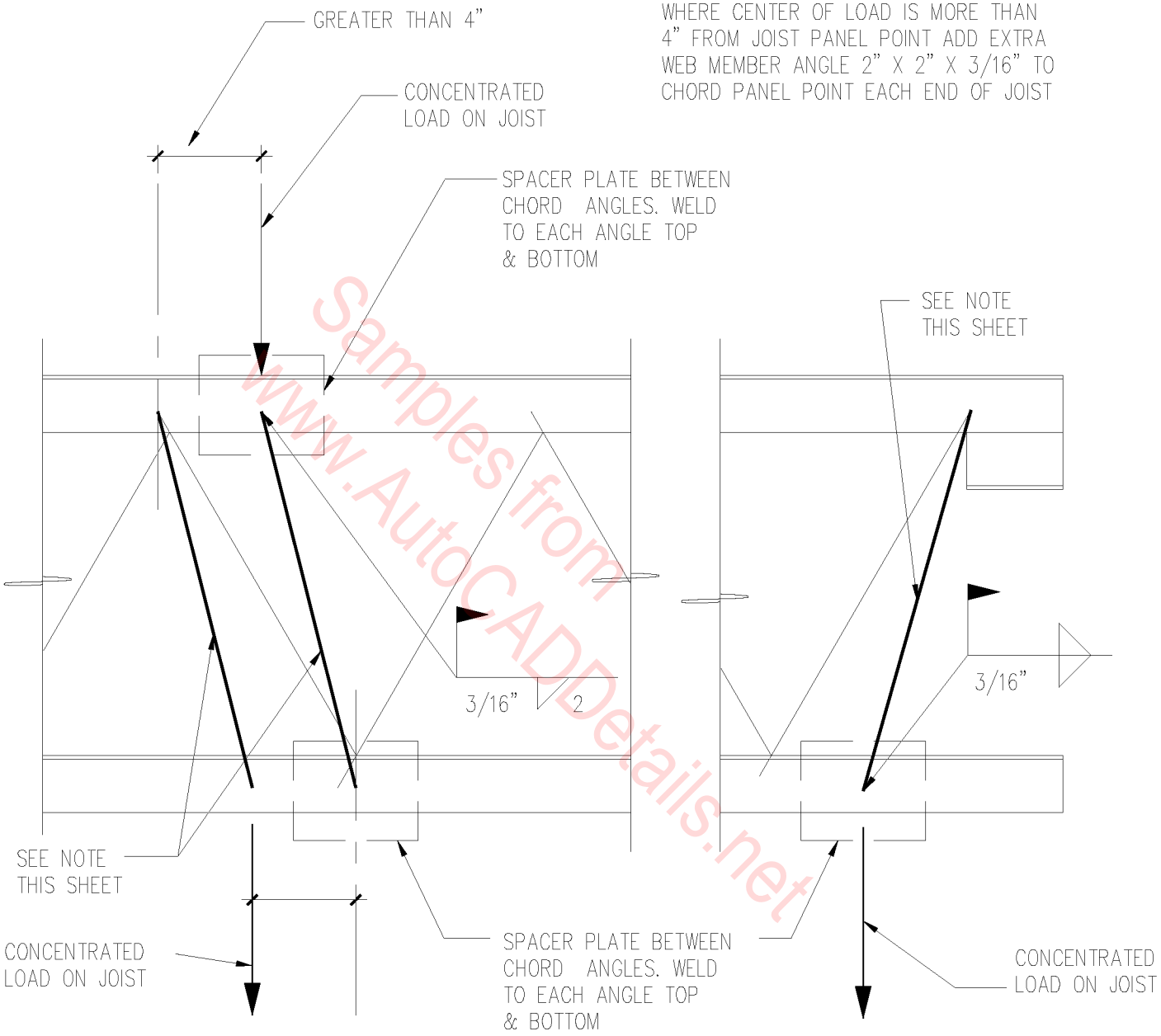


JOISTS @ TWO SIDES OF SUPPORT

3/4" = 1'-0"

05A-2004

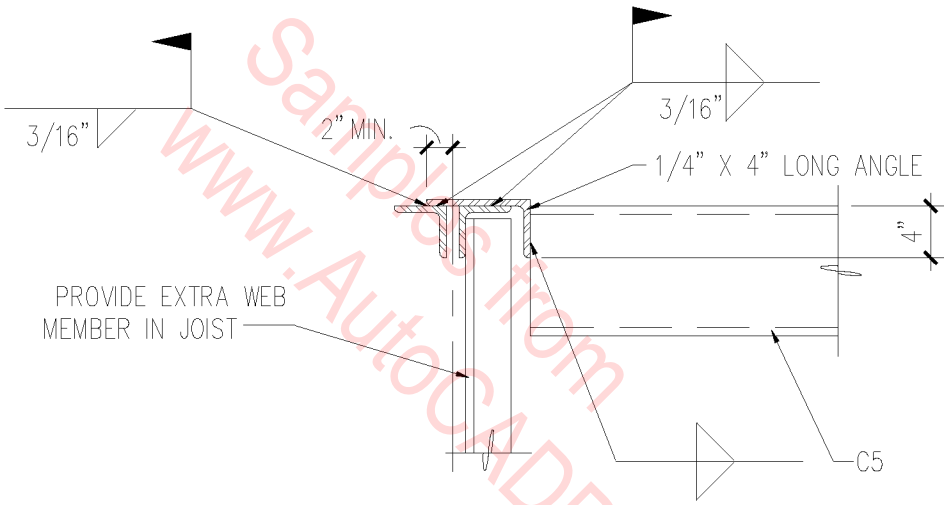
NOTE:
WHERE CENTER OF LOAD IS MORE THAN 4" FROM JOIST PANEL POINT ADD EXTRA WEB MEMBER ANGLE 2" X 2" X 3/16" TO CHORD PANEL POINT EACH END OF JOIST



REINFORCING @ CONCENTRATED LOAD

3/4" = 1'-0"

05A-2005

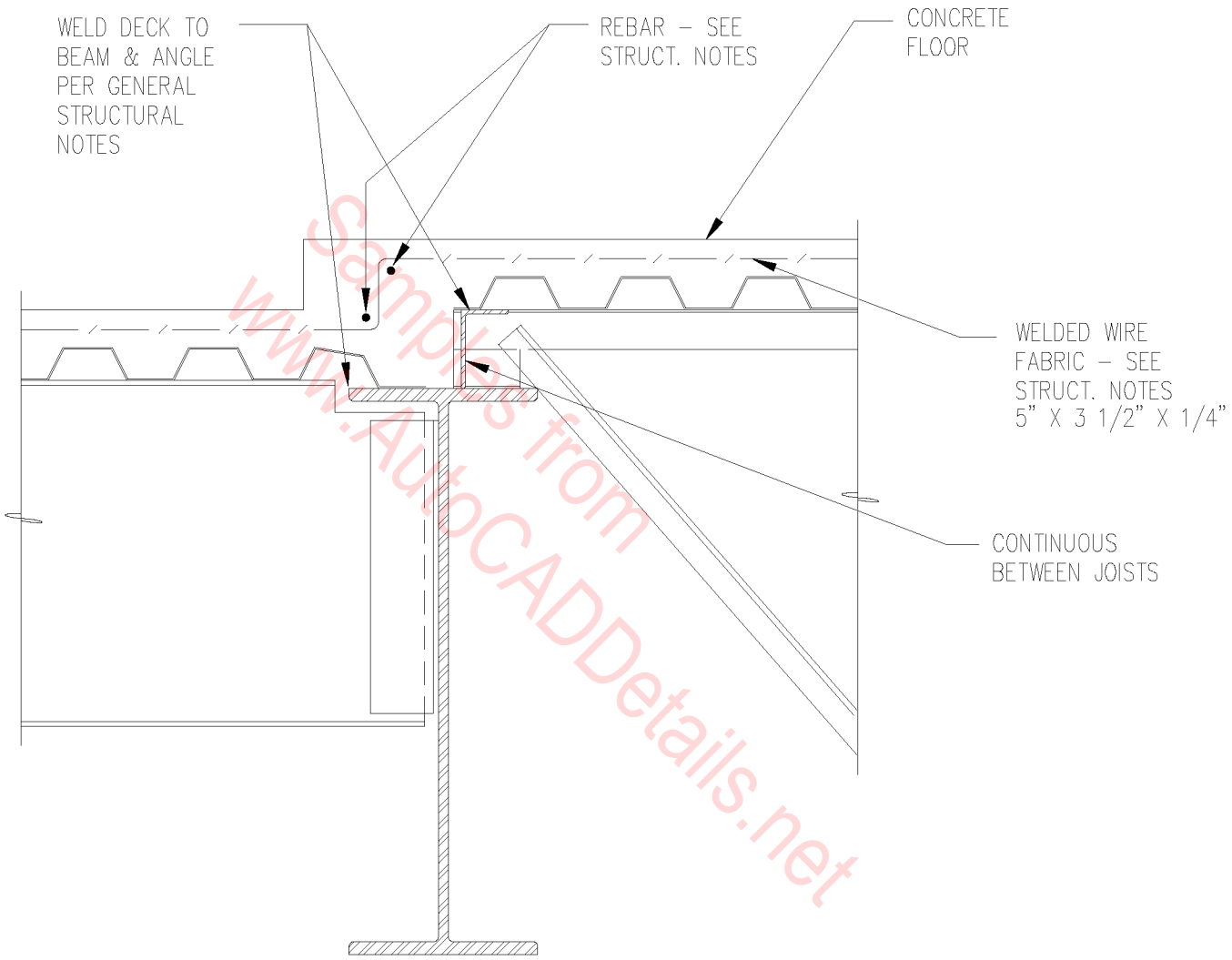


NOTE: DROP HEADER AS REQUIRED SO JOISTS WILL BE FLUSH OUT AT TOP AND AT SKYLIGHT FRAMING.

FRAMING AT JOIST

SCALE: 3/4" = 1'-0"

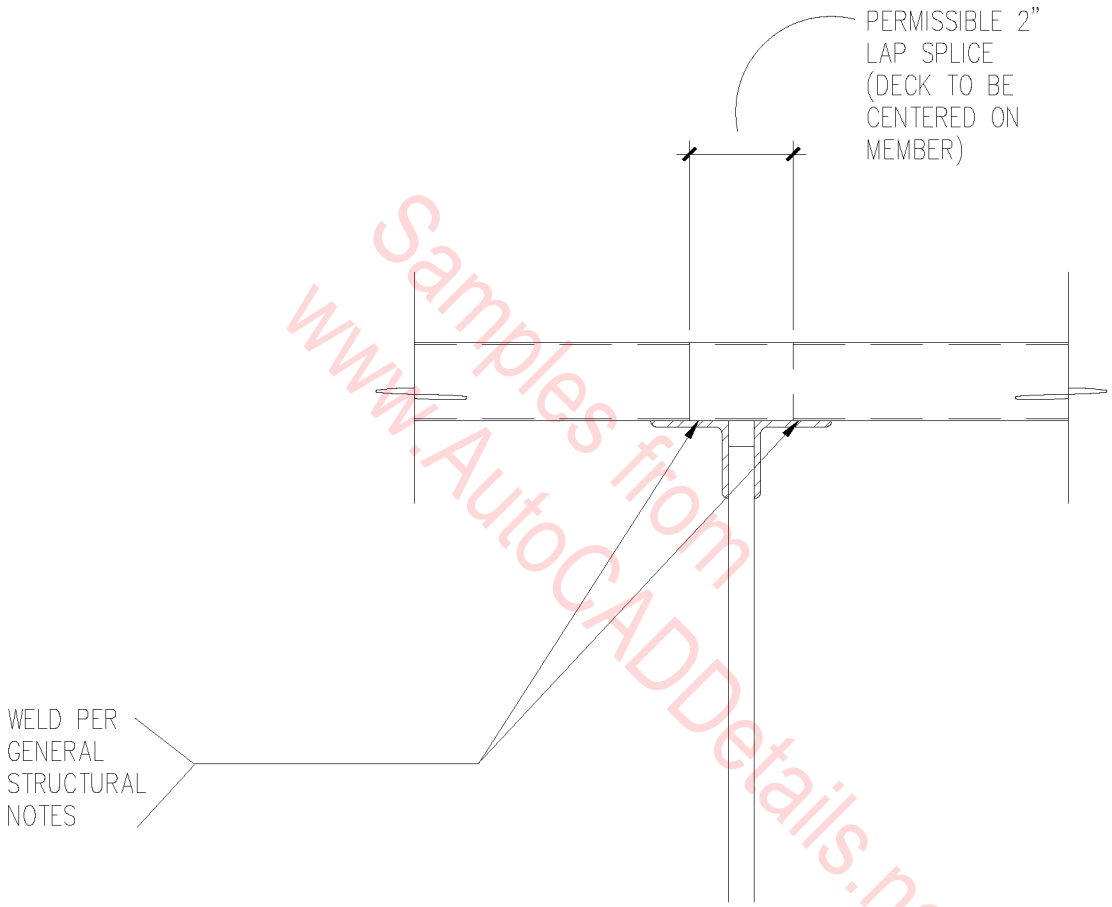
05A-2006



DROPPED FLOOR

SCALE: 3/4" = 1'-0"

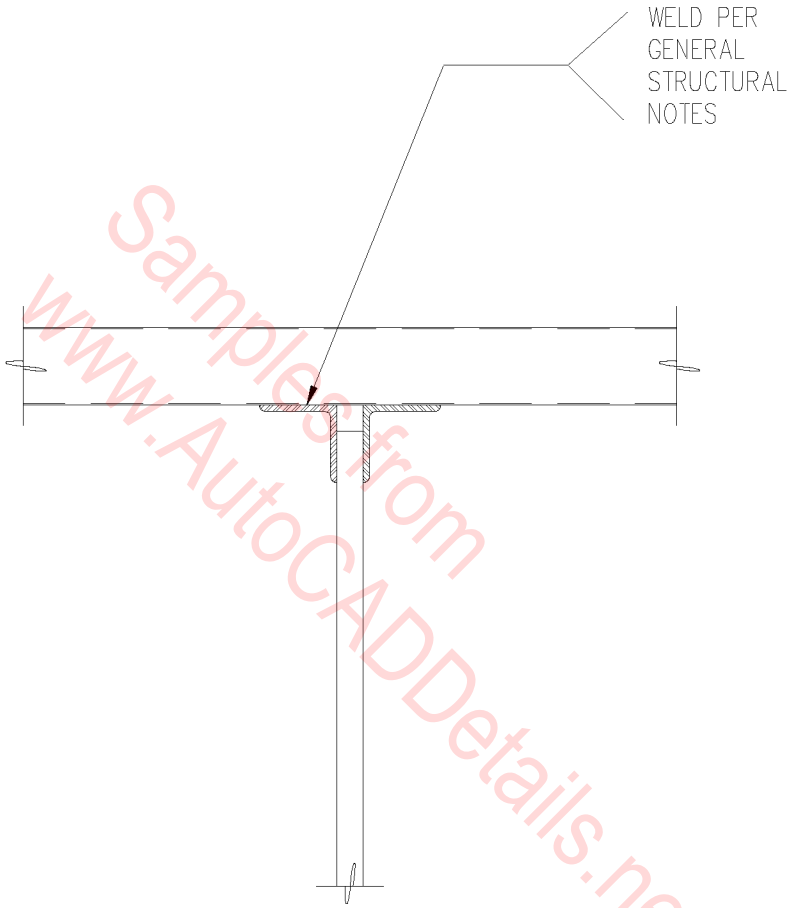
05A-2007



DECK SPLICE

SCALE: 3/4" = 1'-0"

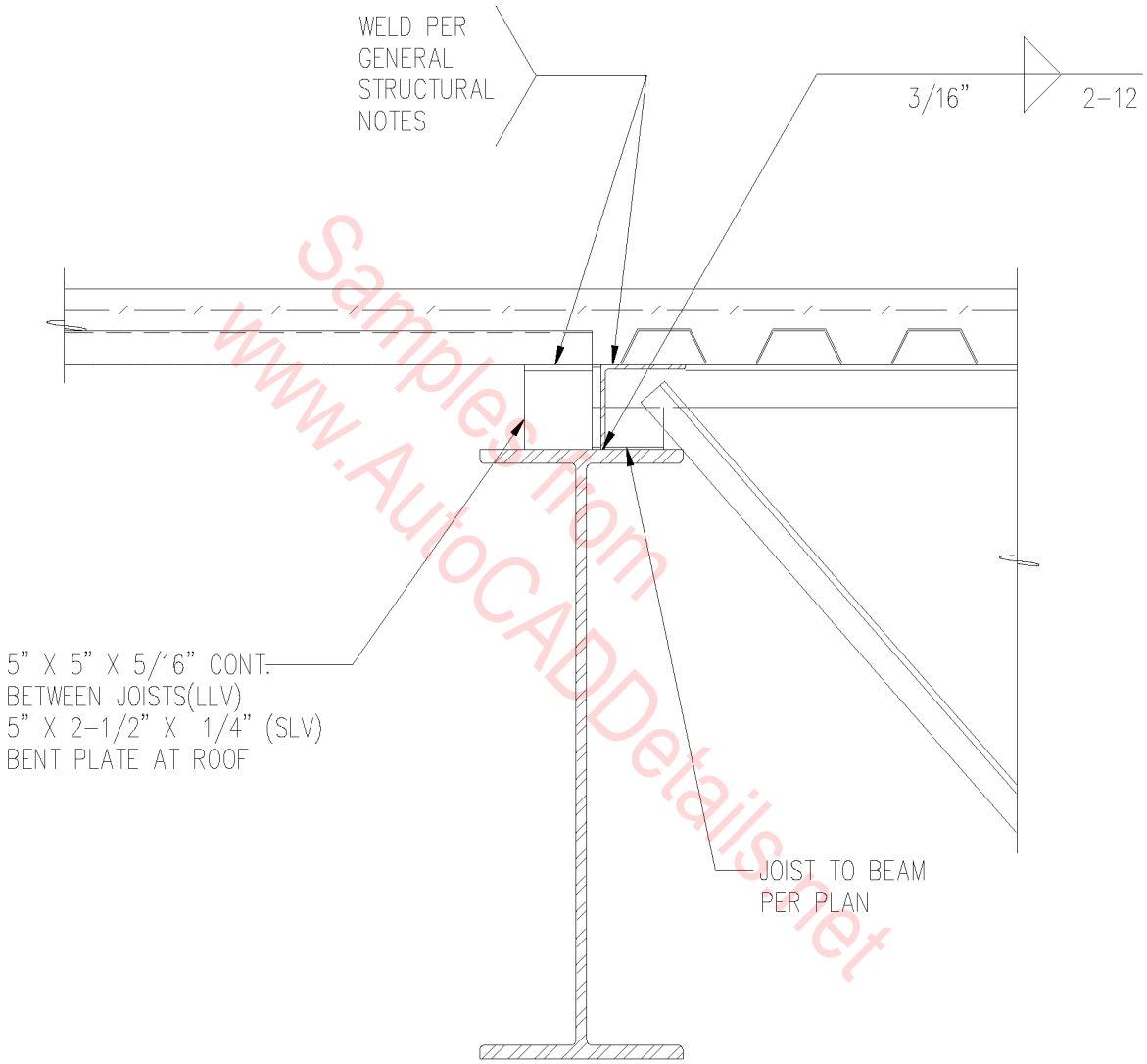
05A-2008



CONT. DECK OVER JOIST

SCALE: 3/4" = 1'-0"

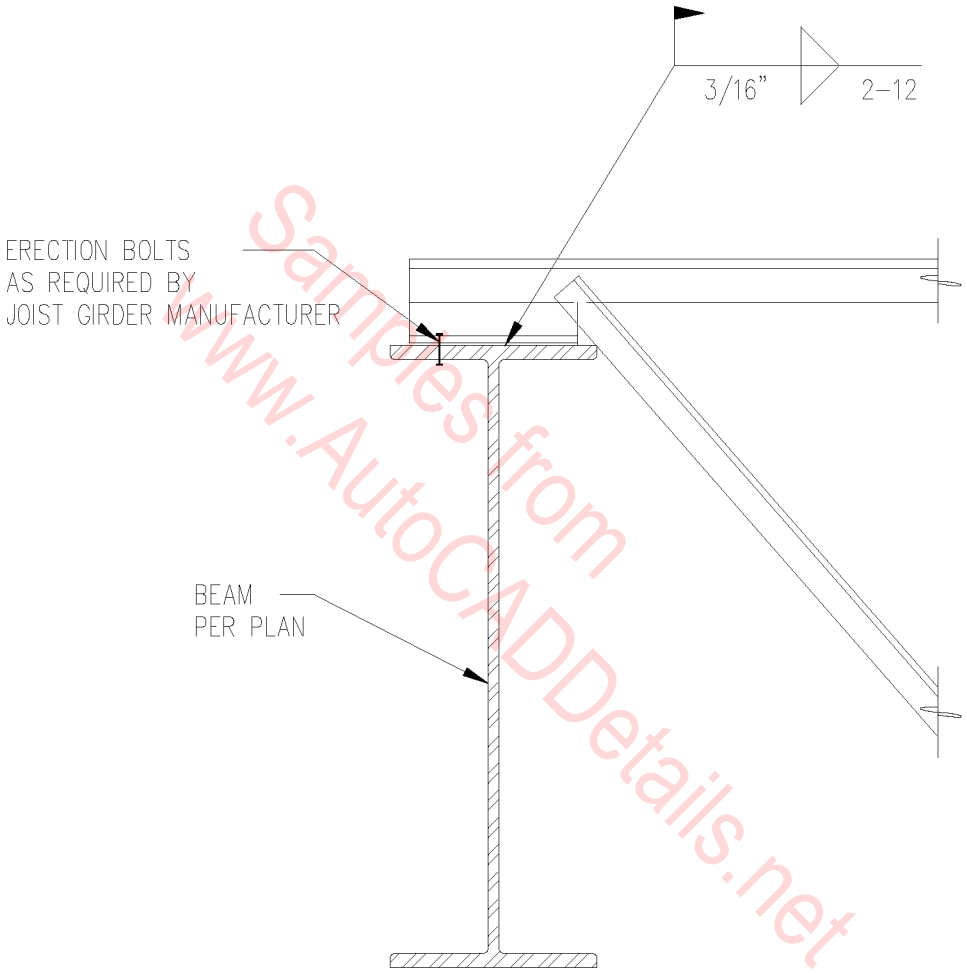
05A-2009



DECK DIRECTION CHANGE

SCALE: 3/4" = 1'-0"

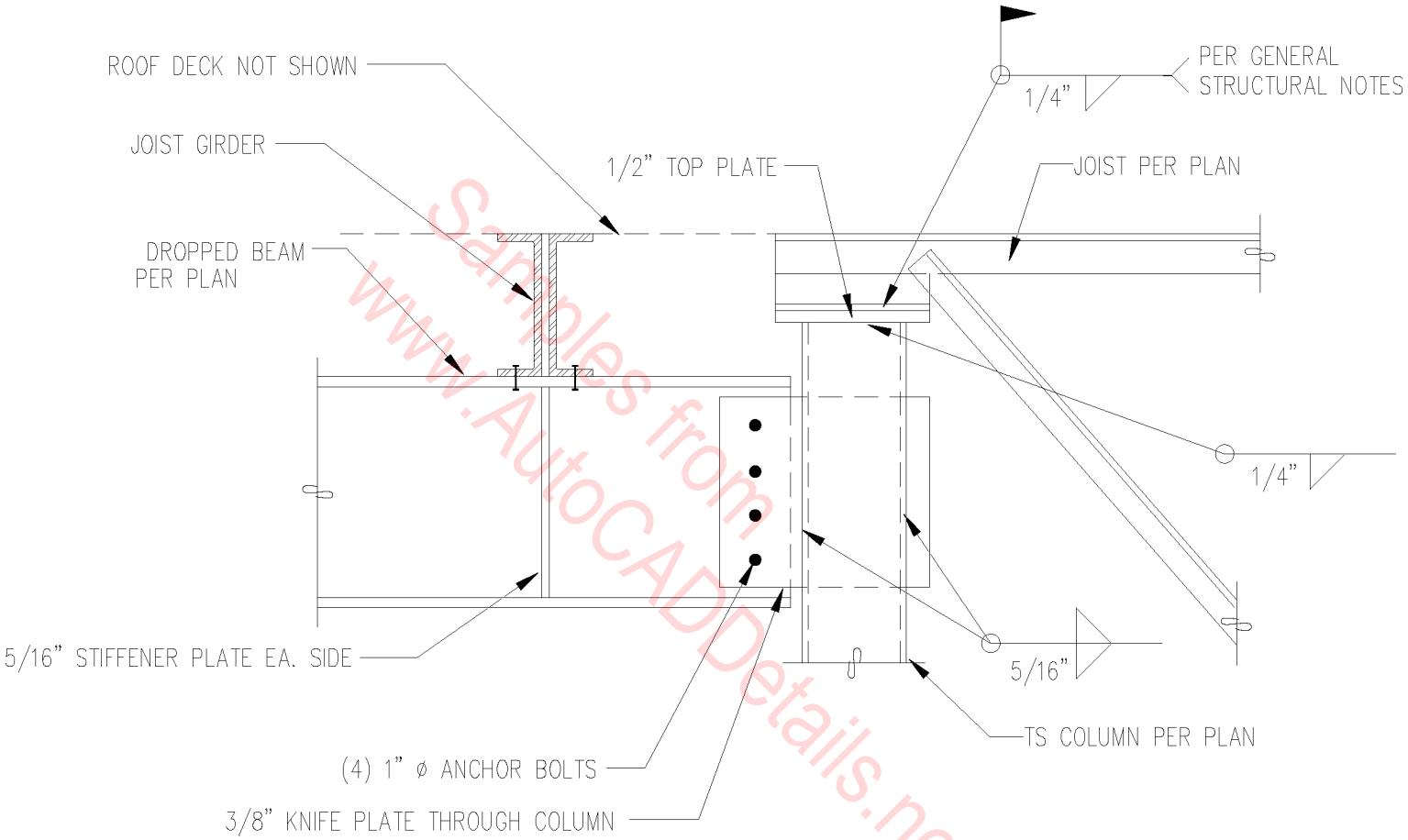
05A-2010



JOIST GIRDER TO BEAM

SCALE: 3/4" = 1'-0"

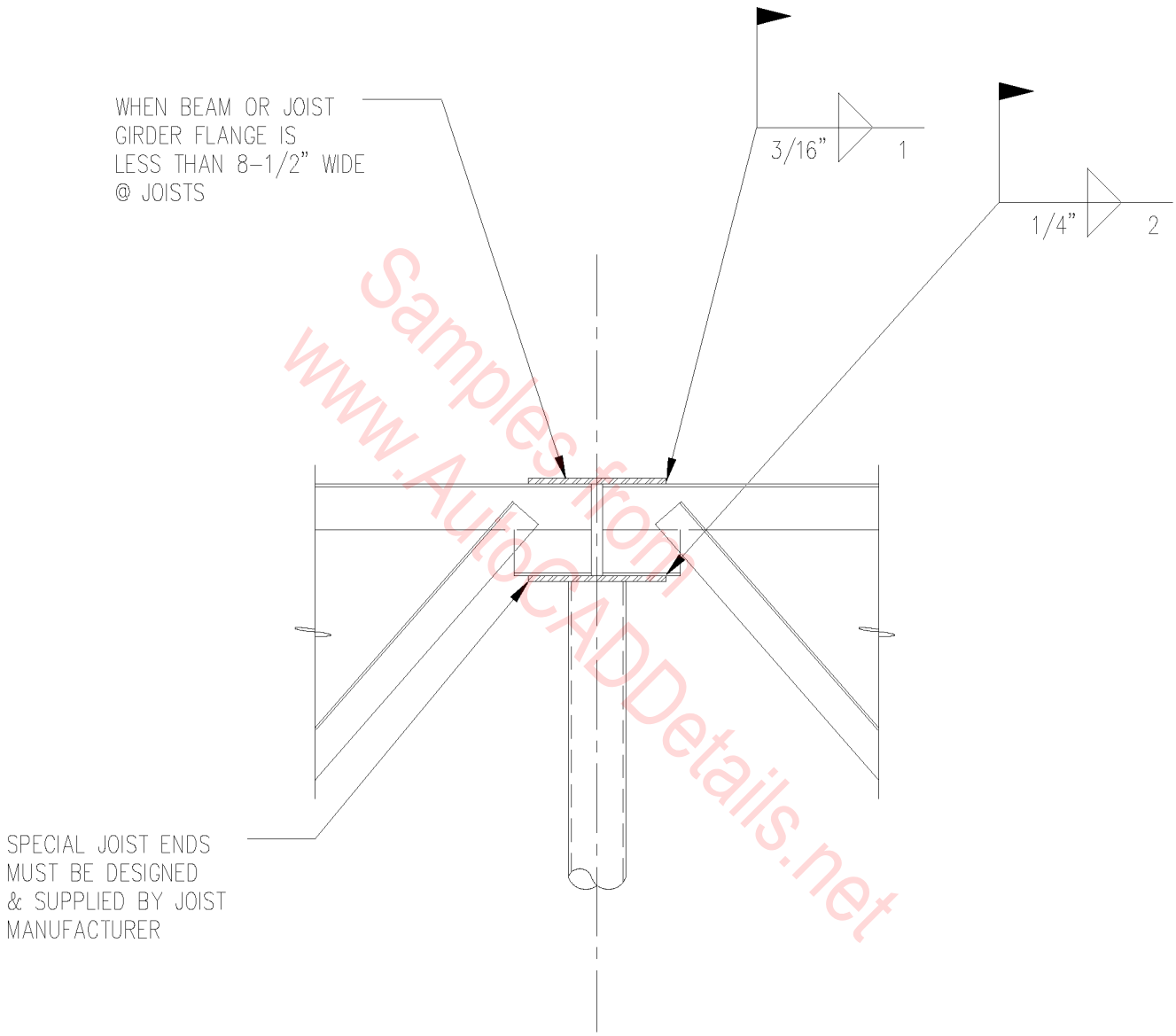
05A-2011



DROPPED BEAM TO COLUMN

3/4" = 1'-0"

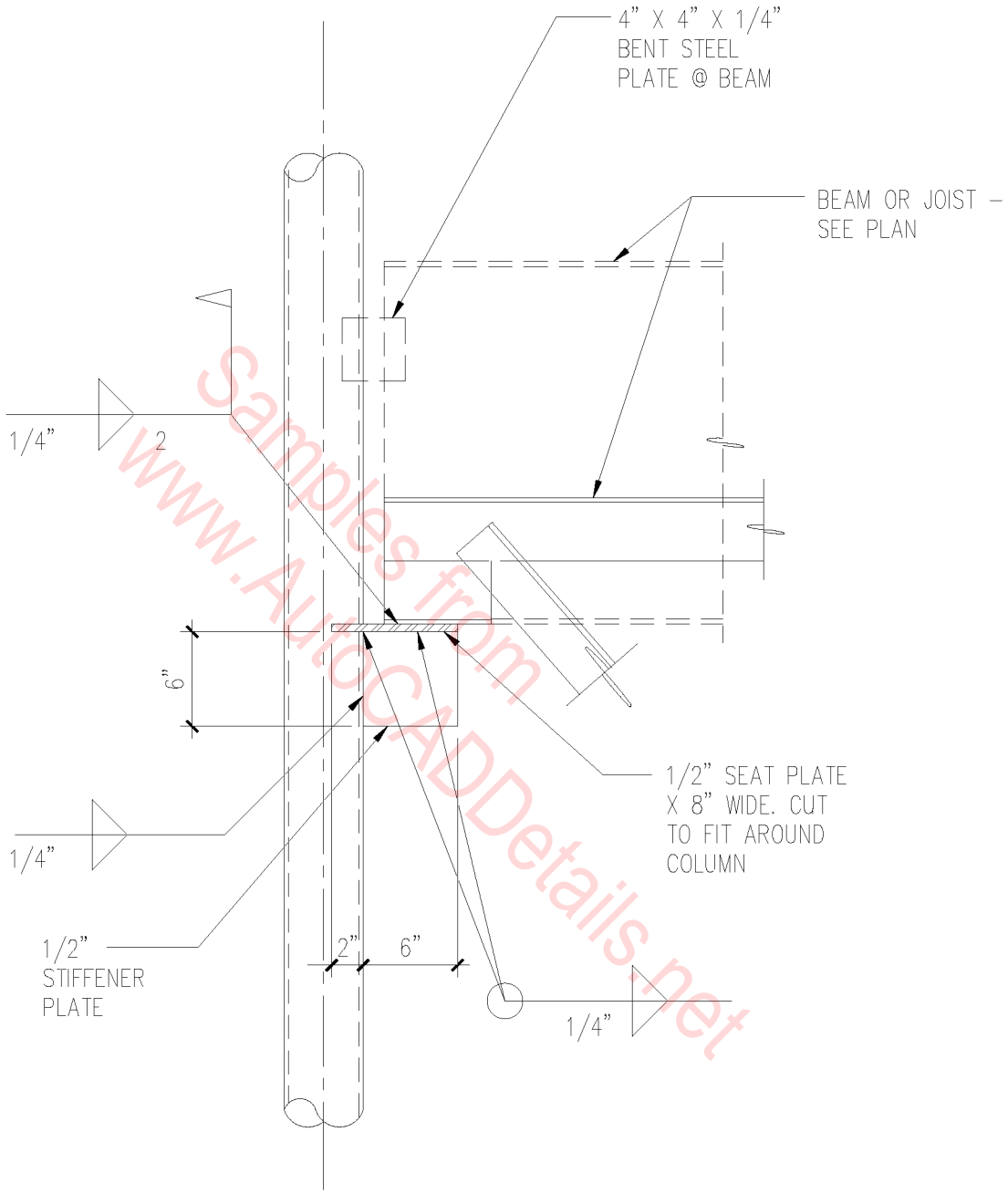
05A-2012



GIRDER TO COLUMN

SCALE: 3/4" = 1'-0"

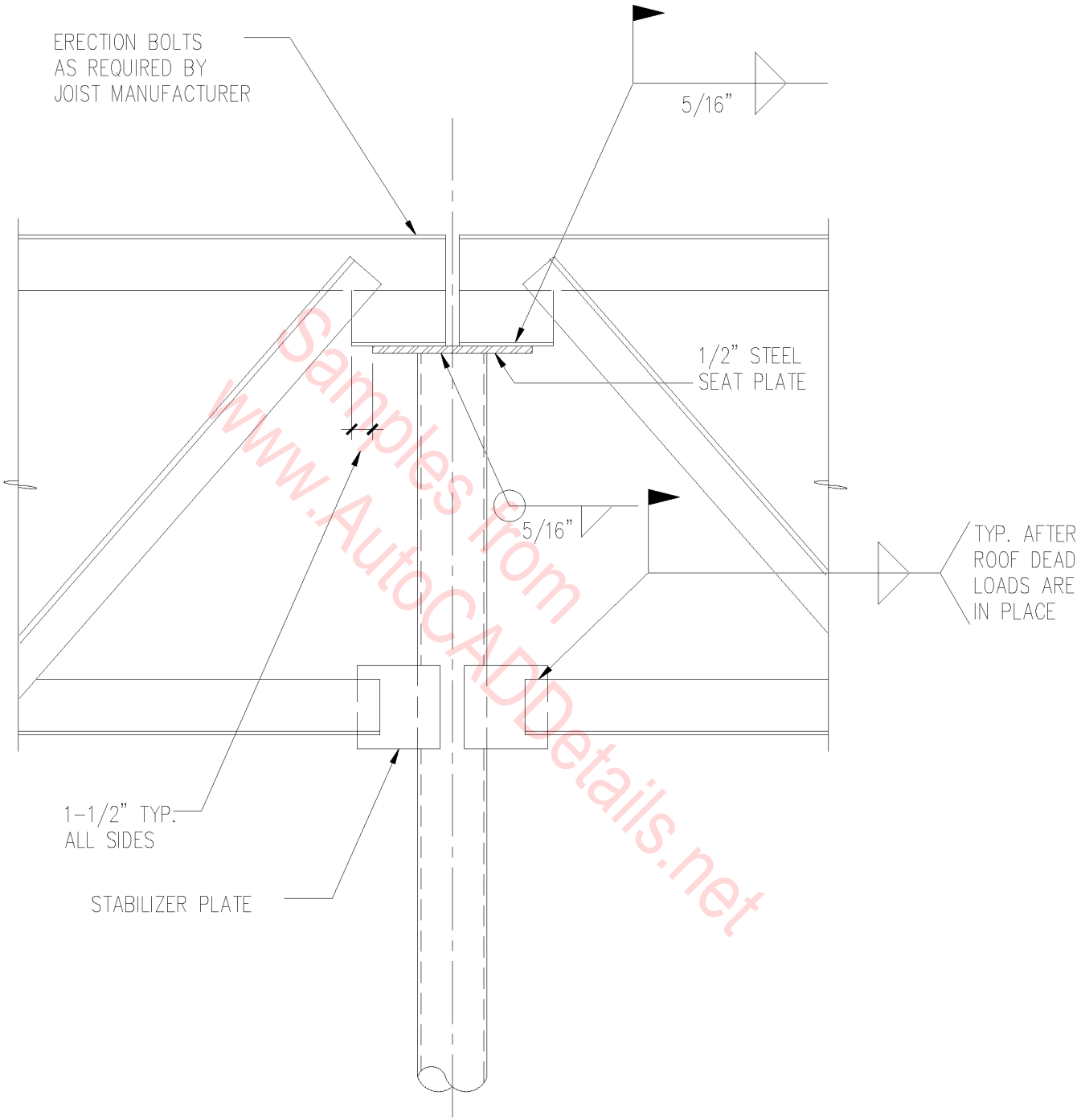
05A-2013



BEAM/JOIST TO COLUMN SEAT

SCALE: 3/4" = 1'-0"

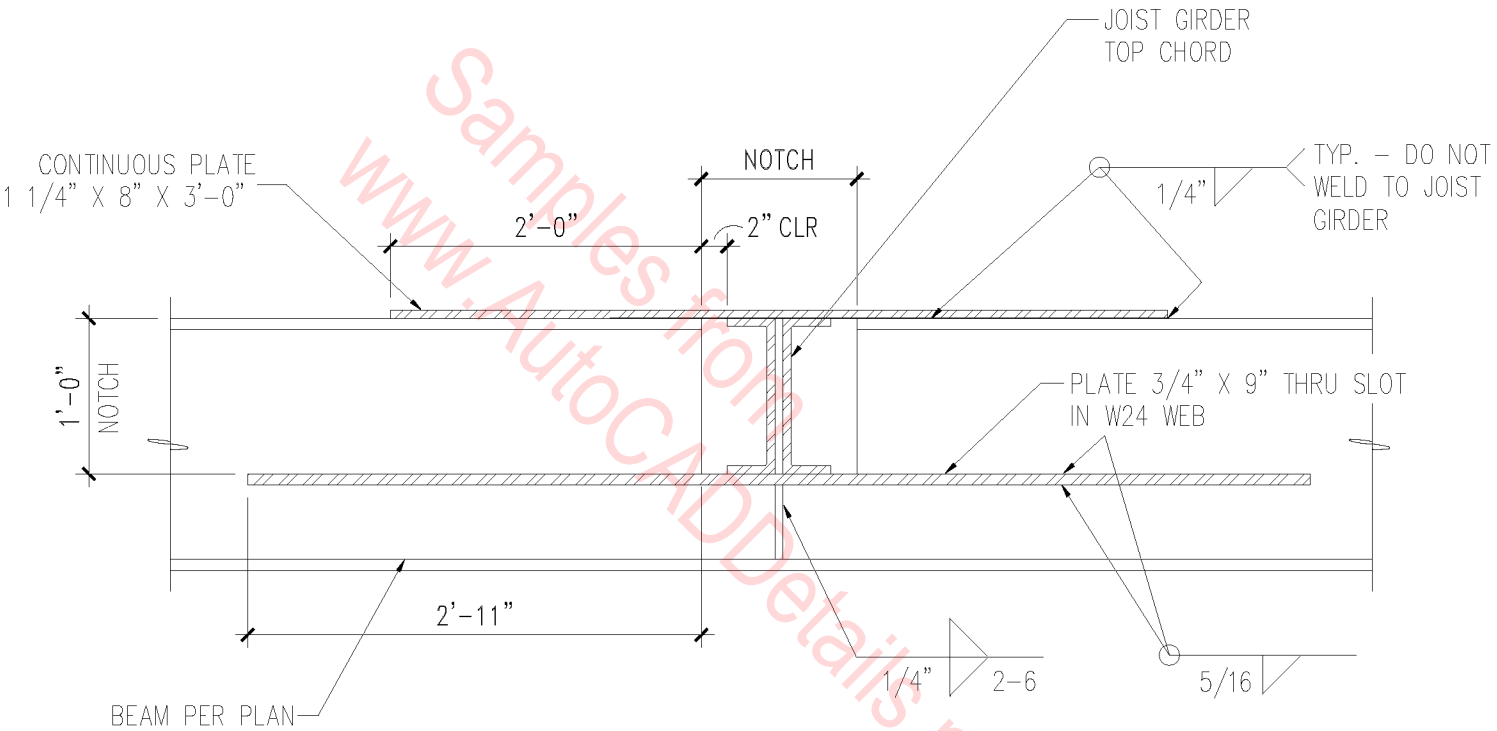
05A-2014



GIRDER TO COLUMN SEAT

SCALE: 3/4" = 1'-0"

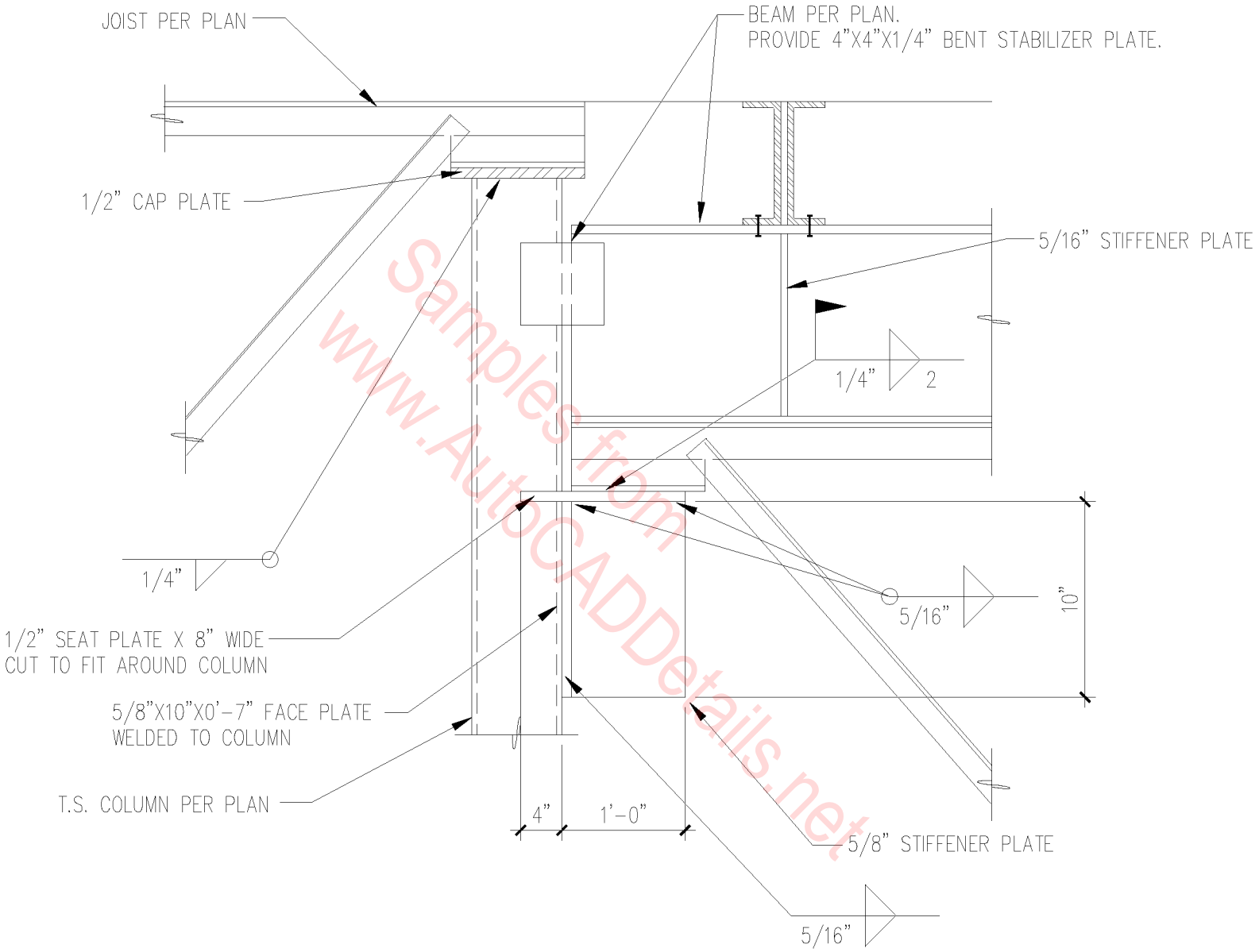
05A-2015



GIRDER @ NOTCHED BEAM

SCALE: 3/4" = 1'-0"

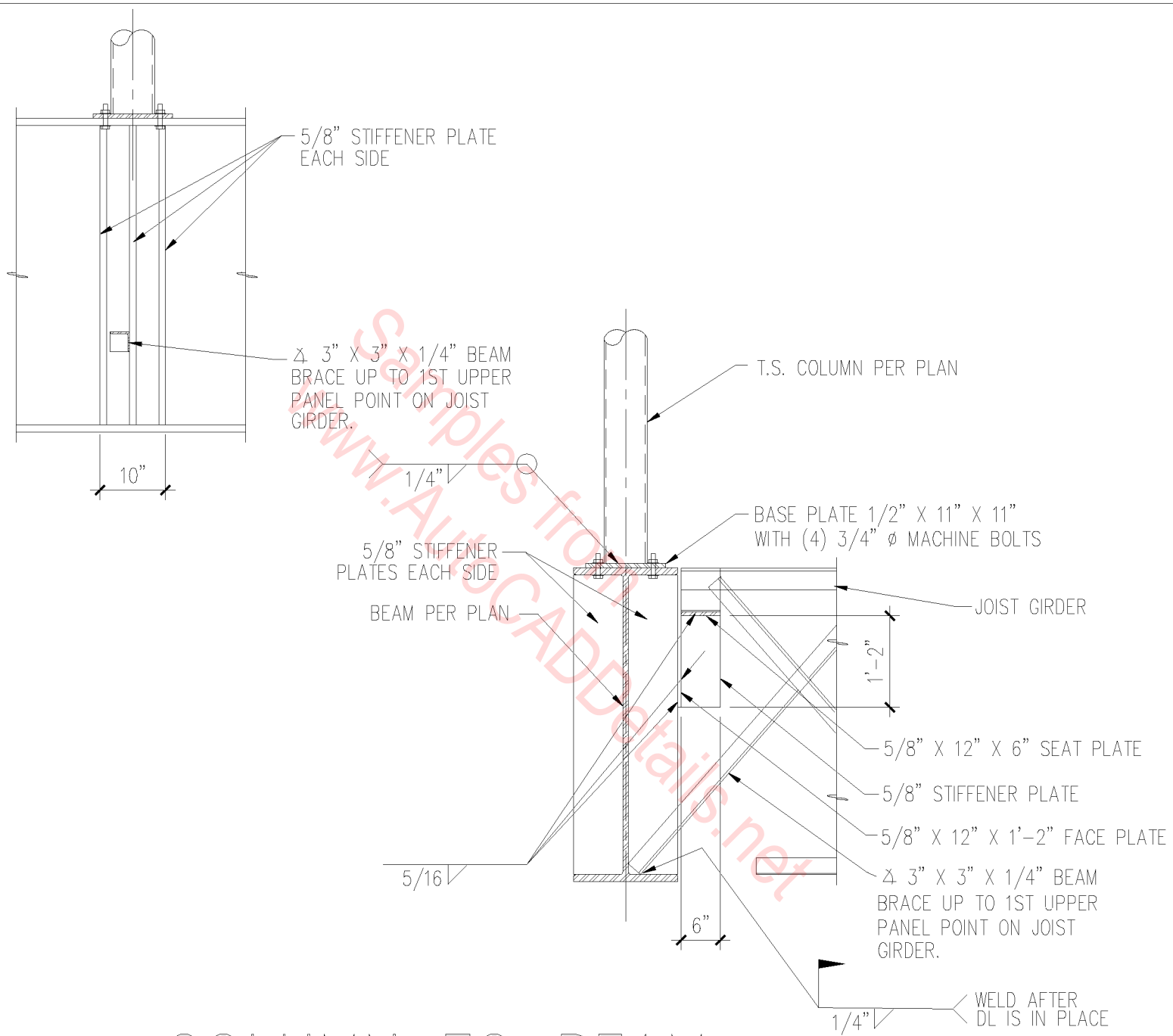
05A-2016



BEAM/JOIST TO COLUMN

SCALE: 3/4" = 1'-0"

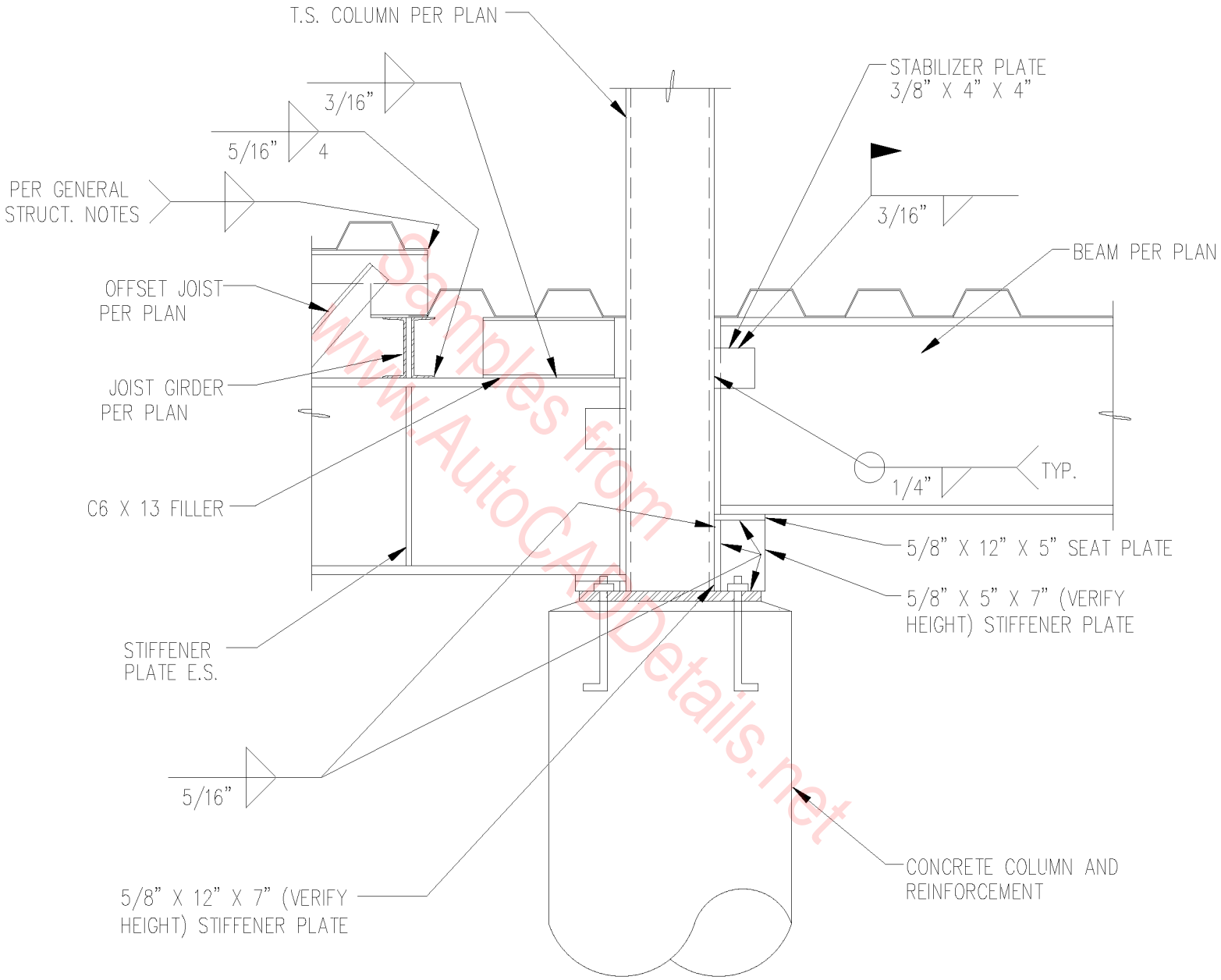
05A-2017



COLUMN TO BEAM AT JOIST GIRDER

SCALE: 1/2" – 1'-0"

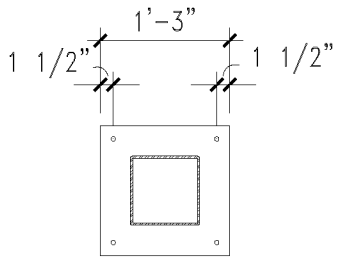
05A-2018



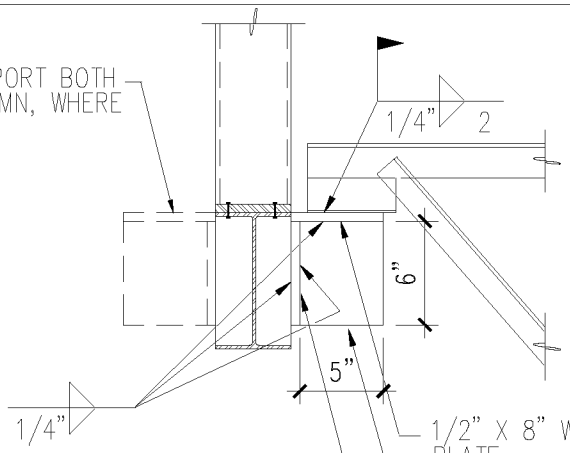
BEAM TO COLUMN

SCALE: 3/4" = 1'-0"

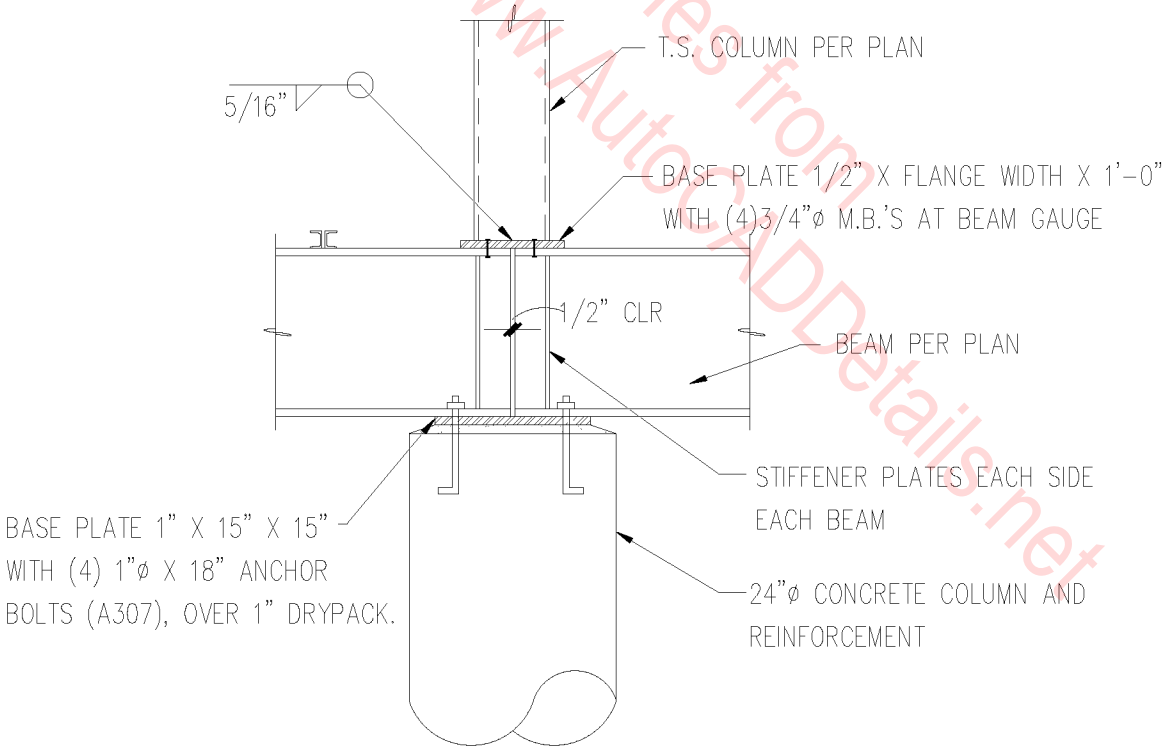
05A-2019



BASE PLATE
PLAN



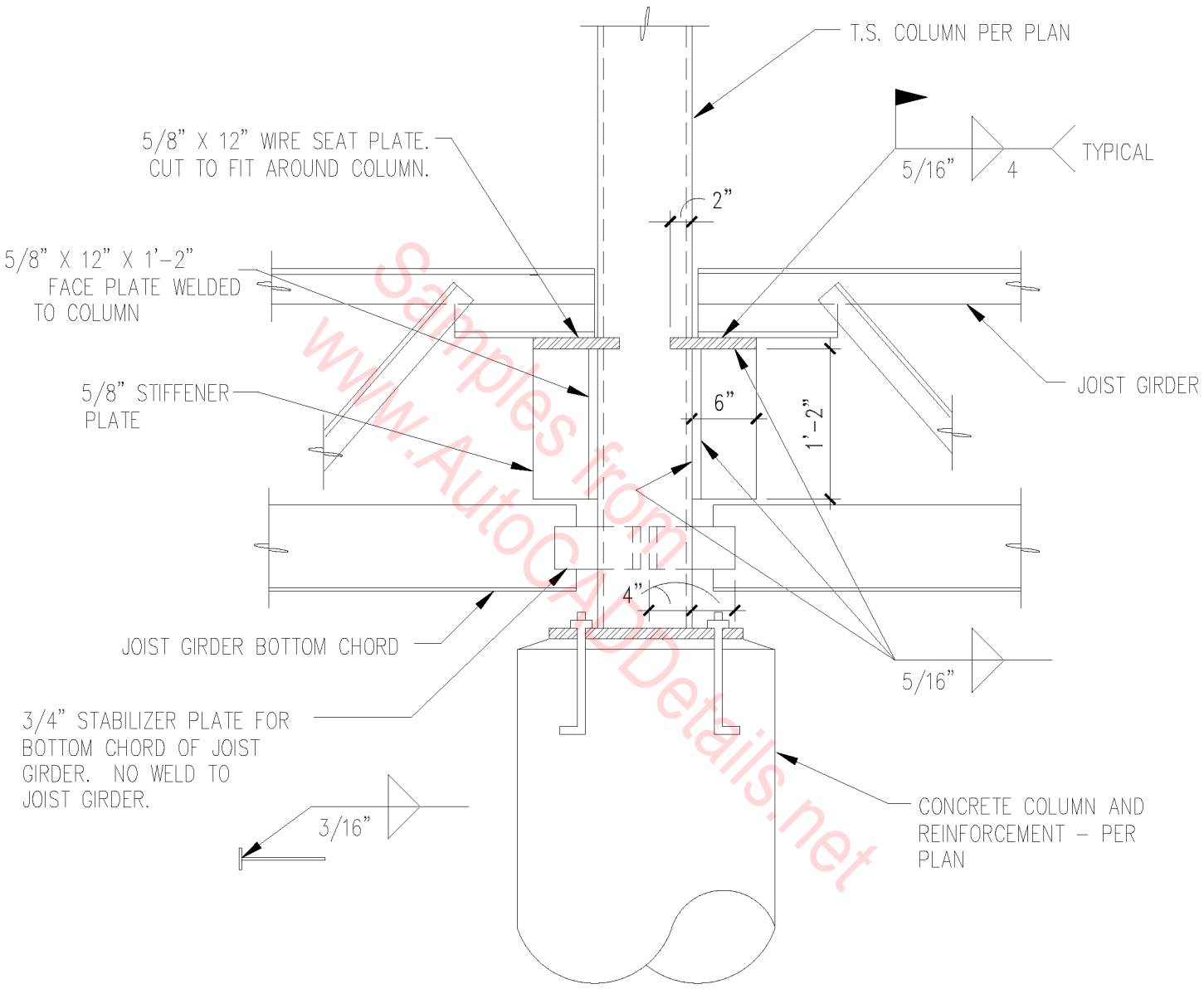
CONDITION WHERE
JOIST FRAMES OPPOSITE
COLUMN



BEAM SEATED AT CONCRETE COLUMN

SCALE: 1/2" = 1'-0"

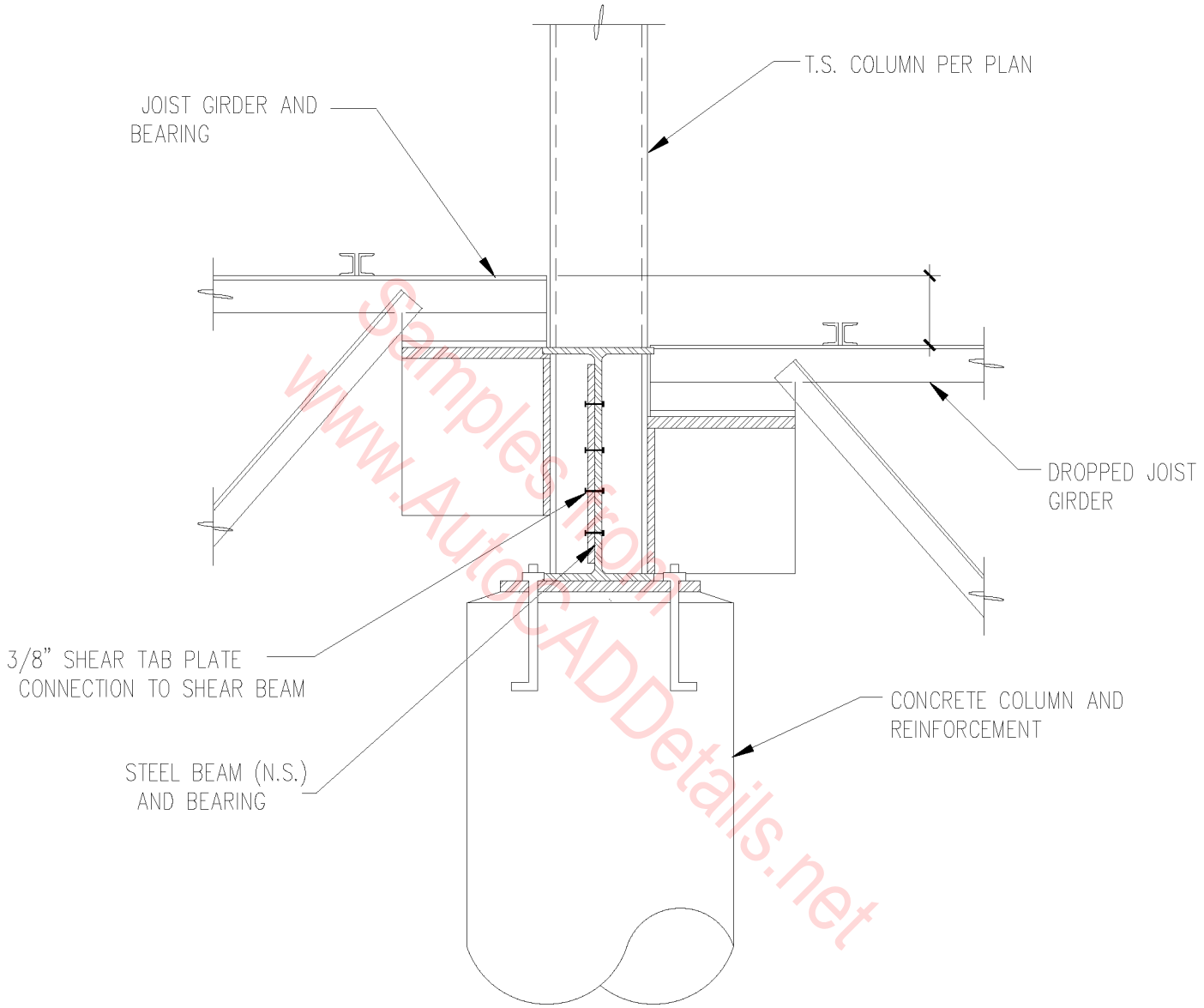
05A-2020



JOIST GIRDER TO COLUMN

SCALE: 3/4" = 1'-0"

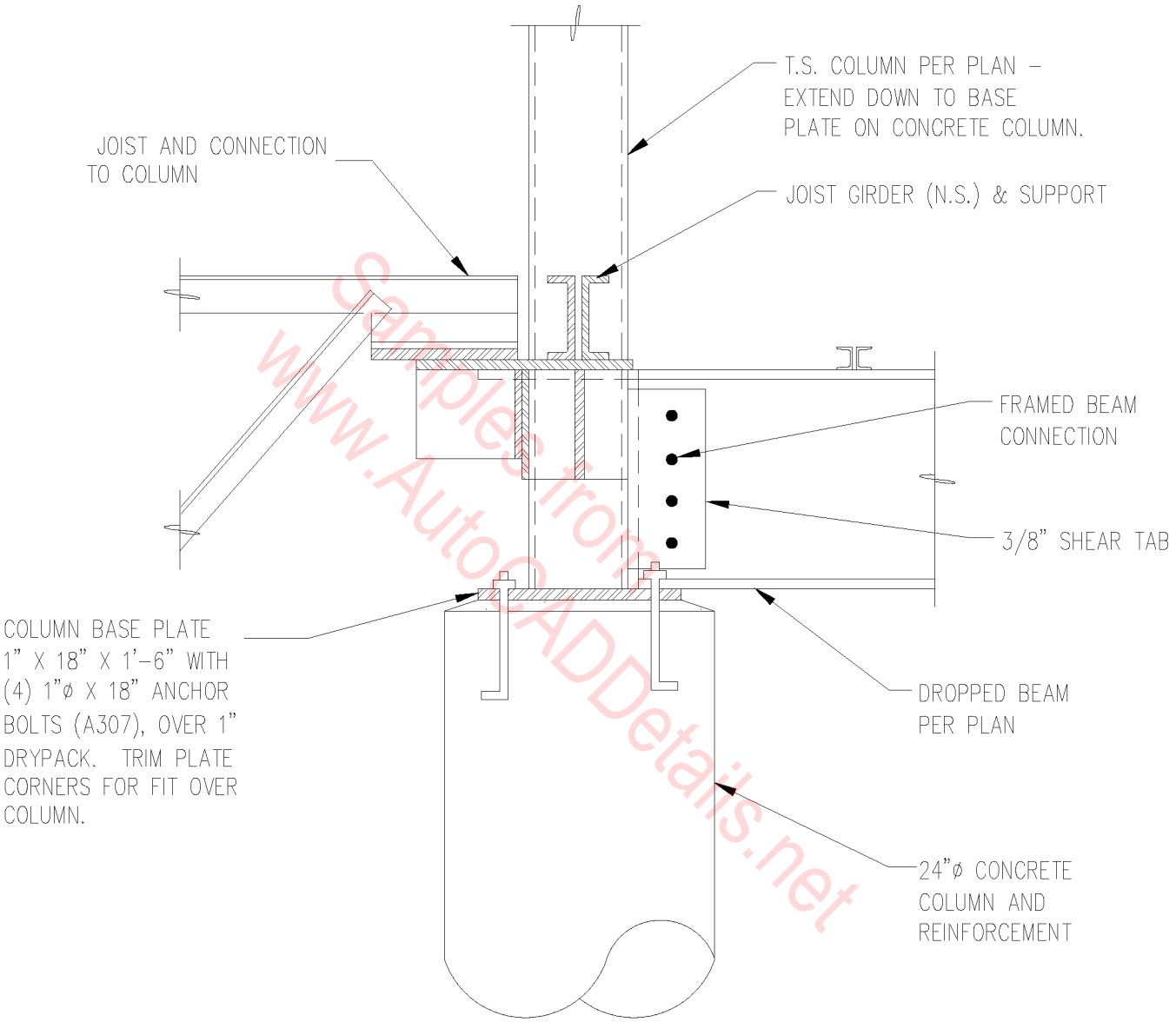
05A-2021



JOIST AND GIRDER CONNECTION TO COLUMN

SCALE: 3/4" + 1'-0"

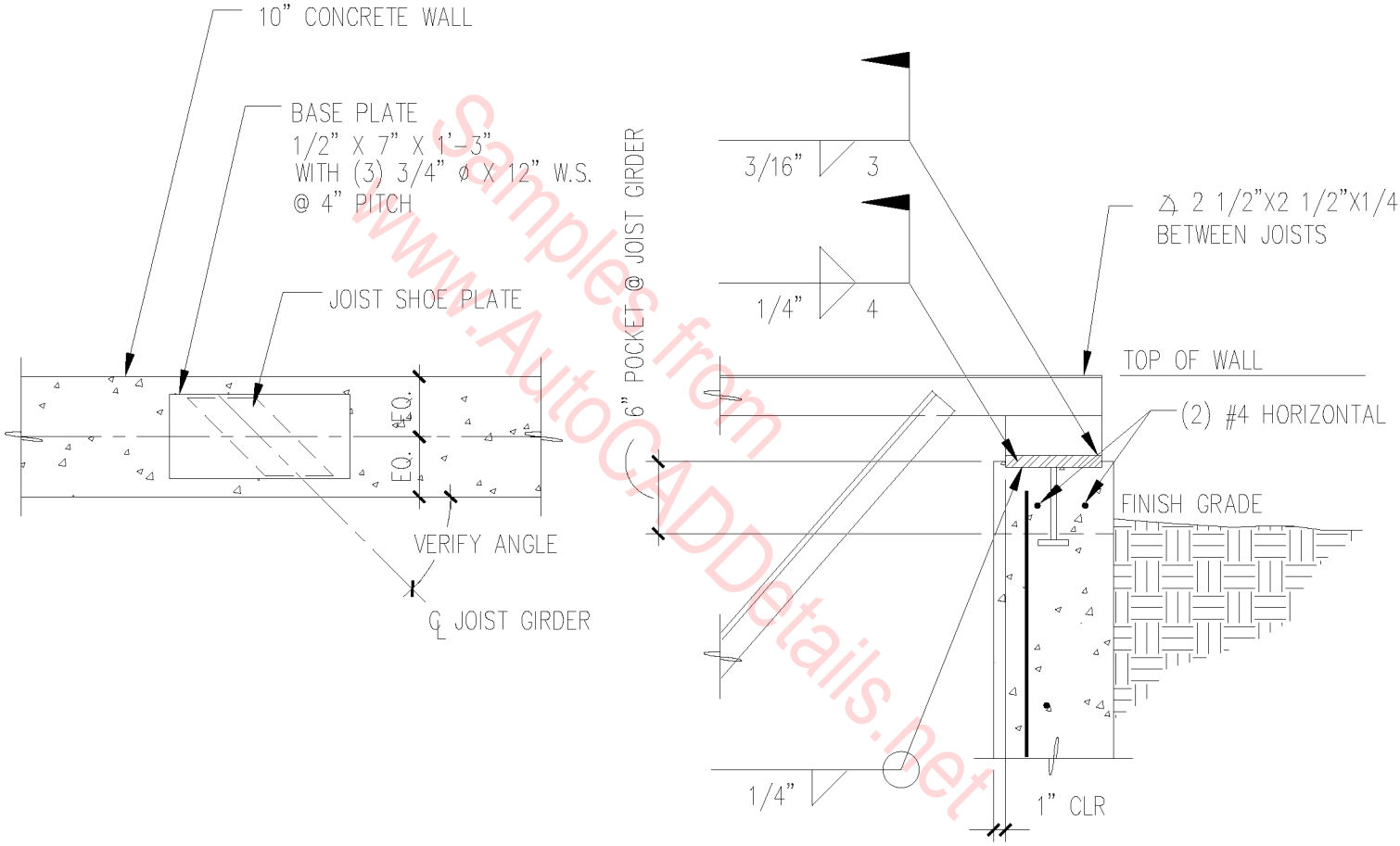
05A-2022



JOIST, GIRDER AND BEAM CONNECTION AT COLUMN

SCALE: 3/4" = 1'-0"

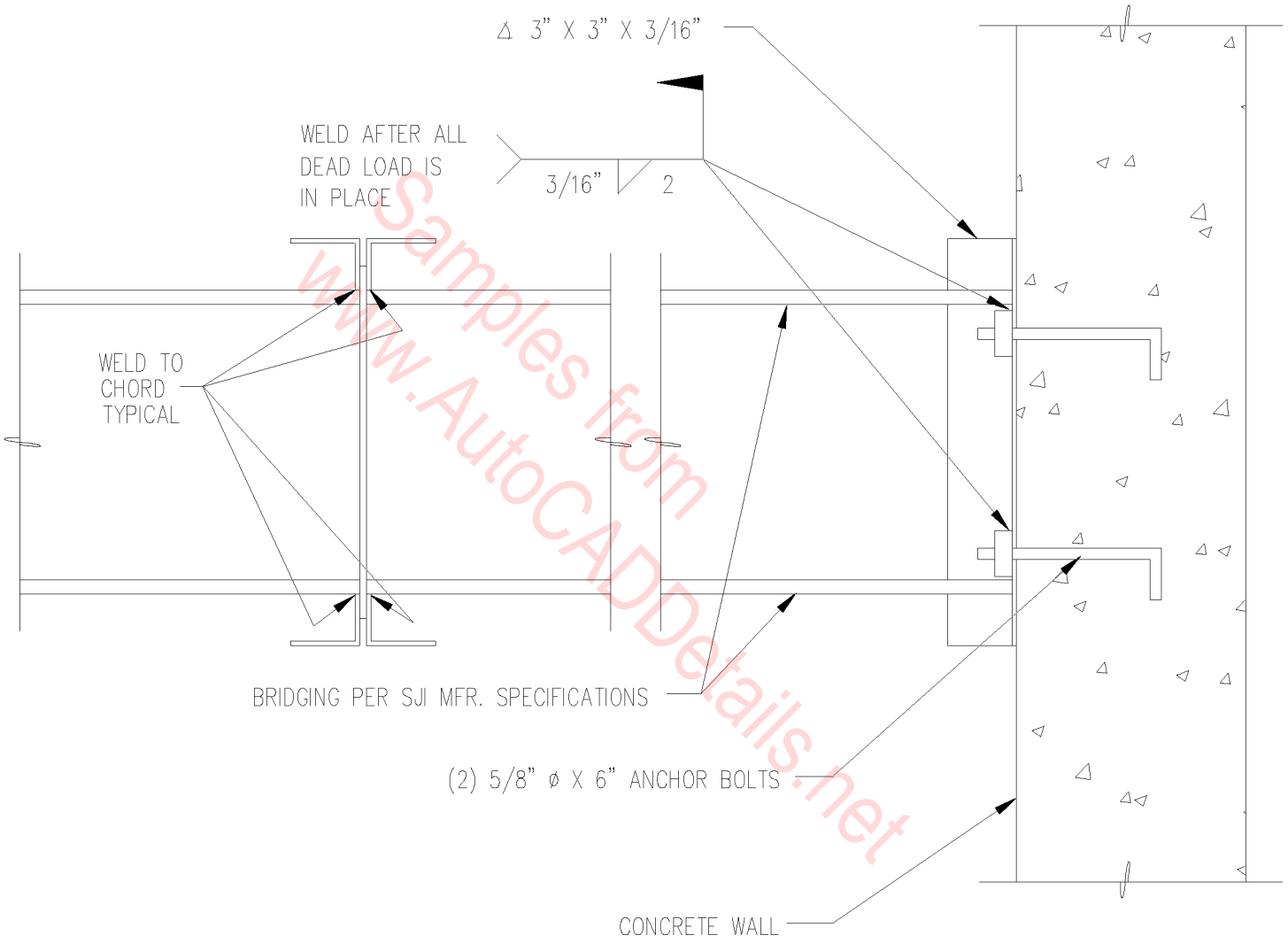
05A-2023



JOIST SEATED AT WALL

SCALE: 3/4" = 1'-0"

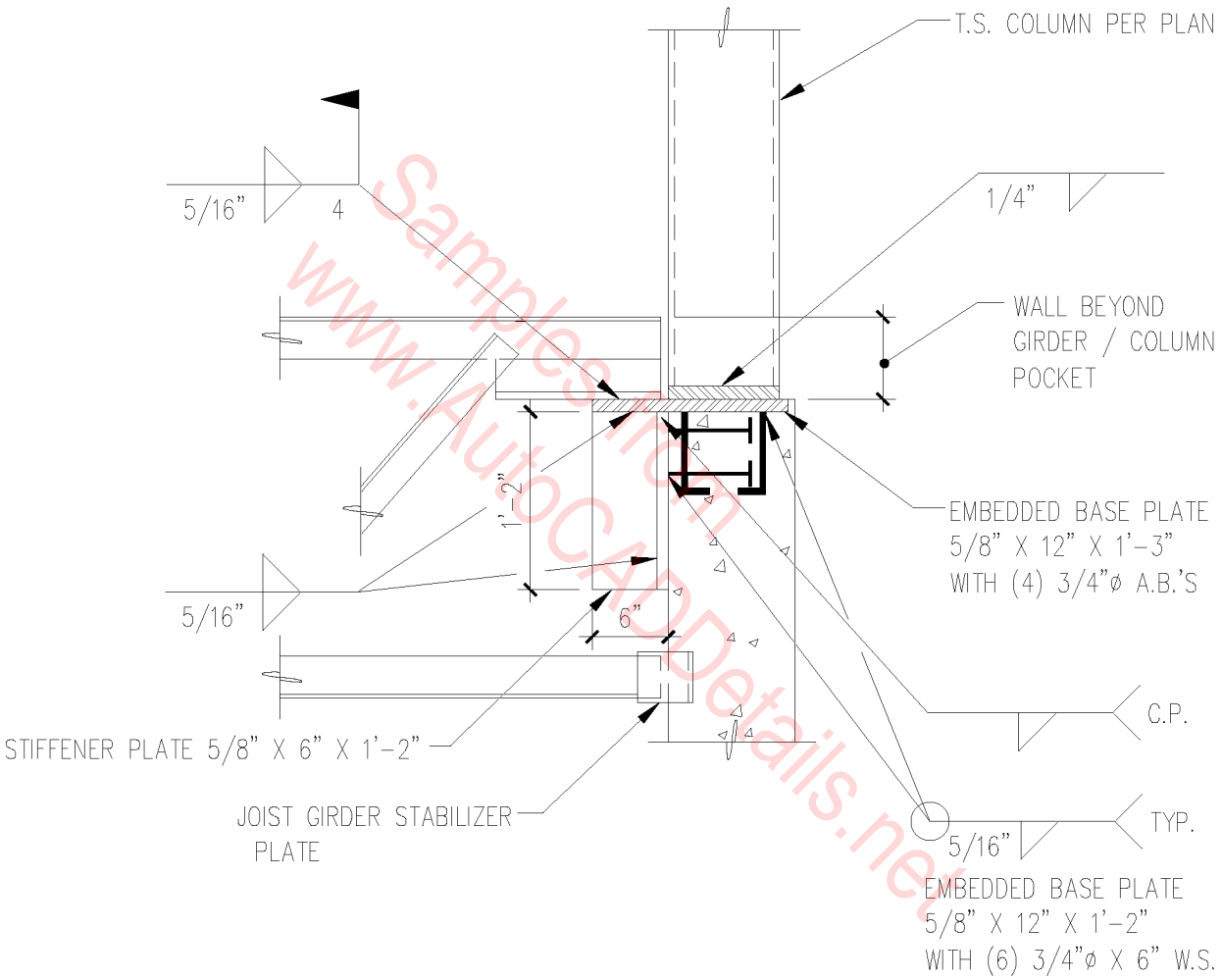
05A-2024



JOIST BRIDGING AT WALL

SCALE: 3/4" = 1'-0"

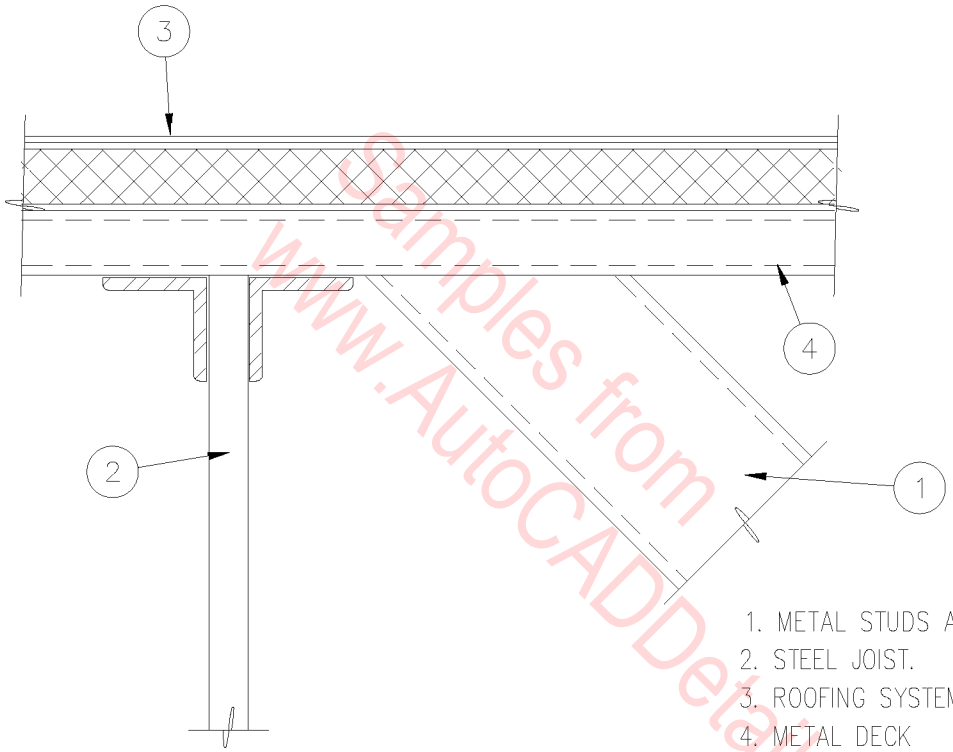
05A-2025



GIRDER/COLUMN TO WALL

SCALE: 3/4" = 1'-0"

05A-2026

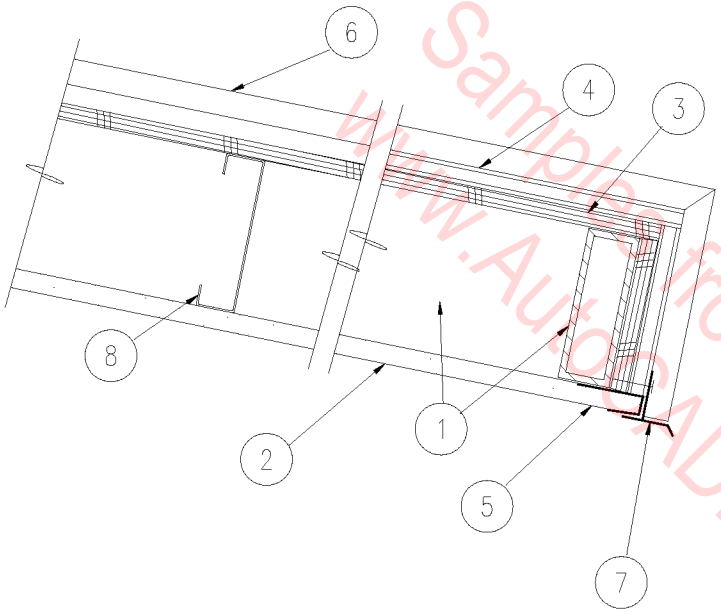


1. METAL STUDS AT 48" O.C.
2. STEEL JOIST.
3. ROOFING SYSTEM.
4. METAL DECK
   PERPENDICULAR TO JOISTS.

WALL BRACE AT ROOF

SCALE: 1" = 1'-0"

05A-2027

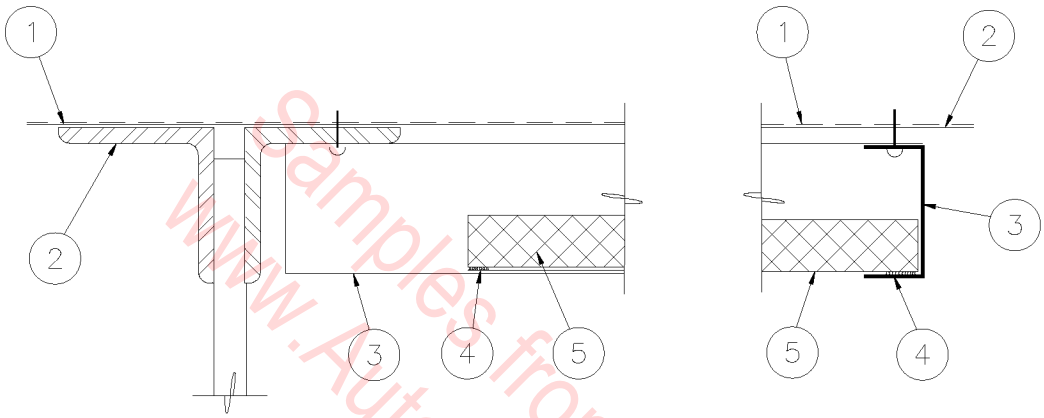


1. 6" X 2" X 3/16" STEEL TUBE FRAMING.
2. 3/4" PLASTER.
3. 5/8" FIRE TREATED PLYWOOD SHEATHING.
4. 3/4" GYP. BOARD.
5. CASING BEAD.
6. STANDING SEAM METAL ROOFING.
7. CONTINUOUS DRIP EDGE.
8. 6"X 18 GA. STEEL JOISTS AT 12" O.C. W/ 18 GA. STEEL TRACK AT EACH END.

METAL ROOF OVERHANG

1 1/2" = 1'-0"

05A-2028



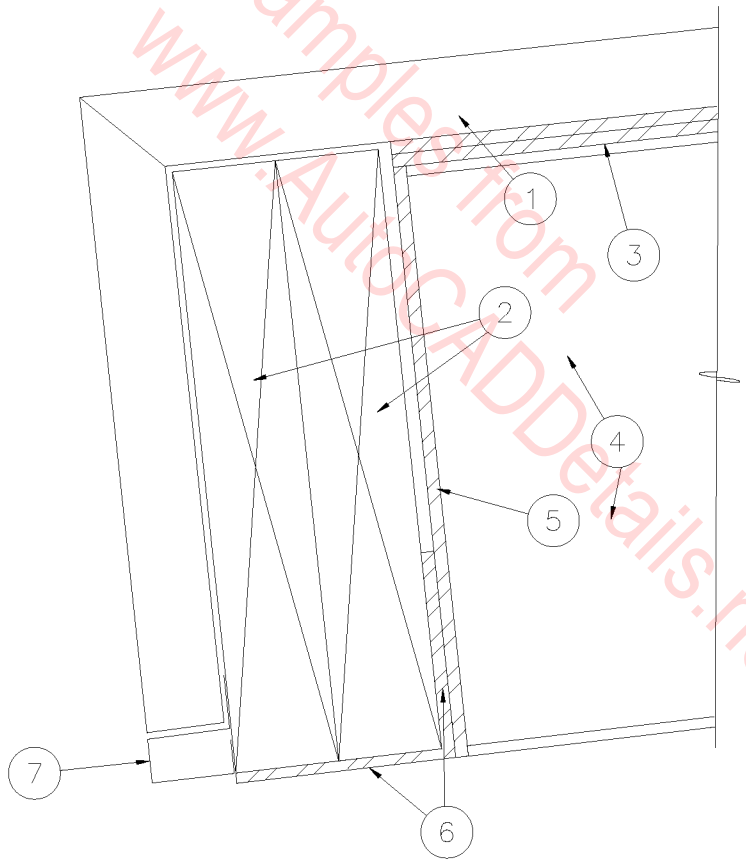
1. BOTTOM OF METAL DECK.
2. STEEL JOISTS.
3. 2-1/2" X 18GA. METAL STUD. FASTENED TO FLANGE AND ATTACHED AT MID-POINT TO STRUCTURAL METAL ABOVE.
4. ADHESIVE.
5. 7 LBS DENSITY/RIGID FIBERGLASS CORE MATERIAL, 1" THICK, WRAPPED IN FABRIC.

ACOUSTICAL CEILING PANEL

3" = 1'-0"

05A-2029

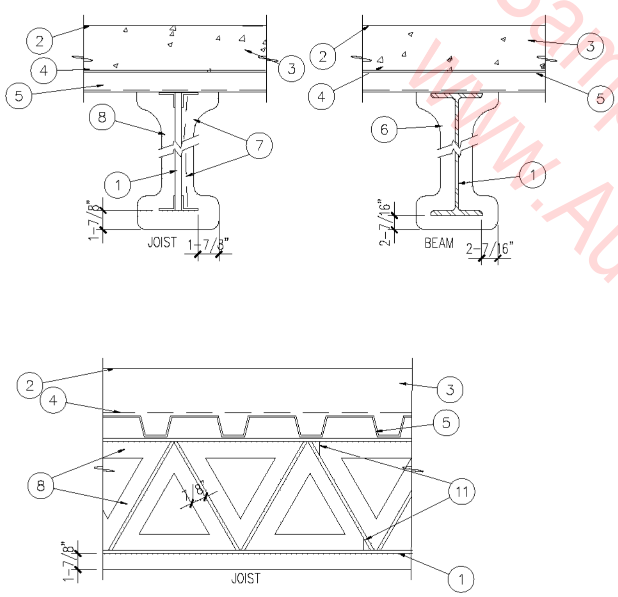
1. STANDING SEAM METAL ROOF SYSTEM.
2. PAIRED 2X12 FASCIA – BOLTED TO PLATE.
3. ROOF DECK.
4. STEEL BEAM.
5. EXISTING STEEL PLATE.
6. STEEL ANGLE.
7. METAL DRIP FLASHING.



METAL ROOF OVERHANG

SCALE: 3" = 1'-0"

05A-2030



2 HOUR ROOF

3" = 1'-0"

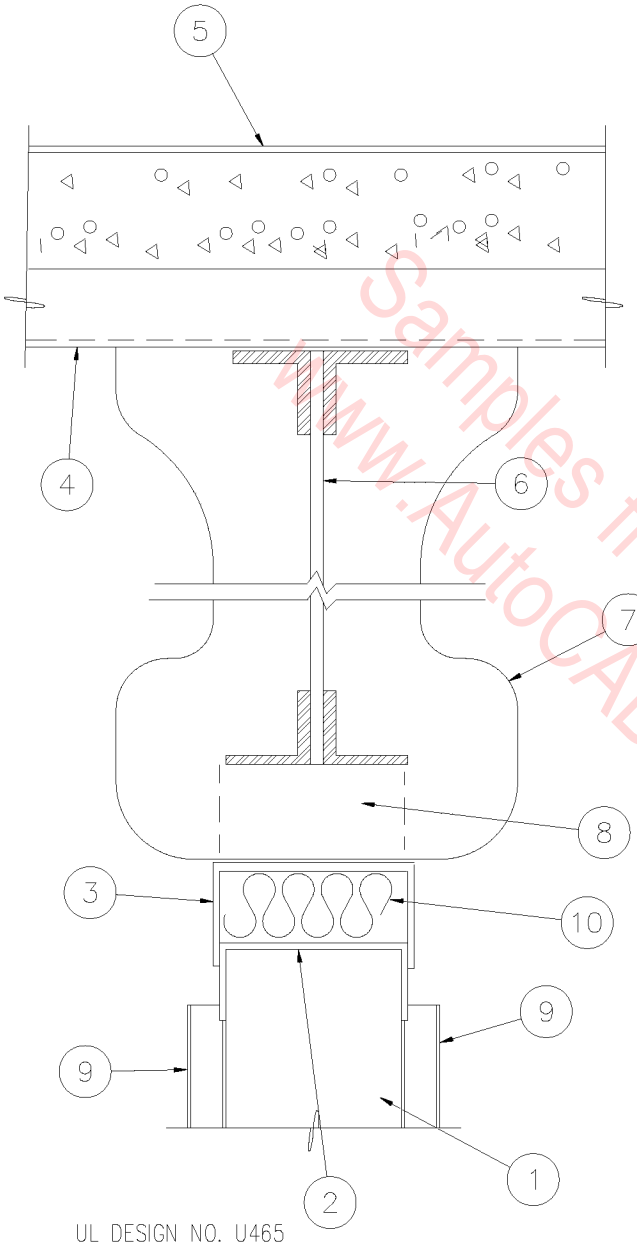
05A-2031

UL DESIGN NO. P908

1. W6X16 OR W8X18 MIN. SIZE FOR 2 HOUR UNRESTRAINED OR TYPE 12J4 STEEL JOIST FOR 2 HOUR UNRESTRAINED
2. ROOF COVERING – CLASS A
3. INSULATING CONCRETE VERMICULITE CONCRETE, 6 CF OF VERMICULITE AGGREGATE TO 94 LB OF PORTLAND CEMENT AND 0.11LB OF AIR ENTRAINING AGENT MIXED WITH APPROXIMATELY 25 GAL. OF WATER. MINIMUM COMPRESSIVE STRENGTH SHALL BE 125 PSI WHEN TESTED IN ACCORDANCE WITH ASTM C495. THE VERMICULITE CONCRETE SHALL BE POURED TO A DEPTH SUFFICIENT TO PROVIDE A MINIMUM THICKNESS OF 2 1/4" ABOVE THE CRESTS OF THE ROOF DECK UNITS (ITEM 5) AND TO PROVIDE A MINIMUM VOLUME OF 24.5 CF PER 100 SF OF ROOF DECK AREA. ZONOLITE CONSTRUCTION PRODUCTS DIVISION OF W.R. GRACE & CO.
4. REINFORCING MESH NO. 19 GA. GALVANIZED STEEL WIRE TWISTED TO FORM HEXAGONS 2" WIDE IN ADDITION, STRAIGHT 16 GA. GALV. STEEL WIRE WOVEN INTO THE MESH AND SPACED 3" APART FOR STIFFNESS. MESH INSTALL WITHOUT ATTACHMENTS AND OVERLAPPED 6" AT THE SIDES. STIFFENERS INSTALLED PARALLEL WITH CORRUGATIONS. AS AN ALTERNATE, 4 X 8, 12/14 GA. OR 2 X 2, 14/14 GA. OR 2 X 2, 14/14 GA. WELDED WIREWELDED WIRE FABRIC MAY BE USED.
5. STEEL ROOF DECK – 1 1/2" DEEP, 36" WIDE, GALV. FLUTED STEEL DECK. FLUTES 6" O.C., CREST WIDTH 3 1/2" 'VERCO' MFG. INC. – TYPE HSB-36
6. HANGER WIRE, NO. 6 GA. GALV. STEEL WIRE, SPACED 16" O.C.
7. SPRAY APPLICATION OF CEMENTITIOUS MIXTURE ON STEEL BAR JOISTS AND TRUSSES. THE DIAMOND MESH 3/8" EXPANDED STEEL LATH 1.7 TO 3.4 LB/SQ YD IS SECURED TO ONE SIDE OF EACH STEEL JOIST WITH NO.18 GA. GALV STEEL WIRE AT JOIST WEB AND BOTTOM CHORD MEMBERS SPACED 15" O.C. MAX. WHEN USED THE METAL LATH IS TO BE FULLY COVERED WITH CEMENTITIOUS MIXTURE WITH NO MIN THICKNESS REQUIREMENTS
7A. NON-METALLIC FABRIC MESH – OPTIONAL – AS AN ALTERNATE TO METAL LATH, GLASS FIBER FABRIC MESH, WEIGHING APPROX. 2.5 OZ/SQ YD POLYPROPYLENE FABRIC MESH WEIGHING APPROX. 1.25 OZ/SQ YD OR EQUIVALENT MAY BE USED TO FACILITATE THE SPRAY APPLICATION. THE MESH IS SECURED TO ONE SIDE OF EACH JOIST WEB MEMBER. THE METHOD OF ATTACHING THE MESH MUST BE SUFFICIENT TO HOLD THE MESH AND THE SPRAY-APPLIED CEMENTITIOUS MIXTURE MATERIAL IN PLACE DURING APPLICATION UNTIL IT HAS CURED. AN ACCEPTABLE METHOD TO ATTACH THE MESH IS BY EMBEDDING THE MESH IN MIN 1/4" LONG BEADS OF HOT-MELTED GLUE. THE BEADS OF GLUE SHALL BE PLACED A MAX OF 12" O.C. ALONG THE TOP CHORD OF THE BAR JOIST. ANOTHER METHOD TO SECURE THE MESH IS BY 1 1/4" LONG BY 1/2" WIDE HAIRPIN CLIPS FORMED FROM NO. 18 GA. OR HEAVIER STEEL WIRE
8. CEMENTITIOUS MIXTURE – SPRAY APPLIED TO BEAM OR JOIST IN MORE THAN ONE COAT TO A FINAL THICKNESS OF 1-3/8". MINIMUM BEAM SIZE W6X16 MINIMUM JOIST SIZE 12J4. CREST AREAS OF STEEL ROOF UNITS SHALL BE FILLED WITH CEMENTITIOUS MIXTURE ABOVE THE BEAM OR JOIST. BEAM OR JOIST SURFACES MUST BE CLEAN AND FREE OF DIRT, LOOSE SCALE AND OIL. MINIMUM AVERAGE DENSITY OF 15/14 PCF RESPECTIVELY. FOR METHOD OF DENSITY DETERMINATION, REFER TO DESIGN INFORMATION SECTION. ZONOLITE CONSTRUCTION PRODUCTS DIVISION, W. R. GRACE & CO. TYPE MK-6/CBF FOR TYPE 12J4 STEEL JOISTS, THE JOIST PROTECTION SHALL CONSIST OF THE ABOVE CEMENTITIOUS MIXTURES APPLIED IN A MANNER AND AT THE THICKNESSES SHOWN BELOW. WHEN METAL LATH (ITEM 7) IS USED, LATH SECURED TO ONE SIDE OF JOIST WITH 18 GA. GALVANIZED STEEL WIRE AT JOIST WEB AND BOTTOM CHORD MEMBERS SPACED 15" O.C.

THICKNESS OF CEMENTITIOUS MIXTURE, INCHES	TYPE OF APPLICATION	UNRESTRAINED ASSEMBLY RATING, HOUR
1-7/8	APPLIED TO LATH WRAPPED ON ONE SIDE OF JOIST	2 HOUR
2-7/16	APPLIED DIRECTLY TO JOIST IN A CONTOUR MANNER	2 HOUR

11. STEEL BRIDGING – IN ACCORDANCE WITH AISC CURRENT SPECIFICATIONS. CONTINUOUS STEEL ANGLE, MIN. SIZE 1-1/4 BY 1-1/4 BY 1/8" WELDED TO TOP AND BOTTOM CHORDS. BRIDGING COATED WITH 3" THICKNESS OF CEMENTITIOUS MIXTURE FOR THE 2 ASSEMBLY AND BEAM RATINGS.



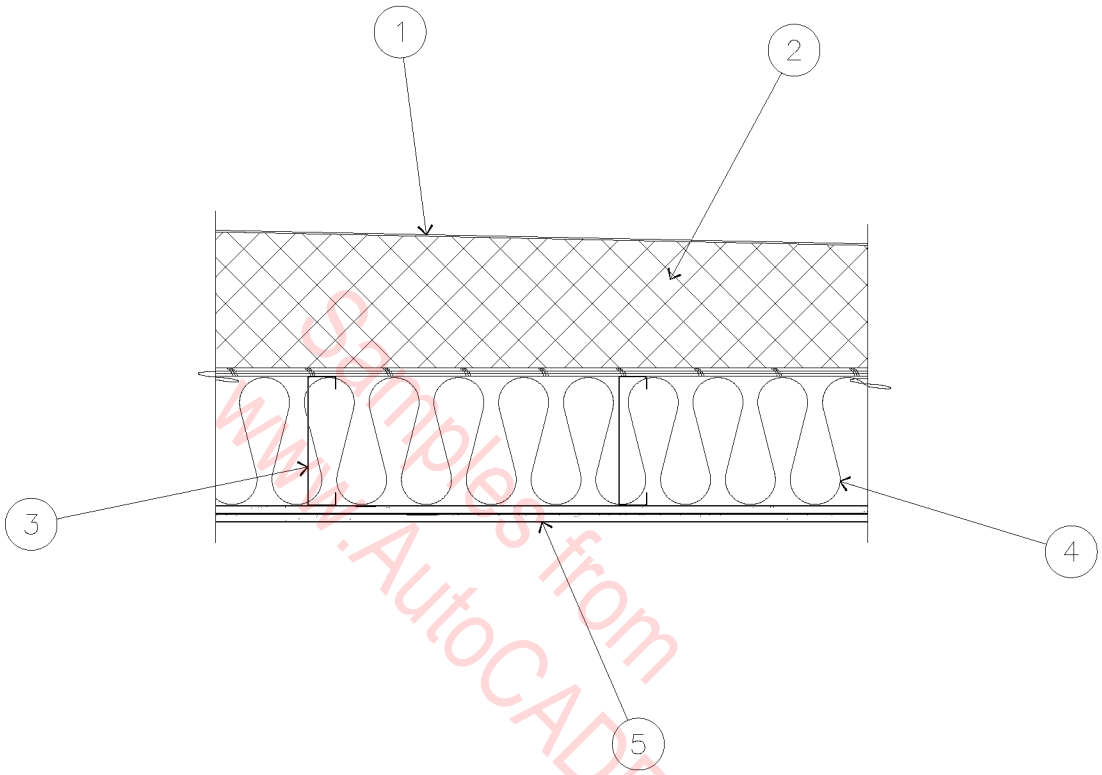
1. 3 5/8" METAL STUDS AT 16" O.C.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. ROOFING SYSTEM.
6. STEEL JOIST OR BEAM.
7. SPRAYED-ON FIREPROOFING ON JOIST OR BEAM.
8. 2 CLIP ANGLES AT 48" O.C. ANCHOR THRU FIREPROOFING.
9. 5/8" TYPE X GYPSUM WALLBOARD.
10. FIRE SAFING INSULATION.

UL DESIGN NO. U465

WALL AT JOIST/BEAM

SCALE: 3" = 1'-0"

05A-2032



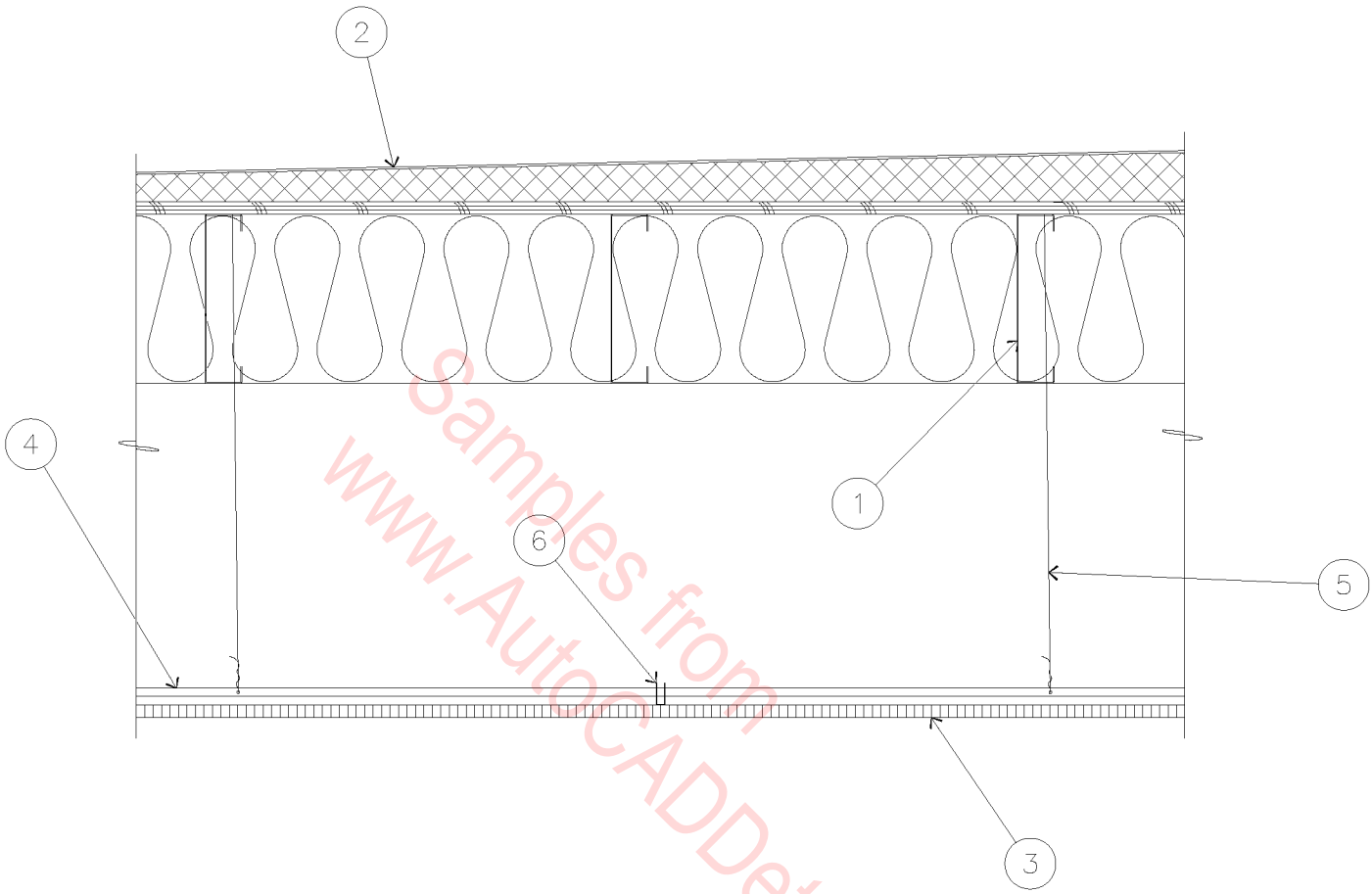
1. SINGLE PLY MEMBRANE ROOFING.
2. TAPERED RIGID INSULATION.
3. 10" X 16 GA. STEEL CHANNEL ROOF JOISTS.
4. FIBERGLASS BATT INSULATION.
5. 2 LAYERS 5/8" TYPE "X" GYPSUM BOARD. FIRE TAPE ALL JOINTS AND FASTENERS.

SIMILAR TO U.L. DESIGN NO. P512.

1 HOUR CEILING

3/4" = 1'-0"

05A-2033



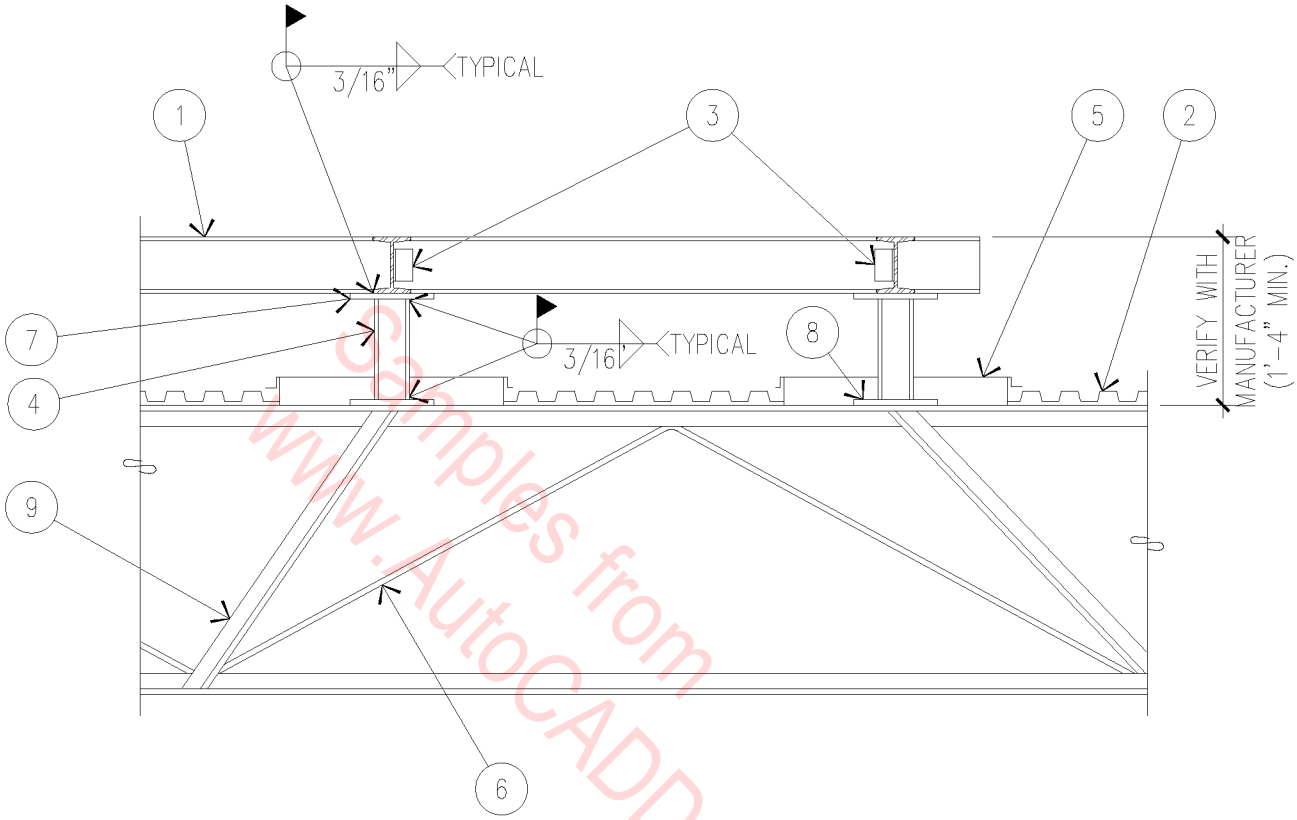
1. 10" X 16 GA. STEEL CHANNEL ROOF JOIST @ 24" O.C.
2. SINGLE PLY MEMBRANE ROOF OVER TAPERED INSULATION.
3. 24" X 24" LAY-IN ACOUSTICAL CEILING PANELS
4. STEEL SUSPENDED CEILING FRAMING MEMBERS.
5. 12 SWG GALVANIZED HANGER WIRE SPACED @ 48" O.C. ALONG MAIN RUNNERS.
6. 28 MSG SPRING STEEL HOLD DOWN CLIPS @ 24" O.C.

SIMILAR TO U.L. DESIGN NO. G241

1 HOUR SUSPENDED CEILING

1" = 1'-0"

05A-2034



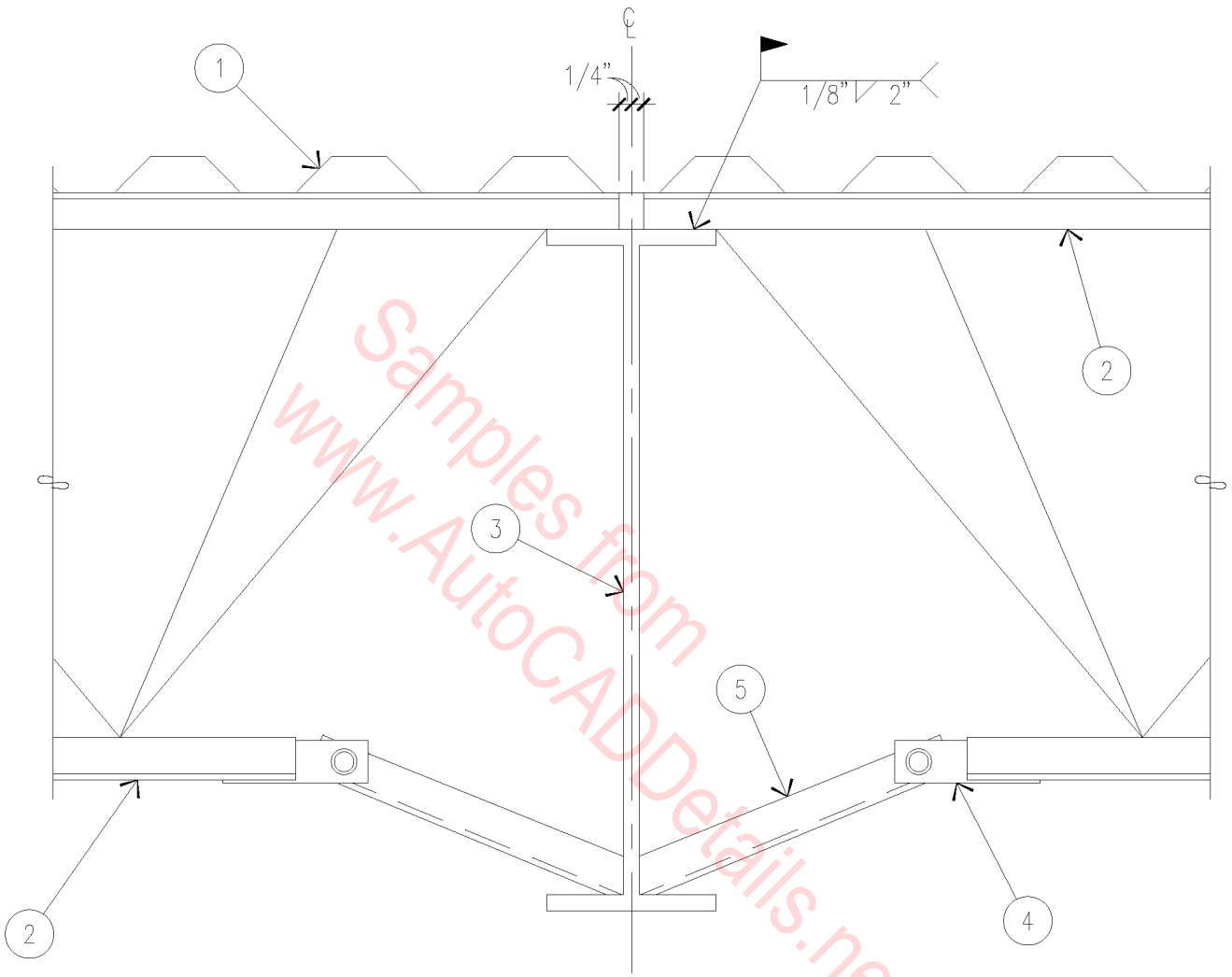
1. W6 X 12 WIDE FLANGE BEAM.
2. STEEL ROOF DECKING.
3. 2 1/2" X 2 1/2" X 1/4" X 3" LONG STEEL ANGLE.
4. 3" ø GALVANIZED PIPE.
5. PITCH PAN.
6. STEEL JOIST, SEE STRUCTURAL.
7. 6" X 6" X 1/2" CAP PLATE.
8. 4" X 4" X 1/2" PLATE, WELD TO TOP OF JOIST AND TUBE WITH 3/16" FILLET X 2" EACH SIDE.
9. ADD ANGLE UNDER POINTS OF SUPPORT IF OTHER THAN PANEL POINTS (TYPICAL).

NOTE: SEE ARCHITECTURAL DRAWINGS FOR PLAN LOCATIONS.

TYPICAL A/C UNIT SUPPORT

NOT TO SCALE

05A-2035

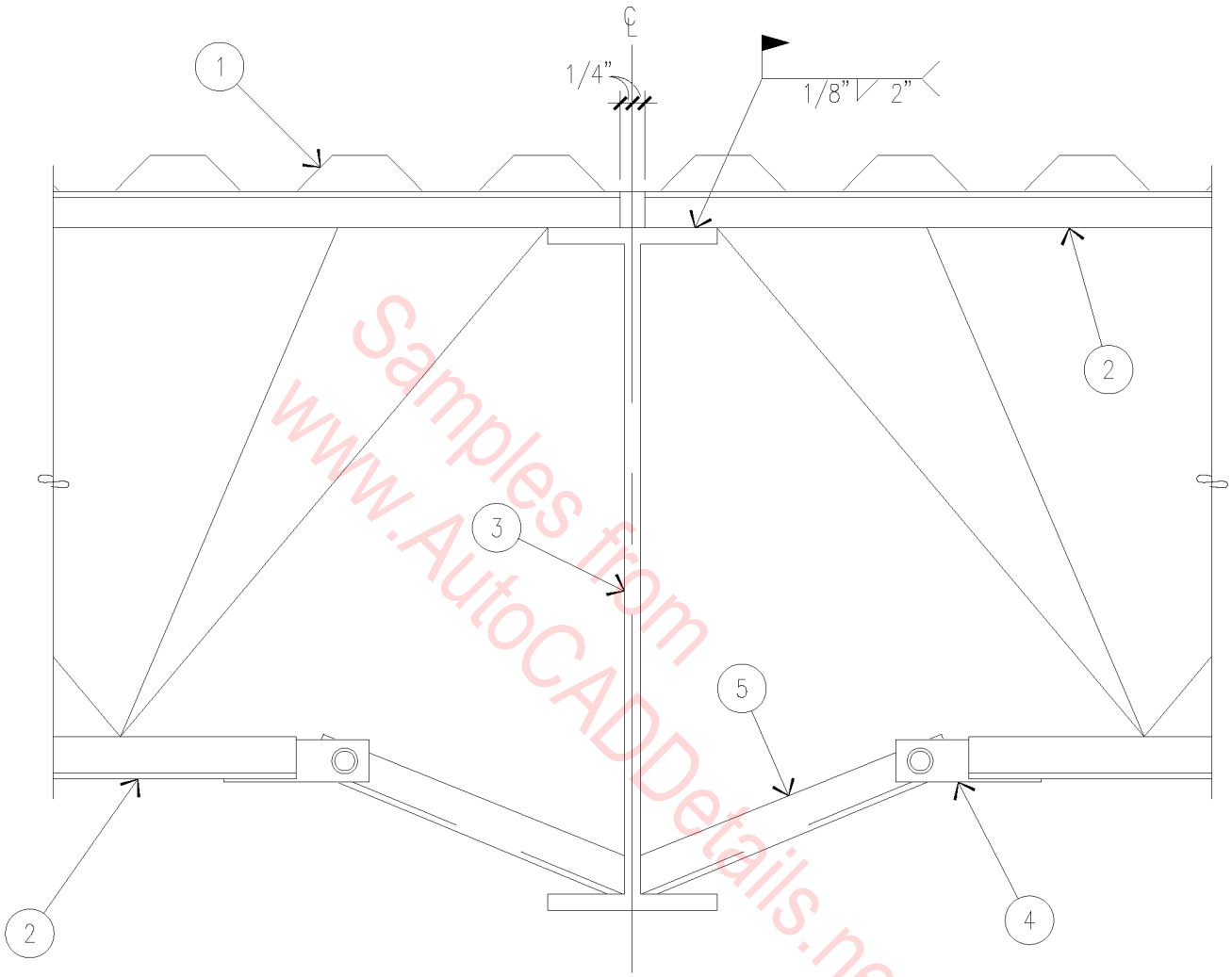


1. ROOF DECK.
2. STEEL JOIST – SEE STRUCTURAL.
3. STEEL GIRDER – SEE STRUCTURAL.
4. SHOP WELDED CLIP ANGLE.
5. JOIST BRACE.

JOIST AT GIRDER

3" = 1'-0"

05A-2036

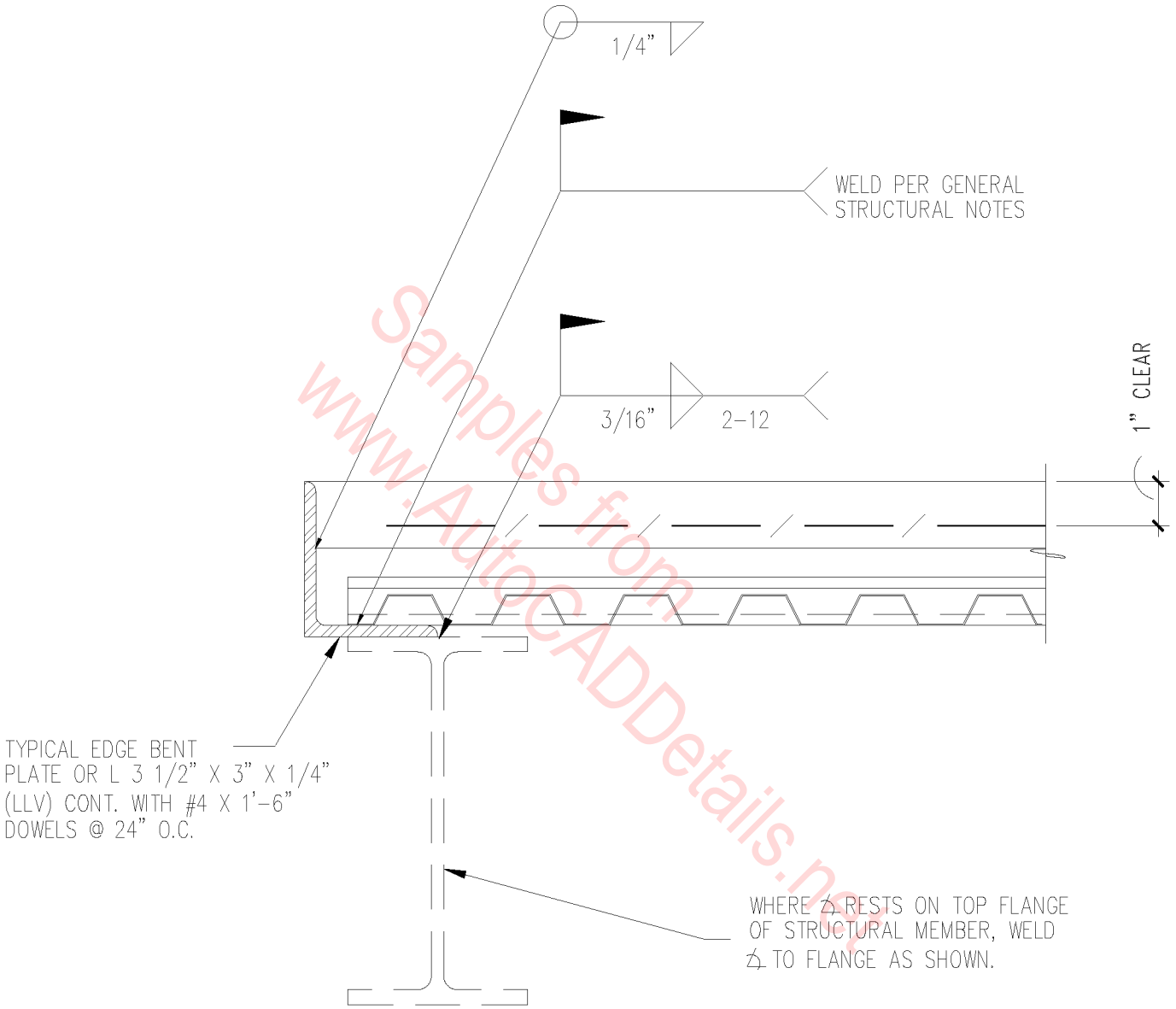


1. ROOF DECK.
2. STEEL JOIST – SEE STRUCTURAL.
3. STEEL GIRDER – SEE STRUCTURAL.
4. SHOP WELDED CLIP ANGLE.
5. JOIST BRACE.

JOIST AT GIRDER

3" = 1'-0"

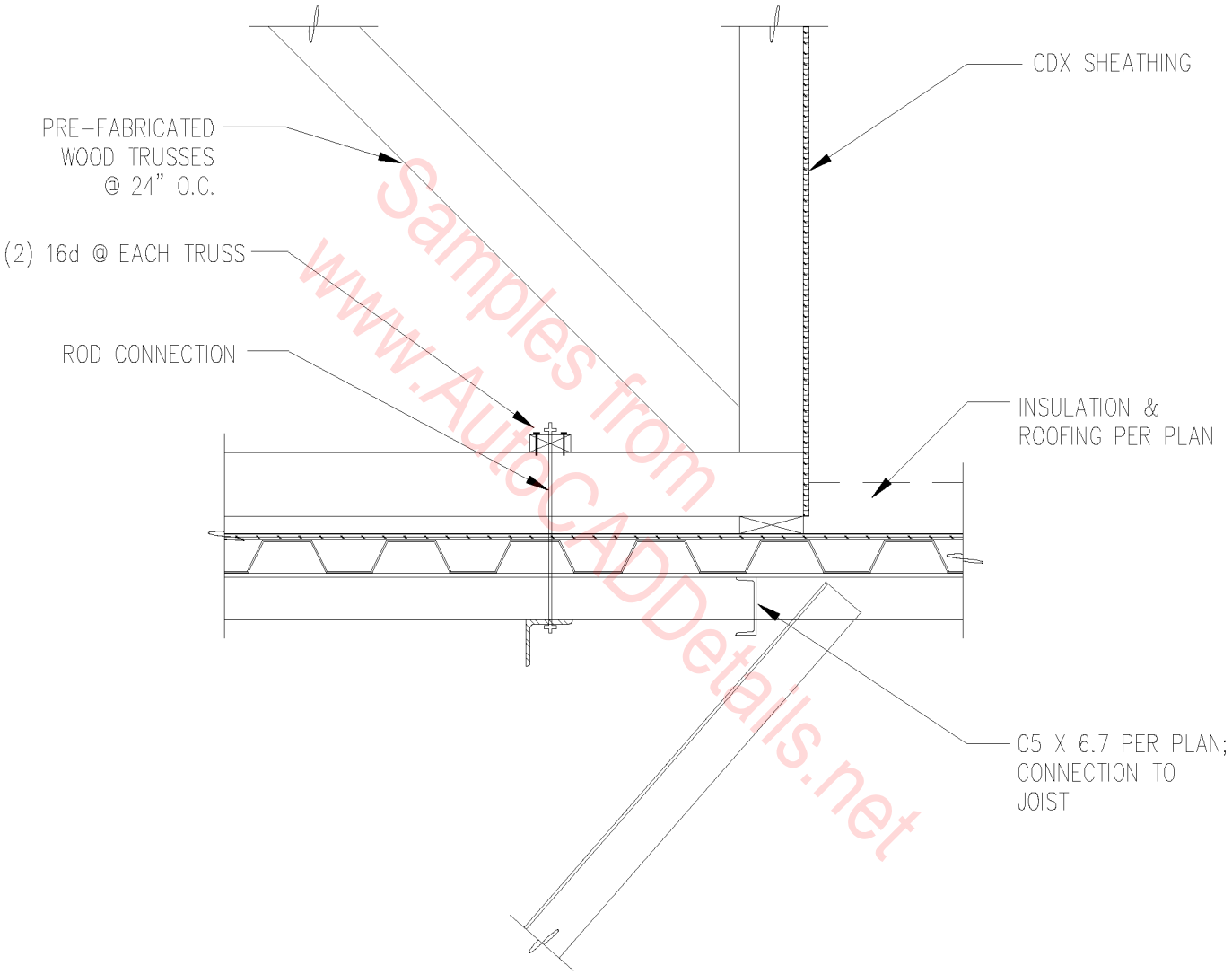
05A-2036



FLOOR EDGE

SCALE: 3/4" = 1'-0"

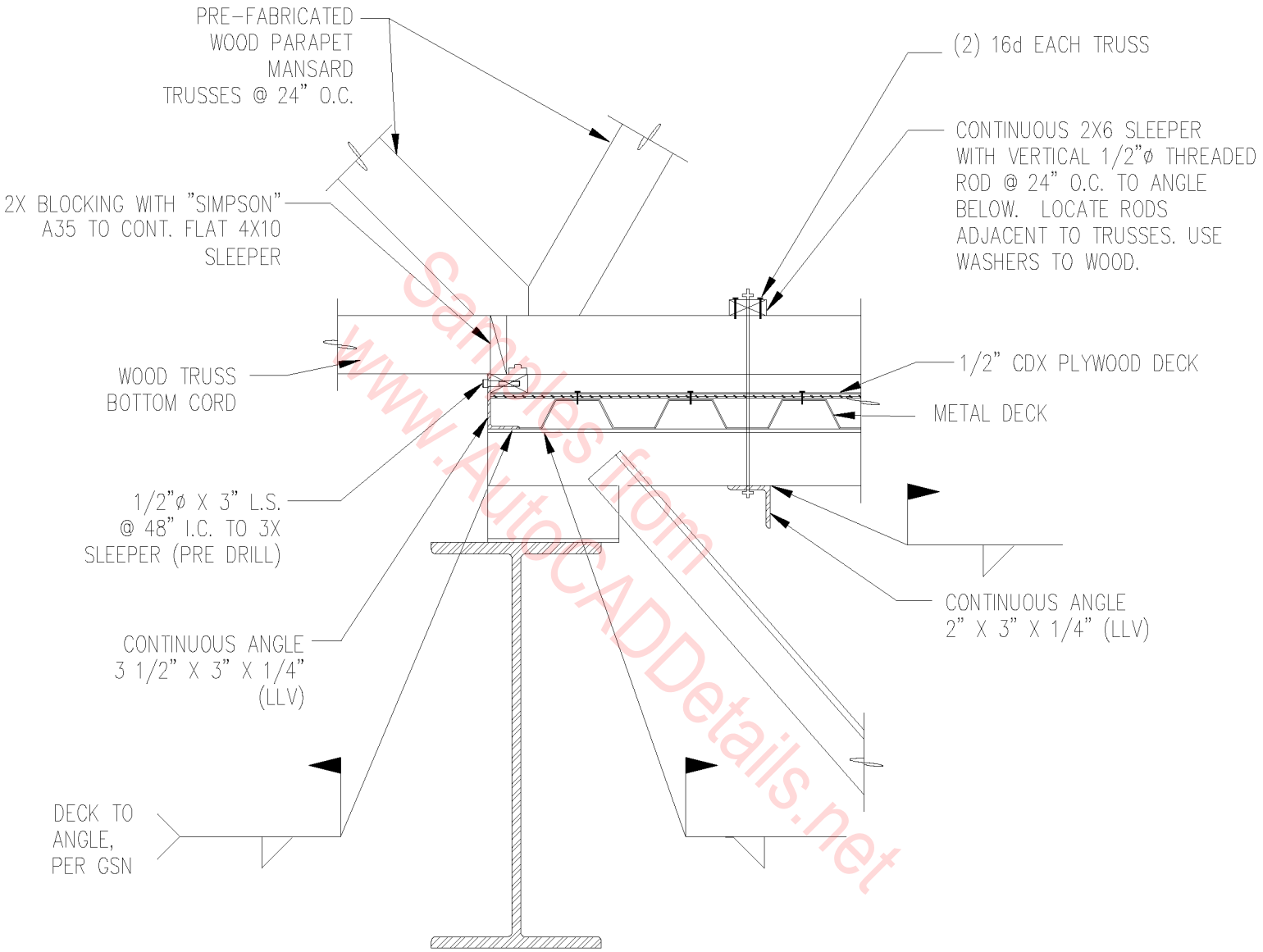
05A-4001



MANSARD TRUSS TO ROOF

3/4" = 1'-0"

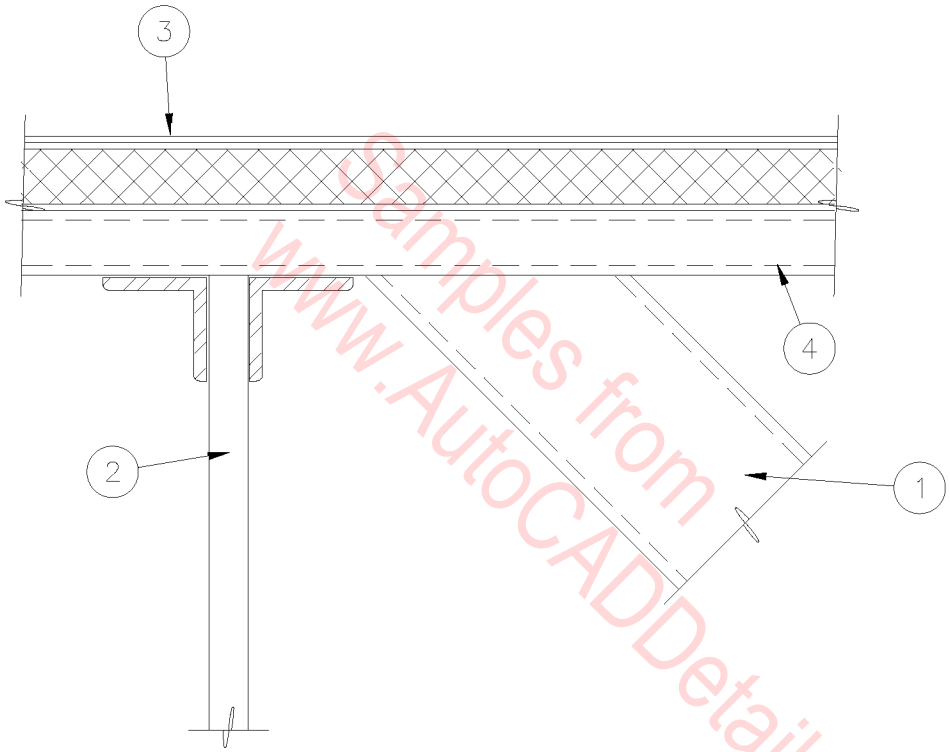
05A-4002



REINFORCED FRAMING @ PARAPET

SCALE: 3/4" = 1'-0"

05A-4003

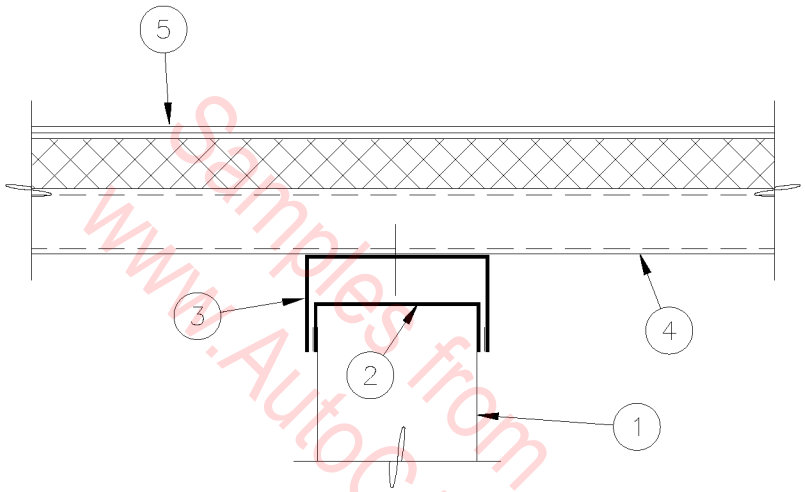


1. METAL STUDS AT 48" O.C.
2. STEEL JOIST.
3. ROOFING SYSTEM.
4. METAL DECK PERPENDICULAR TO JOISTS.

WALL BRACE AT ROOF

SCALE: 1" = 1'-0"

05A-4004

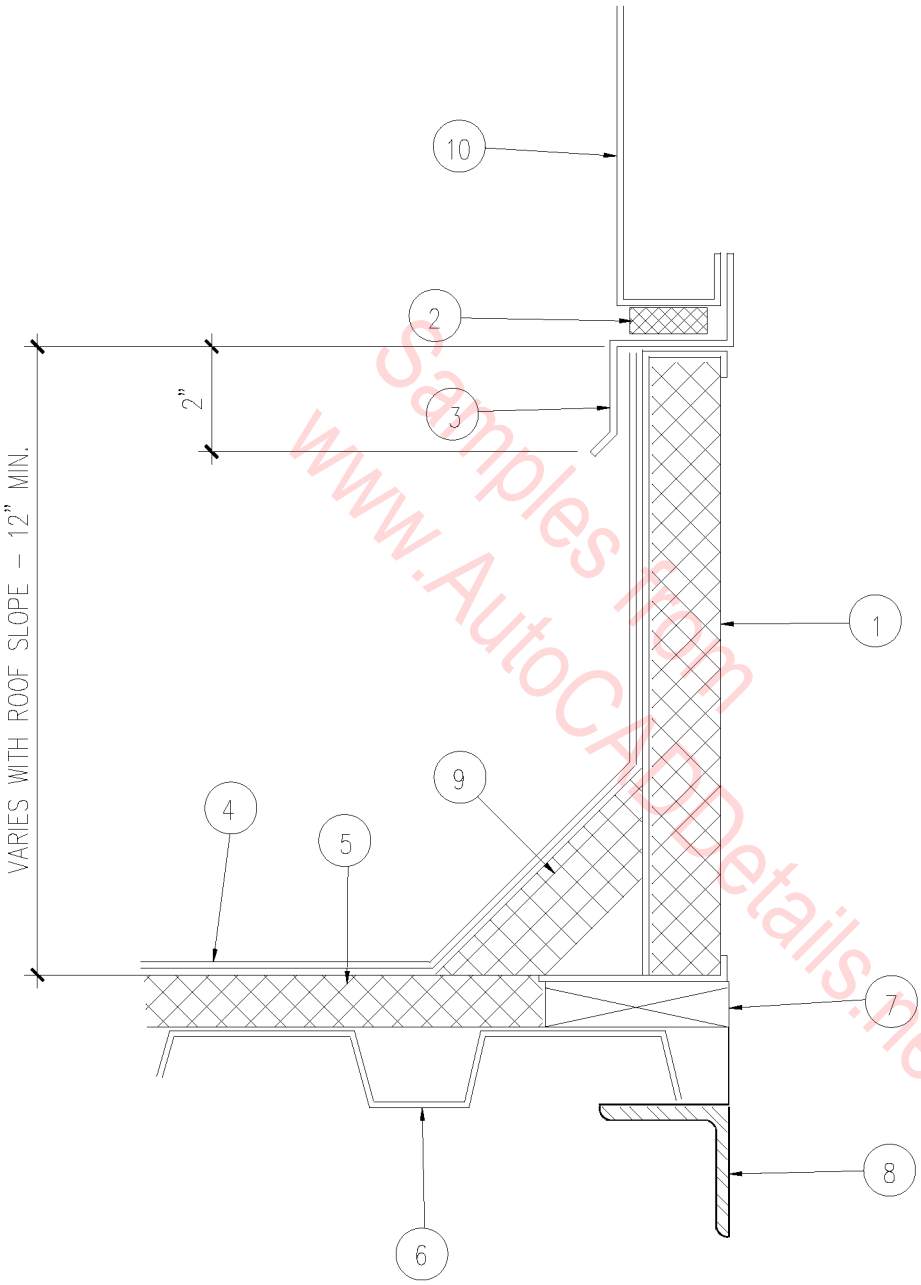


1. METAL STUDS AT 48" O.C. WALL SUPPORTS.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. ROOFING SYSTEM.

WALL TOP TRACK

SCALE: 3" = 1'-0"

05A-4005

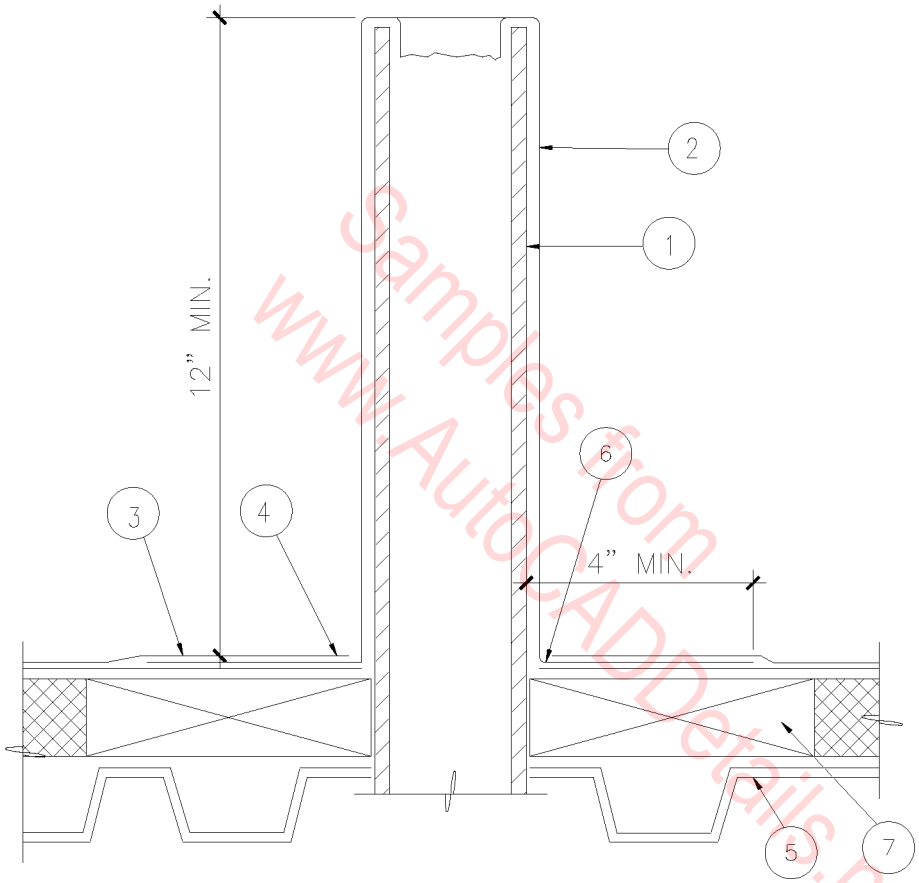


1. PREFABRICATED EQUIPMENT ROOF CURB.
2. NEOPRENE GASKET CONTINUOUS AT TOP OF CURB.
3. 20 GA GI FLASHING.
4. MODIFIED BITUMEN REINFORCED COMPOSITE SHEET.
5. RIGID INSULATION.
6. METAL DECK.
7. 1 X 4 FIRE-RETARDANT TREATED WOOD NAILER.
8. STEEL ANGLE SUPPORT FOR CURB.
9. 4" CANT.
10. MECHANICAL EQUIPMENT.

EQUIPMENT CURB

SCALE: 3" = 1'-0"

05A-4006

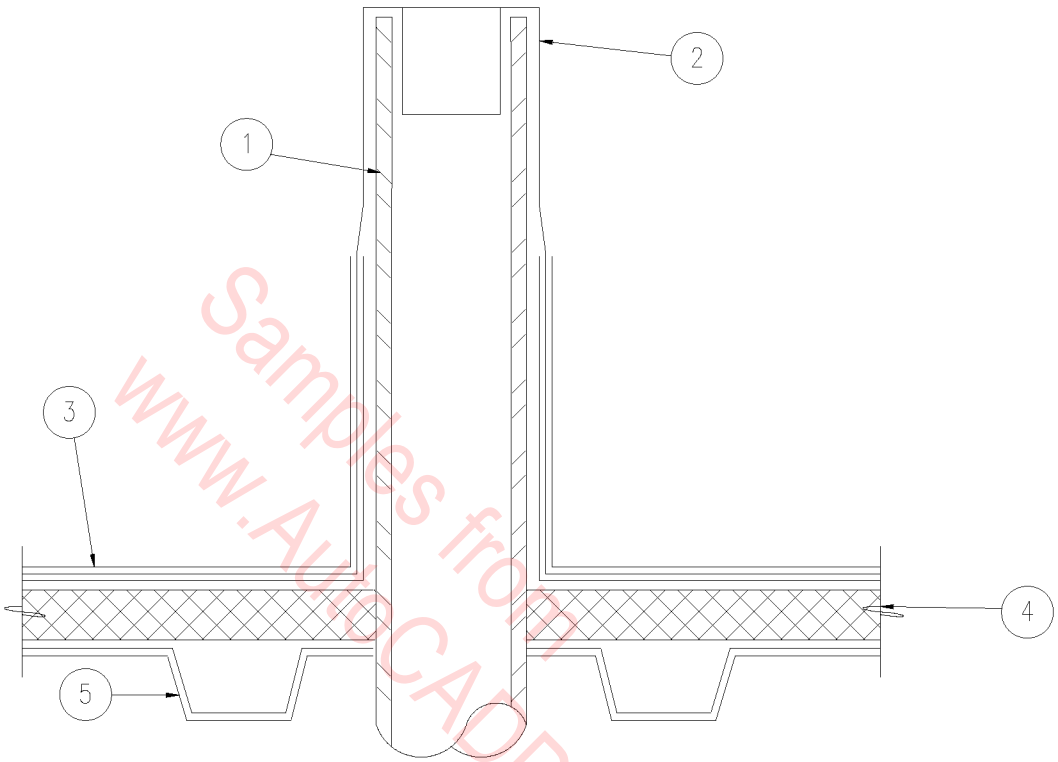


1. PLUMBING VENT PIPE.
2. 3.5# LEAD FLASHING SLEEVE WITH SQ. BASE PLATE. ROLL OVER INTO VENT PIPE 1/2" DEEP.
3. MODIFIED BITUMEN REINFORCED COMPOSITE SHEET ROOFING ON RIGID INSULATION.
4. LAP SHEET ROOFING OVER LEAD BASE PLATE.
5. STRUCTURAL METAL DECK.
6. SEALANT ALL AROUND.
7. 2 x 6 NAILER AT PERIMETER.

VENT PIPE THRU ROOF

SCALE: 3" = 1'-0"

05A-4007

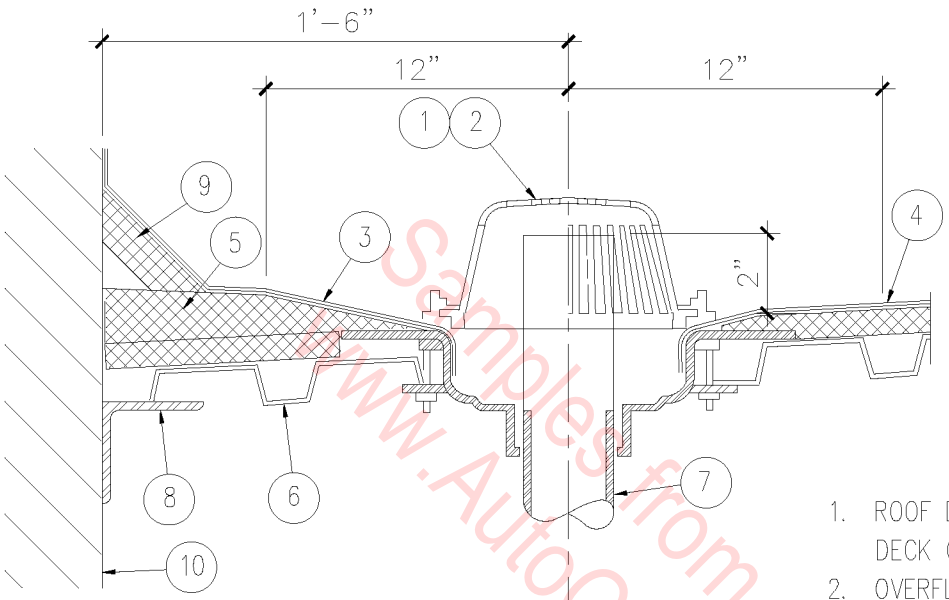


1. PLUMBING VENT.
2. LEAD FLASHING.
3. MODIFIED BITUMEN REINFORCED COMPOSITE SHEET.
4. RIGID INSULATION.
5. METAL DECK.

VENT FLASHING

3" = 1'-0"

05A-4008



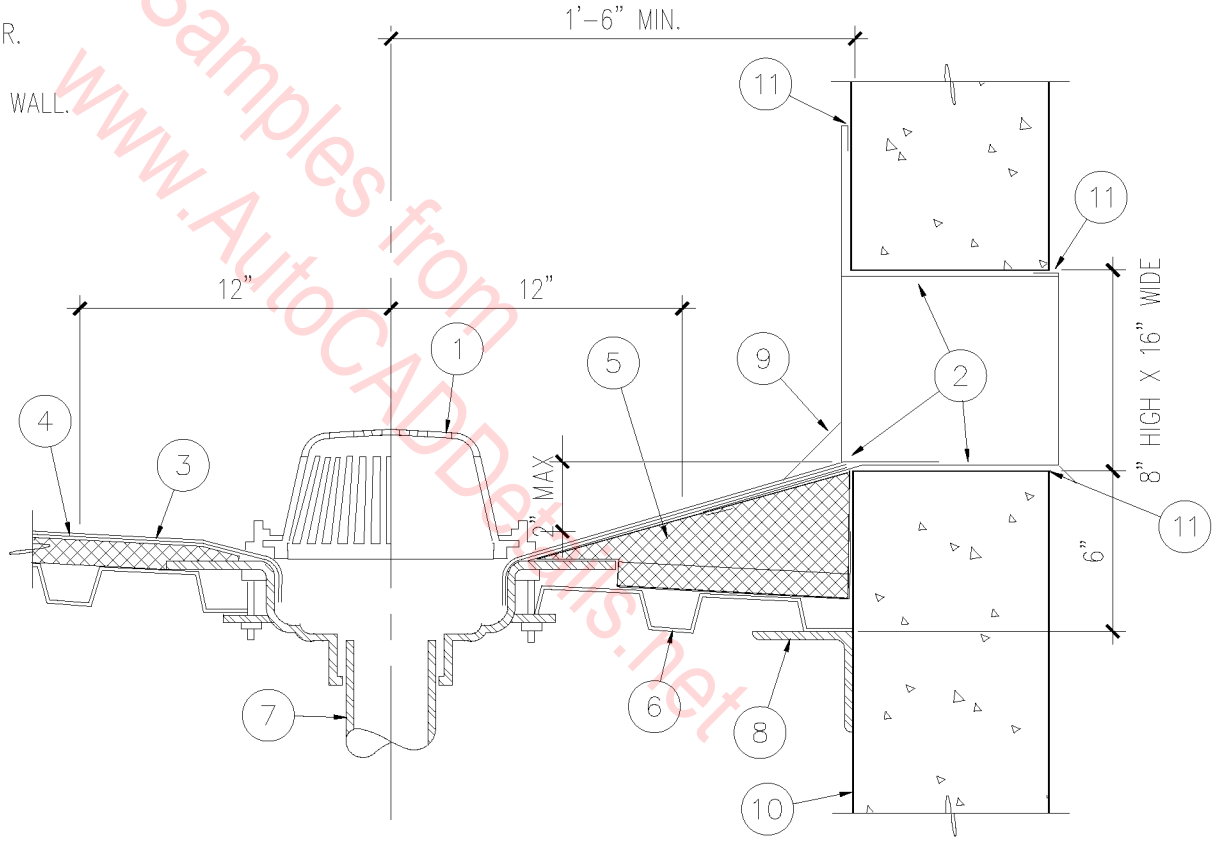
1. ROOF DRAIN WITH DOUBLE DECK CLAMP.
2. OVERFLOW DRAIN WITH DOUBLE DECK CLAMP AND 2" HIGH STANDPIPE.
3. LEAD FLASHING 24" SQUARE.
4. MODIFIED BITUMEN REINFORCED SHEET ROOFING ON RIGID INSULATION.
5. RIGID INSULATION CRICKETS WHERE REQUIRED, SEE ROOF PLAN, MIN 1/4"/LF AT CRICKET VALLEY.
6. METAL DECK.
7. ROOF DRAIN PIPE.
8. STEEL ANGLE LEDGER.
9. 4" CANT STRIP.
10. FACE OF MASONRY WALL.

ROOF & OVERFLOW DRAIN

SCALE: 1 1/2" = 1'-0"

05A-4009

1. ROOF DRAIN WITH DOUBLE DECK CLAMP.
2. 20 GA. OVERFLOW SCUPPER AT PARAPET WALL, 2" MAX. ABOVE ROOF DRAIN INVERT.
3. LEAD FLASHING 24" SQUARE.
4. MODIFIED BITUMEN REINFORCED SHEET ROOFING ON RIGID INSULATION.
5. RIGID INSULATION CRICKETS WHERE REQUIRED, SEE ROOF PLAN, MIN. 1/4" / LF AT CRICKET VALLEY.
6. METAL DECK.
7. ROOF DRAIN PIPE.
8. STEEL ANGLE LEDGER.
9. 4" CANT.
10. FACE OF CONCRETE WALL.
11. SEALANT.

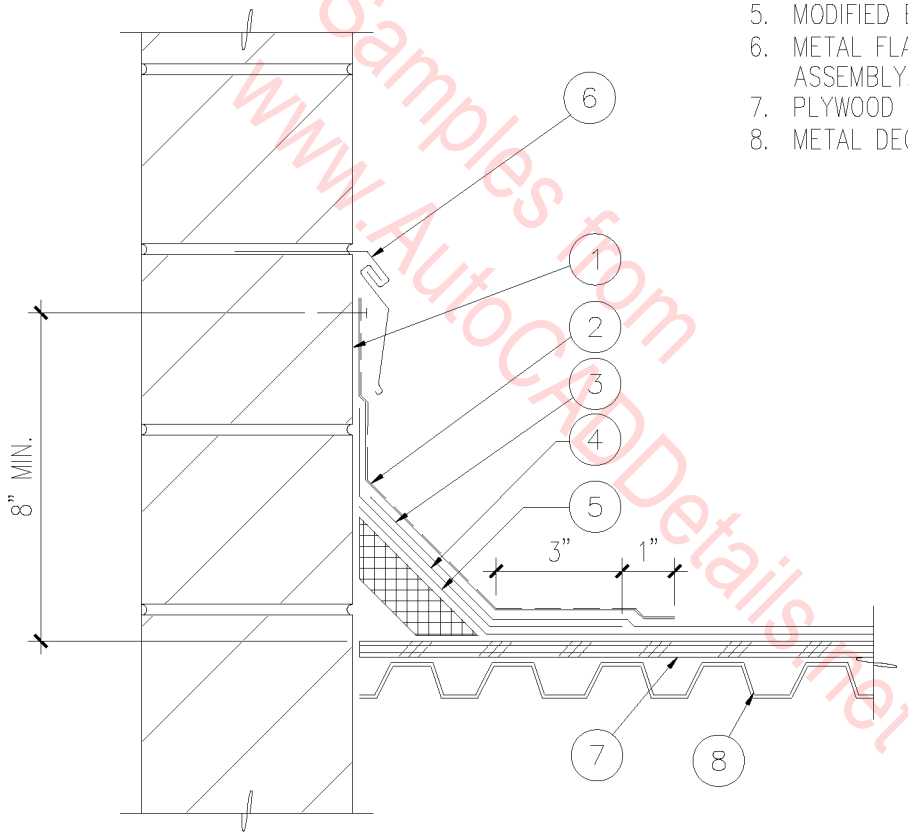


ROOF DRAIN AND OVERFLOW SCUPPER

1 1/2" = 1'-=0"

05A-4010

1. WALL (PRIME MASONRY SURFACES).
2. METAL CLAD MODIFIED BITUMEN FLASHING (TORCH & FASTEN 9" O.C.).
3. MODIFIED BITUMEN CAP SHEET (PREPARE GRANULAR SURFACE).
4. MODIFIED BITUMEN REINFORCING SHEET.
5. MODIFIED BITUMEN BASE PLY.
6. METAL FLASHING/COUNTERFLASHING ASSEMBLY.
7. PLYWOOD ROOF SHEATHING.
8. METAL DECK.

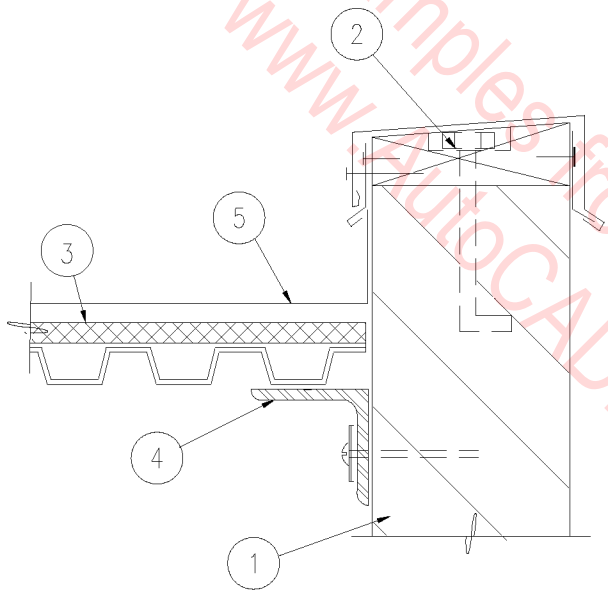


REGLET AT METAL ROOF

SCALE: 3" = 1'-0"

05A-4011

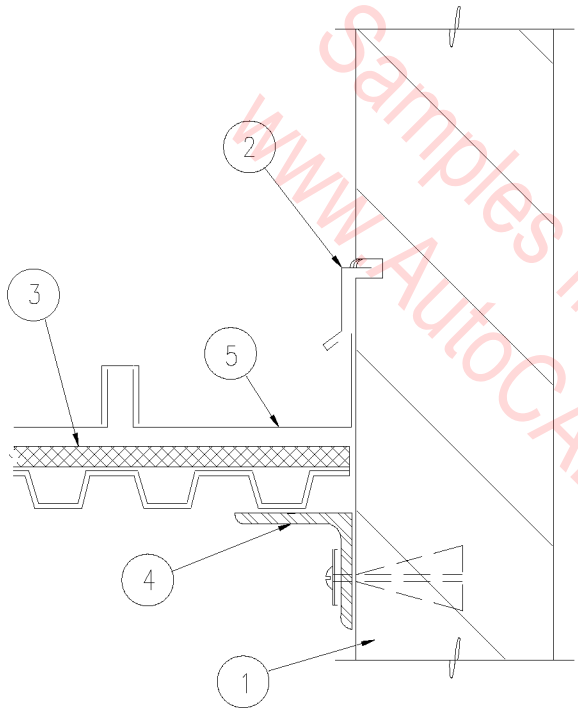
1. MASONRY WALL.
2. PARAPET CAP.
3. RIGID INSULATION OVER METAL DECK.
4. STEEL ANGLE LEDGER.
5. METAL ROOFING.



METAL ROOF AT PARAPET

SCALE: 1 1/2" = 1'-0"

05A-4012

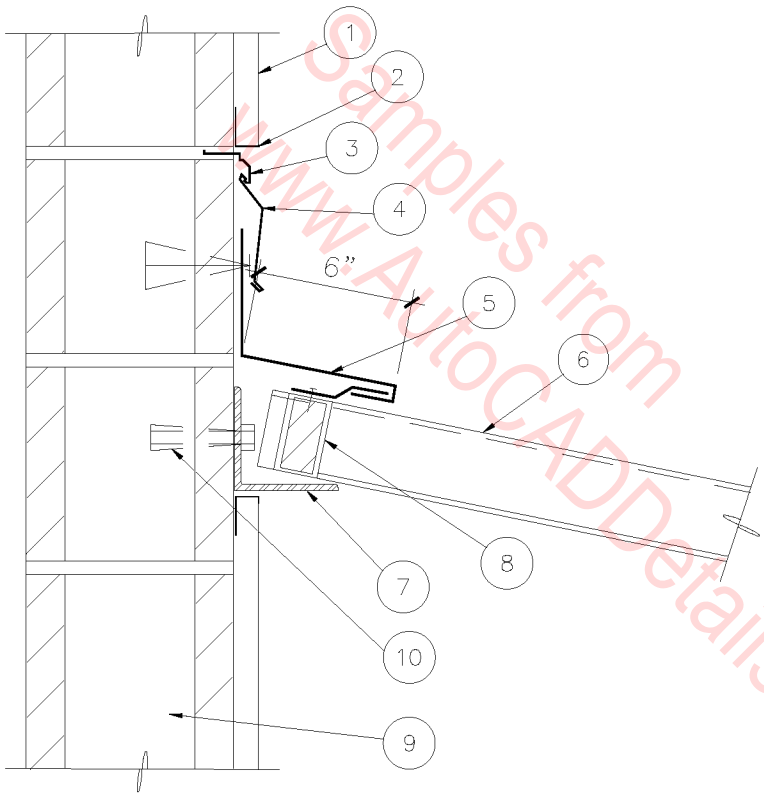


1. MASONRY WALL.
2. REGLET AND COUNTER FLASHING.
3. RIGID INSULATION OVER METAL DECK.
4. STEEL ANGLE LEDGER.
5. STANDING SEAM METAL ROOF.

METAL ROOF AT PARAPET

1 1/2" = 1'-0"

05A-4013



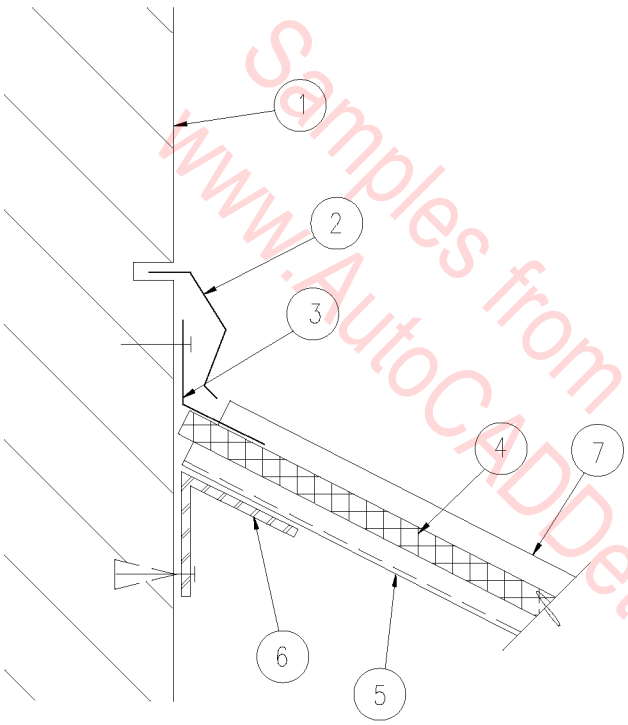
1. CEMENT PLASTER.
2. 'J' MOLDING.
3. REGLET.
4. COUNTERFLASHING.
5. METAL FLASHING.
6. METAL DECK.
7. STRUCTURAL ANGLE.
8. NEOPRENE AND METAL CLOSER.
9. MASONRY WALL.
10. EXPANSION ANCHOR.

METAL DECK ROOF EDGE

SCALE: 1 1/2" = 1'-0"

05A-4014

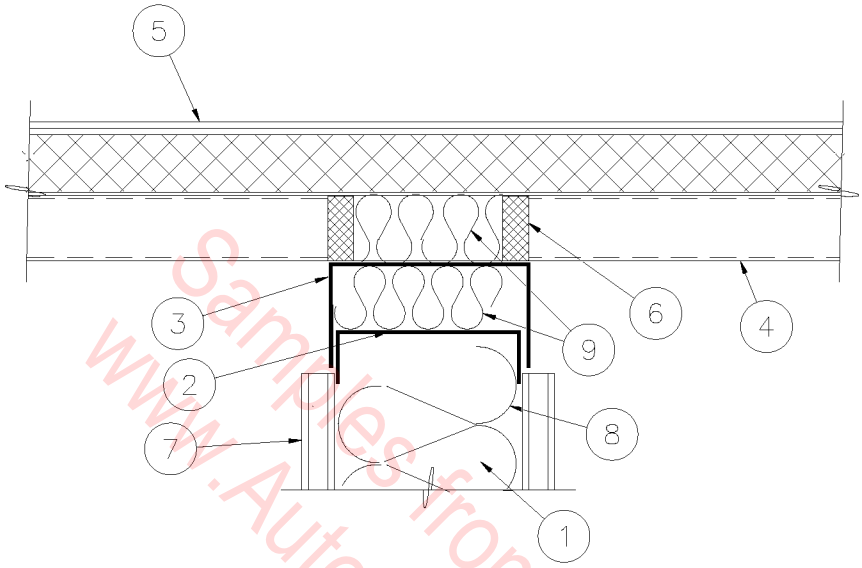
1. MASONRY WALL.
2. REGLET & COUNTER FLASHING.
3. 12 GA. GI CONT. FLASHING.
4. RIGID INSULATION.
5. METAL DECK.
6. CONTINUOUS STEEL BENT PLATE BOLTED TO WALL.
7. METAL ROOFING.



METAL ROOF FLASHING

SCALE: 1" = 1'-0"

05A-4015



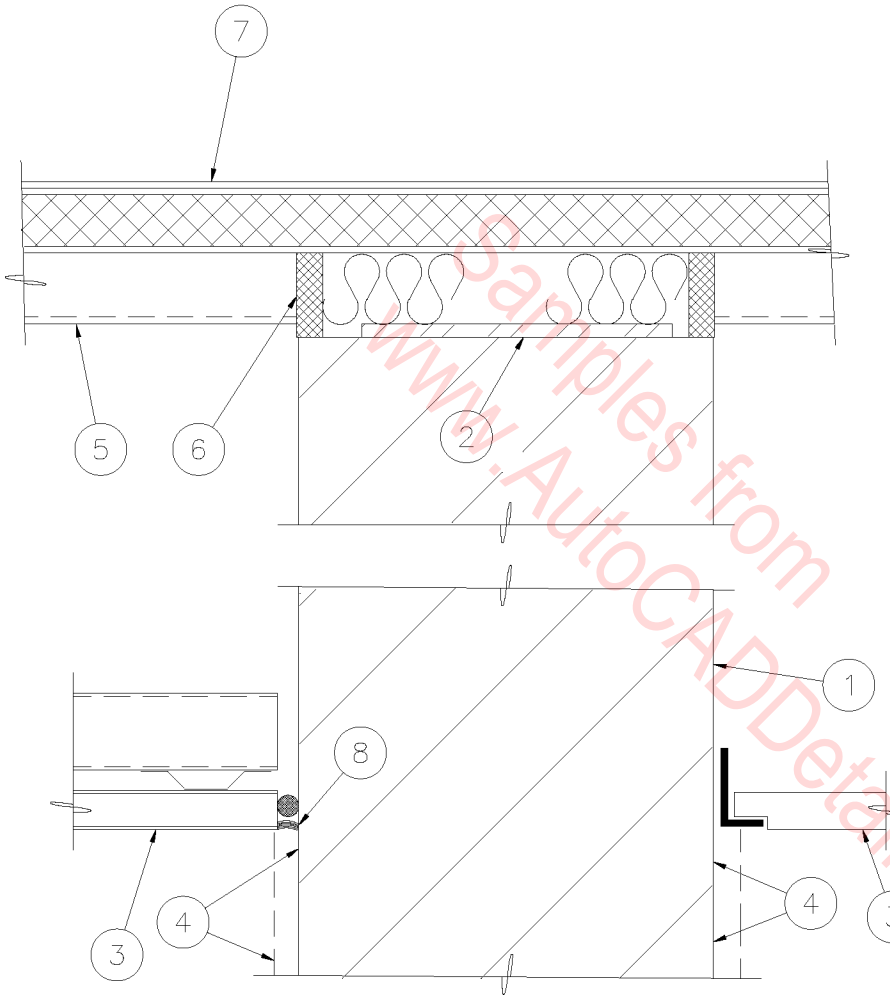
UL DESIGN NO. U465 ONE HOUR RATED WALL
UL THROUGH-PENETRATION FIRESTOP SYSTEM DESIGN NO. 327

1. 3 5/8" METAL STUDS AT 16" O.C.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. ROOFING SYSTEM.
6. 1/2" 'TREMCO' FYRE-SIL SEALANT ON EACH SIDE OF FIRE SAFING.
7. 5/8" TYPE "X" GYPSUM BOARD.
8. R-11 3 1/2" BATT SOUND INSULATION WHERE APPLICABLE.
9. FIRE SAFING INSULATION.

WALL AT ROOF DECK

SCALE: 3" = 1'-0"

05A-4016

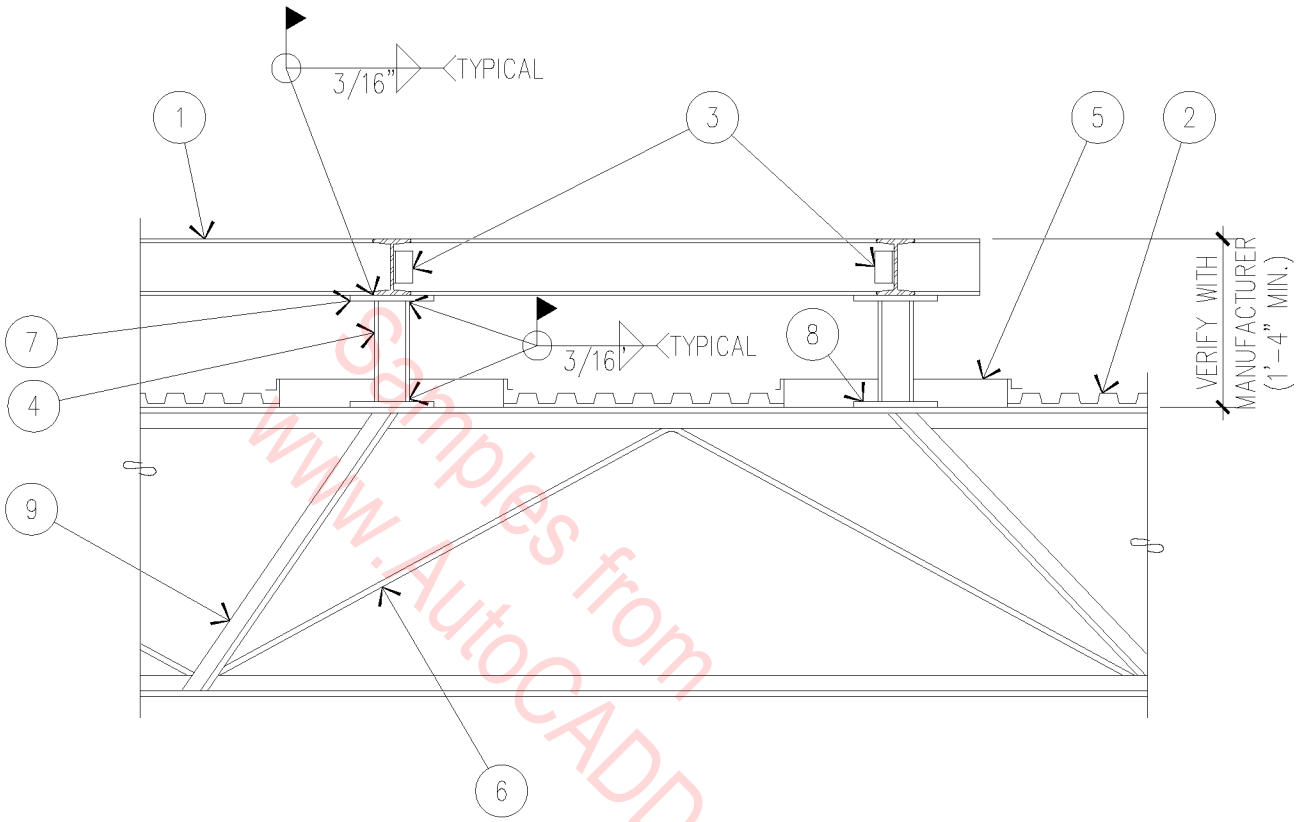


1. MASONRY WALL.
2. WELD PLATE.
3. CEILING WHERE APPLICABLE.
4. SEE ROOM FINISH SCHEDULE & WALL TYPES FOR MATERIAL & FINISH.
5. METAL ROOF DECK.
6. 1/2" 'TREMCO' FYRE-SIL SEALANT EACH SIDE ON FIRE SAFING UL DESIGN NO. 327 AT RATED WALL.
7. ROOFING SYSTEM ON RIGID INSULATION.
8. CASING BEAD AND SEALANT AT GYPSUM BOARD.

WALL @ ROOF DECK

3" = 1'-0"

05A-4017



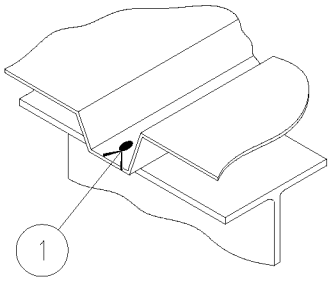
1. W6 X 12 WIDE FLANGE BEAM.
2. STEEL ROOF DECKING.
3. 2 1/2" X 2 1/2" X 1/4" X 3" LONG STEEL ANGLE.
4. 3" ø GALVANIZED PIPE.
5. PITCH PAN.
6. STEEL JOIST, SEE STRUCTURAL.
7. 6" X 6" X 1/2" CAP PLATE.
8. 4" X 4" X 1/2" PLATE, WELD TO TOP OF JOIST AND TUBE WITH 3/16" FILLET X 2" EACH SIDE.
9. ADD ANGLE UNDER POINTS OF SUPPORT IF OTHER THAN PANEL POINTS (TYPICAL).

NOTE: SEE ARCHITECTURAL DRAWINGS FOR PLAN LOCATIONS.

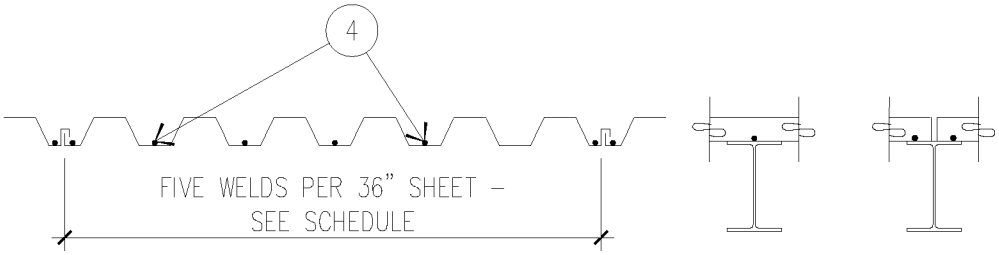
TYPICAL A/C UNIT SUPPORT

NOT TO SCALE

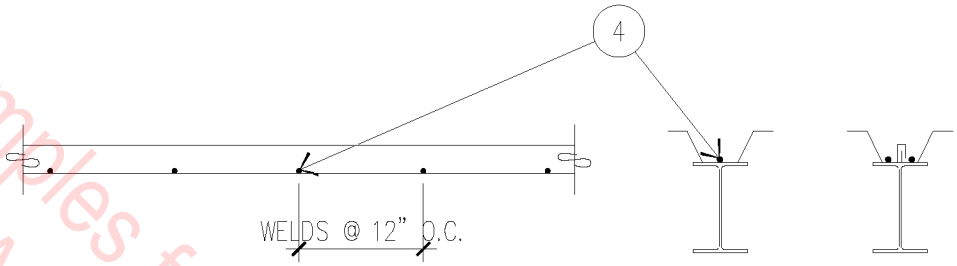
05A-4018



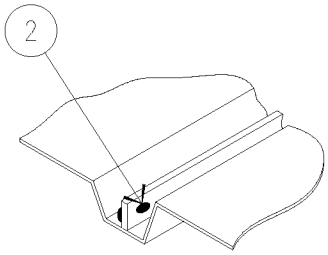
WELDS TO SUPPORTS

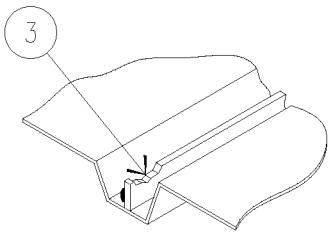


DECK PERPENDICULAR TO SPAN



DECK PARALLEL TO SPAN





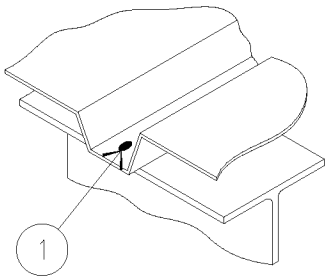
SIDE LAP FASTENING

1. 3/4" ø PUDDLE WELD (1/2" MINIMUM EFFECTIVE DIAMETER) OR 3/8" X 1" LONG WELD – PROVIDE WELD WASHER FOR GAUGE LESS THAN 18 OR AS RECOMMENDED BY DECK MANUFACTURER.
2. 3/16" ø BUTTON PUNCH FOR INTERLOCKING UNITS – BUTTON WILL PROTRUDE NOTICEABLY.
3. 1 1/2" LONG TOP SEAM WELD – CLINCH FIRST TO GET LIP CONTACT, WELD MUST ENGAGE TOP OF INNER LEG.
4. PUDDLE WELD PER SCHEDULE (TYPICAL).

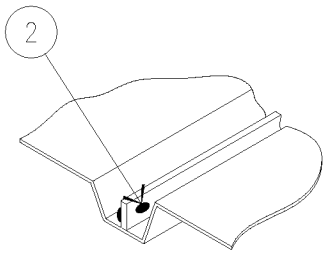
METAL DECKING ATTACHMENTS

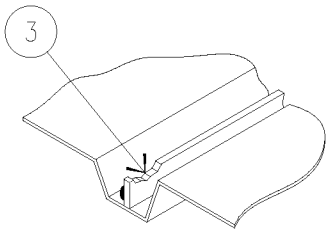
N.T.S.

05A–4019

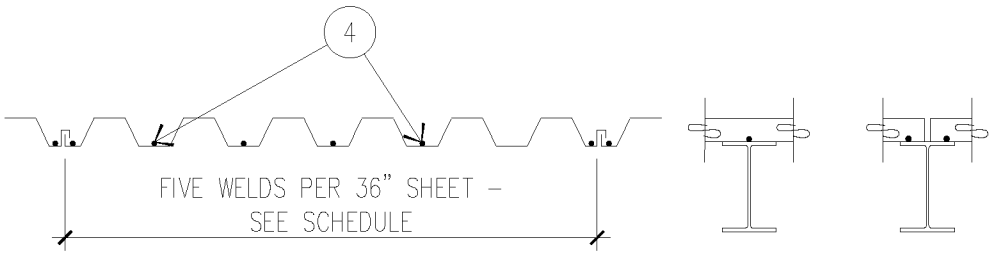


WELDS TO SUPPORTS

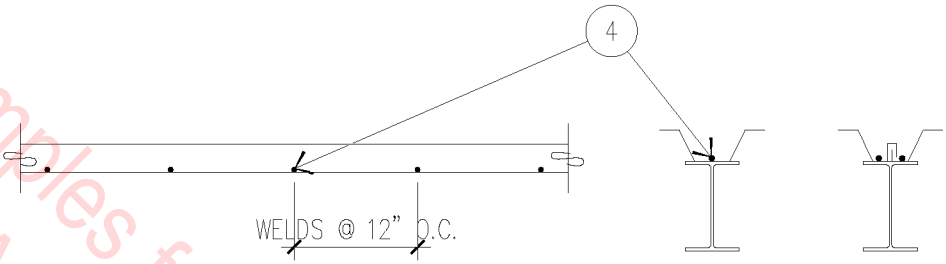




SIDE LAP FASTENING



DECK PERPENDICULAR TO SPAN



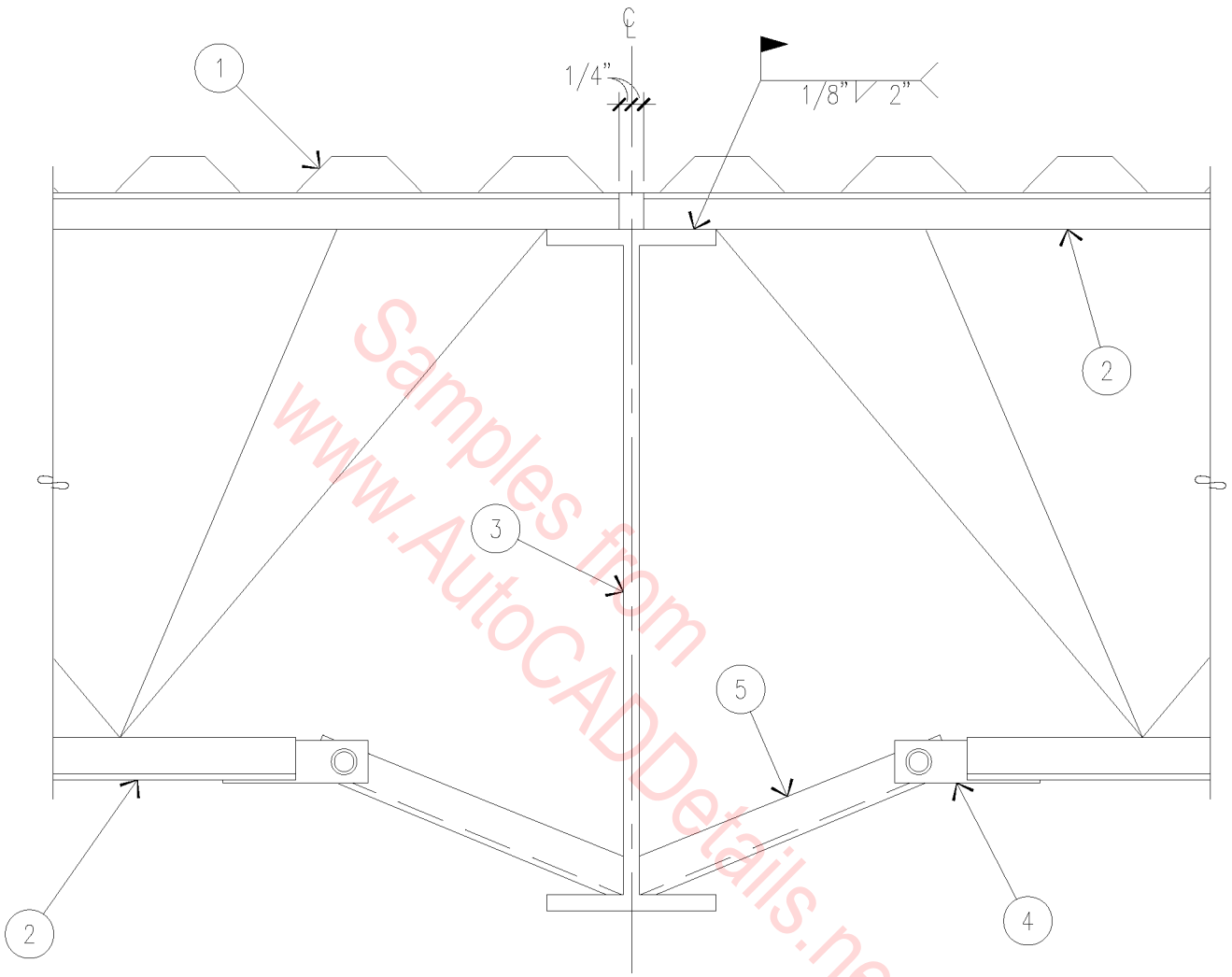
DECK PARALLEL TO SPAN

1. 3/4" ø PUDDLE WELD (1/2" MINIMUM EFFECTIVE DIAMETER) OR 3/8" X 1" LONG WELD – PROVIDE WELD WASHER FOR GAUGE LESS THAN 18 OR AS RECOMMENDED BY DECK MANUFACTURER.
2. 3/16" ø BUTTON PUNCH FOR INTERLOCKING UNITS – BUTTON WILL PROTRUDE NOTICEABLY.
3. 1 1/2" LONG TOP SEAM WELD – CLINCH FIRST TO GET LIP CONTACT, WELD MUST ENGAGE TOP OF INNER LEG.
4. PUDDLE WELD PER SCHEDULE (TYPICAL).

METAL DECKING ATTACHMENTS

N.T.S.

05A–4019

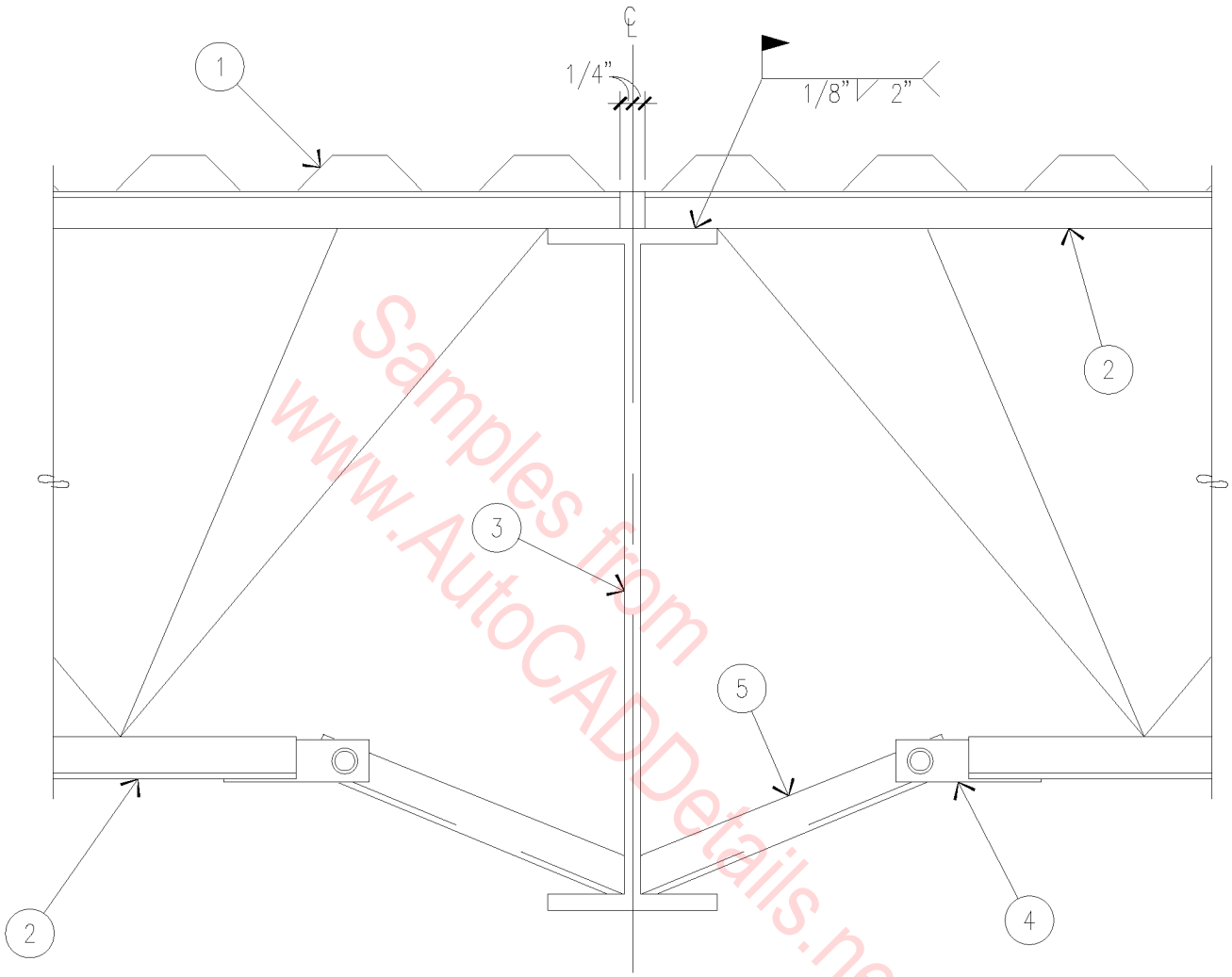


1. ROOF DECK.
2. STEEL JOIST – SEE STRUCTURAL.
3. STEEL GIRDER – SEE STRUCTURAL.
4. SHOP WELDED CLIP ANGLE.
5. JOIST BRACE.

JOIST AT GIRDER

3" = 1'-0"

05A-4020

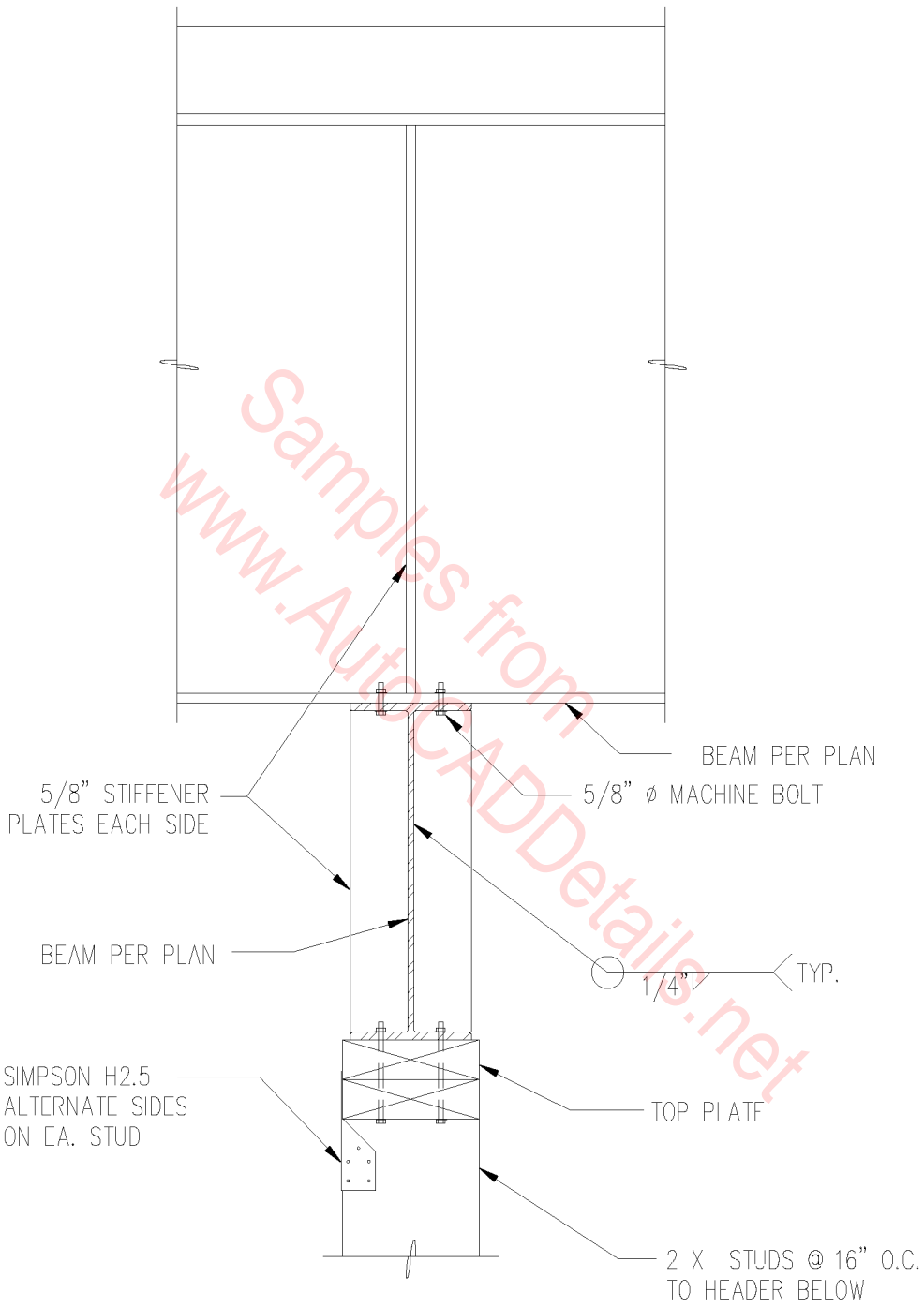


1. ROOF DECK.
2. STEEL JOIST – SEE STRUCTURAL.
3. STEEL GIRDER – SEE STRUCTURAL.
4. SHOP WELDED CLIP ANGLE.
5. JOIST BRACE.

JOIST AT GIRDER

3" = 1'-0"

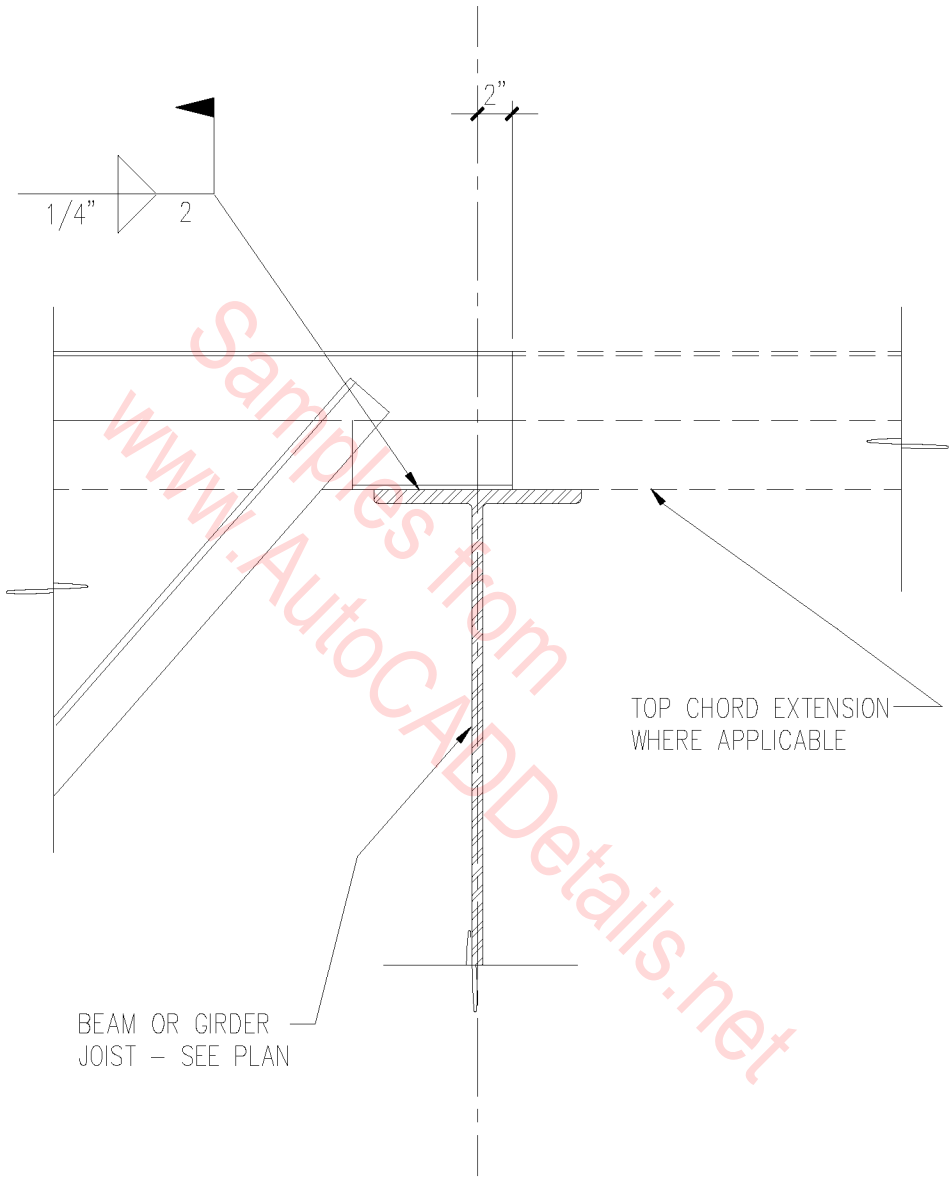
05A-4020



BEAM CONNECTION

SCALE: 1 1/2" = 1'-0"

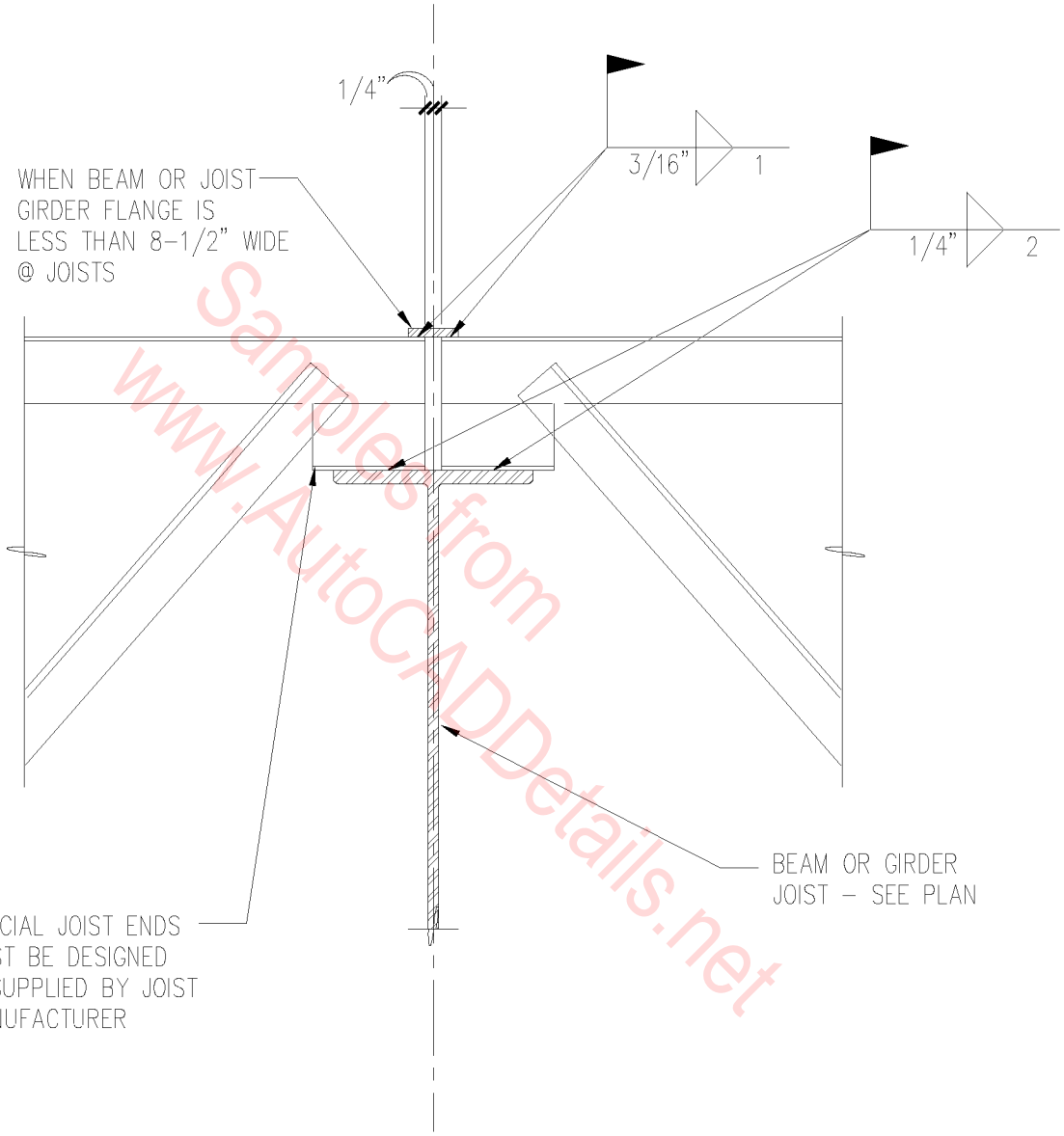
05A-1001



END BEARING JOIST

SCALE: 3/4" = 1'-0"

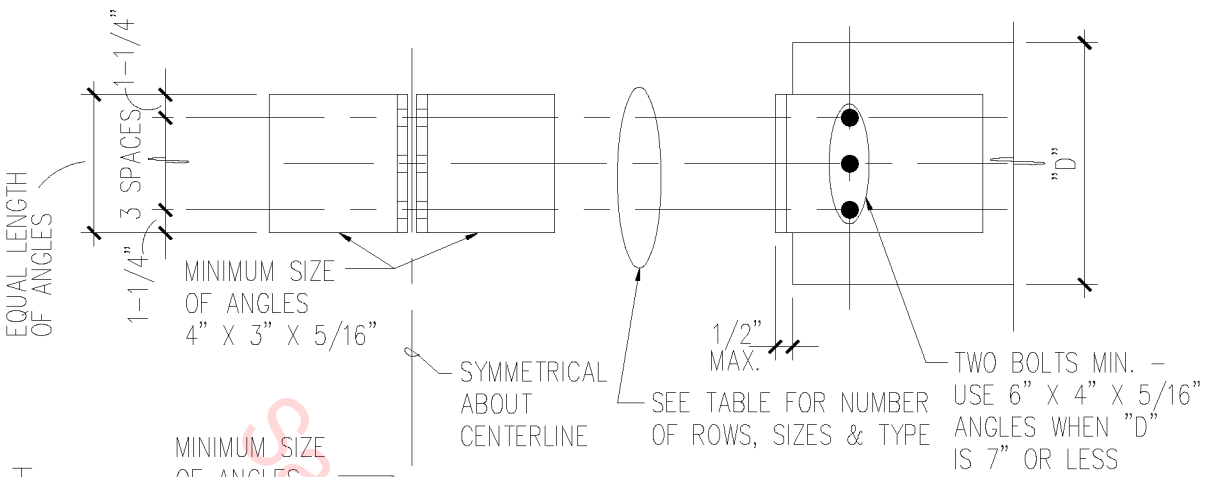
05A-1002

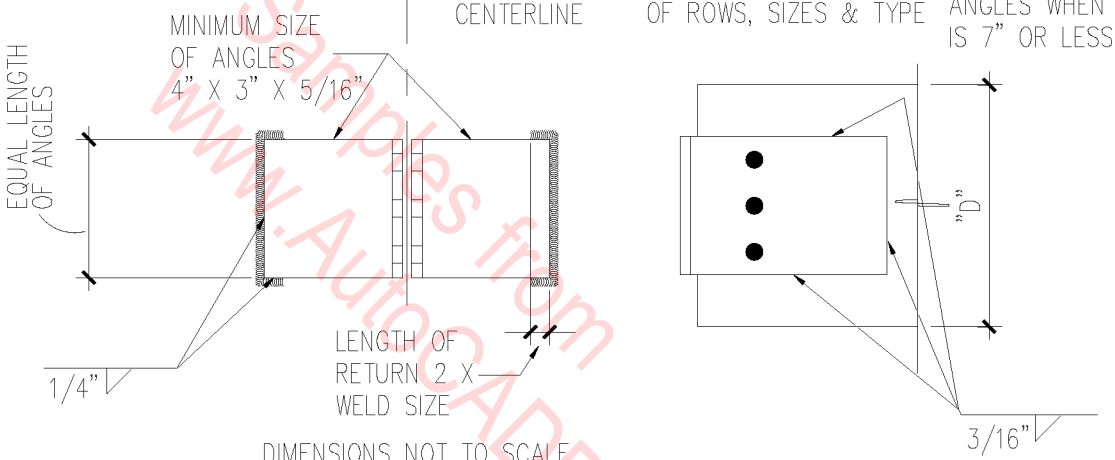


JOISTS @ TWO SIDES OF SUPPORT

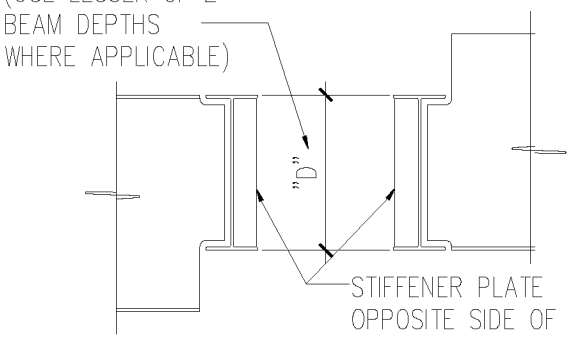
3/4" = 1'-0"

05A-1003





DIMENSIONS NOT TO SCALE



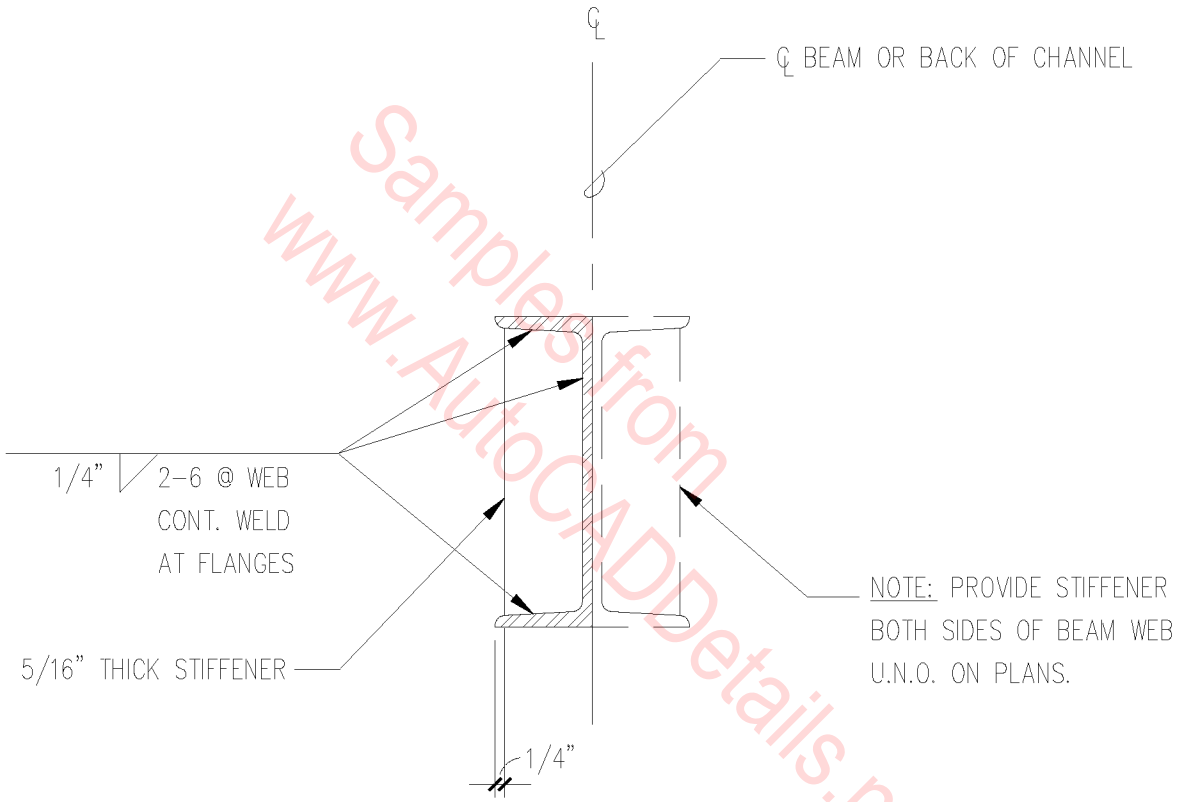
BOLT SCHEDULE	
1" ø, A307 BOLTS	
NOMINAL DEPTH "D" IN INCHES	NUMBER OF ROWS
UP TO 7	1
8 TO 11	2
12 TO 14	3
15 TO 17	4
18 TO 20	5
21 TO 23	6
24	7

NOTE:
WELD OR BOLT AT CONTRACTORS OPTION - SEE GENERAL STRUCTURAL NOTES.

BEAM CONNECTION

SCALE: 1/2" = 1'-0"

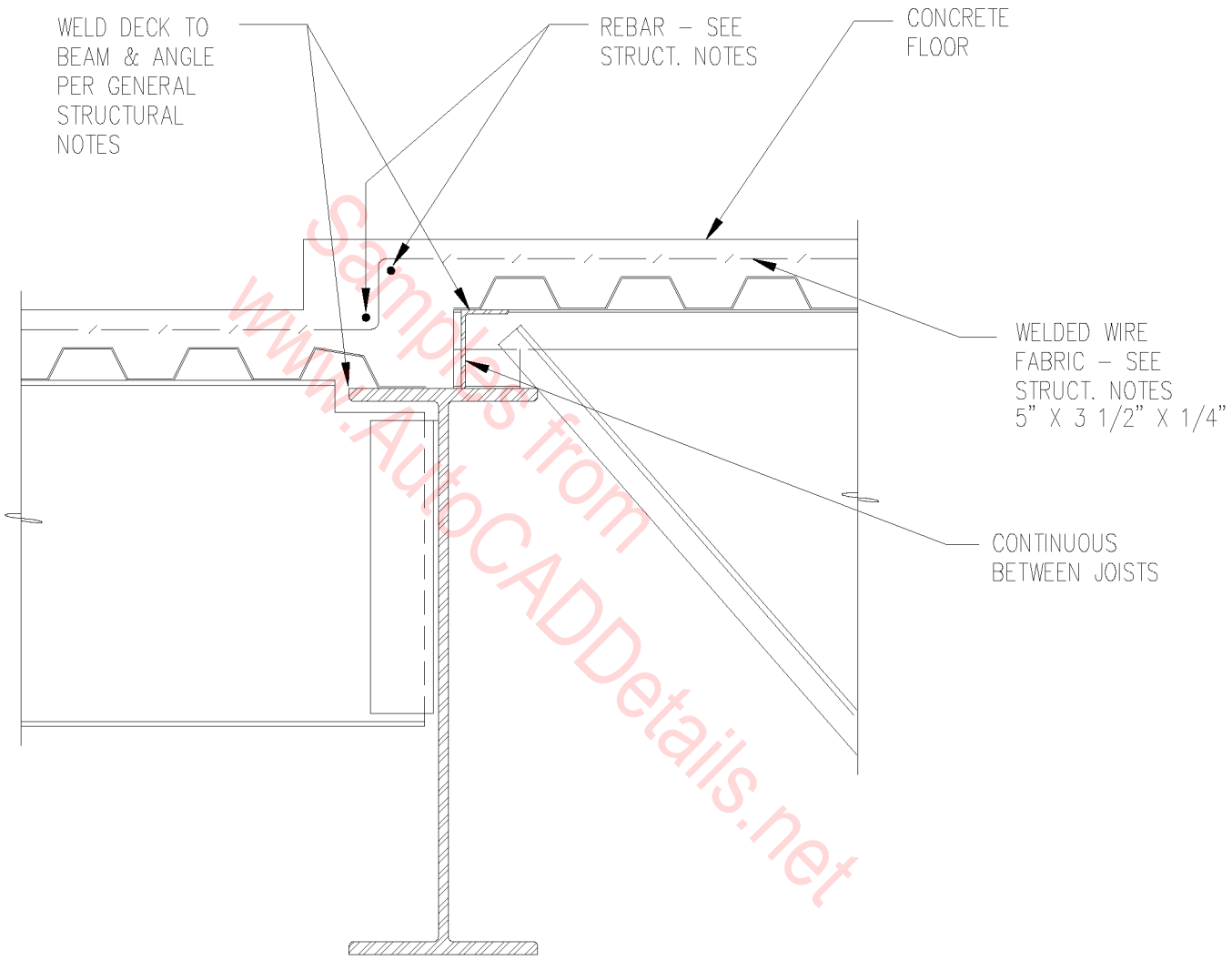
05A-1004



TYPICAL STIFFENER

SCALE: 3/4" = 1'-0"

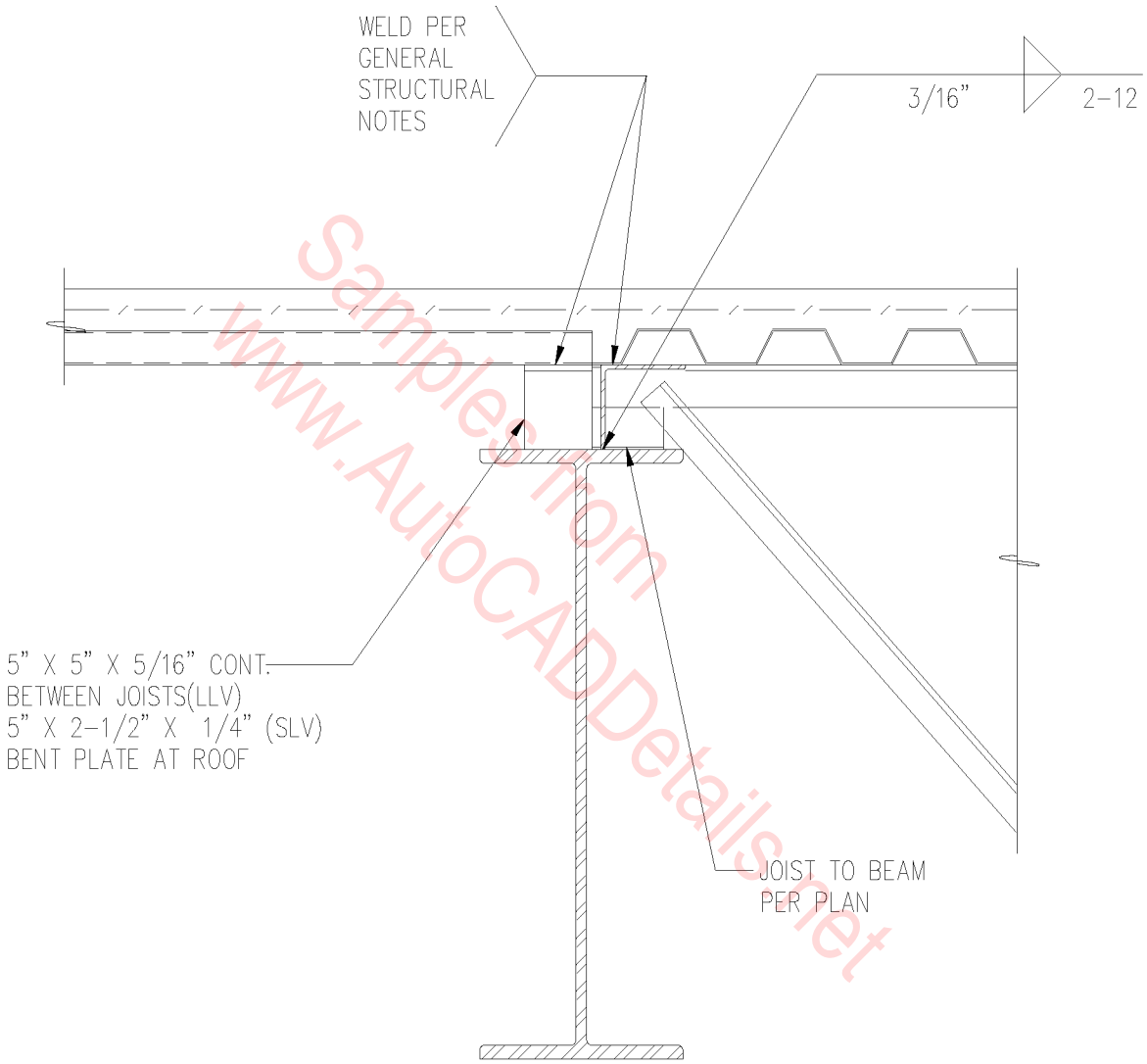
05A-1005



DROPPED FLOOR

SCALE: 3/4" = 1'-0"

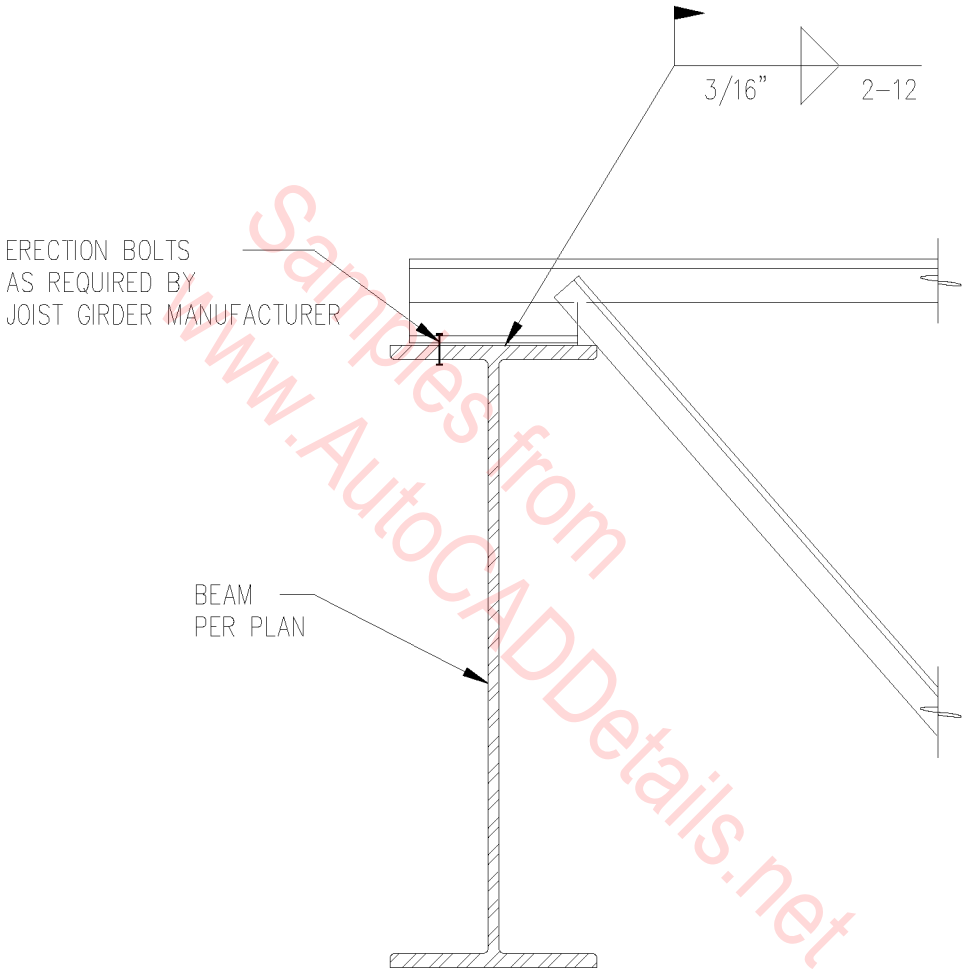
05A-1006



DECK DIRECTION CHANGE

SCALE: 3/4" = 1'-0"

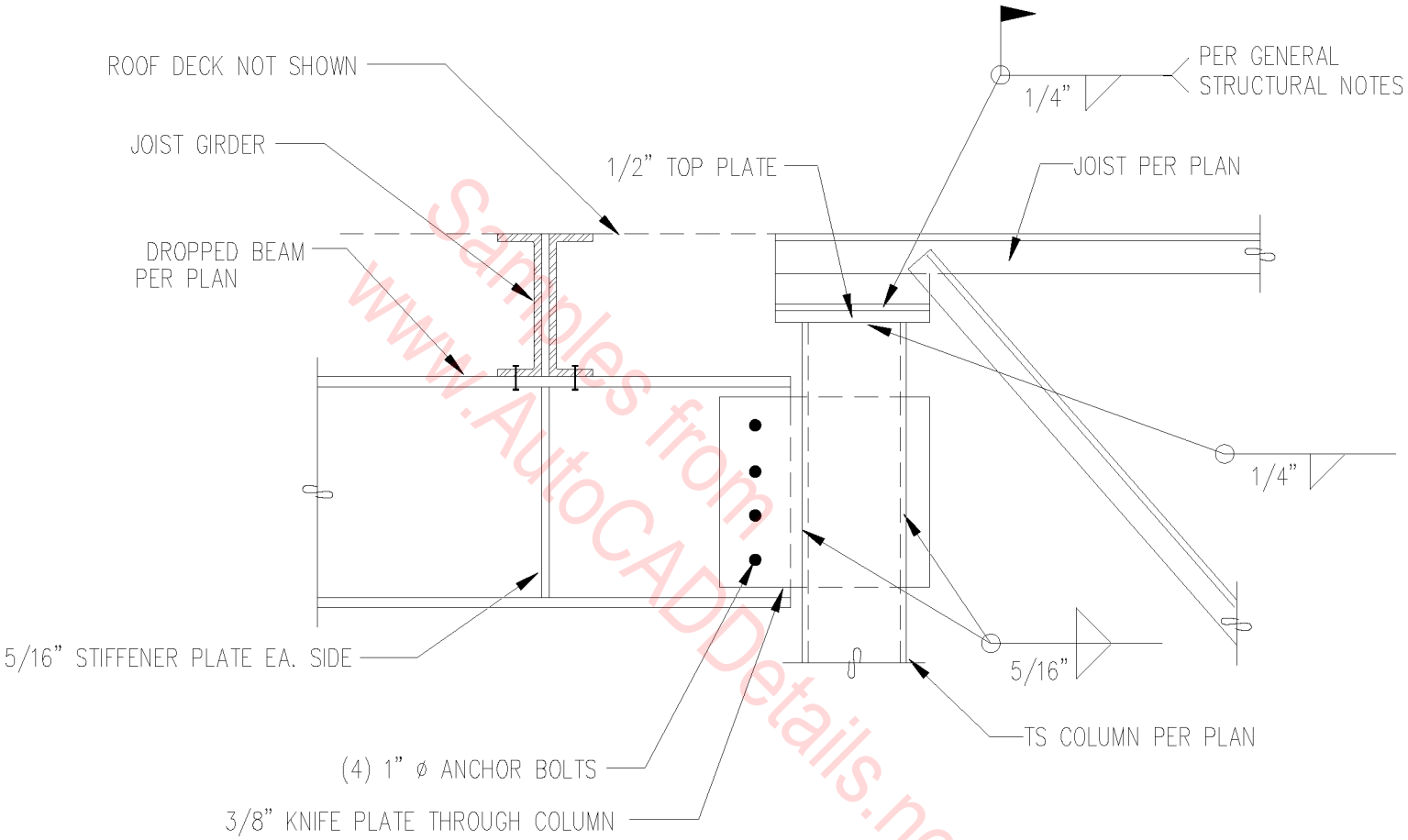
05A-1007



JOIST GIRDER TO BEAM

SCALE: 3/4" = 1'-0"

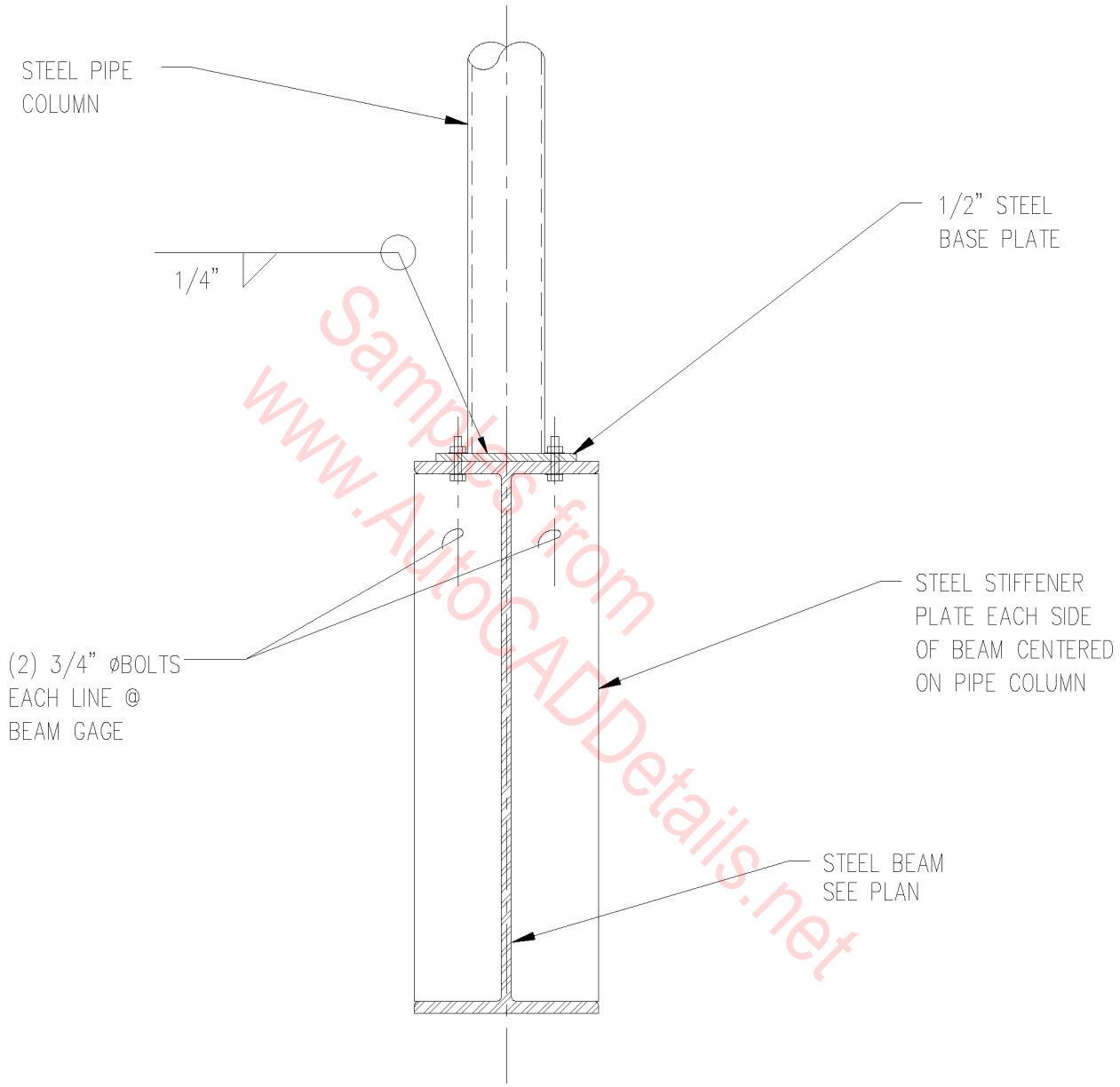
05A-1008



DROPPED BEAM TO COLUMN

3/4" = 1'-0"

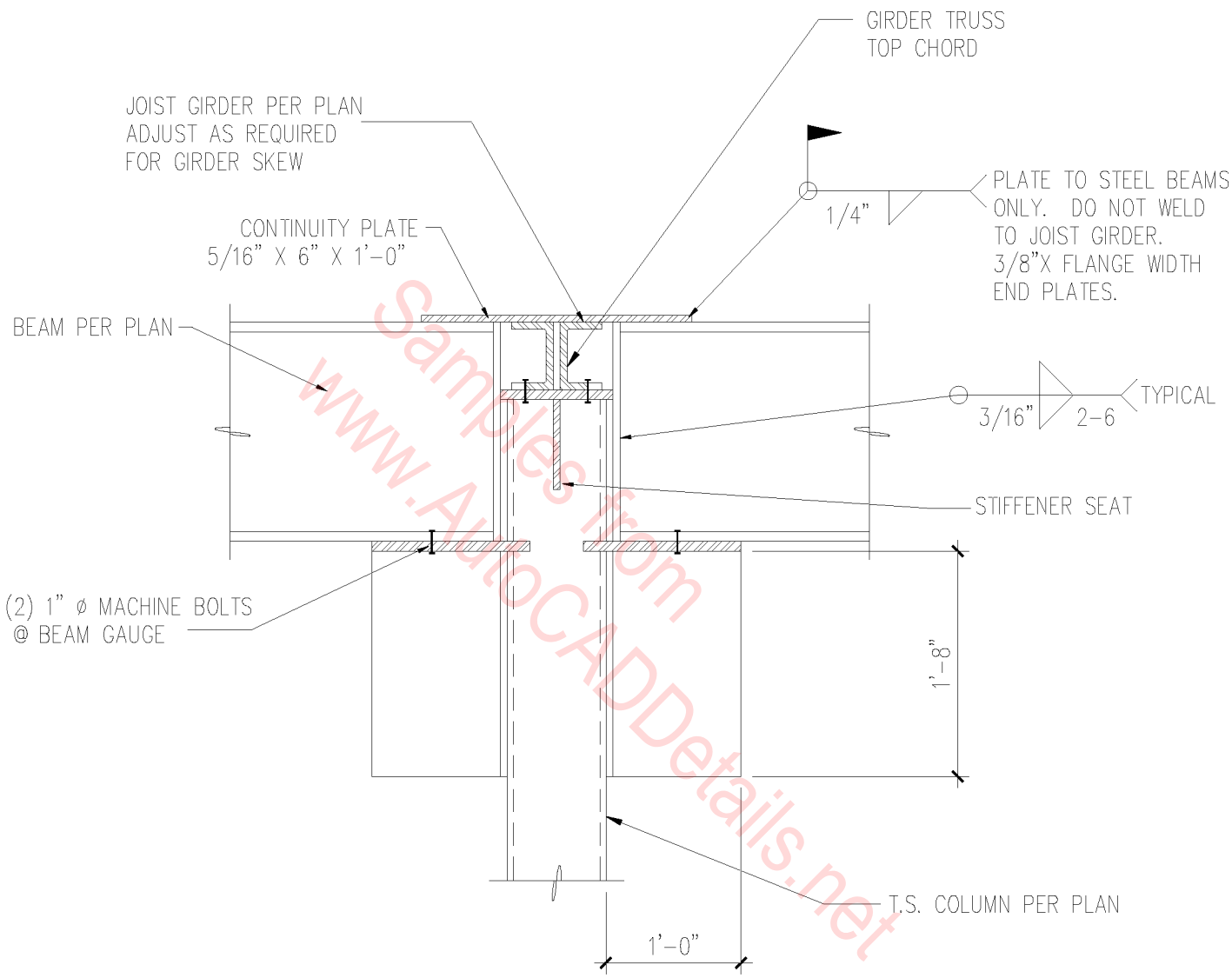
05A-1009



COLUMN TO BEAM

SCALE: 3/4" = 1'-0"

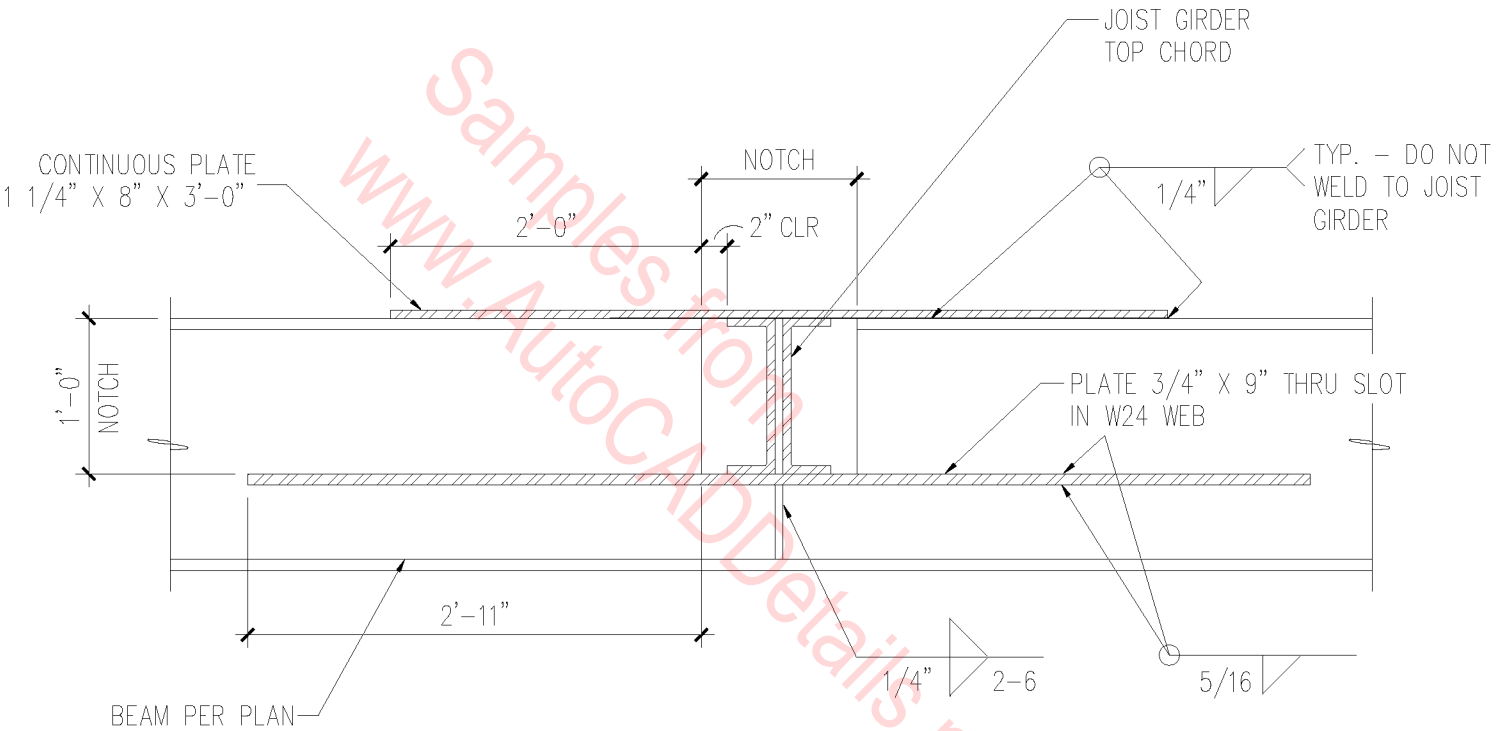
05A-1010



BEAMS & GIRDER @ COLUMN SEAT

SCALE: 3/4" = 1'-0"

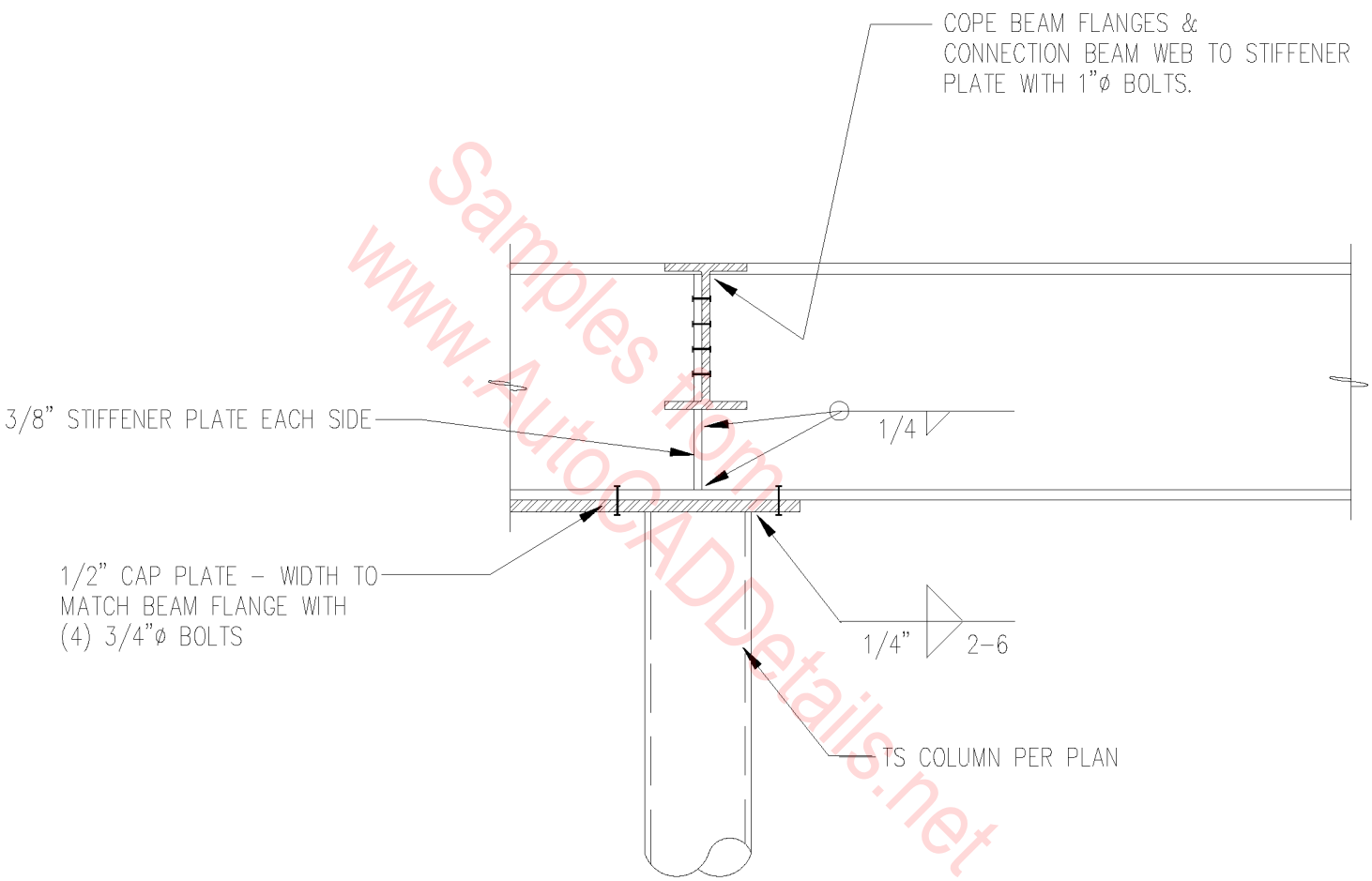
05A-1011



GIRDER @ NOTCHED BEAM

3/4" = 1'-0"

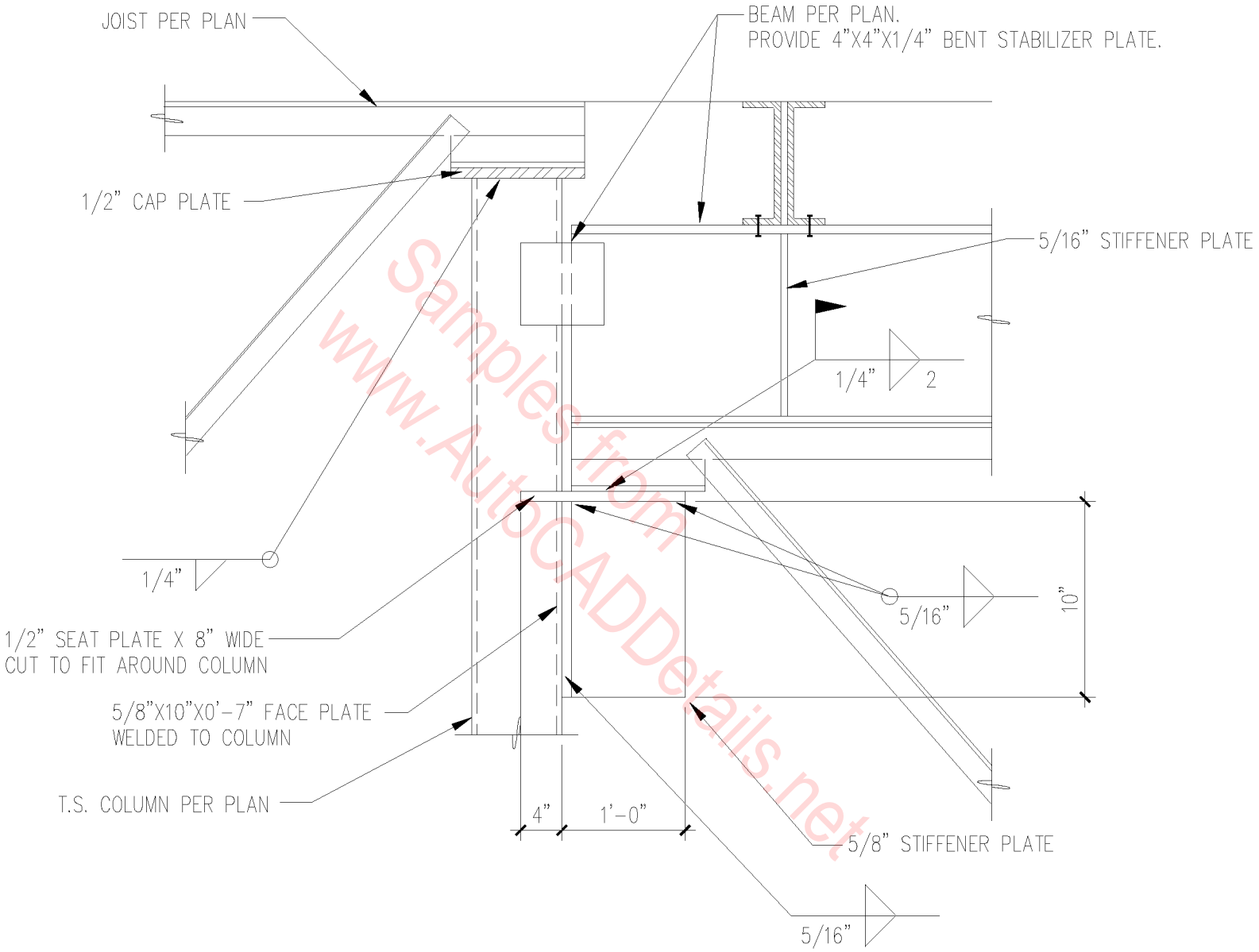
05A-1012



GIRDER TO BEAM @ COLUMN SEAT

SCALE: 3/4" = 1'-0"

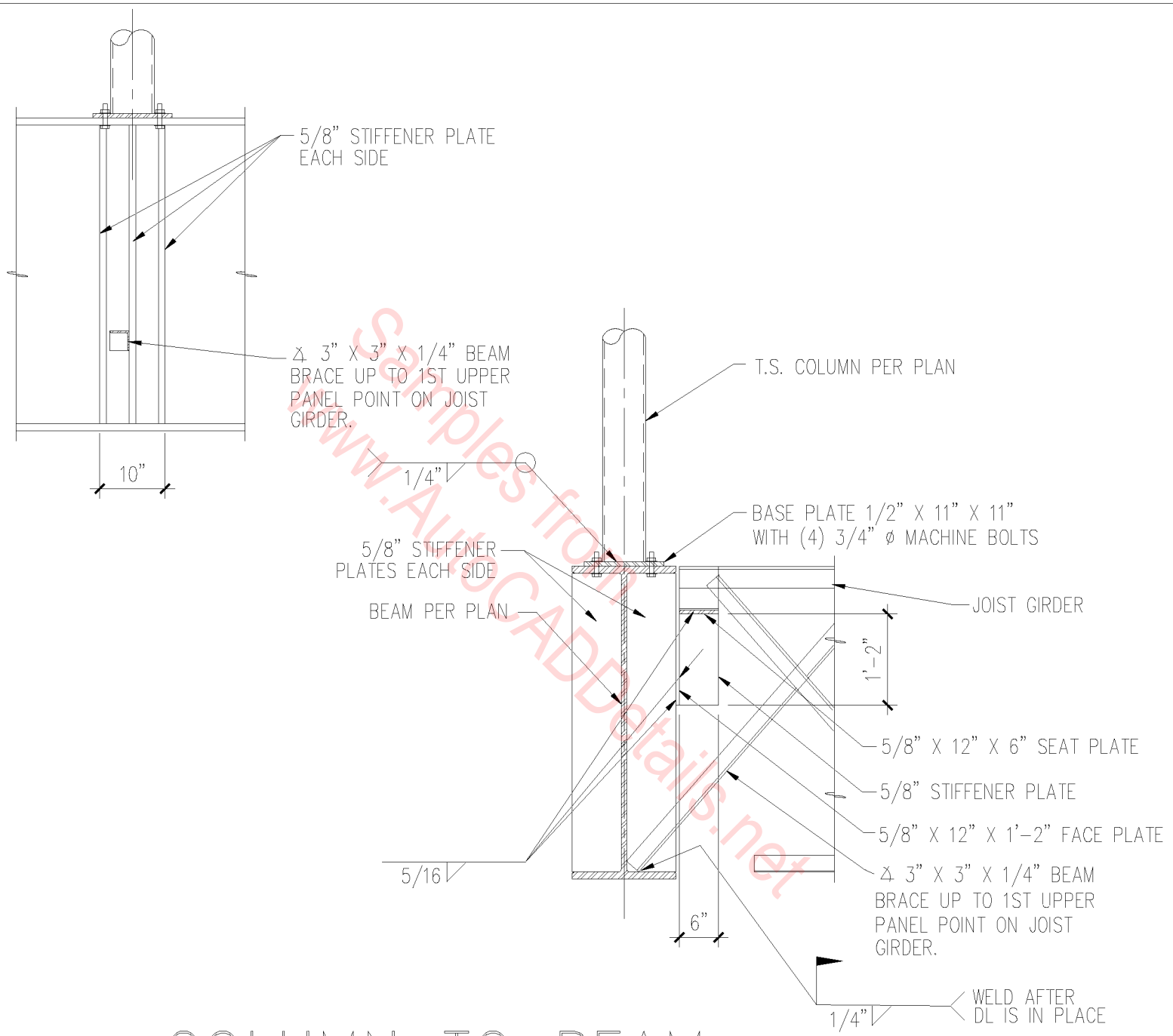
05A-1013



BEAM/JOIST TO COLUMN

SCALE: 3/4" = 1'-0"

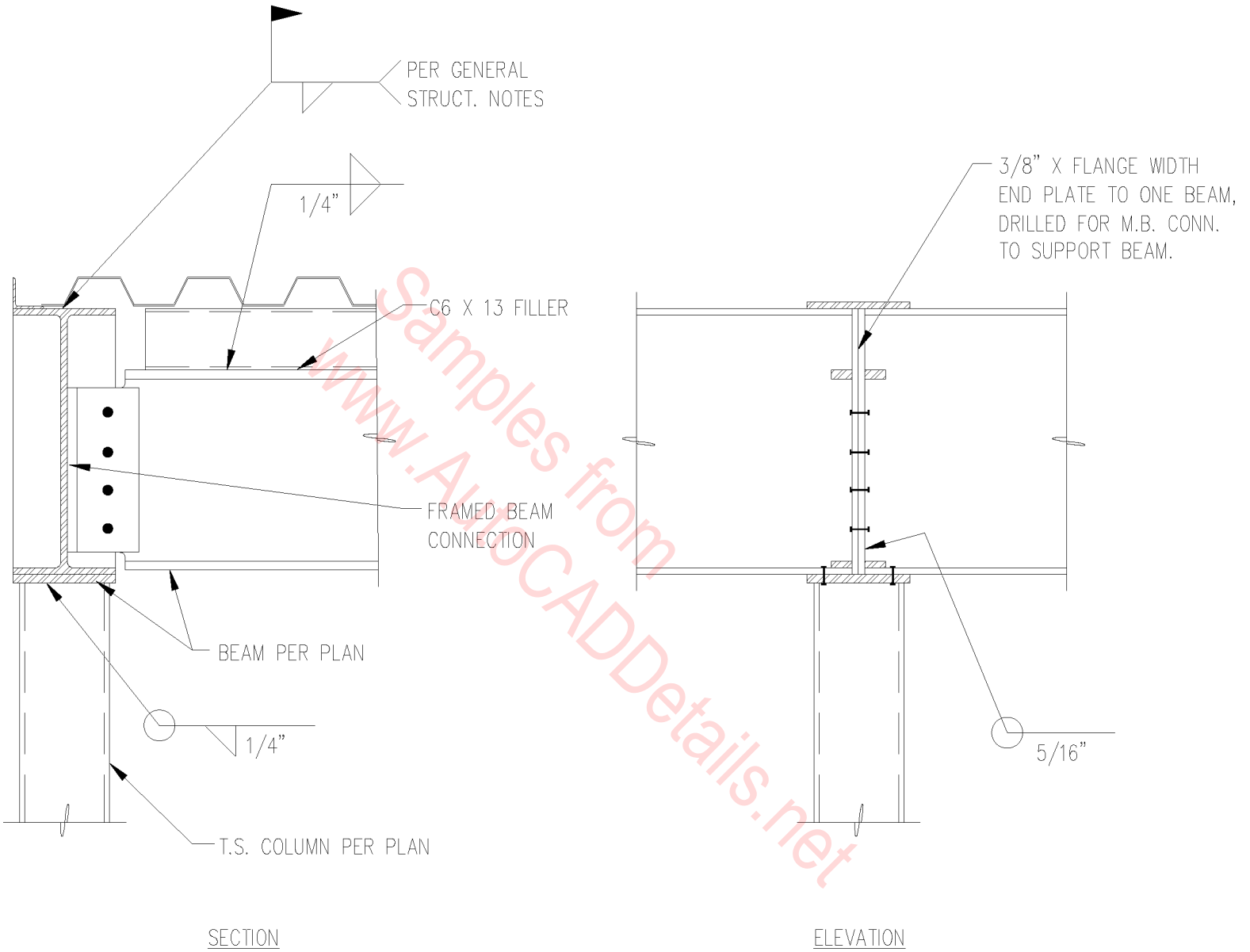
05A-1014



COLUMN TO BEAM AT JOIST GIRDER

SCALE: 1/2" – 1'-0"

05A–1015



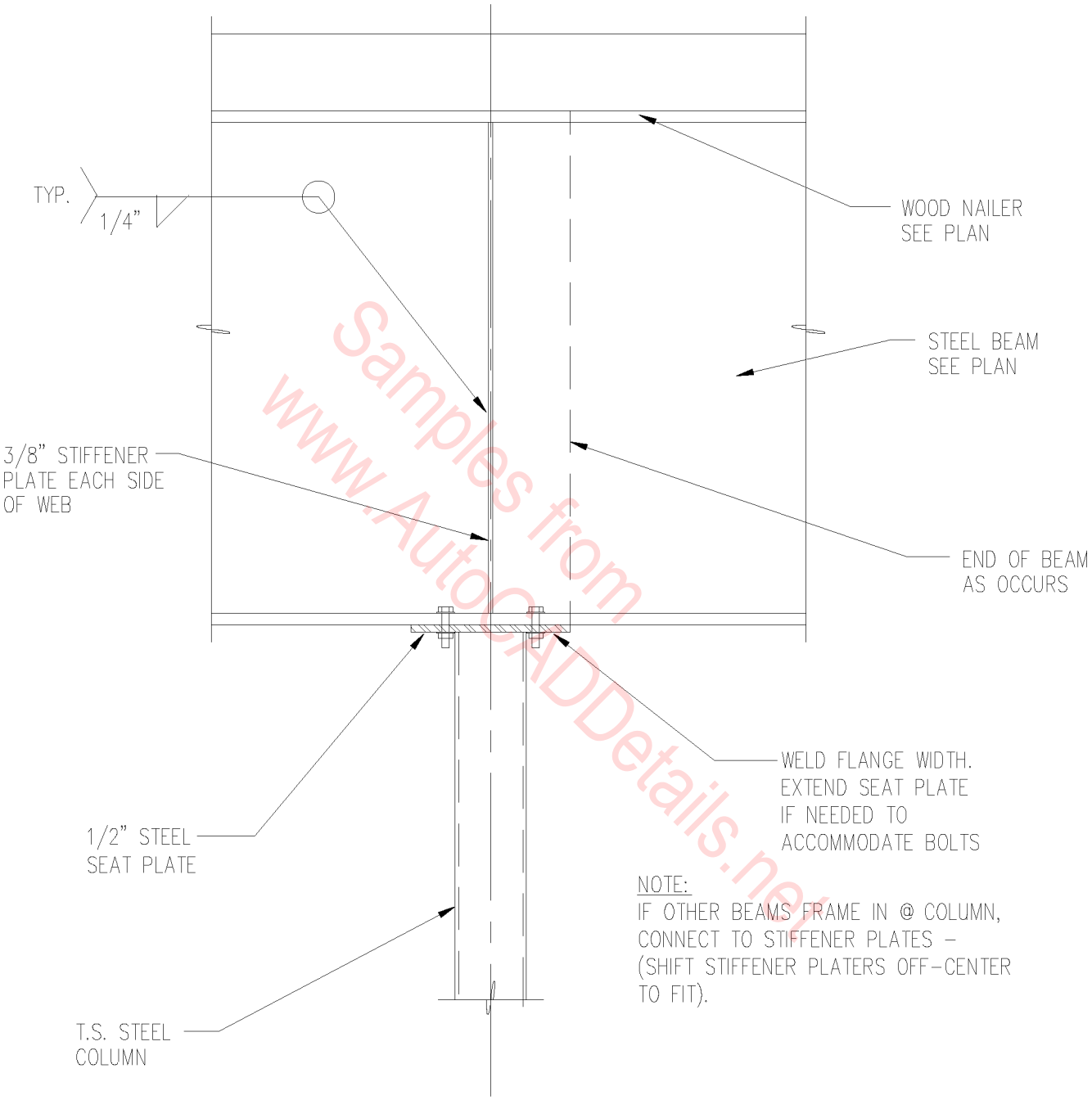
SECTION

ELEVATION

BEAM TO BEAM @ COLUMN

3/4" = 1'-0"

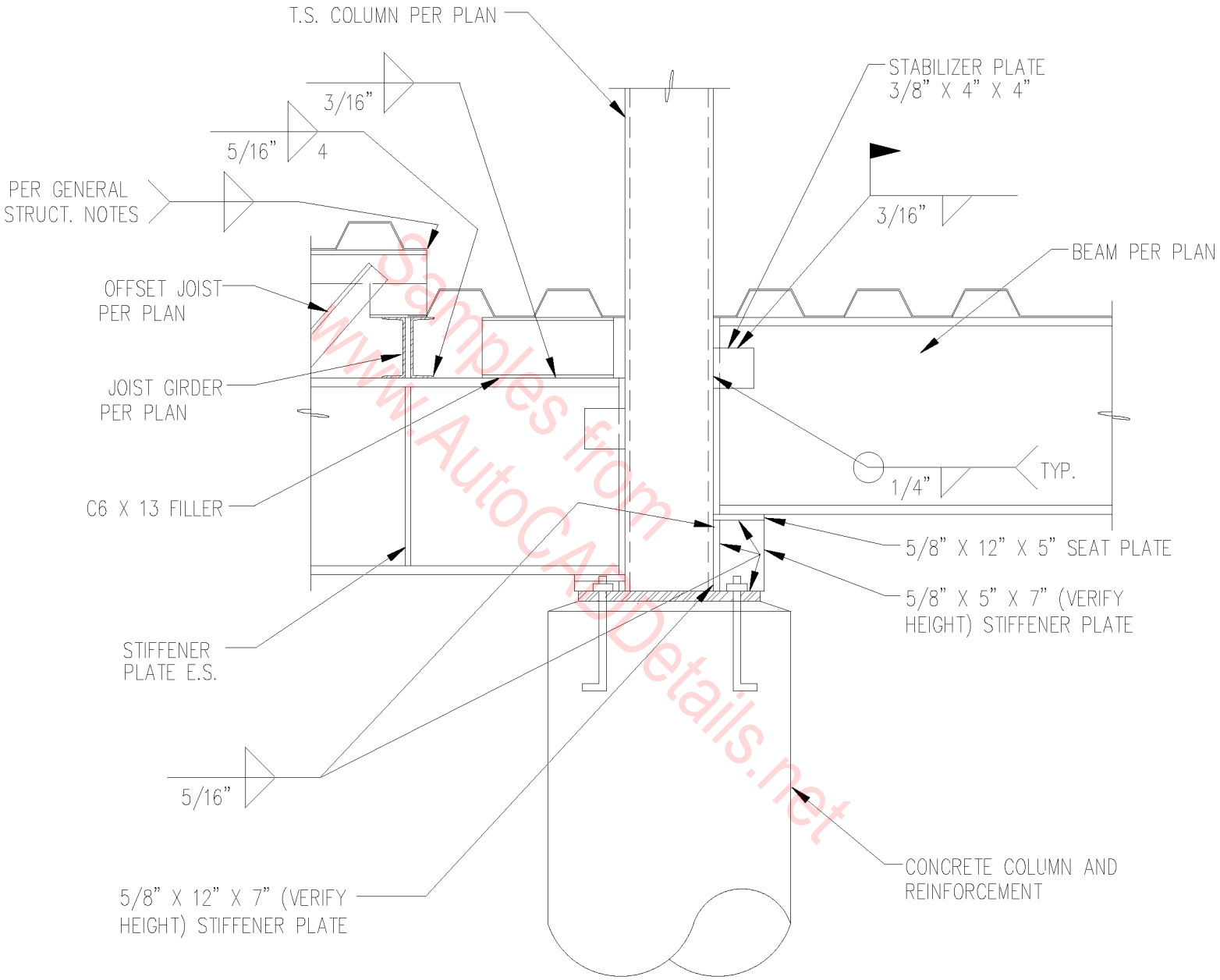
05A-1016



COLUMN TO BEAM

SCALE: 1" = 1'-0"

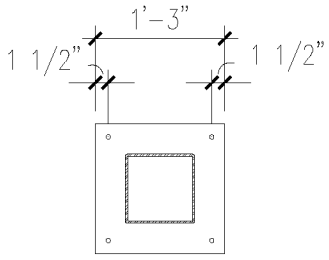
05A-1017



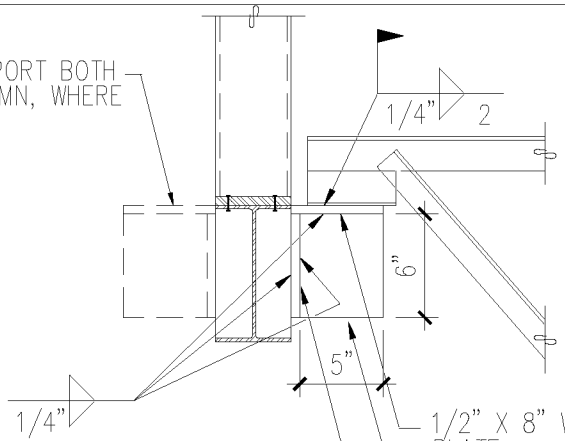
BEAM TO COLUMN

SCALE: 3/4" = 1'-0"

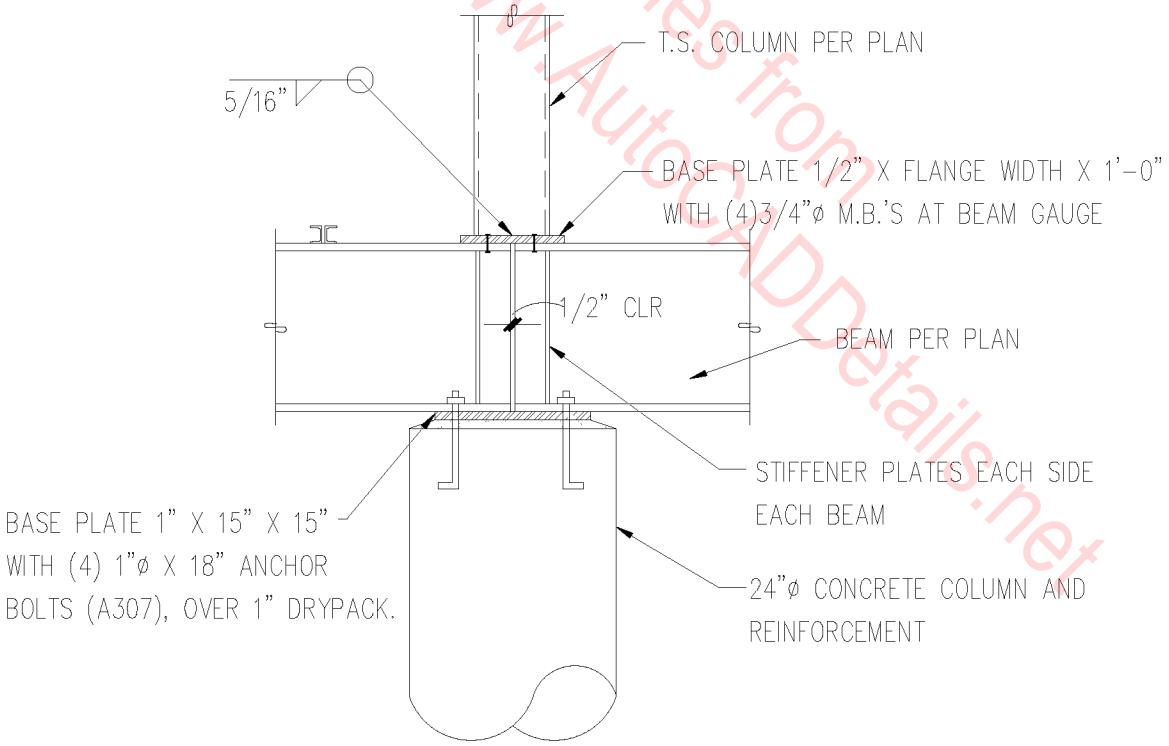
05A-1018



BASE PLATE
PLAN



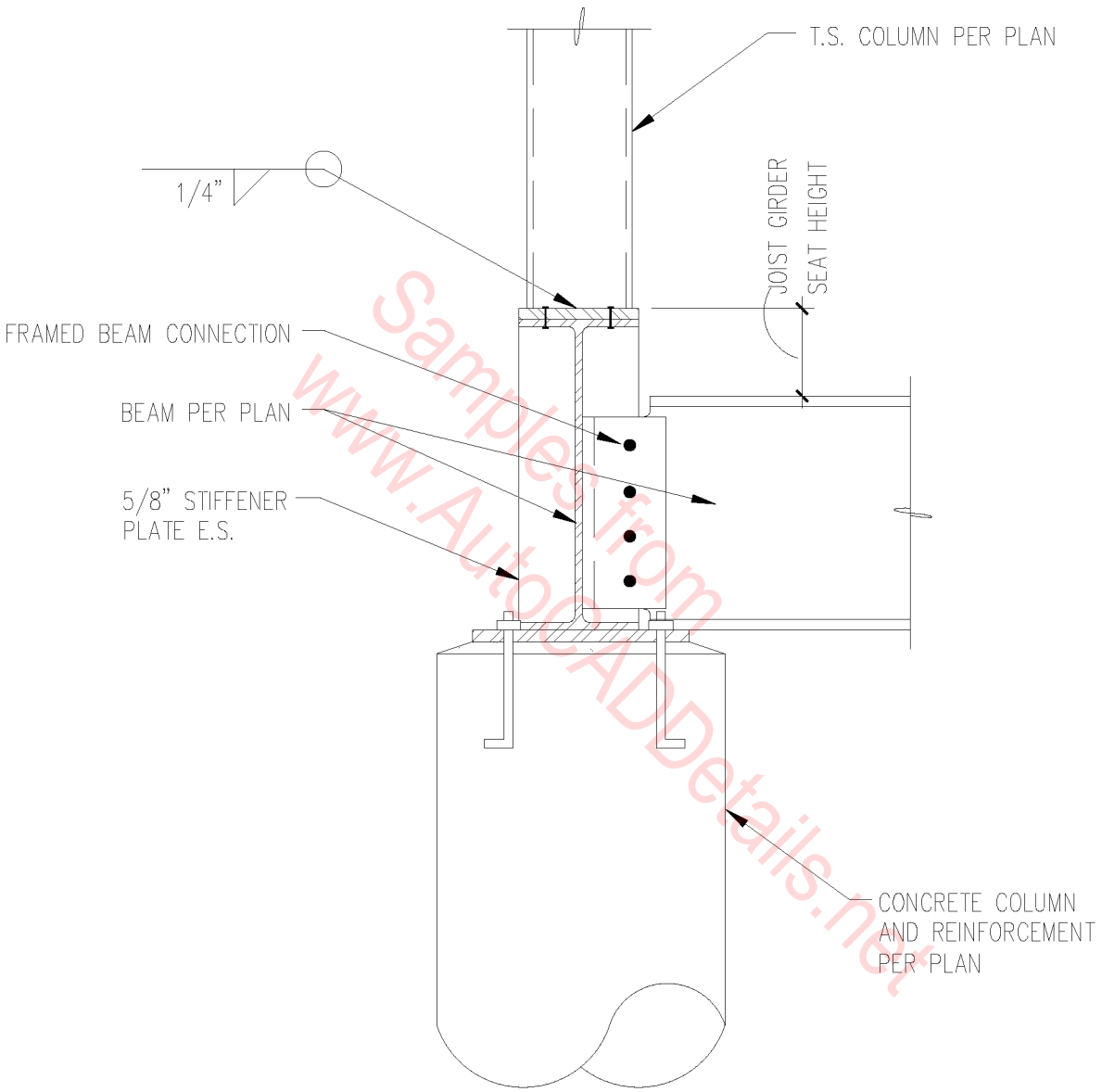
CONDITION WHERE
JOIST FRAMES OPPOSITE
COLUMN



BEAM SEATED AT CONCRETE COLUMN

SCALE: 1/2" = 1'-0"

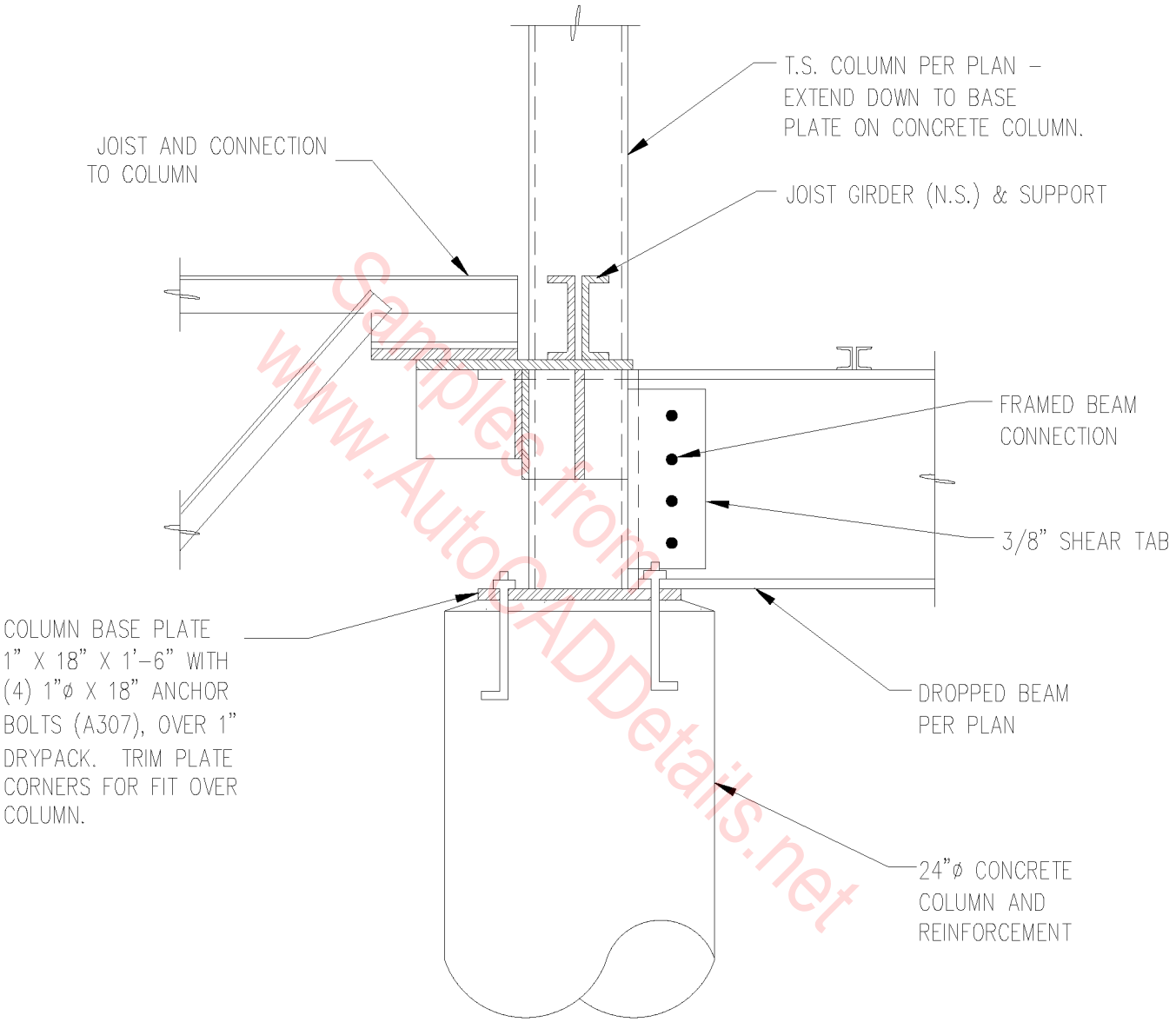
05A-1019



BEAM TO BEAM

SCALE: 3/4" = 1'-0"

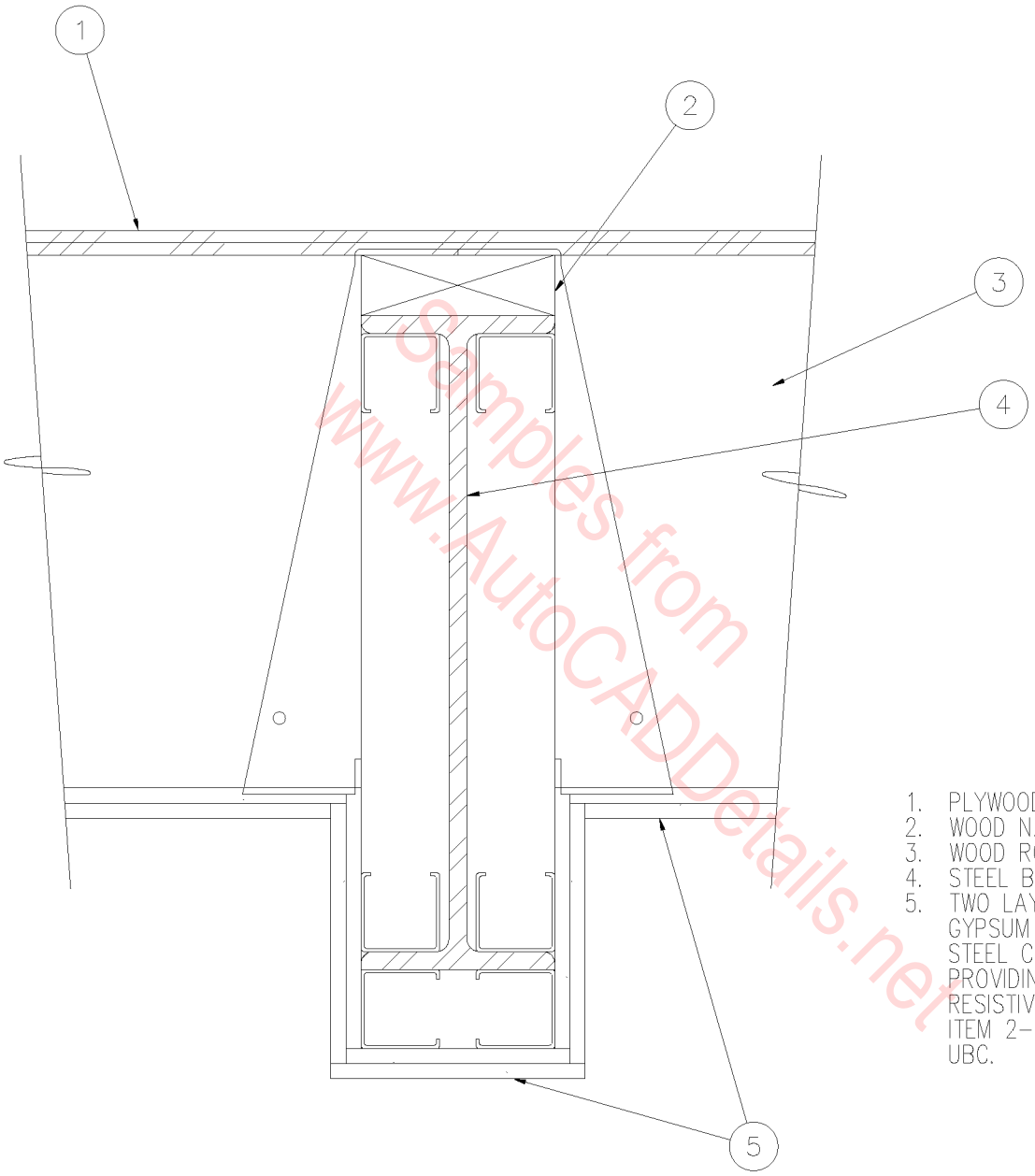
05A-1020



JOIST, GIRDER AND BEAM CONNECTION AT COLUMN

SCALE: 3/4" = 1'–0"

05A–1021

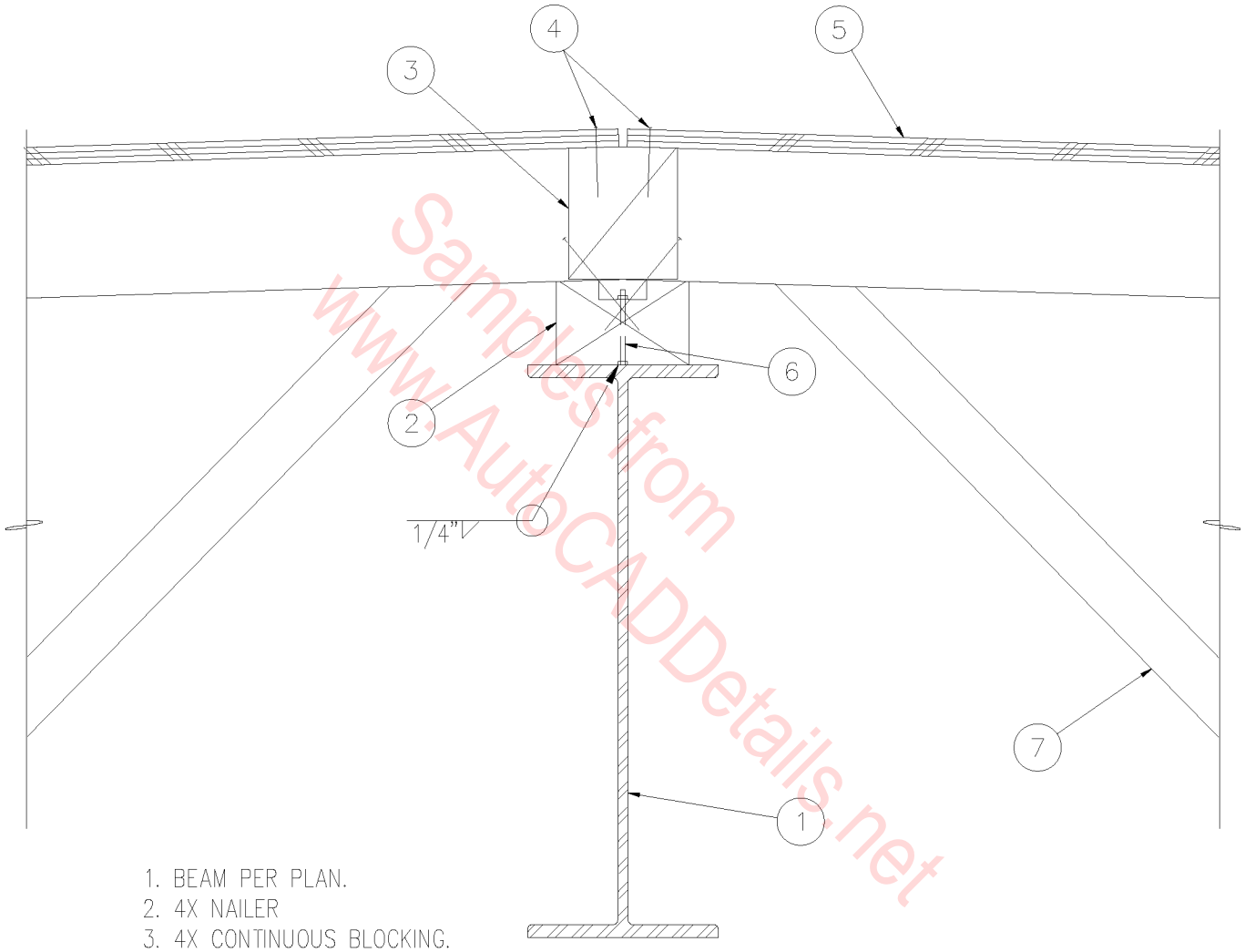


1. PLYWOOD ROOF DECK.
2. WOOD NAILER.
3. WOOD ROOF JOIST.
4. STEEL BEAM.
5. TWO LAYERS OF 5/8" TYPE 'X' GYPSUM BOARD. ATTACHED TO 1-1/2" STEEL CHANNELS @ 24" O.C. PROVIDING 2-HR FIRE RESISTIVE BEAM RATING PER ITEM 2-4.1, TABLE 43-A OF UBC.

STEEL BEAM PROJECTION

SCALE: 3" = 1'-0"

05A-1022

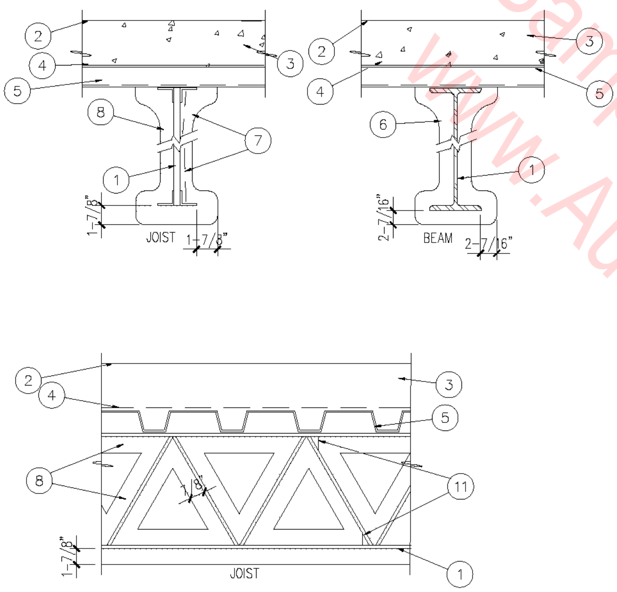


1. BEAM PER PLAN.
2. 4X NAILER
3. 4X CONTINUOUS BLOCKING.
4. TWO ROWS 10d NAILS @ 6" O.C.
5. ROOF DECK.
6. 5/8" ø BOLT @ 32" O.C.
7. PREFAB WOOD TRUSS.

TRUSS TO BEAM

SCALE: 1" = 1'-0"

05A-1023



2 HOUR ROOF

3" = 1'-0"

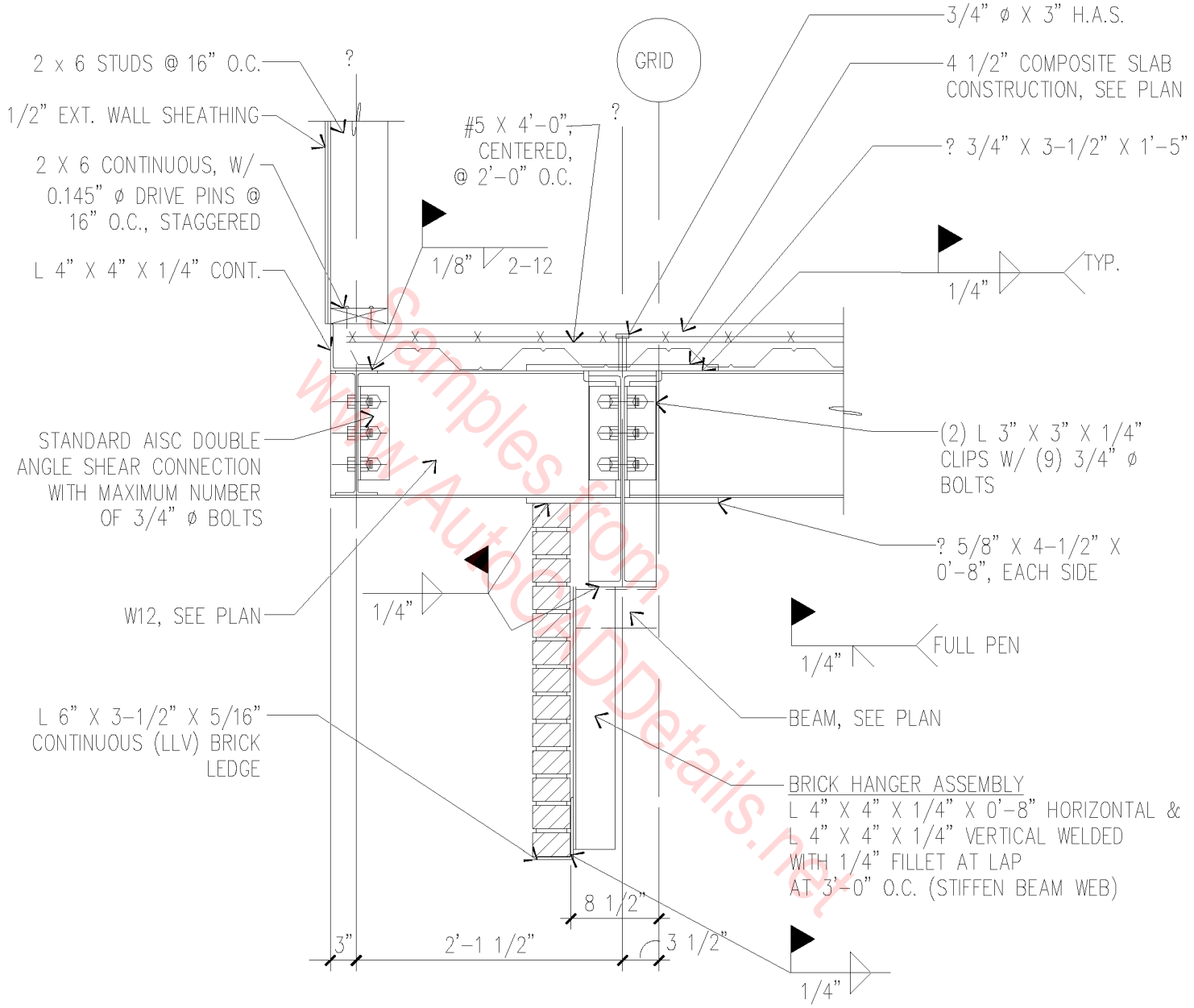
05A-1024

UL DESIGN NO. P908

1. W6X16 OR W8X18 MIN. SIZE FOR 2 HOUR UNRESTRAINED OR TYPE 12J4 STEEL JOIST FOR 2 HOUR UNRESTRAINED
2. ROOF COVERING - CLASS A
3. INSULATING CONCRETE VERMICULITE CONCRETE, 6 CF OF VERMICULITE AGGREGATE TO 94 LB OF PORTLAND CEMENT AND 0.11LB OF AIR ENTRAINING AGENT MIXED WITH APPROXIMATELY 25 GAL. OF WATER. MINIMUM COMPRESSIVE STRENGTH SHALL BE 125 PSI WHEN TESTED IN ACCORDANCE WITH ASTM C495. THE VERMICULITE CONCRETE SHALL BE POURED TO A DEPTH SUFFICIENT TO PROVIDE A MINIMUM THICKNESS OF 2 1/4" ABOVE THE CRESTS OF THE ROOF DECK UNITS (ITEM 5) AND TO PROVIDE A MINIMUM VOLUME OF 24.5 CF PER 100 SF OF ROOF DECK AREA. ZONOLITE CONSTRUCTION PRODUCTS DIVISION OF W.R. GRACE & CO.
4. REINFORCING MESH NO. 19 GA. GALVANIZED STEEL WIRE TWISTED TO FORM HEXAGONS 2" WIDE IN ADDITION, STRAIGHT 16 GA. GALV. STEEL WIRE WOVEN INTO THE MESH AND SPACED 3" APART FOR STIFFNESS. MESH INSTALL WITHOUT ATTACHMENTS AND OVERLAPPED 6" AT THE SIDES. STIFFENERS INSTALLED PARALLEL WITH CORRUGATIONS. AS AN ALTERNATE, 4 X 8, 12/14 GA. OR 2 X 2, 14/14 GA. OR 2 X 2, 14/14 GA. WELDED WIREWELDED WIRE FABRIC MAY BE USED.
5. STEEL ROOF DECK - 1 1/2" DEEP, 36" WIDE, GALV. FLUTED STEEL DECK. FLUTES 6" O.C., CREST WIDTH 3 1/2" 'VERCO' MFG. INC. - TYPE HSB-36
6. HANGER WIRE, NO. 6 GA. GALV. STEEL WIRE, SPACED 16" O.C.
7. SPRAY APPLICATION OF CEMENTITIOUS MIXTURE ON STEEL BAR JOISTS AND TRUSSES. THE DIAMOND MESH 3/8" EXPANDED STEEL LATH 1.7 TO 3.4 LB/SQ YD IS SECURED TO ONE SIDE OF EACH STEEL JOIST WITH NO.18 GA. GALV STEEL WIRE AT JOIST WEB AND BOTTOM CHORD MEMBERS SPACED 15" O.C. MAX. WHEN USED THE METAL LATH IS TO BE FULLY COVERED WITH CEMENTITIOUS MIXTURE WITH NO MIN THICKNESS REQUIREMENTS
7A. NON-METALLIC FABRIC MESH - OPTIONAL - AS AN ALTERNATE TO METAL LATH, GLASS FIBER FABRIC MESH, WEIGHING APPROX. 2.5 OZ/SQ YD POLYPROPYLENE FABRIC MESH, WEIGHING APPROX. 1.25 OZ/SQ YD OR EQUIVALENT MAY BE USED TO FACILITATE THE SPRAY APPLICATION. THE MESH IS SECURED TO ONE SIDE OF EACH JOIST WEB MEMBER. THE METHOD OF ATTACHING THE MESH MUST BE SUFFICIENT TO HOLD THE MESH AND THE SPRAY-APPLIED CEMENTITIOUS MIXTURE MATERIAL IN PLACE DURING APPLICATION UNTIL IT HAS CURED. AN ACCEPTABLE METHOD TO ATTACH THE MESH IS BY EMBEDDING THE MESH IN MIN 1/4" LONG BEADS OF HOT-MELTED GLUE. THE BEADS OF GLUE SHALL BE PLACED A MAX OF 12" O.C. ALONG THE TOP CHORD OF THE BAR JOIST. ANOTHER METHOD TO SECURE THE MESH IS BY 1 1/4" LONG BY 1/2" WIDE HAIRPIN CLIPS FORMED FROM NO. 18 GA. OR HEAVIER STEEL WIRE
8. CEMENTITIOUS MIXTURE - SPRAY APPLIED TO BEAM OR JOIST IN MORE THAN ONE COAT TO A FINAL THICKNESS OF 1-3/8". MINIMUM BEAM SIZE W6X16 MINIMUM JOIST SIZE 12J4. CREST AREAS OF STEEL ROOF UNITS SHALL BE FILLED WITH CEMENTITIOUS MIXTURE ABOVE THE BEAM OR JOIST. BEAM OR JOIST SURFACES MUST BE CLEAN AND FREE OF DIRT, LOOSE SCALE AND OIL. MINIMUM AVERAGE DENSITY OF 15/14 PCF RESPECTIVELY. FOR METHOD OF DENSITY DETERMINATION, REFER TO DESIGN INFORMATION SECTION. ZONOLITE CONSTRUCTION PRODUCTS DIVISION, W. R. GRACE & CO. TYPE MK-6/CBF FOR TYPE 12J4 STEEL JOISTS, THE JOIST PROTECTION SHALL CONSIST OF THE ABOVE CEMENTITIOUS MIXTURES APPLIED IN A MANNER AND AT THE THICKNESSES SHOWN BELOW. WHEN METAL LATH (ITEM 7) IS USED, LATH SECURED TO ONE SIDE OF JOIST WITH 18 GA. GALVANIZED STEEL WIRE AT JOIST WEB AND BOTTOM CHORD MEMBERS SPACED 15" O.C.

THICKNESS OF CEMENTITIOUS MIXTURE, INCHES	TYPE OF APPLICATION	UNRESTRAINED ASSEMBLY RATING, HOUR
1-7/8	APPLIED TO LATH WRAPPED ON ONE SIDE OF JOIST	2 HOUR
2-7/16	APPLIED DIRECTLY TO JOIST IN A CONTOUR MANNER	2 HOUR

11. STEEL BRIDGING - IN ACCORDANCE WITH AISC CURRENT SPECIFICATIONS. CONTINUOUS STEEL ANGLE, MIN. SIZE 1-1/4 BY 1-1/4 BY 1/8" WELDED TO TOP AND BOTTOM CHORDS. BRIDGING COATED WITH 3" THICKNESS OF CEMENTITIOUS MIXTURE FOR THE 2 ASSEMBLY AND BEAM RATINGS.

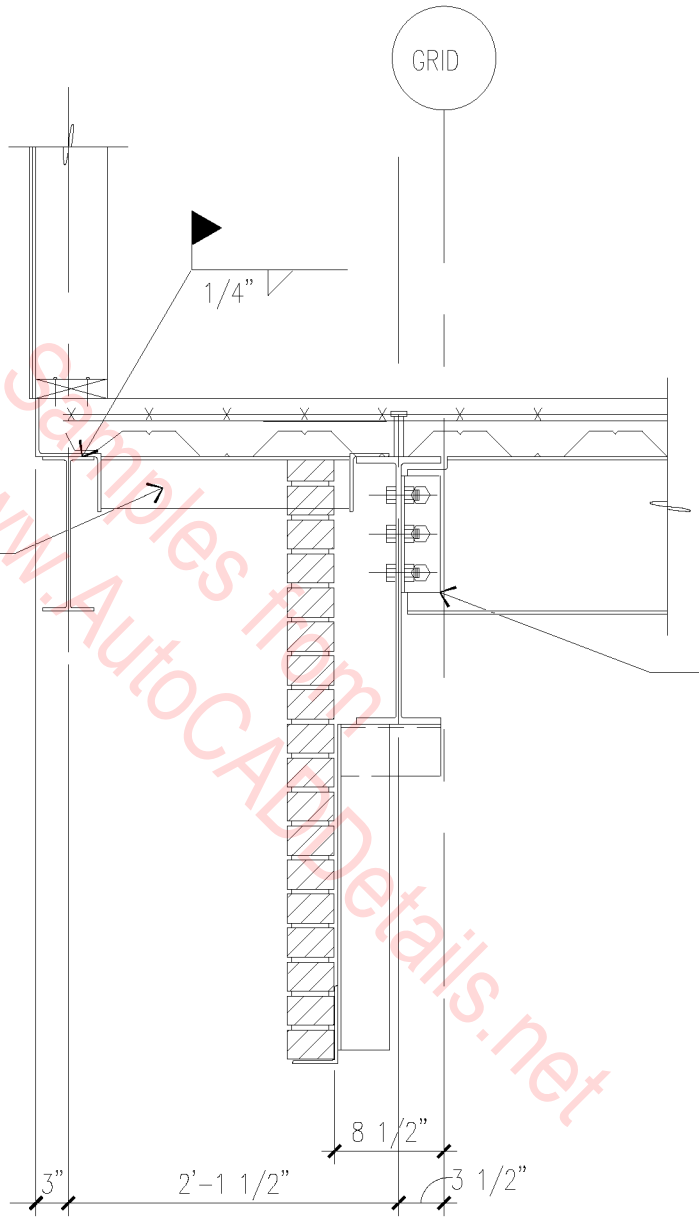


NOTE: AT LOCATIONS WHERE BEAM IS DROPPED, CUT OUT WEB OF W12 TO MAKE MOMENT CONNECTION.

FRAMING SECTION

3/4" = 1'-0"

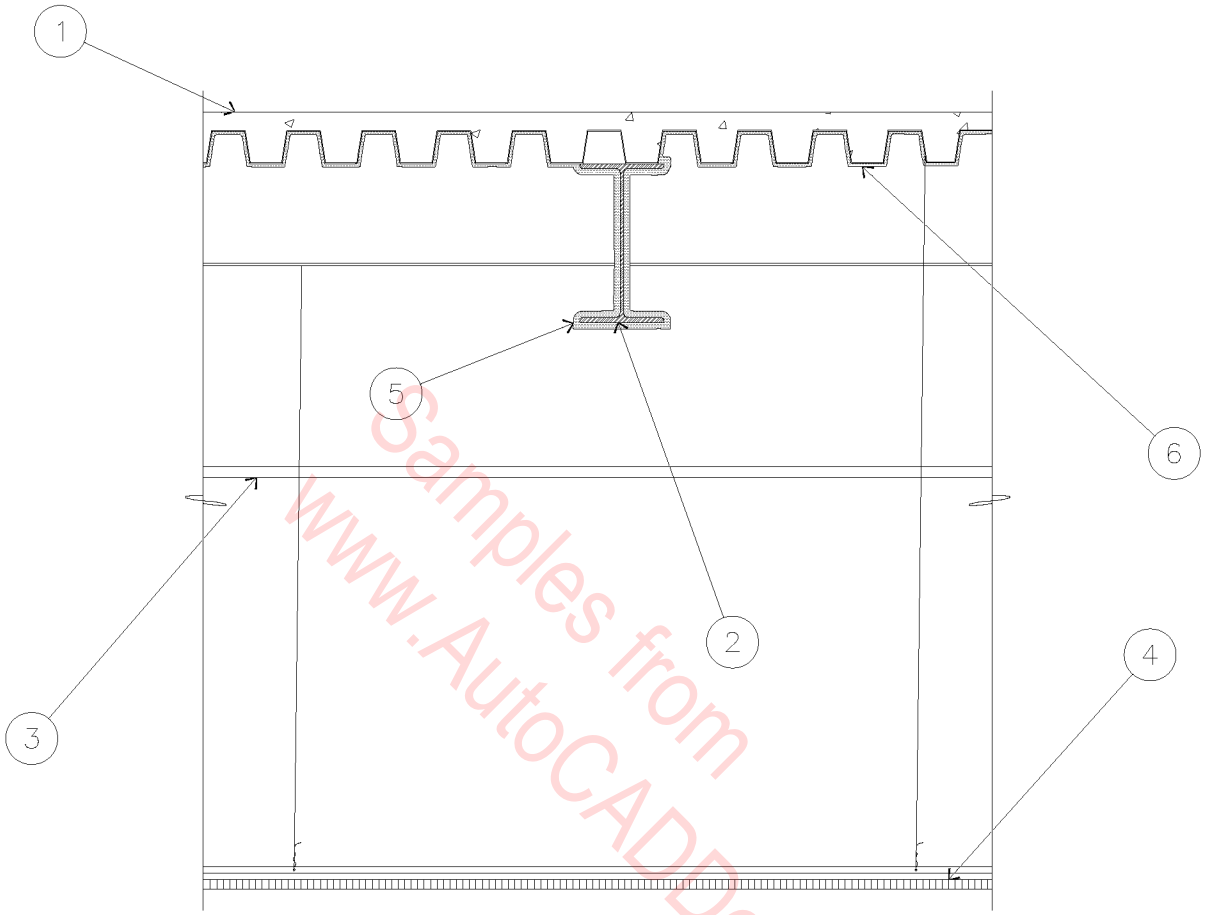
05A-1025



FRAMING SECTION

3/4" = 1'-0"

05A-1026



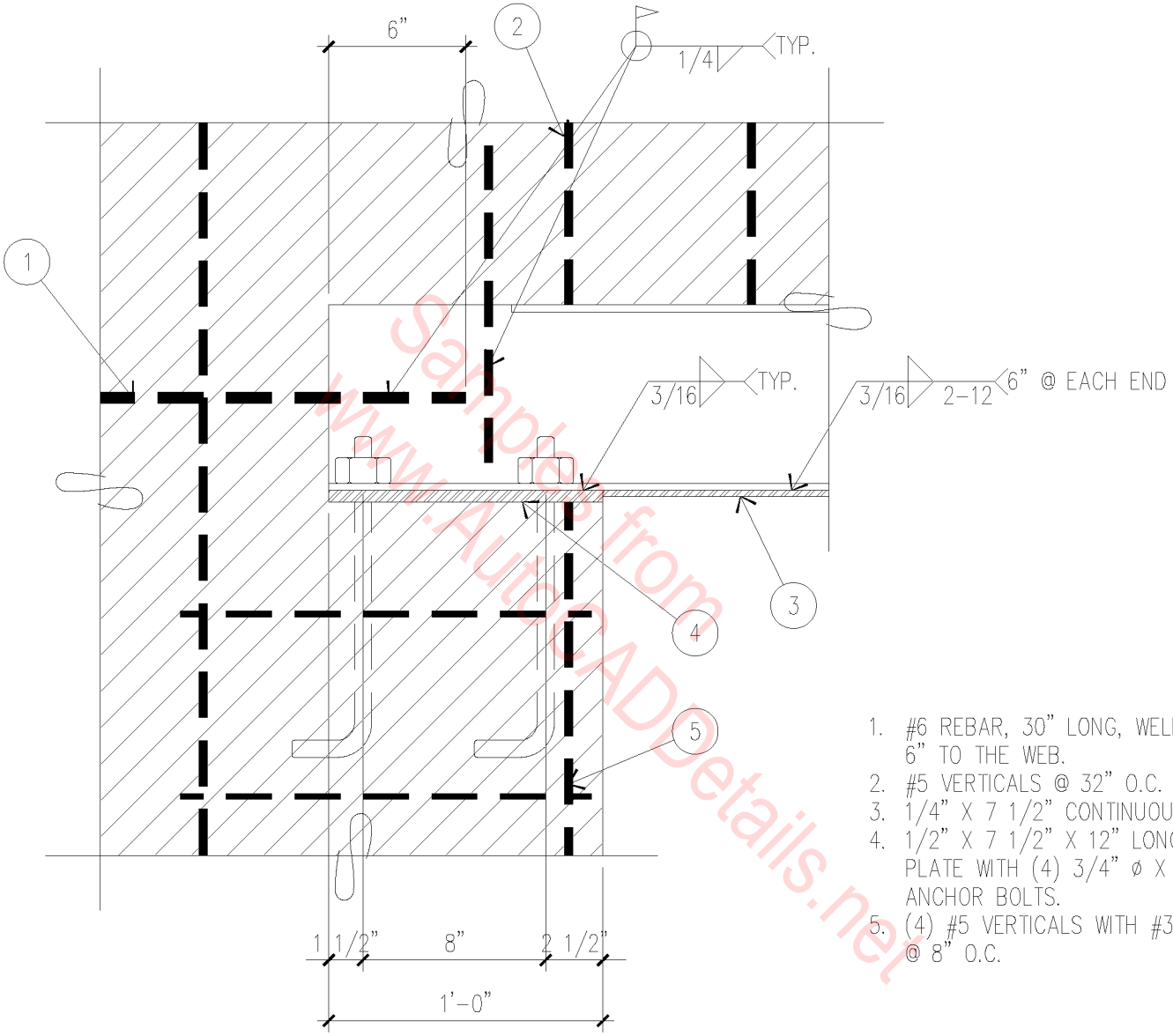
1. CONCRETE FLOOR OVER FLUTED STEEL DECK – STEEL DECK SHALL BE WELDED TO STEEL BEAMS.
2. WIDE FLANGE BEAM.
3. BEAM BEYOND.
4. SUSPENDED "TEE" GRID CEILING.
5. SPRAYED ON FIRE RESISTIVE FIBER COAT – 1/2" THICK (MINIMUM) AT STEEL BEAMS.
6. SPRAYED ON FIRE RESISTIVE FIBER COAT – 1/4" THICK (MINIMUM) AT STEEL DECK.

U.L. DESIGN NO. N805

1 HOUR FLOOR ASSEMBLY

3/4" = 1'-0"

05A-1027



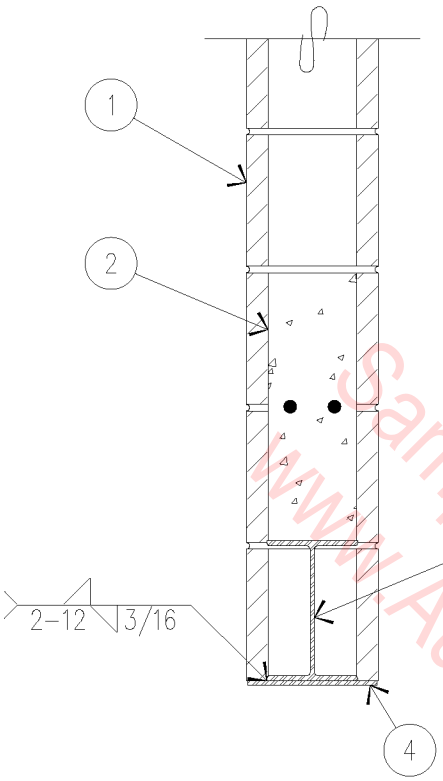
1. #6 REBAR, 30" LONG, WELD 6" TO THE WEB.
2. #5 VERTICALS @ 32" O.C.
3. 1/4" X 7 1/2" CONTINUOUS PLATE.
4. 1/2" X 7 1/2" X 12" LONG BEARING PLATE WITH (4) 3/4" ø X 12" LONG ANCHOR BOLTS.
5. (4) #5 VERTICALS WITH #3 TIES @ 8" O.C.

NOTE: ON SL1, BEARING PLATE CAN BE OMITTED.

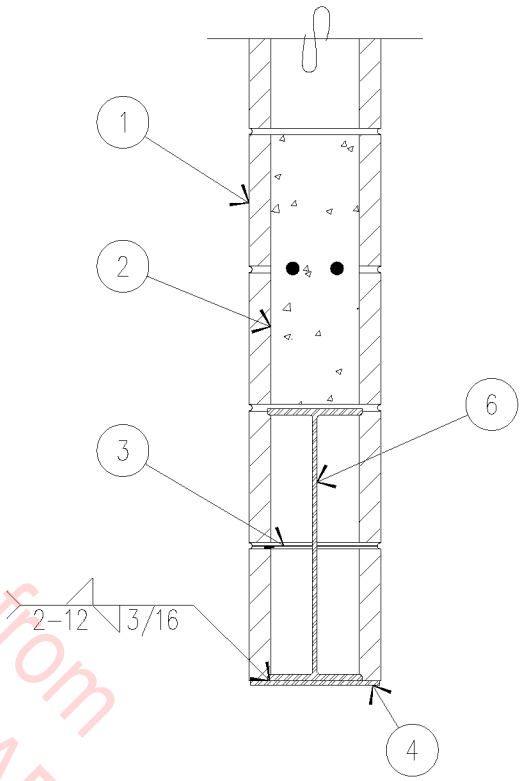
LINTEL BEARING AT JAMB

1 1/2" = 1'-0"

05A-1028



W8 X 18 BEAM



W16 X 26 BEAM

1. 8" CMU WALL.
2. 1'-4" SOLID GROUTED BOND BEAM.
3. GALVANIZED 1" X 16 GAUGE VENEER ANCHORS AT 16" O.C. EACH SIDE.
4. 7-1/2" X 1/4" CONTINUOUS PLATE.
5. W8 X 18 WIDE FLANGE BEAM, SEE SCHEDULE ON SHEET S-2.
6. W16 X 26 WIDE FLANGE BEAM, SEE SCHEDULE ON SHEET S-2.

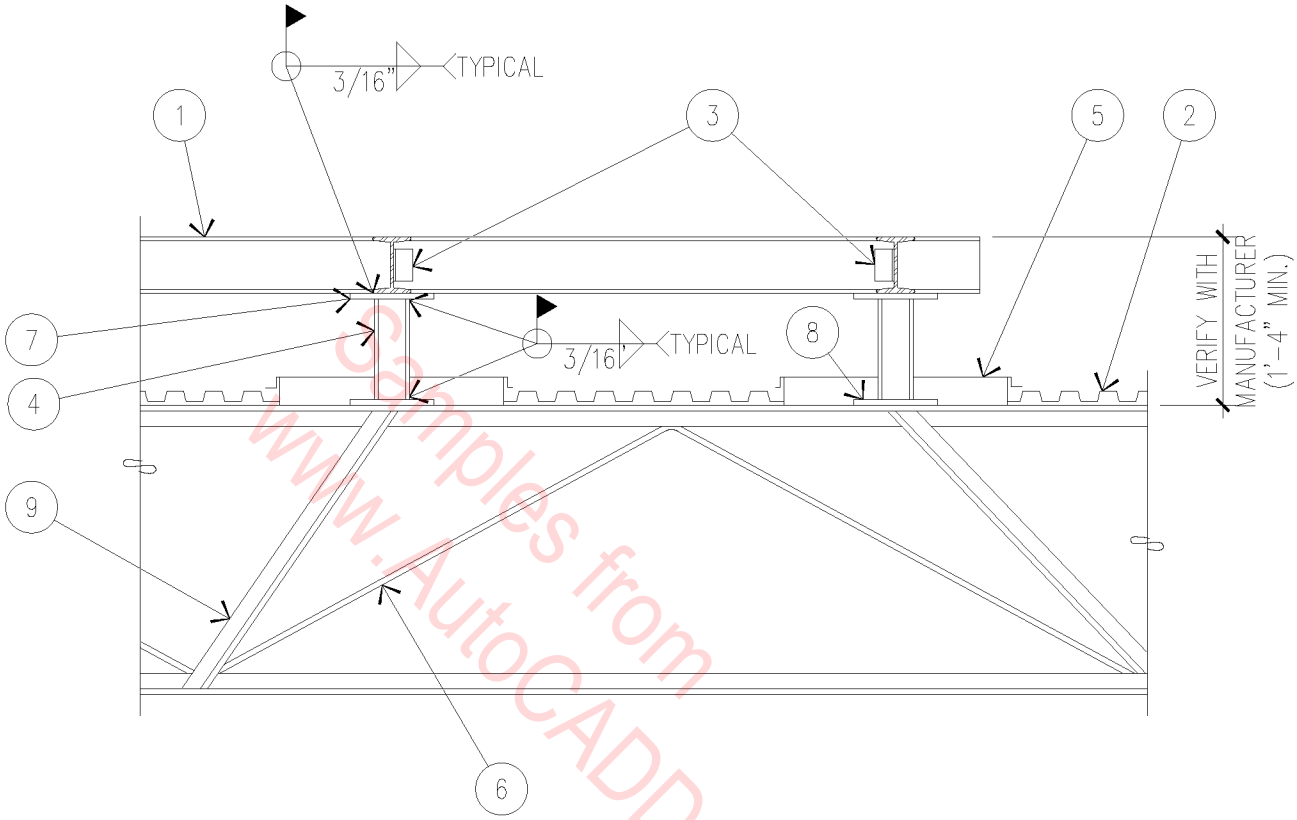
NOTES:

A. WELD VERTICAL WALL REINFORCEMENT TO STEEL LINTELS.
B. SHORE LINTEL AT MIDSPAN UNTIL CMU REACHES FULL STRENGTH.
C. SEE ROOF FRAMING PLAN ON SHEET S-2 FOR LINTEL LOCATIONS.

STEEL LINTELS @ CMU

1" = 1'-0"

05A-1029



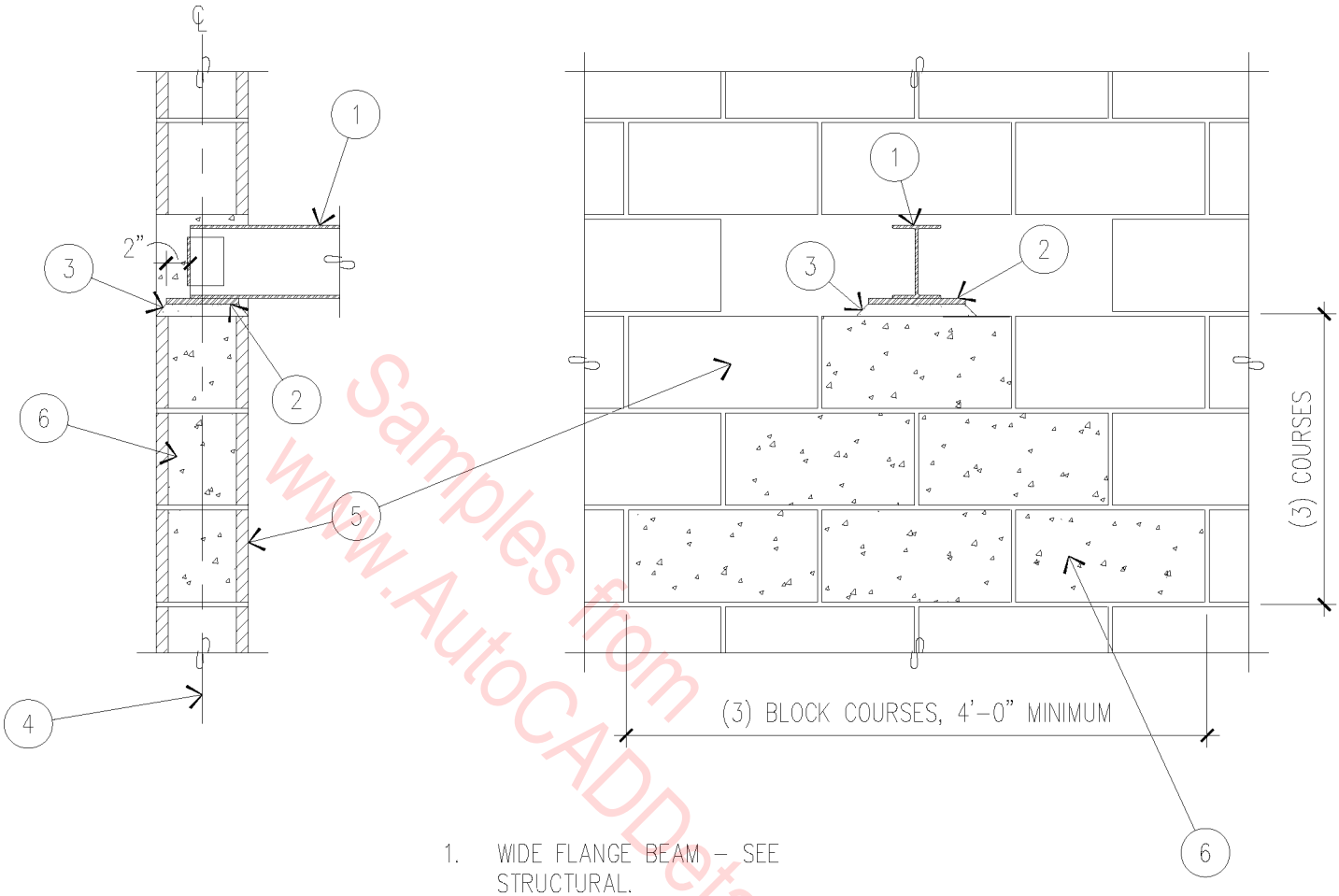
1. W6 X 12 WIDE FLANGE BEAM.
2. STEEL ROOF DECKING.
3. 2 1/2" X 2 1/2" X 1/4" X 3" LONG STEEL ANGLE.
4. 3" ø GALVANIZED PIPE.
5. PITCH PAN.
6. STEEL JOIST, SEE STRUCTURAL.
7. 6" X 6" X 1/2" CAP PLATE.
8. 4" X 4" X 1/2" PLATE, WELD TO TOP OF JOIST AND TUBE WITH 3/16" FILLET X 2" EACH SIDE.
9. ADD ANGLE UNDER POINTS OF SUPPORT IF OTHER THAN PANEL POINTS (TYPICAL).

NOTE: SEE ARCHITECTURAL DRAWINGS FOR PLAN LOCATIONS.

TYPICAL A/C UNIT SUPPORT

NOT TO SCALE

05A-1030

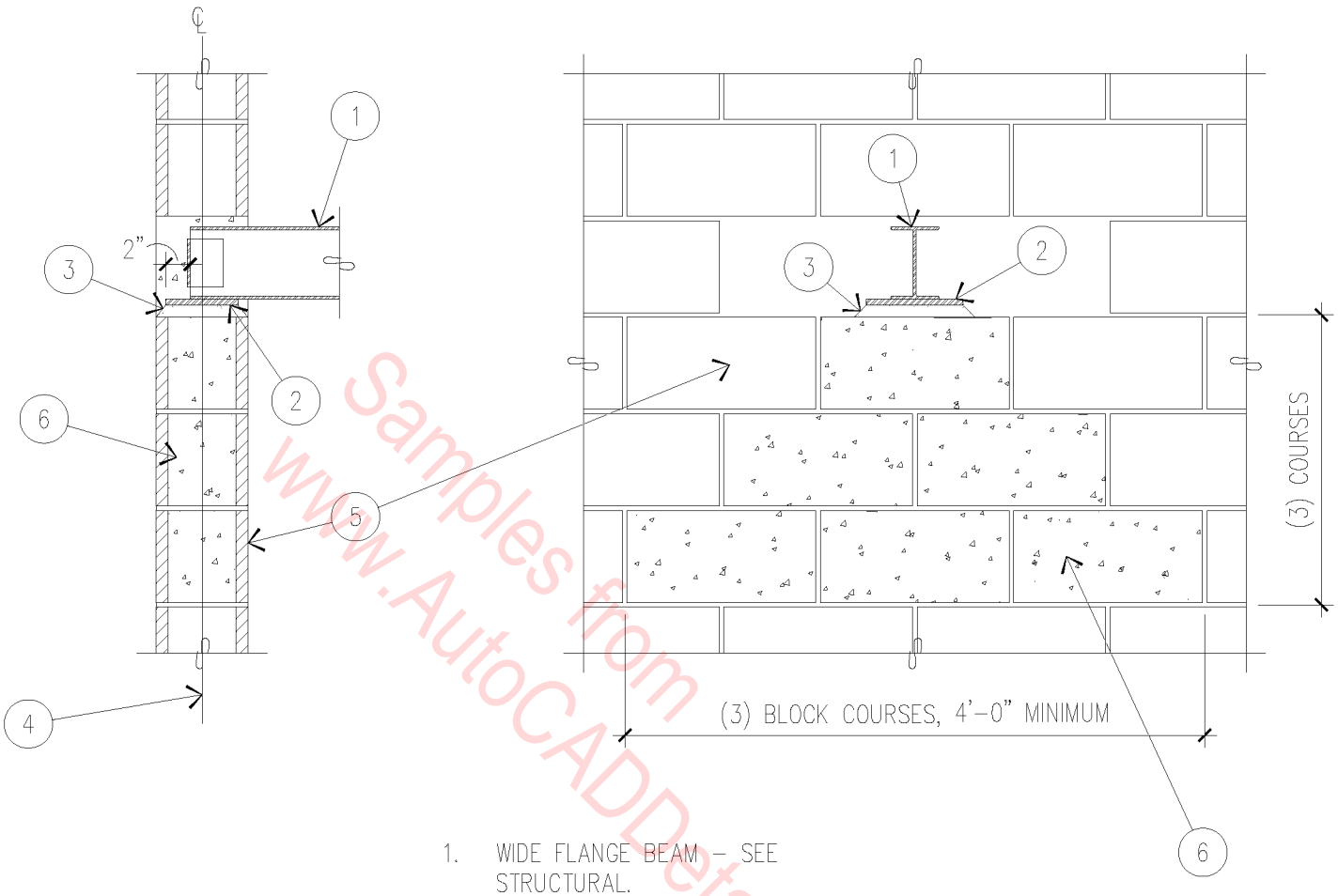


1. WIDE FLANGE BEAM – SEE STRUCTURAL.
2. BASE PLATE – SIZE TO 6" X FLANGE WIDTH + 3" (MINIMUM 8") X 1/2", UNLESS NOTED OTHERWISE.
3. 1" (MINIMUM) NON-SHRINK GROUT.
4. CENTER LINE OF WALL AND BASE PLATE.
5. MASONRY WALL.
6. FILL BLOCK SOLID WITH MORTAR AS SHOWN.

STEEL BEAM BEARING ON MASONRY WALL

3/4" = 1'-0"

05A-1031

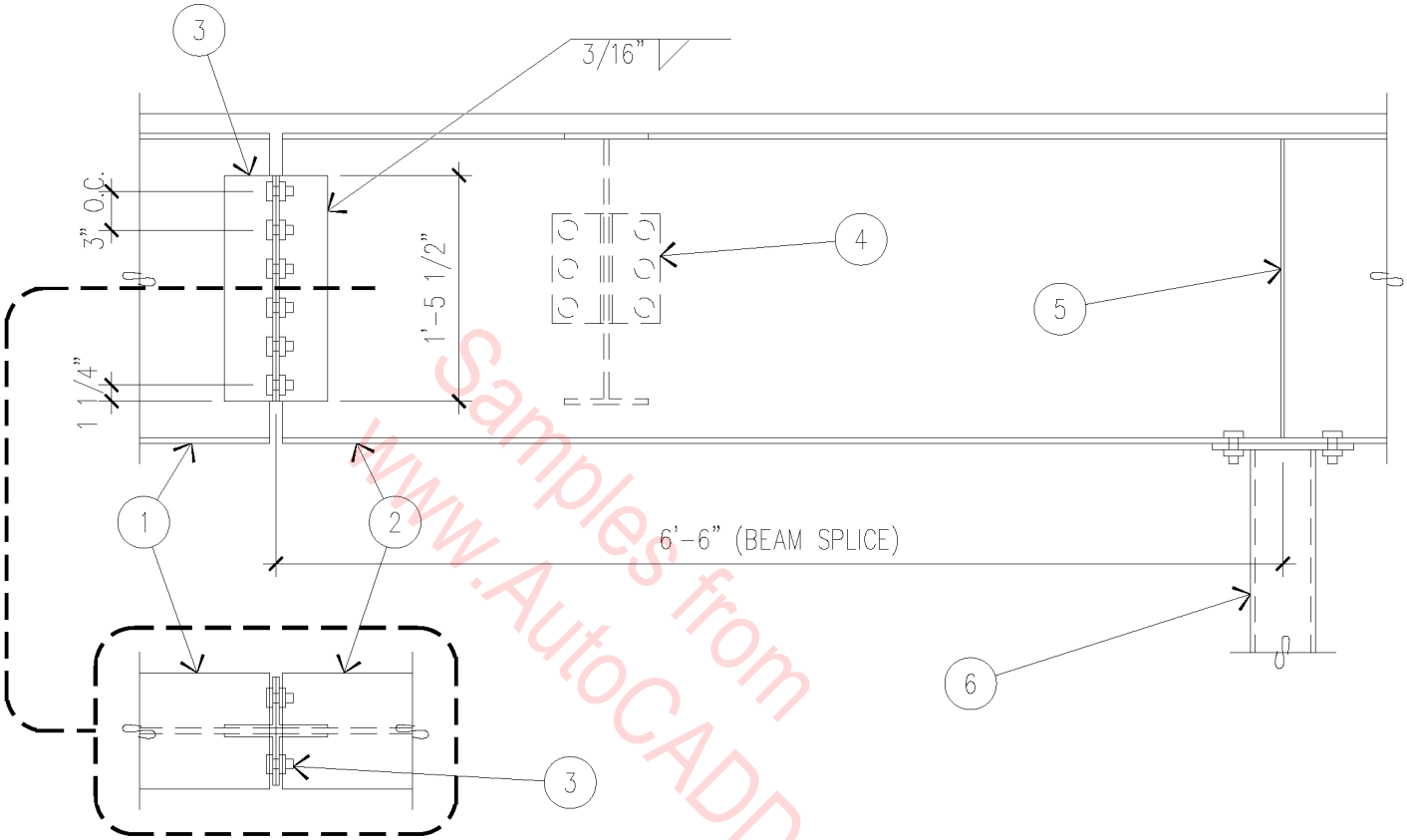


1. WIDE FLANGE BEAM – SEE STRUCTURAL.
2. BASE PLATE – SIZE TO 6" X FLANGE WIDTH + 3" (MINIMUM 8") X 1/2", UNLESS NOTED OTHERWISE.
3. 1" (MINIMUM) NON-SHRINK GROUT.
4. CENTER LINE OF WALL AND BASE PLATE.
5. MASONRY WALL.
6. FILL BLOCK SOLID WITH MORTAR AS SHOWN.

STEEL BEAM BEARING ON MASONRY WALL

3/4" = 1'-0"

05A-1031

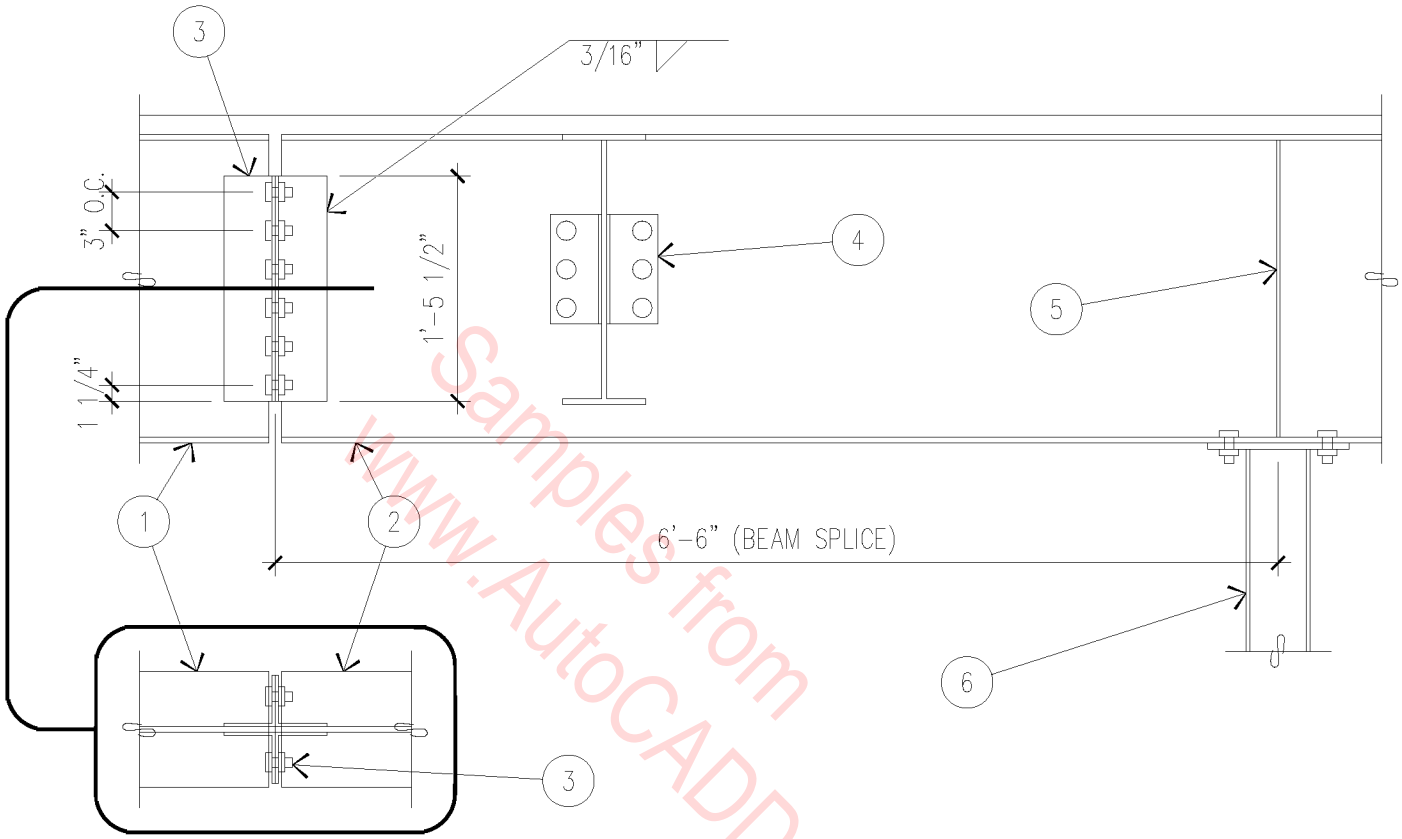


1. W 24 X 76 WIDE FLANGE BEAM.
2. W 24 X 68 WIDE FLANGE BEAM.
3. (2) ⊥L 4" X 4" X 1/4" X 1'-5 1/2" WITH (12) 3/4" ø THROUGH BOLTS.
4. W 21 X 44 AT 8'-0" O.C., BEYOND.
5. 1/4" FITTED STIFFENER, EACH SIDE OF WEB AT C OF COLUMN (TYPICAL).
6. TUBE STEEL COLUMN, PER PLAN, WITH 5/8" X 9" X 11" CAP PLATE AND (4) 3/4" ø THROUGH BOLTS.

BEAM TO BEAM

3/4" = 1'-0"

05A-1032

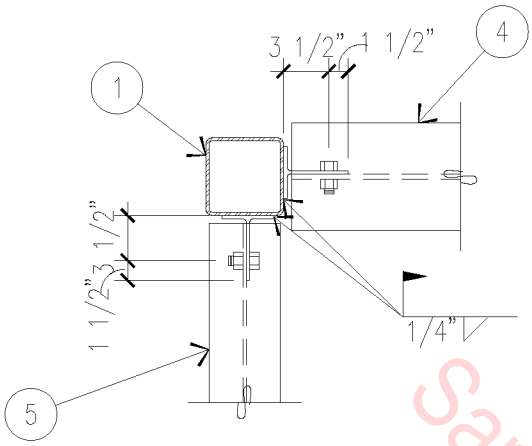


1. W 24 X 76 WIDE FLANGE BEAM.
2. W 24 X 68 WIDE FLANGE BEAM.
3. (2) ⊥L 4" X 4" X 1/4" X 1'-5 1/2" WITH (12) 3/4" ø THROUGH BOLTS.
4. W 21 X 44 AT 8'-0" O.C., BEYOND.
5. 1/4" FITTED STIFFENER, EACH SIDE OF WEB AT C OF COLUMN (TYPICAL).
6. TUBE STEEL COLUMN, PER PLAN, WITH 5/8" X 9" X 11" CAP PLATE AND (4) 3/4" ø THROUGH BOLTS.

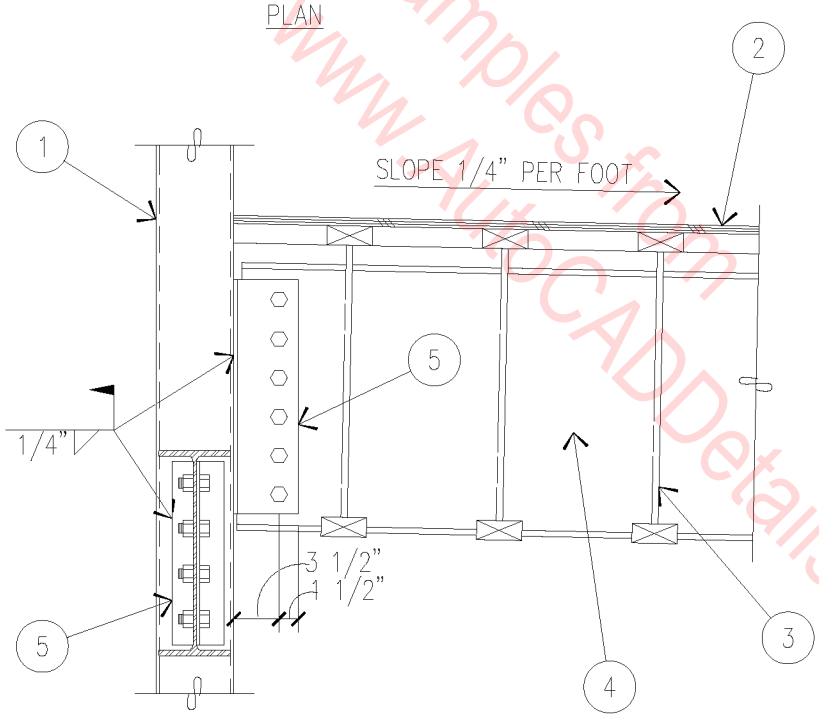
BEAM TO BEAM

3/4" = 1'-0"

05A-1032



PLAN



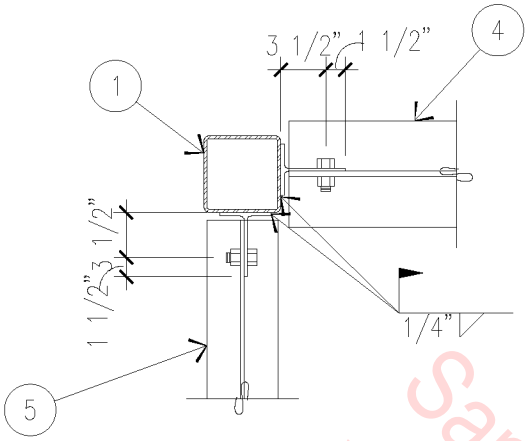
ELEVATION

1. TUBE STEEL COLUMN – SEE PLAN.
2. 5/8" A.P.A. RATED SHEATHING – SEE PLAN.
3. 24" TJL AT 12" O.C.
4. W21 WIDE FLANGE BEAM WITH 2 X NAILER, RIPPED TO WIDTH OF BEAM FLANGE – ATTACH WITH 0.145" ø DRIVE PINS AT 16" O.C., STAGGERED.
5. W 7 X 7.5 WITH MAXIMUM NUMBER OF 3/4" ø THROUGH BOLTS.

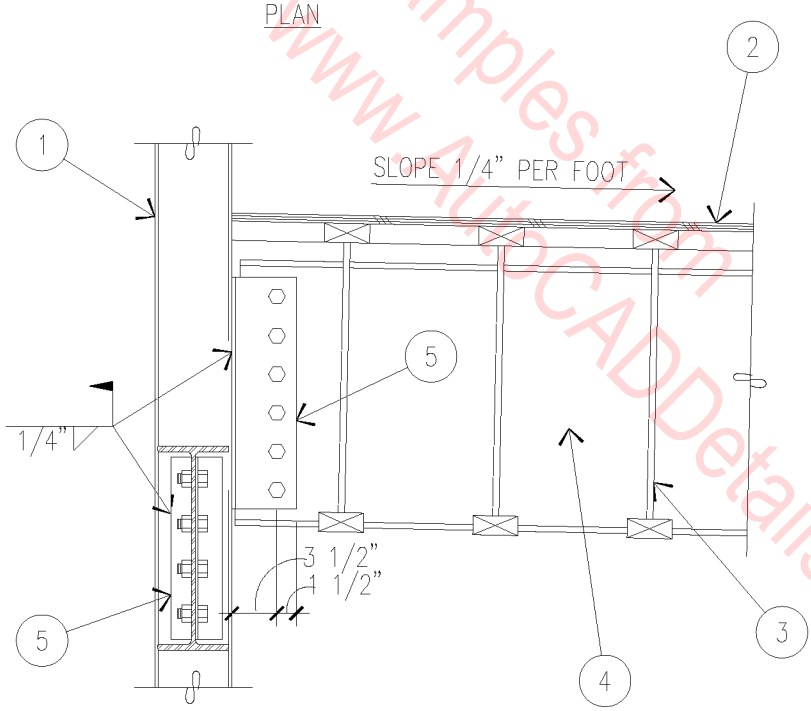
JOIST TO COLUMN

3/4" = 1'-0"

05A-1033



PLAN



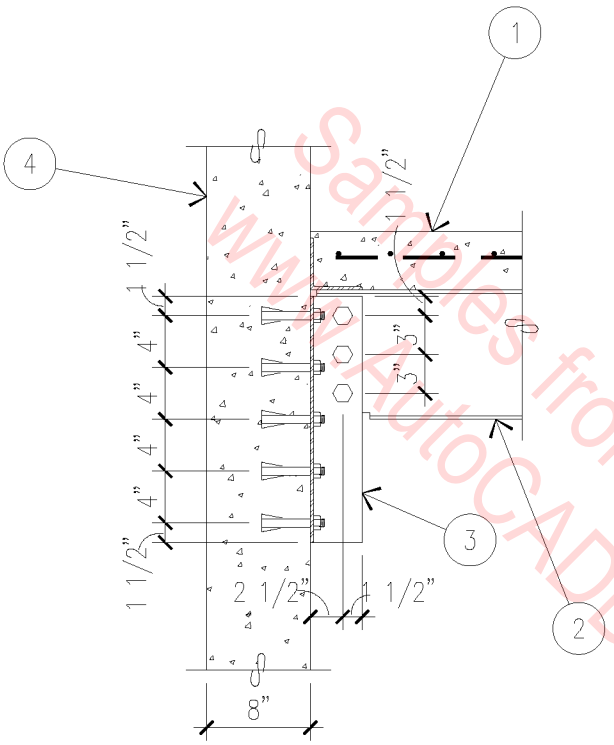
ELEVATION

1. TUBE STEEL COLUMN – SEE PLAN.
2. 5/8" A.P.A. RATED SHEATHING – SEE PLAN.
3. 24" TJL AT 12" O.C.
4. W21 WIDE FLANGE BEAM WITH 2 X NAILER, RIPPED TO WIDTH OF BEAM FLANGE – ATTACH WITH 0.145" ø DRIVE PINS AT 16" O.C., STAGGERED.
5. W 7 X 7.5 WITH MAXIMUM NUMBER OF 3/4" ø THROUGH BOLTS.

JOIST TO COLUMN

3/4" = 1'-0"

05A–1033

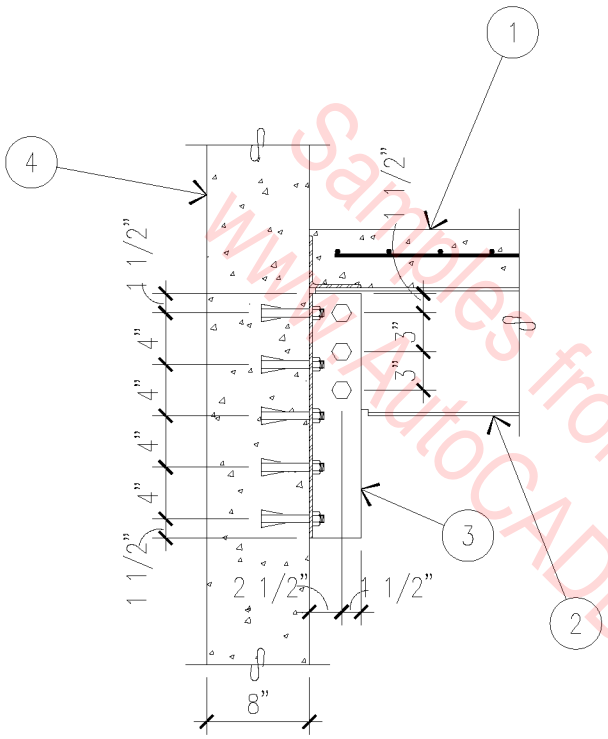


1. 2 1/2" CONCRETE SLAB OVER 2" METAL DECKING.
2. WIDE FLANGE BEAM.
3. (2) L 4" X 4" X 1'-7" X 1/4" WITH (3) 5/8" ø THROUGH BOLTS AND (10) 5/8" ø EXPANSION BOLTS.
4. 8" PRECAST CONCRETE WALL.

BEAM AT BEARING PRECAST WALL

3/4" = 1'-0"

05A-1034

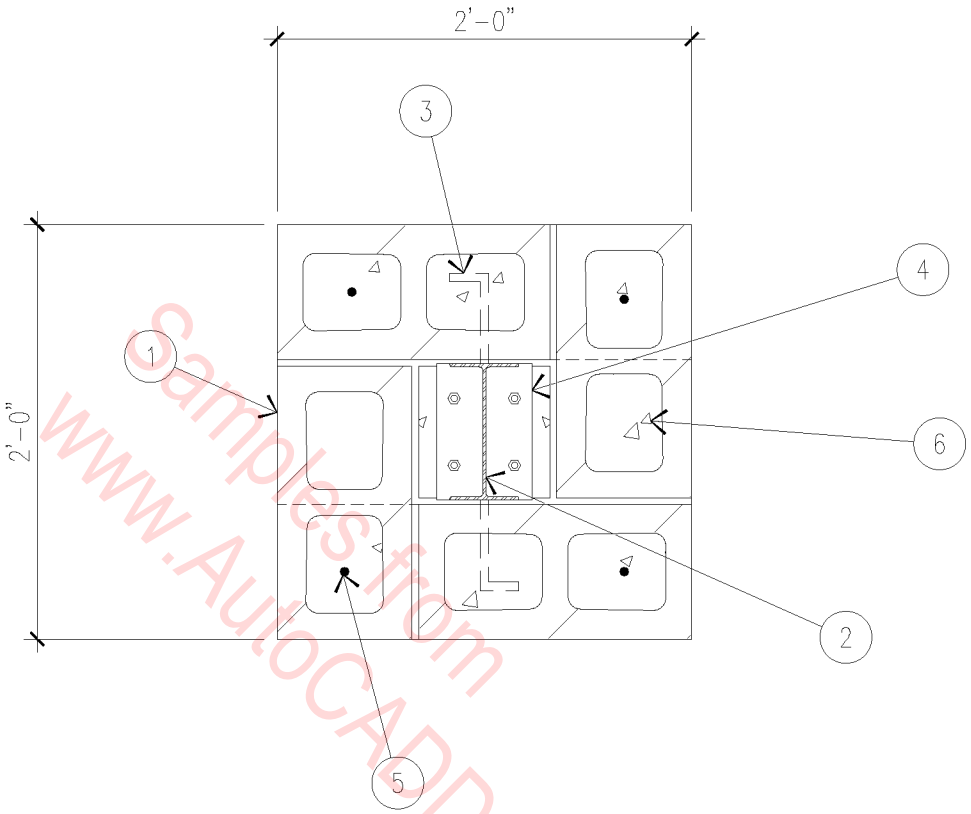


1. 2 1/2" CONCRETE SLAB OVER 2" METAL DECKING.
2. WIDE FLANGE BEAM.
3. (2) L 4" X 4" X 1'-7" X 1/4" WITH (3) 5/8" ø THROUGH BOLTS AND (10) 5/8" ø EXPANSION BOLTS.
4. 8" PRECAST CONCRETE WALL.

BEAM AT BEARING PRECAST WALL

3/4" = 1'-0"

05A-1034

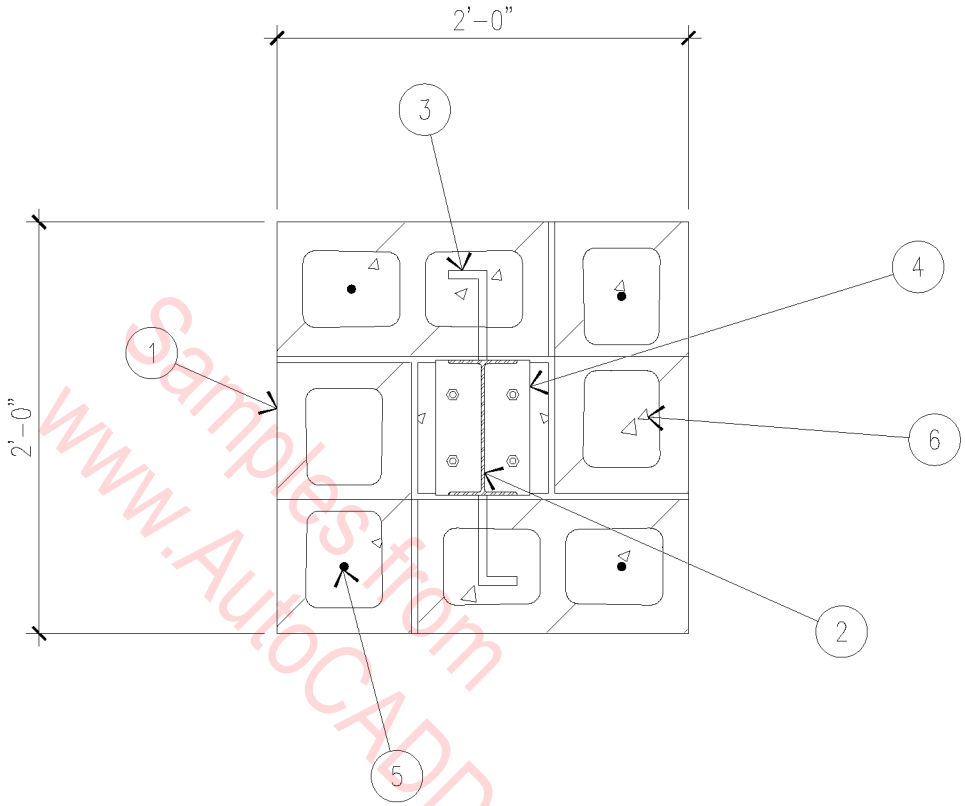


1. 8 X 8 X 16 MASONRY.
2. W8 X 10 WIDE FLANGE COLUMN.
3. 5" X 2" #4 REBAR COLUMN ANCHORS @ 32" O.C.
4. 3/8" STEEL COLUMN BASE PLATE.
5. #4 REBAR VERTICAL AT CORNERS.
6. SOLID GROUTED CELLS.

C.M.U. COLUMN

1" = 1'-0"

05A-1035

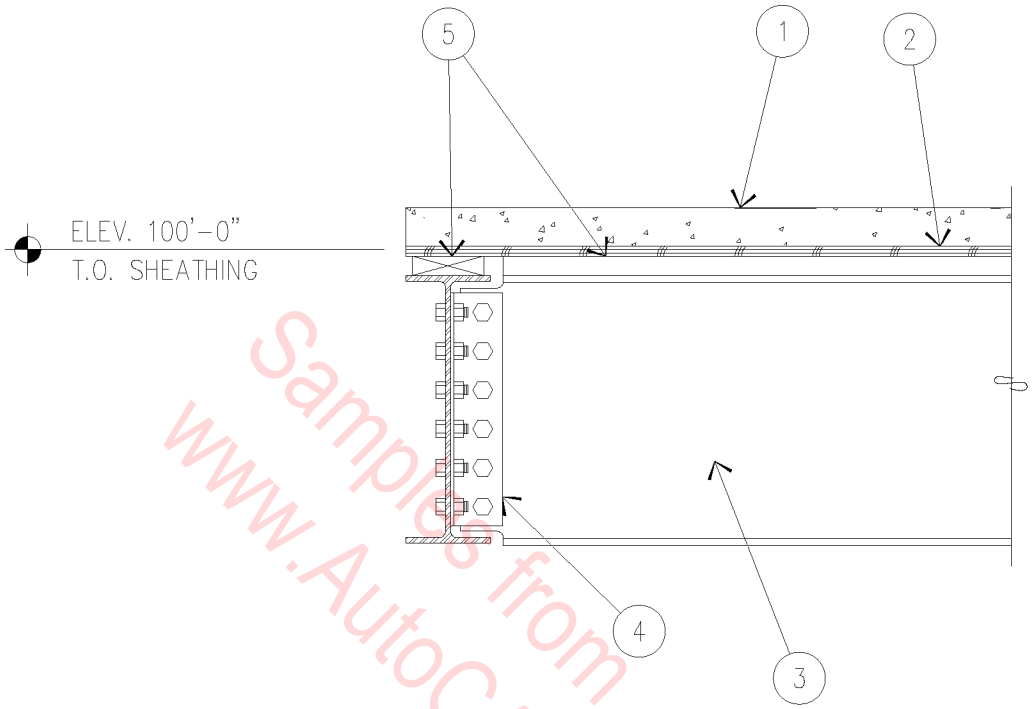


1. 8 X 8 X 16 MASONRY.
2. W8 X 10 WIDE FLANGE COLUMN.
3. 5" X 2" #4 REBAR COLUMN ANCHORS @ 32" O.C.
4. 3/8" STEEL COLUMN BASE PLATE.
5. #4 REBAR VERTICAL AT CORNERS.
6. SOLID GROUTED CELLS.

C.M.U. COLUMN

1" = 1'-0"

05A-1035

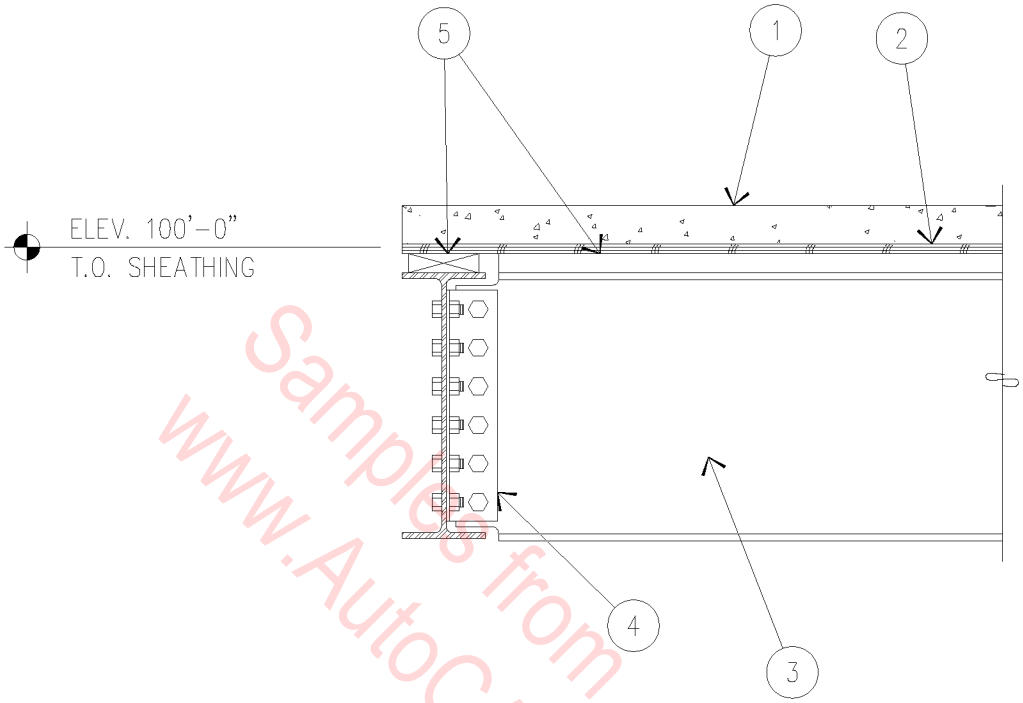


1. 1 1/2" CONCRETE TOPPING.
2. 3/4" A.P.A. RATED SHEATHING - SEE PLAN.
3. BEAM, PER PLAN.
4. STANDARD AISC DOUBLE-ANGLE SHEAR CONNECTION WITH MAXIMUM NUMBER OF 3/4" ø THROUGH BOLTS.
5. 2 X NAILER.

BEAM TO BEAM AT SLAB

3/4" = 1'-0"

05A-1036

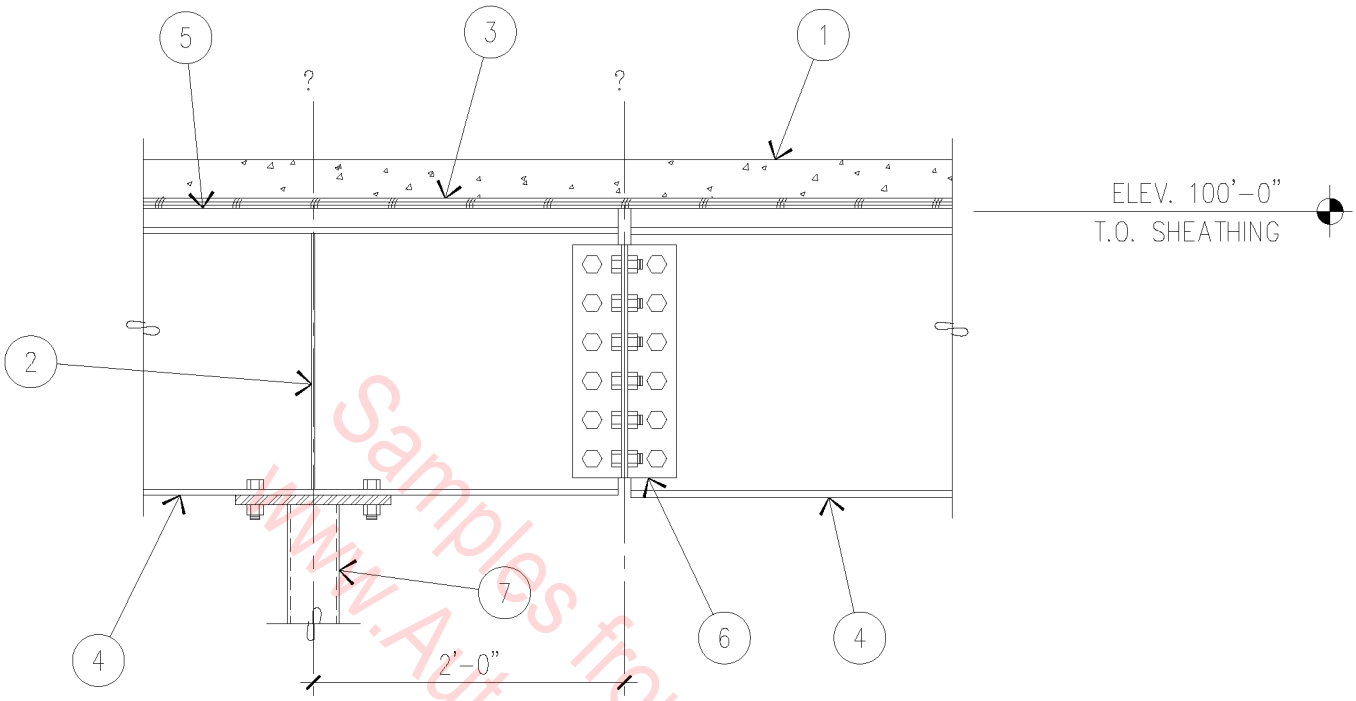


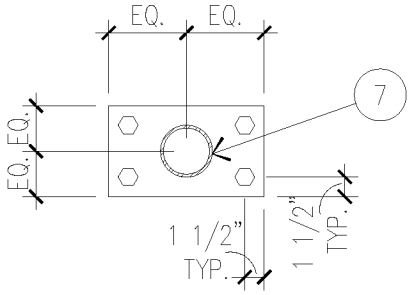
1. 1 1/2" CONCRETE TOPPING.
2. 3/4" A.P.A. RATED SHEATHING - SEE PLAN.
3. BEAM, PER PLAN.
4. STANDARD AISC DOUBLE-ANGLE SHEAR CONNECTION WITH MAXIMUM NUMBER OF 3/4" ø THROUGH BOLTS.
5. 2 X NAILER.

BEAM TO BEAM AT SLAB

3/4" = 1'-0"

05A-1036



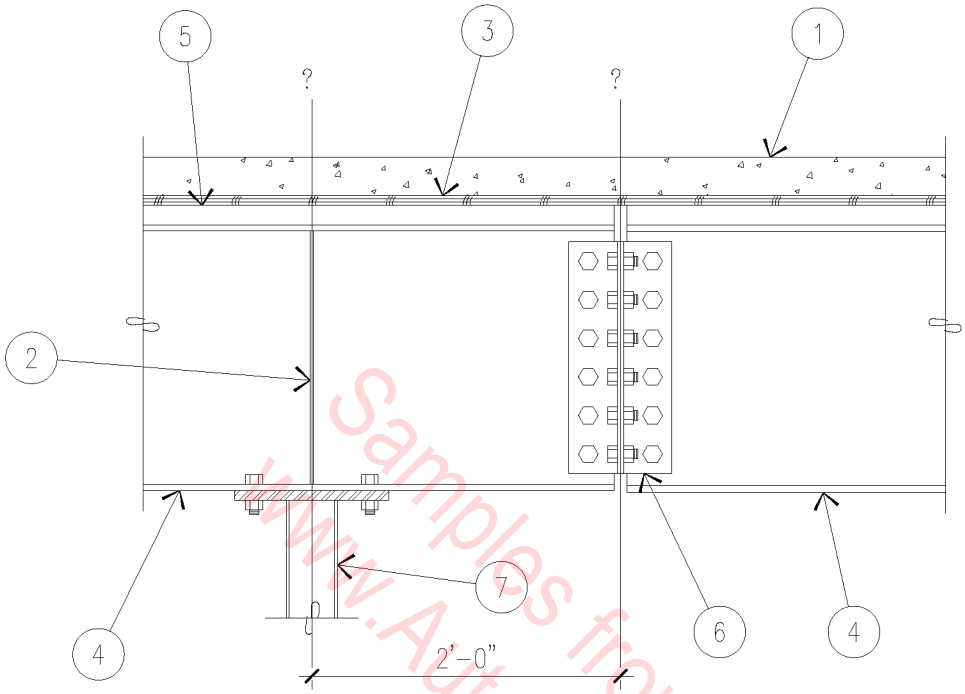


1. 1 1/2" CONCRETE TOPPING.
2. 1/4" WEB STIFFENER, EACH SIDE, CENTERED OVER COLUMN.
3. 3/4" A.P.A. RATED SHEATHING – SEE PLAN.
4. BEAM, PER PLAN.
5. 2 X NAILER.
6. STANDARD AISC DOUBLE-ANGLE SHEAR CONNECTION WITH MAXIMUM NUMBER OF 3/4" ø THROUGH BOLTS.
7. COLUMN, PER PLAN, WITH 1/2" PLATE ATTACHED BY (4) 3/4" ø THROUGH BOLTS.

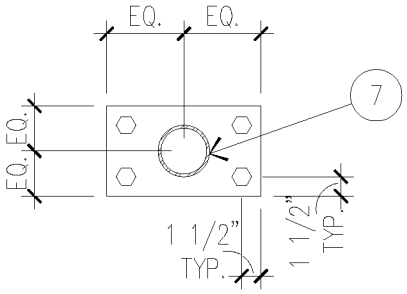
BEAM TO BEAM AT COLUMN

3/4" = 1'-0"

05A-1037



ELEV. 100'-0"
T.O. SHEATHING

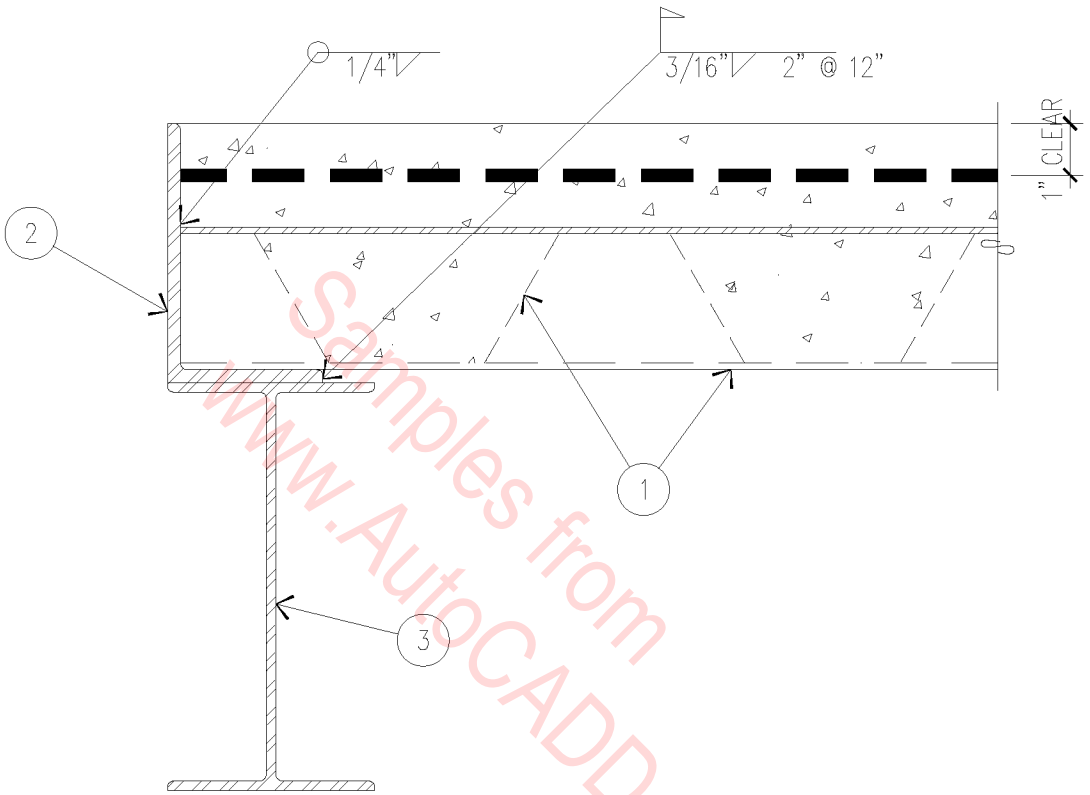


1. 1 1/2" CONCRETE TOPPING.
2. 1/4" WEB STIFFENER, EACH SIDE, CENTERED OVER COLUMN.
3. 3/4" A.P.A. RATED SHEATHING - SEE PLAN.
4. BEAM, PER PLAN.
5. 2 X NAILER.
6. STANDARD AISC DOUBLE-ANGLE SHEAR CONNECTION WITH MAXIMUM NUMBER OF 3/4" ø THROUGH BOLTS.
7. COLUMN, PER PLAN, WITH 1/2" PLATE ATTACHED BY (4) 3/4" ø THROUGH BOLTS.

BEAM TO BEAM AT COLUMN

3/4" = 1'-0"

05A-1037

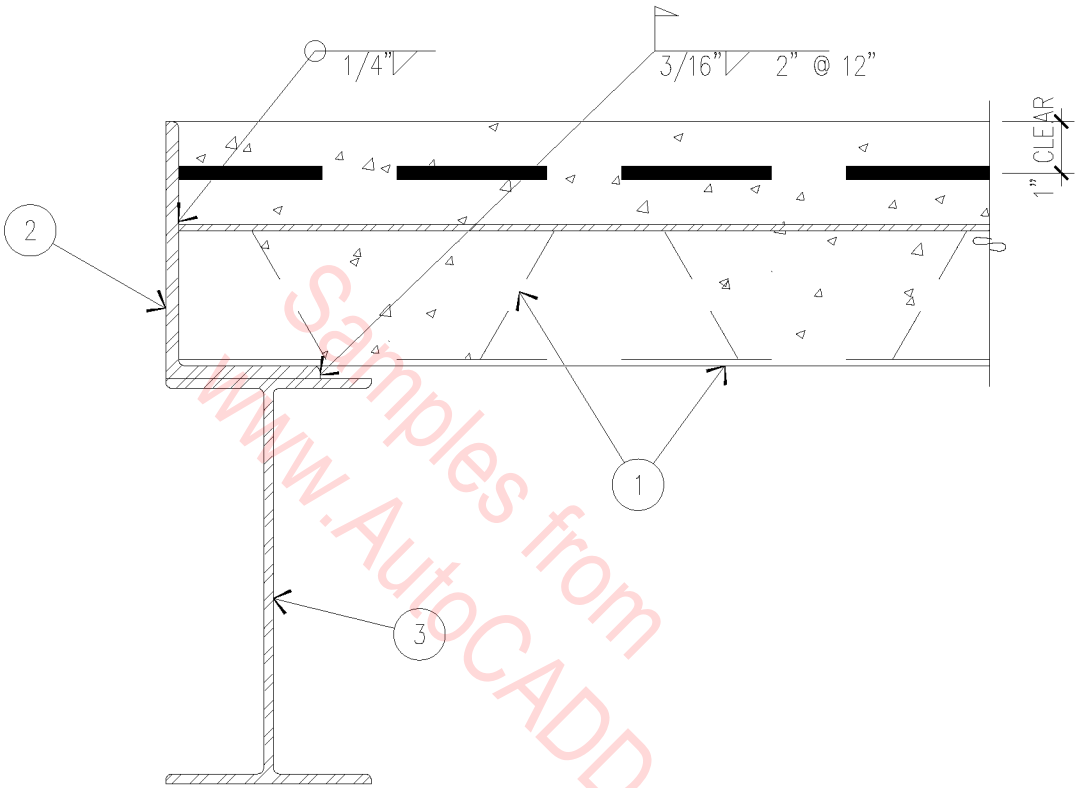


1. PLAN FOR DECK DIRECTION.
2. TYPICAL EDGE BENT PLATE OR L 3" X 5" X 1/4" (LLV), CONTINUOUS, WITH #4 X 1'-6" AT 24" O.C.
3. BEAM PER STRUCTURAL.

SLAB EDGE

3" = 1'-0"

05A-1038

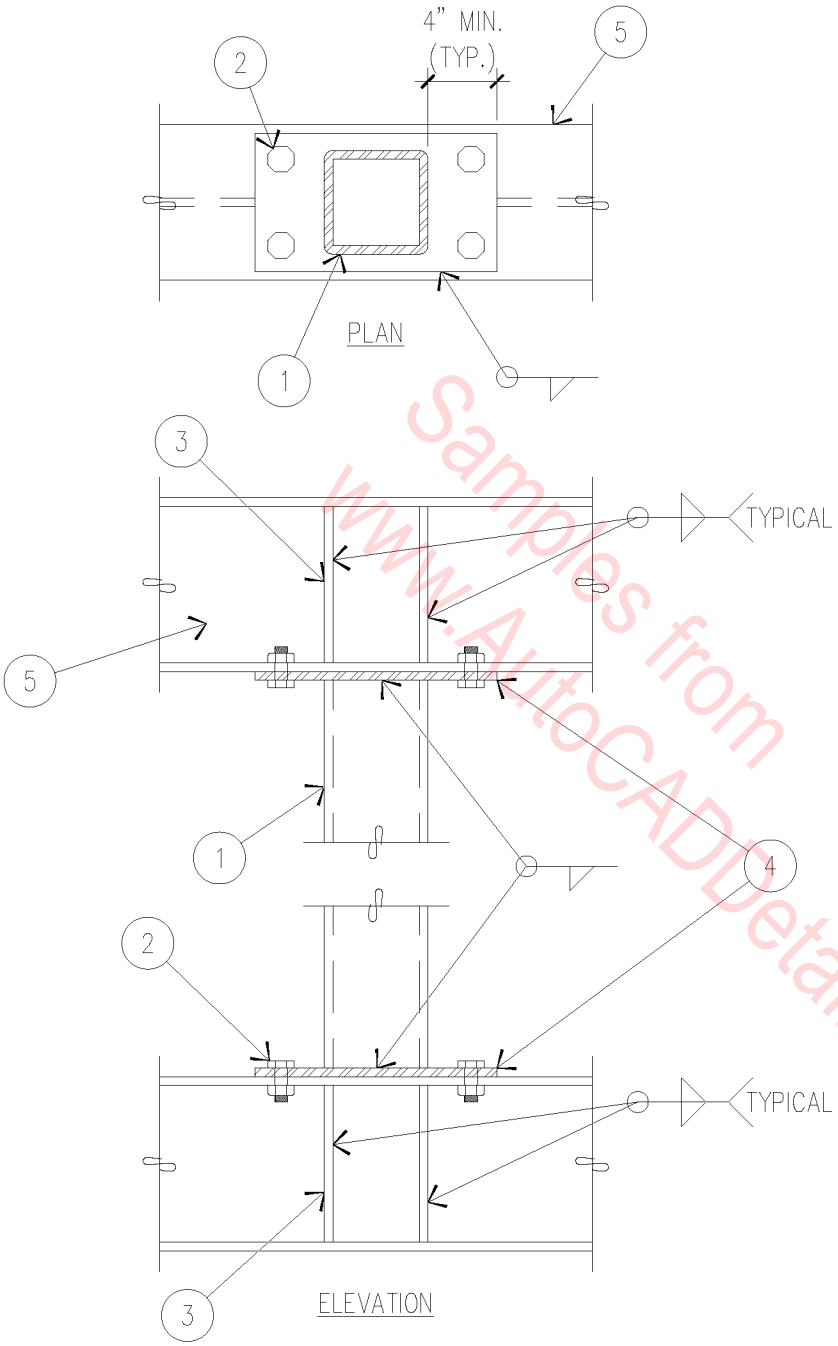


1. PLAN FOR DECK DIRECTION.
2. TYPICAL EDGE BENT PLATE OR L 3" X 5" X 1/4" (LLV), CONTINUOUS, WITH #4 X 1'-6" AT 24" O.C.
3. BEAM PER STRUCTURAL.

SLAB EDGE

3" = 1'-0"

05A-1038

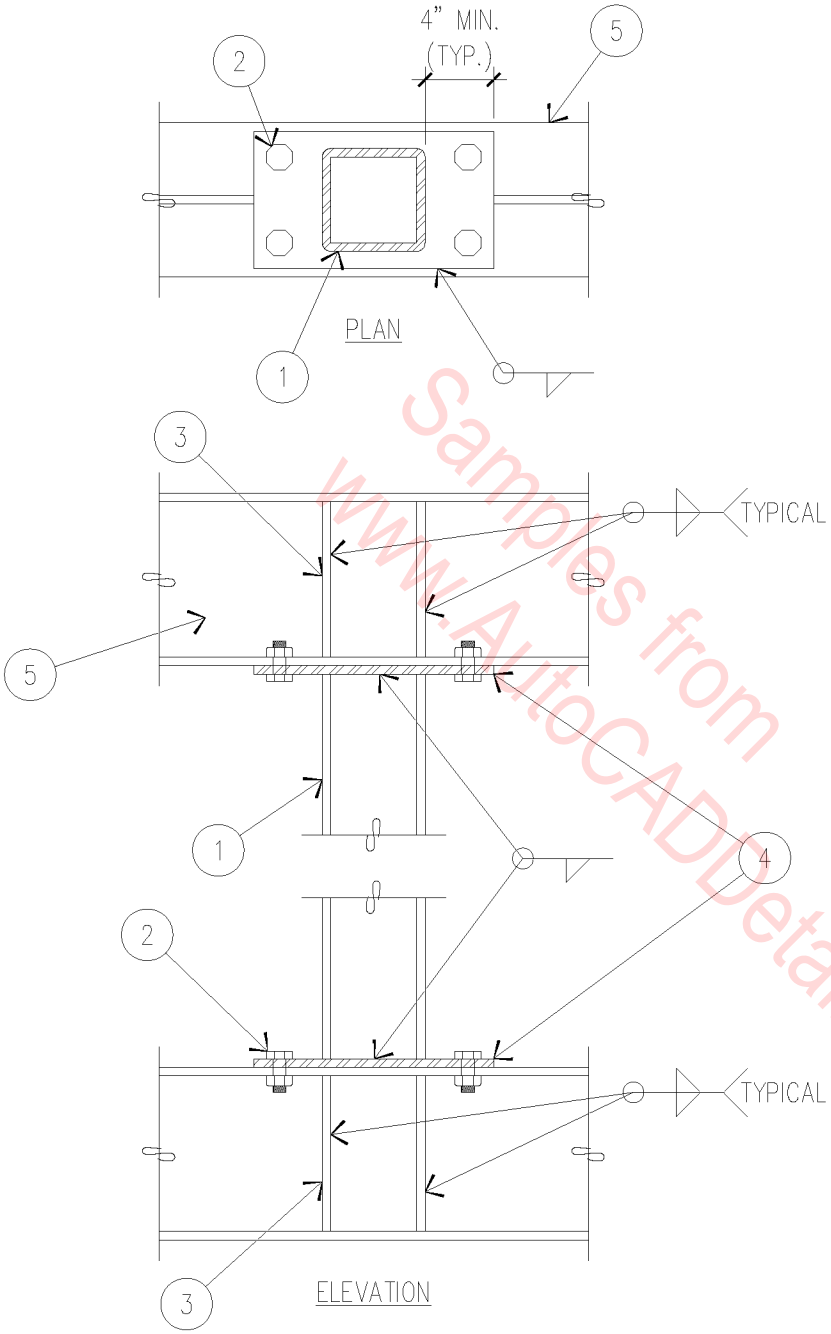


1. TUBE STEEL COLUMN – SEE STRUCTURAL.
2. (4) 3/4" ø THROUGH BOLTS.
3. STIFFENER PLATES AT EACH SIDE OF BEAM WEB WITH MINIMUM THICKNESS OF COLUMN BUT NOT LESS THAN 1/2".
4. CAP PLATE – WIDTH 2" GREATER THAN COLUMN WIDTH OR EQUAL TO BEAM FLANGE, WHICHEVER IS GREATER.
5. BEAM – SEE STRUCTURAL.

COLUMN TO GIRDER

1" = 1'-0"

05A-1039

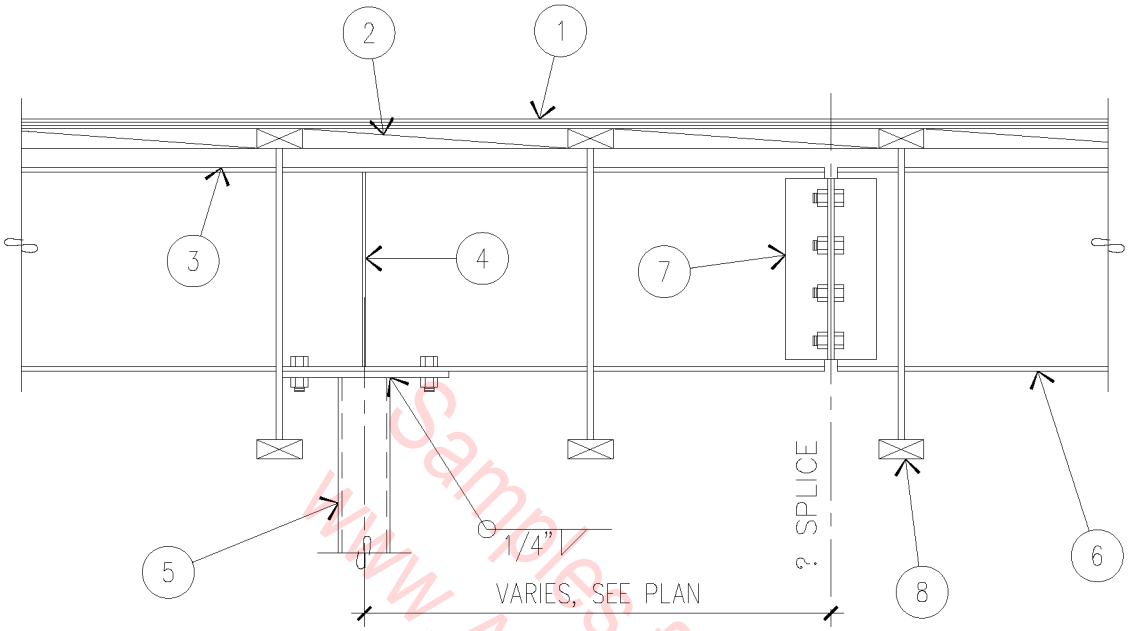


1. TUBE STEEL COLUMN – SEE STRUCTURAL.
2. (4) 3/4" ø THROUGH BOLTS.
3. STIFFENER PLATES AT EACH SIDE OF BEAM WEB WITH MINIMUM THICKNESS OF COLUMN BUT NOT LESS THAN 1/2".
4. CAP PLATE – WIDTH 2" GREATER THAN COLUMN WIDTH OR EQUAL TO BEAM FLANGE, WHICHEVER IS GREATER.
5. BEAM – SEE STRUCTURAL.

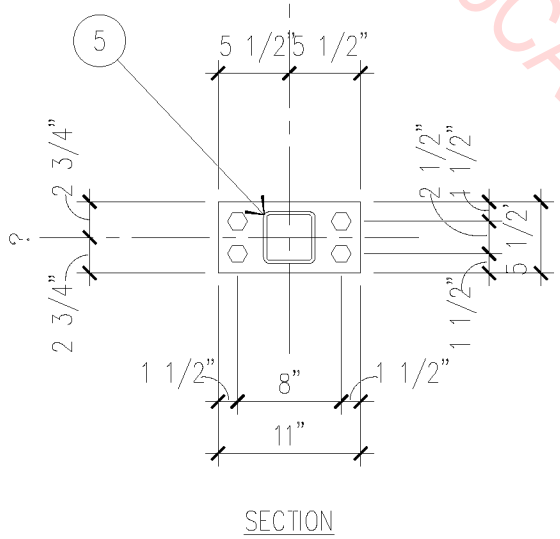
COLUMN TO GIRDER

1" = 1'-0"

05A-1039



ELEVATION



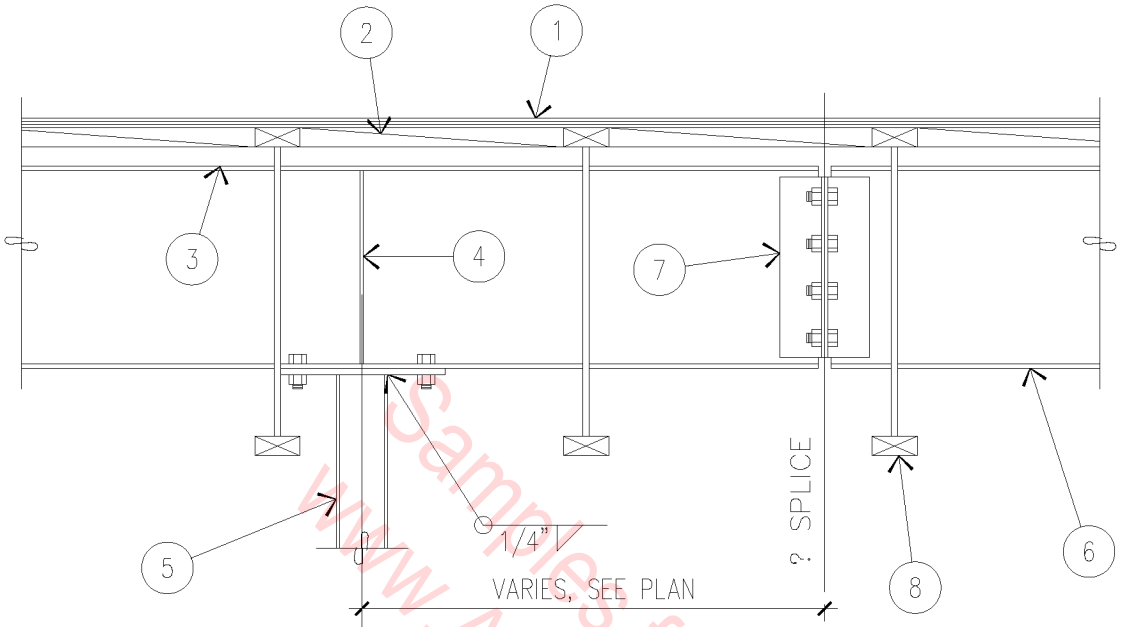
SECTION

1. 5/8" A.P.A. RATED FLOOR SHEATHING.
2. 2 X 6 BLOCKING (TYPICAL).
3. 2 X CONTINUOUS NAILER – ATTACH WITH 0.145" ø POWDER ACTUATED NAILS AT 16" O.C., STAGGERED.
4. 1/4" FITTED STIFFENER PLATE, EACH SIDE OF WEB.
5. TUBE STEEL COLUMN WITH 5 1/2" X 11" X 1/2" PLATE WITH (4) 3/4" ø BOLTS.
6. STEEL BEAM – SEE PLAN.
7. STANDARD AISC DOUBLE ANGLE SHEAR CONNECTION WITH MAXIMUM NUMBER OF 3/4" ø THROUGH BOLTS.
8. TJL JOIST – SEE PLAN.

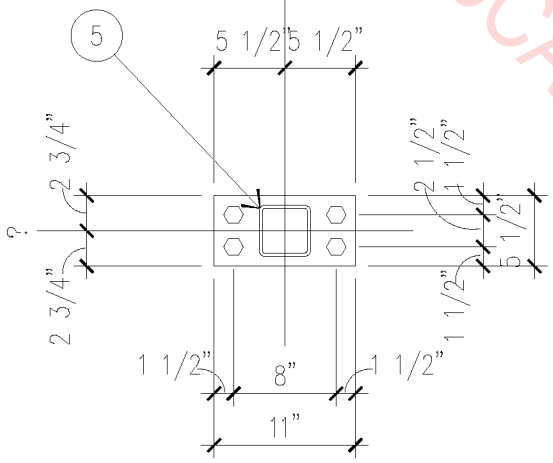
FRAMING SECTION

3/4" = 1'-0"

05A–1040



ELEVATION



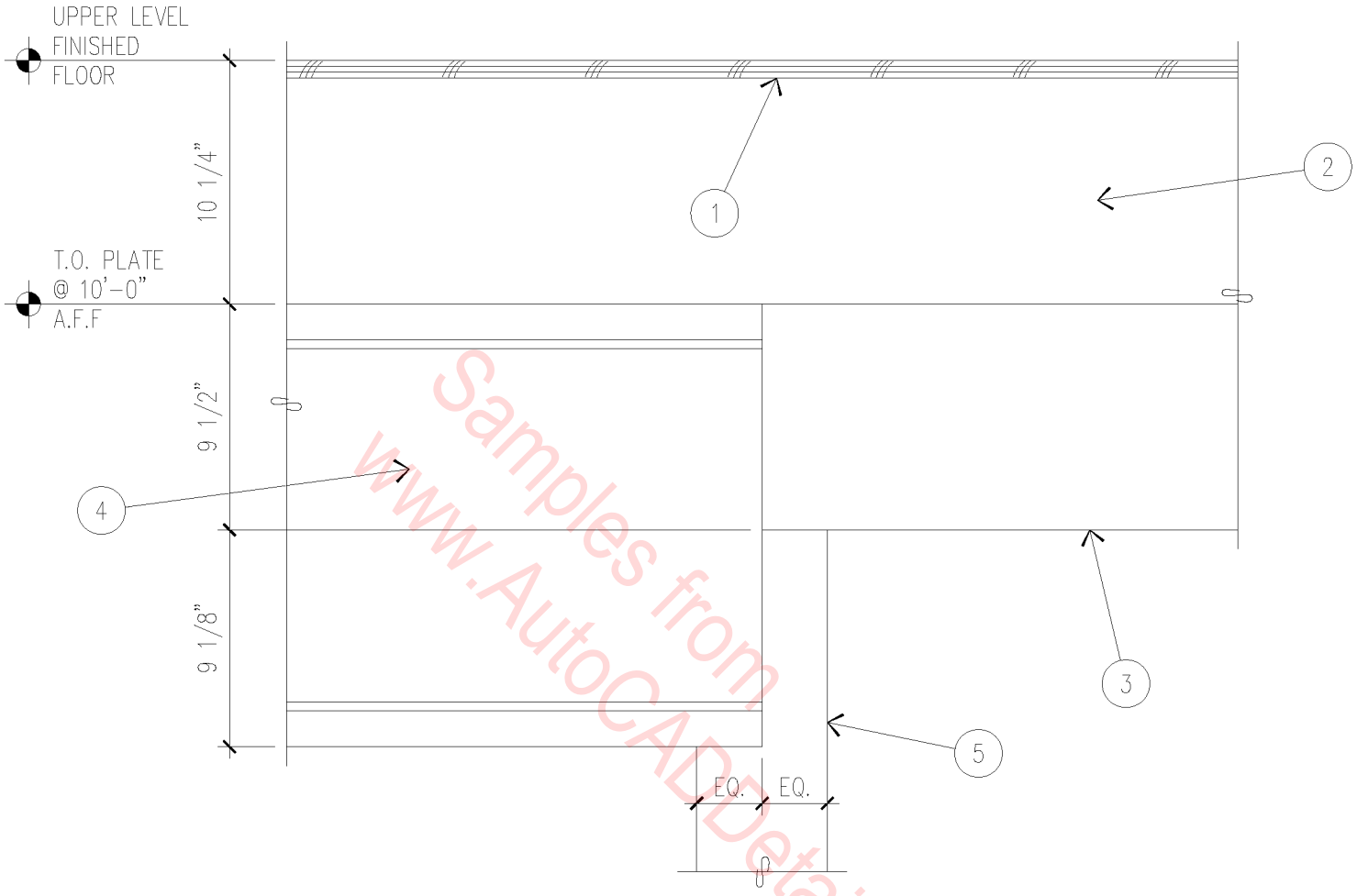
SECTION

1. 5/8" A.P.A. RATED FLOOR SHEATHING.
2. 2 X 6 BLOCKING (TYPICAL).
3. 2 X CONTINUOUS NAILER – ATTACH WITH 0.145" ø POWDER ACTUATED NAILS AT 16" O.C., STAGGERED.
4. 1/4" FITTED STIFFENER PLATE, EACH SIDE OF WEB.
5. TUBE STEEL COLUMN WITH 5 1/2" X 11" X 1/2" PLATE WITH (4) 3/4" ø BOLTS.
6. STEEL BEAM – SEE PLAN.
7. STANDARD AISC DOUBLE ANGLE SHEAR CONNECTION WITH MAXIMUM NUMBER OF 3/4" ø THROUGH BOLTS.
8. TJL JOIST – SEE PLAN.

FRAMING SECTION

3/4" = 1'-0"

05A–1040

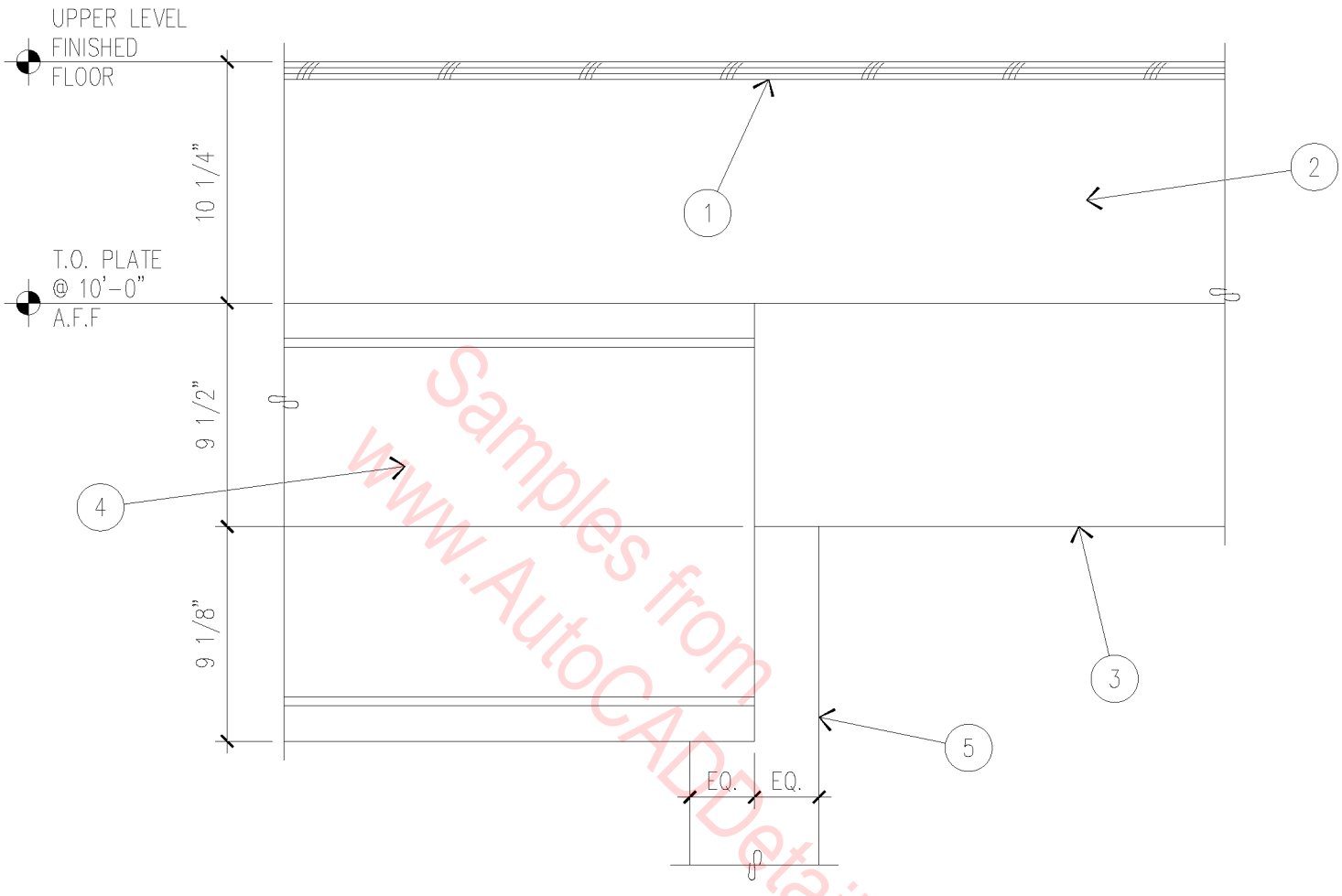


1. 3/4" SHEATHING.
2. 2 X 10 RIM JOIST(S) - SEE FLOOR FRAMING PLAN.
3. (4) 2 X 10 BEAM.
4. W16 X 26 (A.36) WIDE FLANGE BEAM WITH (1) 2 X 8 NAILER, TOP AND BOTTOM.
5. (4) 2 X 6's NOTCHED TO SUPPORT BOTH BEAMS.

BEAM TO BEAM

1 1/2" = 1'-0"

05A-1041

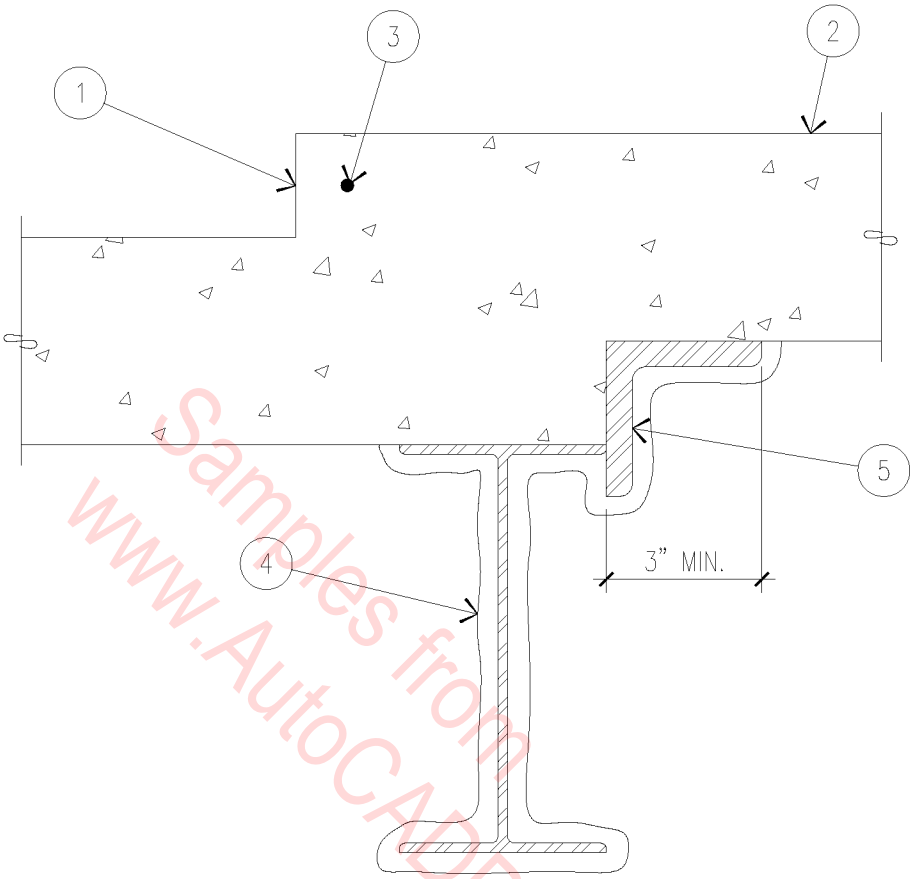


1. 3/4" SHEATHING.
2. 2 X 10 RIM JOIST(S) – SEE FLOOR FRAMING PLAN.
3. (4) 2 X 10 BEAM.
4. W16 X 26 (A.36) WIDE FLANGE BEAM WITH (1) 2 X 8 NAILER, TOP AND BOTTOM.
5. (4) 2 X 6's NOTCHED TO SUPPORT BOTH BEAMS.

BEAM TO BEAM

1 1/2" = 1'-0"

05A-1041

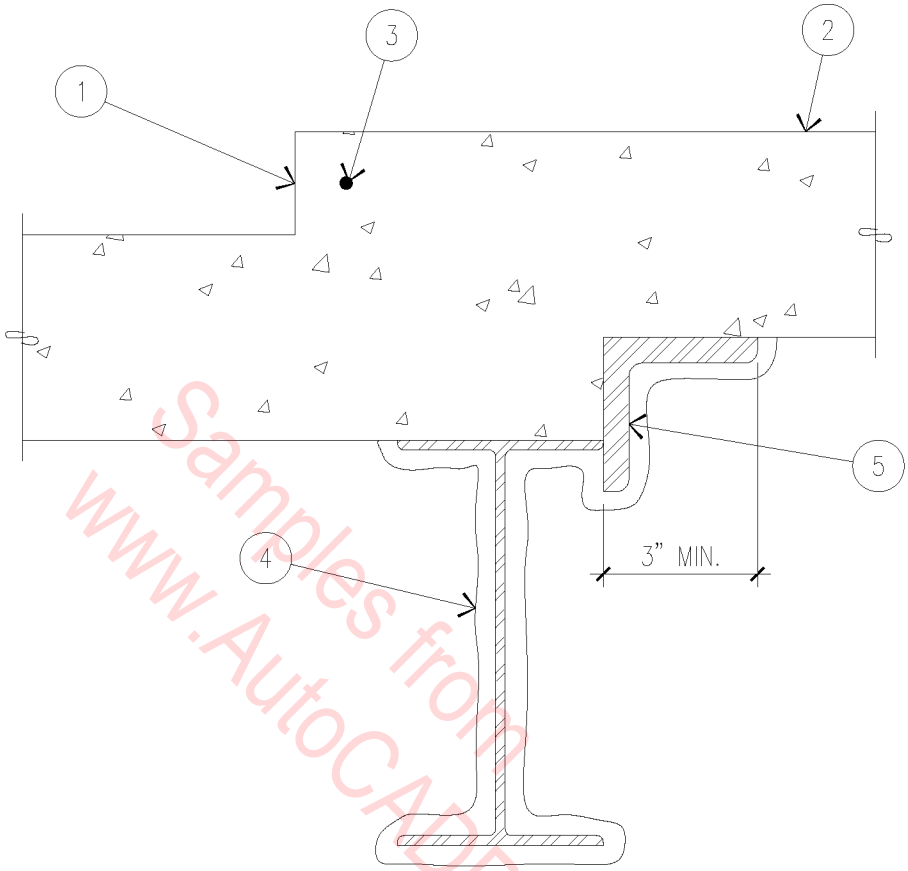


1. DEPRESSION – SEE PLAN.
2. SLAB ON METAL DECK – FOR THICKNESS, SEE PLAN.
3. (1) #4 REBAR, CONTINUOUS.
4. SPRAYED ON FIREPROOFING.
5. ANGLE WELDED TO BEAM – SIZE TO FIT DEPRESSION (1/2" THICK, MINIMUM).

DEPRESSED SLAB

3" = 1'-0"

05A-1042

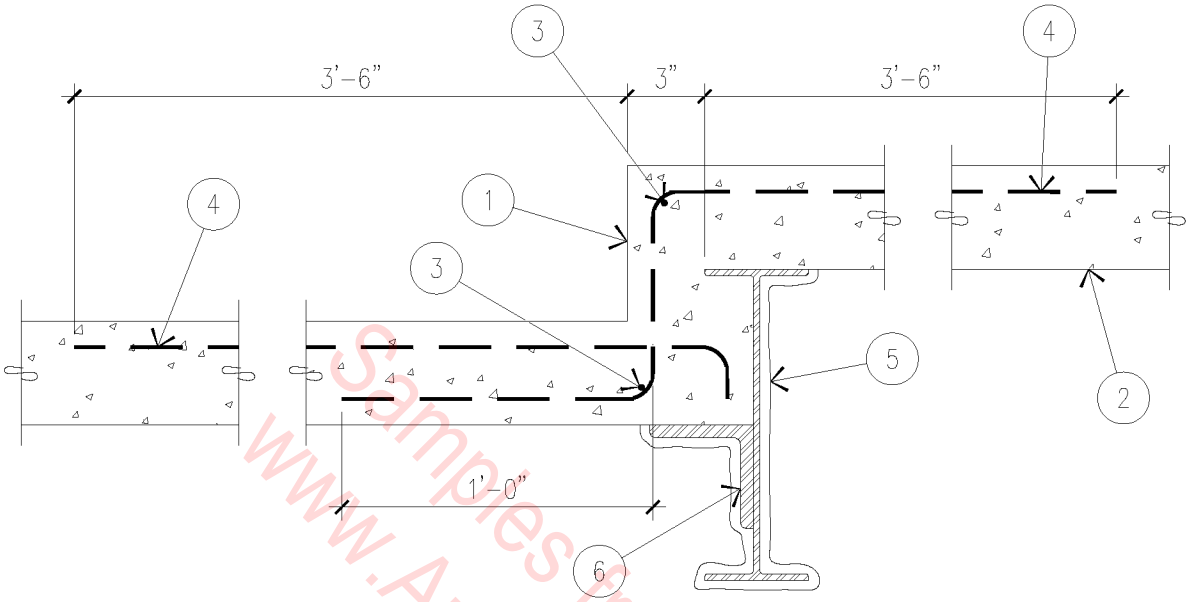


1. DEPRESSION – SEE PLAN.
2. SLAB ON METAL DECK – FOR THICKNESS, SEE PLAN.
3. (1) #4 REBAR, CONTINUOUS.
4. SPRAYED ON FIREPROOFING.
5. ANGLE WELDED TO BEAM – SIZE TO FIT DEPRESSION (1/2" THICK, MINIMUM).

DEPRESSED SLAB

3" = 1'-0"

05A-1042

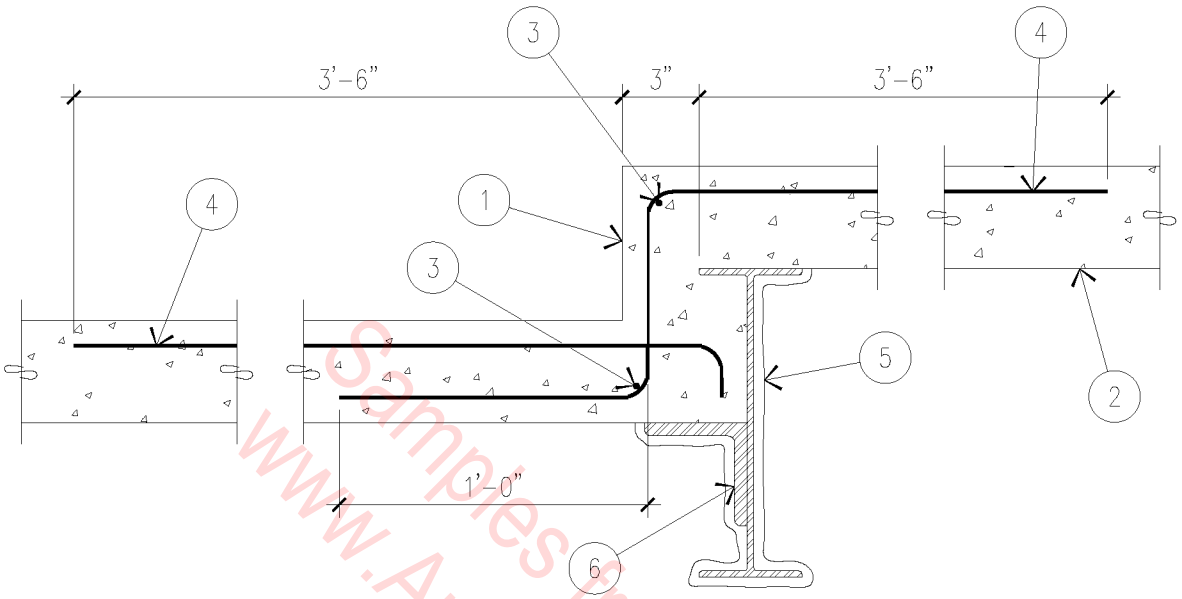


1. DEPRESSION – SEE PLAN.
2. SLAB ON METAL DECK – FOR THICKNESS, SEE PLAN.
3. (1) #4 REBAR, CONTINUOUS.
4. #4 REBAR AT 12" O.C., MINIMUM.
5. SPRAYED ON FIREPROOFING.
6. L 4" X 4" X 1/2", CONTINUOUS, WELDED TO BEAM.

DEPRESSED SLAB

1 1/2" = 1'-0"

05A-1043

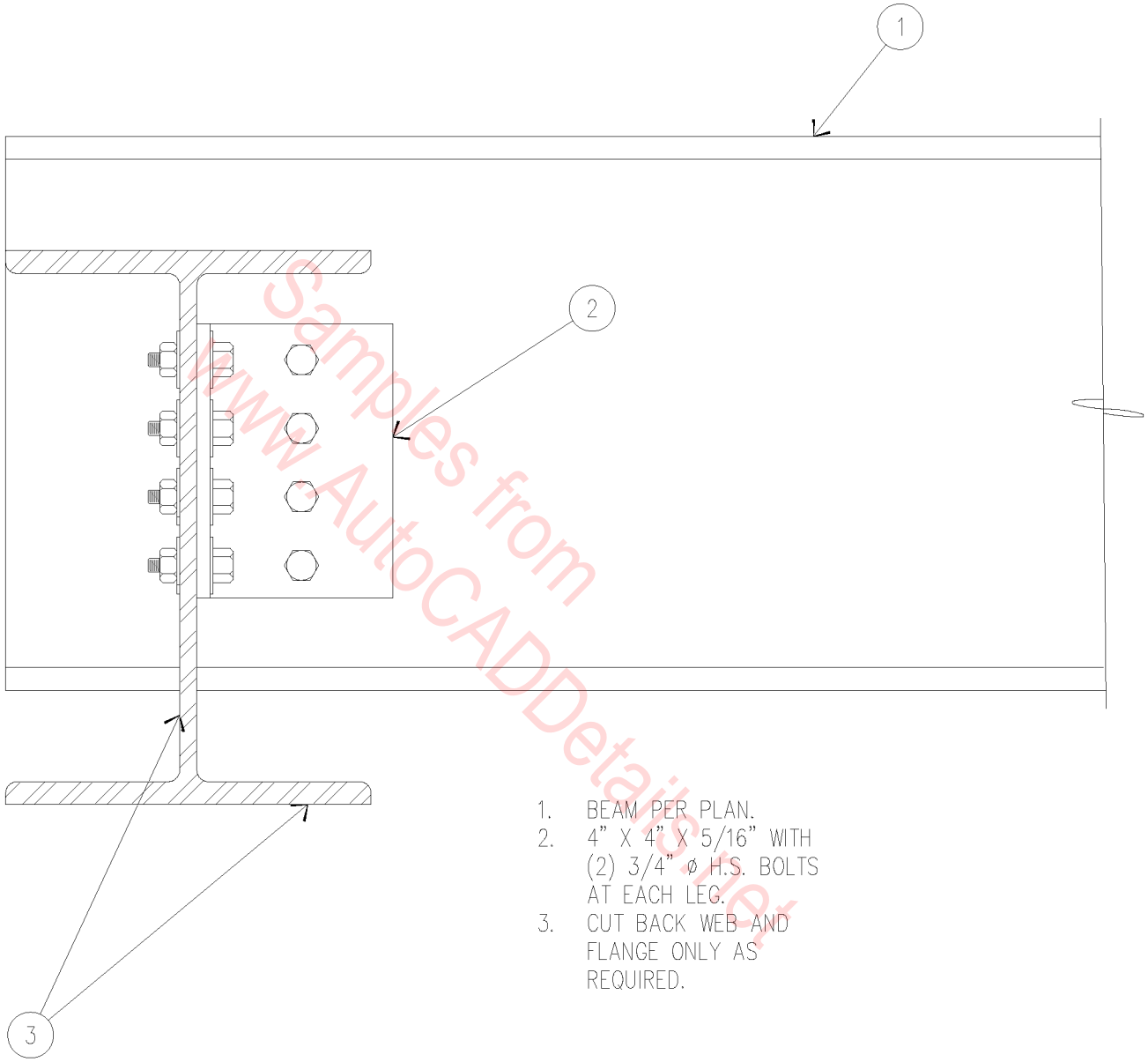


1. DEPRESSION – SEE PLAN.
2. SLAB ON METAL DECK – FOR THICKNESS, SEE PLAN.
3. (1) #4 REBAR, CONTINUOUS.
4. #4 REBAR AT 12" O.C., MINIMUM.
5. SPRAYED ON FIREPROOFING.
6. L 4" X 4" X 1/2", CONTINUOUS, WELDED TO BEAM.

DEPRESSED SLAB

1 1/2" = 1'-0"

05A-1043

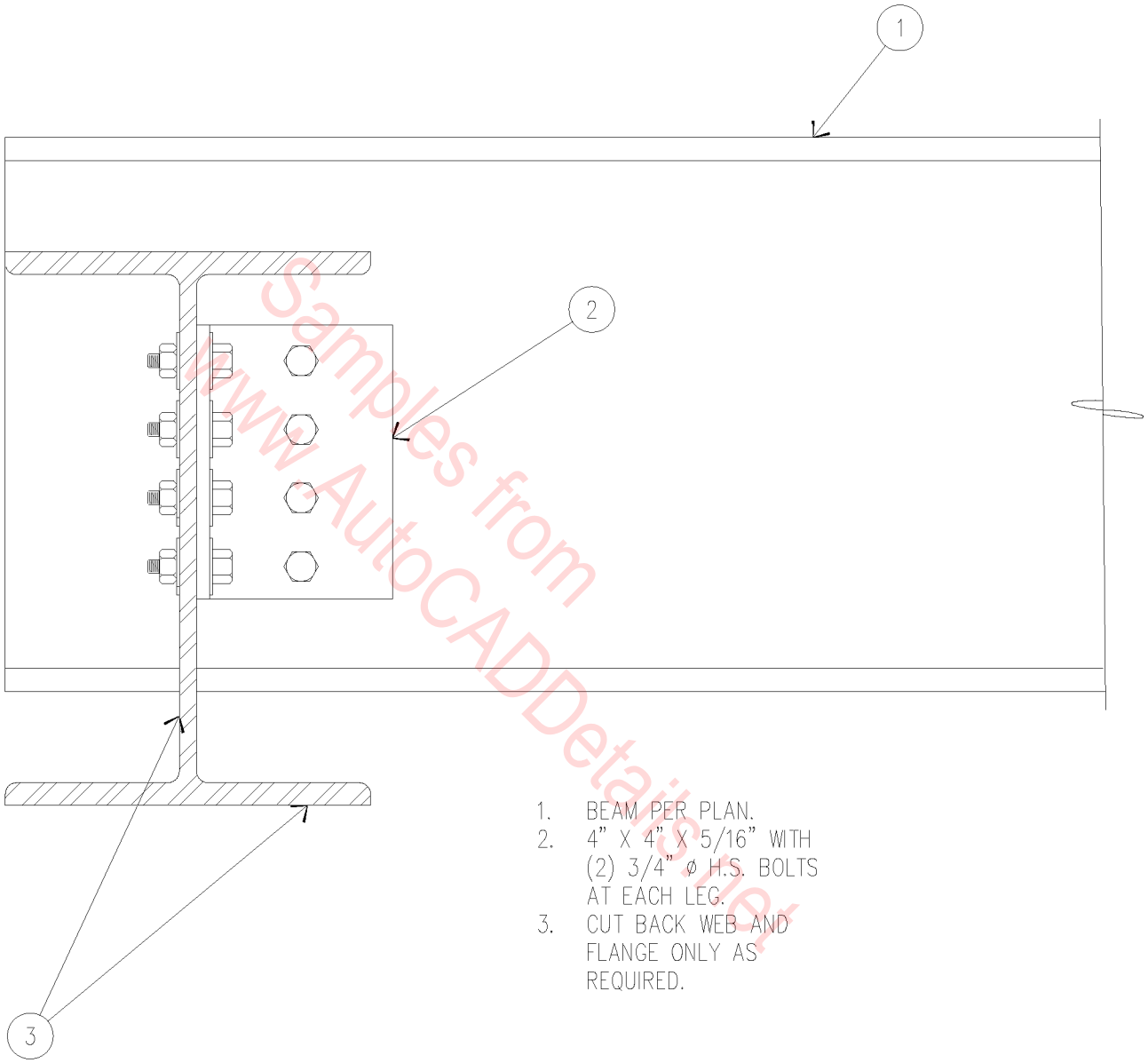


1. BEAM PER PLAN.
2. 4" X 4" X 5/16" WITH (2) 3/4" ø H.S. BOLTS AT EACH LEG.
3. CUT BACK WEB AND FLANGE ONLY AS REQUIRED.

WIDE FLANGE CONNECTION

3" = 1'-0"

05A-1044

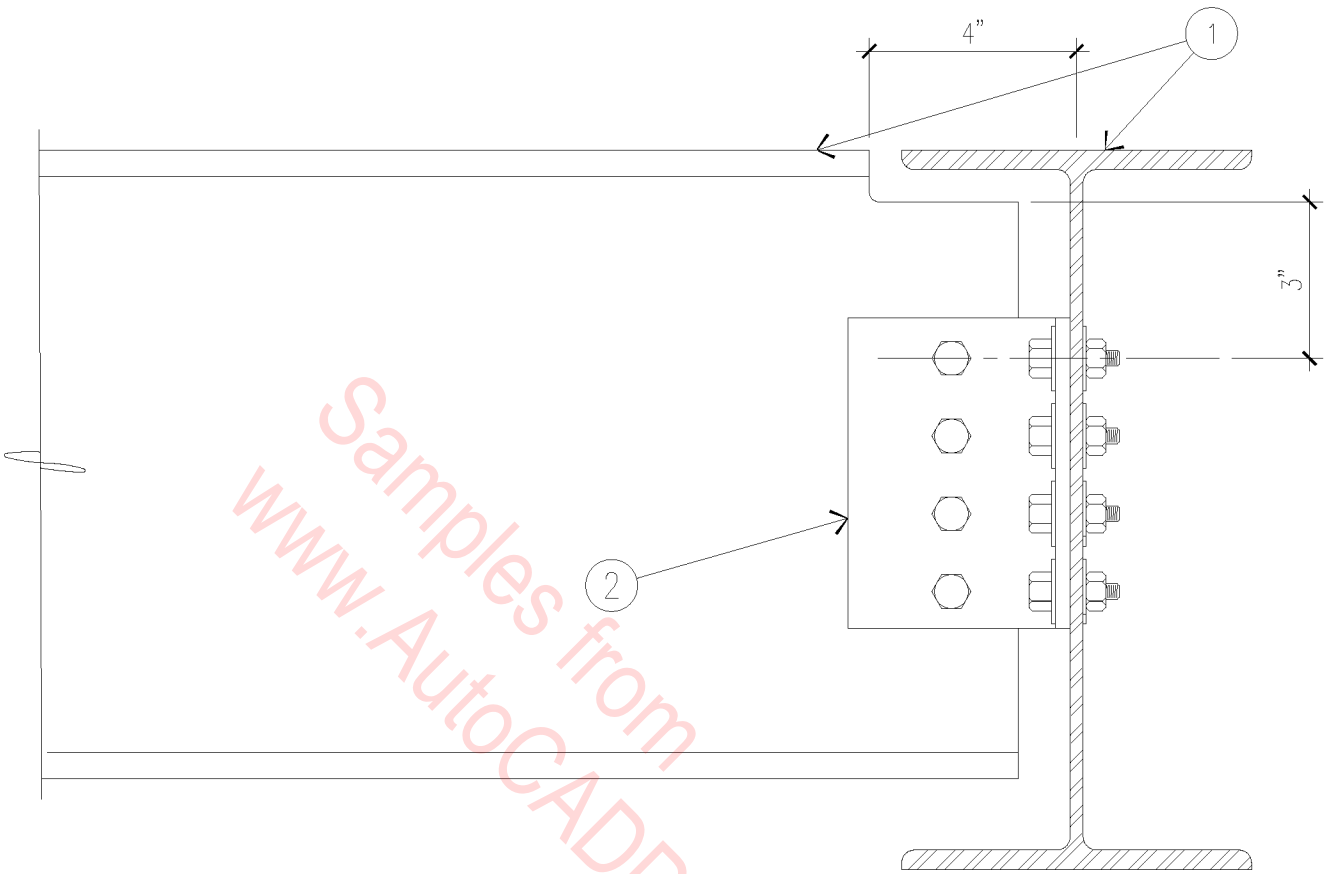


1. BEAM PER PLAN.
2. 4" X 4" X 5/16" WITH (2) 3/4" ø H.S. BOLTS AT EACH LEG.
3. CUT BACK WEB AND FLANGE ONLY AS REQUIRED.

WIDE FLANGE CONNECTION

3" = 1'-0"

05A-1044

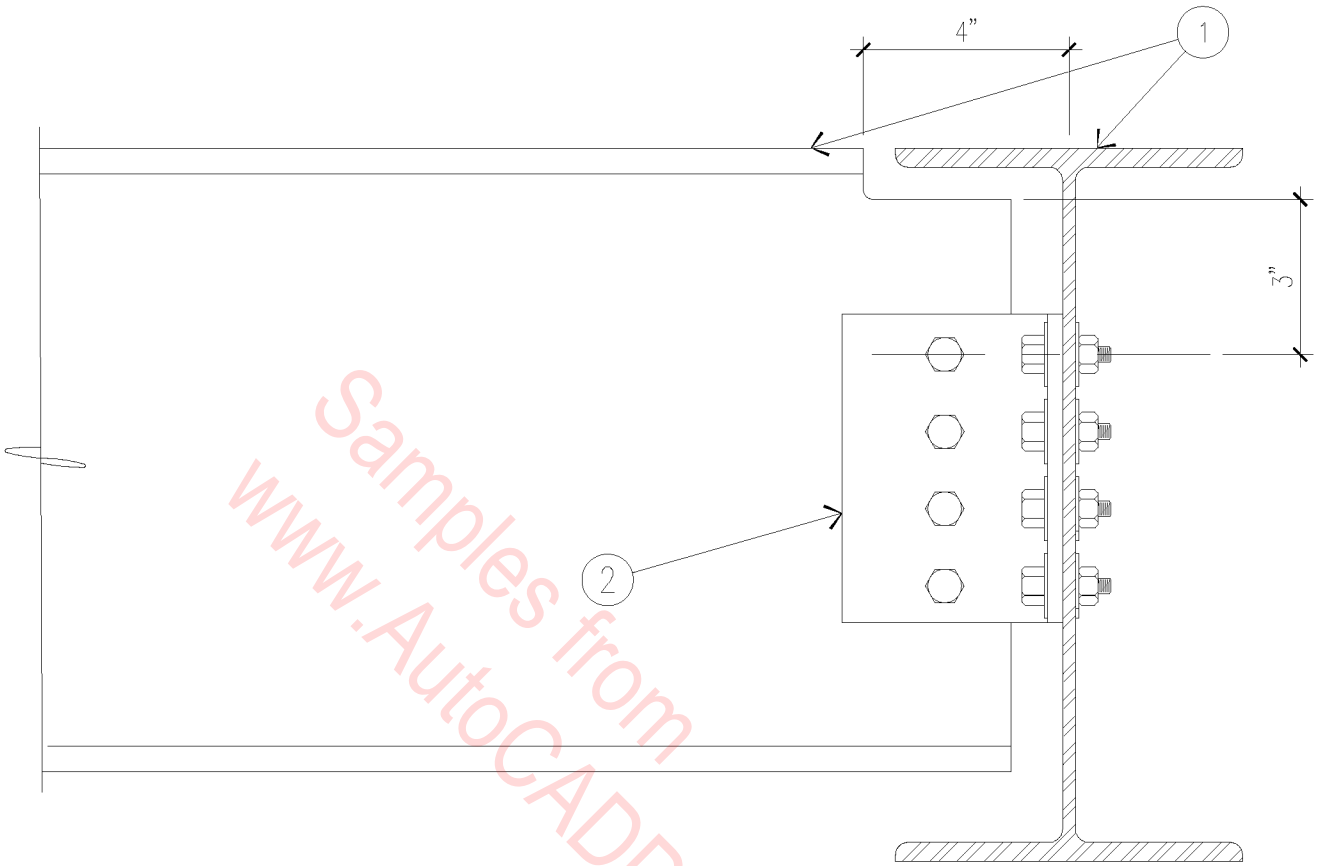


1. BEAM PER PLAN.
2. 3" X 4" X 5/16" ANGLE WITH (4) 3/4" ø H.S. BOLTS AT EACH LEG.

WIDE FLANGE CONNECTION

3" = 1'-0"

05A-1045

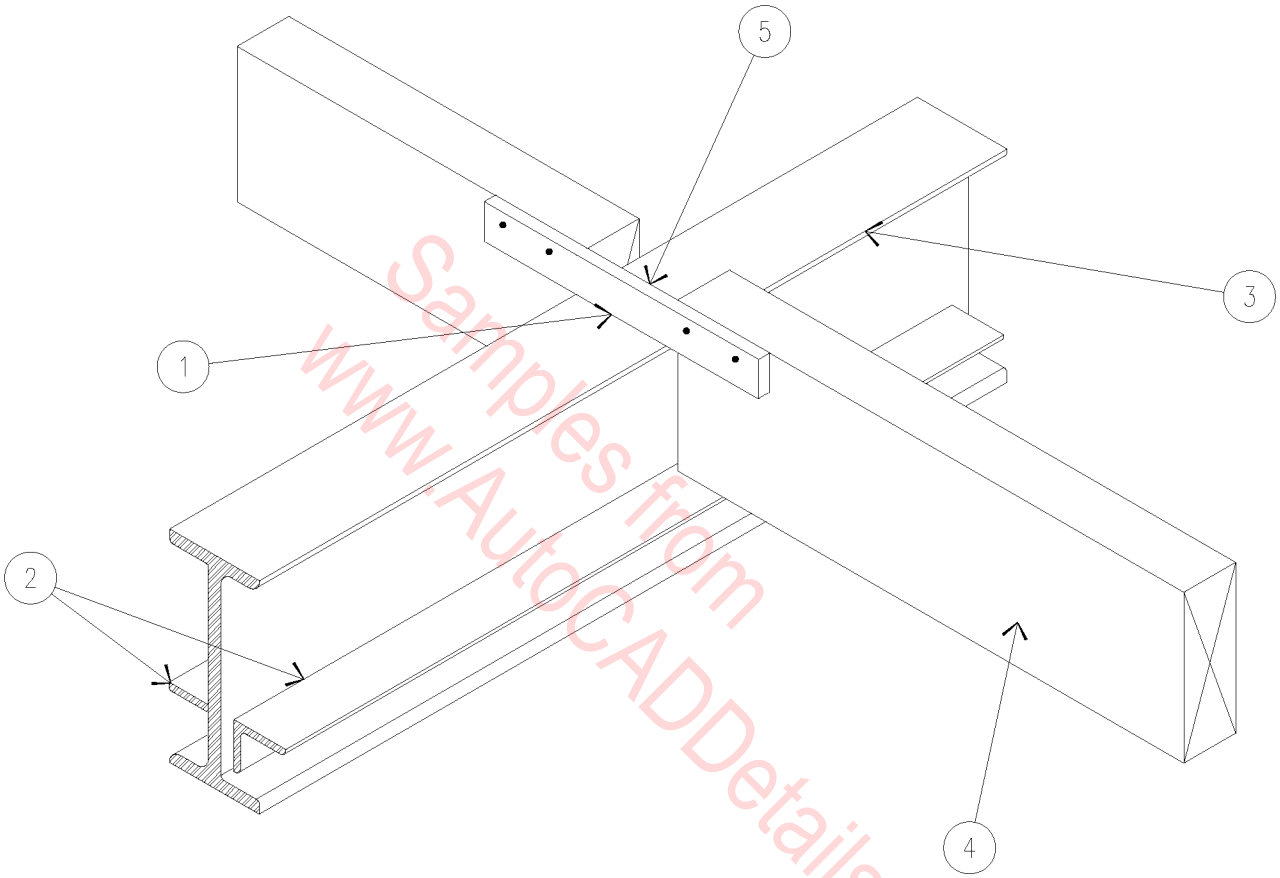


1. BEAM PER PLAN.
2. 3" X 4" X 5/16" ANGLE WITH (4) 3/4" ø H.S. BOLTS AT EACH LEG.

WIDE FLANGE CONNECTION

3" = 1'-0"

05A-1045

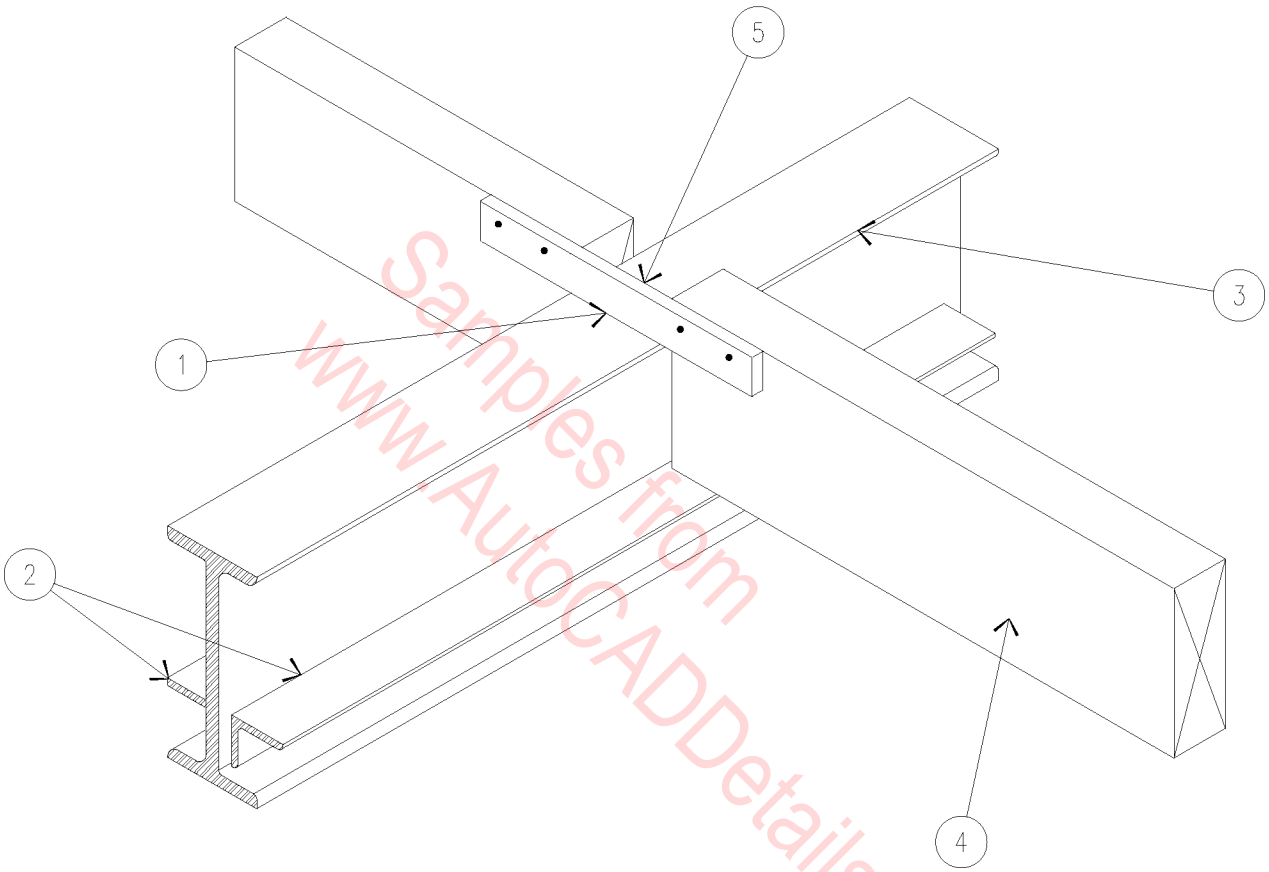


1. 1/2" CLEARANCE.
2. STEEL ANGLE LEDGER.
3. STEEL BEAM.
4. FLOOR JOIST.
5. 1 X RETAINER.

JOIST AT BEAM

1 1/2" = 1'-0"

05A-1046

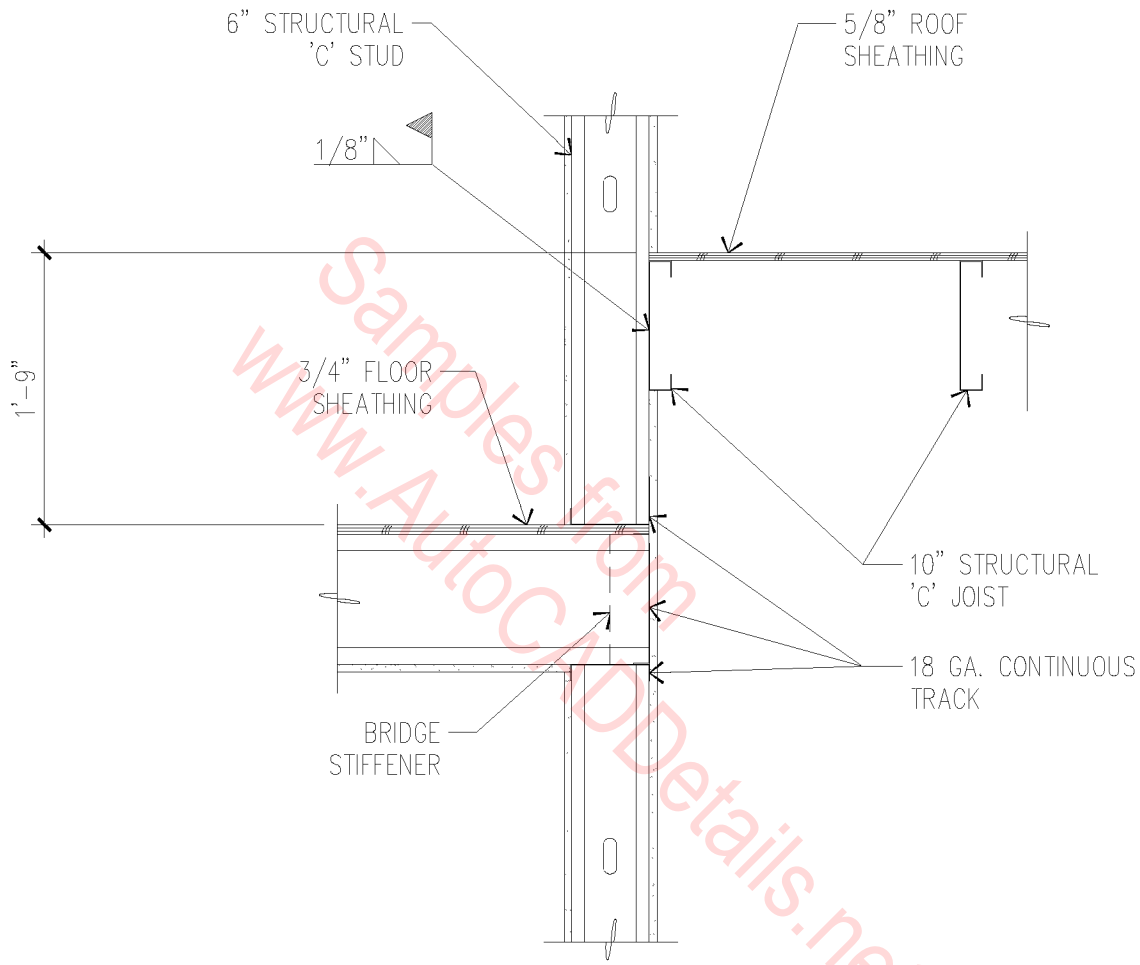


1. 1/2" CLEARANCE.
2. STEEL ANGLE LEDGER.
3. STEEL BEAM.
4. FLOOR JOIST.
5. 1 X RETAINER.

JOIST AT BEAM

1 1/2" = 1'-0"

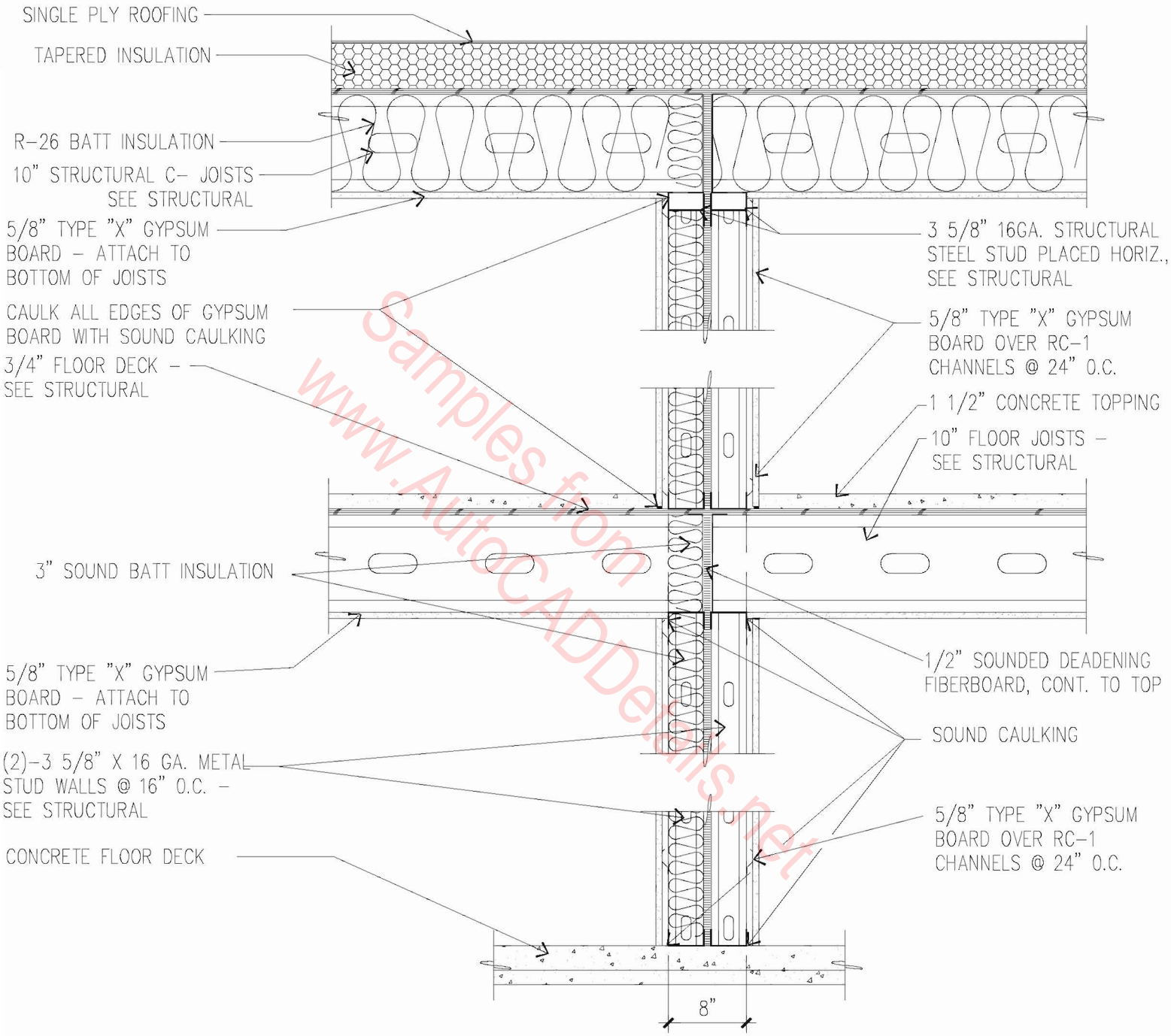
05A-1046



FRAMING SECTION

3/4" = 1'-0"

05B-4001

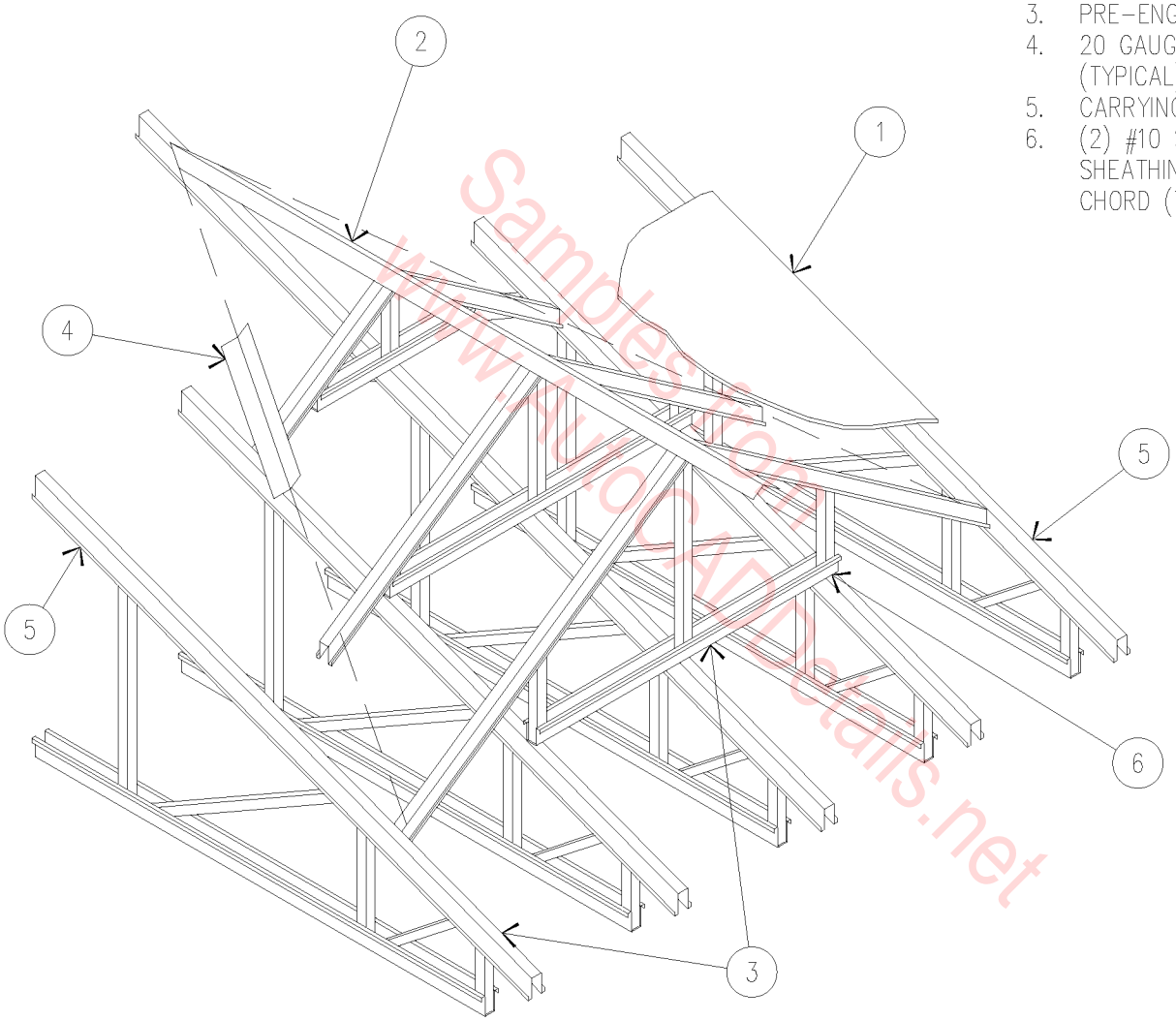


PARTYWALL

3/4" = 1'-0"

05B-4002

1. PLYWOOD SHEATHING (TYPICAL).
2. 20 GAUGE RIDGE PLATE WITH (2) #10 SCREWS AT EACH TRUSS (TYPICAL).
3. PRE-ENGINEERED TRUSS.
4. 20 GAUGE VALLEY PLATE. (TYPICAL).
5. CARRYING TRUSS.
6. (2) #10 SCREWS THROUGH SHEATHING INTO TRUSS TOP CHORD (TYPICAL).

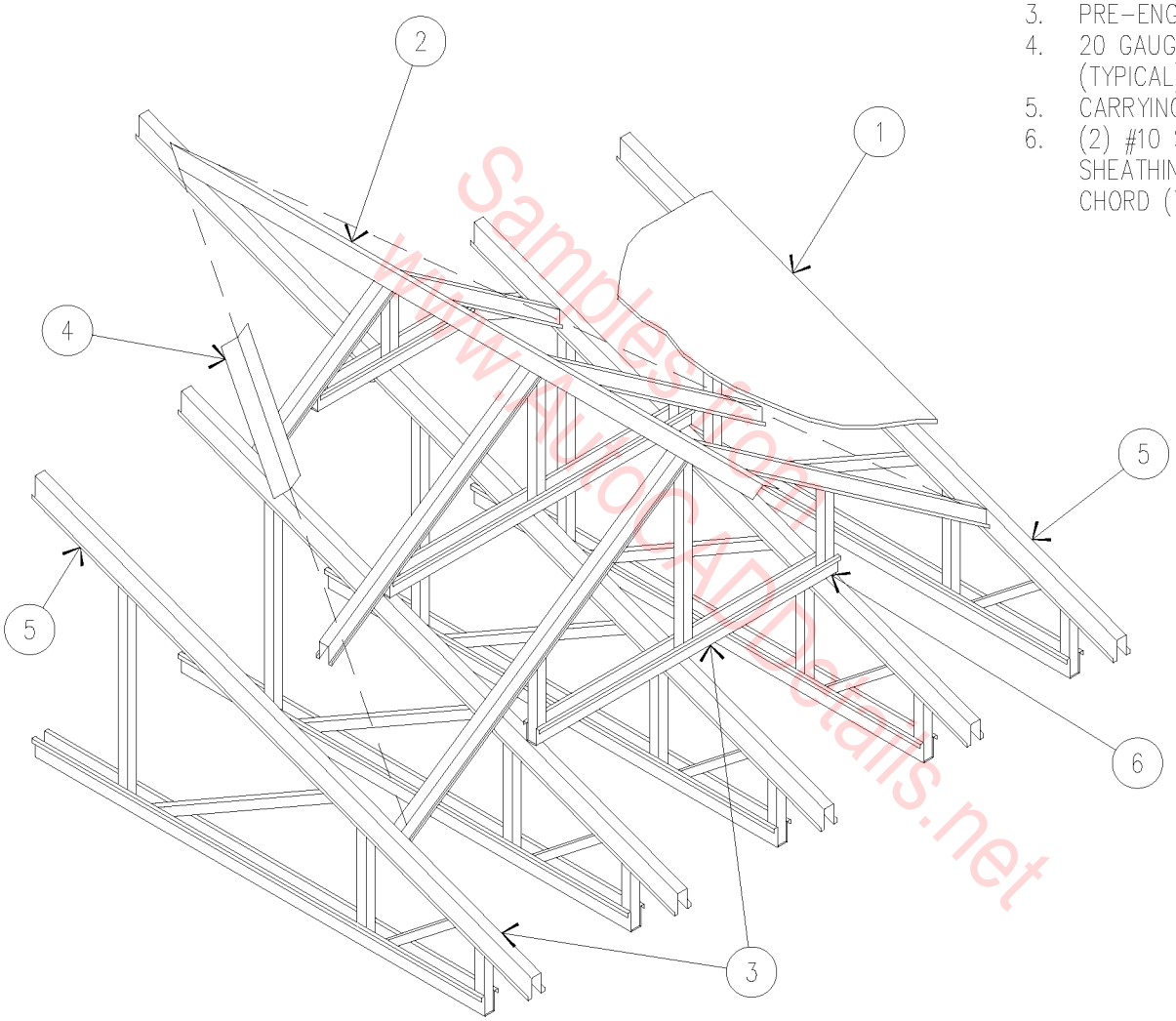


GABLE END FRAMING

N.T.S.

05B-4003

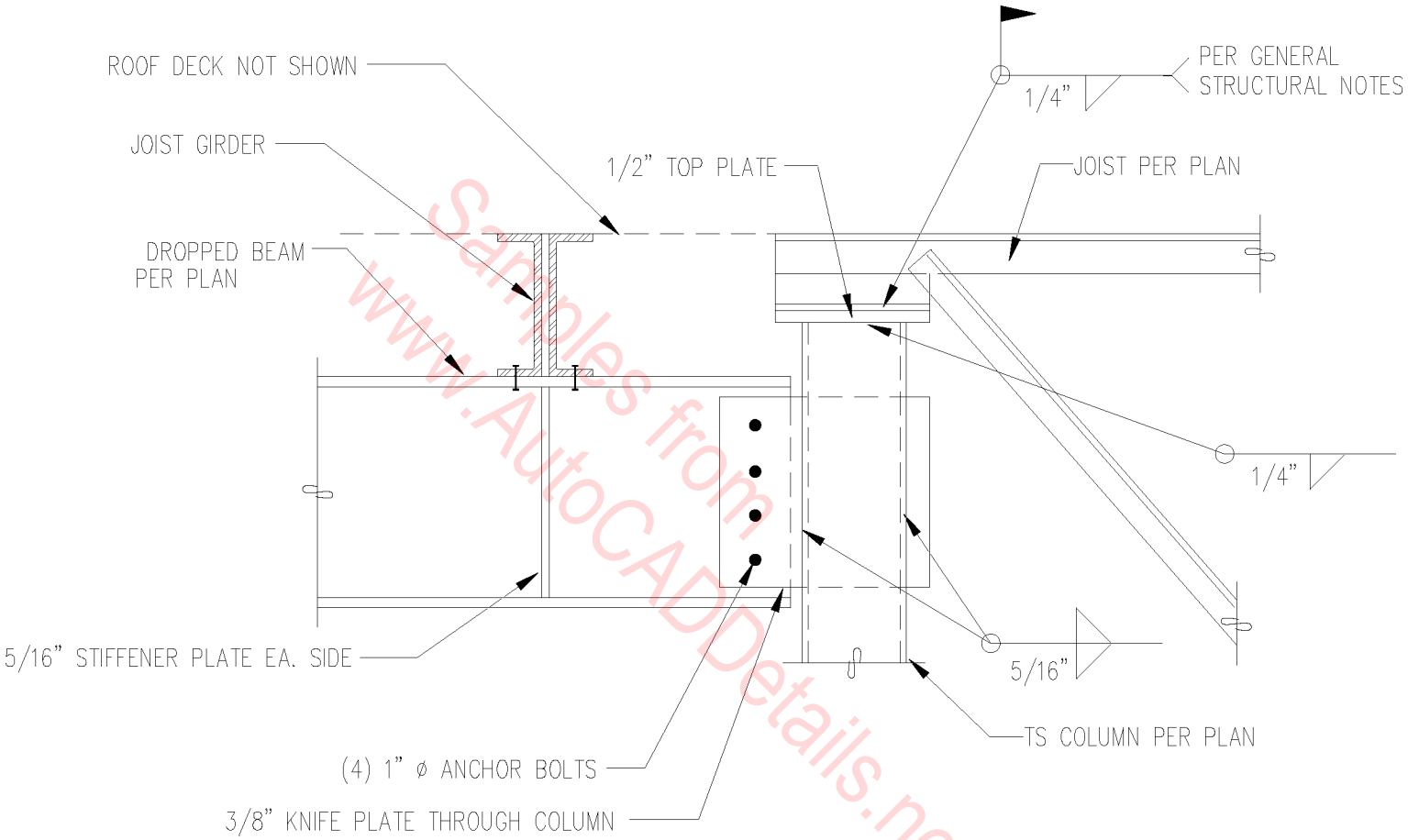
1. PLYWOOD SHEATHING (TYPICAL).
2. 20 GAUGE RIDGE PLATE WITH (2) #10 SCREWS AT EACH TRUSS (TYPICAL).
3. PRE-ENGINEERED TRUSS.
4. 20 GAUGE VALLEY PLATE. (TYPICAL).
5. CARRYING TRUSS.
6. (2) #10 SCREWS THROUGH SHEATHING INTO TRUSS TOP CHORD (TYPICAL).



GABLE END FRAMING

N.T.S.

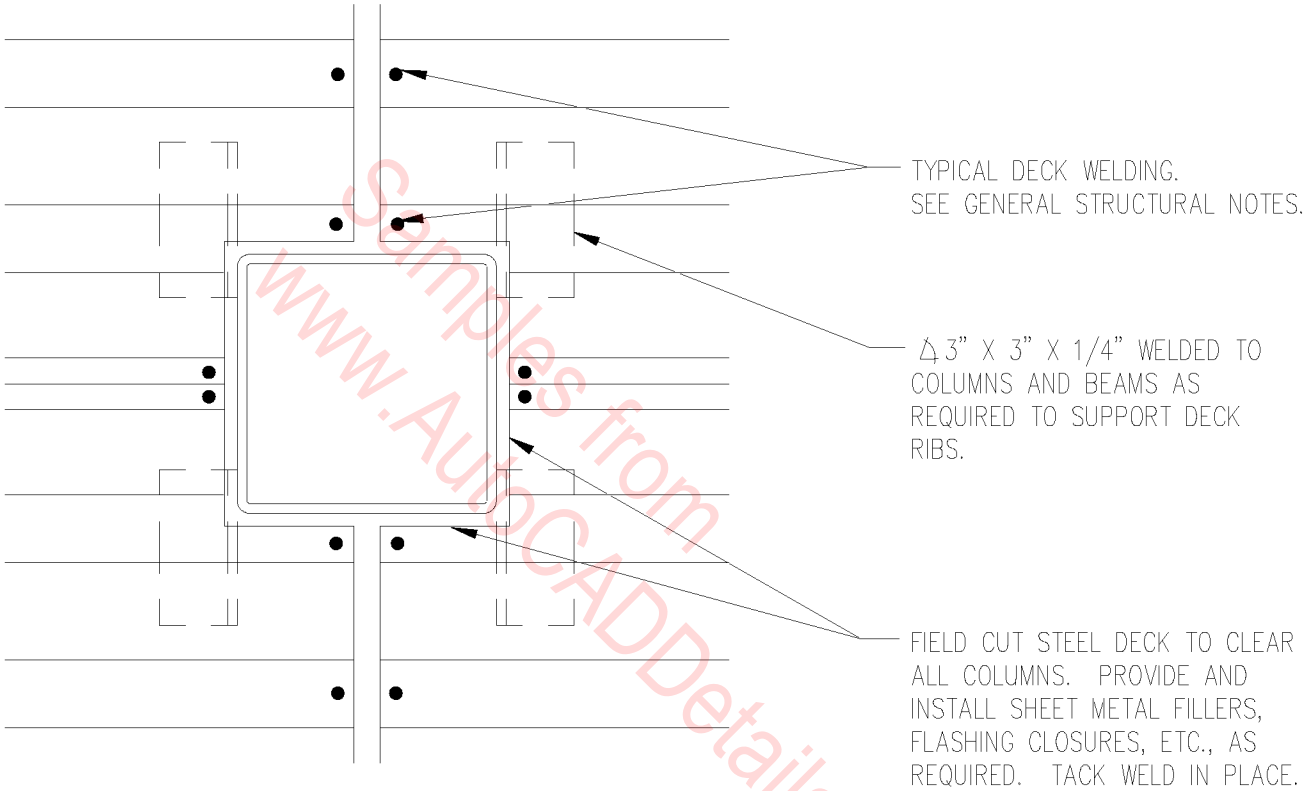
05B-4003



DROPPED BEAM TO COLUMN

3/4" = 1'-0"

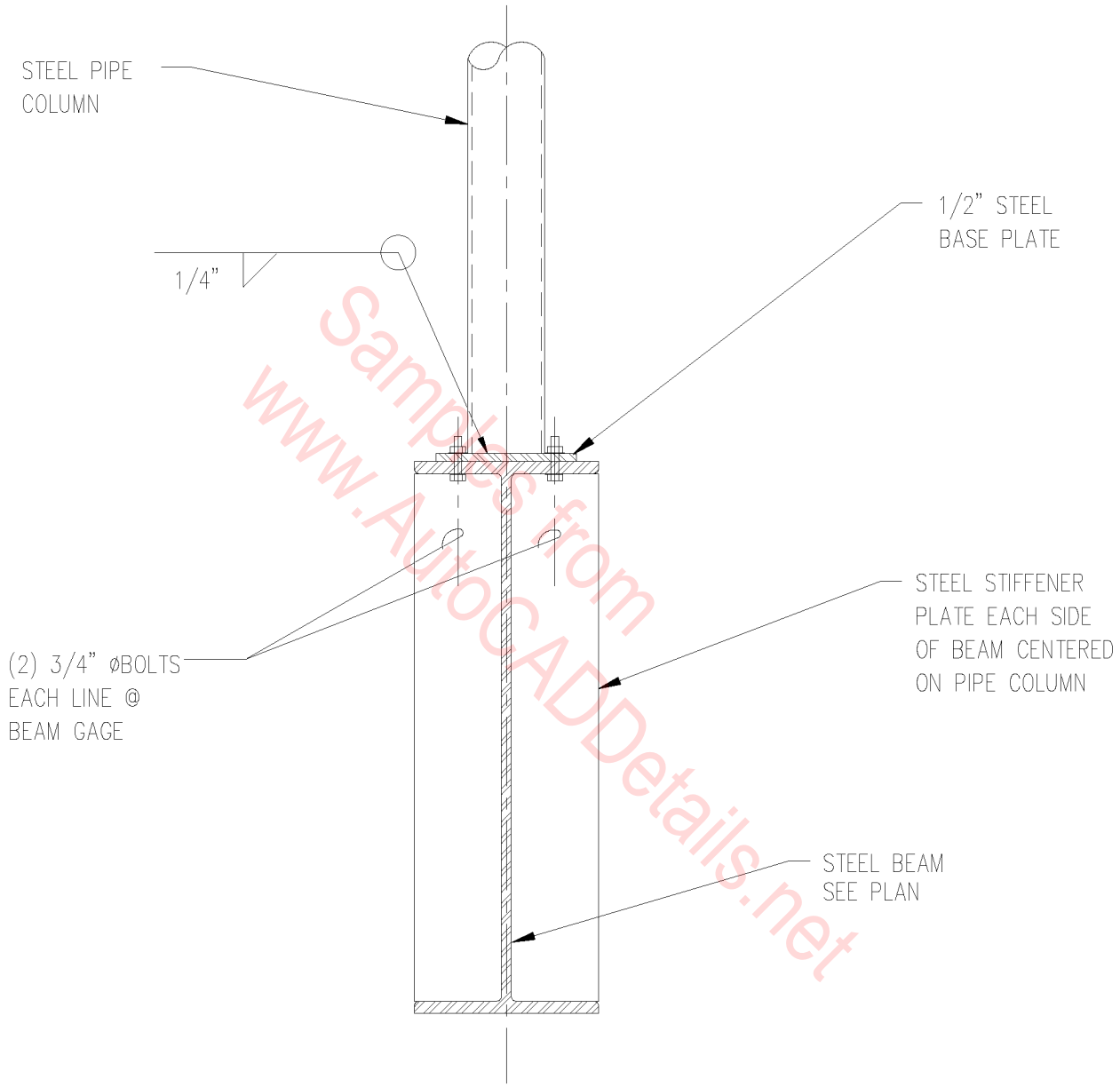
05B-1001



DECK AT T.S. COLUMN

SCALE: 3/4" = 1'-0"

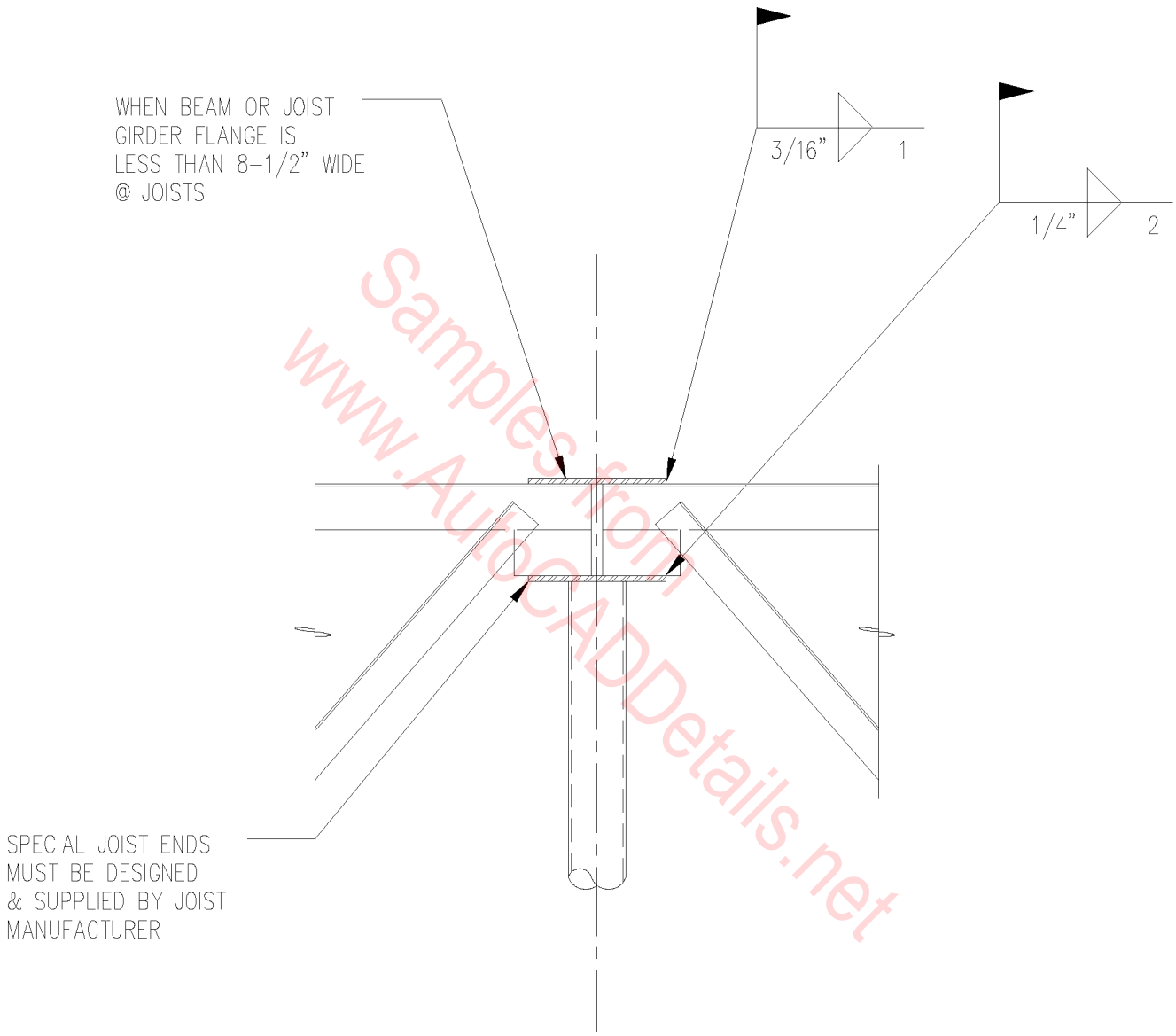
05B-1002



COLUMN TO BEAM

SCALE: 3/4" = 1'-0"

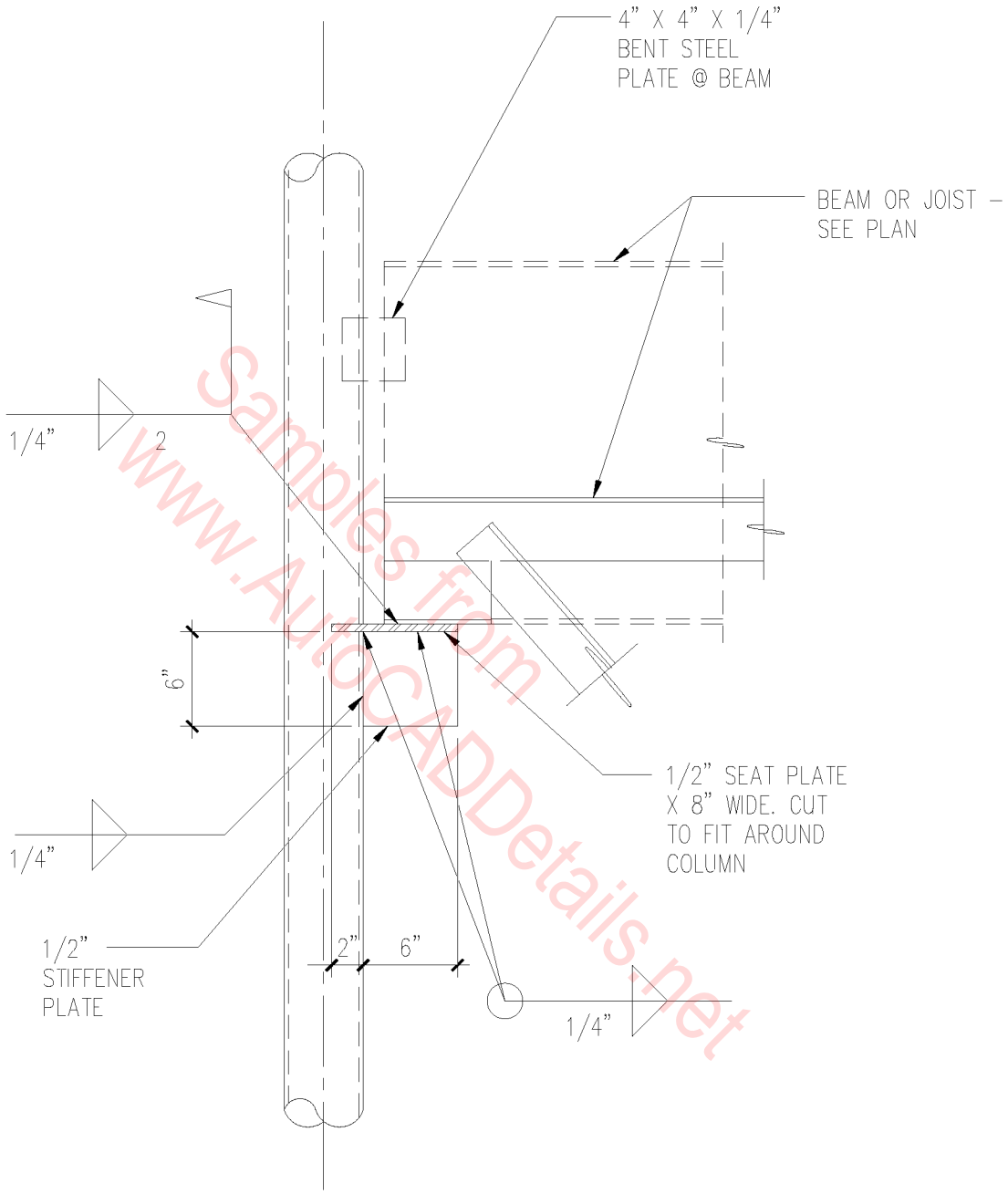
05B-1003



GIRDER TO COLUMN

SCALE: 3/4" = 1'-0"

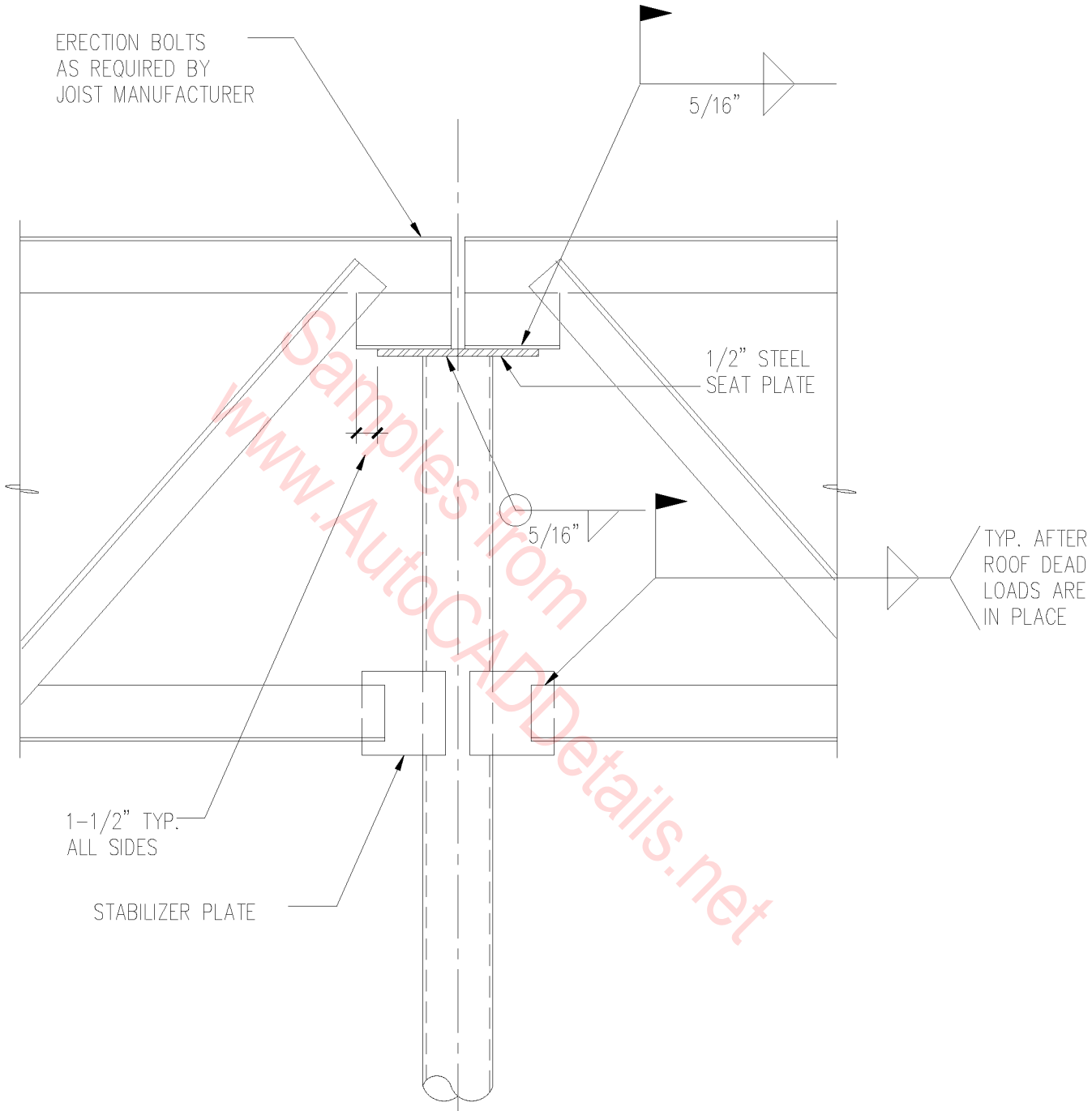
05B-1004



BEAM/JOIST TO COLUMN SEAT

SCALE: 3/4" = 1'-0"

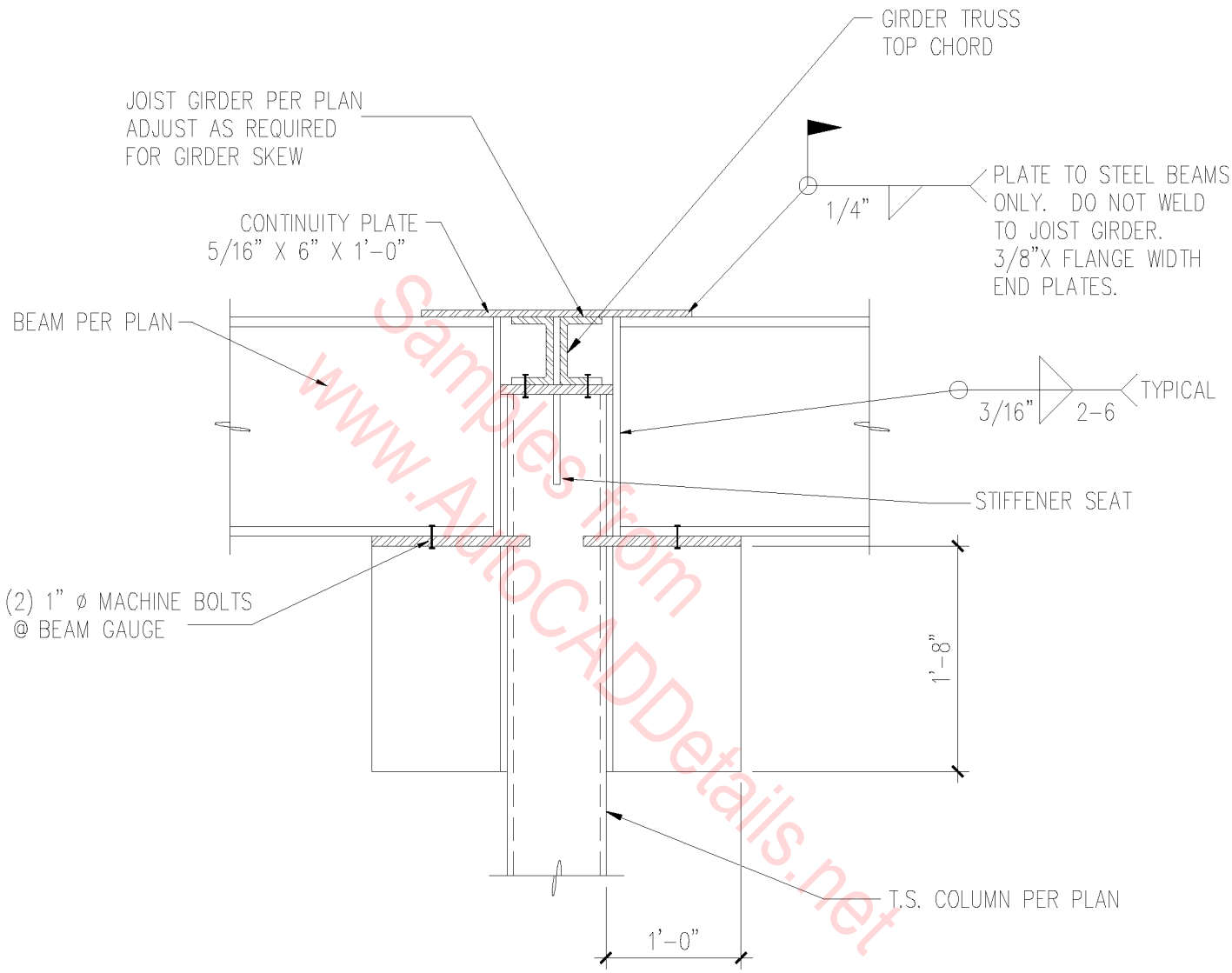
05B-1005



GIRDER TO COLUMN SEAT

SCALE: 3/4" = 1'-0"

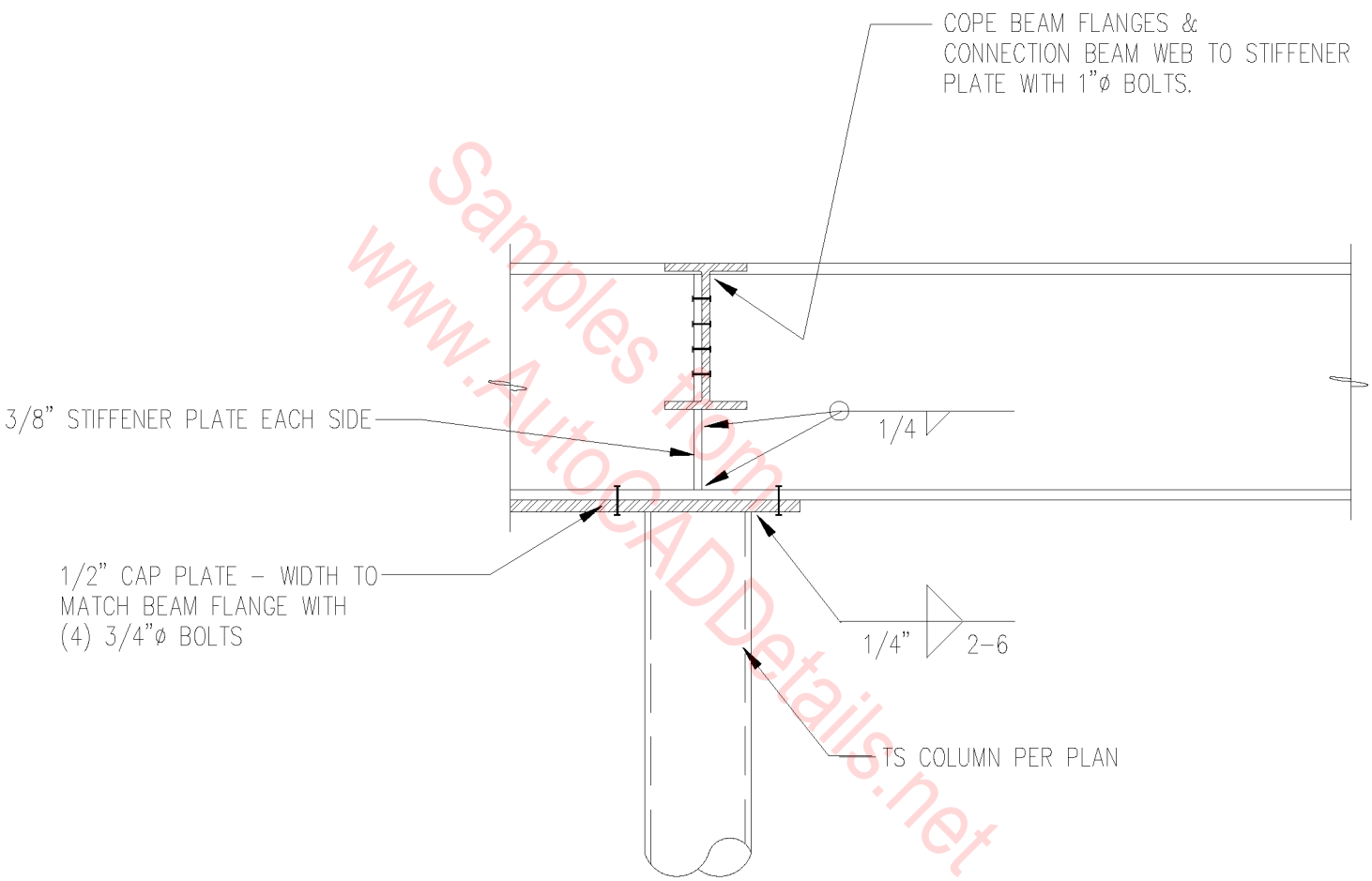
05B-1006



BEAMS & GIRDER @ COLUMN SEAT

SCALE: 3/4" = 1'-0"

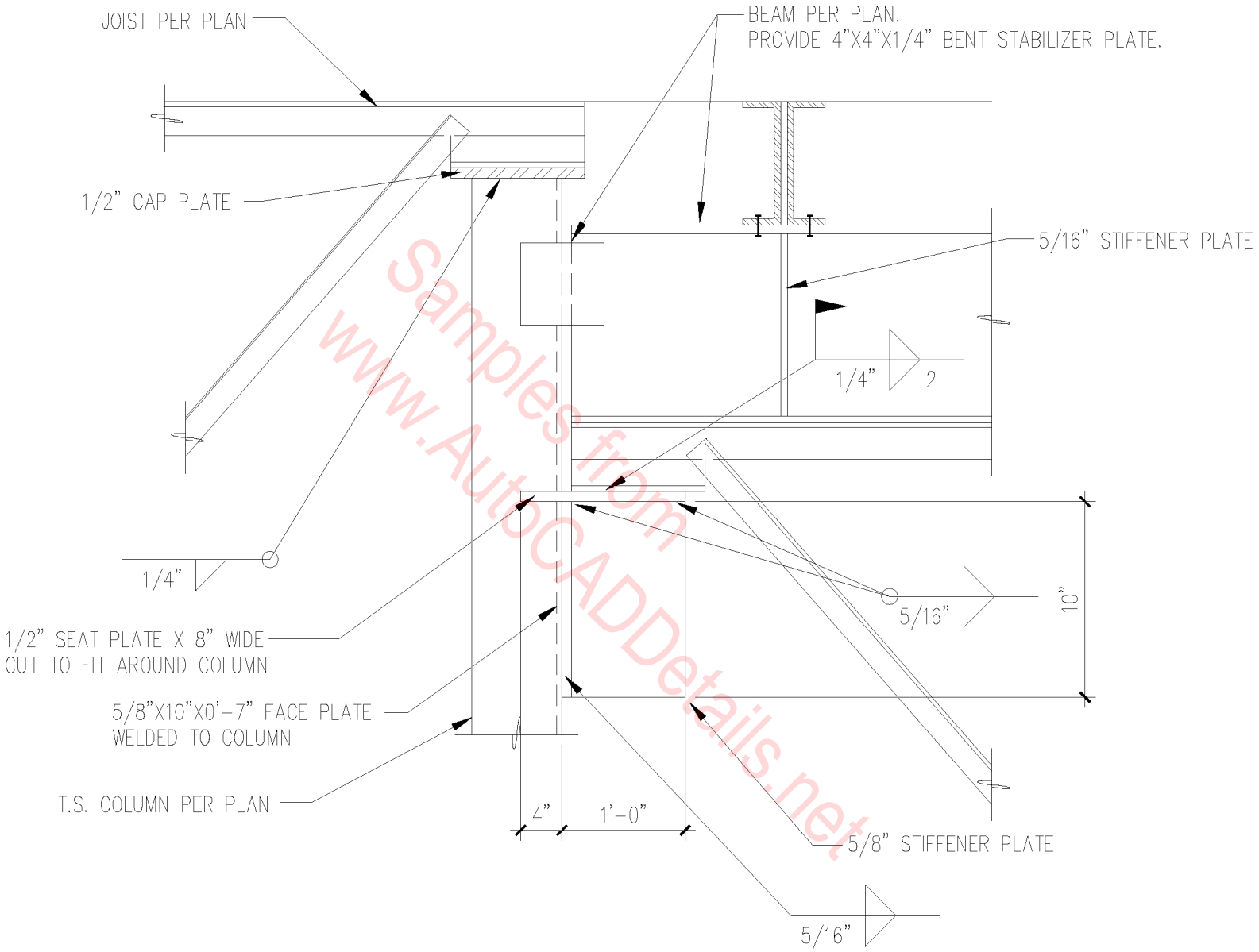
05B-1007



GIRDER TO BEAM @ COLUMN SEAT

SCALE: 3/4" = 1'-0"

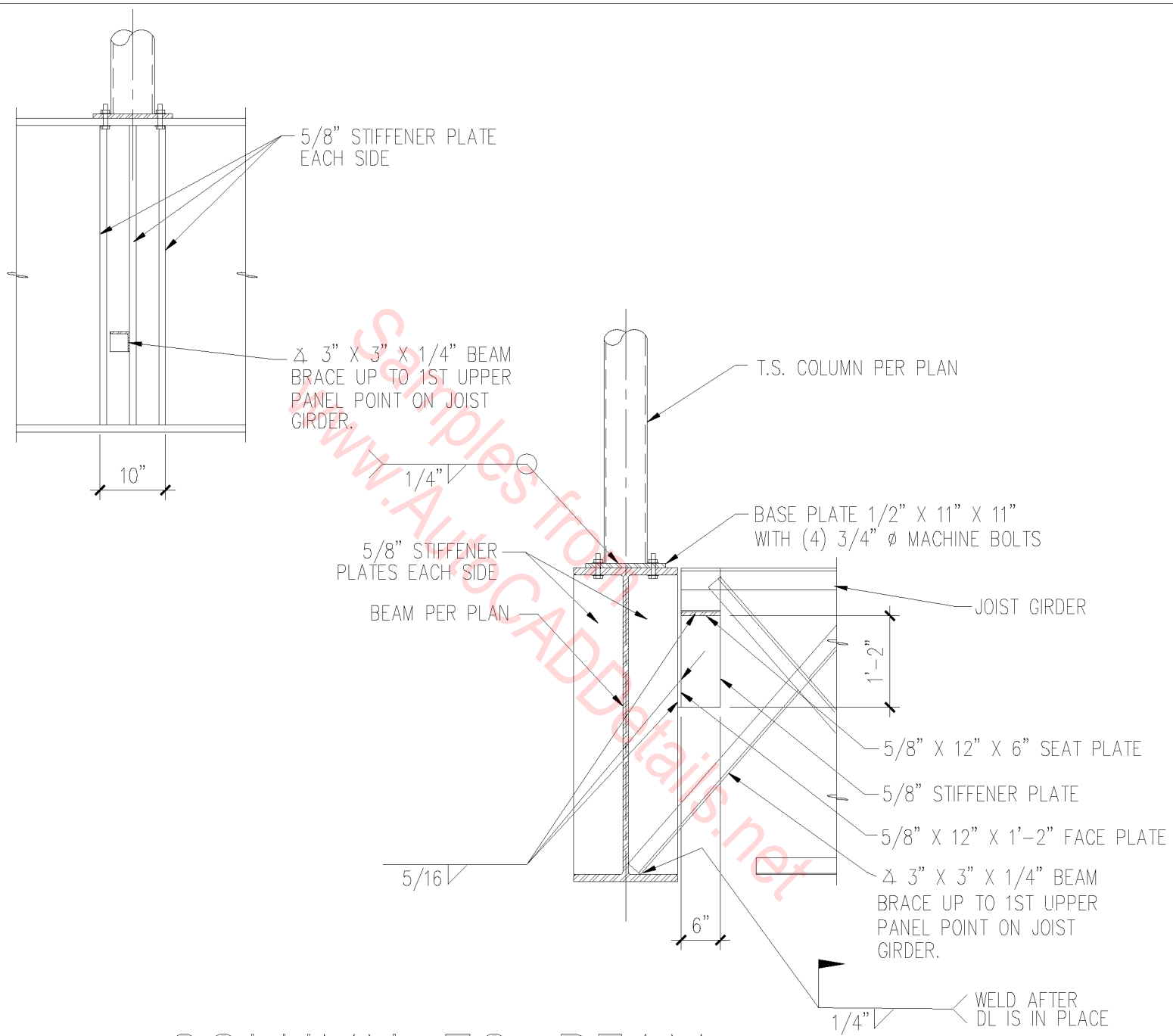
05B-1008



BEAM/JOIST TO COLUMN

SCALE: 3/4" = 1'-0"

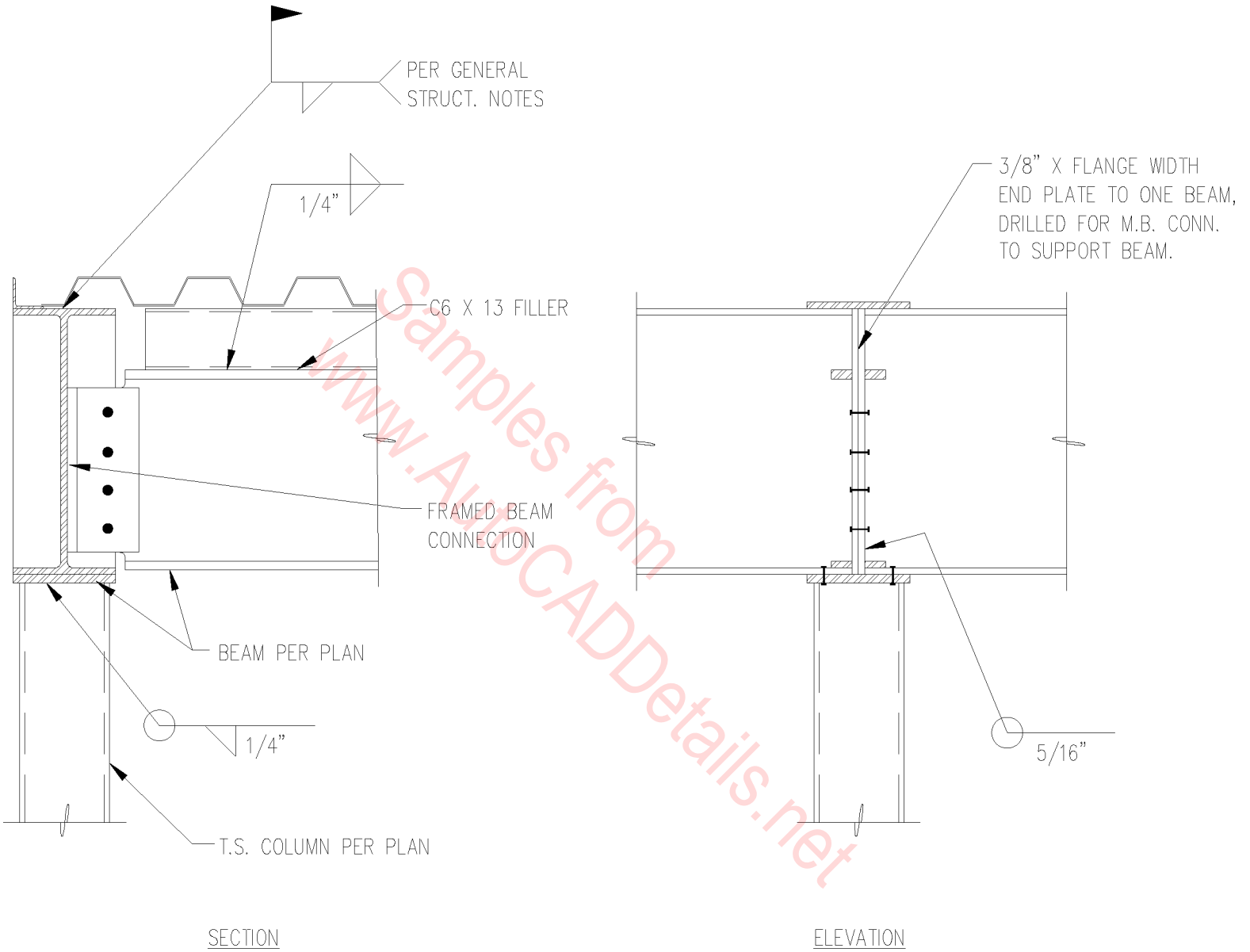
05B-1009



COLUMN TO BEAM AT JOIST GIRDER

SCALE: 1/2" – 1'-0"

05B-1010



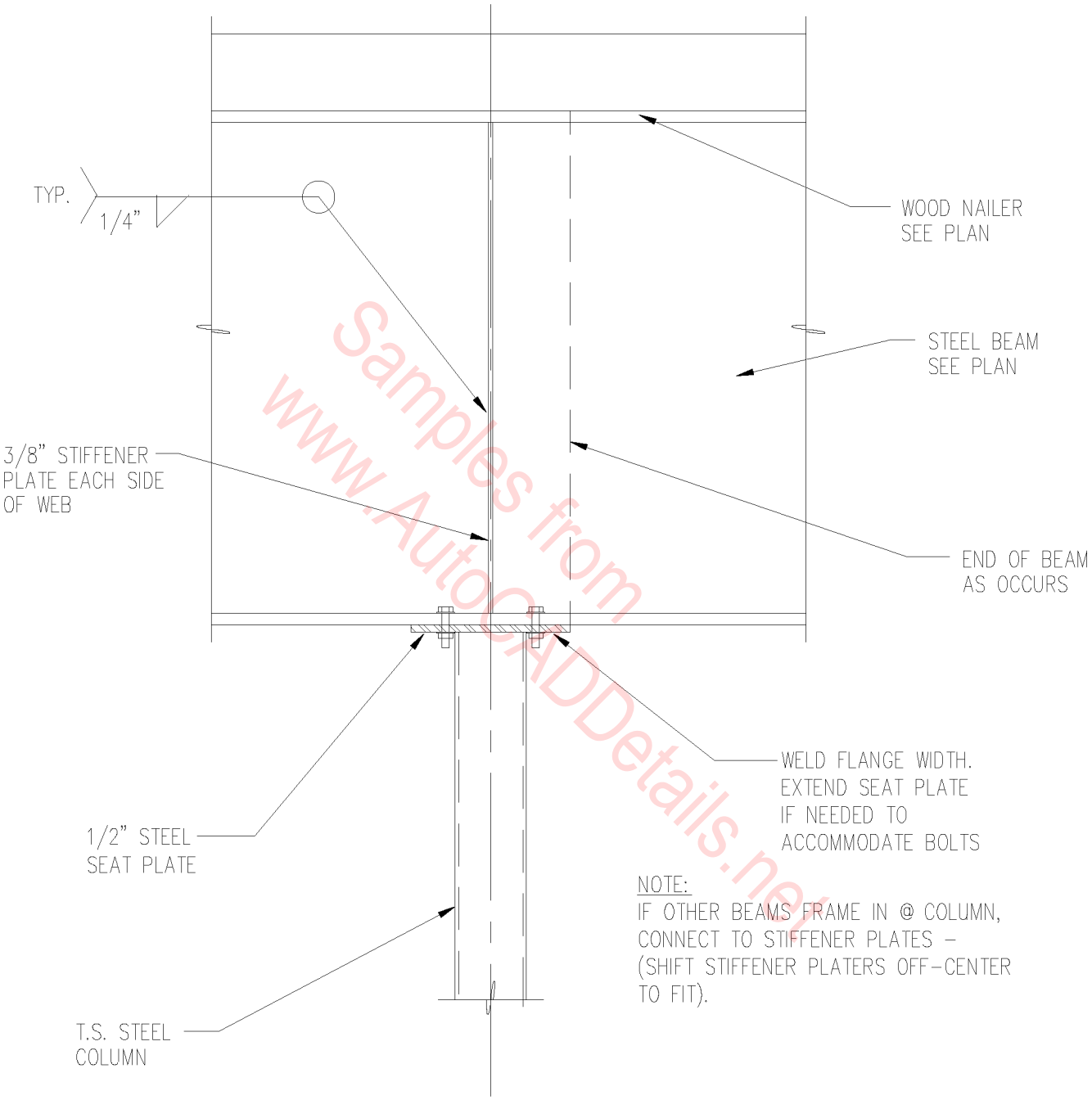
SECTION

ELEVATION

BEAM TO BEAM @ COLUMN

3/4" = 1'-0"

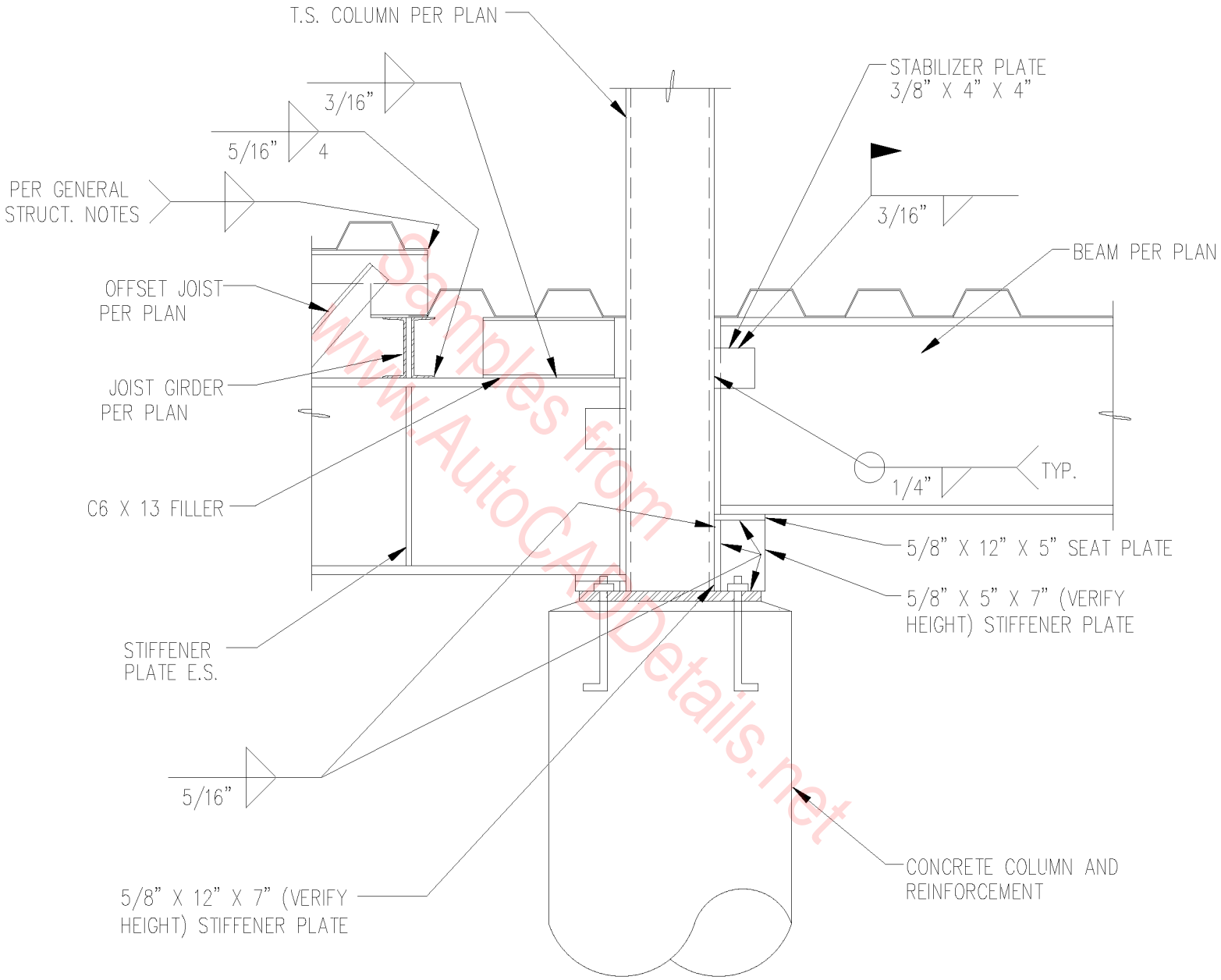
05B-1011



COLUMN TO BEAM

SCALE: 1" = 1'-0"

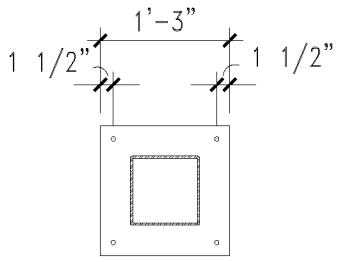
05B-1012



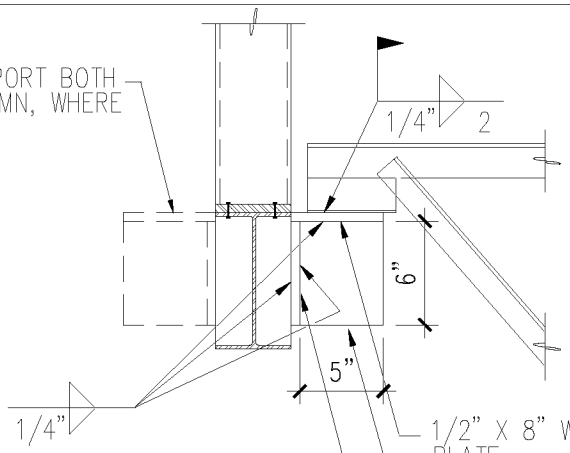
BEAM TO COLUMN

SCALE: 3/4" = 1'-0"

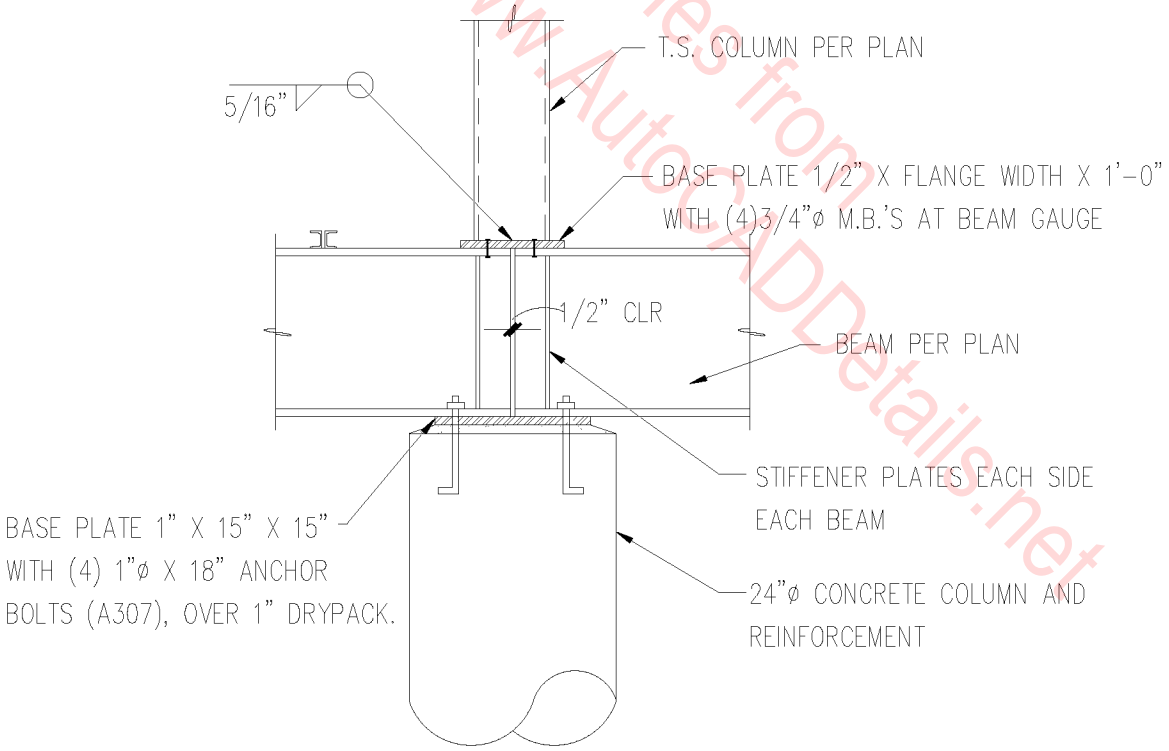
05B-1013



BASE PLATE
PLAN



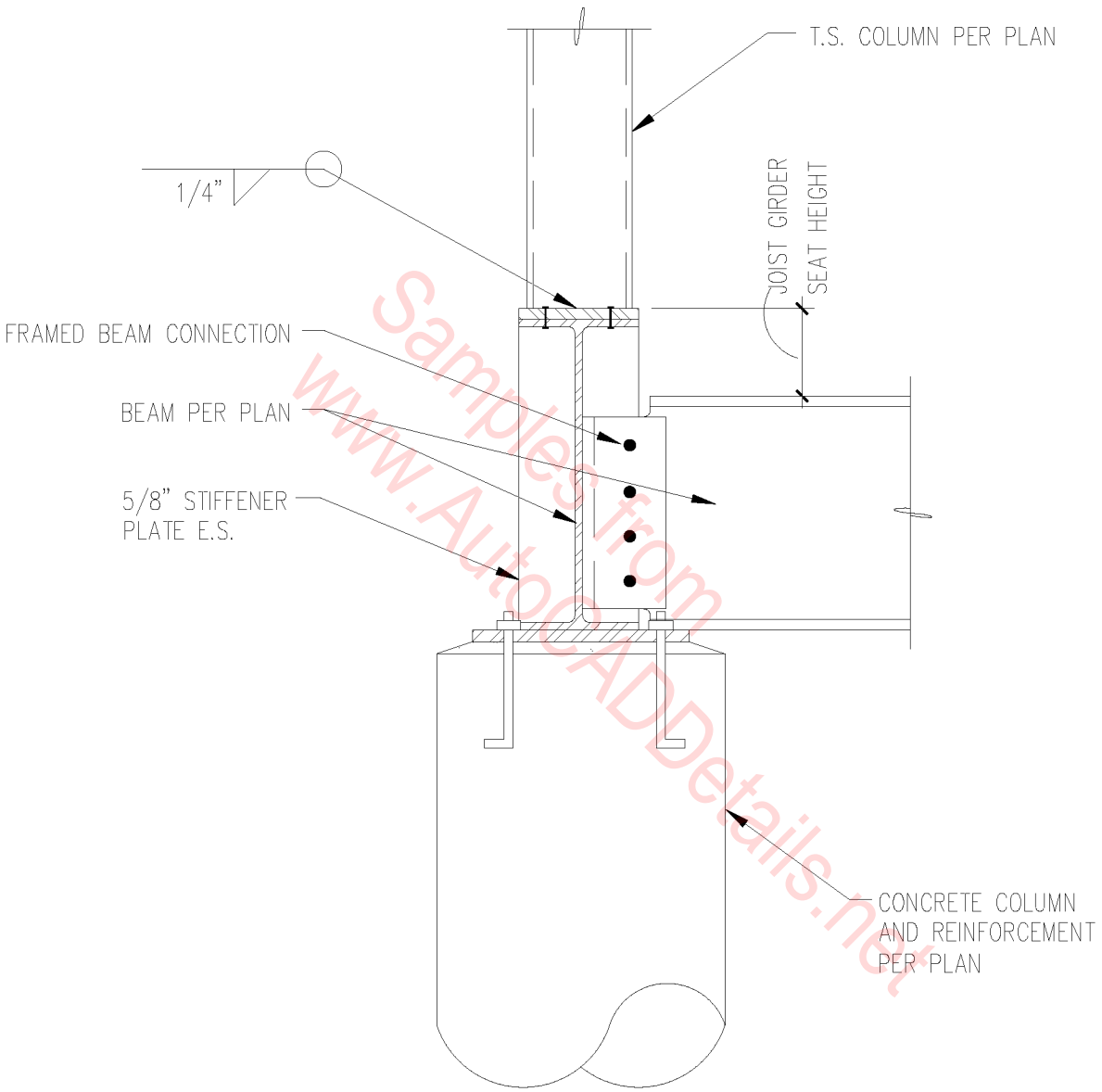
CONDITION WHERE
JOIST FRAMES OPPOSITE
COLUMN



BEAM SEATED AT CONCRETE COLUMN

SCALE: 1/2" = 1'-0"

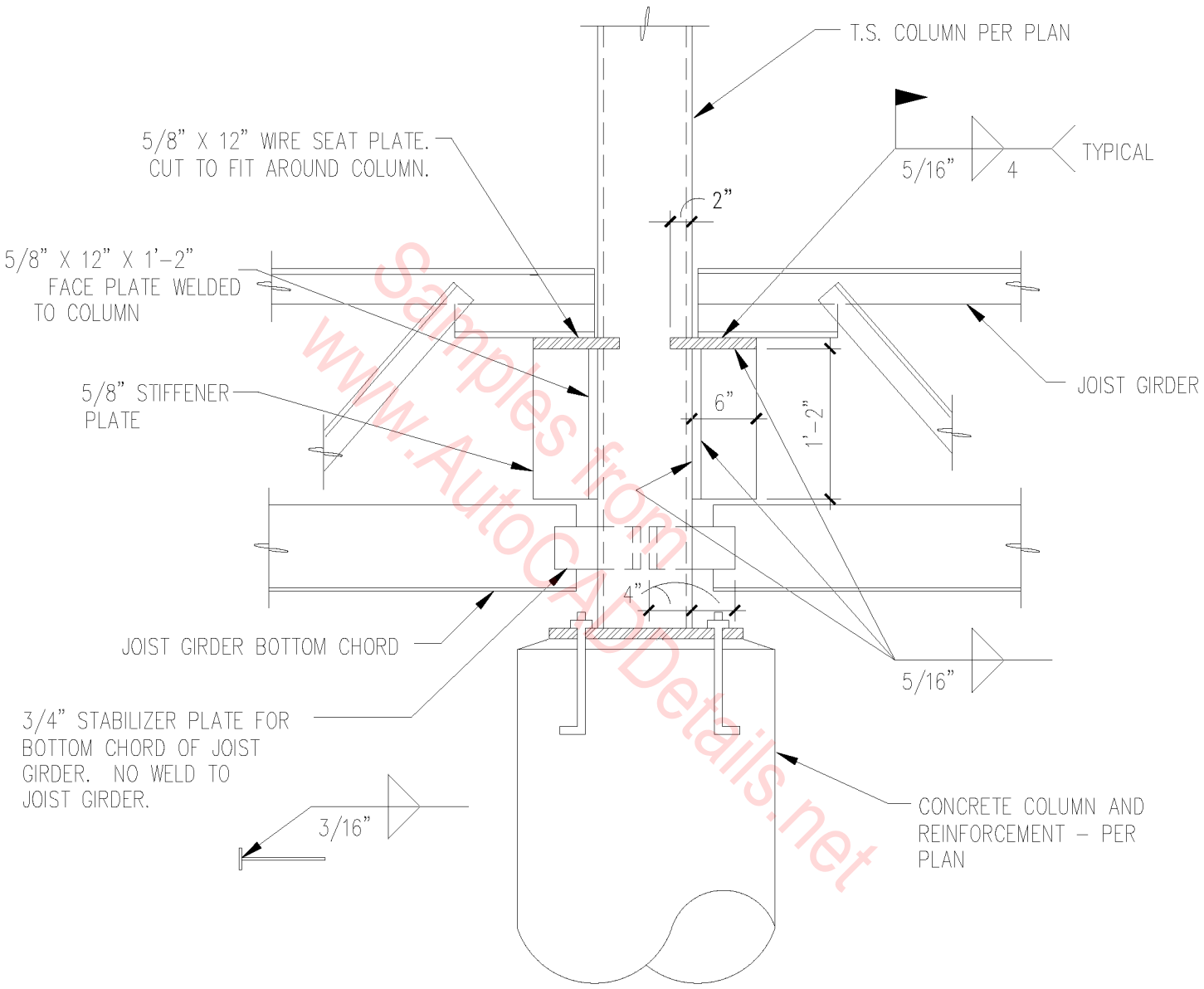
05B-1014



BEAM TO BEAM

SCALE: 3/4" = 1'-0"

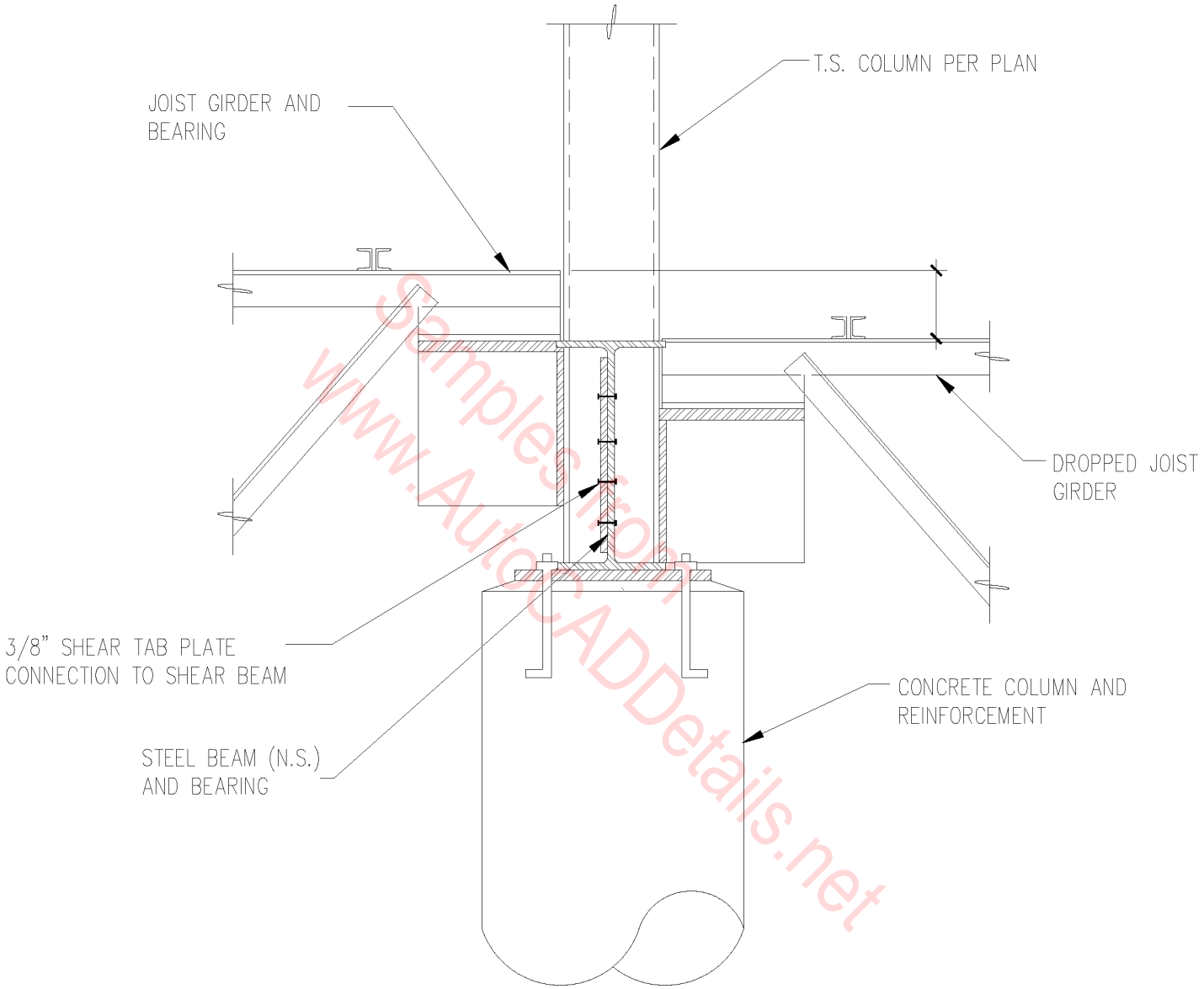
05B-1015



JOIST GIRDER TO COLUMN

SCALE: 3/4" = 1'-0"

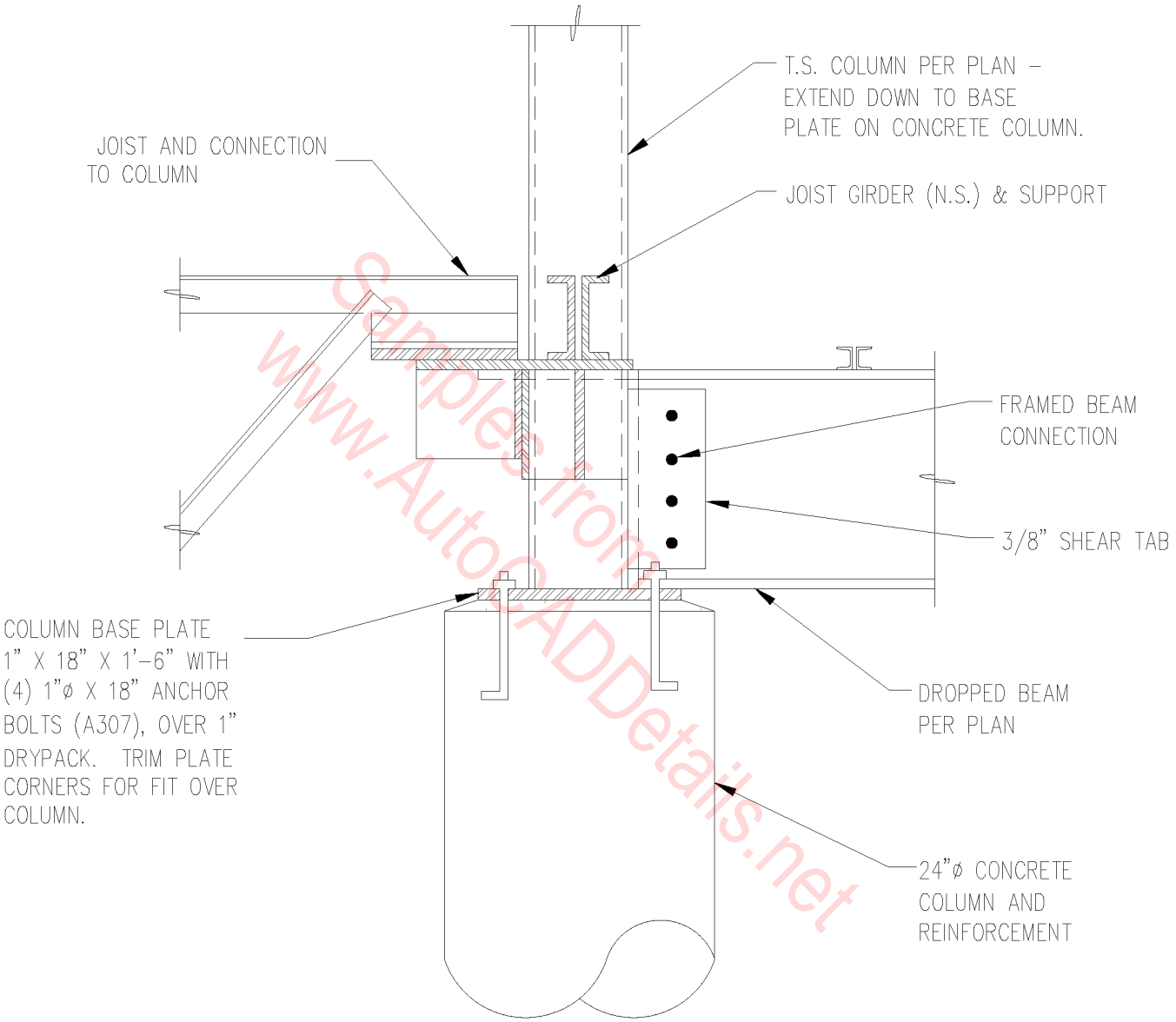
05B-1016



JOIST AND GIRDER CONNECTION TO COLUMN

3/4" = 1'-0"

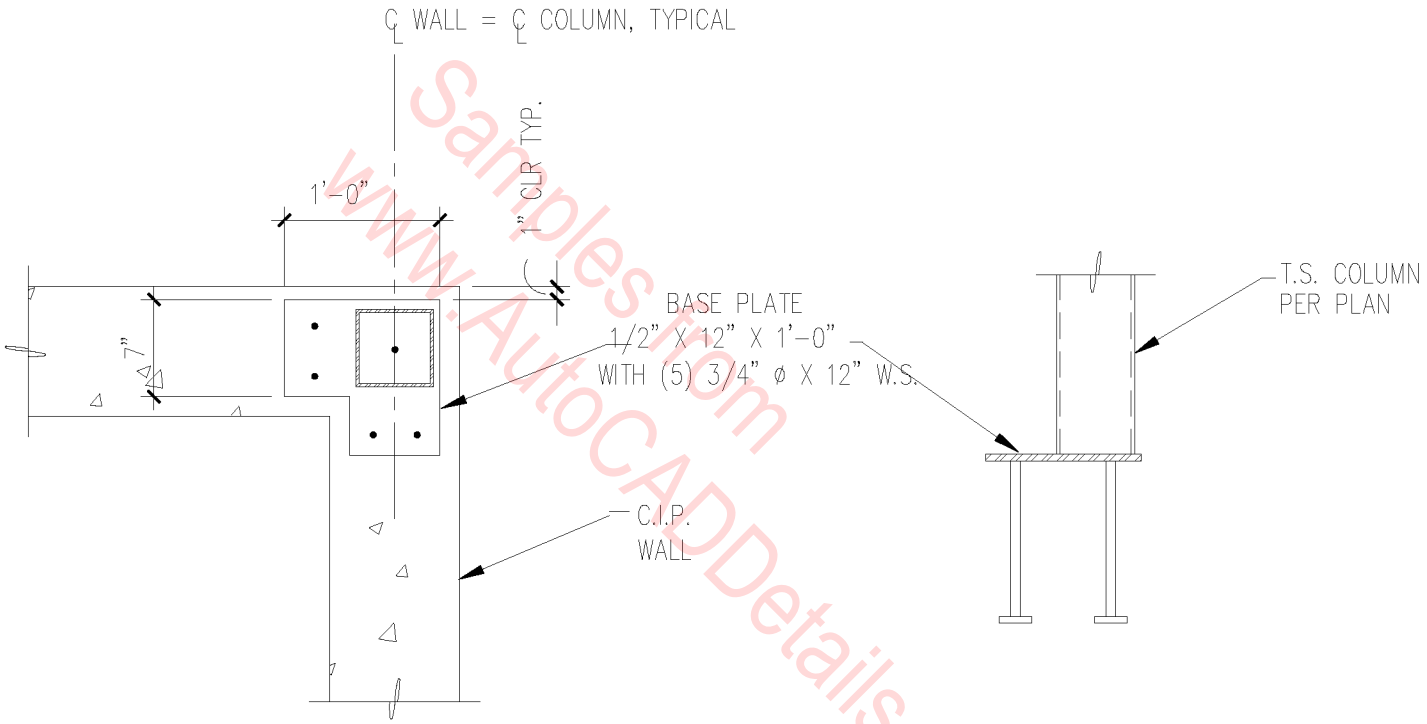
05B-1017



JOIST, GIRDER AND BEAM CONNECTION AT COLUMN

3/4" = 1'–0"

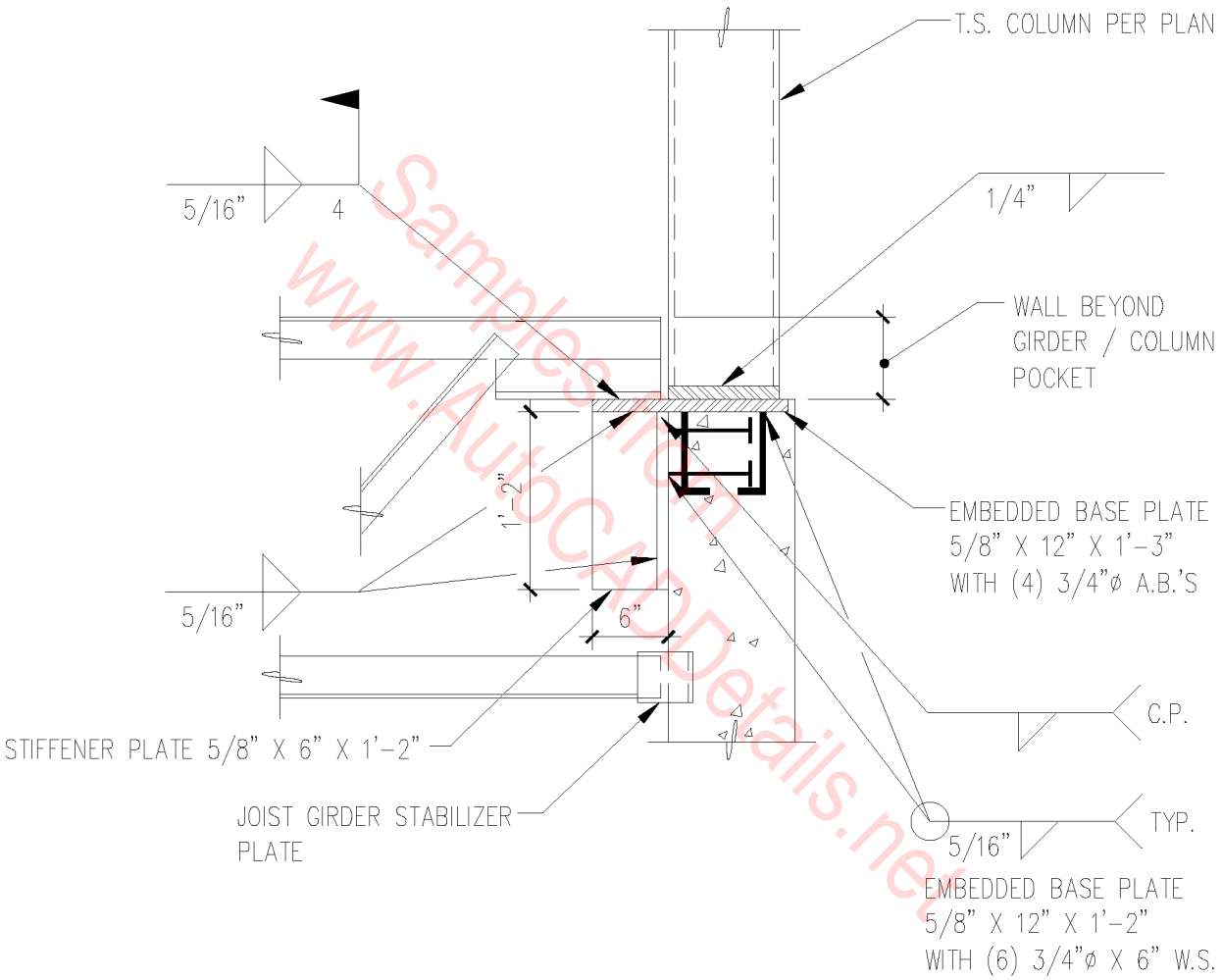
05B–1018



T.S. COL. AT C.I.P. WALL

3/4" = 1'-0"

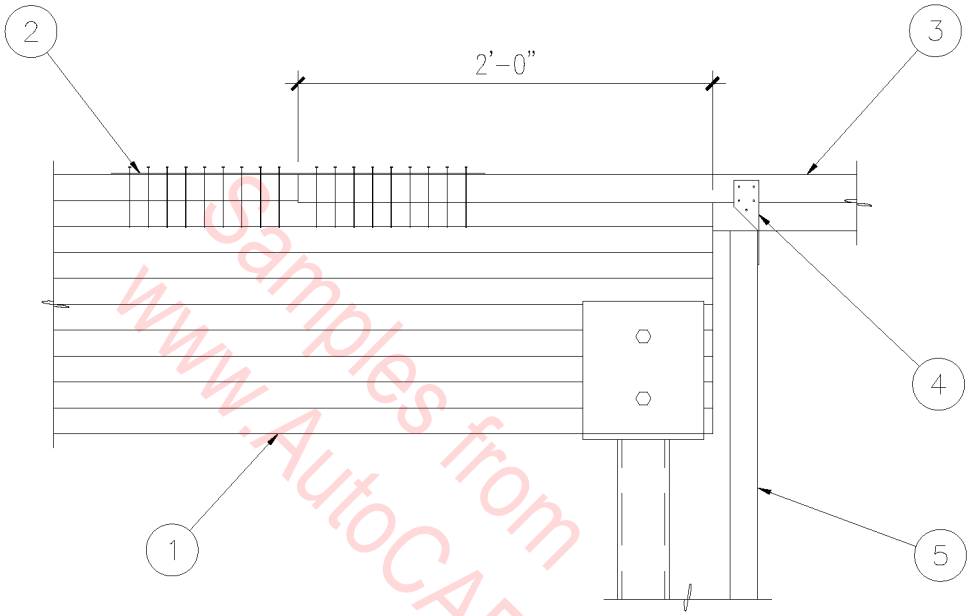
05B-1019



GIRDER/COLUMN TO WALL

3/4" = 1'-0"

05B-1020

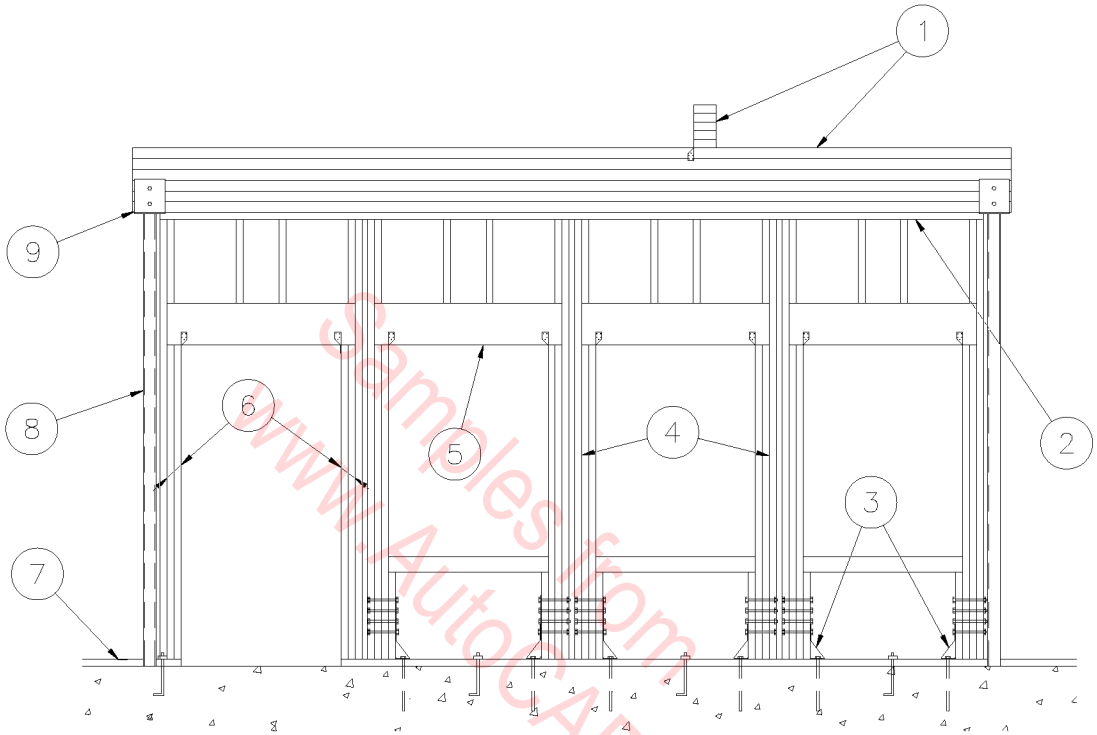


1. GLU-LAM BEAM NOTCH TO RECEIVE TOP PLATE
2. SIMPSON ST24 STRAP TIE WITH 18 16d NAILS.
3. DOUBLE TOP PLATE.
4. SIMPSON H2.5 HURRICANE TIE.
5. 2X STUD.

TOP PLATE TO BEAM

1" = 1'-0"

05B-1021

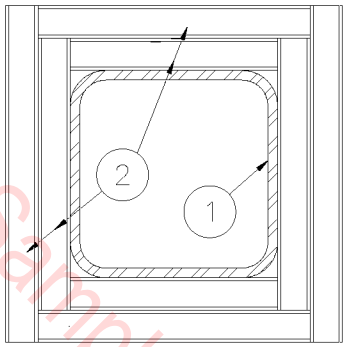


1. GLU-LAM BEAM.
2. 2X TOP PLATE, NON-BEARING.
3. SIMPSON HOLD DOWN.
4. KING STUD TYPICAL.
5. HEADER PER SCHEDULE.
6. DOUBLE 2X.
7. PRESSURE TREATED SILL PLATE.
8. TUBE STEEL COLUMN PER SCHEDULE.
9. BEAM SEAT.

SHEAR WALL

1/4" = 1'-0"

05B-1022



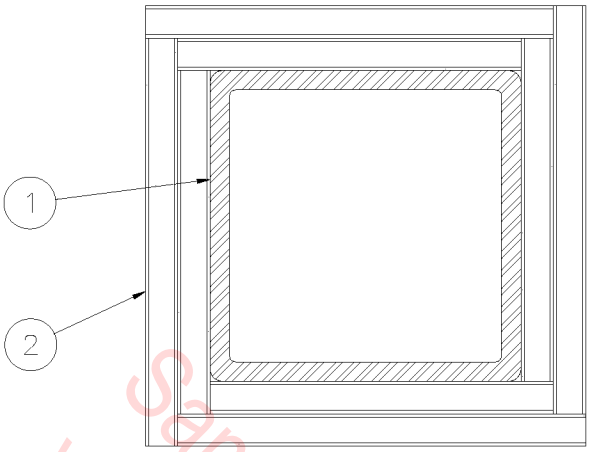
1. 4 X 4 X 3/16 STEEL TUBE COLUMN.
   (4 X 6 AND 6 X 6 COLUMNS SIMILAR).
2. 2 LAYERS OF 1/2" GYPSUM WALLBOARD ADHESIVELY SECURED TO COLUMN. AND SUCCESSIVE LAYERS, WALLBOARD APPLIED WITHOUT HORIZONTAL JOINTS. CORNER EDGES OF EACH LAYER STAGGERED. WALLBOARD LAYER BELOW OUTER LAYER SECURED TO COLUMN WITH DOUBLED NO. 18 GAUGE WIRE TIES SPACED 15" ON CENTER. EXPOSED CORNERS TAPED AND TREATED.

1 HOUR FIRE RATED COLUMN PROTECTION 1-7.1
TABLE 43-A, 1991 UNIFORM BUILDING CODE

1 HOUR COLUMN

3" = 1'-0"

05B-1023



1. TUBE STEEL COLUMN.
2. 2 LAYERS OF 5/8" TYPE 'X' GYP. BD. ADHESIVELY APPLIED TO COLUMN AND SUCCESSIVE LAYERS. WALLBOARD APPLIED WITHOUT HORIZONTAL JOINTS. CORNER EDGES OF EACH LAYER STAGGERED. WALLBOARD LAYER BELOW OUTER LAYER SECURED TO COLUMN WITH DOUBLED NO. 18 GAUGE WIRE TIES SPACES 15" O.C. EXPOSED CORNERS TAPED & TREATED.

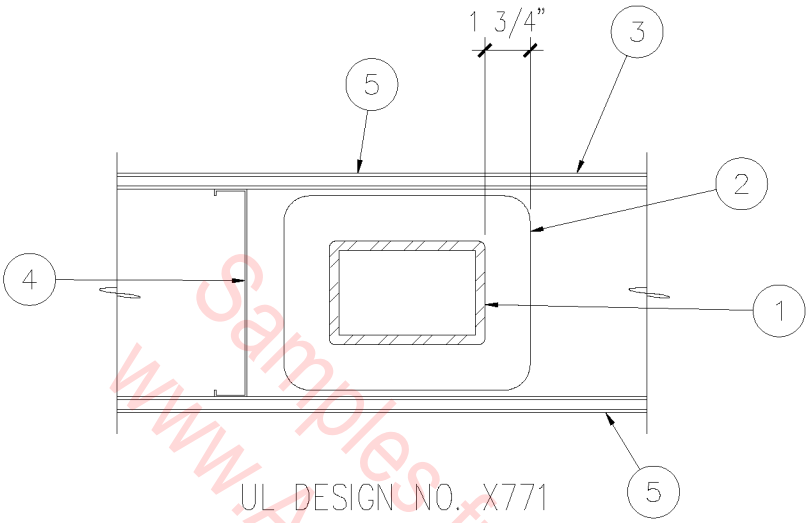
GENERAL NOTES:

A. DETAIL PROVIDES ONE-HOUR FIRE RESISTIVE RATING PER ITEM 1-7.1 OF TABLE 43-A, 1988 U.B.C.
B. AT CONTRACTORS OPTION, CEMENTITIOUS FIREPROOFING, MAY BE USED TO ACHIEVE ONE-HOUR FIRE RESISTANCE.

FIRE RESISTIVE COLUMN

3" = 1'-0"

05B-1024



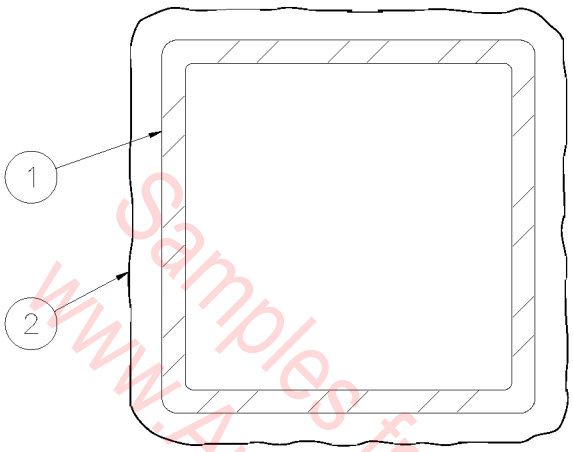
UL DESIGN NO. X771

1. TUBE STEEL COLUMN.
2. CEMENTITIOUS MIXTURE – APPLIED BY MIXING WATER AND SPRAYING IN ONE OR MORE COATS TO STEEL SURFACE WHICH MUST BE CLEAN AND FREE OF DIRT, LOOSE SCALE AND OIL. MINIMUM AVERAGE AND INDIVIDUAL DENSITY OF 15/14 PCF RESPECTIVELY. FOR METHOD OF DENSITY DETERMINATION, SEE DESIGN INFORMATION SECTION, PRECEDING THESE DESIGNS.
   APPLY 1-3/4 THICK UNIFORM COAT.
   ZONOLITE CONSTRUCTION PRODUCTS DIVISION, W. R. GRACE & CO. TYPE MK-6CBF.
3. 1 HOUR WALL.
4. 8" 25 GA. METAL STUDS AT 16" O.C.
5. 5/8" TYPE "X" GYPSUM WALLBOARD.

2 HOUR COLUMN

SCALE: 3" = 1'-0"

05B-1025



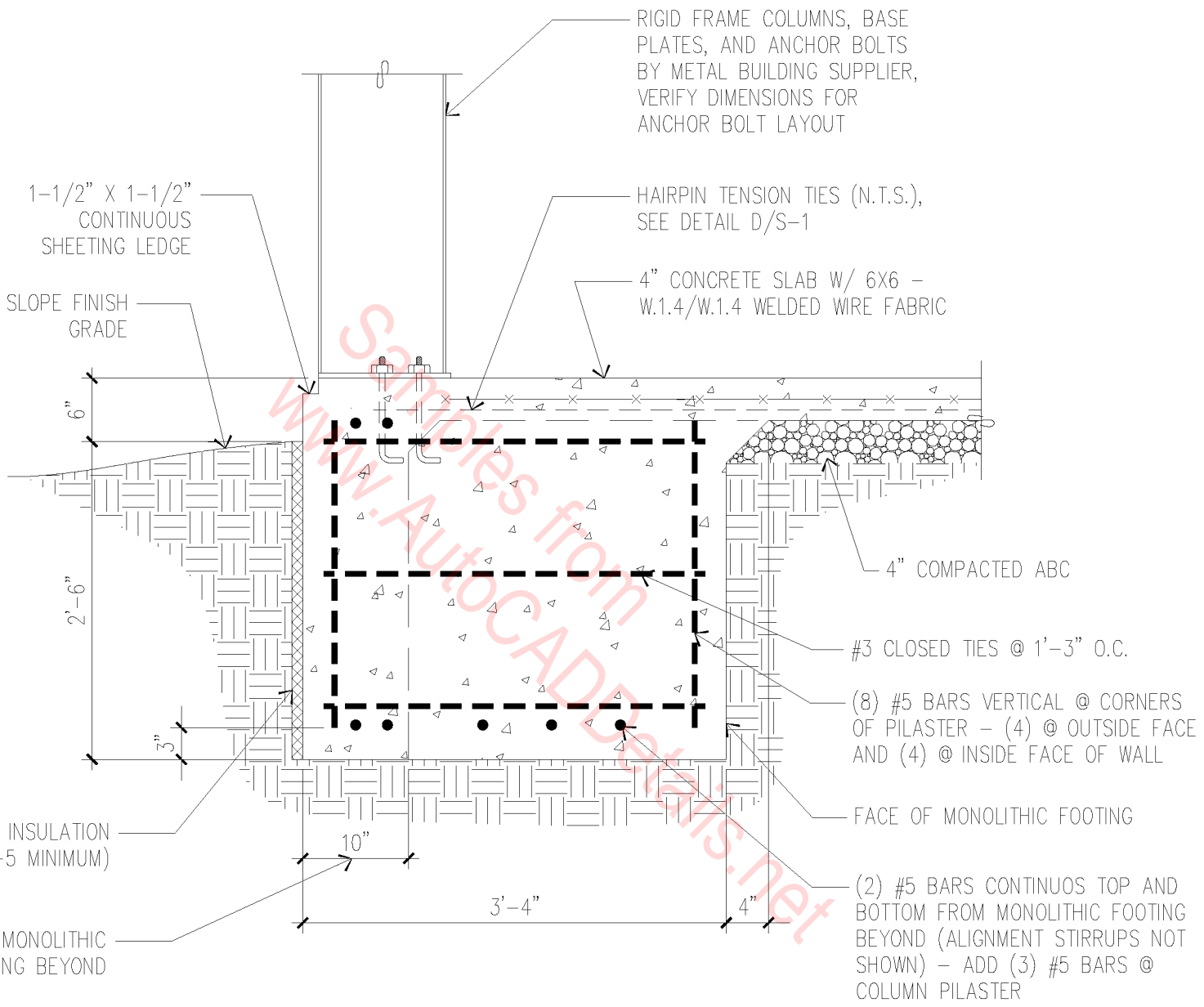
1. TUBE STEEL COLUMN
2. CEMENTITIOUS SPRAY – APPLIED FIREPROOFING: 1" THICK FOR 4X4X1/4 T.S. COLUMNS AND 9/16" THICK FOR 6X6X3/8" T.S. COLUMNS

NOTE: DETAIL PROVIDES ONE-HOUR FIRE RESISTANCE PER U.L. DESIGN NO. X752

FIRE RESISTIVE COLUMN

3" = 1'-0"

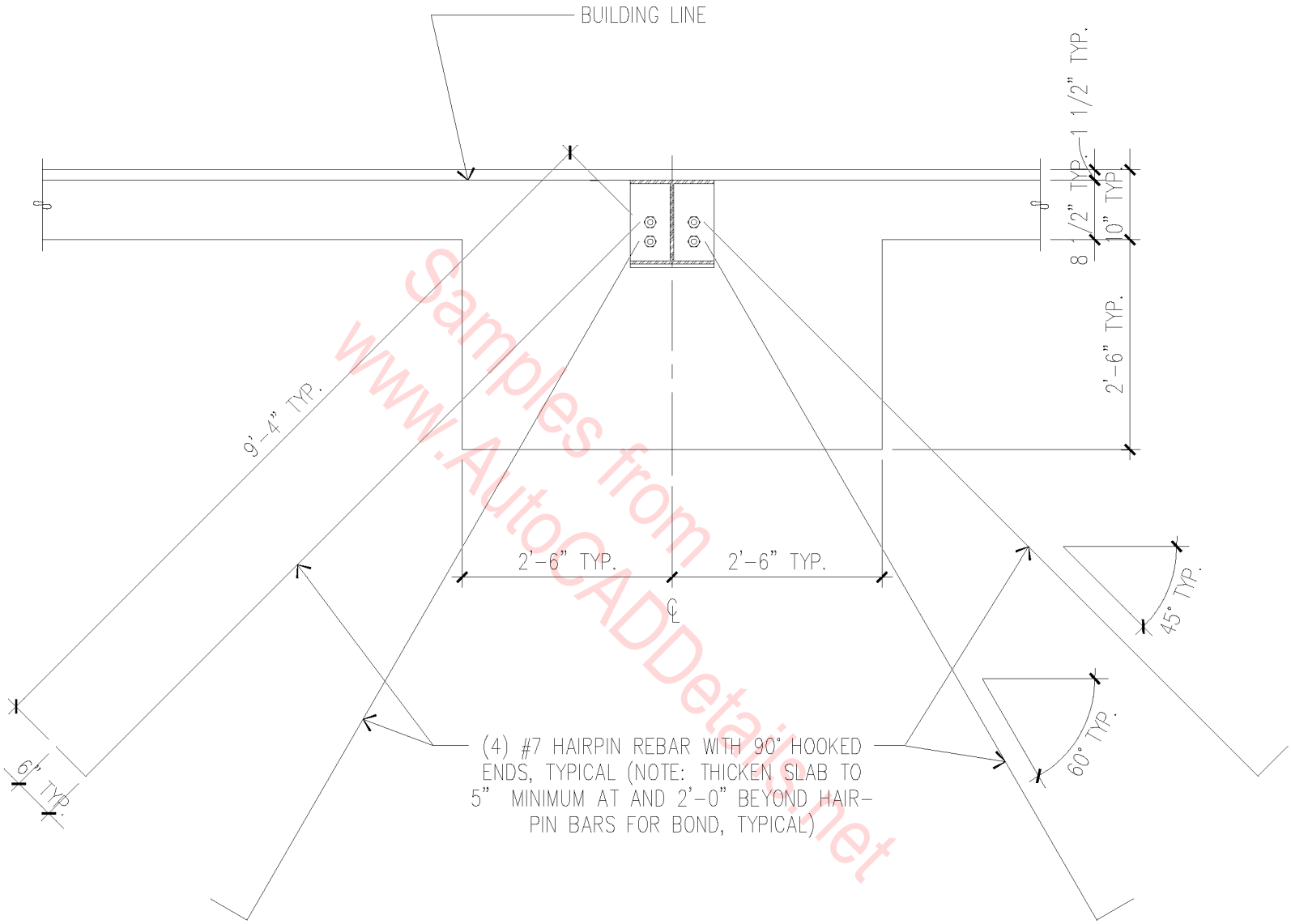
05B-1026



MONOLITHIC FOOTING @ RIGID FRAME COLUMN

3/4" = 1'-0"

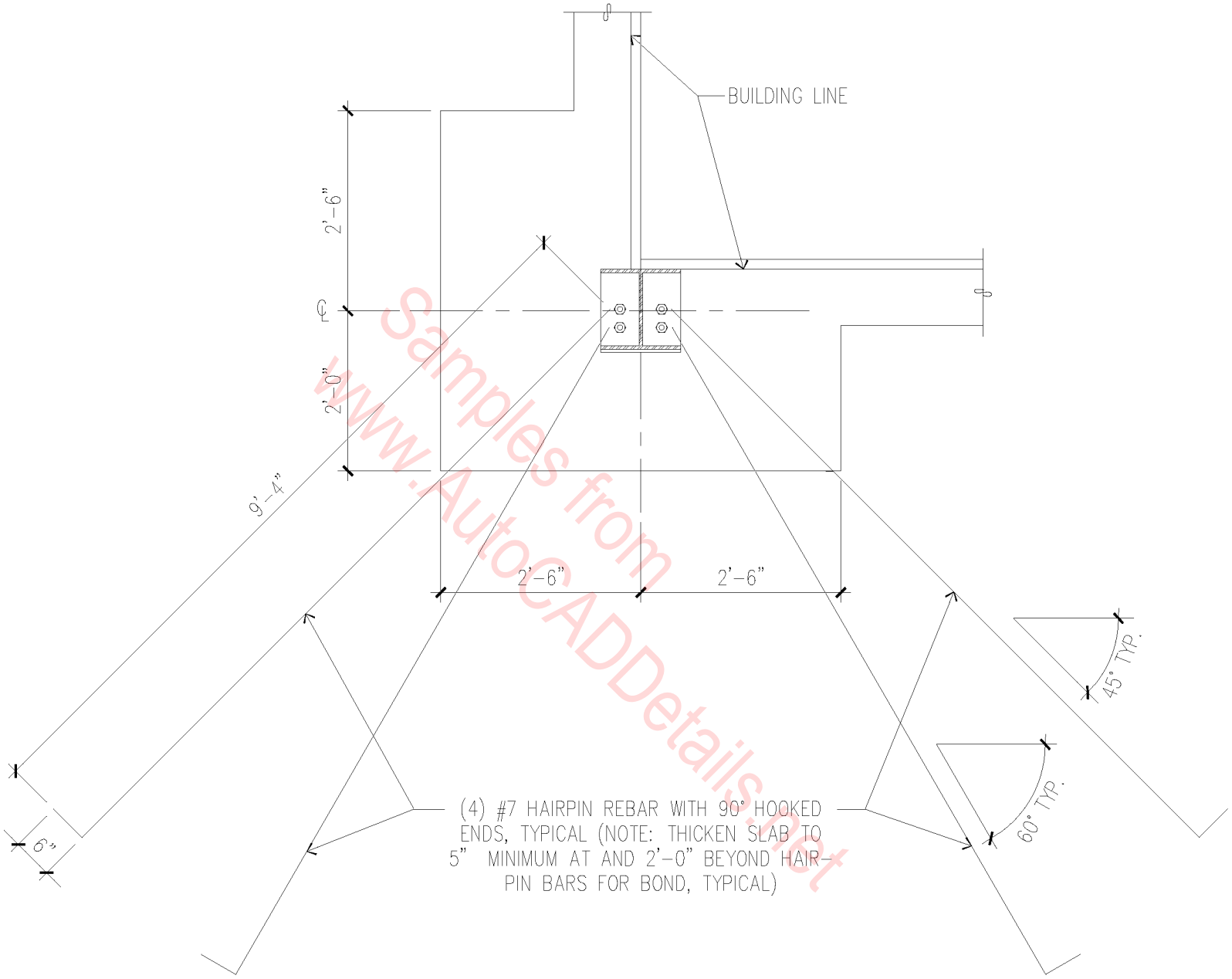
05B-1027



RIGID FRAME COLUMN FOOTING

1/2" = 1'-0"

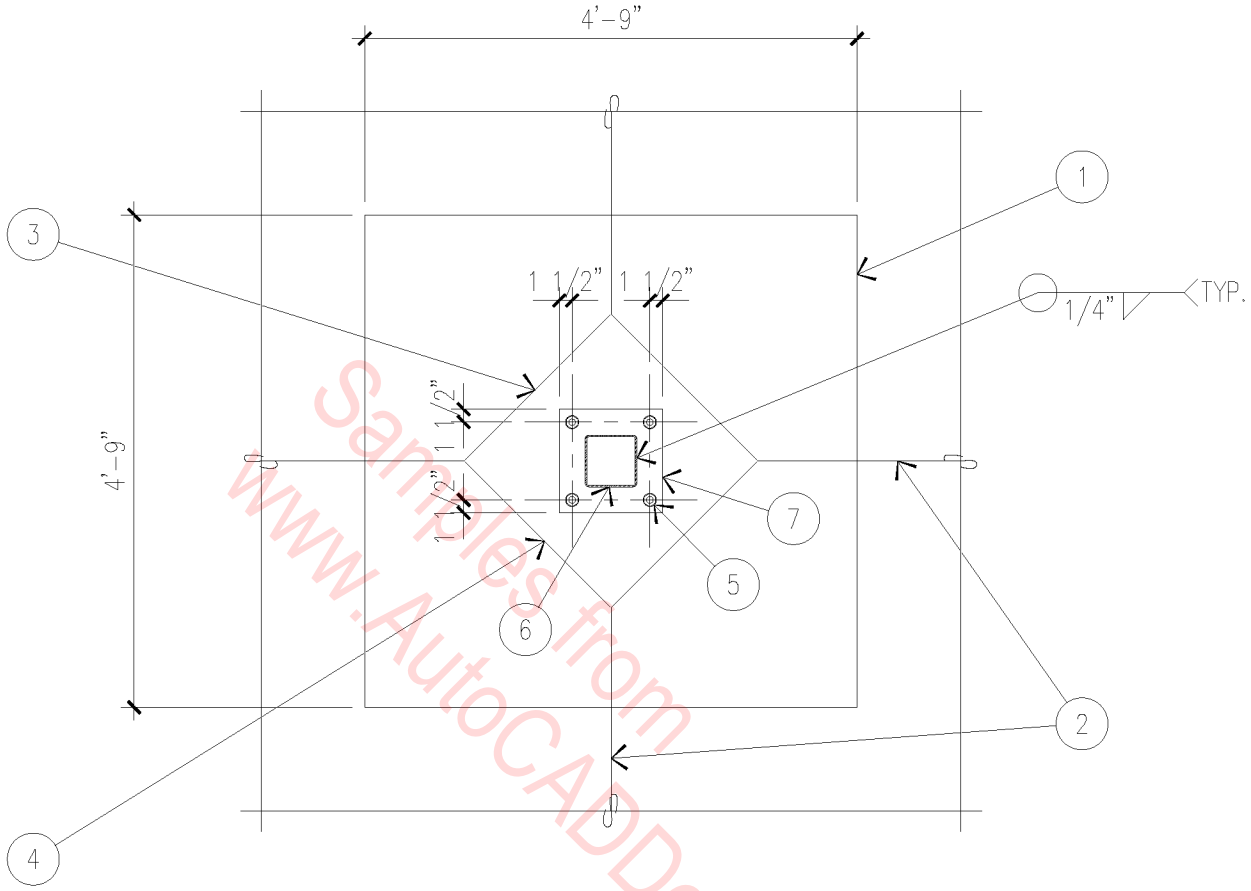
05B-1028



RIGID FRAME COLUMN FOOTING

1/2" = 1'-0"

05B-1029

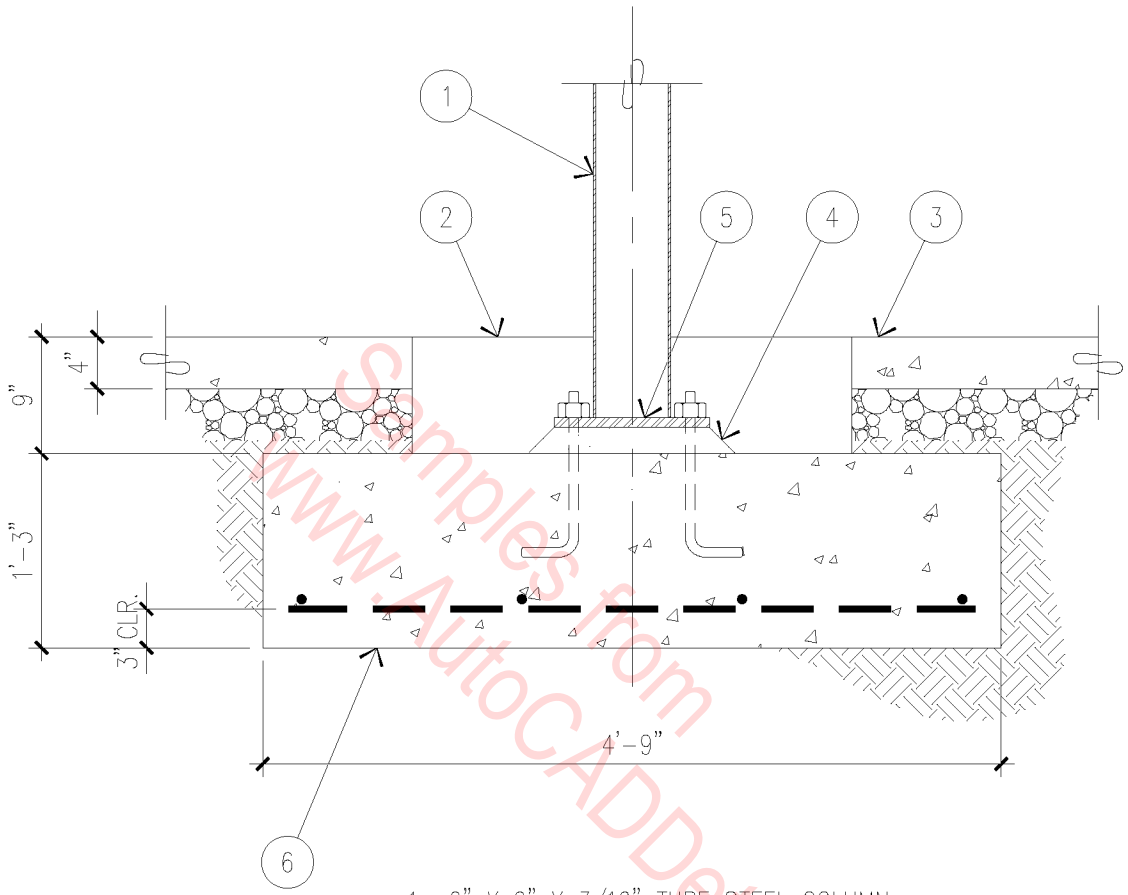


1. 4'-9" X 4'-9" X 15" THICK PAD WITH (4) #5 REBARS, EACH WAY.
2. WEAKENED PLANE OR CONSTRUCTION JOINT.
3. 24" BOX OUT, FILL WITH CONCRETE AFTER COLUMN IS SET.
4. TOOL JOINT.
5. (4) 3/4" ø ANCHOR BOLTS WITH 4" HOOK AND MINIMUM 8" EMBED.
6. 6" X 6" X 3/16" TUBE STEEL COLUMN.
7. 12" X 12" X 3/4" COLUMN BASE PLATE.

BASEPLATE @ TUBE STEEL COLUMN

1/2" = 1'-0"

05B-1030

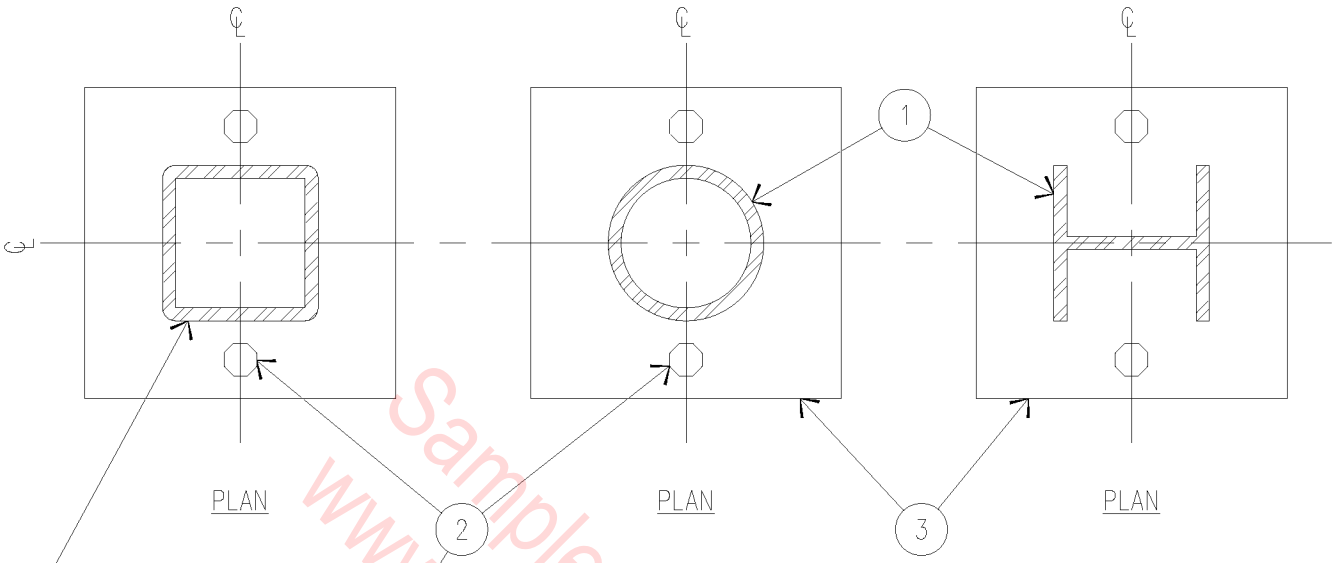


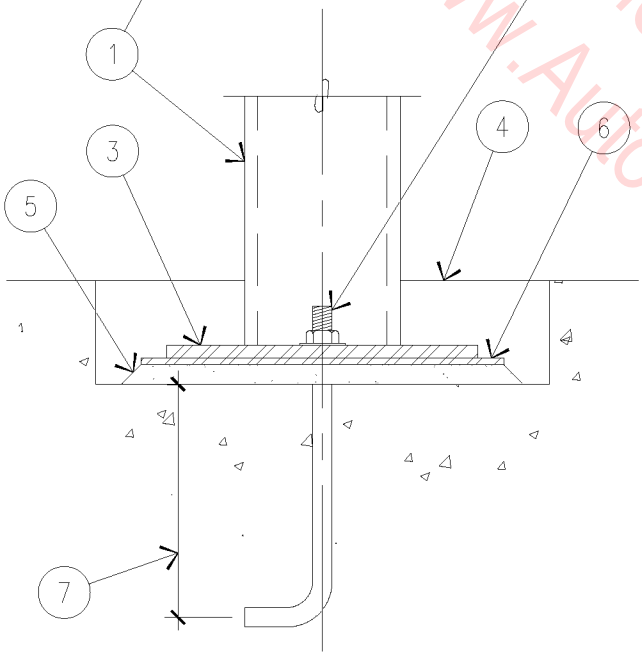
1. 6" X 6" X 3/16" TUBE STEEL COLUMN.
2. 24" BOX OUT, FILL WITH CONCRETE AFTER COLUMN IS SET.
3. 4" CONCRETE OVER 4" ABC.
4. 2" GROUT PAD.
5. 12" X 12" X 3/4" STEEL COLUMN PLATE. WITH (4) 3/4" ø ANCHOR BOLTS WITH 4" HOOK AND 8" MINIMUM EMBED.
6. 4'-9" X 4'-9" X 1'-3" FOOTING WITH (4) #5 REBARS EACH WAY.

STEEL COLUMN FOOTING

3/4" = 1'-0"

05B-1031





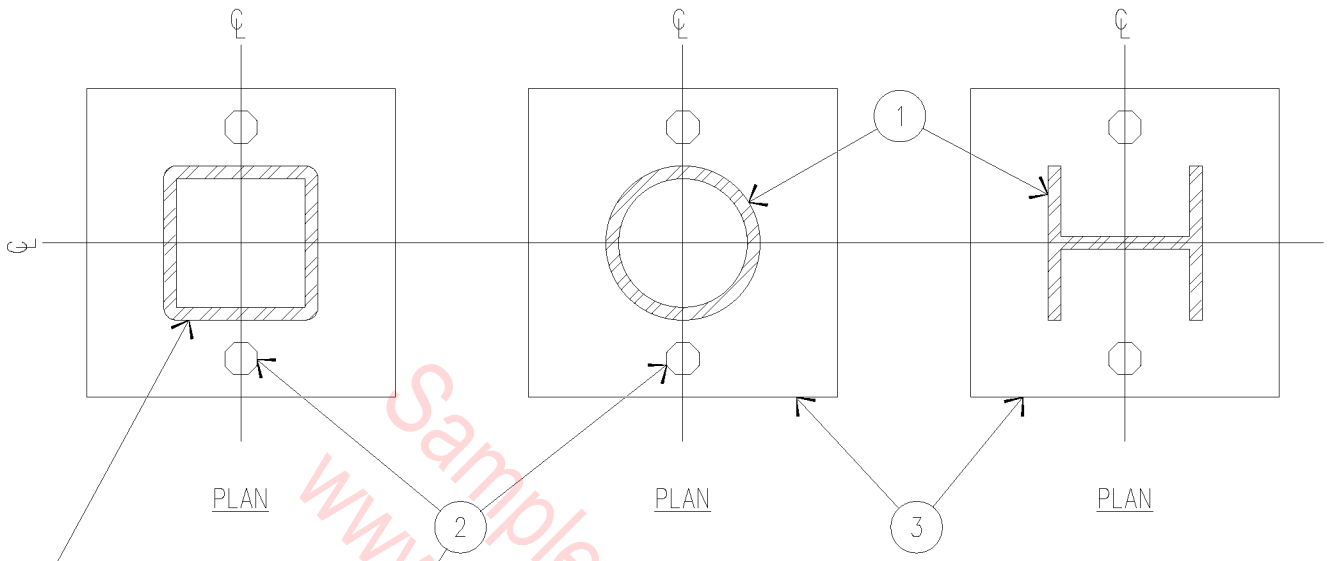
ELEVATION

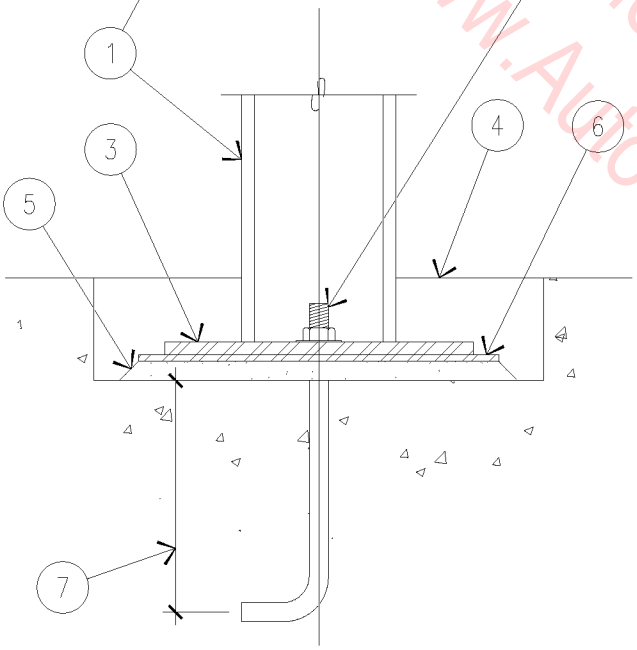
1. TUBE STEEL COLUMN – SEE STRUCTURAL.
2. (2) 3/4" ø ANCHOR BOLTS WITH 3" HOOK.
3. BASE PLATE – SEE STRUCTURAL.
4. COVER COLUMN AND BASE PLATE WITH 3" CONCRETE MINIMUM.
5. 3/4" NON-SHRINK GROUT.
6. 1/4" LEVELING PLATE 1" LARGER THAN BASE PLATE.
7. 9" AT FOOTINGS 1'-3" OR LESS, 1'-0" AT FOOTINGS GREATER THAN 1'-3".

COLUMN BASE

1 1/2" = 1'-0"

05B-1032





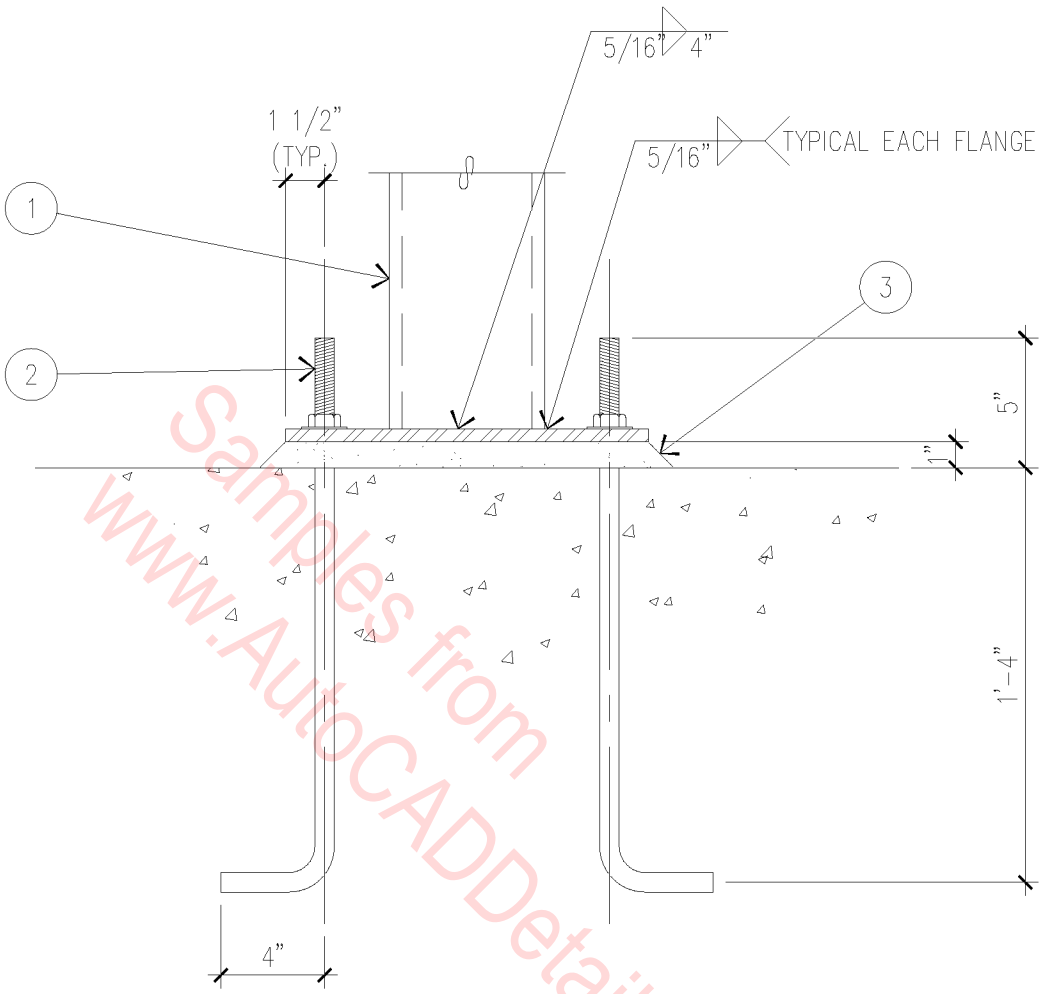
ELEVATION

1. TUBE STEEL COLUMN – SEE STRUCTURAL.
2. (2) 3/4" ø ANCHOR BOLTS WITH 3" HOOK.
3. BASE PLATE – SEE STRUCTURAL.
4. COVER COLUMN AND BASE PLATE WITH 3" CONCRETE MINIMUM.
5. 3/4" NON-SHRINK GROUT.
6. 1/4" LEVELING PLATE 1" LARGER THAN BASE PLATE.
7. 9" AT FOOTINGS 1'-3" OR LESS, 1'-0" AT FOOTINGS GREATER THAN 1'-3".

COLUMN BASE

1 1/2" = 1'-0"

05B-1032

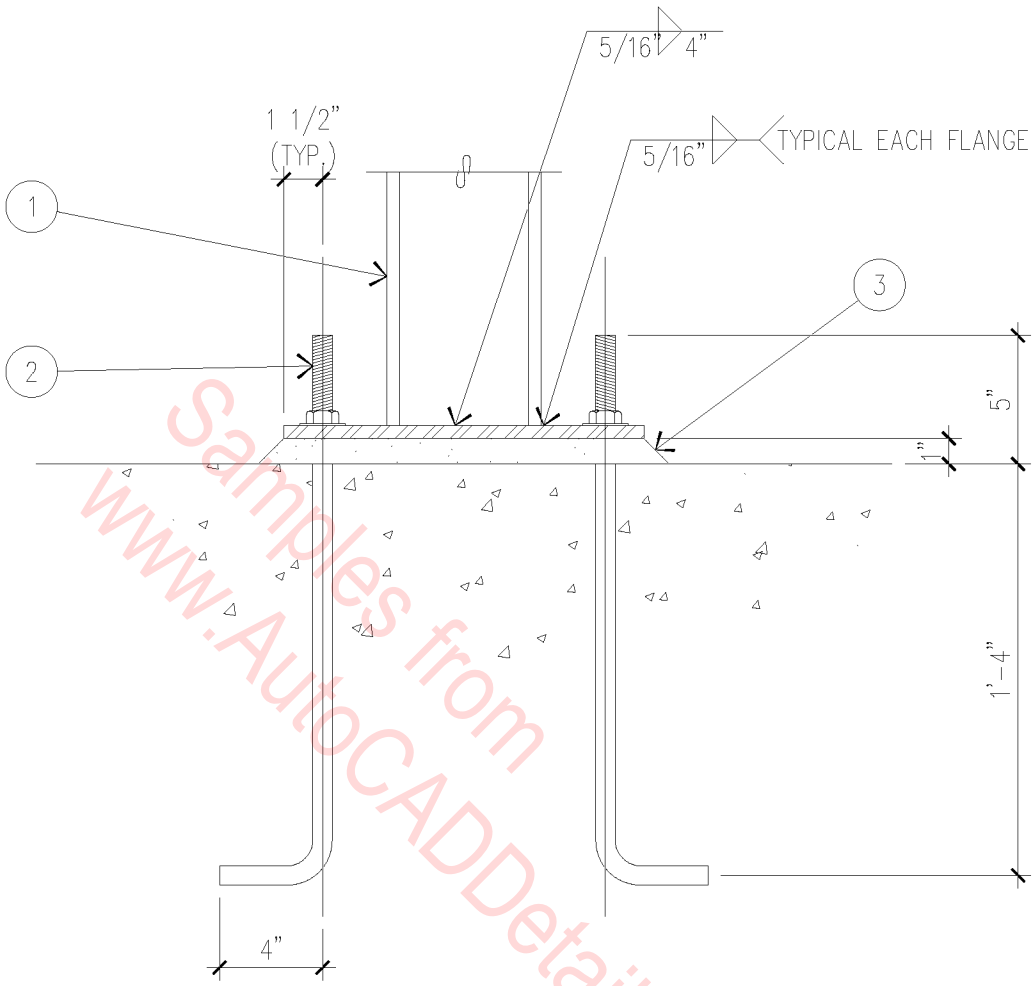


1. TUBE STEEL COLUMN – SEE STRUCTURAL.
2. (4) 3/4" ø THROUGH BOLTS WITH HEX NUTS AND STANDARD WASHERS IN 1 1/4" ø HOLES.
3. 1" NON–SHRINK GROUT. BASE PLATE – SEE STRUCTURAL.

TYPICAL ANCHOR BOLT

1 1/2" = 1'–0"

05B–1033

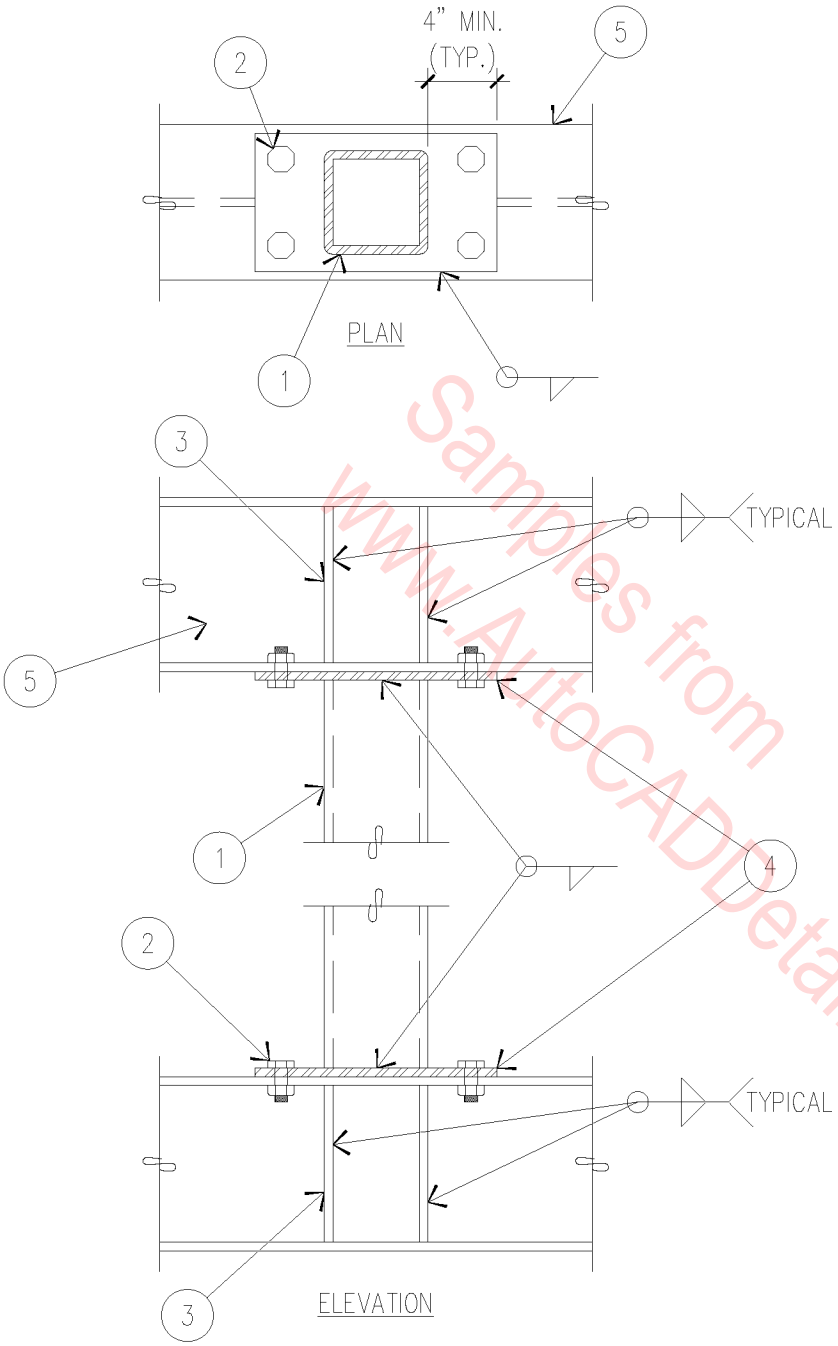


1. TUBE STEEL COLUMN – SEE STRUCTURAL.
2. (4) 3/4" ø THROUGH BOLTS WITH HEX NUTS AND STANDARD WASHERS IN 1 1/4" ø HOLES.
3. 1" NON-SHRINK GROUT.
   BASE PLATE – SEE STRUCTURAL.

TYPICAL ANCHOR BOLT

1 1/2" = 1'-0"

05B-1033

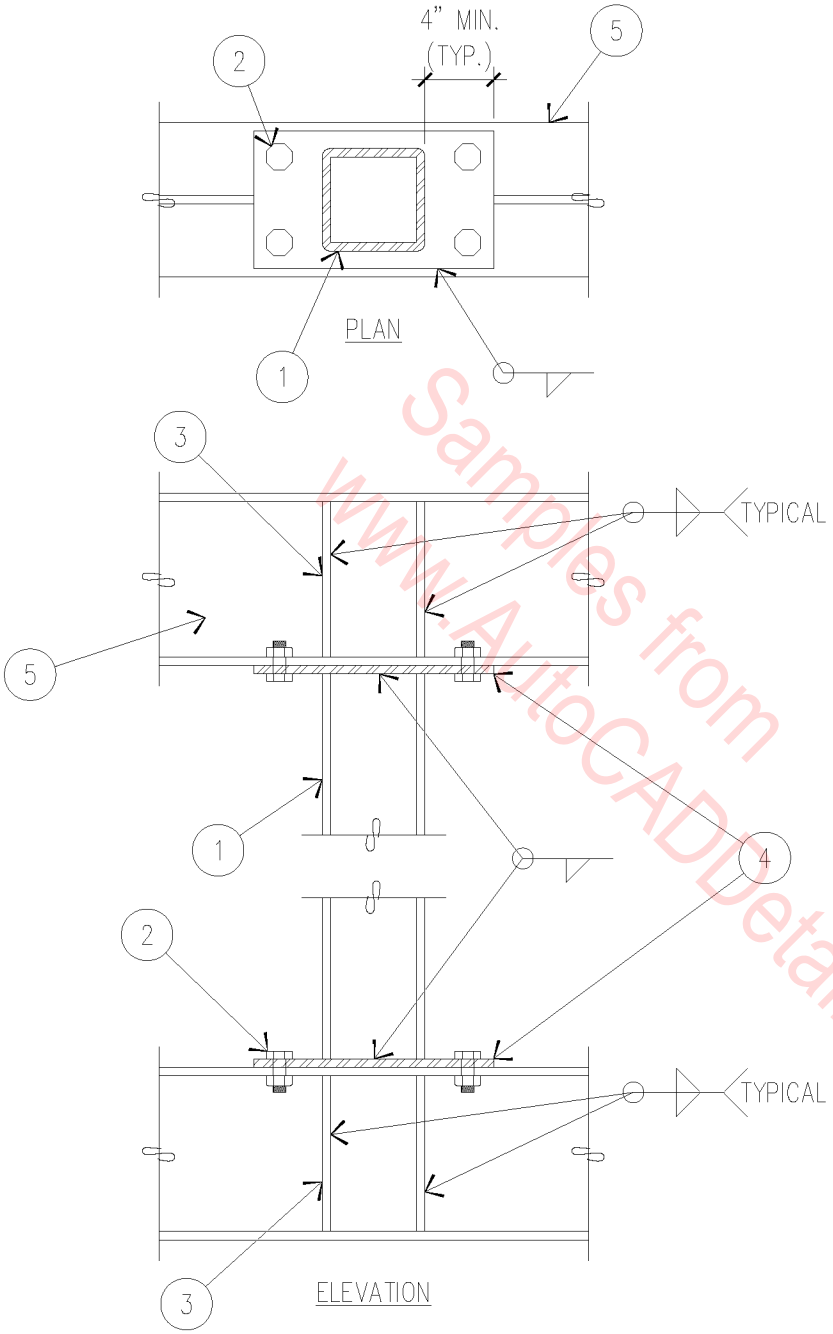


1. TUBE STEEL COLUMN – SEE STRUCTURAL.
2. (4) 3/4" ø THROUGH BOLTS.
3. STIFFENER PLATES AT EACH SIDE OF BEAM WEB WITH MINIMUM THICKNESS OF COLUMN BUT NOT LESS THAN 1/2".
4. CAP PLATE – WIDTH 2" GREATER THAN COLUMN WIDTH OR EQUAL TO BEAM FLANGE, WHICHEVER IS GREATER.
5. BEAM – SEE STRUCTURAL.

COLUMN TO GIRDER

1" = 1'-0"

05B-1034

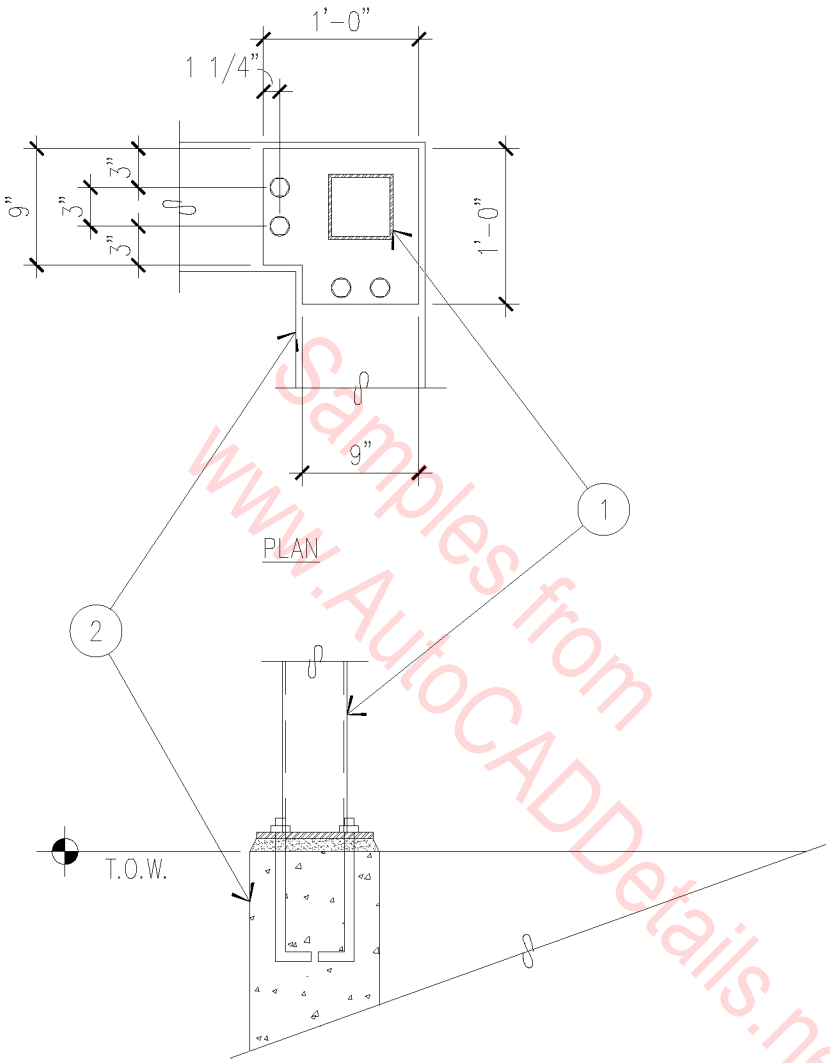


1. TUBE STEEL COLUMN – SEE STRUCTURAL.
2. (4) 3/4" ø THROUGH BOLTS.
3. STIFFENER PLATES AT EACH SIDE OF BEAM WEB WITH MINIMUM THICKNESS OF COLUMN BUT NOT LESS THAN 1/2".
4. CAP PLATE – WIDTH 2" GREATER THAN COLUMN WIDTH OR EQUAL TO BEAM FLANGE, WHICHEVER IS GREATER.
5. BEAM – SEE STRUCTURAL.

COLUMN TO GIRDER

1" = 1'-0"

05B-1034



PLAN

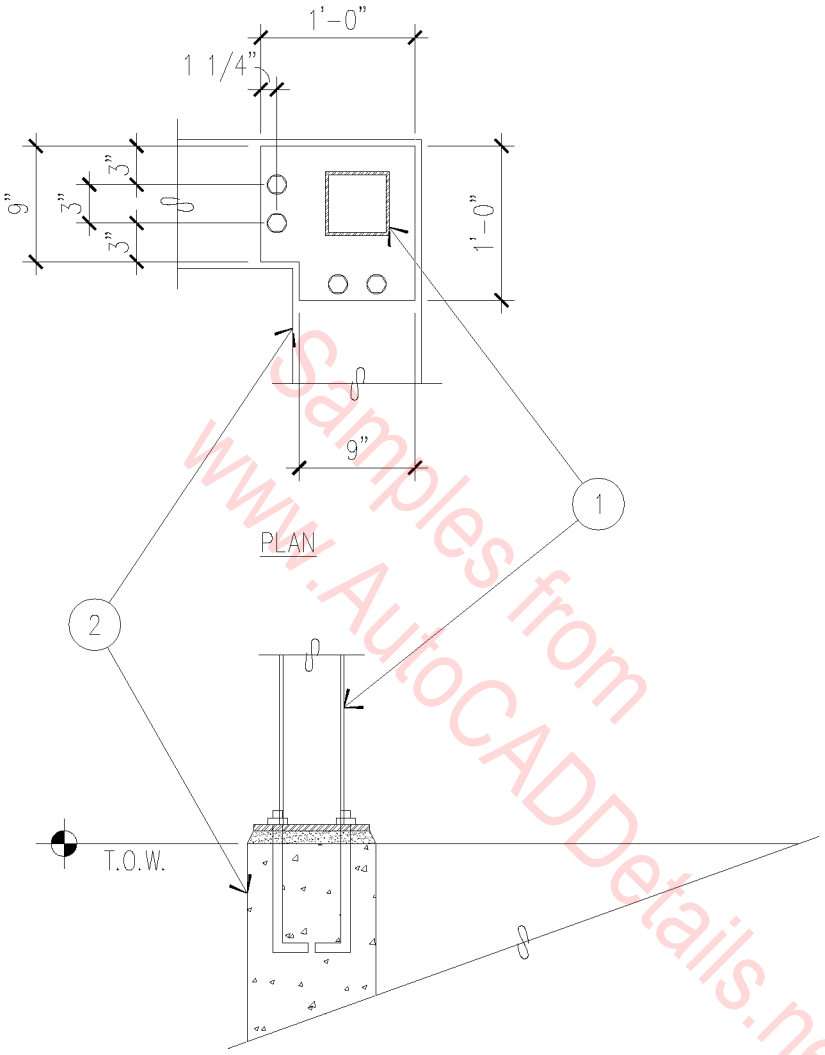
SECTION

1. TUBE STEEL COLUMN PER PLAN ON 1/2" BEARING PLATE AND (4) 3/4" ø X 10" ANCHOR BOLTS ON 1" (MINIMUM) SHIM AND NON-SHRINK GROUT.
2. 10" CONCRETE WALL.

TUBE STEEL COLUMN TO CONCRETE WALL

3/4" = 1'-0"

05B-1035



PLAN

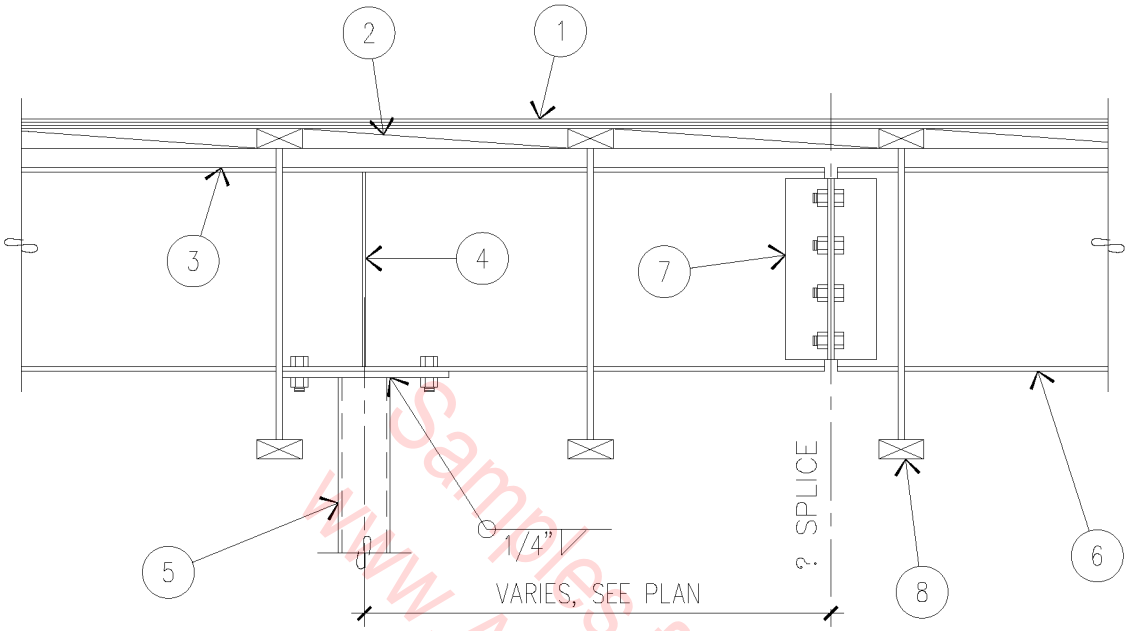
SECTION

1. TUBE STEEL COLUMN PER PLAN ON 1/2" BEARING PLATE AND (4) 3/4" ø X 10" ANCHOR BOLTS ON 1" (MINIMUM) SHIM AND NON-SHRINK GROUT.
2. 10" CONCRETE WALL.

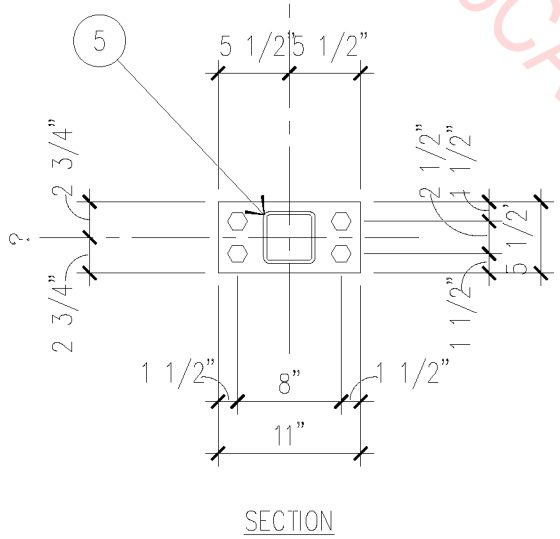
TUBE STEEL COLUMN TO CONCRETE WALL

3/4" = 1'-0"

05B-1035



ELEVATION



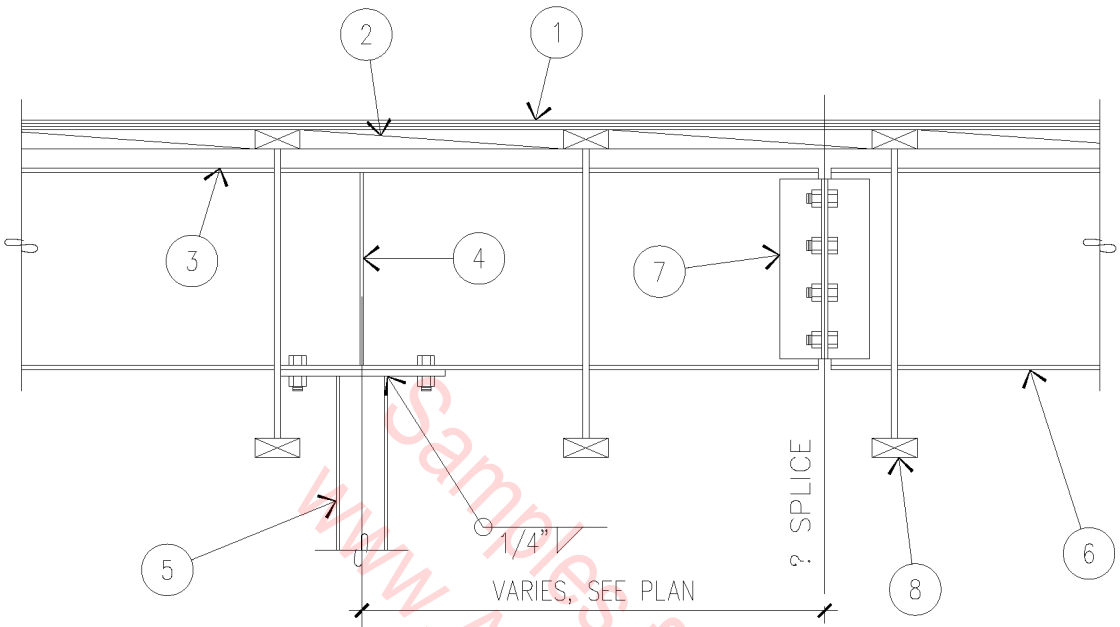
SECTION

1. 5/8" A.P.A. RATED FLOOR SHEATHING.
2. 2 X 6 BLOCKING (TYPICAL).
3. 2 X CONTINUOUS NAILER – ATTACH WITH 0.145" ø POWDER ACTUATED NAILS AT 16" O.C., STAGGERED.
4. 1/4" FITTED STIFFENER PLATE, EACH SIDE OF WEB.
5. TUBE STEEL COLUMN WITH 5 1/2" X 11" X 1/2" PLATE WITH (4) 3/4" ø BOLTS.
6. STEEL BEAM – SEE PLAN.
7. STANDARD AISC DOUBLE ANGLE SHEAR CONNECTION WITH MAXIMUM NUMBER OF 3/4" ø THROUGH BOLTS.
8. TJL JOIST – SEE PLAN.

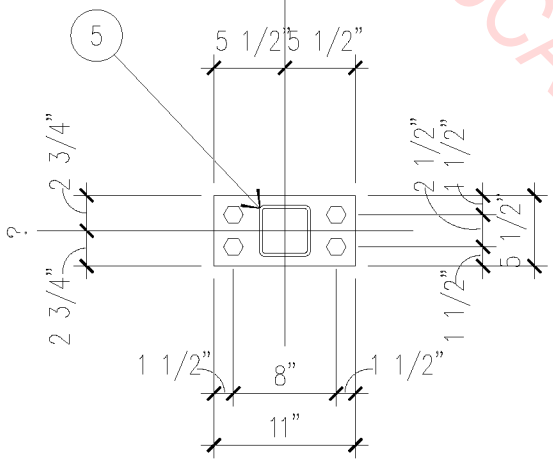
FRAMING SECTION

3/4" = 1'-0"

05B–1036



ELEVATION



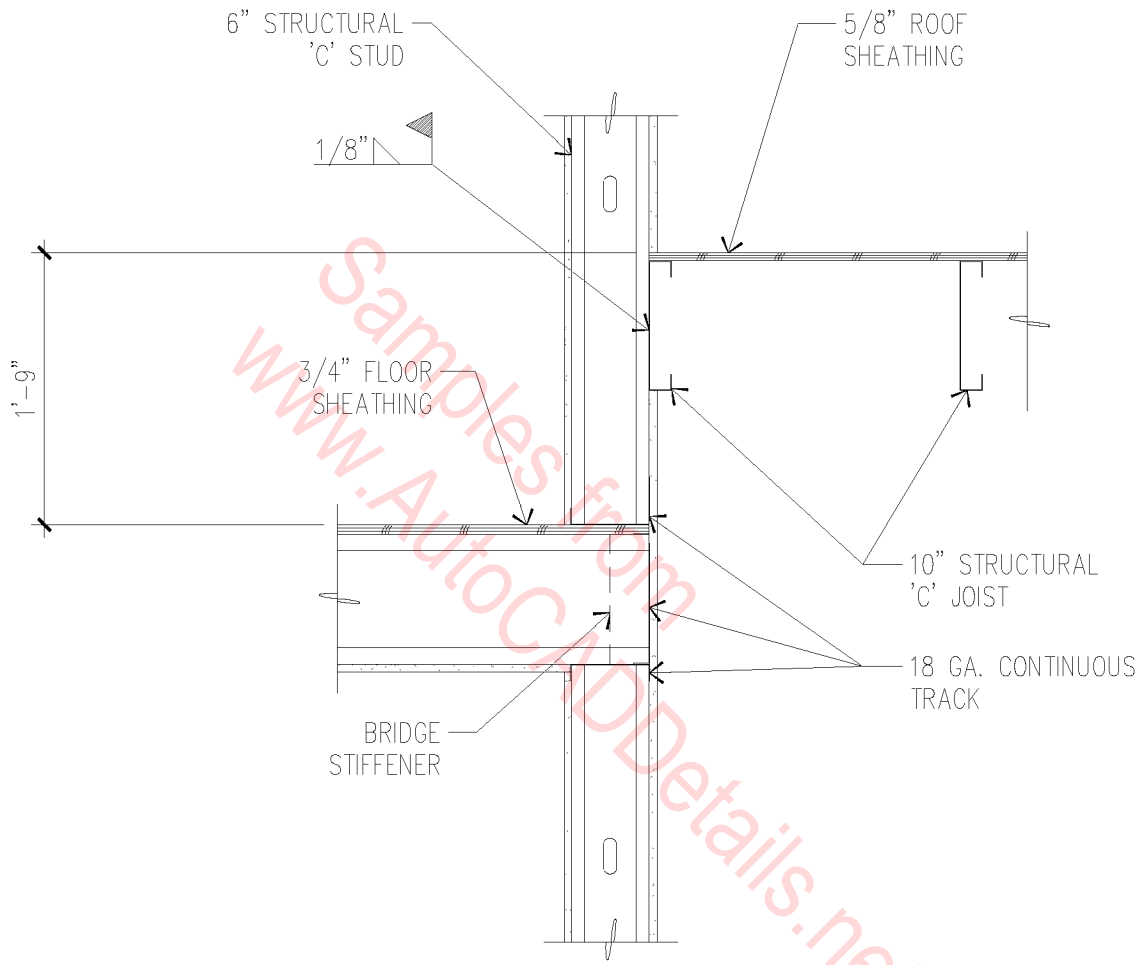
SECTION

1. 5/8" A.P.A. RATED FLOOR SHEATHING.
2. 2 X 6 BLOCKING (TYPICAL).
3. 2 X CONTINUOUS NAILER – ATTACH WITH 0.145" ø POWDER ACTUATED NAILS AT 16" O.C., STAGGERED.
4. 1/4" FITTED STIFFENER PLATE, EACH SIDE OF WEB.
5. TUBE STEEL COLUMN WITH 5 1/2" X 11" X 1/2" PLATE WITH (4) 3/4" ø BOLTS.
6. STEEL BEAM – SEE PLAN.
7. STANDARD AISC DOUBLE ANGLE SHEAR CONNECTION WITH MAXIMUM NUMBER OF 3/4" ø THROUGH BOLTS.
8. TJL JOIST – SEE PLAN.

FRAMING SECTION

3/4" = 1'-0"

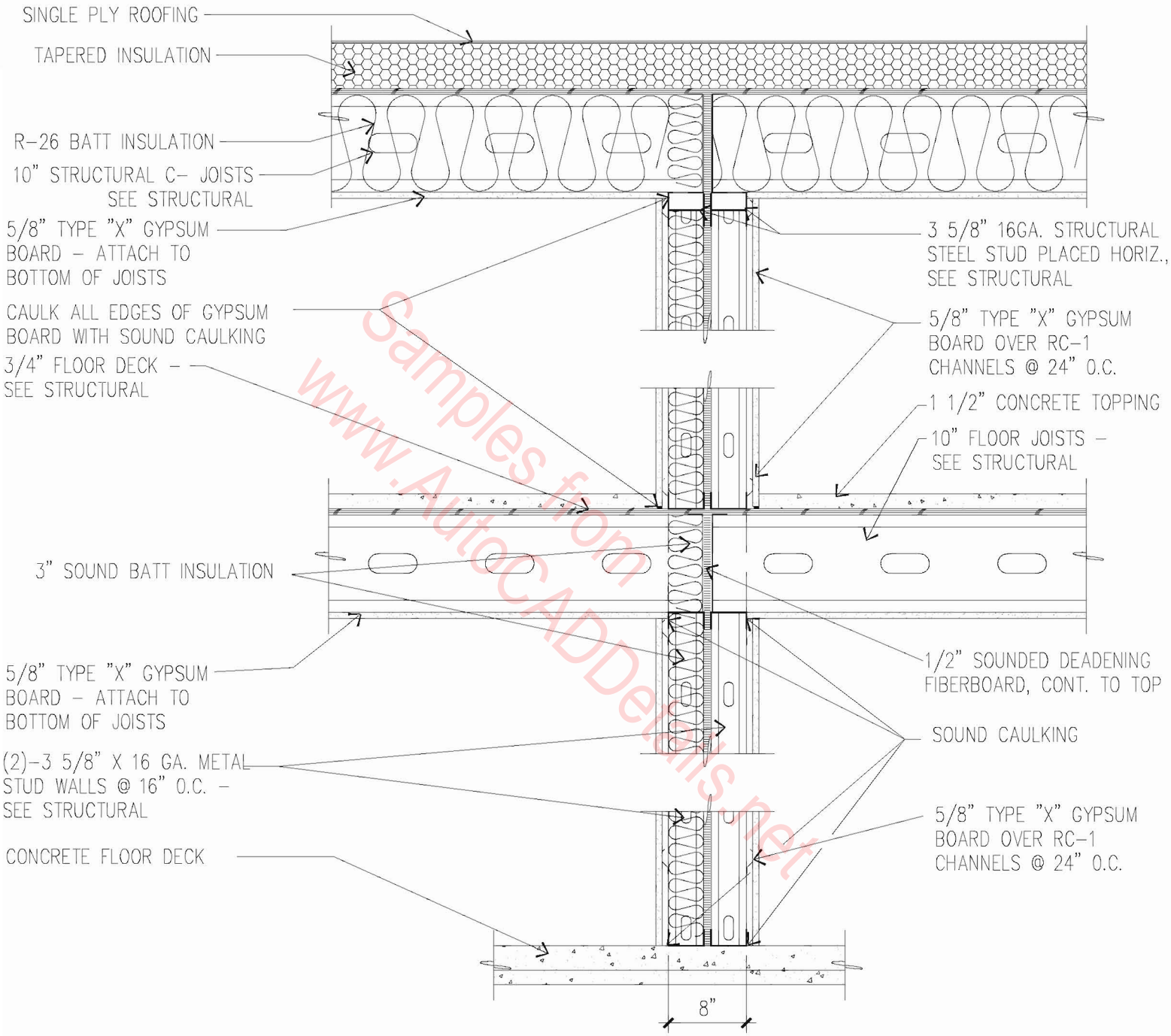
05B–1036



FRAMING SECTION

3/4" = 1'-0"

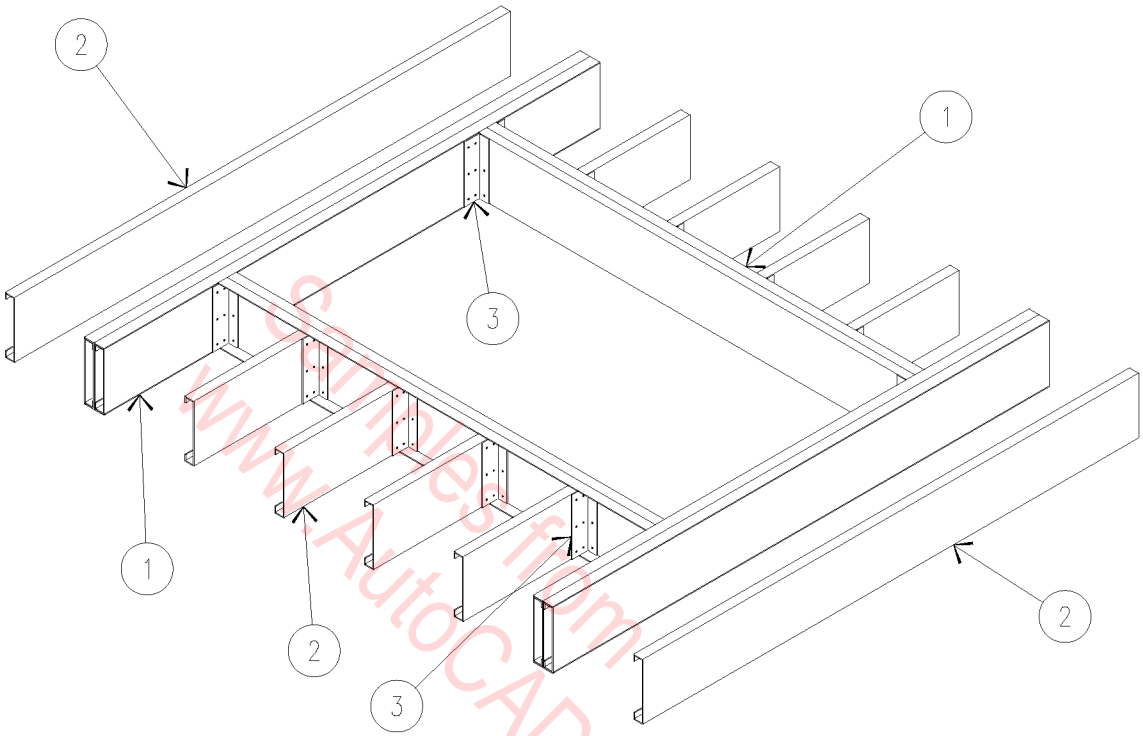
05B-3001



PARTYWALL

3/4" = 1'-0"

05B-3002



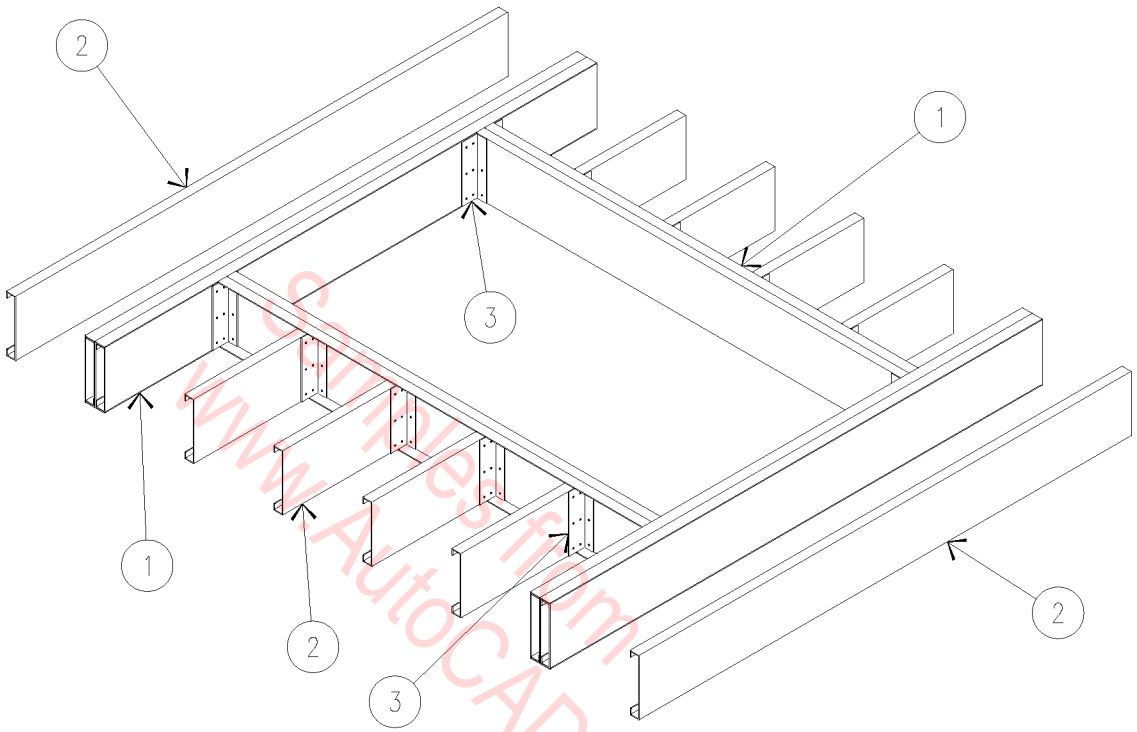
1. JOIST AND TRACK BEAM.
2. FLOOR JOIST.
3. CLIP ANGLE OR STIFFENER.

NOTE: USE JOIST AND TRACK BEAM AS REQUIRED BY DESIGN. ADDITIONAL MEMBERS MAY BE REQUIRED.

OPENING IN FLOOR FRAMING

N.T.S.

05B-3003



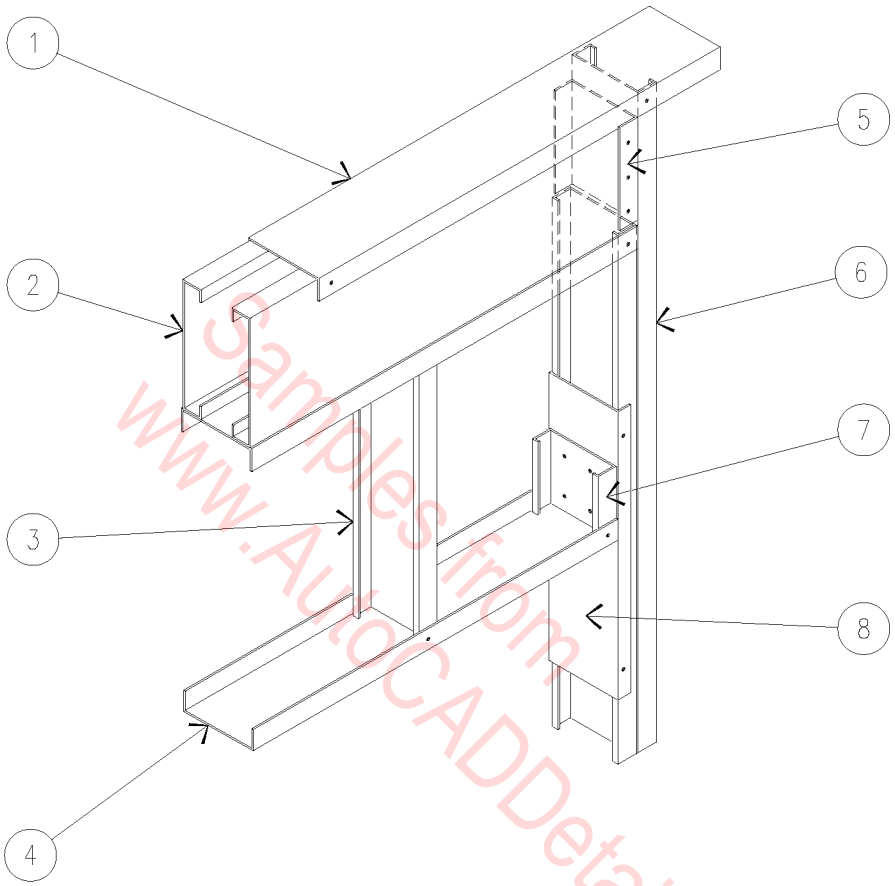
1. JOIST AND TRACK BEAM.
2. FLOOR JOIST.
3. CLIP ANGLE OR STIFFENER.

NOTE: USE JOIST AND TRACK BEAM AS REQUIRED BY DESIGN. ADDITIONAL MEMBERS MAY BE REQUIRED.

OPENING IN FLOOR FRAMING

N.T.S.

05B–3003

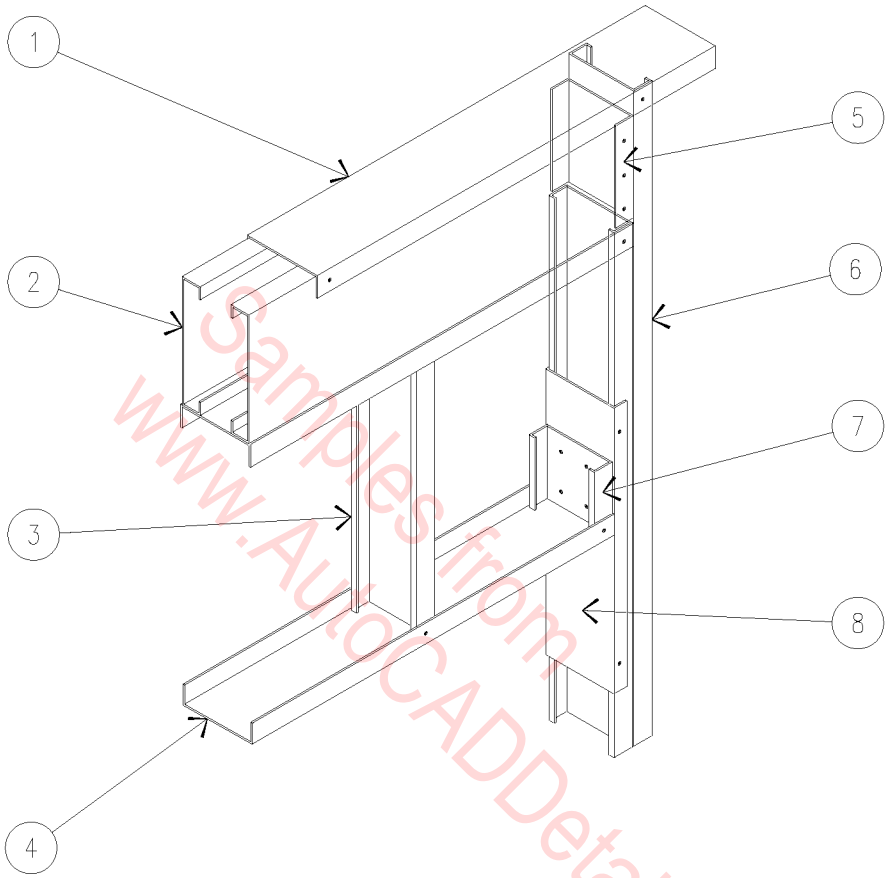


1. TOP TRACK.
2. HEADER AS REQUIRED.
3. CRIPPLE STUD.
4. HEAD TRACK.
5. SECTION OF TRACK.
6. MULTIPLE MEMBERS AS REQUIRED AT JAMB.
7. SECTION OF STUD.
8. EXTENDED CLOSURE TRACK AS REQUIRED FOR HEAD AND JAMB STRENGTH.

METAL STUD HEADER

1 1/2" = 1'-0"

05B-3004

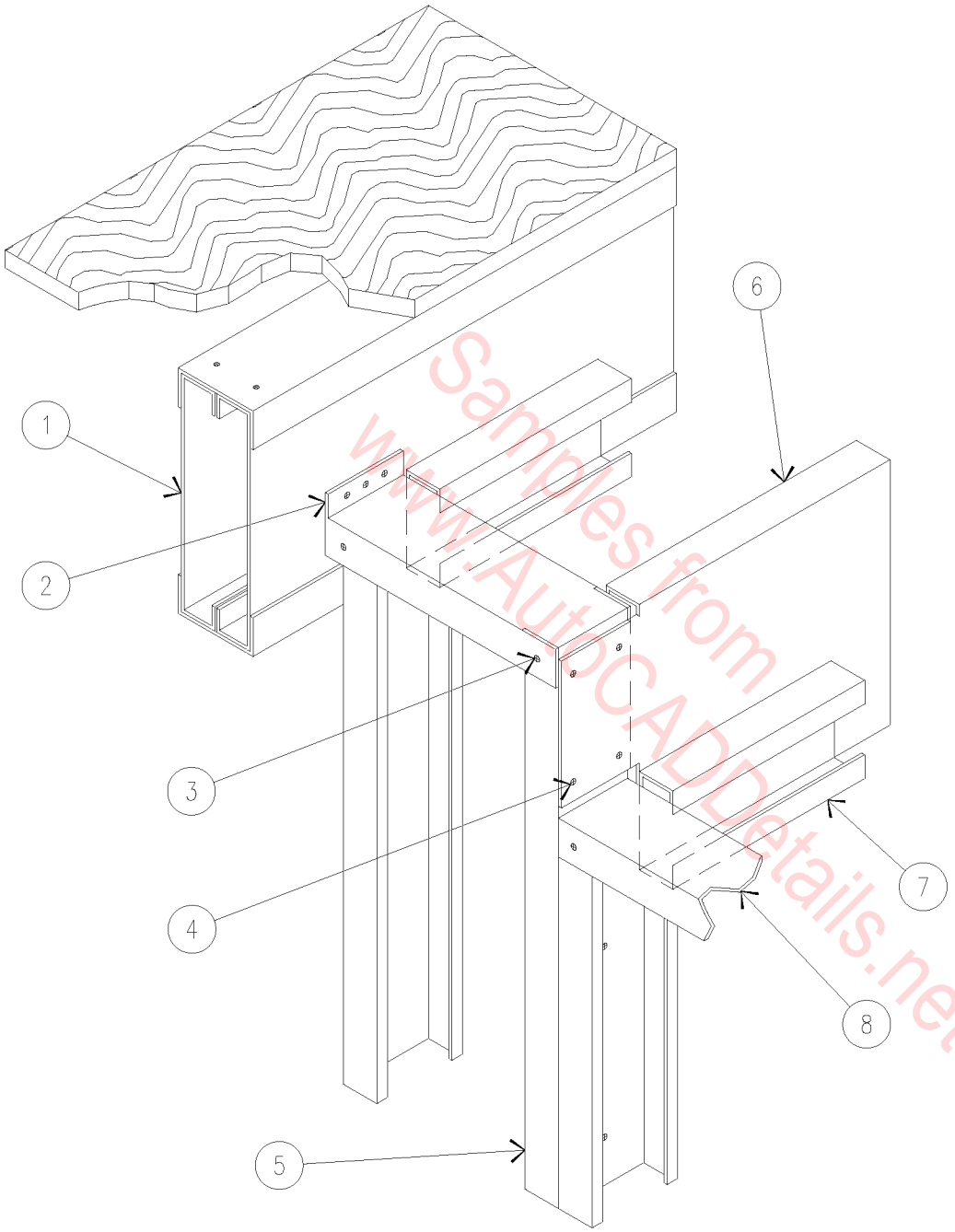


1. TOP TRACK.
2. HEADER AS REQUIRED.
3. CRIPPLE STUD.
4. HEAD TRACK.
5. SECTION OF TRACK.
6. MULTIPLE MEMBERS AS REQUIRED AT JAMB.
7. SECTION OF STUD.
8. EXTENDED CLOSURE TRACK AS REQUIRED FOR HEAD AND JAMB STRENGTH.

METAL STUD HEADER

1 1/2" = 1'-0"

05B-3004

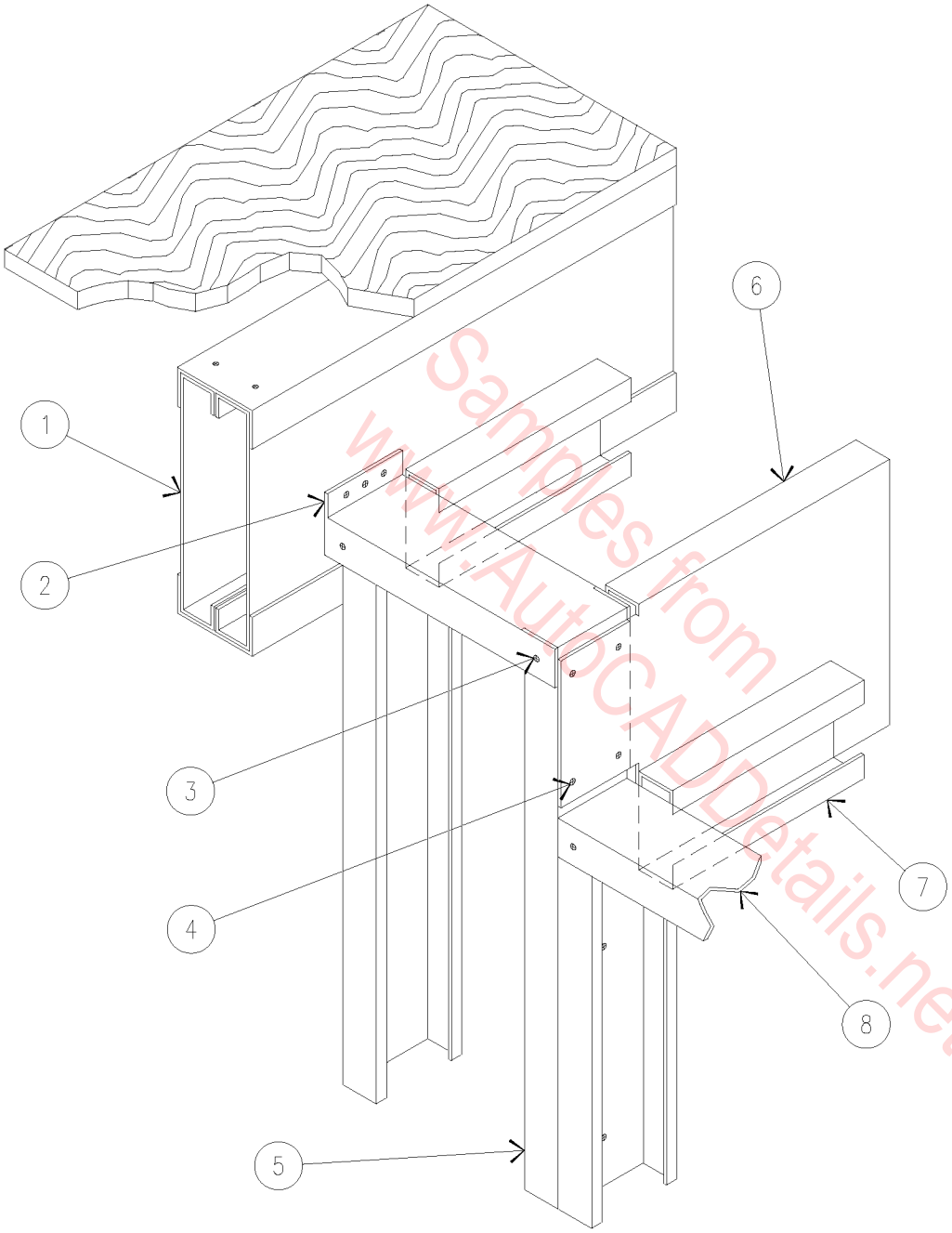


1. BOXED BEAM OR HEADER – SEE PLAN.
2. BEND WEB AND SCREW TO BEAM WITH (3) #10 SCREWS (TYPICAL).
3. (1) #8 SCREW EACH SIDE OF EACH STUD (TYPICAL).
4. CONNECT WITH (4) #10 SCREWS, MINIMUM, EACH END (TYPICAL).
5. DOUBLE STUD LOCATED AT EACH RISER – SCREW BACK TO BACK.
6. 10" X 16 GAUGE METAL STUD – CUT FLANGES AND EXTEND WEB FOR CONNECTION (TYPICAL FOR EACH RISER).
7. 2 1/2" X 20 GAUGE METAL STUD WITH #10 SCREWS AT 6" O.C. ACROSS STAIR WIDTH (TYPICAL).
8. 20 GAUGE TOP TRACK AT EACH LANDING (TYPICAL).

METAL STAIRS

N.T.S.

05B–3005

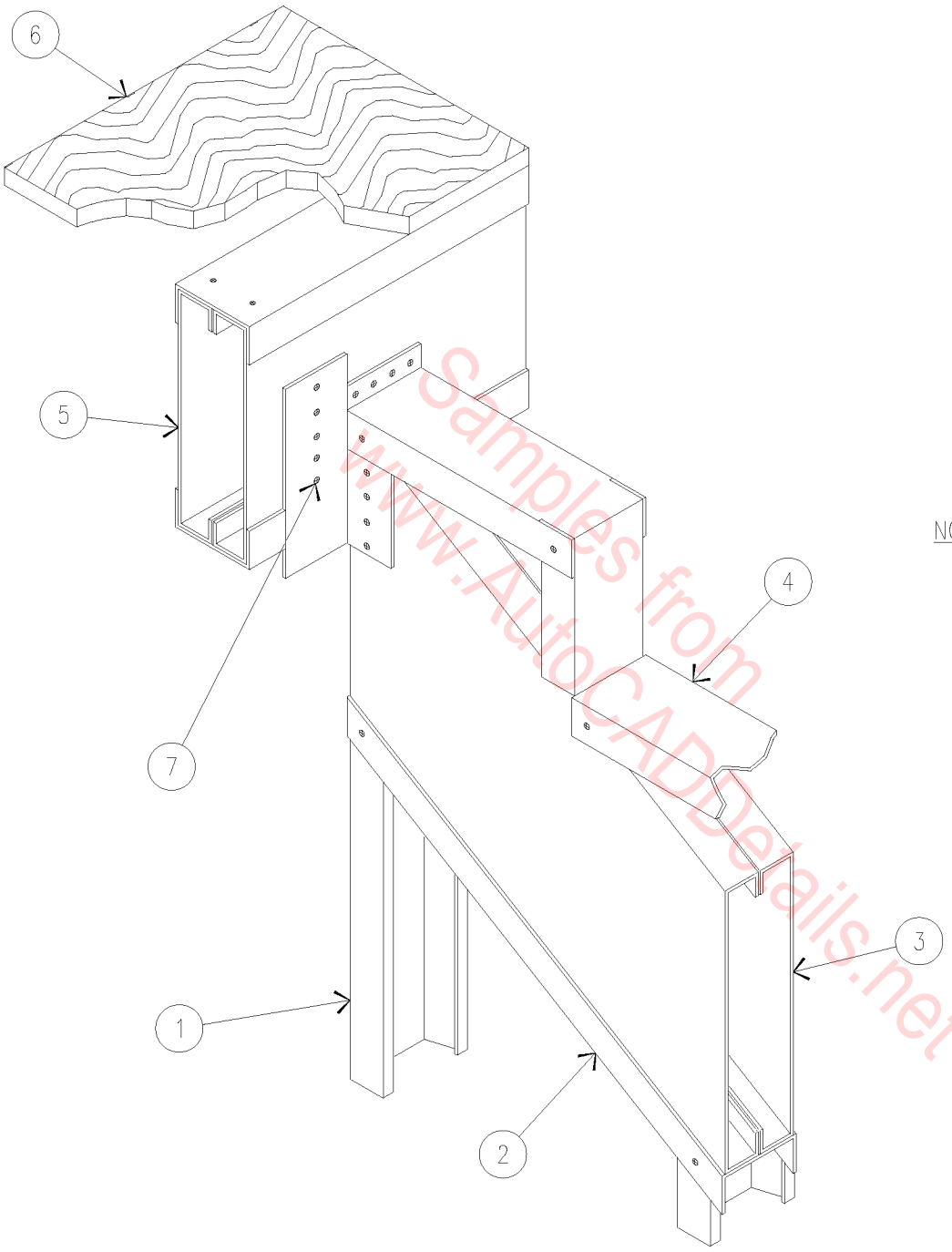


1. BOXED BEAM OR HEADER – SEE PLAN.
2. BEND WEB AND SCREW TO BEAM WITH (3) #10 SCREWS (TYPICAL).
3. (1) #8 SCREW EACH SIDE OF EACH STUD (TYPICAL).
4. CONNECT WITH (4) #10 SCREWS, MINIMUM, EACH END (TYPICAL).
5. DOUBLE STUD LOCATED AT EACH RISER – SCREW BACK TO BACK.
6. 10" X 16 GAUGE METAL STUD – CUT FLANGES AND EXTEND WEB FOR CONNECTION (TYPICAL FOR EACH RISER).
7. 2 1/2" X 20 GAUGE METAL STUD WITH #10 SCREWS AT 6" O.C. ACROSS STAIR WIDTH (TYPICAL).
8. 20 GAUGE TOP TRACK AT EACH LANDING (TYPICAL).

METAL STAIRS

N.T.S.

05B–3005



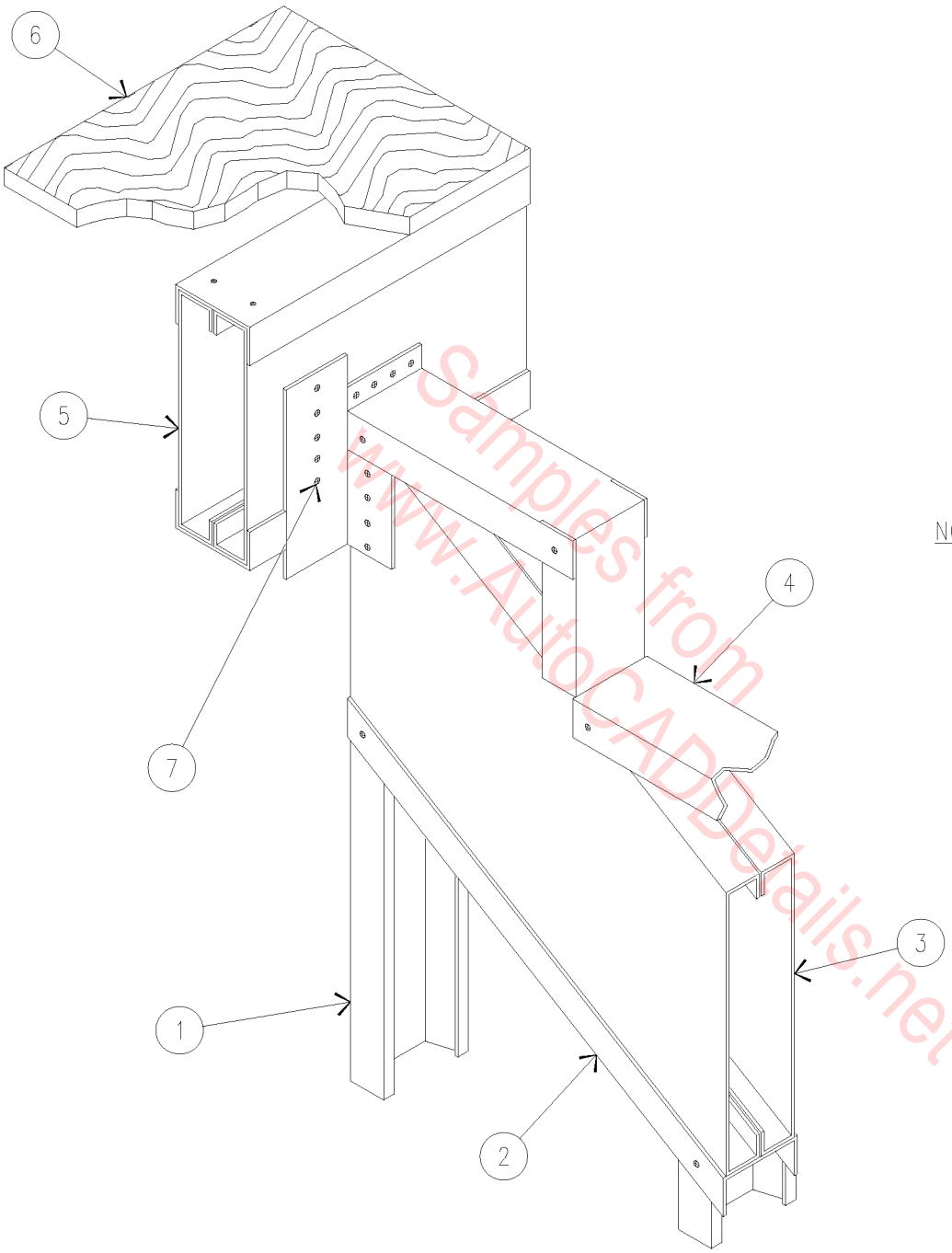
1. FILLER STUDS AS REQUIRED.
2. TRACK.
3. BOXED STRINGER.
4. CUT AND BEND TRACK AS SHOWN TO FORM STAIR – SEE ARCHITECTURAL FOR TREAD AND RISER MEASUREMENTS.
5. BOXED BEAM OR HEADER.
6. 3/4" A.P.A. RATED FLOOR SHEATHING.
7. 2" X 2" X 16 GAUGE ANGLE WITH #4 SCREWS TO EACH LEG.

NOTE: SEE STRUCTURAL DRAWINGS FOR THE NUMBER OF SCREWS AND METAL GAUGES.

METAL STAIRS

N.T.S.

05B–3006



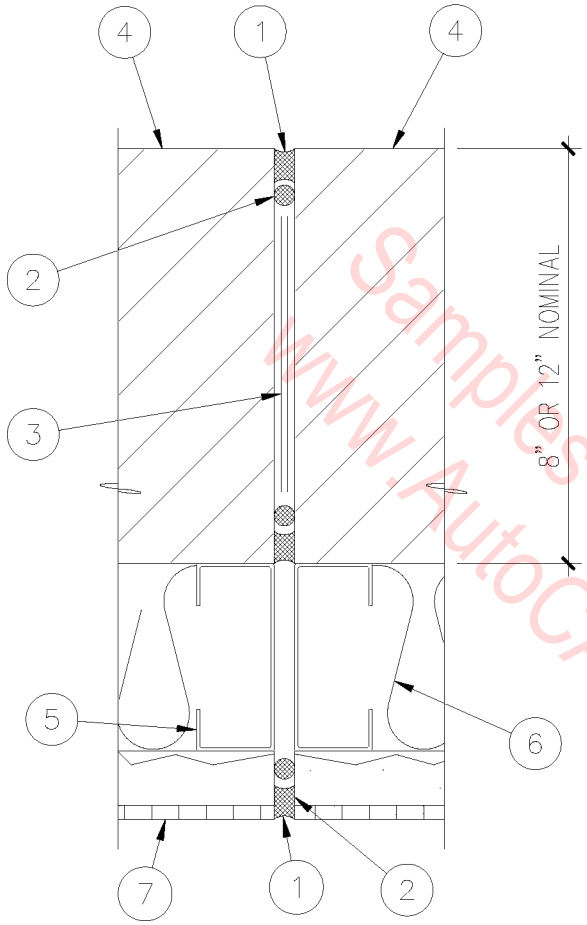
1. FILLER STUDS AS REQUIRED.
2. TRACK.
3. BOXED STRINGER.
4. CUT AND BEND TRACK AS SHOWN TO FORM STAIR – SEE ARCHITECTURAL FOR TREAD AND RISER MEASUREMENTS.
5. BOXED BEAM OR HEADER.
6. 3/4" A.P.A. RATED FLOOR SHEATHING.
7. 2" X 2" X 16 GAUGE ANGLE WITH #4 SCREWS TO EACH LEG.

NOTE: SEE STRUCTURAL DRAWINGS FOR THE NUMBER OF SCREWS AND METAL GAUGES.

METAL STAIRS

N.T.S.

05B–3006

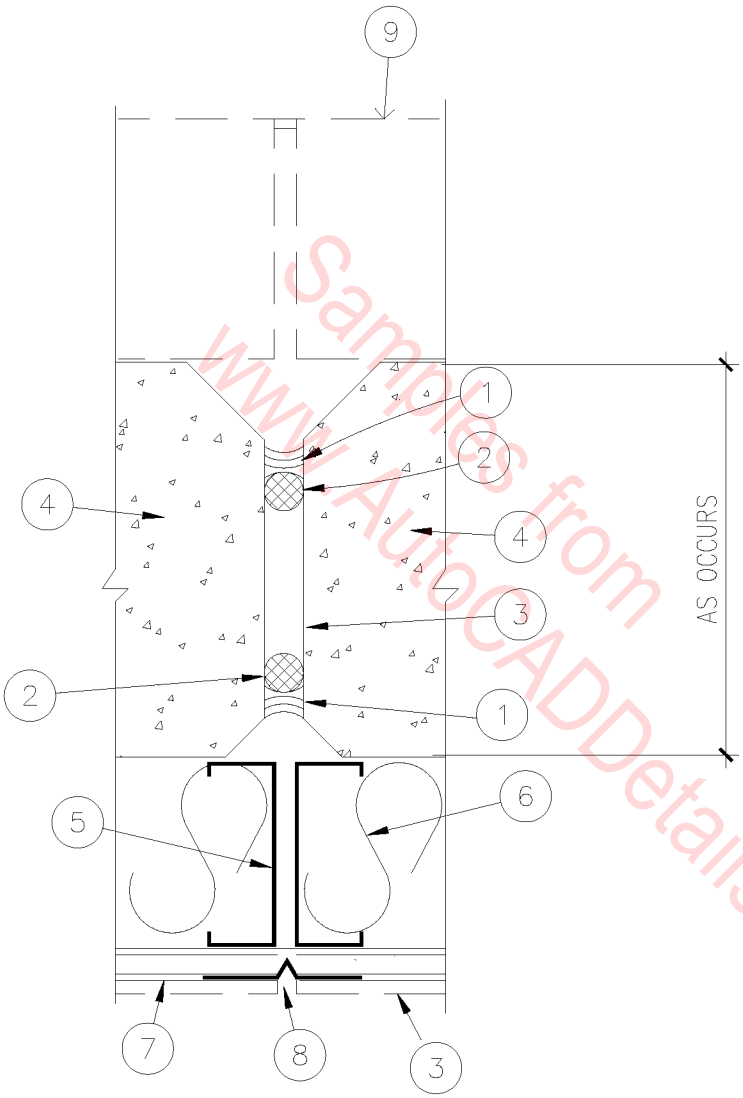


1. SEALANT.
2. JOINT FILLER.
3. PREMOLDED CONTROL JOINT.
4. MASONRY WALL.
5. METAL STUDS.
6. R-11 BATT INSULATION.
7. 1/4" CERAMIC TILE ON 1" CEMENT MORTAR SETTING BED ON METAL LATH.

EXPANSION JOINT @ FURRED C.M.U. WALL

3" = 1'-0"

05B-2001

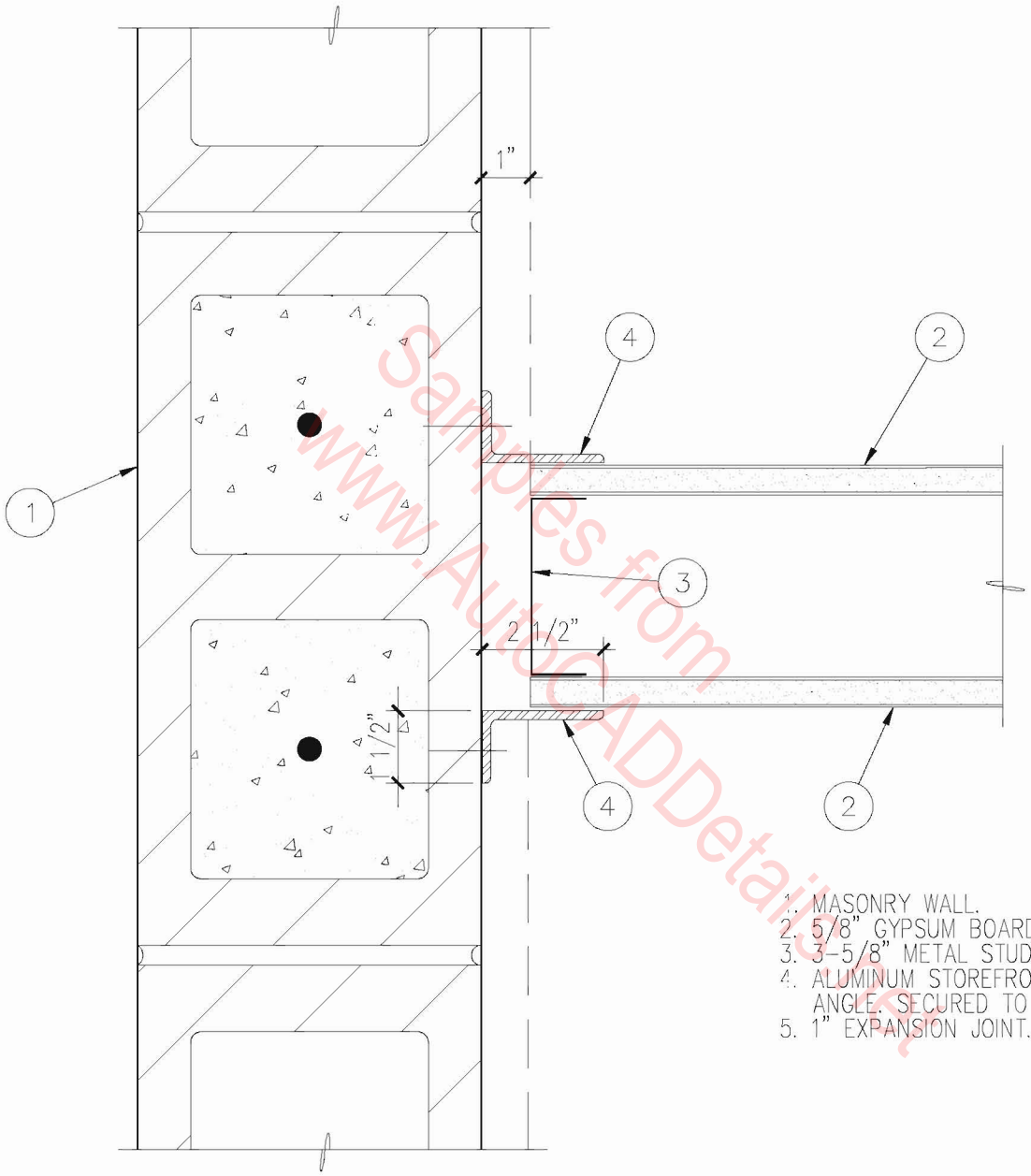


1. SEALANT.
2. BACKER ROD.
3. CERAMIC WALL TILE ON GLASS MESH MORTAR UNIT IN LIEU OF GYPSUM BOARD.
4. CONCRETE WALL.
5. METAL STUDS.
6. R-11 BATT INSULATION AT EXTERIOR WALL.
7. 5/8" GYPSUM WALLBOARD.
8. METAL CONTROL JOINT AT GYPSUM BOARD, SEALANT AT CERAMIC TILE.
9. LINE OF WALL FURRED WITH METAL STUDS AND GYPSUM BOARD.

CONTROL JOINT FURRED PRECAST WALL

SCALE: 3" = 1'-0"

05B-2002

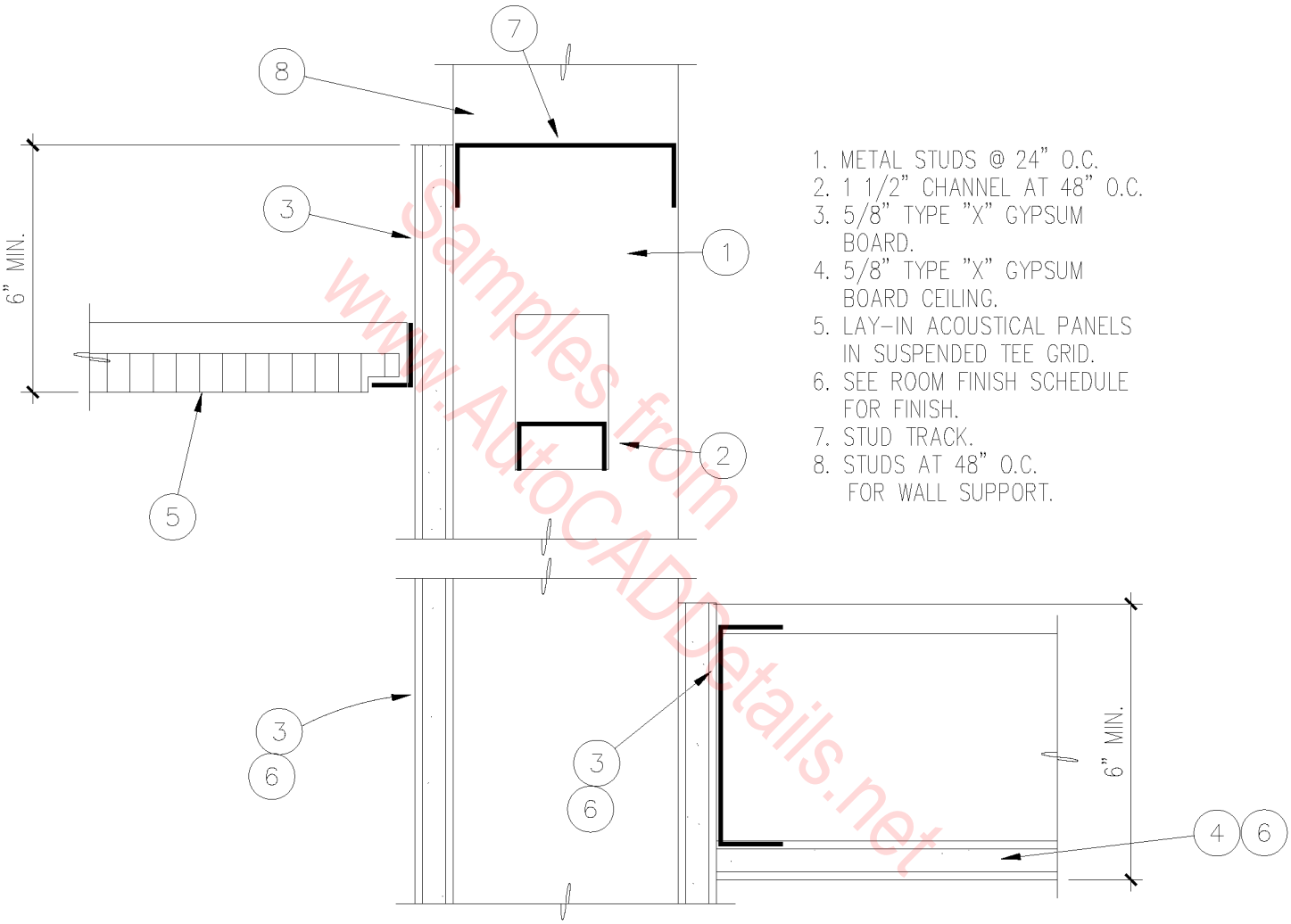


1. MASONRY WALL.
2. 5/8" GYPSUM BOARD.
3. 3-5/8" METAL STUD.
4. ALUMINUM STOREFRONT BREAK METAL ANGLE. SECURED TO MASONRY ONLY.
5. 1" EXPANSION JOINT.

SLIP JOINT

SCALE: 3" = 1'-0"

05B-2003

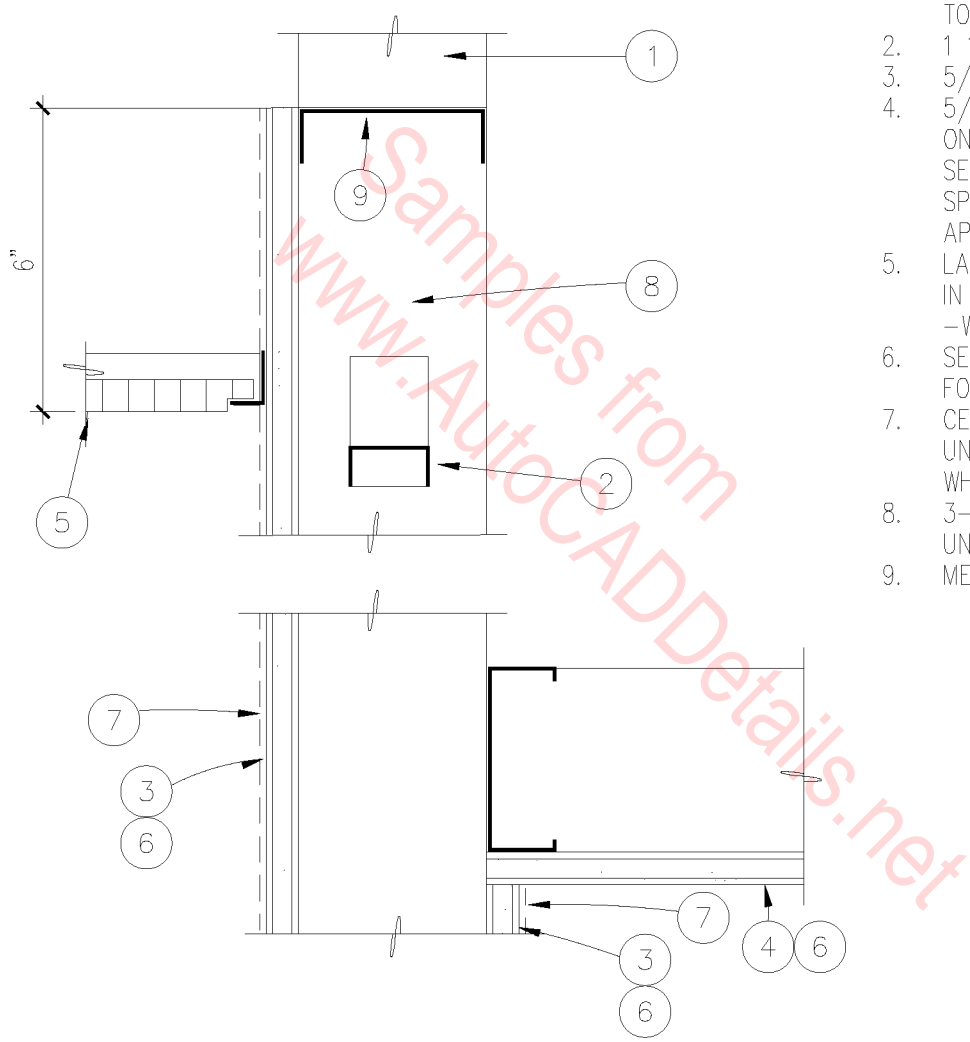


1. METAL STUDS @ 24" O.C.
2. 1 1/2" CHANNEL AT 48" O.C.
3. 5/8" TYPE "X" GYPSUM BOARD.
4. 5/8" TYPE "X" GYPSUM BOARD CEILING.
5. LAY-IN ACOUSTICAL PANELS IN SUSPENDED TEE GRID.
6. SEE ROOM FINISH SCHEDULE FOR FINISH.
7. STUD TRACK.
8. STUDS AT 48" O.C. FOR WALL SUPPORT.

CEILING AT WALL

SCALE: 3" = 1'-0"

05B-2004



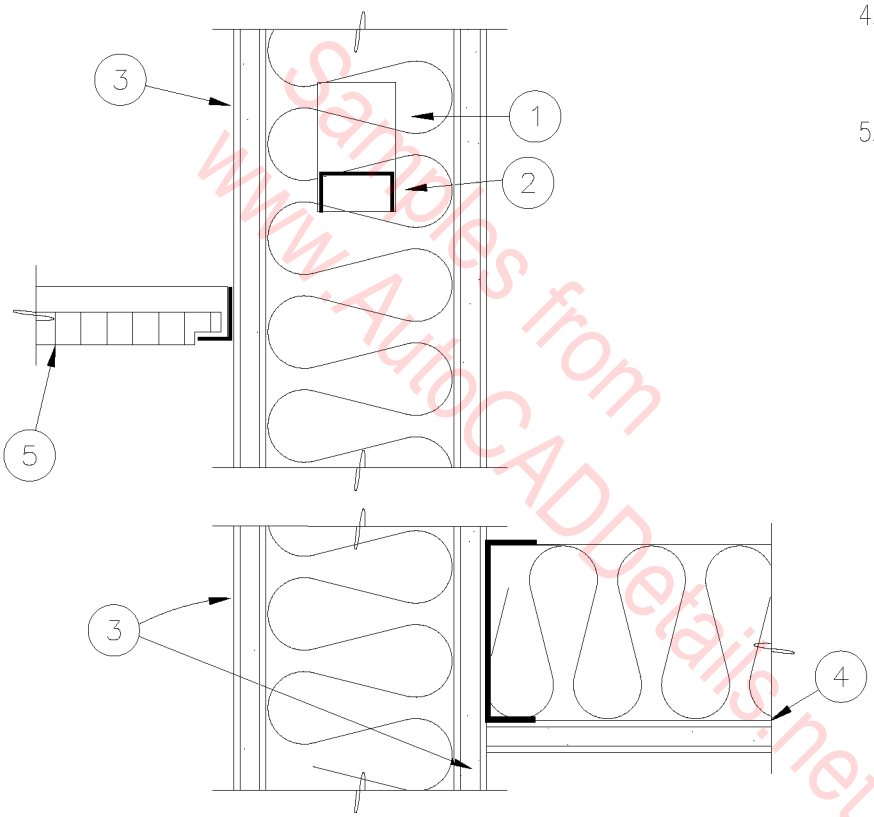
1. 3-5/8" METAL STUDS AT 48" O.C. TO ROOF DECK, WALL BRACE.
2. 1 1/2" CHANNEL AT 48" O.C.
3. 5/8" TYPE "X" GYPSUM BOARD.
4. 5/8" TYPE X GYPSUM WALLBOARD ON METAL STUDS (CEILING JOISTS) SEE SPECIFICATIONS FOR SIZE, SPACING & GAUGE WHERE APPLICABLE.
5. LAY-IN ACOUSTICAL PANELS IN SUSPENDED TEE GRID -WHERE APPLICABLE.
6. SEE ROOM FINISH SCHEDULE FOR FINISH.
7. CERAMIC TILE ON GLASS MESH MORTAR UNITS, IN LIEU OF GYPSUM BOARD WHERE APPLICABLE.
8. 3-5/8" METAL STUDS AT 24" O.C. UNLESS NOTED OTHERWISE.
9. METAL CEILING RUNNER.

CEILING AT WALL

SCALE: 3" = 1'-0"

05B-2005

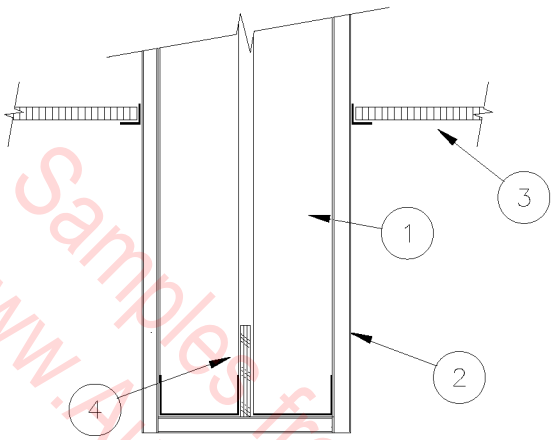
1. METAL STUDS @ 24" O.C.
2. 1 1/2" CHANNEL AT 48" O.C.
3. 5/8" TYPE "X" GYPSUM BOARD WHERE APPLICABLE.
4. 5/8" TYPE "X" GYPSUM BOARD CEILING WHERE APPLICABLE.
5. LAY-IN ACOUSTICAL PANELS IN SUSPENDED TEE GRID -WHERE APPLICABLE.



CEILING AT WALL

SCALE: 3" = 1'-0"

05B-2006

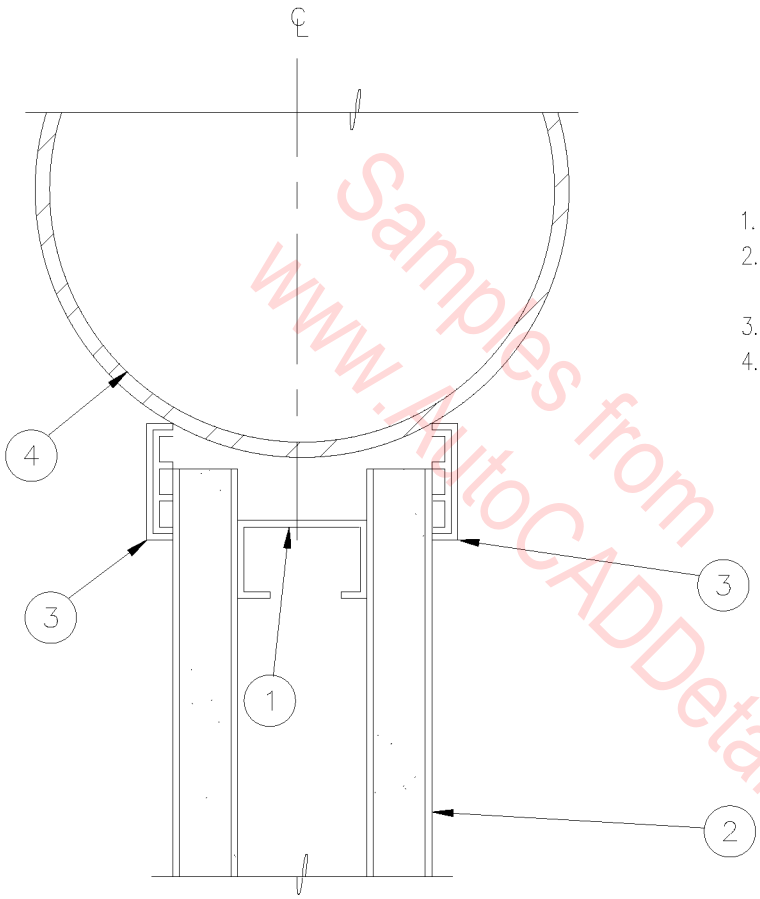


1. 3-5/8" METAL STUDS @ 24" O.C.
2. 5/8" GYP. BOARD.
3. ACOUSTICAL CEILING TILE.
4. PLYWOOD BLOCKING.

CEILING TRANSITION

SCALE: 1" = 1'-0"

05B-2007

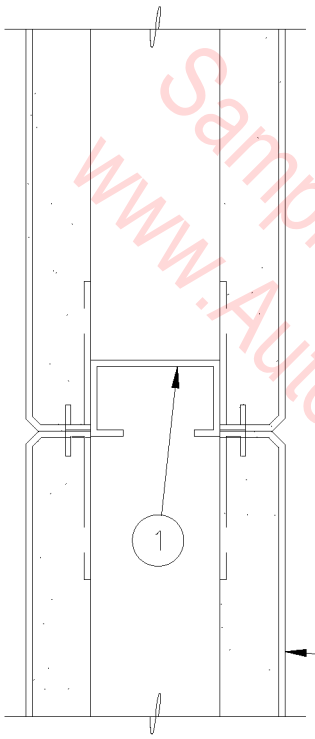


1. 2-1/2", 20 GA METAL STUD.
2. 5/8" TYPE "X" GYP. BD., VINYL FACED, EACH SIDE.
3. PVC BATTEN ON STEEL RETAINER.
4. EXISTING PIPE COLUMN.

WALL AT COLUMN

3" = 1'-0"

05B-2008

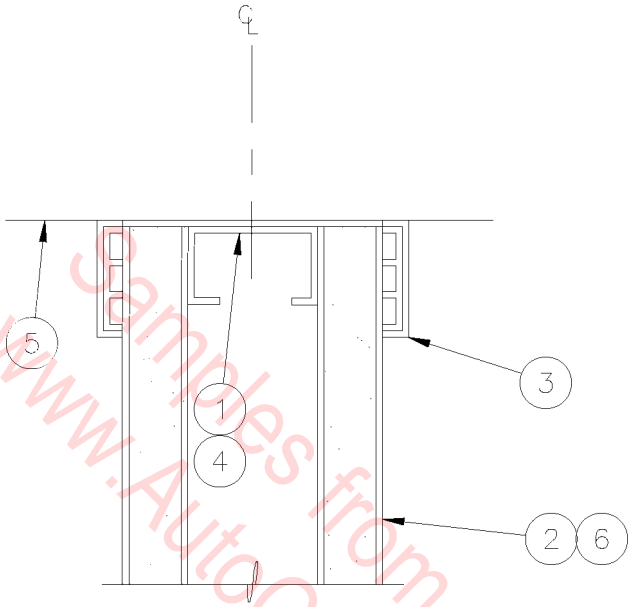


1. 2-1/2", 20 GA METAL STUD AT 24" O.C., PANEL JOINTS AT 48" O.C. WITH PANEL CLIPS.
2. 5/8" TYPE "X" GYP. BD., VINYL FACED, EACH SIDE.
3. MOVABLE WALL SYSTEM.

DEMOUNTABLE WALL

SCALE: 3" = 1'-0"

05B-2009

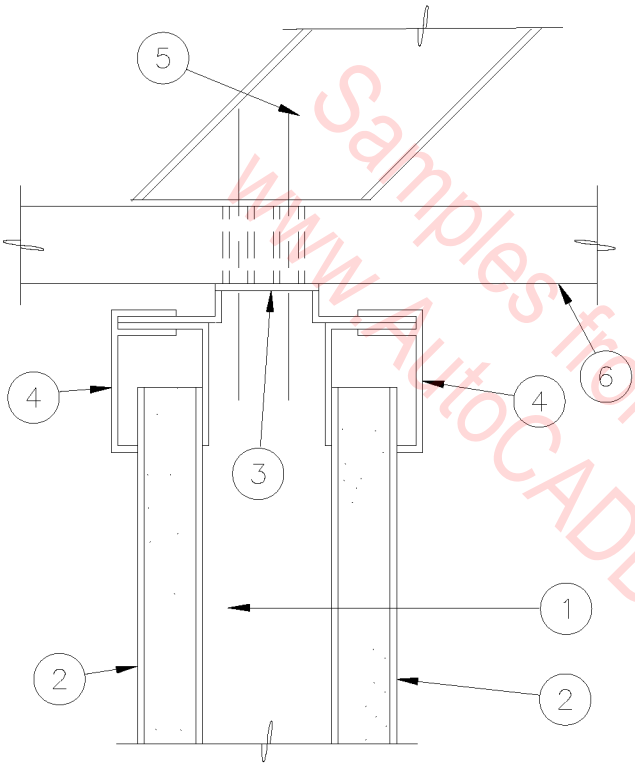


1. 2-1/2", 20 GA METAL STUD.
2. 5/8" TYPE "X" GYP. BD., VINYL FACED, EACH SIDE.
3. PVC BATTEN ON STEEL RETAINER.
4. ANCHOR TO ADJACENT WALL 6" FROM TOP AND BOTTOM AND 32" O.C.
5. FACE OF ADJACENT WALL.
6. MOVABLE WALL SYSTEM.

DEMOUNTABLE WALL

SCALE: 3" = 1'-0"

05B-2010

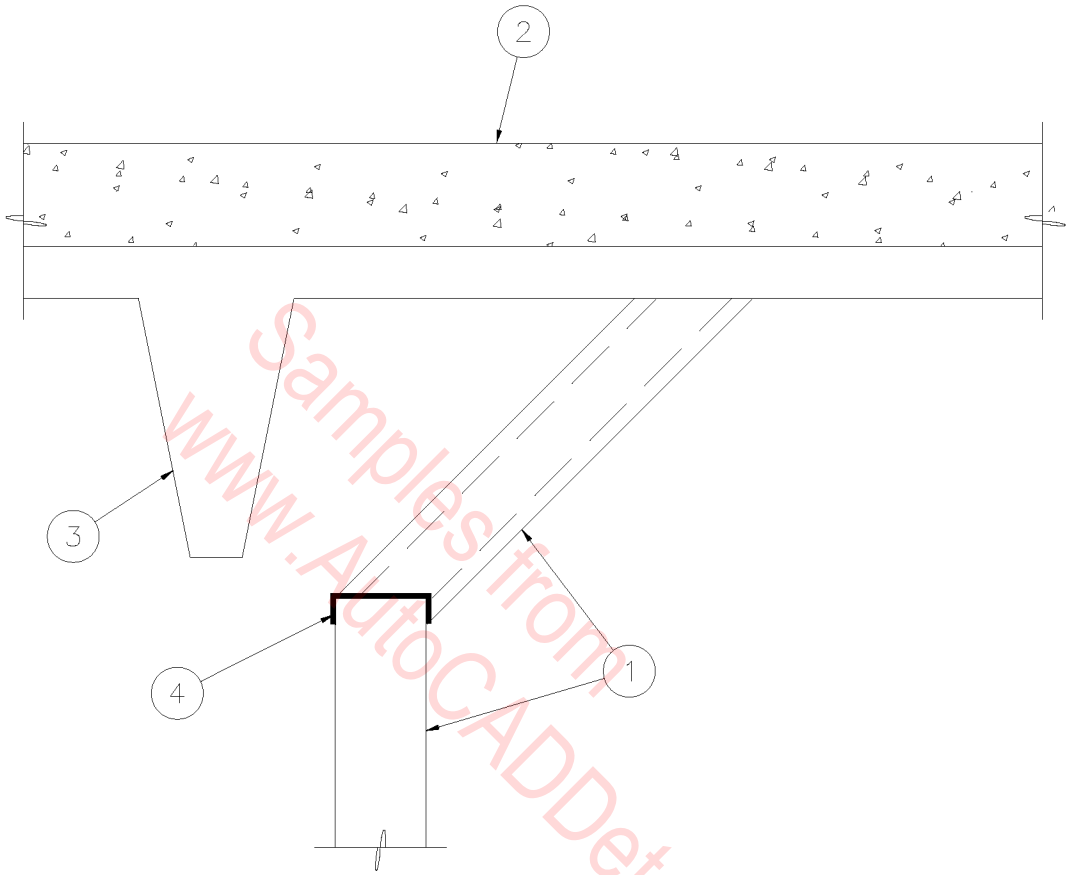


1. 2-1/2" 20 GA. METAL STUDS AT 24" O.C.
2. 5/8" TYPE "X" GYP. BD., VINYL FACED.
3. STEEL CEILING RUNNER WITH 2 ANCHORS WITH SPACERS AT EACH WALL BRACE.
4. PVC CEILING TRIM.
5. 2-1/2" 20 GA METAL STUD AT 8'-0" O.C. WALL BRACE.
6. SUSPENDED CEILING SYSTEM WITH LAY-IN ACOUSTIC PANELS.
7. MOVABLE WALL SYSTEM.

DEMOUNTABLE WALL

SCALE: 3" = 1'-0"

05B-2011

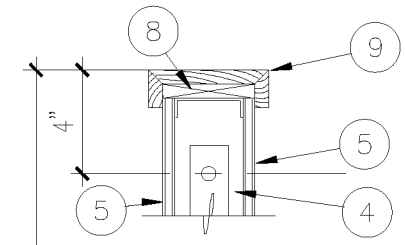


1. METAL STUD BRACE @ 48" O.C.
2. CONCRETE TOPPING.
3. STRUCTURAL CONCRETE DOUBLE TEES.
4. METAL RUNNER.

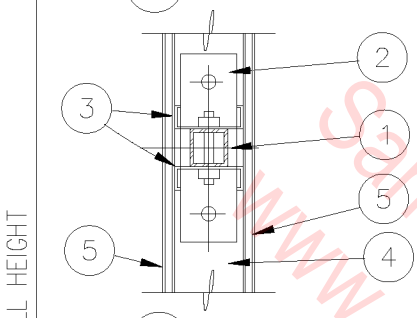
WALL @ CONCRETE TEE

1" = 1'-0"

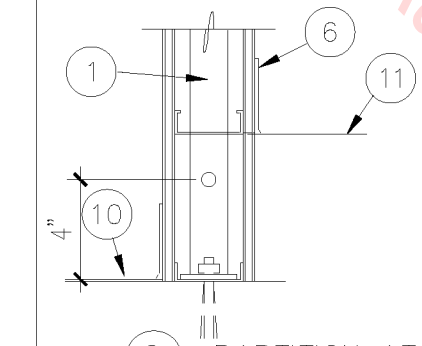
05B-2012



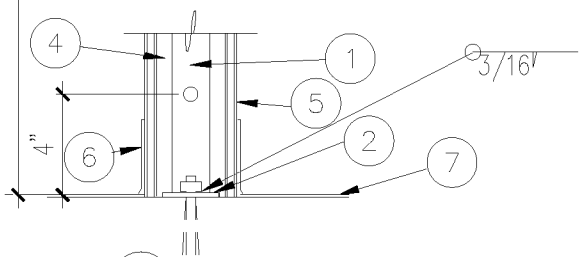
A PARTITION CAP



B STEEL SUPPORT



C PARTITION AT RAMP



D PARTITION AT FLOOR

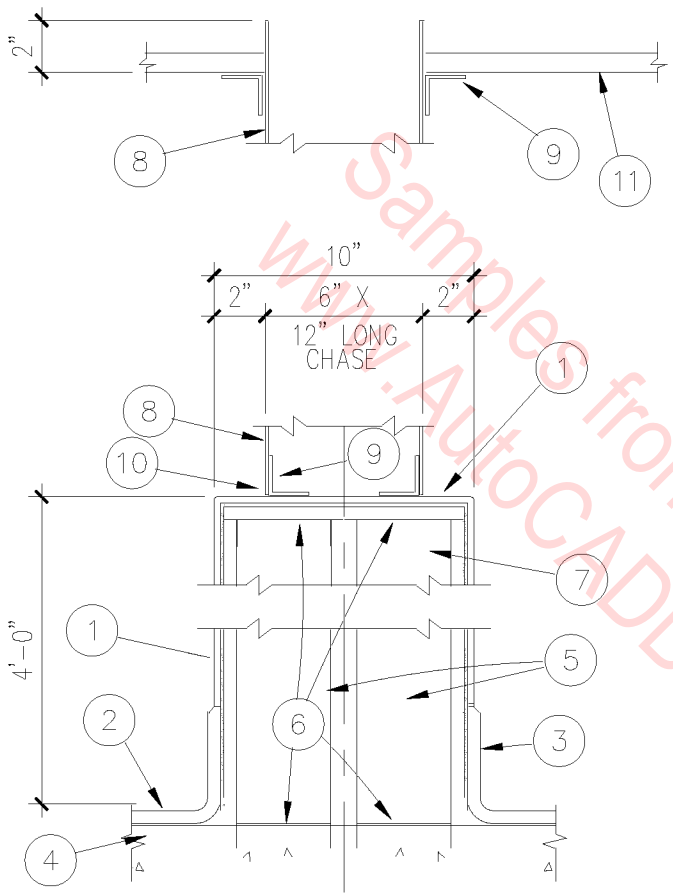
WALL HEIGHT

1. STEEL TUBE 2" X 2" X 3/16" LOCATE AT 6" FROM EACH END AND 6'-8" O. C.
2. STEEL PLATE 3" X 10" X 1/4" ANCHOR TO FLOOR WITH 2-3/4" DIAMETER. EXPANSION BOLTS EMBEDDED 3" MIN.
3. 2 - 3-5/8" METAL STUDS ANCHOR TO STEEL TUBE AT 4" FROM TOP AND BOTTOM AND 2'-0" O.C. WITH 1/2" DIAMETER BOLTS WITH 2" WASHERS EACH SIDE.
4. 3-5/8" METAL STUDS AT 16" O.C.
5. 5/8" TYPE "X" GYP. BD.
6. RUBBER BASE.
7. VCT TILE ON CONCRETE FLOOR SLAB.
8. 3/4" FIRE RETARDANT TREATED WOOD BLOCKING.
9. 3/4" HARDWOOD TRIM.
10. RAMP SIDE OF PARTITION.
11. PLATFORM SIDE OF PARTITION.
12. METAL STUD BLOCKING.

HALF WALL

1 1/2" = 1'-0"

05B-2013



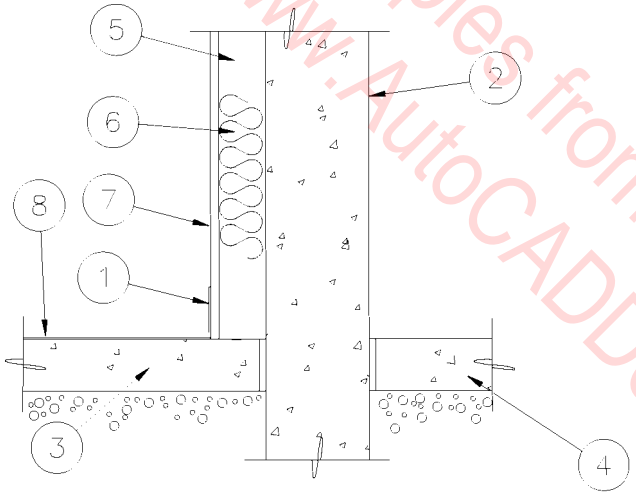
1. CERAMIC WALL TILE THIN SET ON GLASS MESH MORTAR UNIT.
2. FLOORING
3. FLOORING AND INTEGRAL BASE. (TROWEL ON SEAMLESS BASE).
4. DEPRESS CONCRETE SLAB 3/8" FOR FLOORING.
5. 3-5/8" METAL STUDS AT 24" O.C.
6. METAL STUD.
7. METAL STUD TRACK
8. STAINLESS STEEL UTILITY CHASE.
9. STAINLESS STEEL ANGLE FRAME.
10. SEALANT.
11. FINISH CEILING.

STUB WALL

SCALE: 3" = 1'-0"

05B-2014

1. BASE.
2. CONCRETE WALL.
3. CONCRETE FLOOR SLAB ON ABC.
4. EXTERIOR CONCRETE SIDEWALK ON ABC.
5. 3-5/8" METAL STUDS AT 24" O.C.
6. R-11 BATT INSULATION.
7. 5/8" GYPSUM BOARD.
8. FLOOR FINISH, SEE ROOM FINISH SCHEDULE.

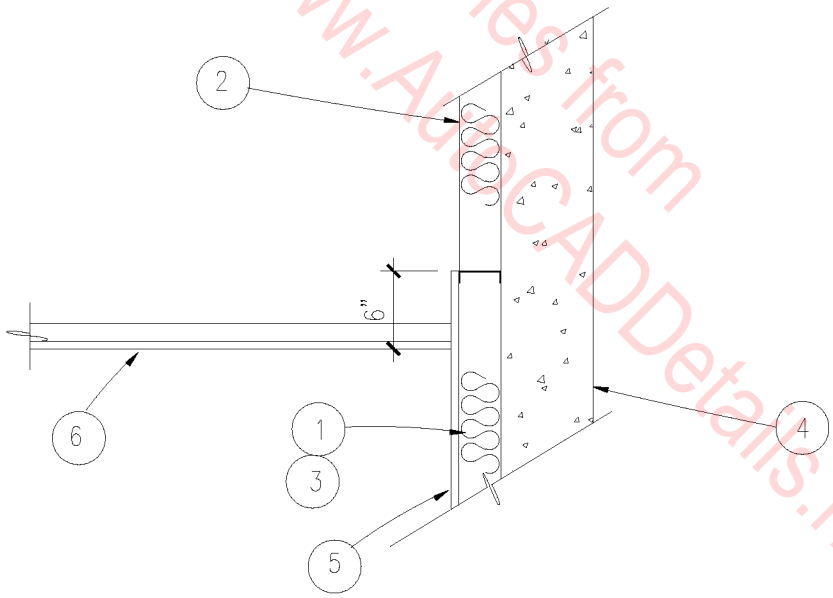


FURRED EXTERIOR WALL

SCALE: 3/4" = 1"-0"

05B-2015

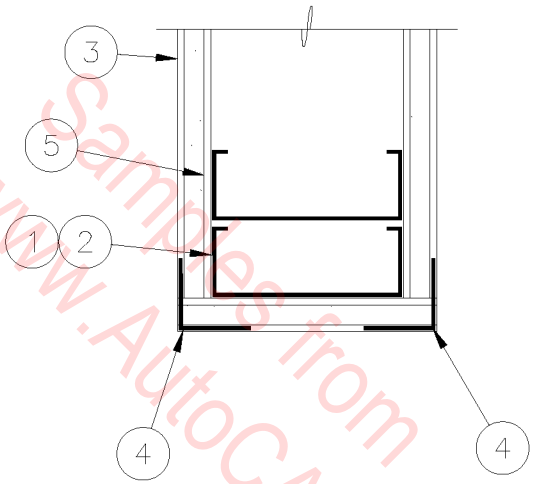
1. 3-5/8" METAL STUDS AT 16" O.C.
2. RUN STUDS AND INSULATION TO ROOF DECK AT EXTERIOR WALL.
3. R-11 BATT INSULATION.
4. CONCRETE WALL.
5. SEE ROOM FINISH SCHEDULE FOR WALL MATERIAL AND FINISH.
6. SEE ROOM FINISH SCHEDULE FOR CEILING MATERIAL, FINISH & HEIGHT.



FURRED EXTERIOR WALL

3/4" = 1'-0"

05B-2016

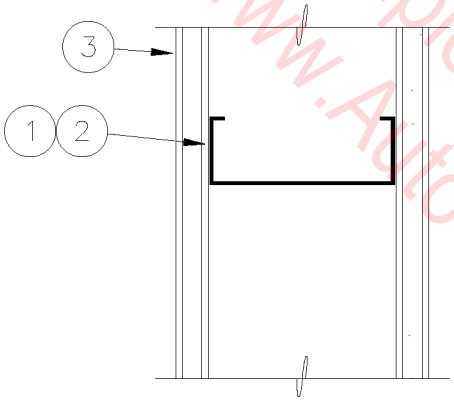


1. FLOOR & CEILING RUNNER (NOT SHOWN) WITH 1" HIGH RETURN LEGS, ANCHOR TO FLOOR AND CEILING WITH FASTENERS AT 24" O.C.
2. METAL STUDS AT 24" O.C.
3. 5/8" GYPSUM BOARD.
4. CORNER BEAD.
5. DOUBLE STUDS AT WALL END.

METAL STUD WALL END

3" = 1'-0"

05B-2017

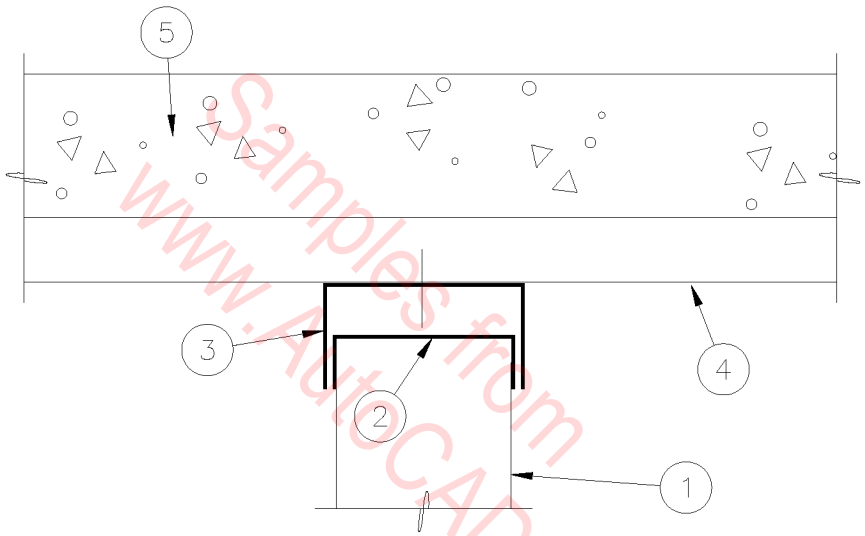


1. FLOOR & CEILING RUNNER (NOT SHOWN) WITH 1" HIGH RETURN LEGS, ANCHOR TO FLOOR AND CEILING WITH FASTENERS AT 24" O.C.
2. METAL STUDS AT 24" O.C.
3. 5/8" GYPSUM BOARD.

METAL STUD WALL

3" = 1'-0"

05B-2018

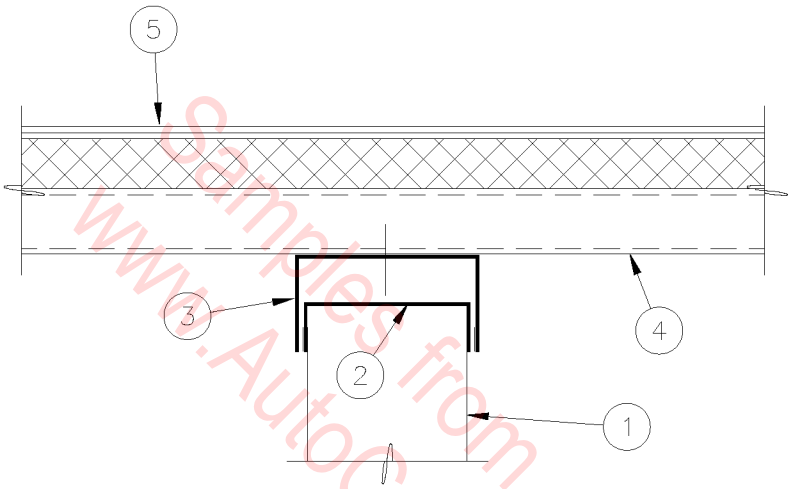


1. METAL STUDS AT 48" O.C. WALL SUPPORTS.
2. METAL STUD TOP TRACK.
3. METAL RUNNER WITH 2" LEG.
4. CONC. DOUBLE TEE.
5. CONC. FLOOR SLAB.

WALL TOP TRACK

1" = 1'-0"

05B-2019



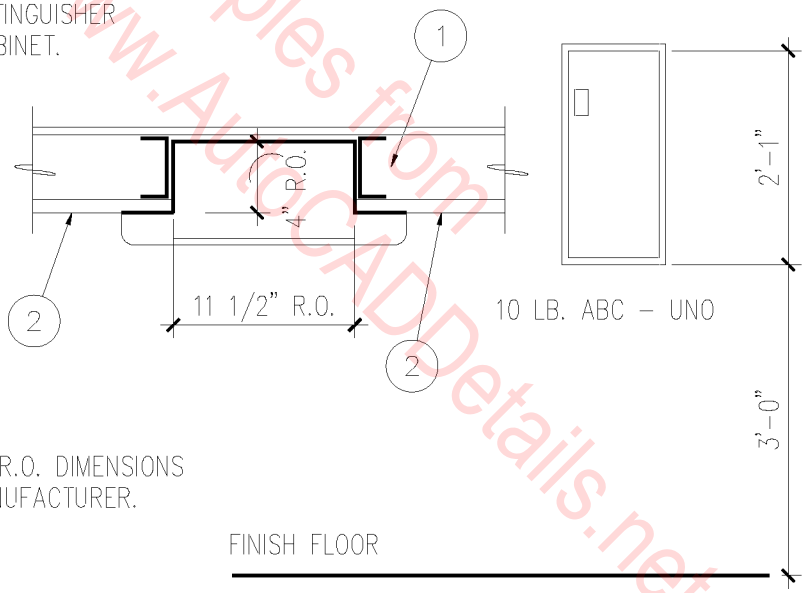
1. METAL STUDS AT 48" O.C.
   WALL SUPPORTS.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. ROOFING SYSTEM.

WALL TOP TRACK

3" = 1'-0"

05B-2020

1. 3-5/8" METAL STUDS.
2. GYP. BOARD.
3. SEMI-RECESSED FIRE EXTINGUISHER CABINET.

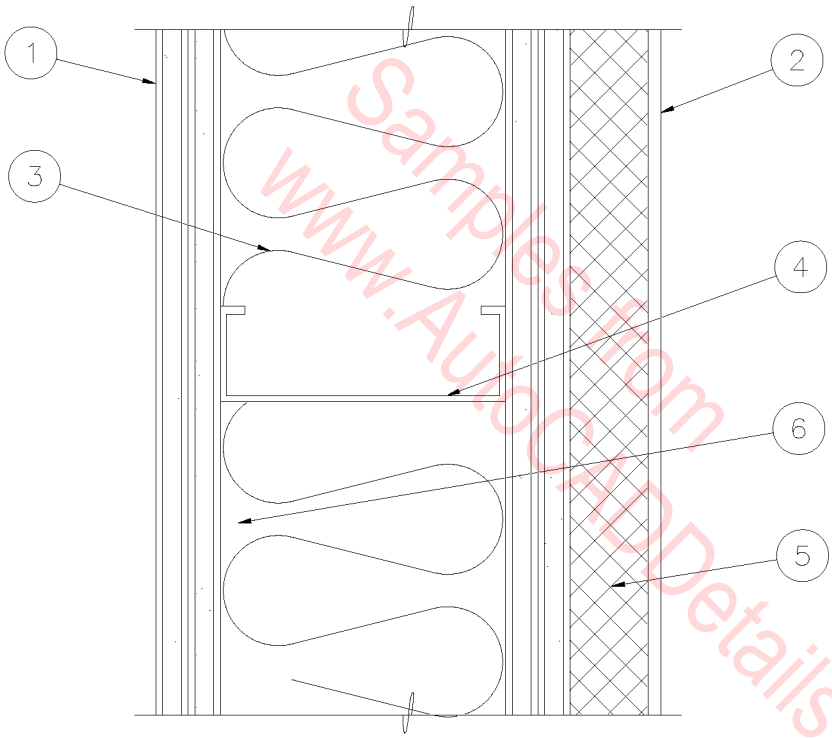


VERIFY R.O. DIMENSIONS W/ MANUFACTURER.

EXTINGUISHER CABINET

3" = 1'-0"

05B-2021

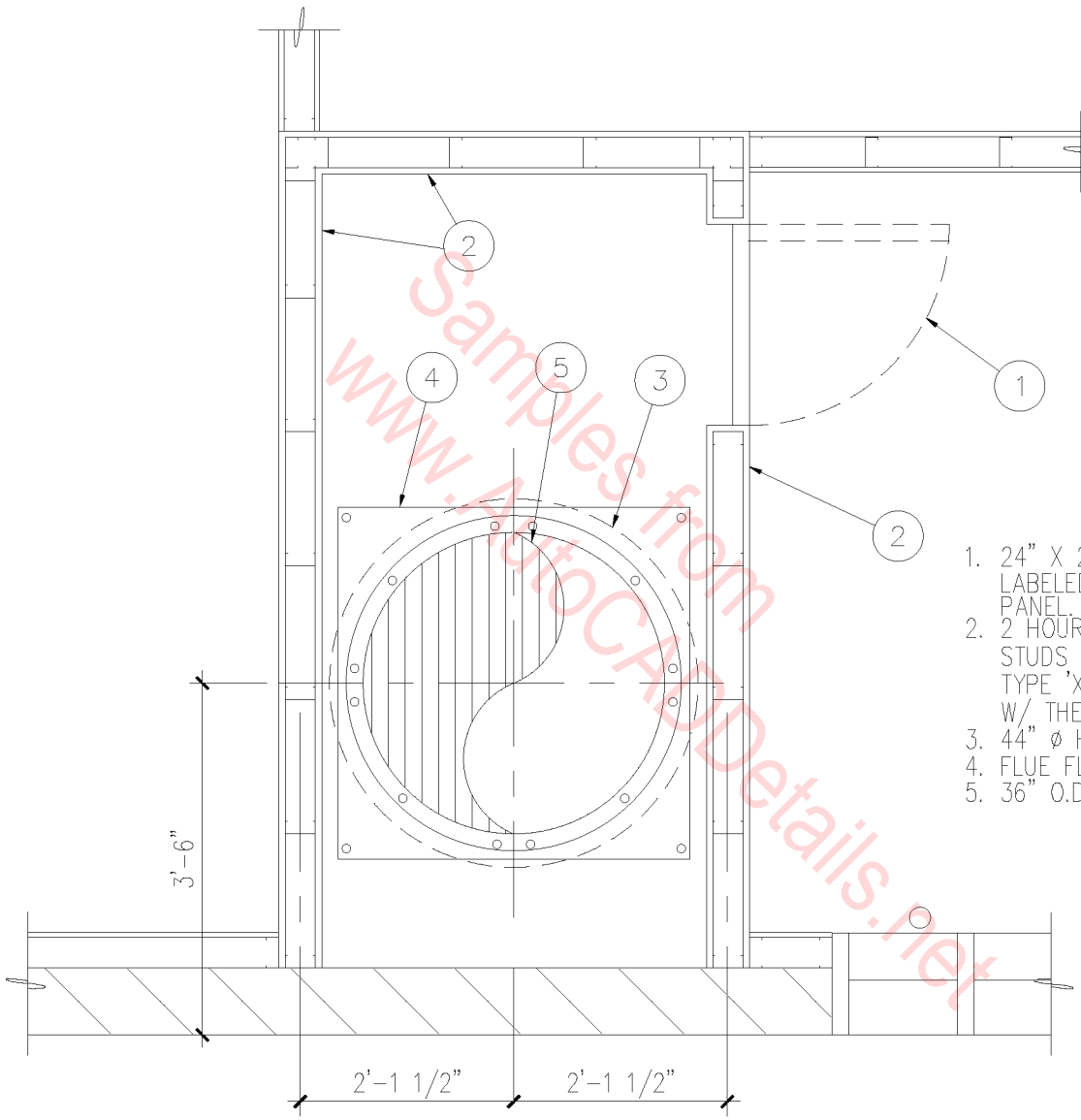


1. (2) LAYERS 5/8" TYPE "X" GYPSUM BOARD.
2. SYNTHETIC STUCCO.
3. 5 1/2" BATT INSULATION.
4. 6" METAL STUDS.
5. 1 1/2" POLYSTYRENE INSULATION BOARD MECHANICALLY FASTENED AND GLUED.
6. 4 MIL. POLY VAPOR BARRIER.

2 HOUR EXTERIOR WALL

3" = 1'-0"

05B-2022

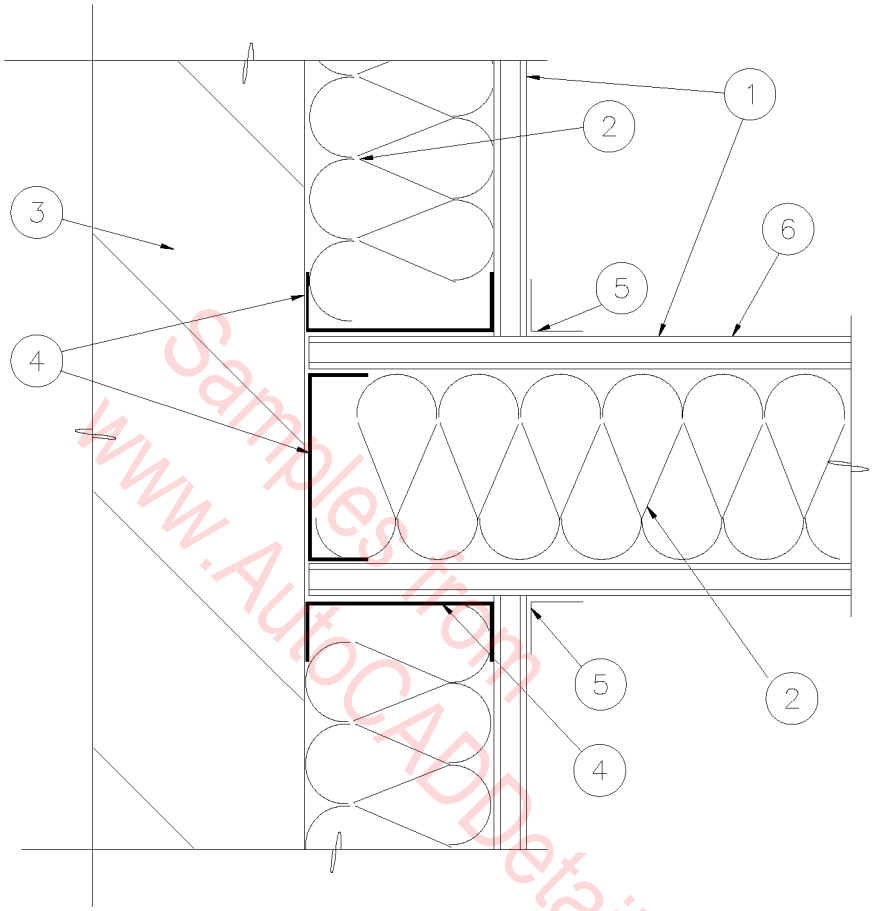


1. 24" X 24" 1-1/2 HOUR LABELED ACCESS PANEL.
2. 2 HOUR WALL 3-5/8" MTL. STUDS 16" O.C. WITH ONE LAYER OF 3/4" TYPE 'X' GYP. BD. EA. SIDE, INSULATED W/ THERMOFIBER INSULATION.
3. 44" ø HOLE IN FLOOR.
4. FLUE FLOOR PLATE.
5. 36" O.D. FLUE PIPE FROM BELOW.

FLUE CHASE

1" = 1'-0"

05B-2023

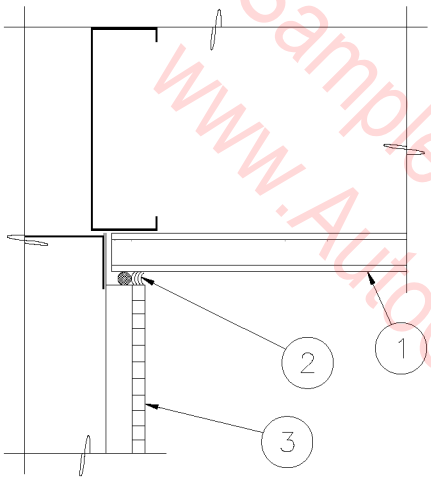


1. 5/8" TYPE 'X' GYPSUM BOARD.
2. INSULATION WHERE OCCURS.
3. MASONRY WALL.
4. 3-5/8" METAL STUDS
5. TAPE ALL JOINTS.
6. 1 HR CONSTRUCTION NON-BEARING
   WALL ASSEMBLY.
   UL DESIGN NO. U465.

RESISTIVE WALL AT CMU

3" = 1'-0"

05B-2024

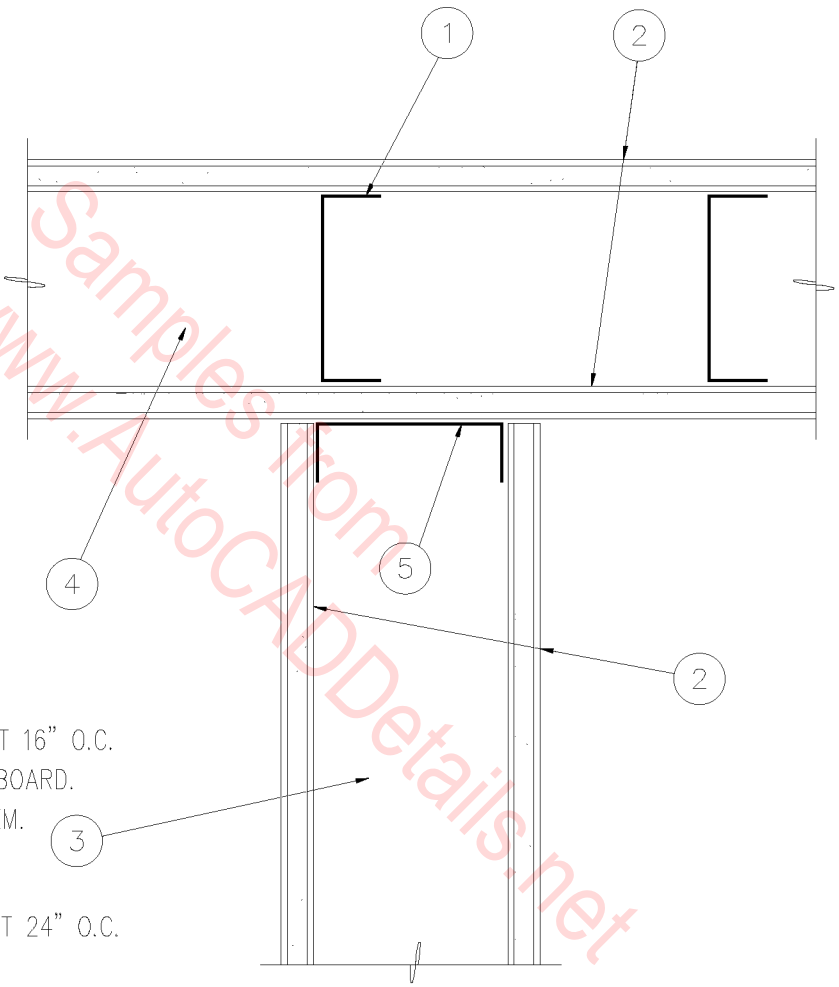


1. 5/8" GYPSUM BOARD ON CEILING JOISTS OR SUSPENDED CEILING SYSTEM.
2. SEALANT ON JOINT FILLER.
3. CERAMIC TILE, THIN SET ON GLASS MESH MORTAR UNIT ON METAL STUDS.

GYPSUM BOARD CEILING

3" = 1'-0"

05B-2025

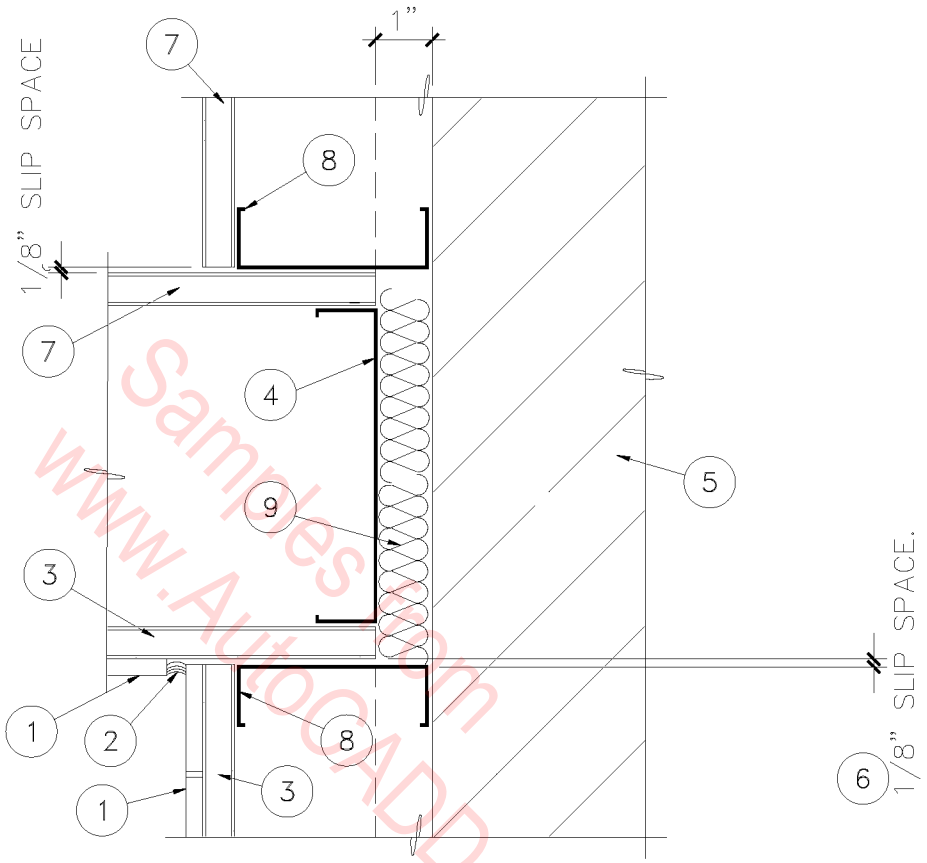


1. 3-5/8" METAL STUDS AT 16" O.C.
2. 5/8" TYPE 'X' GYPSUM BOARD.
3. NON-RATED WALL SYSTEM.
4. 1 HR WALL SYSTEM
   UL DESIGN NO. U465.
5. 3-5/8" METAL STUDS AT 24" O.C.

INTERSECTING WALL

3" = 1'-0"

05B-2026

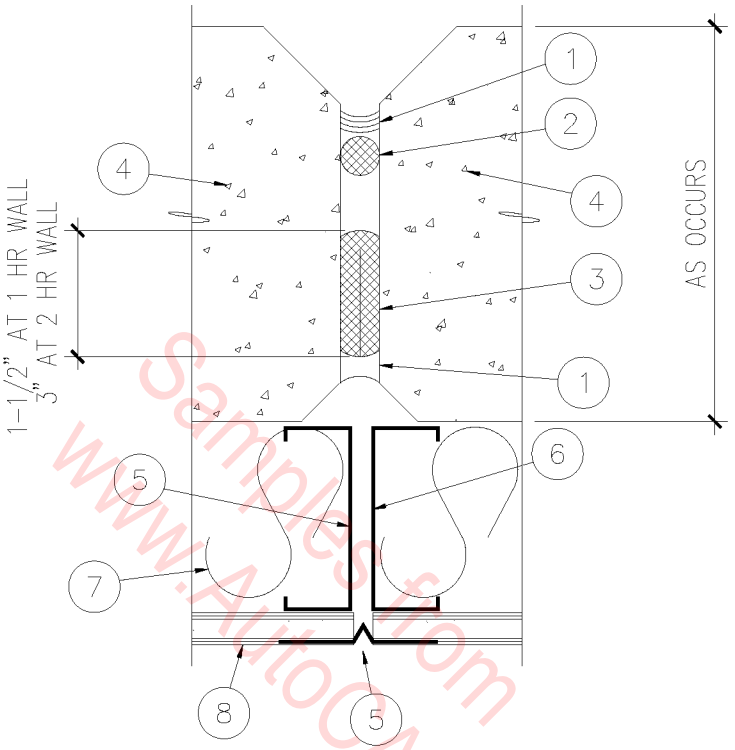


1. CERAMIC TILE.
2. SEALANT.
3. 5/8" MOISTURE-RESISTANT GYPSUM BOARD.
4. METAL STUD. DO NOT ATTACH TO MASONRY WALL.
5. MASONRY WALL.
6. EXPANSION JOINT SPACE.
7. 5/8" TYPE 'X' GYPSUM BOARD.
8. METAL STUDS.
9. FIRE SAFING MATERIAL.

1 HOUR EXPANSION JOINT

3" = 1'-0"

05B-2027

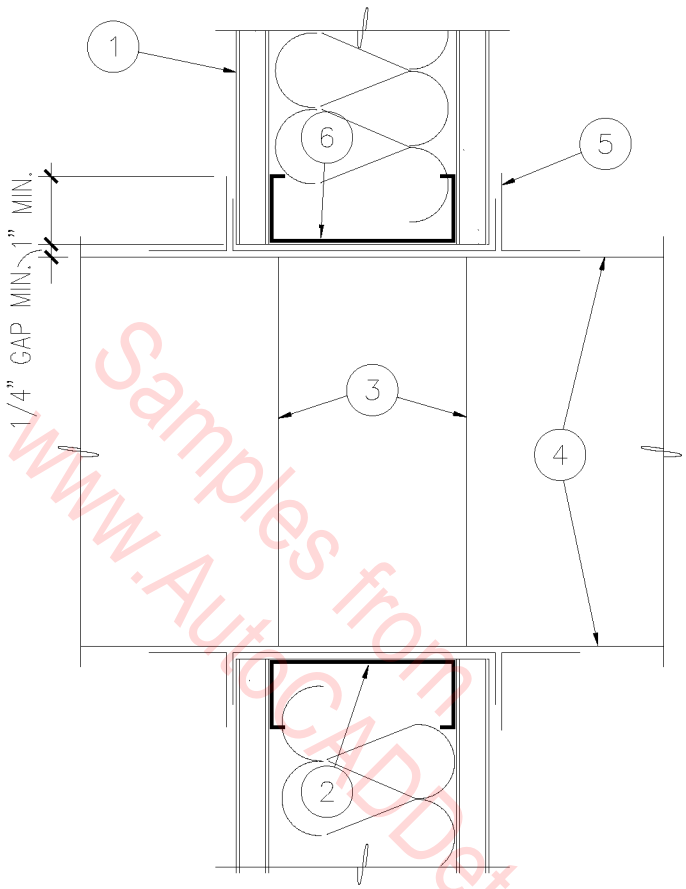


1. FIRE STOPPING SEALANT, 'TREMCO' DYMETRIC, POLYTREMDYNE TERPOLYMER.
2. JOINT FILLER – POLYETHYLENE CLOSED-CELL FOAM, BY 'DOW CHEMICAL'.
3. 'CERABLANKET-FS' – CERAMIC FIBER BLANKET INSULATION, BY 'JOHNS-MANVILLE'.
4. CONCRETE WALL.
5. METAL CONTROL JOINT.
6. METAL STUDS.
7. R-11 BATT INSULATION.
8. 5/8" GYPSUM BOARD.

RATED CONTROL JOINT

3" = 1'-0"

05B-2028



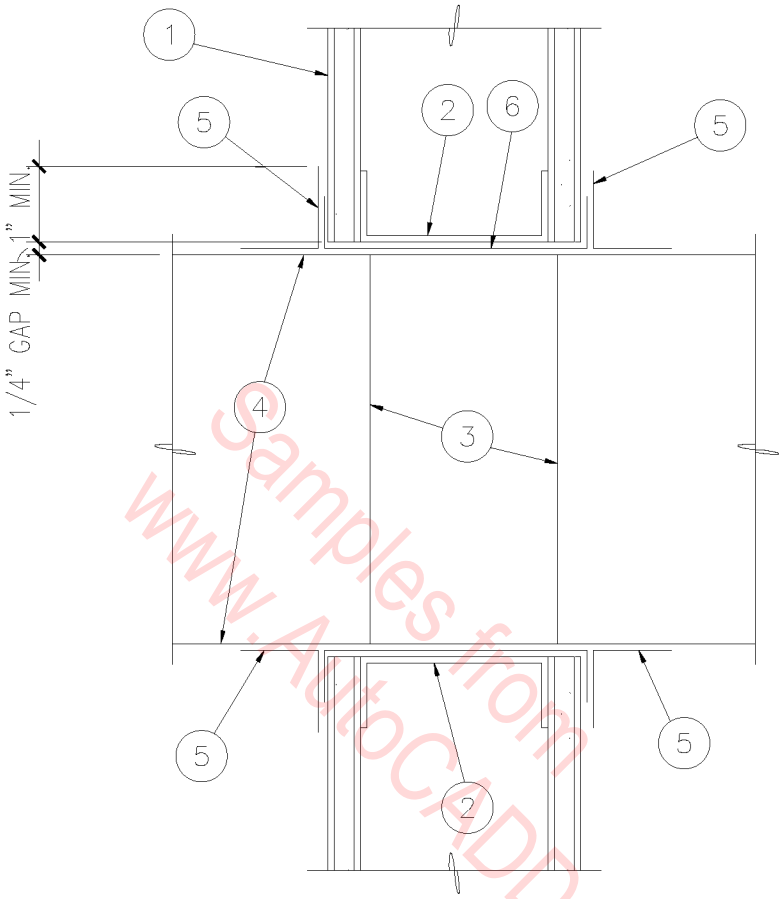
UL SAFETY STANDARD 555 AND NFPA 90A

1. ONE HOUR WALL UL DESIGN NO. U465.
2. METAL RUNNER.
3. FIRE OR LEAKAGE (SMOKE) DAMPER. SEE MECHANICAL FOR TYPE AND LOCATION.
4. DAMPER SLEEVE SHALL NOT EXTEND MORE MORE THAN 9" ON THE OPERATOR/ACTUATOR SIDE.
5. ANGLE 1-1/2" X 1-1/2" X 14 GAGE.
6. 22 GA. G. I. SLEEVE.

DUCT THRU WALL

3" = 1'-0"

05B-2029



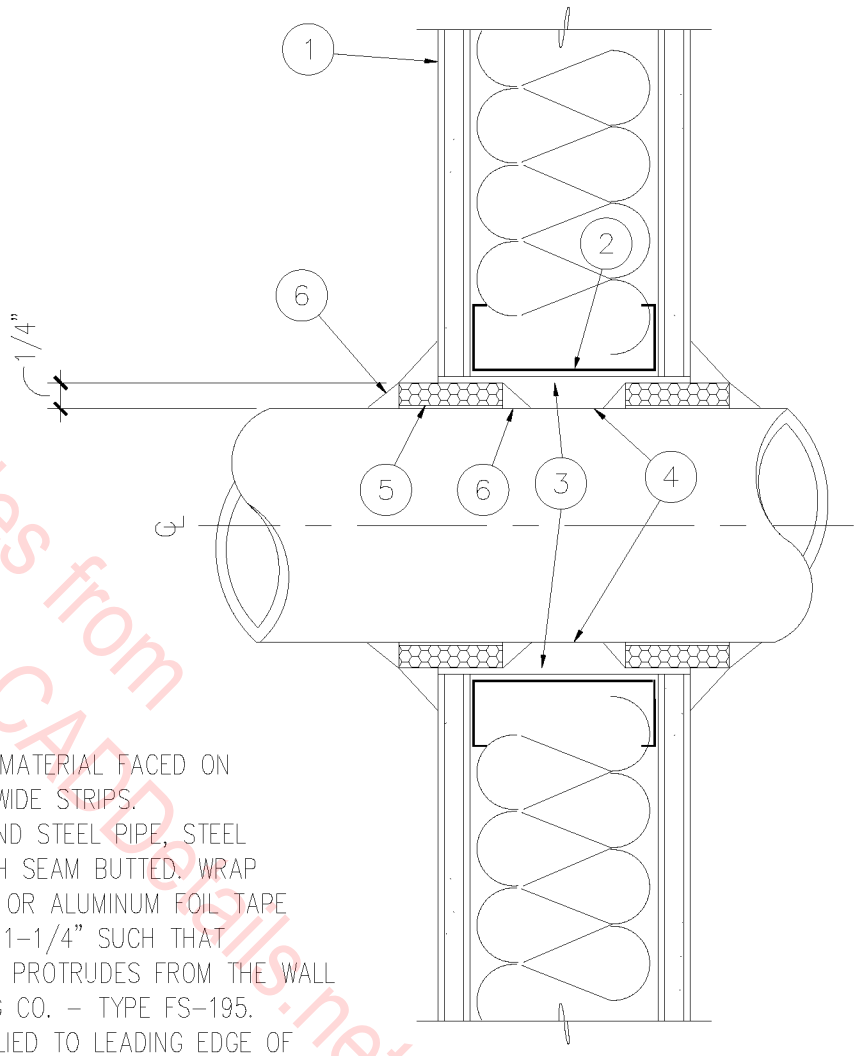
UL SAFETY STANDARD 555 AND NFPA 90A

1. ONE HOUR WALL UBC 43-B, 15-1.1.
2. METAL RUNNER.
3. FIRE OR LEAKAGE (SMOKE) DAMPER. SEE MECHANICAL FOR TYPE AND LOCATION.
4. DAMPER SLEEVE SHALL NOT EXTEND MORE THAN 6" BEYOND THE FIRE WALL AND NOT MORE THAN 9" ON THE OPERATOR/ACTUATOR SIDE.
5. ANGLE 1-1/2" X 1-1/2" X 14 GAGE.
6. 22 GA. G. I. SLEEVE.

1 HR. DUCT PENETRATION

3" = 1'-0"

05B-2030

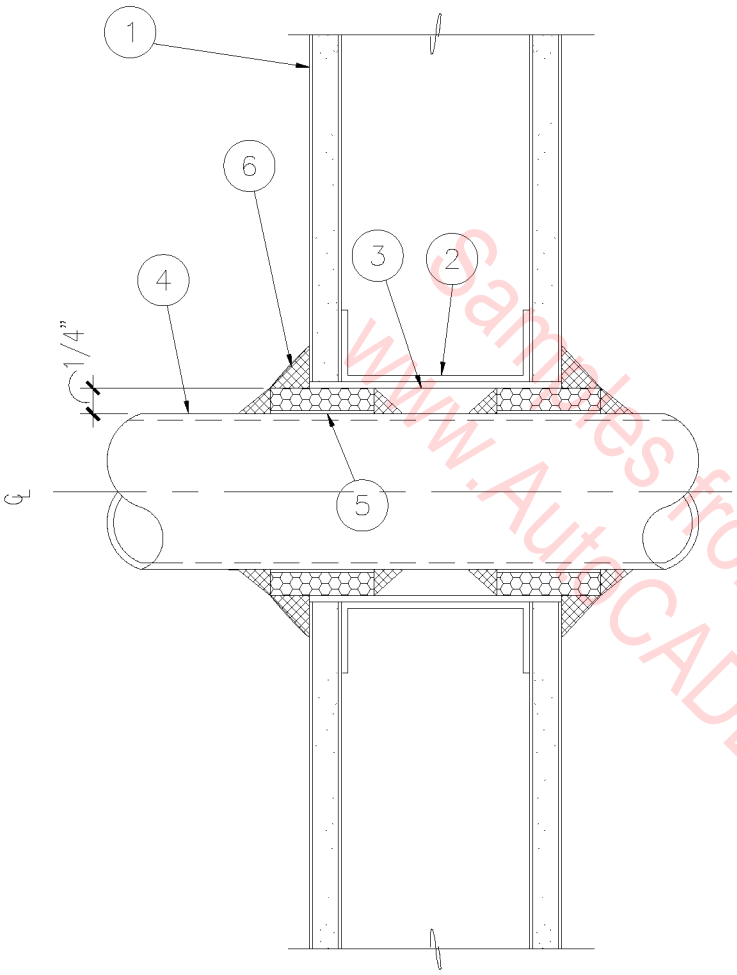


1. ONE HOUR WALL, UL DESIGN NO. U465.
2. 25 GA. G.I. RUNNER.
3. 22 GA. G.I. SLEEVE.
4. STEEL PIPE OR CONDUIT.
5. WRAP STRIP – 1/4" INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN 2" WIDE STRIPS. NOMINAL 2" WIDE STRIP TIGHTLY WRAPPED AROUND STEEL PIPE, STEEL CONDUIT OR PIPE COVERING (FOIL SIDE OUT) WITH SEAM BUTTED. WRAP STRIP LAYER SECURELY BOUND WITH STEEL WIRE OR ALUMINUM FOIL TAPE AND SLID INTO ANNULAR SPACE APPROXIMATELY 1-1/4" SUCH THAT APPROXIMATELY 3/4" OF THE WRAP STRIP WIDTH PROTRUDES FROM THE WALL SURFACE. MINNESOTA MINING & MANUFACTURING CO. – TYPE FS-195.
6. CAULK – MIN. 1/4" DIA. CONTINUOUS BEAD APPLIED TO LEADING EDGE OF WRAP STRIP PRIOR TO INSERTION OF WRAP STRIP LAYER IN ANNULAR SPACE. AFTER INSERTION OF WRAP STRIP LAYER IN ANNULAR SPACE A NOMINAL 1/4" DIA. CONTINUOUS BEAD IS TO BE APPLIED TO THE WRAP STRIP/WALL INTERFACE AND TO THE EXPOSED EDGE OF THE STRIP LAYER APPROXIMATELY 3/4" FROM THE WALL SURFACE. MINNESOTA MINING & MANUFACTURING CO. – TYPES CP-25 S/L, CP-25 N/S UL THROUGH-PENETRATION FIRESTOP SYSTEMS (XHEZ) SYSTEM NO. 148.

PIPE THRU RESIST. WALL

3" = 1'-0"

05B-2031



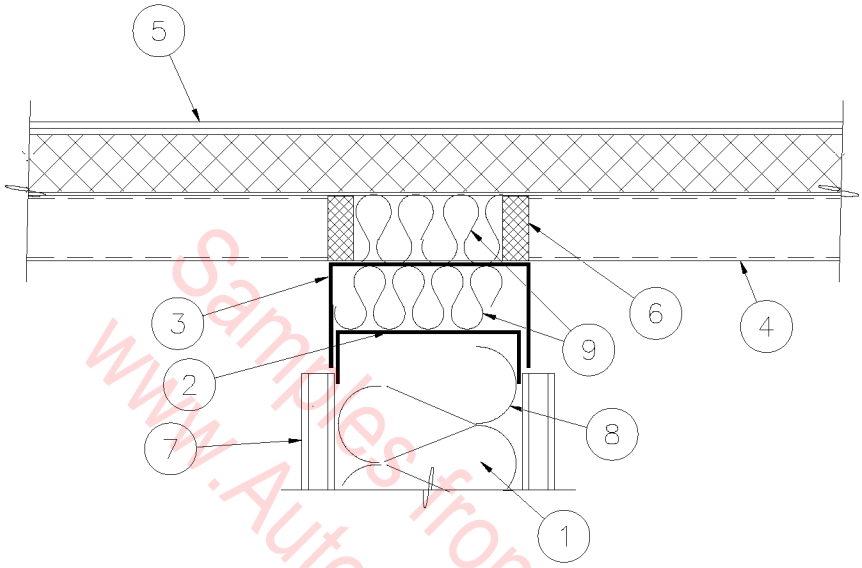
1. ONE HOUR WALL, UBC 43-B, 15-1.1.
2. 25 GA. G.I. RUNNER.
3. 22 GA. G.I. SLEEVE.
4. STEEL PIPE OR CONDUIT.
5. WRAP STRIP - 1/4" INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN 2" WIDE STRIPS. NOMINAL 2" WIDE STRIP TIGHTLY WRAPPED AROUND STEEL PIPE, STEEL CONDUIT OR PIPE COVERING (FOIL SIDE OUT) WITH SEAM BUTTED. WRAP STRIP LAYER SECURELY BOUND WITH STEEL WIRE OR ALUMINUM FOIL TAPE AND SLID INTO ANNULAR SPACE APPROXIMATELY 1-1/4" SUCH THAT APPROXIMATELY 3/4" OF THE WRAP STRIP WIDTH PROTRUDES FROM THE WALL SURFACE.
   MINNESOTA MINING & MANUFACTURING CO. TYPE FS-195.
6. CAULK - MIN. 1/4" DIA. CONTINUOUS BEAD APPLIED TO LEADING EDGE OF WRAP STRIP PRIOR TO INSERTION OF WRAP STRIP LAYER IN ANNULAR SPACE. AFTER INSERTION OF WRAP STRIP LAYER IN ANNULAR SPACE A NOMINAL 1/4" DIA. CONTINUOUS BEAD IS TO BE APPLIED TO THE WRAP STRIP / WALL INTERFACE AND TO THE EXPOSED EDGE OF THE STRIP LAYER APPROXIMATELY 3/4" FROM THE WALL SURFACE.
   MINNESOTA MINING & MANUFACTURING CO. TYPES CP-25 S/L, CP-25 N/S.

UL THROUGH-PENETRATION FIRESTOP SYSTEMS
(XHEZ) SYSTEM NO. 148

CONDUIT PENETRATION

3" = 1'-0"

05B-2032



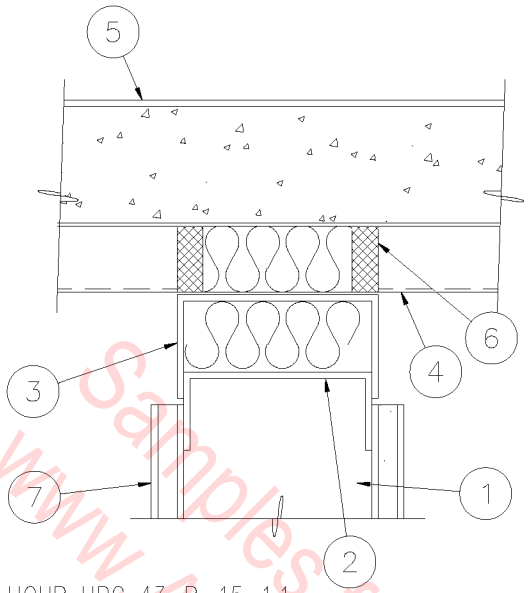
UL DESIGN NO. U465 ONE HOUR RATED WALL
UL THROUGH-PENETRATION FIRESTOP SYSTEM DESIGN NO. 327

1. 3 5/8" METAL STUDS AT 16" O.C.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. ROOFING SYSTEM.
6. 1/2" 'TREMCO' FYRE-SIL SEALANT ON EACH SIDE OF FIRE SAFING.
7. 5/8" TYPE "X" GYPSUM BOARD.
8. R-11 3 1/2" BATT SOUND INSULATION WHERE APPLICABLE.
9. FIRE SAFING INSULATION.

WALL AT ROOF DECK

3" = 1'-0"

05B-2033



ONE HOUR UBC 43-B, 15-1.1
UL THROUGH-PENETRATION FIRESTOP SYSTEM DESIGN NO. 327

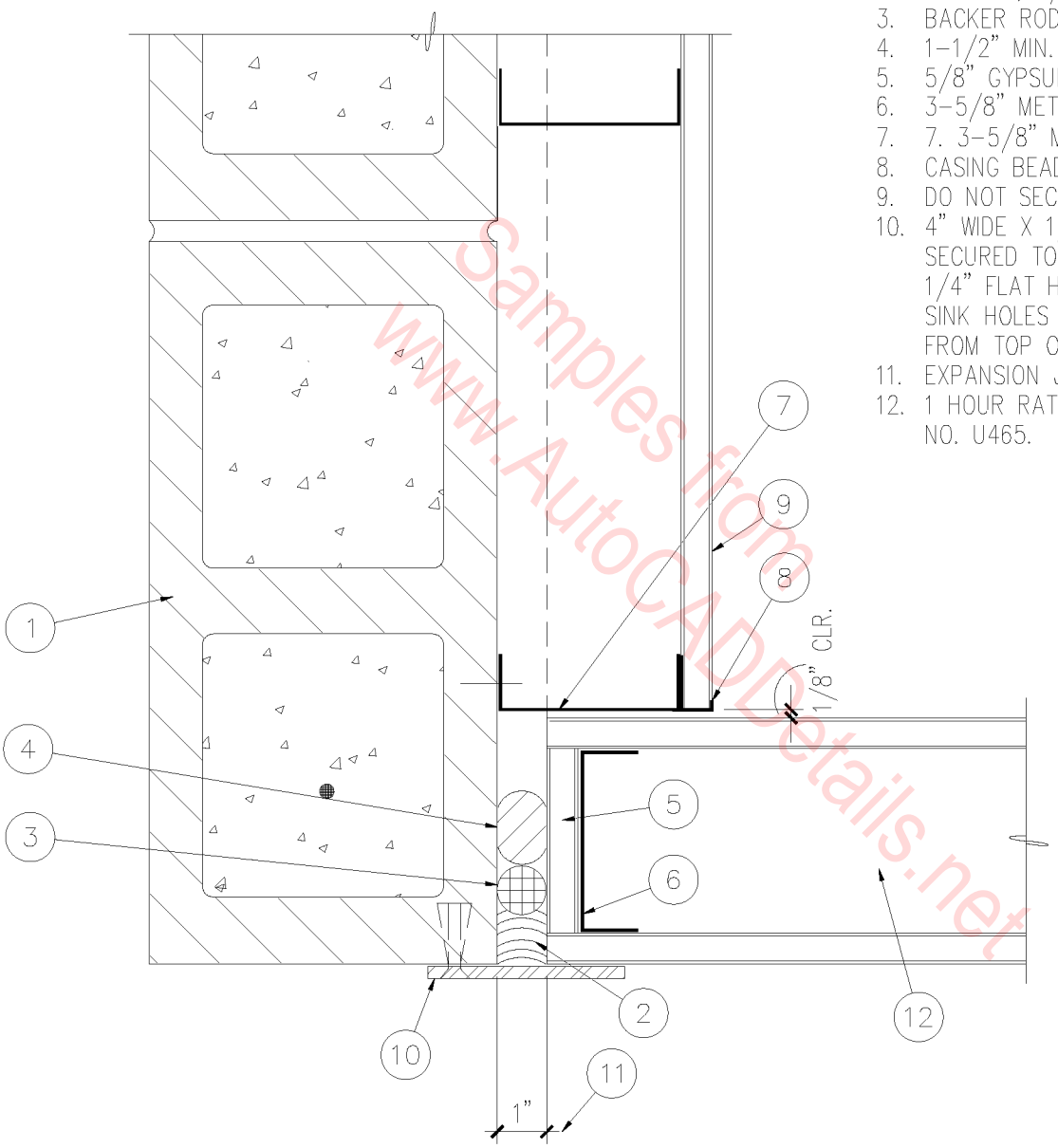
1. 3 5/8" METAL STUDS AT 16" O.C.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. CLASS "A" ROOFING SYSTEM ON LIGHT WEIGHT CONCRETE.
6. 1/2" 'TREMCO' FYRE-SIL SEALANT ON EACH SIDE OF FIRE SAFING MATERIAL.
7. 5/8" TYPE "X" GYPSUM BOARD.
8. FIRE SAFING INSULATION.

1HR. WALL AT ROOF

3" = 1'-0"

05B-2034

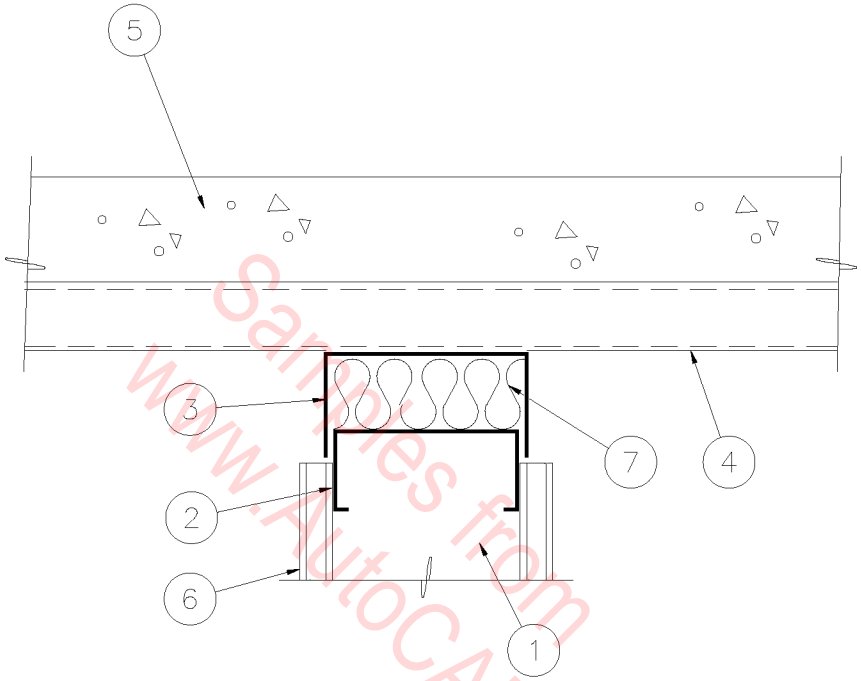
1. MASONRY WALL.
2. SEALANT, 7/8" MIN. DEPTH.
3. BACKER ROD.
4. 1-1/2" MIN. CERAMIC FIBER BLANKET INSULATION.
5. 5/8" GYPSUM BOARD. WRAP AROUND END STUD.
6. 3-5/8" METAL STUD.
7. 7. 3-5/8" METAL STUD. SECURE TO MASONRY.
8. CASING BEAD.
9. DO NOT SECURE WALLS TOGETHER AT CORNER.
10. 4" WIDE X 1/4" THICK STEEL PLATE CLOSURE. SECURED TO MASONRY AT ONE SIDE ONLY WITH 1/4" FLAT HEAD EXPANSION SCREWS IN COUNTER-SINK HOLES AT 24" O.C. PLATE CONTINUOUS FROM TOP OF BASE TO CEILING.
11. EXPANSION JOINT.
12. 1 HOUR RATED CONSTRUCTION PER UL DESIGN NO. U465.



1 HOUR EXPANSION JOINT

3" = 1'-0"

05B-2035

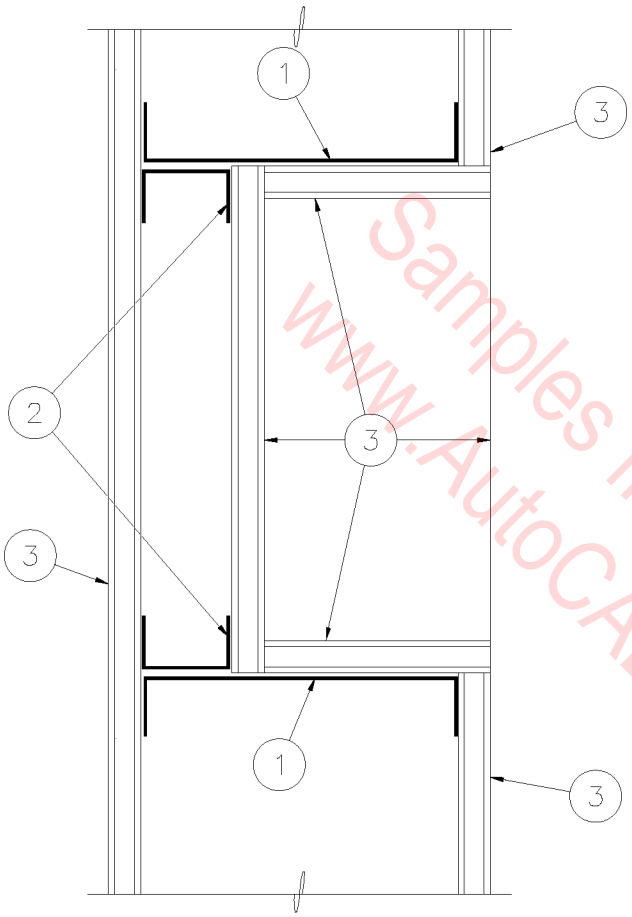


1. 3 5/8" METAL STUDS AT 16" O.C.
2. METAL RUNNER.
3. METAL RUNNER WITH 2" LEG.
4. METAL DECK.
5. LIGHT WEIGHT CONCRETE.
6. 5/8" TYPE "X" GYPSUM BOARD.
7. FIRE SAFING MATERIAL.

1 HR. WALL AT DECK

1" = 1'-0"

05B-2036



PLAN OR SECTION.

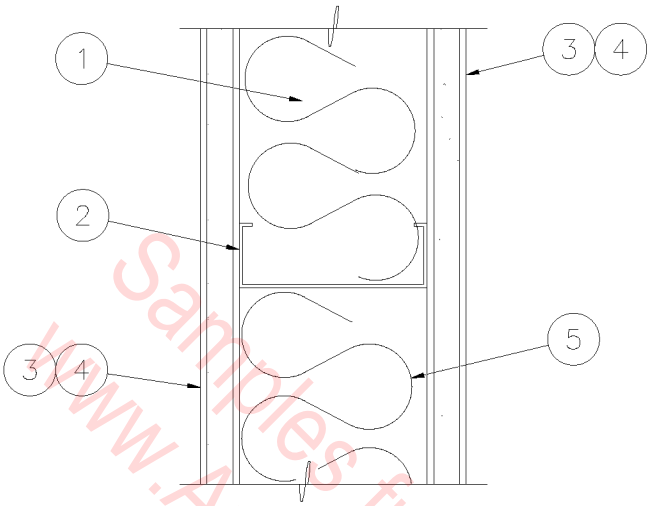
UL DESIGN
NO. U465.

1. 6" METAL STUDS AT 16" O.C.
2. 1-5/8" METAL STUDS.
3. 5/8" TYPE 'X' GYPSUM BOARD, MUST COMPLETELY ENCLOSE RECESS ON ALL SIDES, TOP AND BOTTOM.

RECESS IN 1 HOUR WALL

3" = 1'-0"

05B-2037



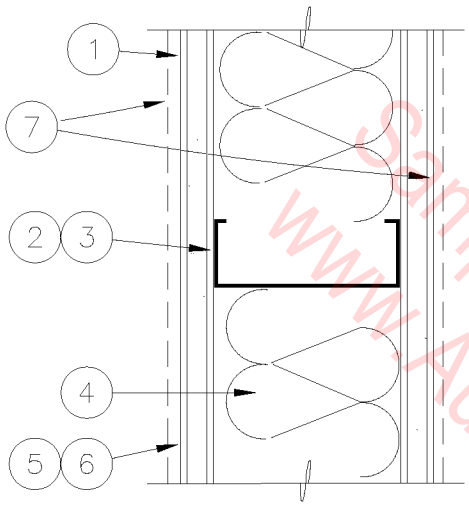
TWO HOUR RATED NONBEARING WALL ASSEMBLY, UL DESIGN NO. U491

1. FLOOR & CEILING RUNNER (NOT SHOWN) 25 GA. WITH 1" HIGH RETURN LEGS, 3-5/8" WIDE. ANCHOR TO FLOOR AND CEILING WITH FASTENERS AT 24" O.C.
2. 3-5/8" WIDE X 1-5/16 LEGS, 3/8" RETURN X 25 GA. METAL STUDS AT 16" O.C.
3. 3/4" TYPE "X" GYPSUM BOARD WITH 1" TYPE "S" NO. 6 DRYWALL SCREWS TO EACH STUD. SELF-TAPPING STEEL SCREWS AT 8" O.C. ALONG EDGES OF BOARD AND 12" O.C. IN THE FIELD. JOINTS STAGGERED ON OPPOSITE SIDES OF THE ASSEMBLY.
4. JOINT TAPE AND COMPOUND - PREMIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS; PAPER TAPE, 2" WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS IN CEILING SPACE, ADDITIONAL COMPOUND AND TEXTURE REQUIRED IN EXPOSED AREAS.
5. 3" 'THERMAFIBER SAFB' BATT INSULATION.

2 HOUR WALL

3" = 1'-0"

05B-2038



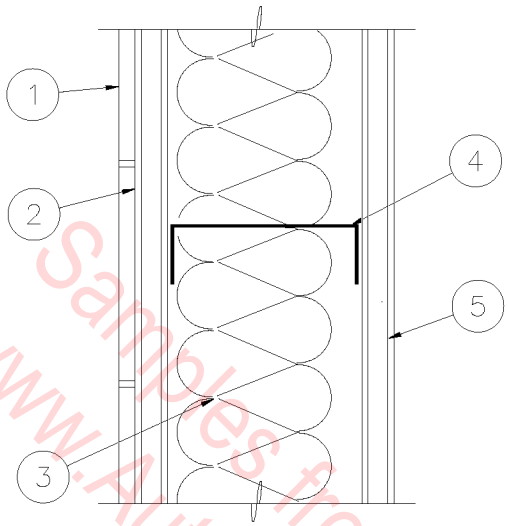
UL DESIGN NO. U465

1. ONE HOUR NONBEARING WALL ASSEMBLY UL DESIGN NO. U465.
2. FLOOR & CEILING RUNNER (NOT SHOWN) 25 GA. WITH 1" HIGH RETURN LEGS, 3-5/8" WIDE. ANCHOR TO FLOOR AND CEILING WITH FASTENERS AT 24" O.C.
3. 3-5/8" WIDE X 1-5/16 LEGS, 3/8" RETURN X 25 GA. METAL STUDS AT 16" O.C. 1-5/16" LEGS, 3/8" RETURN.
4. R-11, 3-1/2" SOUND BATT INSULATION, WHERE APPLICABLE.
5. 5/8" TYPE "X" GYPSUM BOARD WITH 1" TYPE "S" SELF-TAPPING STEEL SCREWS AT 8" O.C. ALONG EDGES OF BOARD AND 12" O.C. IN THE FIELD. JOINTS STAGGERED ON OPPOSITE SIDES OF THE ASSEMBLY.
6. JOINT TAPE AND COMPOUND - PREMIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS; PAPER TAPE, 2" WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS IN CEILING SPACE (FIRE TAPE), ADDITIONAL COMPOUND AND TEXTURE REQUIRED IN EXPOSED AREAS.
7. CERAMIC TILE ON GLASS MESH MORTAR UNIT IN LIEU OF GYPSUM BOARD WHERE APPLICABLE.

1 HOUR WALL

3" = 1'-0"

05B-2039



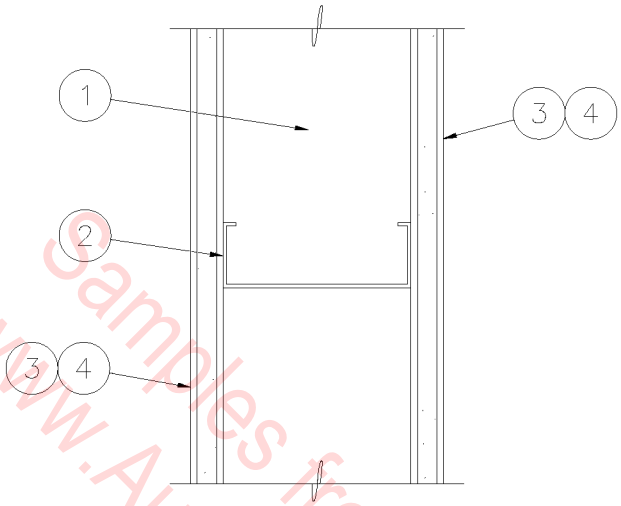
UL DESIGN NO. U445 SIMILAR

1. CERAMIC TILE.
2. 1/2" CEMENT BOARD ATTACHED TO STUDS WITH 1-5/8" LONG TYPE 'S' CORROSION RESISTANT SCREWS AT 6" O.C. TAPE JOINTS WITH GLASS FIBER MESH TAPE.
3. BATT INSULATION.
4. 3-5/8" METAL STUDS AT 16" O.C.
5. 5/8" TYPE 'X' GYPSUM BOARD ATTACHED TO STUDS WITH 1" LONG SELF-TAPPING SCREWS AT 8" O.C.

1 HOUR RESISTIVE WALL

3" = 1'-0"

05B-2040



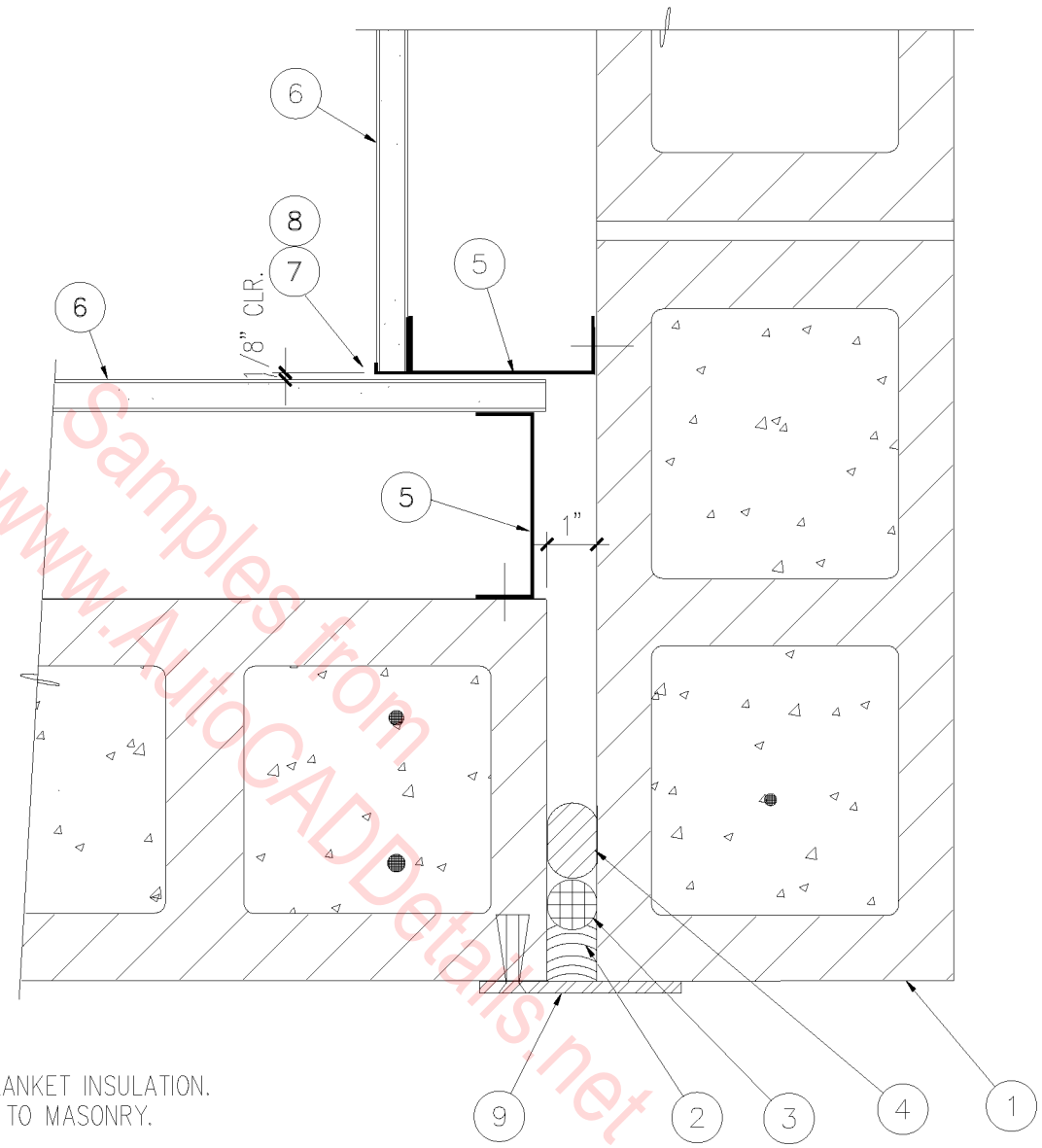
ONE HOUR RATED NONBEARING WALL ASSEMBLY, UBC 43-B, 15-1.1

1. FLOOR & CEILING RUNNER (NOT SHOWN) 25 GA. WITH 1" HIGH RETURN LEGS, 3-5/8" WIDE. ANCHOR TO FLOOR AND CEILING WITH FASTENERS AT 24" O.C.
2. 3-5/8" WIDE X 1-5/16 LEGS, 3/8" RETURN X 25 GA. METAL STUDS AT 16" O.C.
3. 5/8" TYPE X GYPSUM BOARD WITH 1" TYPE S NO. 6 DRYWALL SCREWS TO EACH STUD. SELF-TAPPING STEEL SCREWS AT 8" O.C. ALONG EDGES OF BOARD AND 12" O.C. IN THE FIELD. JOINTS STAGGERED ON OPPOSITE SIDES OF THE ASSEMBLY.
4. JOINT TAPE AND COMPOUND – PREMIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS; PAPER TAPE, 2" WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS IN CEILING SPACE, ADDITIONAL COMPOUND AND TEXTURE REQUIRED IN EXPOSED AREAS, SEE SPECIFICATIONS AND ROOM FINISH SCHEDULE.

1 HOUR RESISTIVE WALL

3" = 1'-0"

05B-2041

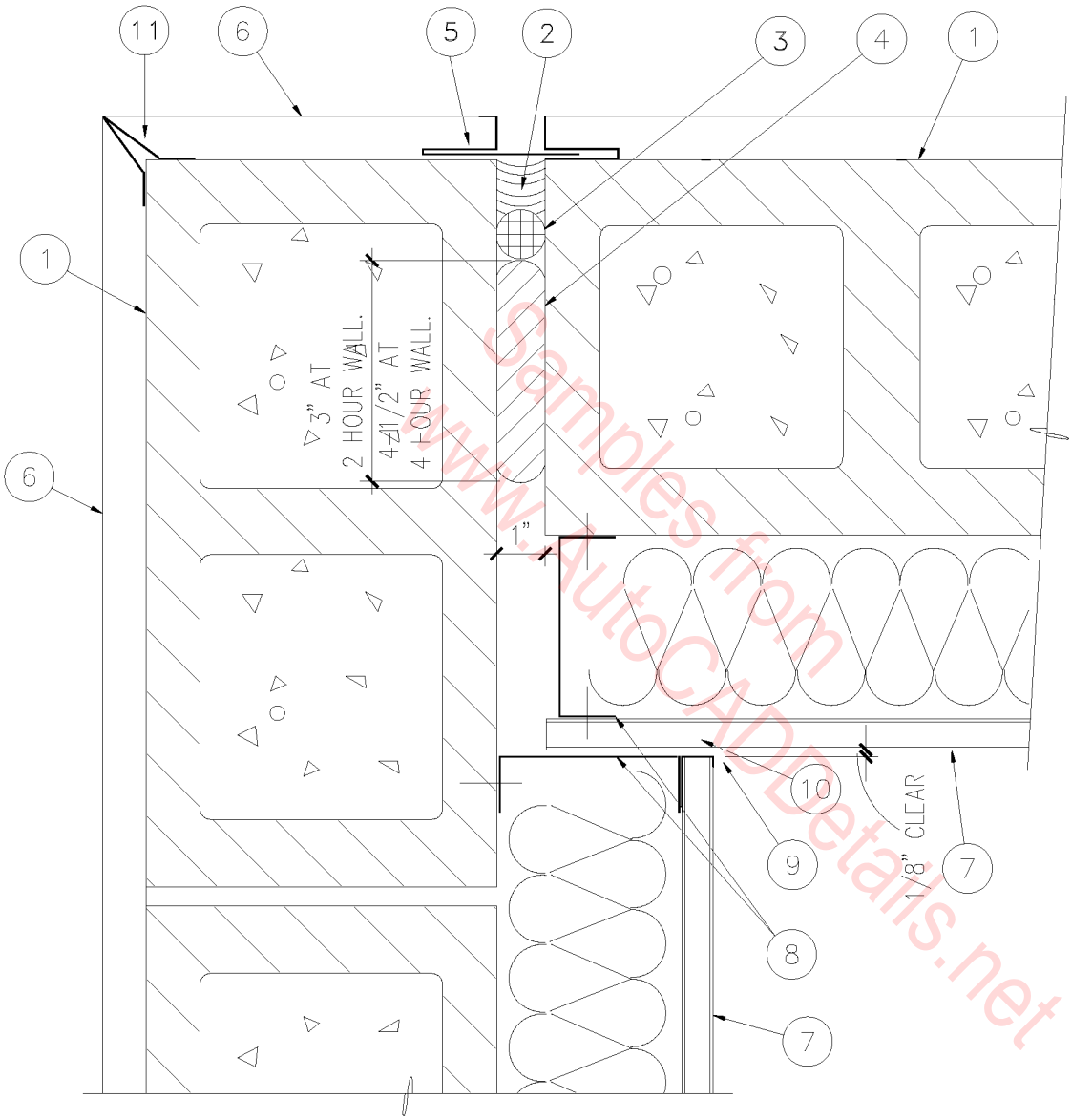


1. MASONRY WALL.
2. SEALANT, 7/8" MIN. DEPTH.
3. BACKER ROD.
4. 1-1/2" MIN. CERAMIC FIBER BLANKET INSULATION.
5. 3-5/8" METAL STUDS SECURE TO MASONRY.
6. 5/8" GYPSUM BOARD.
7. CASING BEAD.
8. DO NOT SECURE FURRED WALLS TOGETHER AT CORNER.
9. 4" WIDE X 1/4" THICK STEEL PLATE CLOSURE. SECURED AT ONE SIDE ONLY WITH 1/4" FLAT HEAD EXPANSION SCREWS IN COUNTERSUNK HOLES AT 24" O.C. PLATE CONTINUOUS FROM TOP OF BASE TO CEILING.

1 HOUR EXPANSION JOINT

3" = 1'-0"

05B-2042

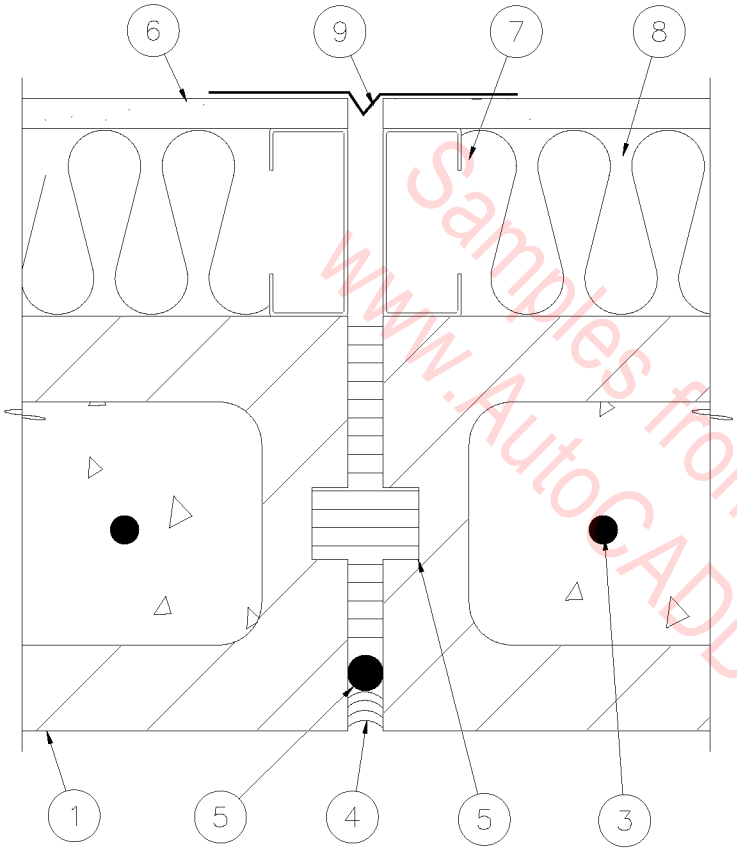


1. MASONRY WALL.
2. SEALANT, 7/8" MIN. DEPTH.
3. BACKER ROD.
4. CERAMIC FIBER BLANKET INSULATION.
5. PLASTER SLIP JOINT.
6. CEMENT PLASTER.
7. 5/8" "X" GYPSUM BOARD.
8. 3-5/8" METAL STUDS. SECURE TO MASONRY.
9. CASING BEAD.
10. DO NOT SECURE FURRED WALLS TOGETHER AT CORNER.
11. PLASTER CORNER BEAD.

2 & 4 HOUR EXP. JOINT

3" = 1'-0"

05B-2043

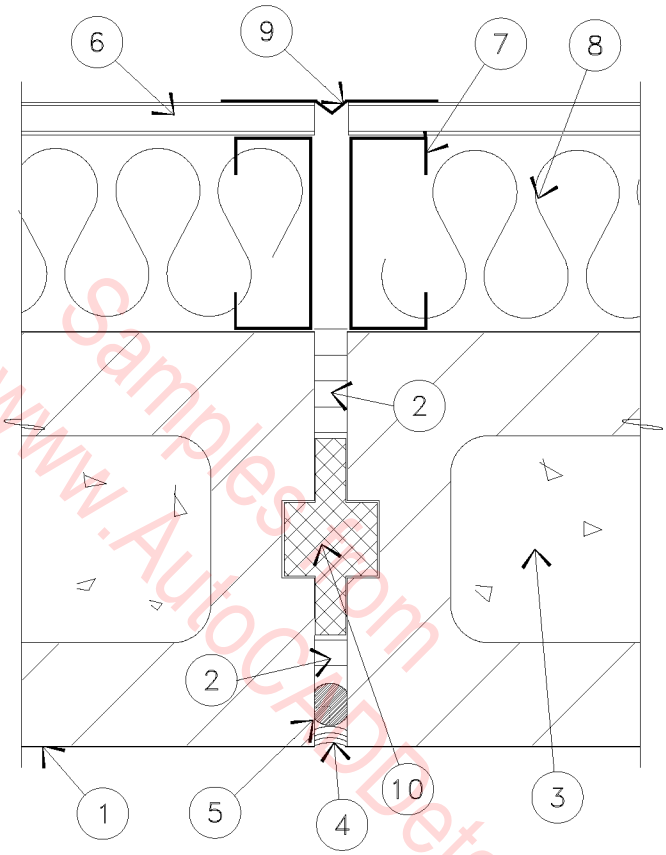


1. MASONRY WALL.
2. EXPANSION JOINT MATERIAL.
3. FULLY GROUTED CELL BOTH SIDES OF JOINT.
4. SEALANT.
5. BACKER ROD.
6. WALL FINISH AS SCHEDULED.
7. METAL STUDS.
8. BATT INSULATION.
9. GYPSUM BOARD CONTROL JOINT.

MASONRY CONTROL JOINT

3" = 1'-0"

05B-2044

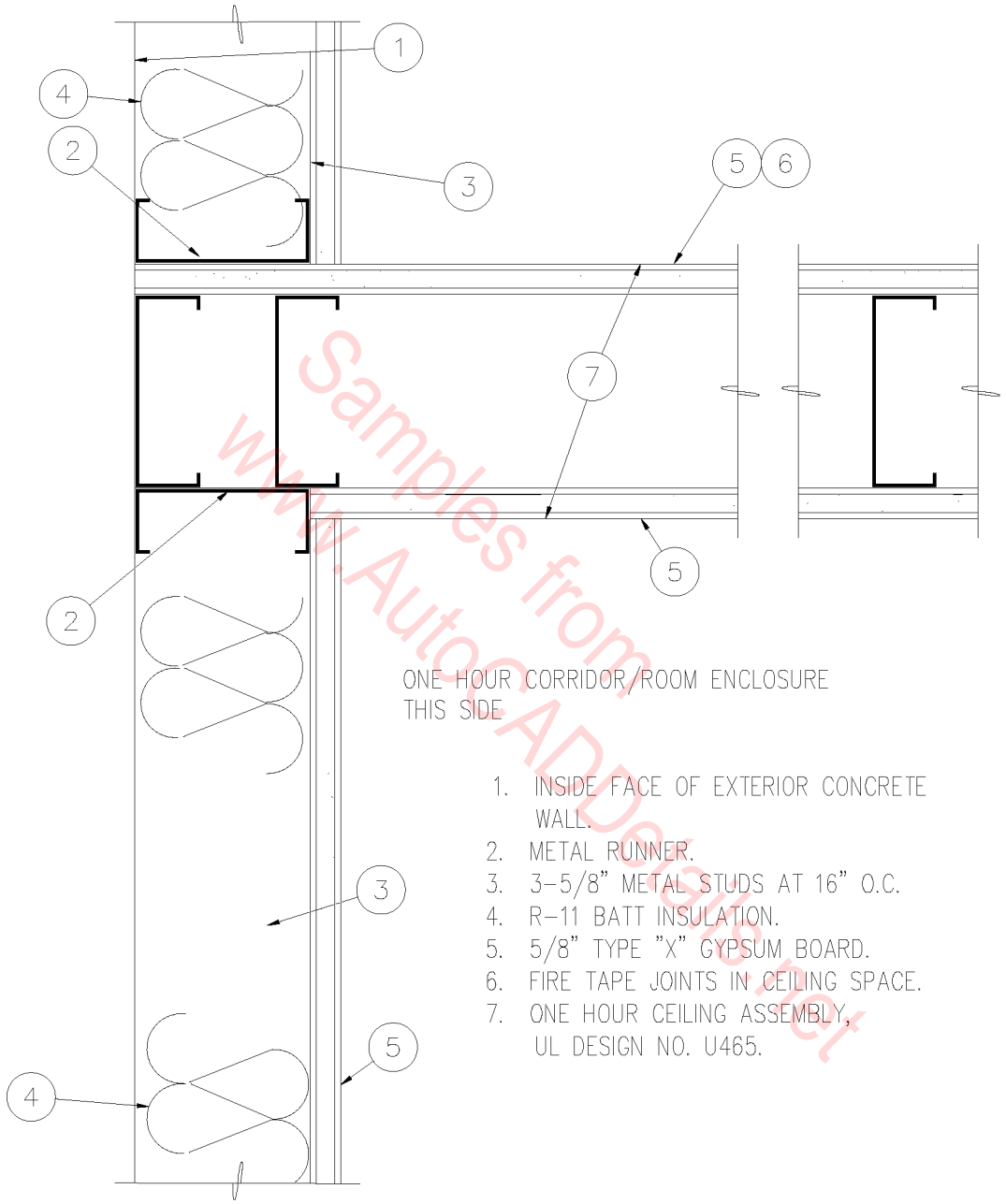


1. MASONRY.
2. COMPRESSIBLE JOINT MATERIAL.
3. FULLY GROUTED CELL BOTH SIDES OF JOINT.
4. SEALANT.
5. BACKER ROD.
6. WALL FINISH AS SCHEDULED.
7. METAL STUDS.
8. BATT INSULATION.
9. GYPSUM BOARD CONTROL JOINT.
10. PREMOLDED NEOPRENE GASKET.

MASONRY CONTROL JOINT

3" = 1'-0"

05B-2045



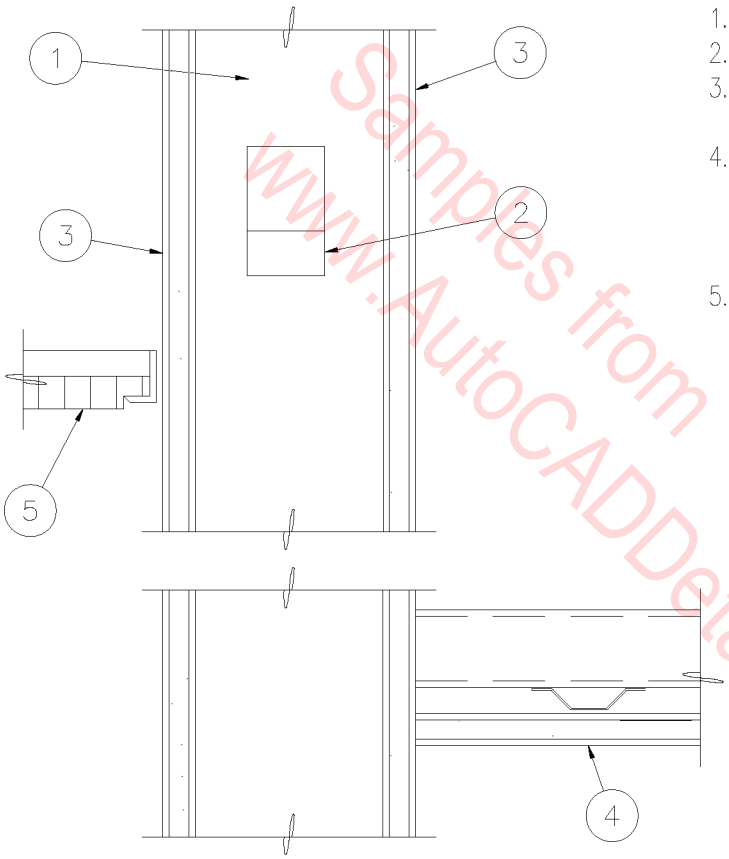
ONE HOUR CORRIDOR/ROOM ENCLOSURE
THIS SIDE

1. INSIDE FACE OF EXTERIOR CONCRETE WALL.
2. METAL RUNNER.
3. 3-5/8" METAL STUDS AT 16" O.C.
4. R-11 BATT INSULATION.
5. 5/8" TYPE "X" GYPSUM BOARD.
6. FIRE TAPE JOINTS IN CEILING SPACE.
7. ONE HOUR CEILING ASSEMBLY, UL DESIGN NO. U465.

1 HOUR ENCLOSURE

3" = 1'-0"

05B-2046

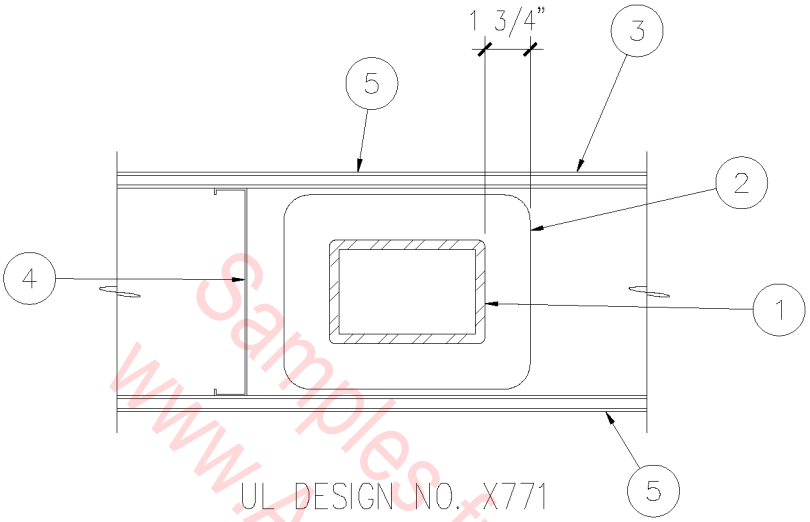


1. METAL STUDS @ 16" O.C.
2. 1-1/2" CHANNEL AT 48" O.C.
3. 5/8" TYPE "X" GYPSUM BOARD WHERE APPLICABLE.
4. 5/8" TYPE "X" GYPSUM BOARD CEILING ON METAL HAT CHANNELS WHERE APPLICABLE SEE SCHEDULE.
5. LAY-IN ACOUSTICAL PANELS IN SUSPENDED TEE GRID -WHERE APPLICABLE.

CEILING AT FIRE WALL

3" = 1'-0"

05B-2047



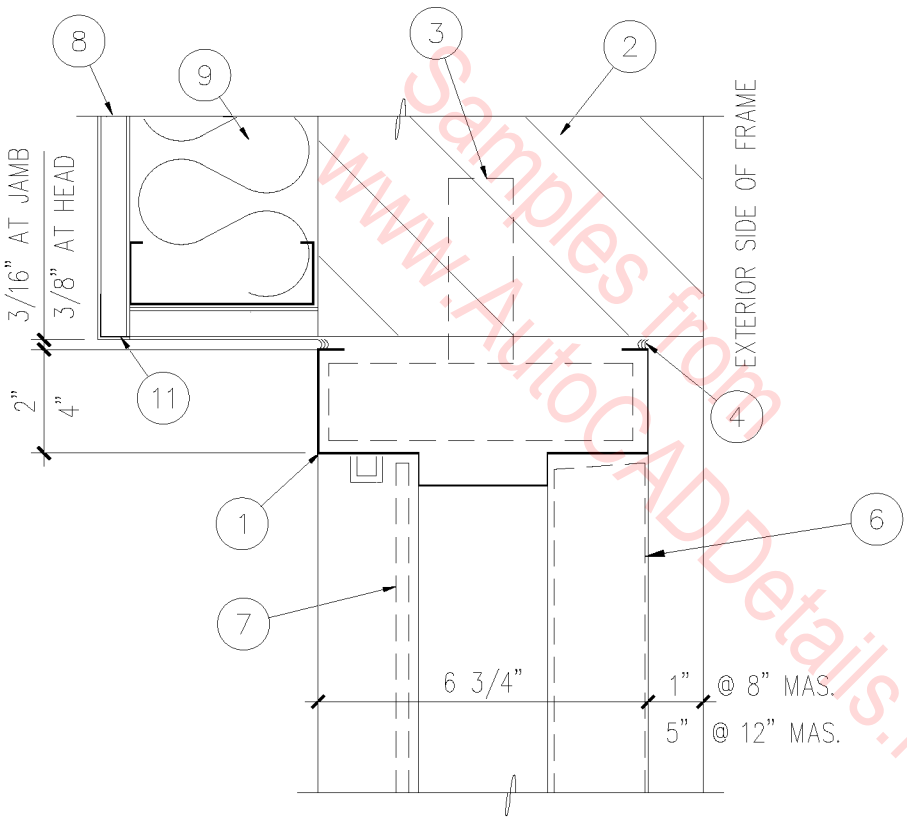
UL DESIGN NO. X771

1. TUBE STEEL COLUMN.
2. CEMENTITIOUS MIXTURE – APPLIED BY MIXING WATER AND SPRAYING IN ONE OR MORE COATS TO STEEL SURFACE WHICH MUST BE CLEAN AND FREE OF DIRT, LOOSE SCALE AND OIL. MINIMUM AVERAGE AND INDIVIDUAL DENSITY OF 15/14 PCF RESPECTIVELY. FOR METHOD OF DENSITY DETERMINATION, SEE DESIGN INFORMATION SECTION, PRECEDING THESE DESIGNS.
   APPLY 1-3/4 THICK UNIFORM COAT.
   ZONOLITE CONSTRUCTION PRODUCTS DIVISION, W. R. GRACE & CO. TYPE MK-6CBF.
3. 1 HOUR WALL.
4. 8" 25 GA. METAL STUDS AT 16" O.C.
5. 5/8" TYPE "X" GYPSUM WALLBOARD.

2 HOUR COLUMN

3" = 1'-0"

05B-2048



JAMB CONDITION – HEAD & WINDOW SILL SIMILAR

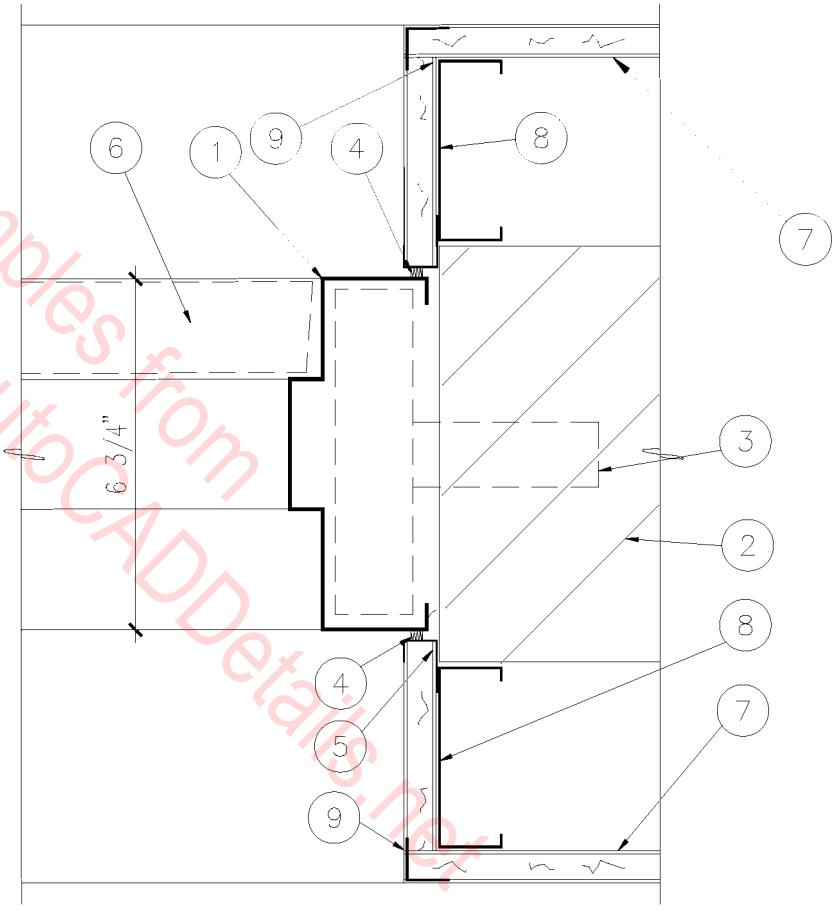
1. HOLLOW METAL FRAME.
2. MASONRY WALL.
3. MASONRY ANCHORS AT JAMB.
4. SEALANT EACH SIDE.
5. DOOR WHERE APPLICABLE.
6. GLASS WHERE APPLICABLE WITH REMOVABLE GLAZING STOPS.
7. 5/8" GYP. BOARD.
8. R-11 BATT INSULATION.
9. METAL STUDS.
10. CORNER BEAD.

HOLLOW METAL FRAME

3" = 1'-0"

05B-2049

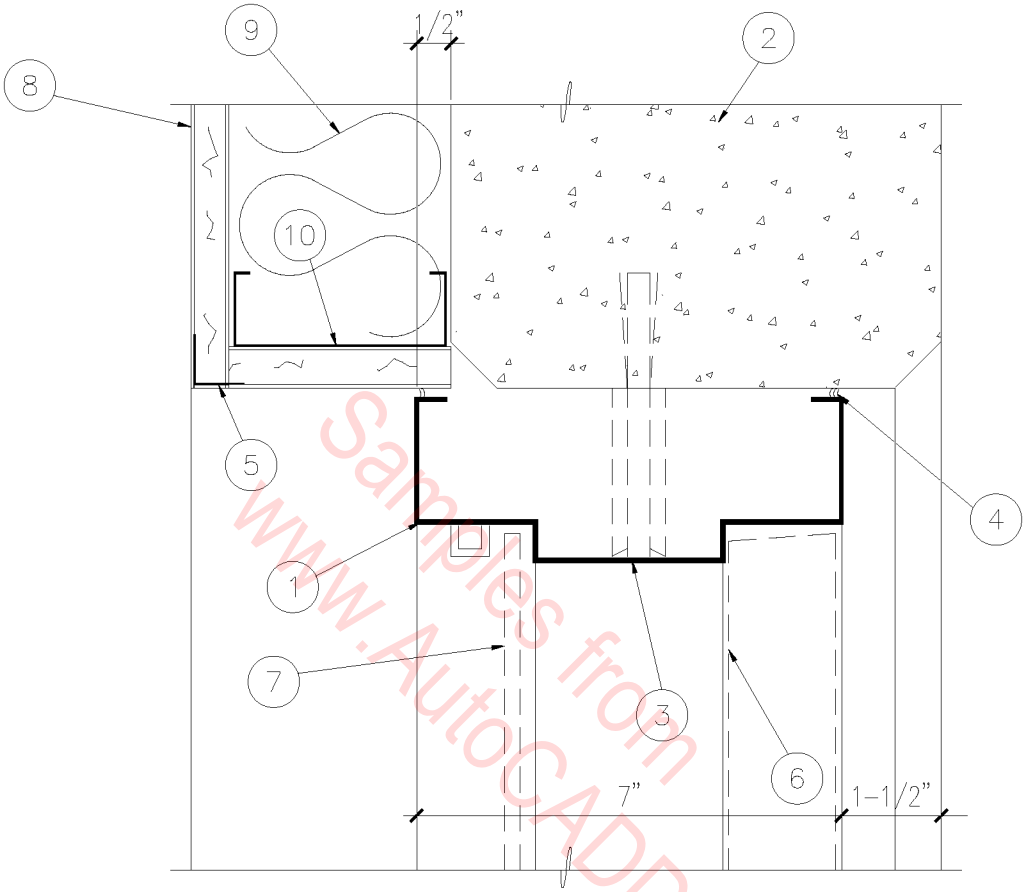
1. HOLLOW METAL FRAME.
2. MASONRY WALL.
3. MASONRY ANCHORS AT JAMB.
4. SEALANT EACH SIDE.
5. CASING BEAD.
6. DOOR WHERE APPLICABLE.
7. 5/8" GYPSUM BOARD.
8. METAL STUDS.
9. CORNER BEAD.



HOLLOW METAL FRAME

3" = 1'-0"

05B-2050



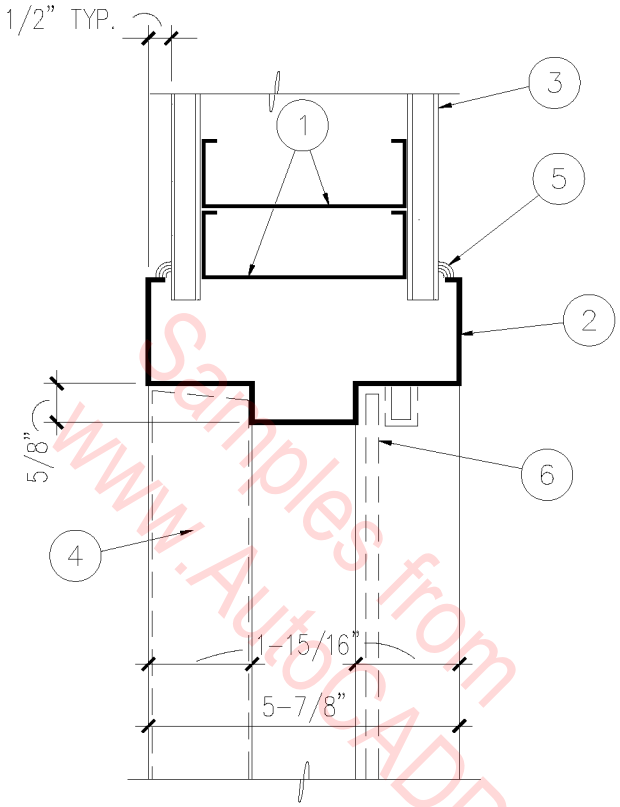
JAMB CONDITION – HEAD & WINDOW SILL SIMILAR

1. HOLLOW METAL FRAME, DIMPLE FRAMES AS REQUIRED.
2. CONCRETE WALL.
3. 3/8" BOLTS & EXPANSION SLEEVES, FILL HEADS AND GRIND SMOOTH.
4. SEALANT EACH SIDE.
5. CORNER BEAD.
6. DOOR WHERE APPLICABLE, SEE PLAN & SCHEDULE.
7. GLAZING WHERE APPLICABLE WITH REMOVABLE GLAZING STOPS.
8. 5/8" GYP. BOARD.
9. R-11 BATT INSULATION.
10. METAL STUDS AT 24" O.C.

HOLLOW METAL FRAME

3" = 1'-0"

05B-2051



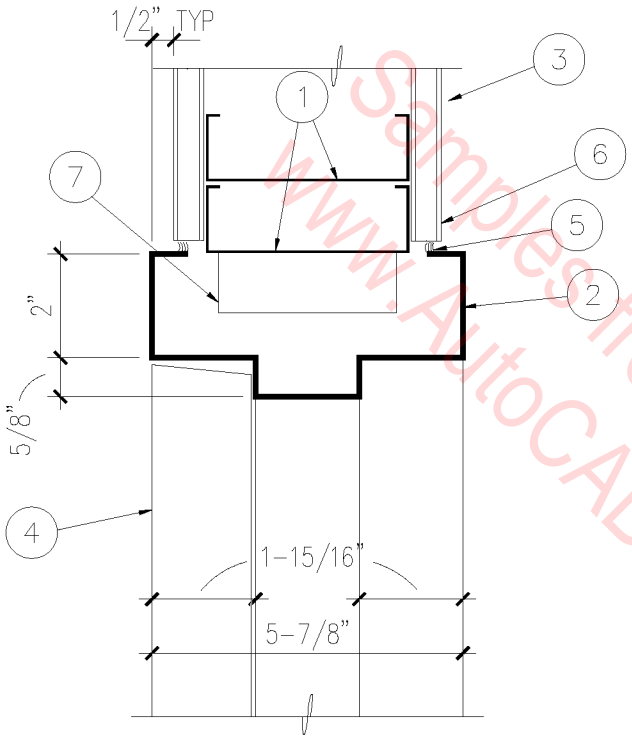
JAMB CONDITION – HEAD & WINDOW SILL SIMILAR

1. 3-5/8" METAL STUDS.
2. HOLLOW METAL FRAME.
3. 5/8" GYP. BOARD, EACH SIDE.
4. DOOR WHERE APPLICABLE.
5. SEALANT EACH SIDE.
6. GLAZING WHERE APPLICABLE, WITH REMOVABLE GLAZING STOPS.

HOLLOW METAL FRAME

3" = 1'-0"

05B-2052



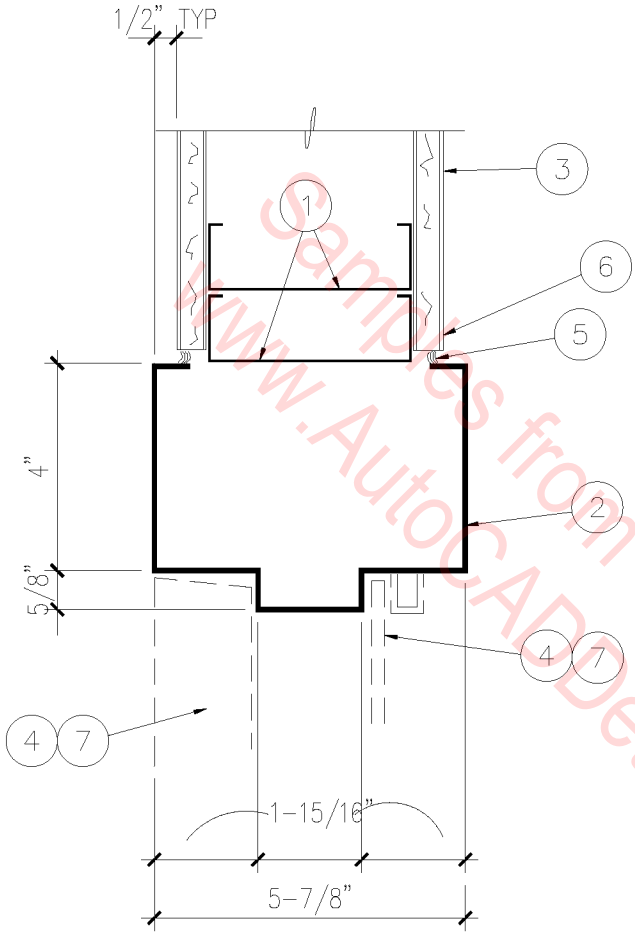
JAMB CONDITION – HEAD & WINDOW SILL SIMILAR

1. 3-5/8" METAL STUDS.
2. HOLLOW METAL FRAME.
3. 5/8" GYP. BOARD EACH SIDE.
4. DOOR WHERE APPLICABLE.
5. SEALANT EACH SIDE.
6. CASING BEAD EACH SIDE.
7. STEEL STUD ANCHORS AT JAMB.

HOLLOW METAL FRAME

3" = 1'-0"

05B-2053

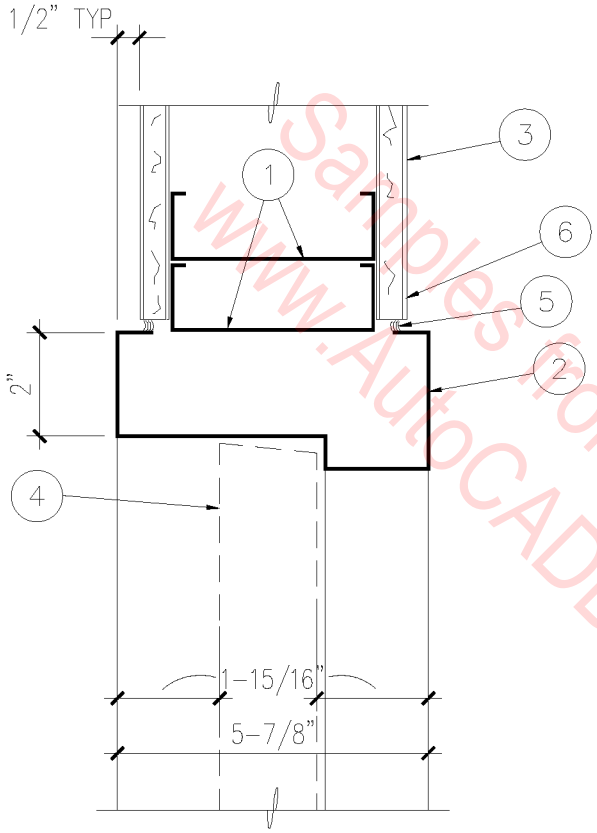


1. 3-5/8" METAL STUDS.
2. HOLLOW METAL FRAME.
3. 5/8" GYP BOARD, EACH SIDE.
4. DOOR WHERE APPLICABLE.
5. SEALANT EACH SIDE.
6. CASING BEAD EACH SIDE.
7. GLASS WHERE APPLICABLE, WITH REMOVABLE GLAZING STOPS.

4" HOLLOW METAL FRAME

3" = 1'-0"

05B-2054

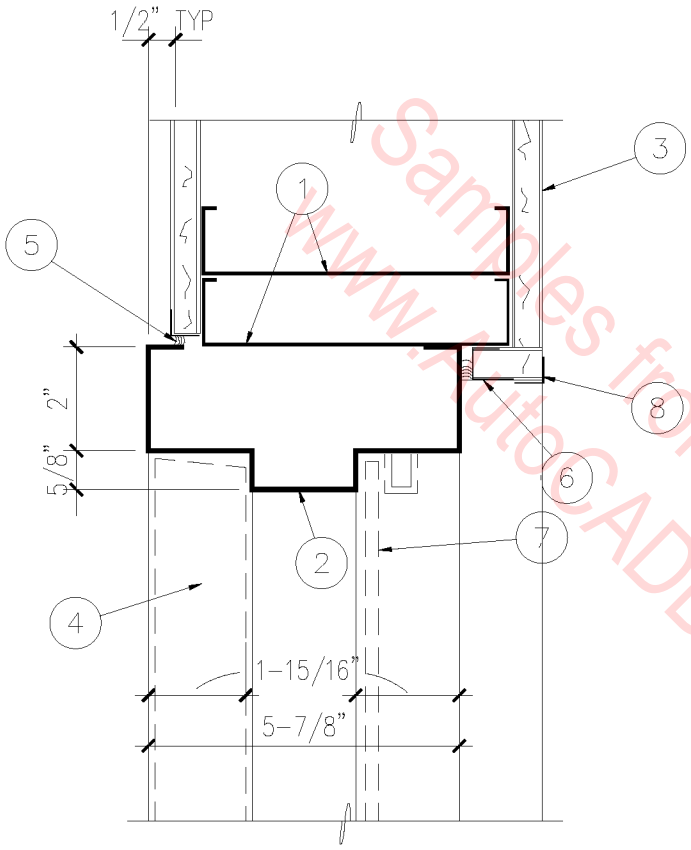


1. 3-5/8" METAL STUDS, SEE WALL TYPES.
2. HOLLOW METAL FRAME, GROUTED SOLID.
3. 5/8" GYP BOARD, EACH SIDE.
4. BI-FOLD DOOR SEE PLAN & SCHEDULE.
5. SEALANT EACH SIDE.
6. CASING BEAD EACH SIDE.

HOLLOW METAL FRAME

3" = 1'-0"

05B-2055



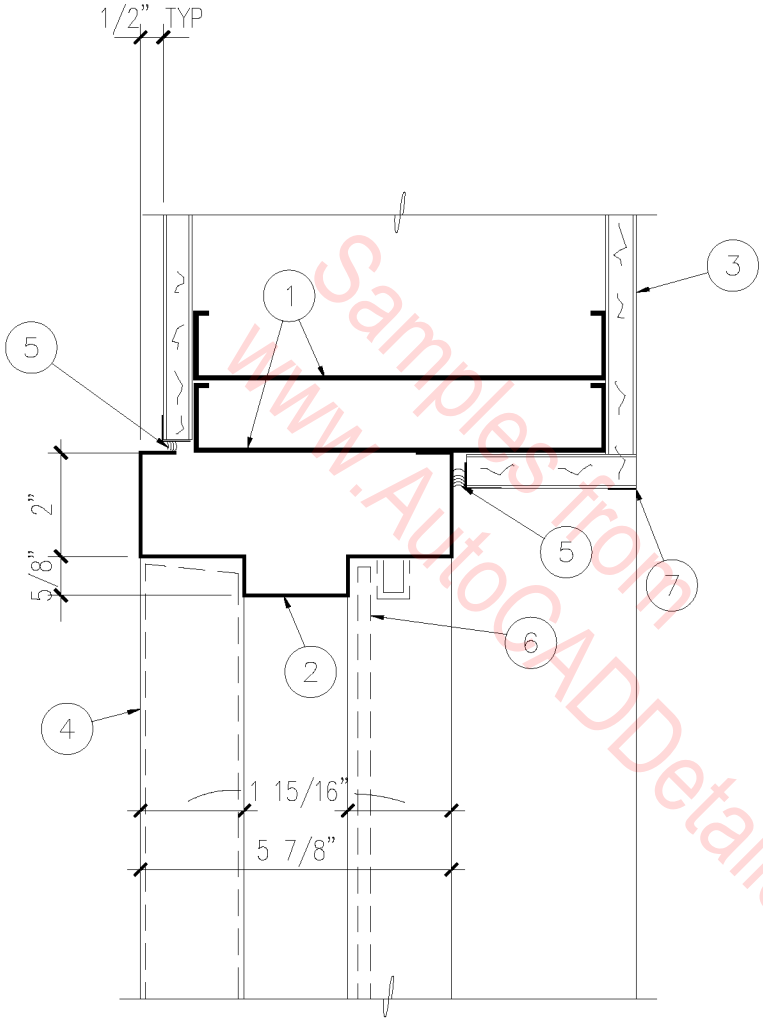
JAMB CONDITION – HEAD SIMILAR

1. 6" METAL STUDS.
2. HOLLOW METAL FRAME.
3. 5/8" GYP BOARD, EACH SIDE.
4. DOOR WHERE APPLICABLE.
5. SEALANT EACH SIDE.
6. CASING BEAD EACH SIDE.
7. GLASS WHERE APPLICABLE, WITH REMOVABLE GLAZING STOPS.
8. CORNER BEAD.

HOLLOW METAL FRAME

3" = 1'-0"

05B-2056



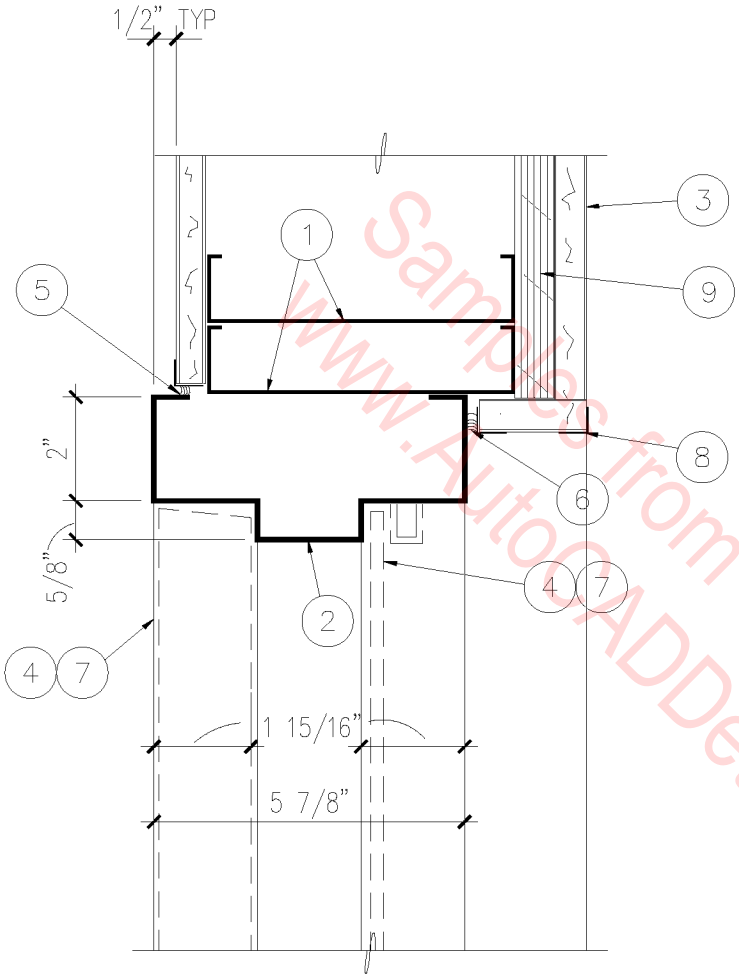
1. 8" METAL STUDS.
2. HOLLOW METAL FRAME.
3. 5/8" GYP. BOARD, EACH SIDE.
4. DOOR WHERE APPLICABLE.
5. CASING BEAD EACH SIDE.
6. GLASS WHERE APPLICABLE, WITH REMOVABLE GLAZING STOPS.
7. CORNER BEAD.

JAMB CONDITION – HEAD SIMILAR

HOLLOW METAL DOOR

3" = 1'-0"

05B-2057



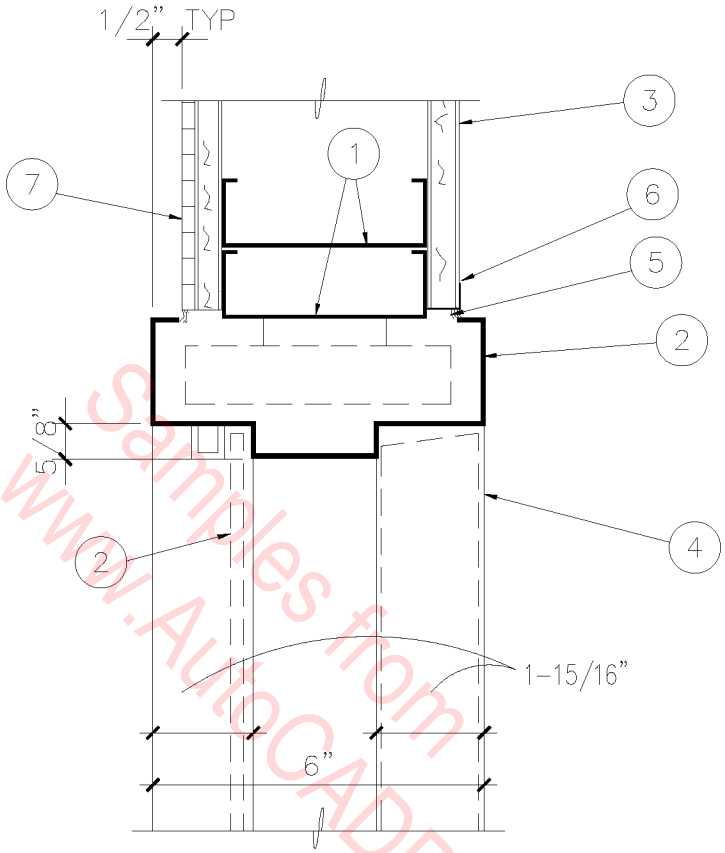
1. 6" METAL STUDS.
2. HOLLOW METAL FRAME.
3. 5/8" GYP BOARD, EACH SIDE.
4. DOOR WHERE APPLICABLE.
5. SEALANT EACH SIDE.
6. CASING BEAD EACH SIDE.
7. GLASS WHERE APPLICABLE, WITH REMOVABLE GLAZING STOPS.
8. CORNER BEAD.
9. 3/4" PLYWOOD, FIRE TREATED.

JAMB CONDITION – HEAD SIMILAR

HOLLOW METAL FRAME

3" = 1'-0"

05B-2058



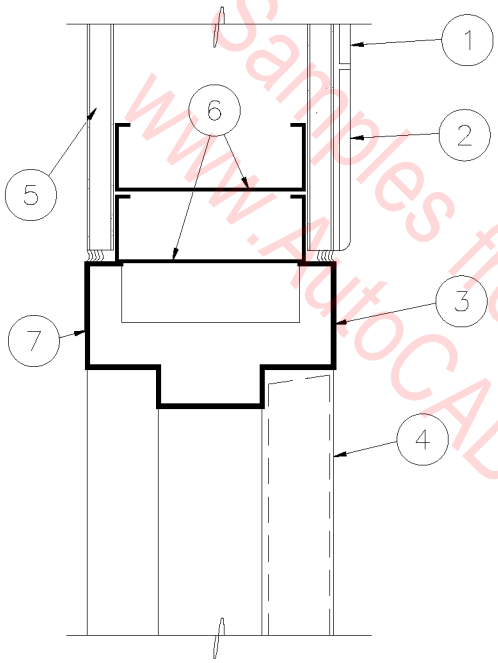
JAMB CONDITION – HEAD AND WINDOW SILL SIMILAR

1. 3-5/8" METAL STUDS.
2. GLASS WHERE APPLICABLE WITH REMOVABLE GLAZING STOPS.
3. 5/8" GYP. BOARD.
4. DOOR WHERE APPLICABLE.
5. SEALANT EACH SIDE.
6. CASING BEAD.
7. 1/4" CERAMIC TILE ON 7/16" GLASS MESH MORTAR UNIT.

HOLLOW METAL FRAME

3" = 1'-0"

05B-2059



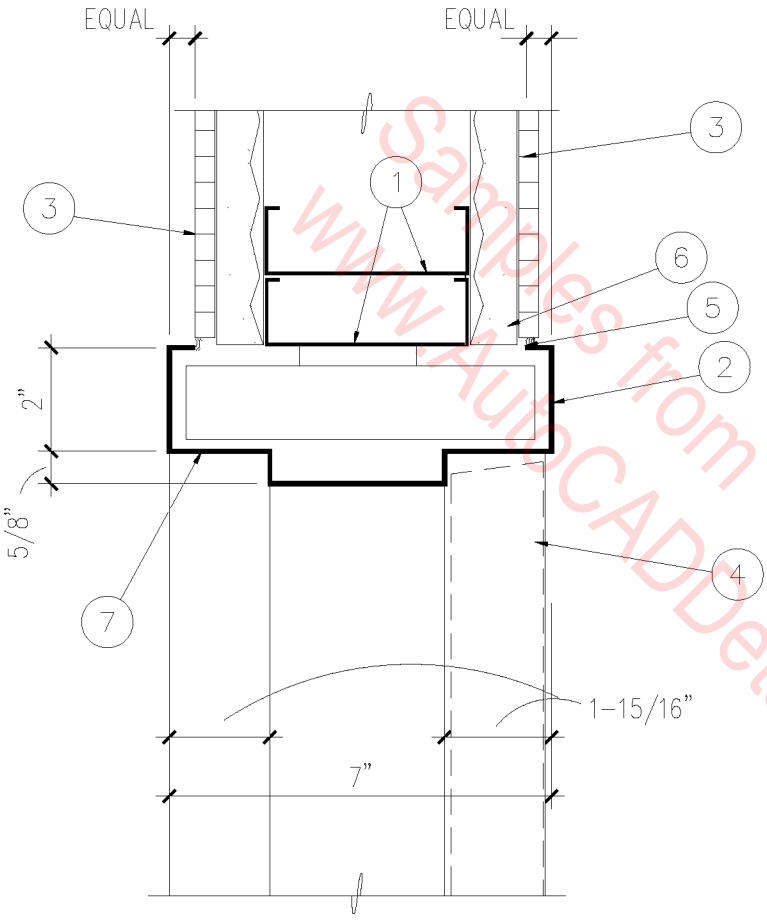
JAMB CONDITION – HEAD SIMILAR

1. THIN SET CERAMIC TILE.
2. BULLNOSE AS REQUIRED.
3. HOLLOW METAL FRAME.
4. DOOR.
5. GYPSUM BOARD.
6. DOUBLE STUDS @ JAMB.
7. STEEL STUD ANCHORS AT JAMB.

HOLLOW METAL FRAME

3" = 1'-0"

05B-2060



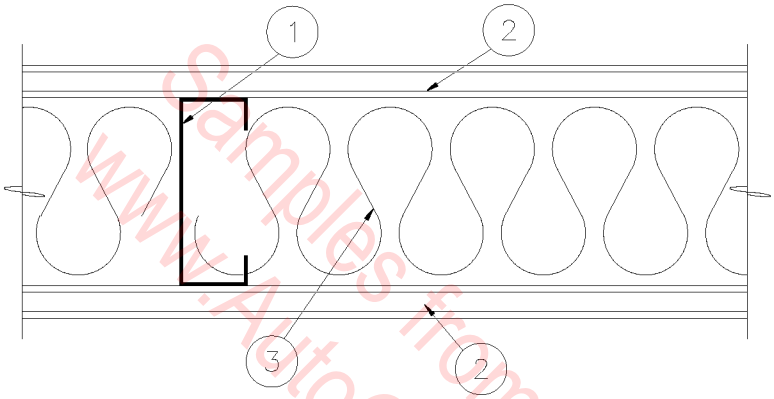
JAMB CONDITION – HEAD SIMILAR

1. 3-5/8" METAL STUDS.
2. HOLLOW METAL FRAME.
3. 1/4" CERAMIC TILE ON CEMENT MORTAR BED ON METAL LATH.
4. DOOR WHERE APPLICABLE.
5. SEALANT EACH SIDE.
6. "J" STOP.
7. JAMB ANCHOR.

HOLLOW METAL FRAME

3" = 1'-0"

05B-2061



GA FILE NO. WP 1073
STC : 49

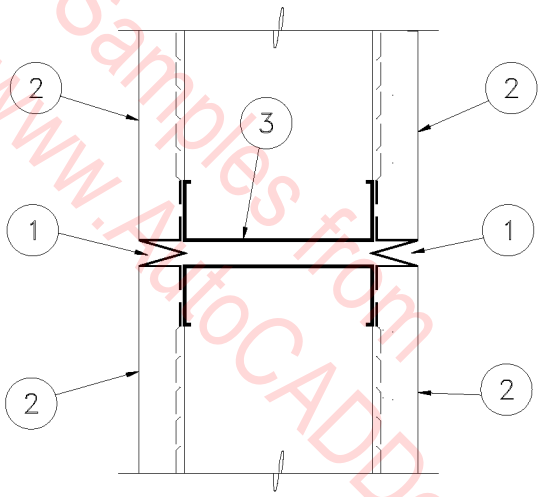
1. 3-5/8" METAL STUDS AT 16" O.C.
2. 5/8" TYPE 'X' GYPSUM BOARD.
3. 3-1/2" ACOUSTICAL INSULATION BATTS.

NOTE: CONSTRUCT ACCORDING TO STANDARDS AND DETAILS FOR SOUND INSULATION FROM GYPSUM ASSOCIATION DESIGN MANUAL 12TH EDITION (GA-600-88)

SOUND RESISTIVE WALL

3" = 1'-0"

05B-2062

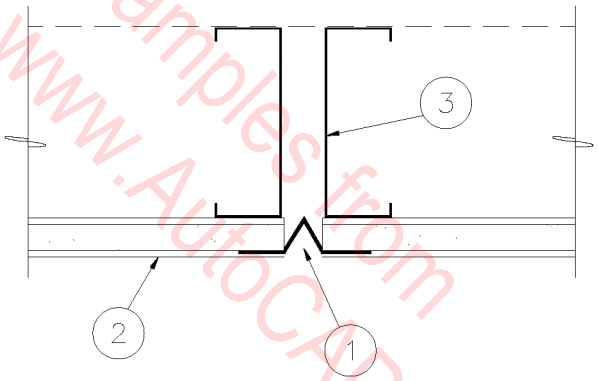


1. CEMENT PLASTER CONTROL JOINT.
2. CEMENT PLASTER OVER METAL LATH.
3. METAL STUD FRAMING.

PLASTER CONTROL JOINT

3" = 1'-0"

05B-2063



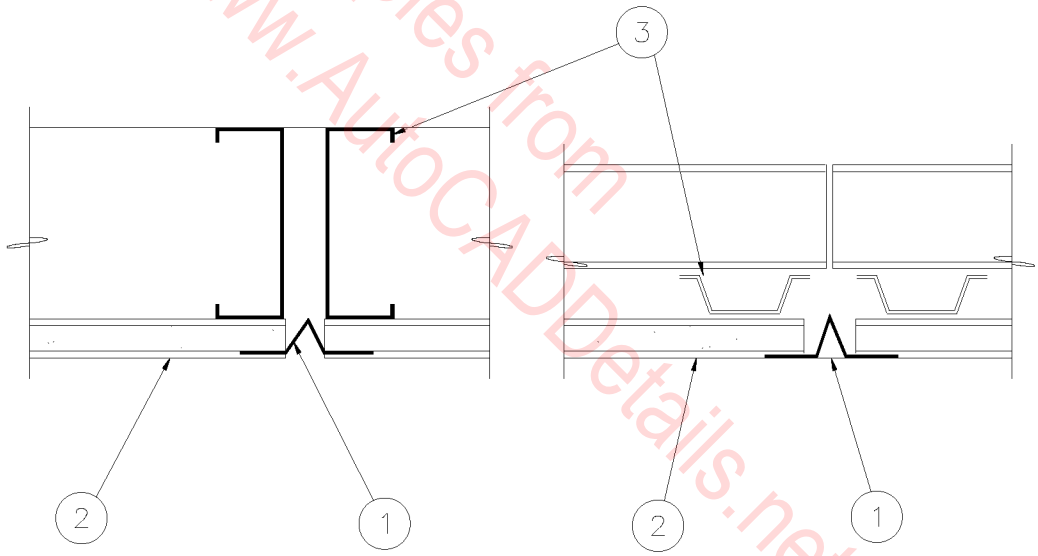
1. EXPANSION JOINT.
2. 5/8" GYPSUM BOARD.
3. LIGHT GAUGE METAL FRAMING IN WALL OR CEILING.

GYP. BD. EXP. JOINT

3" = 1'-0"

05B-2064

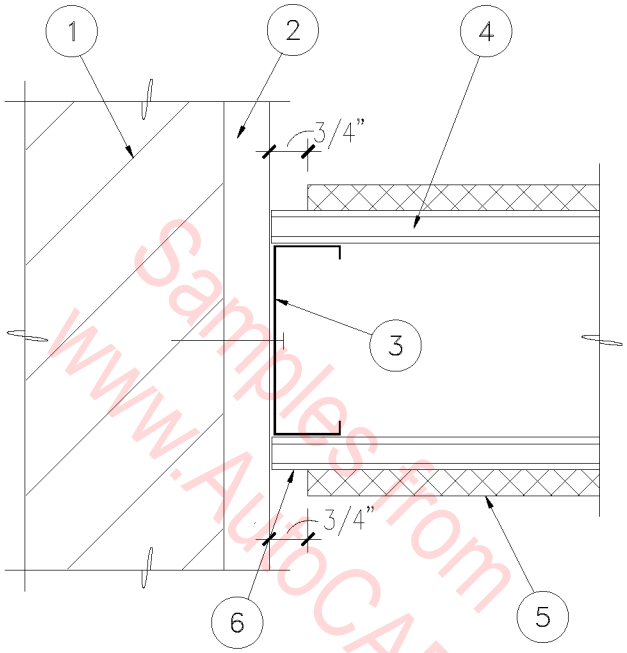
1. EXPANSION JOINT.
2. 5/8" GYP. BD.
3. SUSPENDED GYP. BD. CEILING SYSTEM OR LIGHT GAUGE METAL STUDS USED AS CEILING JOIST.



GYP. BD. CONTROL JOINT

3" = 1'-0

05B-2065

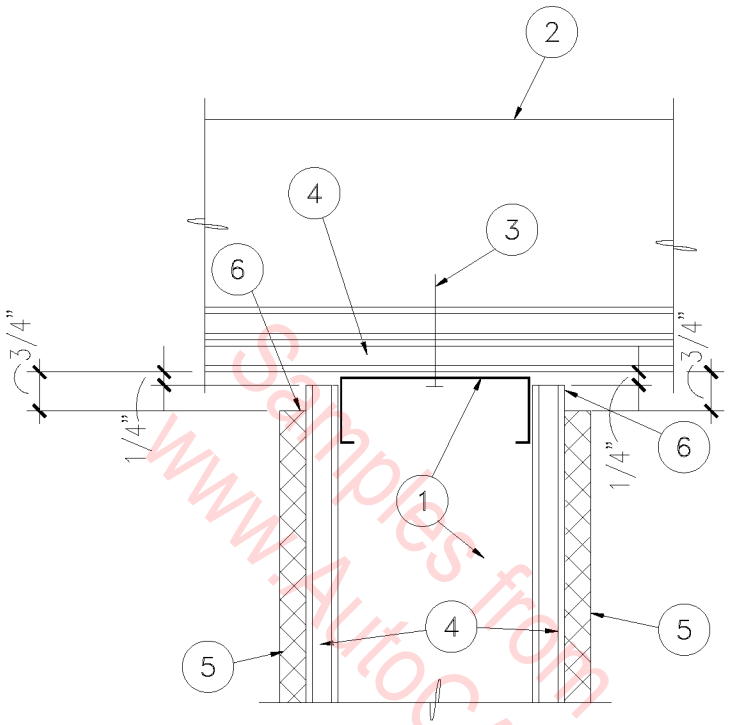


1. MASONRY WALL.
2. CEMENT PLASTER FINISH.
3. 16 GAUGE METAL FRAMING AT 24" O.C. SCREW INTO WALL AT 16" O.C. VERTICALLY.
4. 5/8" TYPE 'X' GYPSUM BOARD BOTH SIDES.
5. FABRIC COVERED 1/2" THICK ACOUSTICAL PANEL, SQUARE EDGED, BOTH SIDES.
6. PAINT GYPSUM BOARD MATTE BLACK AT BACK OF REVEAL BOTH SIDES.

ACOUST. PANELS @ WALL

3" = 1'-0"

05B-2066

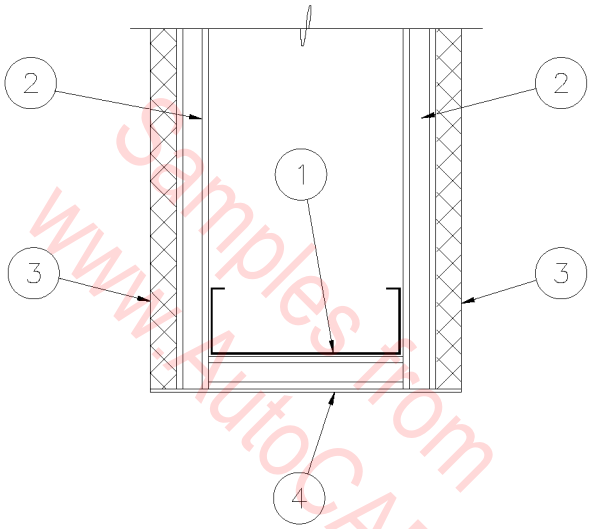


1. 16 GAUGE METAL FRAMING AT 16" O.C.
2. 2 X NAILER AT 16" O.C.
3. #12 X 2" LONG SCREW AT 16" O.C.
4. 5/8" TYPE 'X' GYPSUM BOARD.
5. FABRIC COVERED 1/2" THICK ACOUSTICAL PANEL.
6. PAINT GYPSUM BOARD MATTE BLACK AT BACK OF REVEAL, BOTH SIDES.

ACOUST. PANELS AT CLG.

3" = 1'-0"

05B-2067

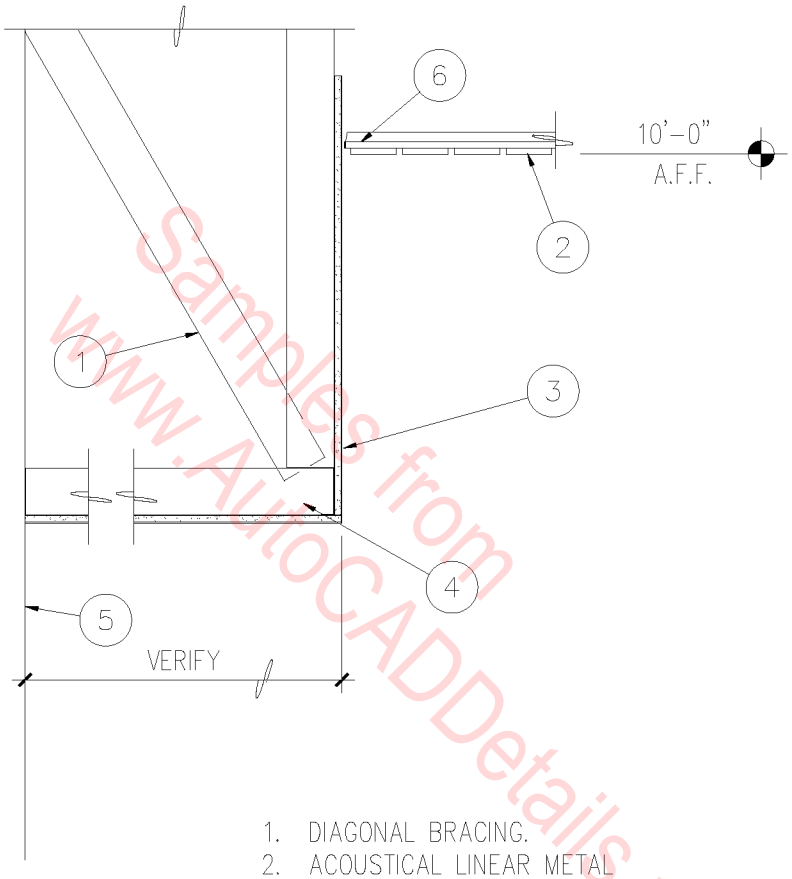


1. 16 GAUGE METAL FRAMING AT 24" O.C.
2. 5/8" TYPE 'X' GYPSUM BOARD.
3. FABRIC COVERED 1/2" THICK ACOUSTICAL PANEL, MITERED EDGE.
4. FABRIC COVERED GYPSUM BOARD TO MATCH ACOUSTICAL PANEL.

ACOUSTICAL PANEL EDGE

3" = 1'-0"

05B-2068

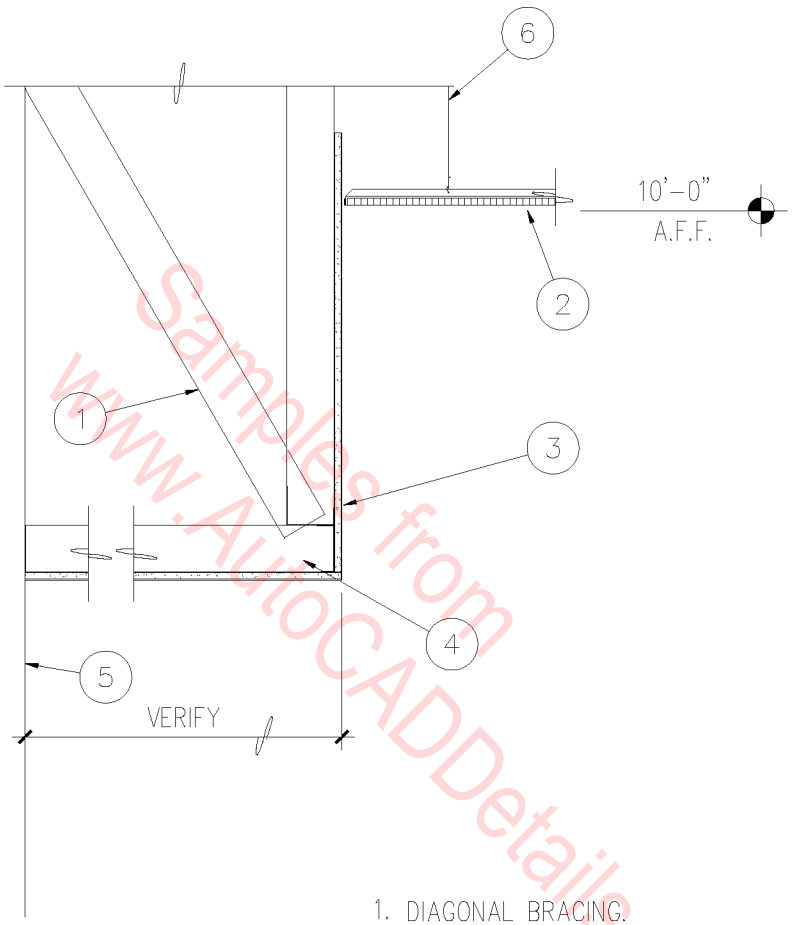


1. DIAGONAL BRACING.
2. ACOUSTICAL LINEAR METAL CEILING AND SUSPENSION SYSTEM.
3. 5/8" TYPE 'X' GYP. BOARD.
4. 3-5/8" METAL STUDS CEILING JOISTS @ 16" O.C.
5. GYPSUM BOARD WALL.
6. 1/2" SPACE.

ACOUSTIC CEILING SOFFIT

3/4" = 1'-0"

05B-2069

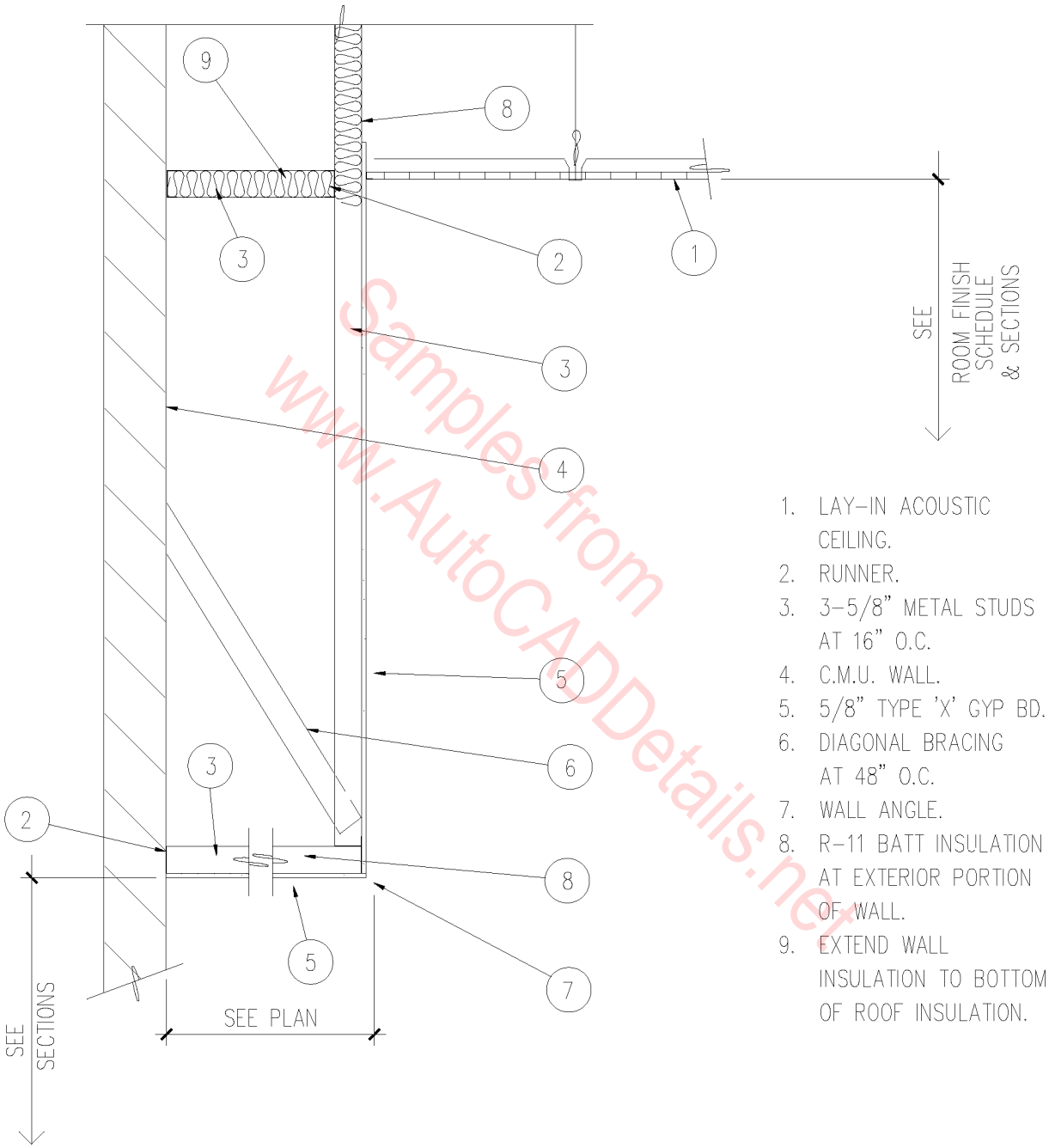


1. DIAGONAL BRACING.
2. ACOUSTICAL CEILING TILE AND SUSPENSION SYSTEM.
3. 5/8" TYPE 'X' GYPSUM BOARD.
4. 3-5/8" METAL STUDS @ 24" O.C.
5. MASONRY OR GYPSUM BOARD WALL.
6. HANGER WIRE.

TYPICAL SOFFIT

3/4" = 1'-0"

05B-2070



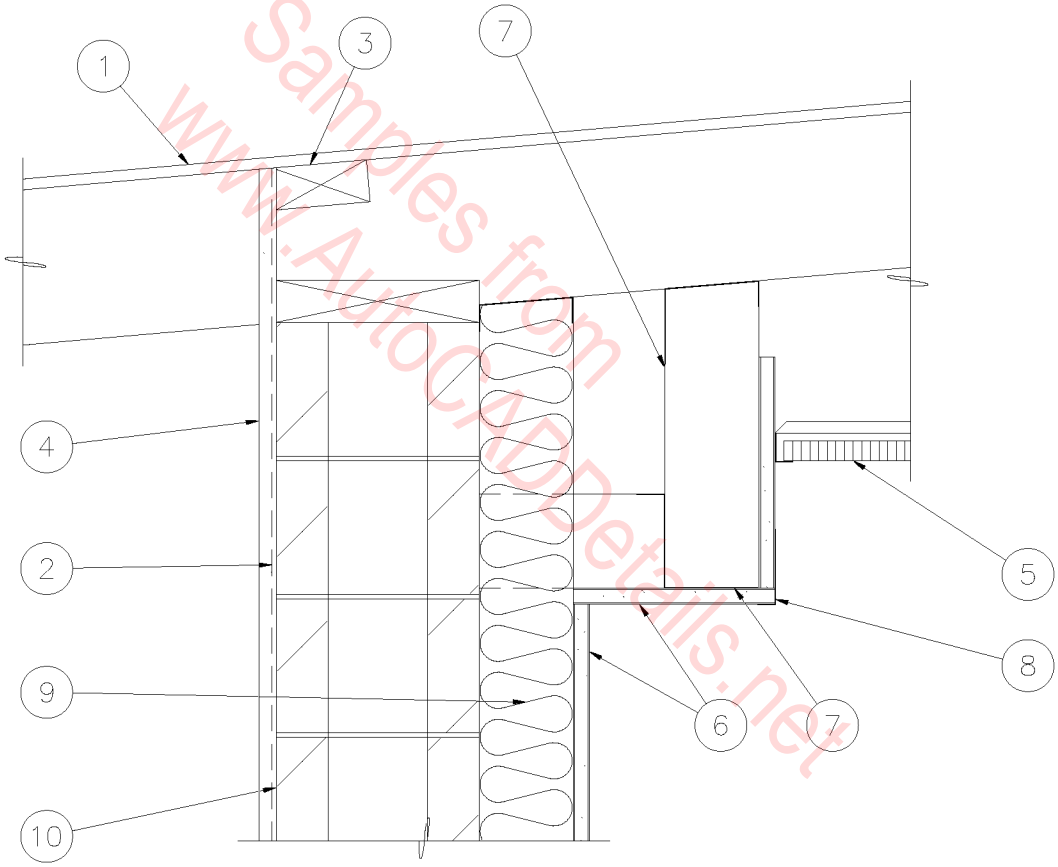
1. LAY-IN ACOUSTIC CEILING.
2. RUNNER.
3. 3-5/8" METAL STUDS AT 16" O.C.
4. C.M.U. WALL.
5. 5/8" TYPE 'X' GYP BD.
6. DIAGONAL BRACING AT 48" O.C.
7. WALL ANGLE.
8. R-11 BATT INSULATION AT EXTERIOR PORTION OF WALL.
9. EXTEND WALL INSULATION TO BOTTOM OF ROOF INSULATION.

SUSP. CEILING @ SOFFIT

1/2" = 1'-0"

05B-2071

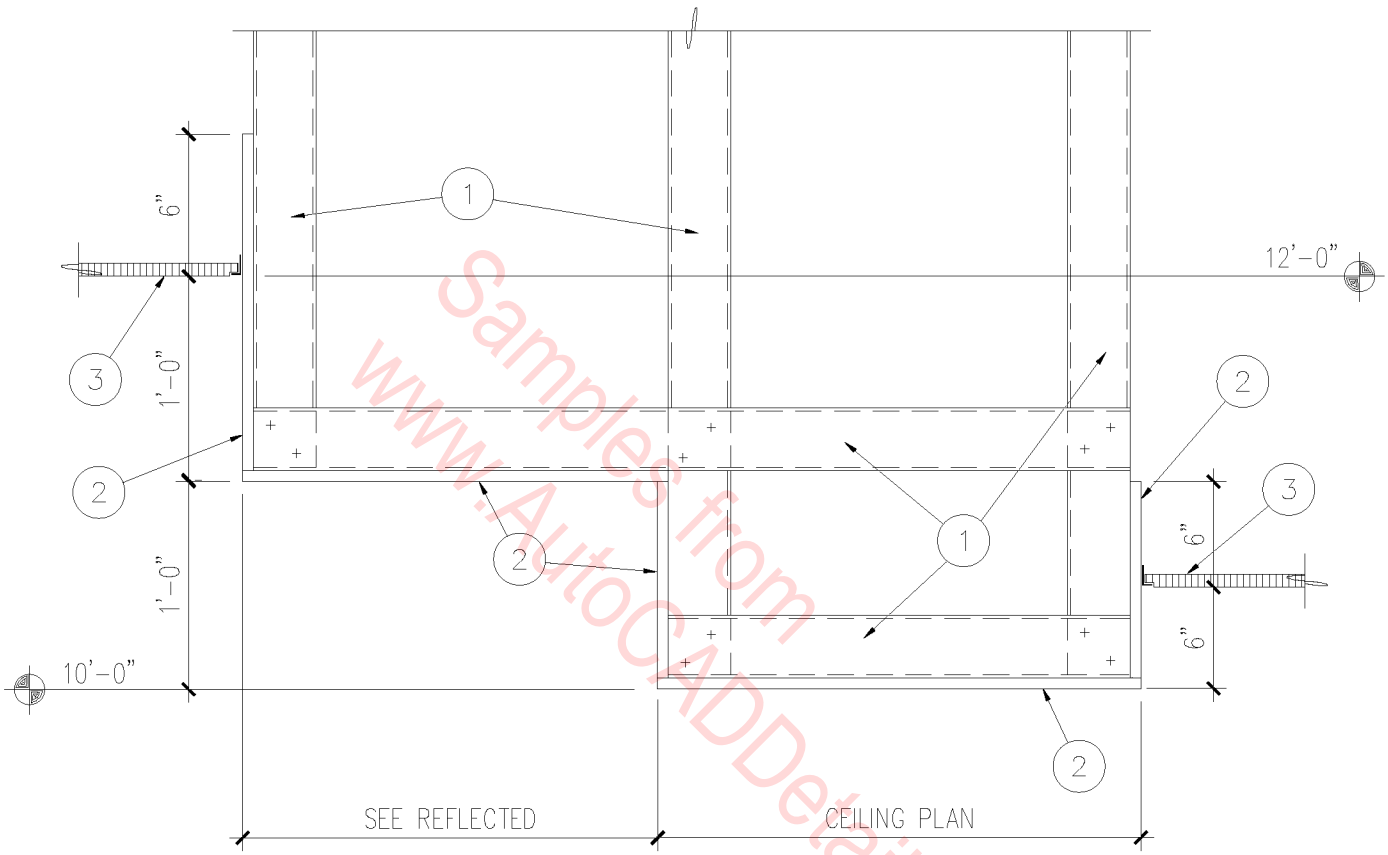
1. EXISTING ROOF STRUCTURE.
2. METAL LATH.
3. 2x NAILER.
4. 5/8" CEMENT PLASTER APPLIED DIRECTLY TO BLOCK.
5. LAY-IN CEILING PANEL.
6. 5/8" TYPE 'X' GYP. BOARD.
7. 3-5/8" METAL STUDS.
8. METAL CORNER BEAD.
9. R-11 BATT INSULATION.
10. MASONRY WALL.



INTERIOR SOFFIT

1 1/2" = 1'-0"

05B-2072



1. 3-5/8" METAL STUDS AT 24" O.C. SUSPEND FROM STRUCTURE ABOVE.
2. 5/8" TYPE 'X' GYP. BD.
3. LAY-IN ACOUSTICAL CEILING PANEL.

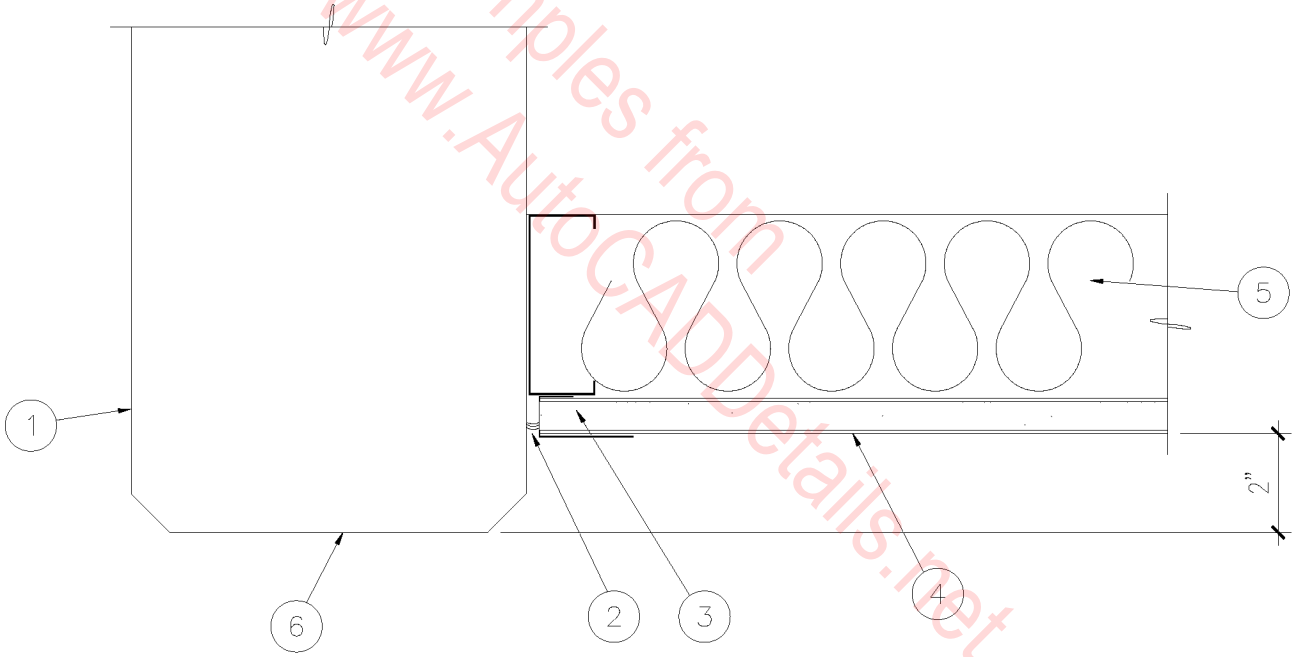
STEPPED SOFFIT

1 1/2" = 1'-0"

05B-2073

1. MASONRY OR CONCRETE WALL.
2. SEALANT.
3. CASING BEAD.

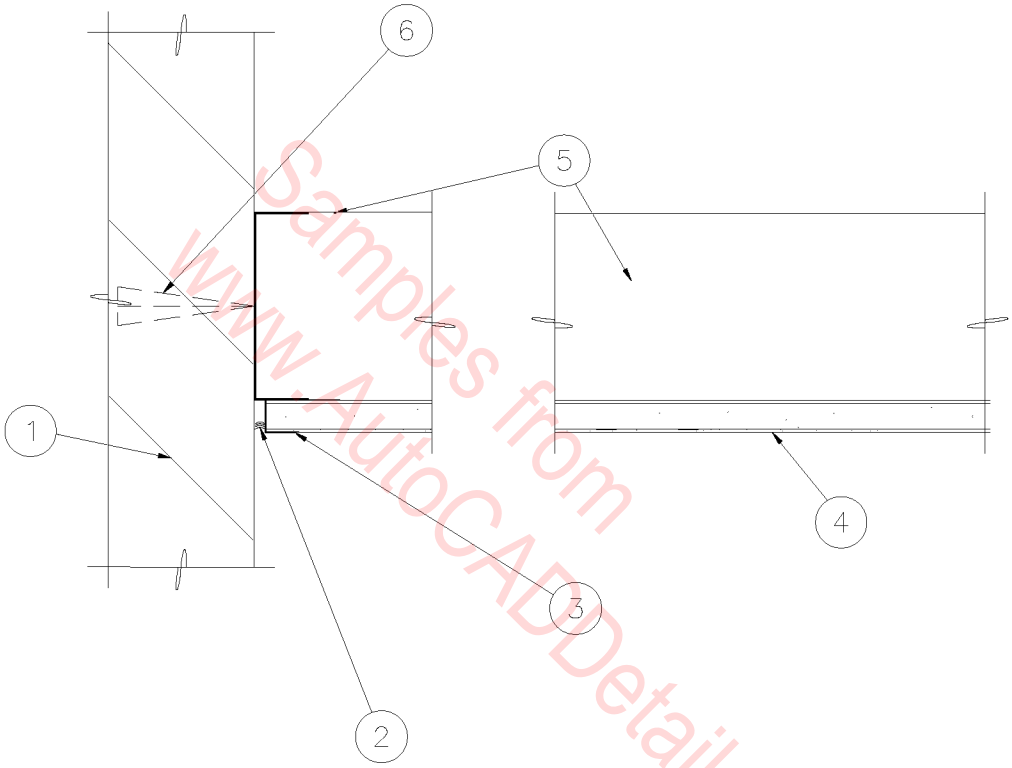
4. EXTERIOR FINISH SYSTEM ON 5/8" TYPE EXTERIOR GYPSUM SHEATHING ON 3-5/8" METAL STUDS AT 16" O.C. CEILING JOISTS.
5. R-11 SOUND BATT INSULATION.
6. BOTTOM OF LINTEL WHERE APPLICABLE.



SOFFIT

3" = 1'-0"

05B-2074



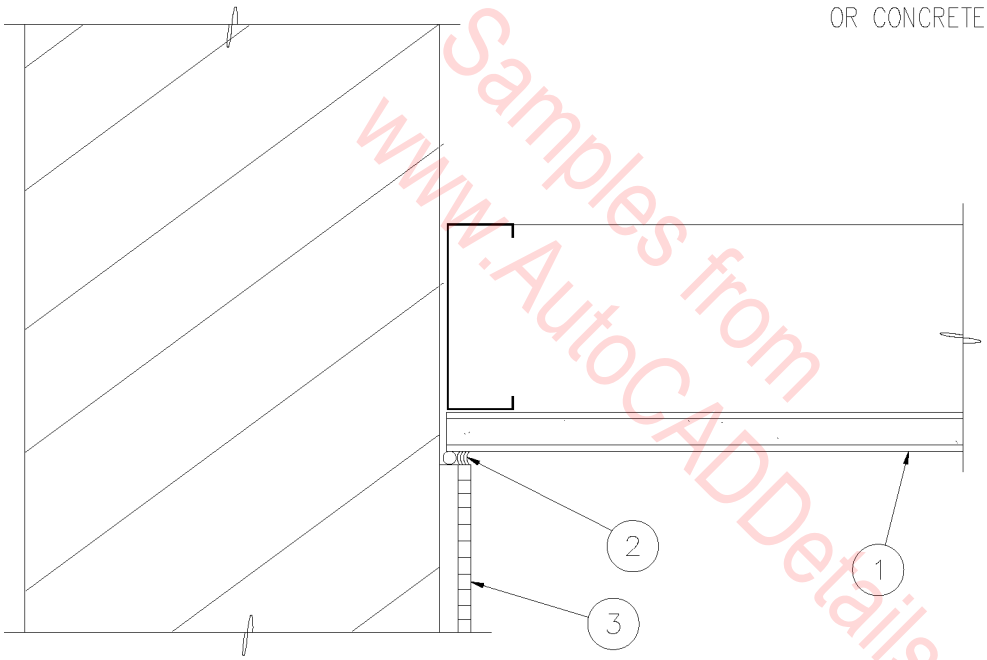
1. MASONRY WALL.
2. SEALANT.
3. CASING BEAD.
4. 5/8" GYP. BD. TYPE "X".
5. LIGHT GAUGE METAL STUD CEILING JOIST.
6. ATTACH AT 16" O.C.

GYPSUM BOARD SOFFIT

3" = 1'-0"

05B-2075

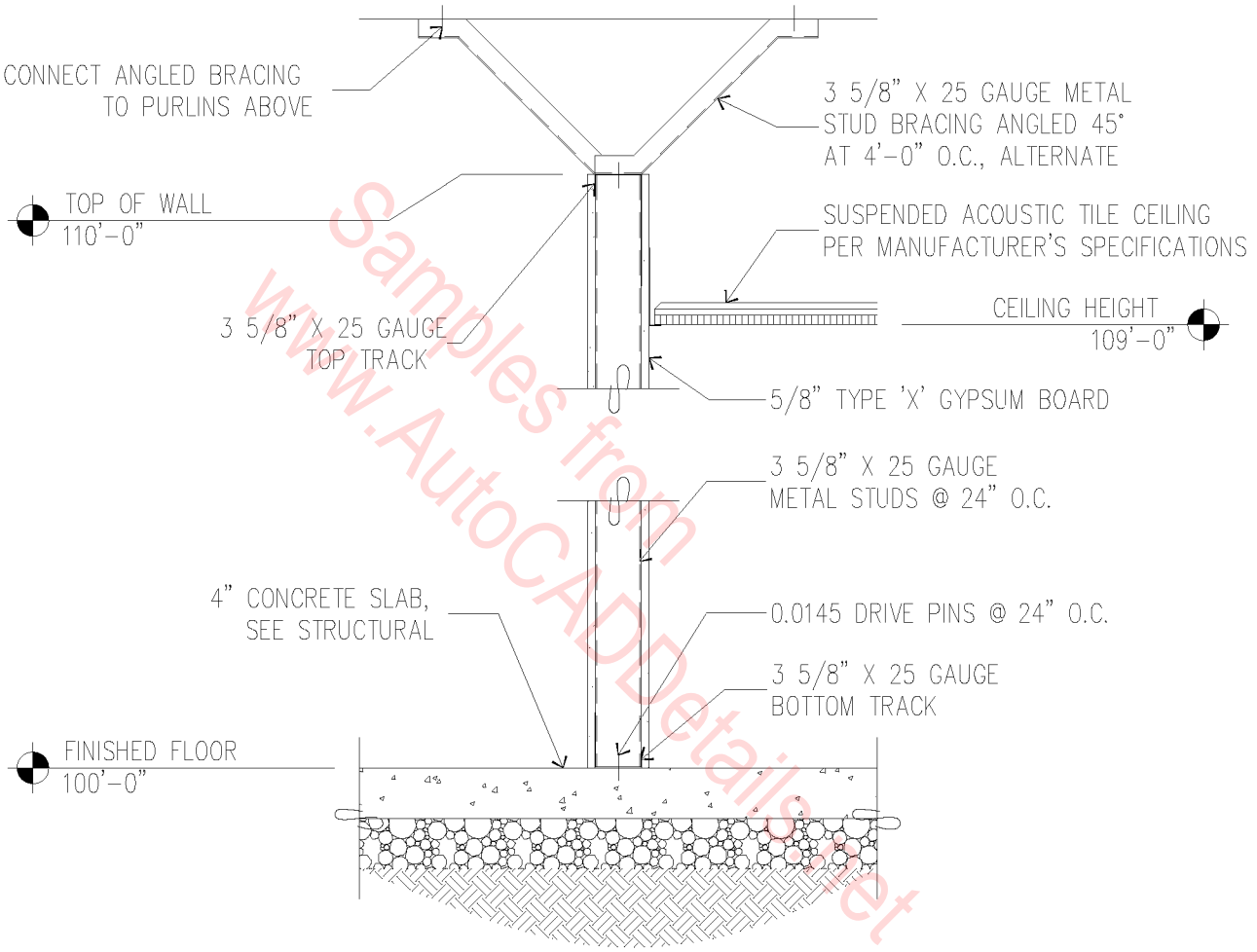
1. 5/8" GYP. BD.
   ON CEILING JOISTS
   OR SUSPENDED CEILING
   SYSTEM.
2. SEALANT ON JOINT FILLER.
3. CERAMIC TILE, THIN SET
   ON CEMENT MORTAR
   LEVELING COAT ON MASONRY
   OR CONCRETE WALL.



GYPSUM BOARD CEILING

3" = 1'-0"

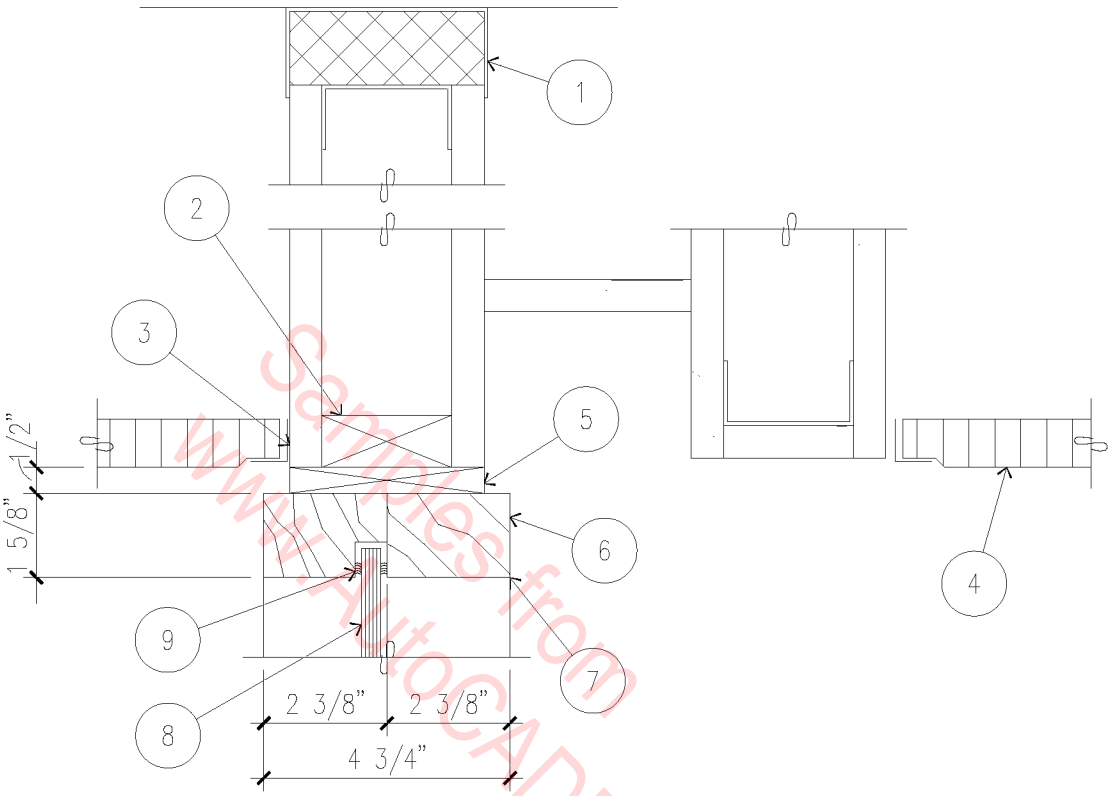
05B-2076



INTERIOR WALL SECTION

3/4" = 1'-0"

05B-2077



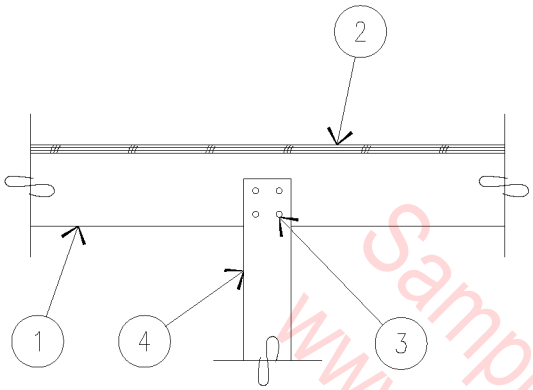
1. CONNECTION TO STRUCTURE ABOVE.
2. FIRE RESISTIVE TREATED BLOCKING.
3. METAL CEILING ANGLE.
4. SCHEDULED CEILING SYSTEM.
5. SOLID ALDER REVEAL BLOCKING. FINISH TO MATCH.
6. CHERRY WOOD HEAD.
7. EASED EDGE, TYPICAL.
8. 3/8" THICK TEMPERED GLASS (TINTED).
9. BLACK NEOPRENE GASKET.

NOTE: ANCHOR WITH 'HILTI', OR EQUAL, POWER ACTUATED FASTENERS, I.C.B.O. #3288, @ 16" O.C.

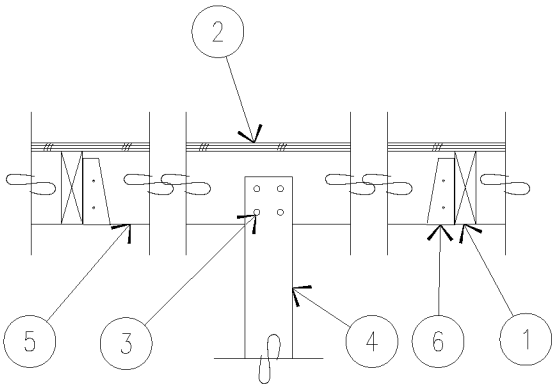
DRAPERY ROD POCKET

3" = 1'-0"

05B-2078



WALL PERPENDICULAR TO STIFFENERS



WALL PARALLEL TO STIFFENERS

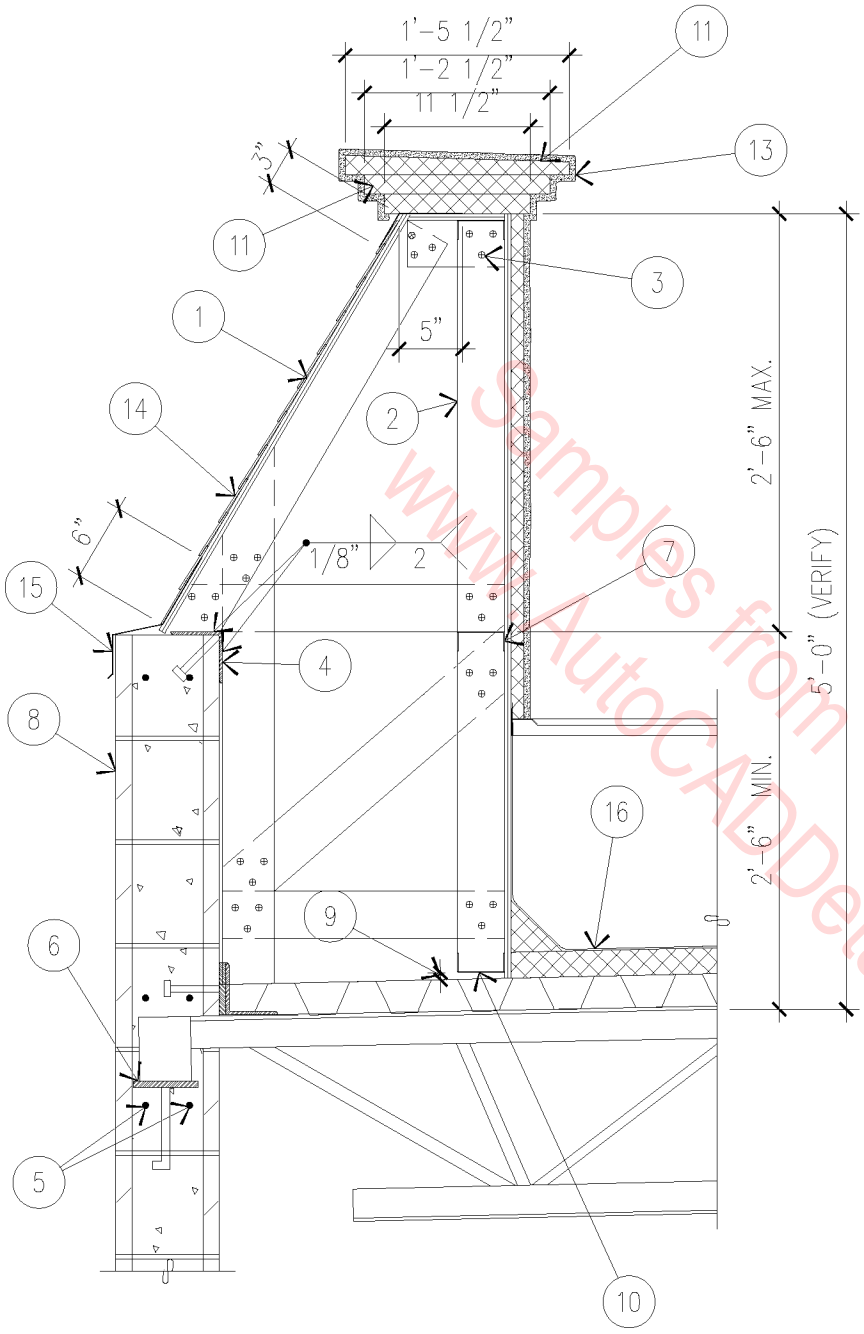
NOTE: AT SIMILAR CONDITION USE DIAGONAL BLOCKING IN SUR/L26 HANGERS.

1. 2 X 6 STIFFENER.
2. ROOF DECK, SEE ARCHITECTURAL.
3. (4) #12 X 1 1/2" SCREWS.
4. METAL STUD FRAMING.
5. 2 X 6 BLOCKING.
6. SIMPSON F26N HANGER, OR EQUAL.

SOFFIT VERTICAL CONNECTION

3/4" = 1'-0"

05B-2079

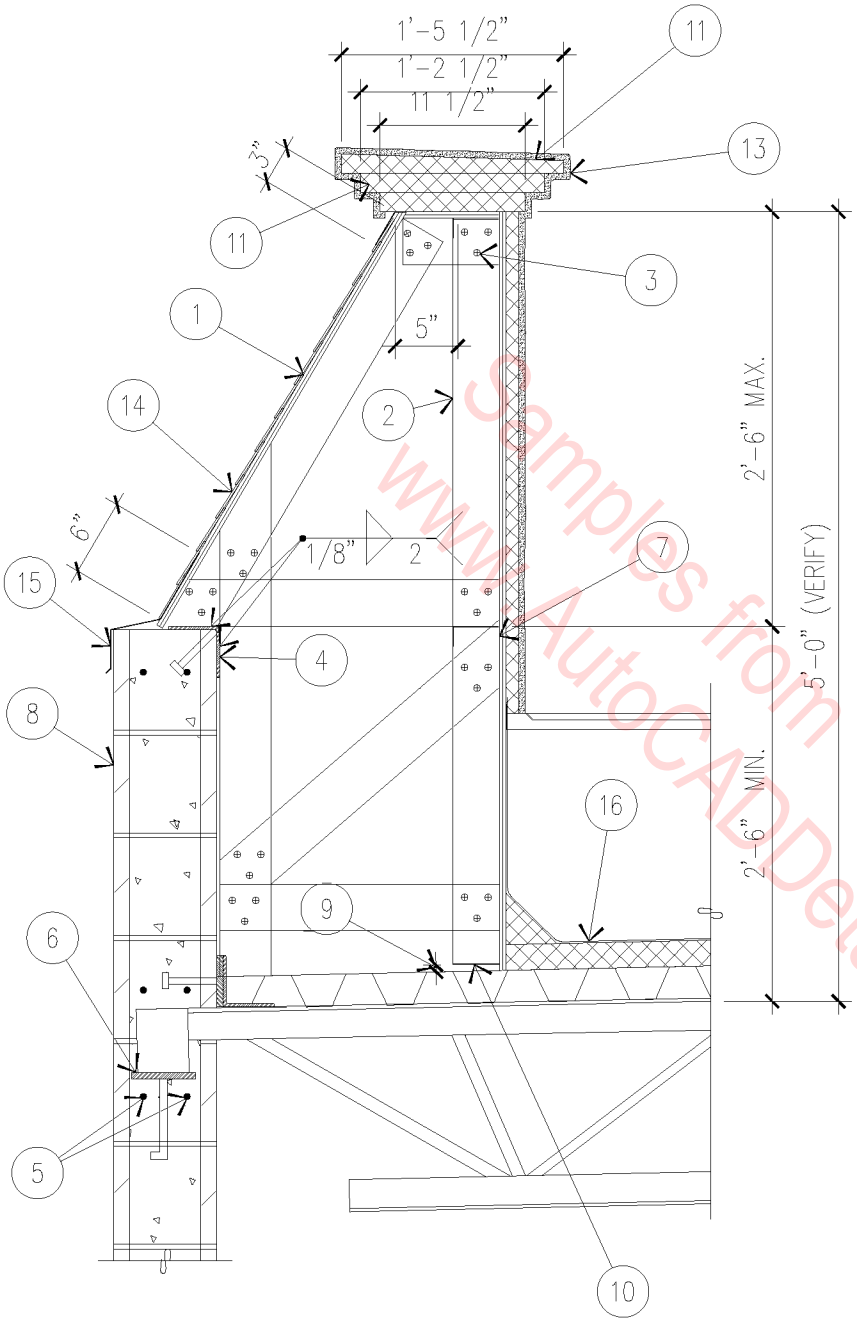


1. 1/2" EXTERIOR GRADE PLYWOOD.
2. 4" X 18 GAUGE METAL STUDS @ 24" O.C.
3. (3) SHEET METAL SCREWS AT 1 1/2" LONG – TYPICAL.
4. 3 "X 3" X 1/4" CONTINUOUS ANGLE WITH 3/4" N.S. @ 24" O.C.
5. (2) #5 REBAR CONTINUOUS.
6. STEEL PLATE JOIST SEAT IN WALL POCKET – SEE STRUCTURAL.
7. 4" X 13 GAUGE METAL STUD RAIL BLOCK.
8. 8" CMU WALL.
9. 1/2" CLEAR.
10. 4" X 18 GAGE CONTINUOUS BOTTOM TRACK – DO NOT ATTACH TO ROOF DECK.
11. 1" RIGID INSULATION.
12. TAPERED RIGID INSULATION.
13. CEMENT STUCCO OVER METAL LATH.
14. COPPER FOILED ASPHALT COMPOSITION SHINGLES OVER 30 lb. ROOFING FELT.
15. COPPER FLASHING.
16. SINGLY PLY MEMBRANE ROOFING.

PARAPET WALL

3/4" = 1'-0"

05B–2080

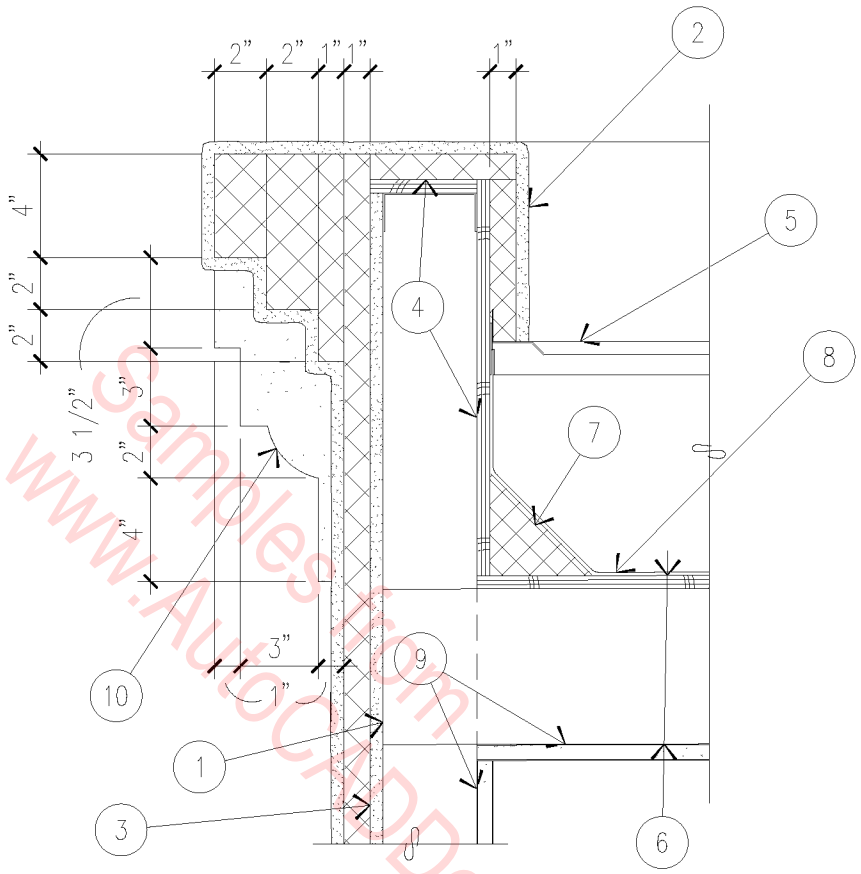


1. 1/2" EXTERIOR GRADE PLYWOOD.
2. 4" X 18 GAUGE METAL STUDS @ 24" O.C.
3. (3) SHEET METAL SCREWS AT 1 1/2" LONG – TYPICAL.
4. 3 "X 3" X 1/4" CONTINUOUS ANGLE WITH 3/4" N.S. @ 24" O.C.
5. (2) #5 REBAR CONTINUOUS.
6. STEEL PLATE JOIST SEAT IN WALL POCKET – SEE STRUCTURAL.
7. 4" X 13 GAUGE METAL STUD RAIL BLOCK.
8. 8" CMU WALL.
9. 1/2" CLEAR.
10. 4" X 18 GAGE CONTINUOUS BOTTOM TRACK – DO NOT ATTACH TO ROOF DECK.
11. 1" RIGID INSULATION.
12. TAPERED RIGID INSULATION.
13. CEMENT STUCCO OVER METAL LATH.
14. COPPER FOILED ASPHALT COMPOSITION SHINGLES OVER 30 lb. ROOFING FELT.
15. COPPER FLASHING.
16. SINGLY PLY MEMBRANE ROOFING.

PARAPET WALL

3/4" = 1'-0"

05B-2080

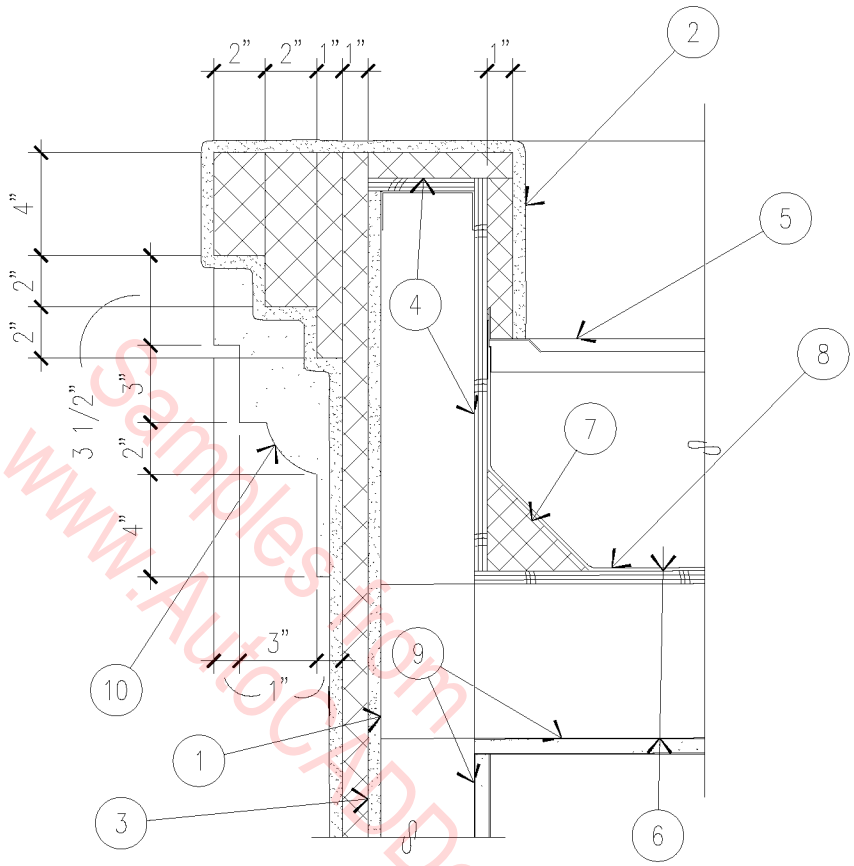


1. 3 5/8" METAL STUD WALL.
2. CEMENT STUCCO OVER METAL LATH AND RIGID INSULATION.
3. 1/2" GYPSUM SHEATHING.
4. 1/2" STRUCTURAL 1 PLYWOOD.
5. METAL STUCCO STOP / DRIP EDGE.
6. ROOF JOIST AND DECK – SEE STRUCTURAL.
7. 4" CANT STRIP.
8. SINGLE PLY MEMBRANE ROOF.
9. 5/8" GYPSUM BOARD.
10. RIGID FOAM BRACKET BEYOND.

PARAPET WALL

1 1/2" = 1'-0"

05B-2081

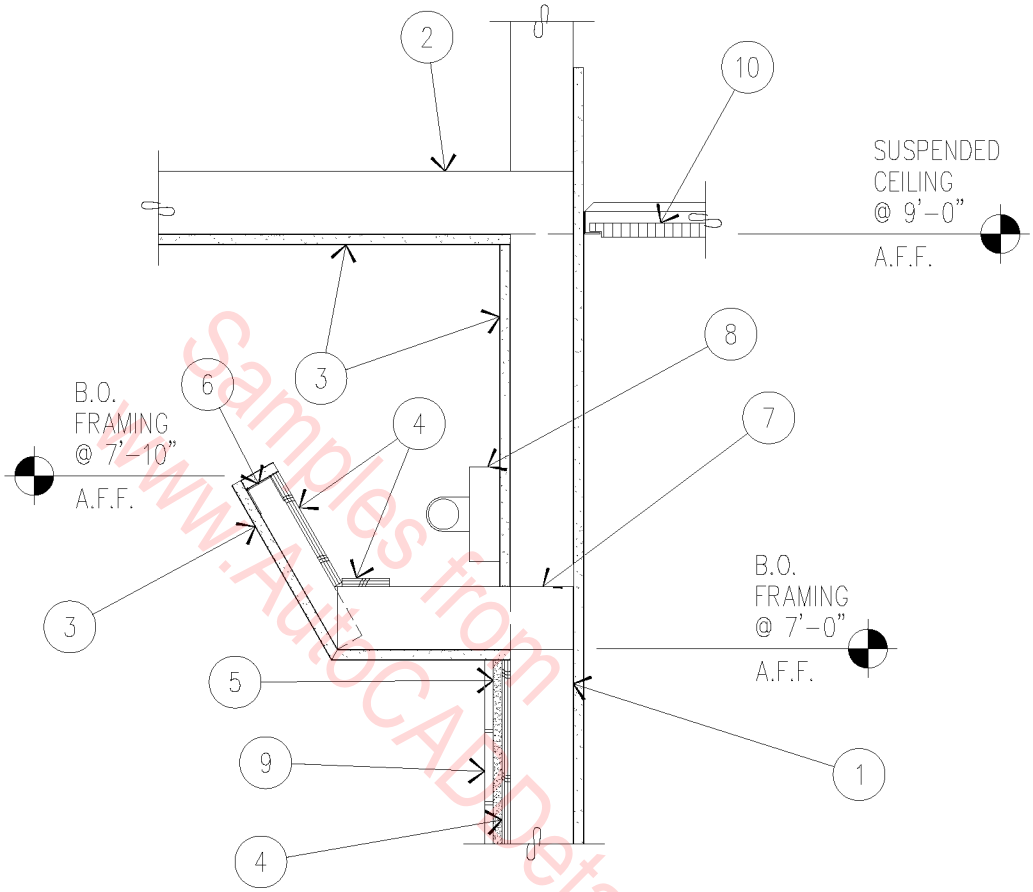


1. 3 5/8" METAL STUD WALL.
2. CEMENT STUCCO OVER METAL LATH AND RIGID INSULATION.
3. 1/2" GYPSUM SHEATHING.
4. 1/2" STRUCTURAL 1 PLYWOOD.
5. METAL STUCCO STOP / DRIP EDGE.
6. ROOF JOIST AND DECK – SEE STRUCTURAL.
7. 4" CANT STRIP.
8. SINGLE PLY MEMBRANE ROOF.
9. 5/8" GYPSUM BOARD.
10. RIGID FOAM BRACKET BEYOND.

PARAPET WALL

1 1/2" = 1'-0"

05B-2081

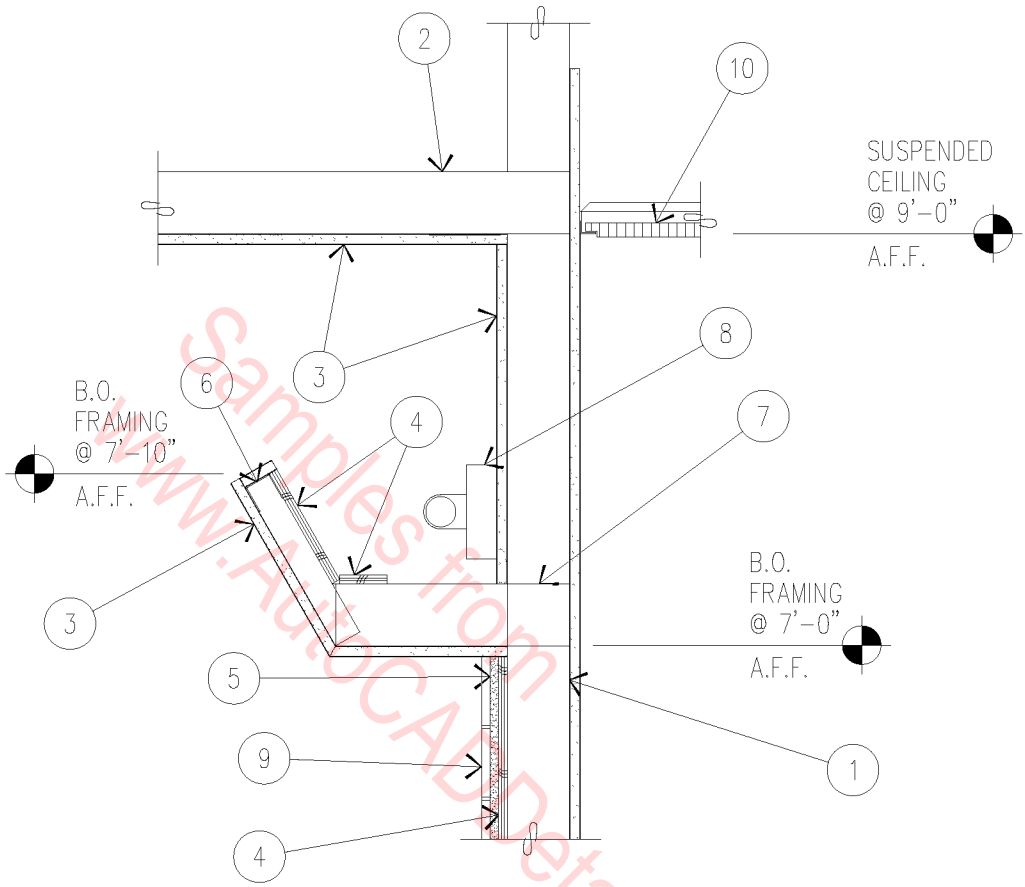


1. 3 5/8" METAL STUD WALL.
2. 3 5/8" METAL STUD CEILING JOIST.
3. 5/8" GYPSUM BOARD.
4. 1/2" EXTERIOR GRADE OSB SHEATHING.
5. 1/2" CEMENTITIOUS BACKER BOARD.
6. 1 5/8" X 25 GA. METAL STUDS @ 24" O.C.
7. 3 5/8" X 18 GA. METAL STUDS @ 48" O.C.
8. FLUORESCENT STRIP LIGHT - SEE ELECTRICAL.
9. CERAMIC TILE OVER THIN SET.
10. LAY-IN ACOUSTICAL CEILING (AS OCCURS).

LIGHT COVE

1" = 1'-0"

05B-2082

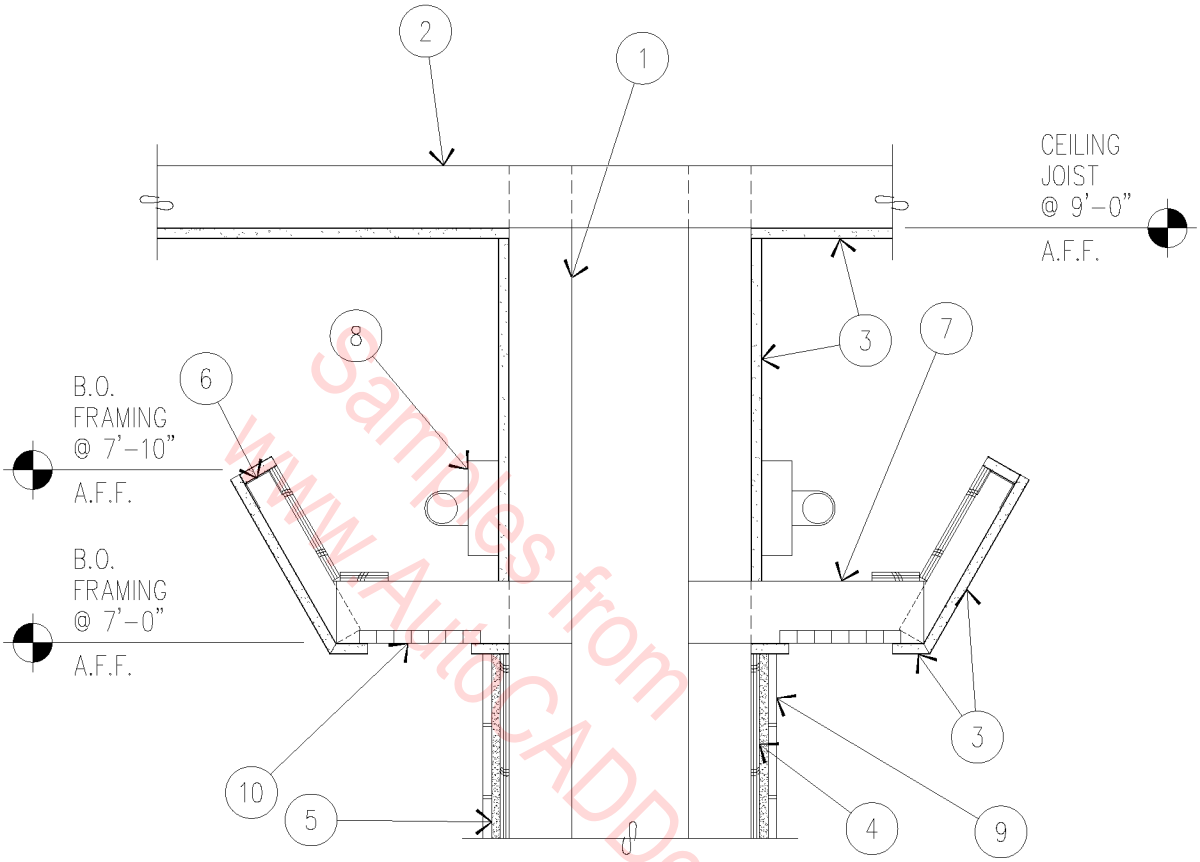


1. 3 5/8" METAL STUD WALL.
2. 3 5/8" METAL STUD CEILING JOIST.
3. 5/8" GYPSUM BOARD.
4. 1/2" EXTERIOR GRADE OSB SHEATHING.
5. 1/2" CEMENTITIOUS BACKER BOARD.
6. 1 5/8" X 25 GA. METAL STUDS @ 24" O.C.
7. 3 5/8" X 18 GA. METAL STUDS @ 48" O.C.
8. FLUORESCENT STRIP LIGHT – SEE ELECTRICAL.
9. CERAMIC TILE OVER THIN SET.
10. LAY-IN ACOUSTICAL CEILING (AS OCCURS).

LIGHT COVE

1" = 1'-0"

05B-2082

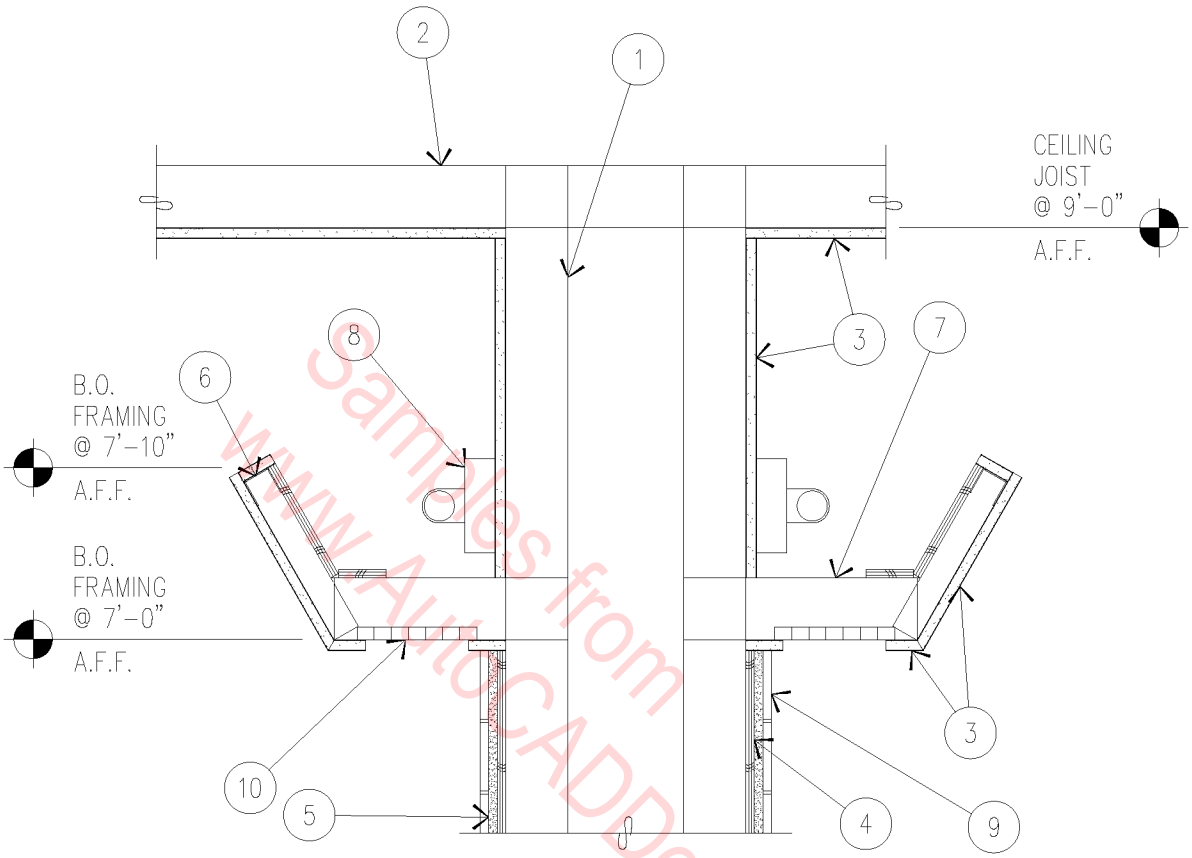


1. 3 5/8" METAL STUD PLUMBING WALL.
2. 3 5/8" METAL STUD CEILING JOIST.
3. 5/8" GYPSUM BOARD.
4. 1/2" EXTERIOR GRADE OSB SHEATHING.
5. 1/2" CEMENTITIOUS BACKER BOARD.
6. 1 5/8" X 25 GA. METAL STUDS @ 24" O.C.
7. 3 5/8" X 18 GA. METAL STUDS @ 48" O.C.
8. FLUORESCENT STRIP LIGHT - SEE ELECTRICAL.
9. CERAMIC TILE OVER THIN SET.
10. 6" X 42" LAY-IN "EGG GRATE" DIFFUSER".

LIGHT COVE

1" = 1'-0"

05B-2083

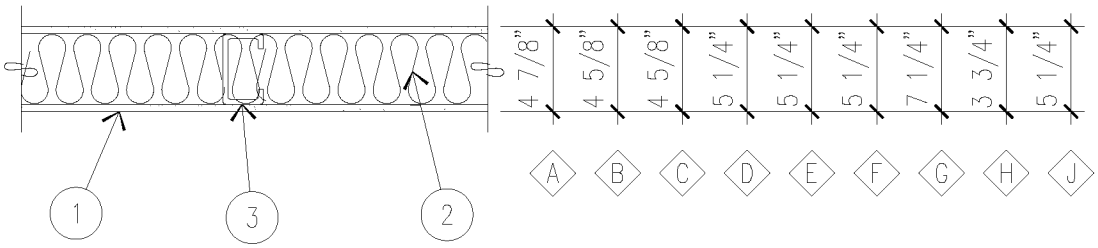


1. 3 5/8" METAL STUD PLUMBING WALL.
2. 3 5/8" METAL STUD CEILING JOIST.
3. 5/8" GYPSUM BOARD.
4. 1/2" EXTERIOR GRADE OSB SHEATHING.
5. 1/2" CEMENTITIOUS BACKER BOARD.
6. 1 5/8" X 25 GA. METAL STUDS @ 24" O.C.
7. 3 5/8" X 18 GA. METAL STUDS @ 48" O.C.
8. FLUORESCENT STRIP LIGHT – SEE ELECTRICAL.
9. CERAMIC TILE OVER THIN SET.
10. 6" X 42" LAY-IN "EGG GRATE" DIFFUSER".

LIGHT COVE

1" = 1'-0"

05B-2083



1. 5/8" GYPSUM BOARD DRYWALL EACH SIDE OF PARTITION, MINIMUM.
2. 3 1/2" SOUND INSULATION (2 1/2" AT TYPE 'H' ONLY), FRICTION FIT.
3. 25 STANDARD GAUGE METAL STUDS AT 24" O.C., UNLESS NOTED OTHERWISE.

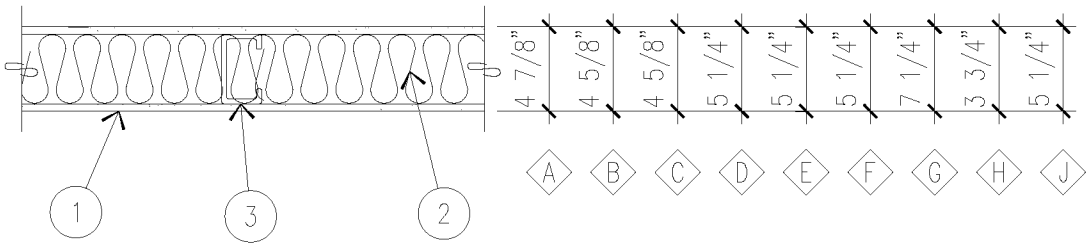
NOTE: MANUFACTURER'S SOUND TRANSMISSION COEFFICIENT (S.T.C.): WITH INSULATION AND PERIMETER CAULKED = 46 ± S.T.C.

WALL TYPE	STUD SIZE	STUD GAUGE	STUD SPACING	GYPSUM BOARD TYPE	FIRE RATING
A	3 5/8"	STANDARD	16" O.C.	STANDARD	INCOMBUSTIBLE
B	3 3/8"	STANDARD	24" O.C.	TYPE 'X'	ONE HOUR
C	3 3/8"	STANDARD	24" O.C.	STANDARD	INCOMBUSTIBLE
D	4"	STANDARD	24" O.C.	STANDARD	INCOMBUSTIBLE
E	4"	STANDARD	16" O.C.	STANDARD	INCOMBUSTIBLE
F	4"	STANDARD	24" O.C.	TYPE 'X'	ONE HOUR
G	6"	16 GAUGE	24" O.C.	STANDARD	INCOMBUSTIBLE
H	2 1/2"	STANDARD	24" O.C.	STANDARD	INCOMBUSTIBLE
J	4"	STANDARD	16" O.C.	TYPE 'X'	ONE HOUR

TYPICAL DRYWALL PARTITION

N.T.S.

05B-2084



1. 5/8" GYPSUM BOARD DRYWALL EACH SIDE OF PARTITION, MINIMUM.
2. 3 1/2" SOUND INSULATION (2 1/2" AT TYPE 'H' ONLY), FRICTION FIT.
3. 25 STANDARD GAUGE METAL STUDS AT 24" O.C., UNLESS NOTED OTHERWISE.

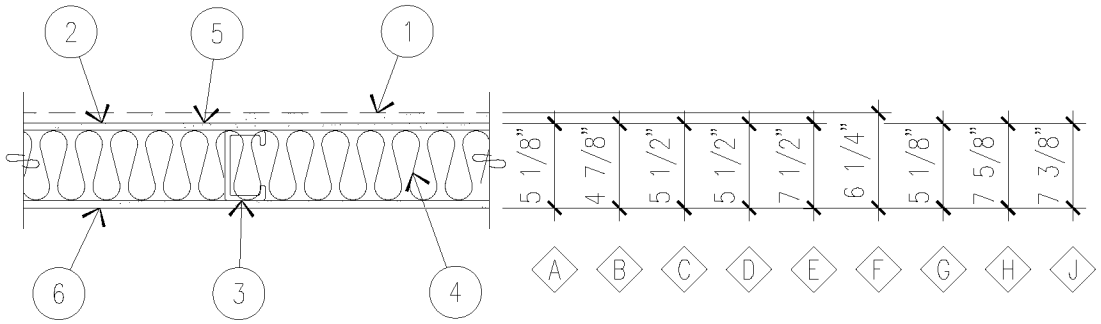
NOTE: MANUFACTURER'S SOUND TRANSMISSION COEFFICIENT (S.T.C.): WITH INSULATION AND PERIMETER CAULKED = 46 ± S.T.C.

WALL TYPE	STUD SIZE	STUD GAUGE	STUD SPACING	GYPSUM BOARD TYPE	FIRE RATING
A	3 5/8"	STANDARD	16" O.C.	STANDARD	INCOMBUSTIBLE
B	3 3/8"	STANDARD	24" O.C.	TYPE 'X'	ONE HOUR
C	3 3/8"	STANDARD	24" O.C.	STANDARD	INCOMBUSTIBLE
D	4"	STANDARD	24" O.C.	STANDARD	INCOMBUSTIBLE
E	4"	STANDARD	16" O.C.	STANDARD	INCOMBUSTIBLE
F	4"	STANDARD	24" O.C.	TYPE 'X'	ONE HOUR
G	6"	16 GAUGE	24" O.C.	STANDARD	INCOMBUSTIBLE
H	2 1/2"	STANDARD	24" O.C.	STANDARD	INCOMBUSTIBLE
J	4"	STANDARD	16" O.C.	TYPE 'X'	ONE HOUR

TYPICAL DRYWALL PARTITION

N.T.S.

05B-2084



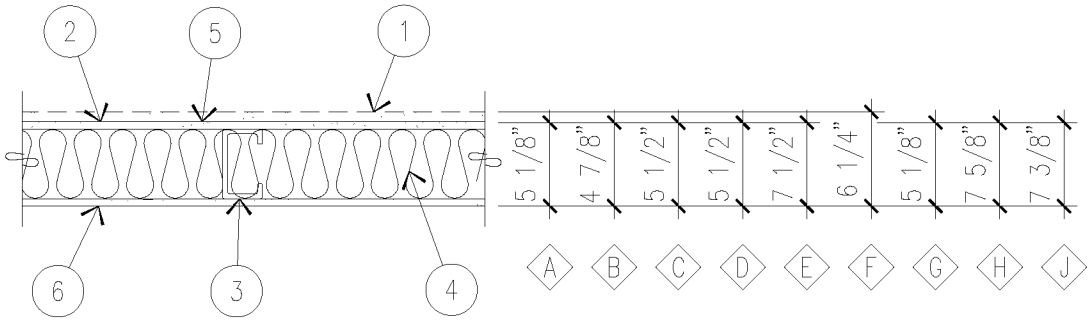
1. TWO LAYERS DRYWALL AT TYPE 'F'.
2. ONE LAYER OF GYPSUM DRYWALL, TYPICAL.
3. STEEL STUDS AT 16" O.C., MAXIMUM (12" O.C. AT CERAMIC TILE).
4. 3 1/2" SOUND INSULATION, FRICTION FIT, TYPE RII, WITHOUT PAPER BACKING.
5. CERAMIC TILE ON 1/2" TYPE 'X' WATER-PROOF GYPSUM BOARD WHERE SCHED-ULED - SEE FINISH SCHEDULE.
6. 3.4 LB. METAL LATH AND CEMENT PLASTER ON EXTERIOR, 2.5 LB. METAL LATH AND GYPSUM PLASTER ON INTERIOR.

WALL TYPE	STUD SIZE	STUD GAUGE	STUD SPACING	GYPSUM BOARD TYPE	GYPSUM BOARD LAYERS	PLASTER THICKNESS	FIRE RATING
A	3 5/8"	16 GAUGE	16" O.C.	5/8" STANDARD	ONE	7/8"	INCOMBUSTIBLE
B	3 3/8"	16 GAUGE	16" O.C.	TYPE 'X'	ONE	7/8"	ONE HOUR
C	4"	16 GAUGE	16" O.C.	TYPE 'X'	ONE	7/8"	ONE HOUR
D	4"	16 GAUGE	16" O.C.	5/8" STANDARD	ONE	7/8"	INCOMBUSTIBLE
E	6"	16 GAUGE	12" O.C.	5/8" STANDARD	ONE	7/8"	INCOMBUSTIBLE
F	4"	16 GAUGE	16" O.C.	TYPE 'X'	TWO	1"	TWO HOUR
G	3 5/8"	16 GAUGE	16" O.C.	EXTERIOR PANELS	TWO	7/8"	INCOMBUSTIBLE
H	6"	16 GAUGE	16" O.C.	TYPE 'X'	TWO	1"	TWO HOUR
J	6"	16 GAUGE	16" O.C.	1/2" STANDARD	ONE	7/8"	INCOMBUSTIBLE

COMPOSITE WALL - DRYWALL AND PLASTER

N.T.S.

05B-2085



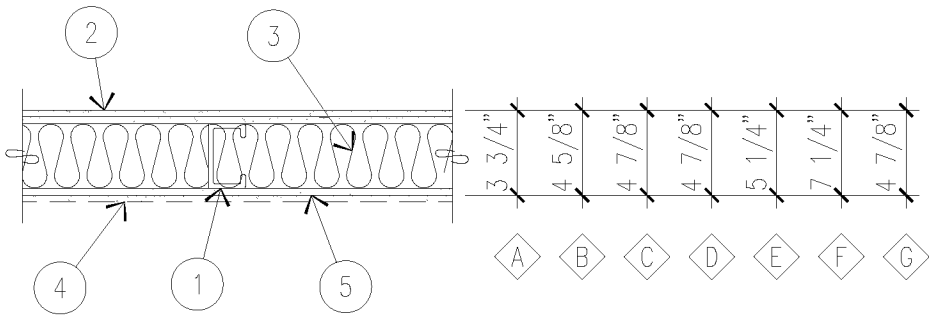
1. TWO LAYERS DRYWALL AT TYPE 'F'.
2. ONE LAYER OF GYPSUM DRYWALL, TYPICAL.
3. STEEL STUDS AT 16" O.C., MAXIMUM (12" O.C. AT CERAMIC TILE).
4. 3 1/2" SOUND INSULATION, FRICTION FIT, TYPE RII, WITHOUT PAPER BACKING.
5. CERAMIC TILE ON 1/2" TYPE 'X' WATER-PROOF GYPSUM BOARD WHERE SCHED-ULED – SEE FINISH SCHEDULE.
6. 3.4 LB. METAL LATH AND CEMENT PLASTER ON EXTERIOR, 2.5 LB. METAL LATH AND GYPSUM PLASTER ON INTERIOR.

WALL TYPE	STUD SIZE	STUD GAUGE	STUD SPACING	GYPSUM BOARD TYPE	GYPSUM BOARD LAYERS	PLASTER THICKNESS	FIRE RATING
A	3 5/8"	16 GAUGE	16" O.C.	5/8" STANDARD	ONE	7/8"	INCOMBUSTIBLE
B	3 3/8"	16 GAUGE	16" O.C.	TYPE 'X'	ONE	7/8"	ONE HOUR
C	4"	16 GAUGE	16" O.C.	TYPE 'X'	ONE	7/8"	ONE HOUR
D	4"	16 GAUGE	16" O.C.	5/8" STANDARD	ONE	7/8"	INCOMBUSTIBLE
E	6"	16 GAUGE	12" O.C.	5/8" STANDARD	ONE	7/8"	INCOMBUSTIBLE
F	4"	16 GAUGE	16" O.C.	TYPE 'X'	TWO	1"	TWO HOUR
G	3 5/8"	16 GAUGE	16" O.C.	EXTERIOR PANELS	TWO	7/8"	INCOMBUSTIBLE
H	6"	16 GAUGE	16" O.C.	TYPE 'X'	TWO	1"	TWO HOUR
J	6"	16 GAUGE	16" O.C.	1/2" STANDARD	ONE	7/8"	INCOMBUSTIBLE

COMPOSITE WALL – DRYWALL AND PLASTER

N.T.S.

05B–2085



1. METAL STUDS, STANDARD GAUGE, AT 24" O.C., TYPICAL, UNLESS NOTED OTHERWISE.
2. (2) LAYERS OF GYPSUM BOARD.
3. 3 1/2" SOUND INSULATION, FRICTION FIT, WHERE INDICATED.
4. CERAMIC TILE ON 1/2" TYPE 'X' GYPSUM BOARD, WHERE SCHEDULED – SEE FINISH SCHEDULE.
5. (1) LAYER OF GYPSUM BOARD.

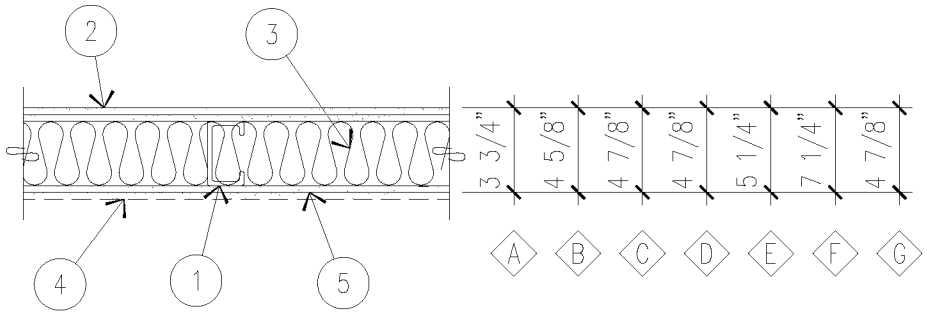
GYPSUM ASSOCIATION SOUND TRANSFER COEFFICIENT (S.T.C.):
5/8" GYPSUM BOARD – WITH INSULATION: 50±, WITHOUT INSULATION: 45±
1/2" GYPSUM BOARD – WITH INSULATION: 45±, WITHOUT INSULATION: 40±

WALL TYPE	STUD SIZE	STUD GAUGE	STUD SPACING	GYPSUM BOARD TYPE	INSULATION
A	2 1/2"	STANDARD	24" O.C.	5/8"	YES
B	3 5/8"	STANDARD	24" O.C.	1/2"	NO
C	3 5/8"	STANDARD	24" O.C.	5/8"	YES
D	3 5/8"	STANDARD	24" O.C.	5/8"	NO
E	4"	STANDARD	24" O.C.	5/8"	YES
F	6"	STANDARD	24" O.C.	5/8"	YES
G	3 5/8"	STANDARD	16" O.C.	5/8"	NO

TYPICAL UNBALANCED SOUND RATED PARTITION

N.T.S.

05B–2086



1. METAL STUDS, STANDARD GAUGE, AT 24" O.C., TYPICAL, UNLESS NOTED OTHERWISE.
2. (2) LAYERS OF GYPSUM BOARD.
3. 3 1/2" SOUND INSULATION, FRICTION FIT, WHERE INDICATED.
4. CERAMIC TILE ON 1/2" TYPE 'X' GYPSUM BOARD, WHERE SCHEDULED – SEE FINISH SCHEDULE.
5. (1) LAYER OF GYPSUM BOARD.

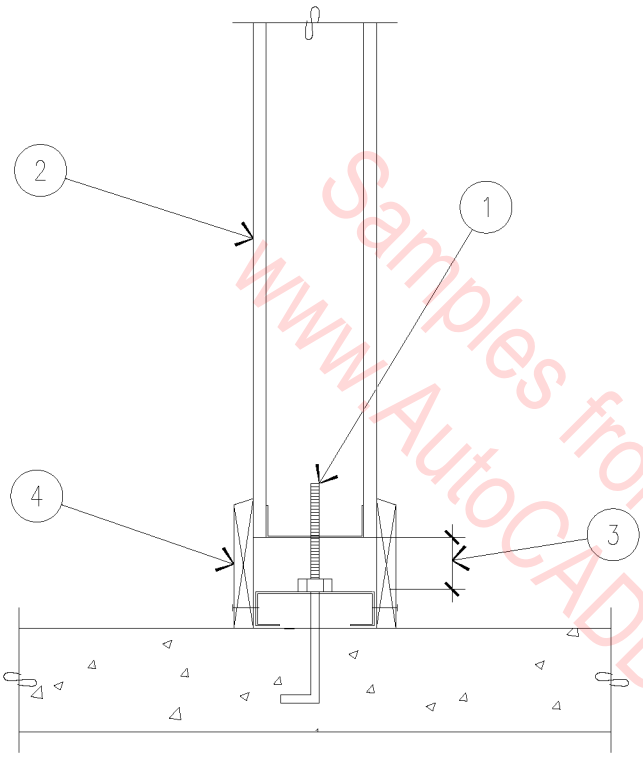
GYPSUM ASSOCIATION SOUND TRANSFER COEFFICIENT (S.T.C.):
5/8" GYPSUM BOARD – WITH INSULATION: 50±, WITHOUT INSULATION: 45±
1/2" GYPSUM BOARD – WITH INSULATION: 45±, WITHOUT INSULATION: 40±

WALL TYPE	STUD SIZE	STUD GAUGE	STUD SPACING	GYPSUM BOARD TYPE	INSULATION
A	2 1/2"	STANDARD	24" O.C.	5/8"	YES
B	3 5/8"	STANDARD	24" O.C.	1/2"	NO
C	3 5/8"	STANDARD	24" O.C.	5/8"	YES
D	3 5/8"	STANDARD	24" O.C.	5/8"	NO
E	4"	STANDARD	24" O.C.	5/8"	YES
F	6"	STANDARD	24" O.C.	5/8"	YES
G	3 5/8"	STANDARD	16" O.C.	5/8"	NO

TYPICAL UNBALANCED SOUND RATED PARTITION

N.T.S.

05B–2086

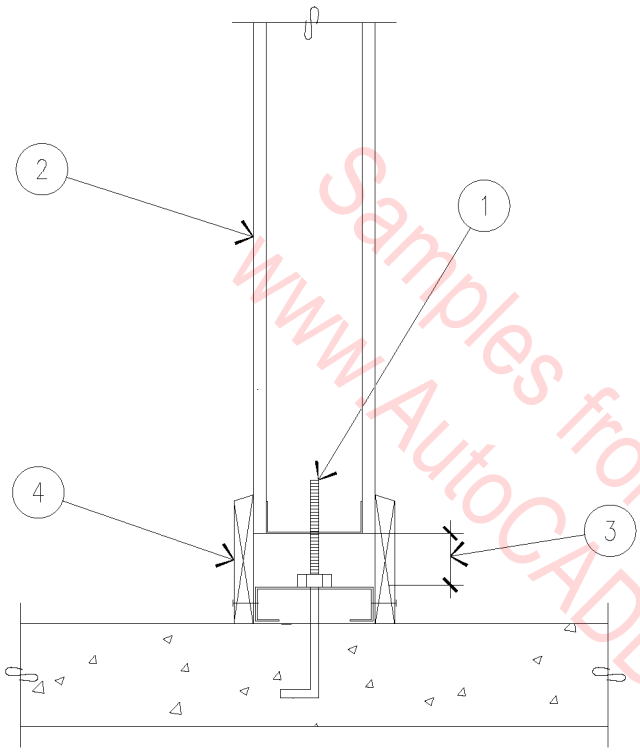


1. 1/2" DIAMETER BOLT AT 4'-0" O.C.
2. 3 5/8" X 25 GAUGE METAL STUD WALL WITH 1/2" TYPE 'X' GYPSUM BOARD, TAPED, TEXTURED, AND PAINTED.
3. 2" CRITICAL, 1" LESS CRITICAL.
4. BASEBOARD.

SLIP JOINT

1 1/2" = 1'-0"

05B-2087

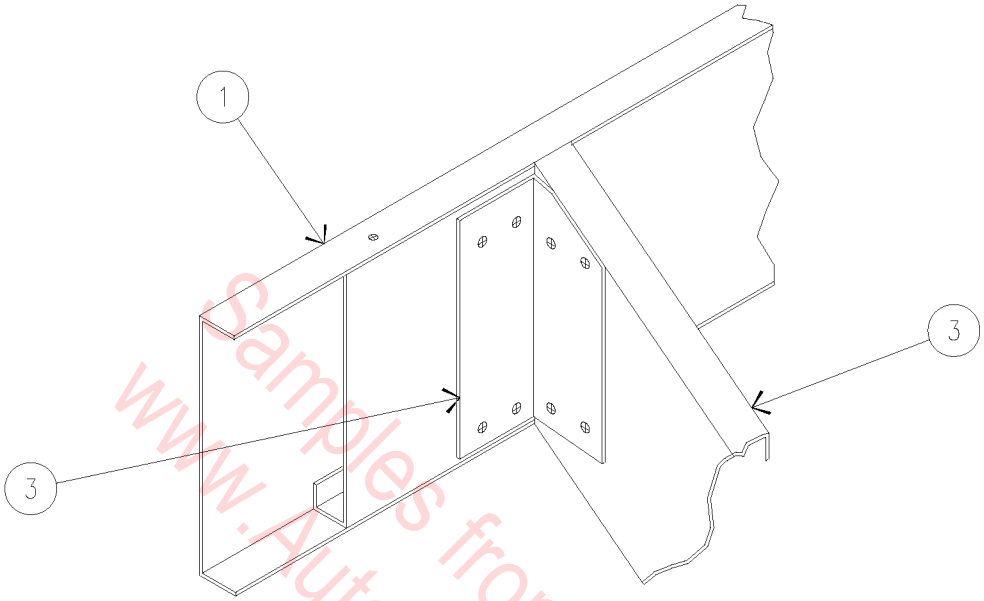


1. 1/2" DIAMETER BOLT AT 4'-0" O.C.
2. 3 5/8" X 25 GAUGE METAL STUD WALL WITH 1/2" TYPE 'X' GYPSUM BOARD, TAPED, TEXTURED, AND PAINTED.
3. 2" CRITICAL, 1" LESS CRITICAL.
4. BASEBOARD.

SLIP JOINT

1 1/2" = 1'-0"

05B-2087



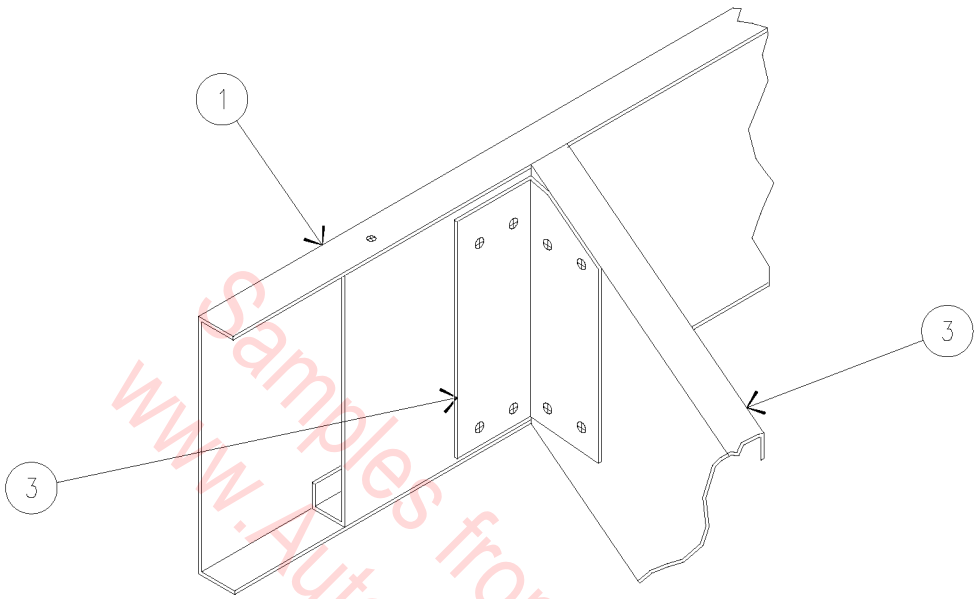
1. JOIST AND TRACK AS RIDGE BOARD.
2. CLIP ANGLE.
3. RAFTER.

NOTE: USE CLIP ANGLES AS REQUIRED AT EACH RAFTER.

RAFTER AND RIDGE BOARD CONNECTION

N.T.S.

05B–2088



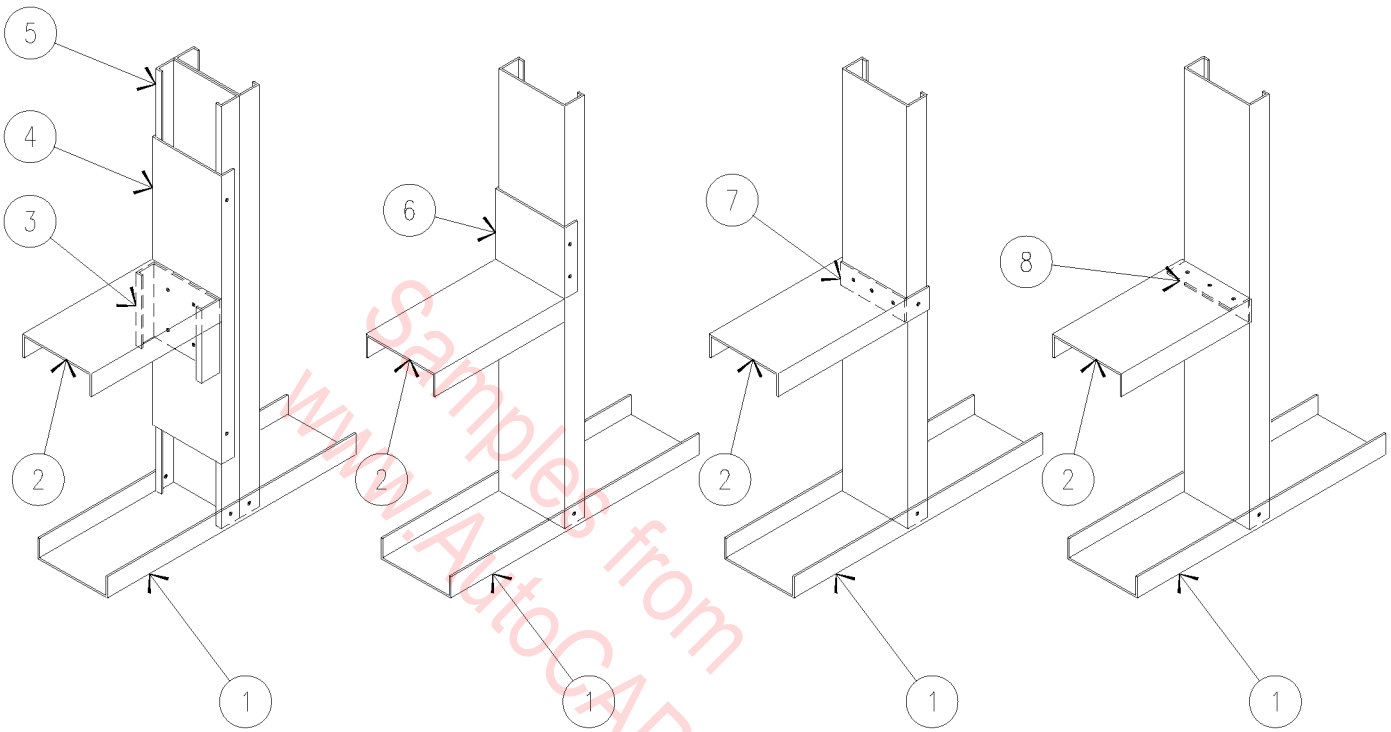
1. JOIST AND TRACK AS RIDGE BOARD.
2. CLIP ANGLE.
3. RAFTER.

NOTE: USE CLIP ANGLES AS REQUIRED AT EACH RAFTER.

RAFTER AND RIDGE BOARD CONNECTION

N.T.S.

05B–2088

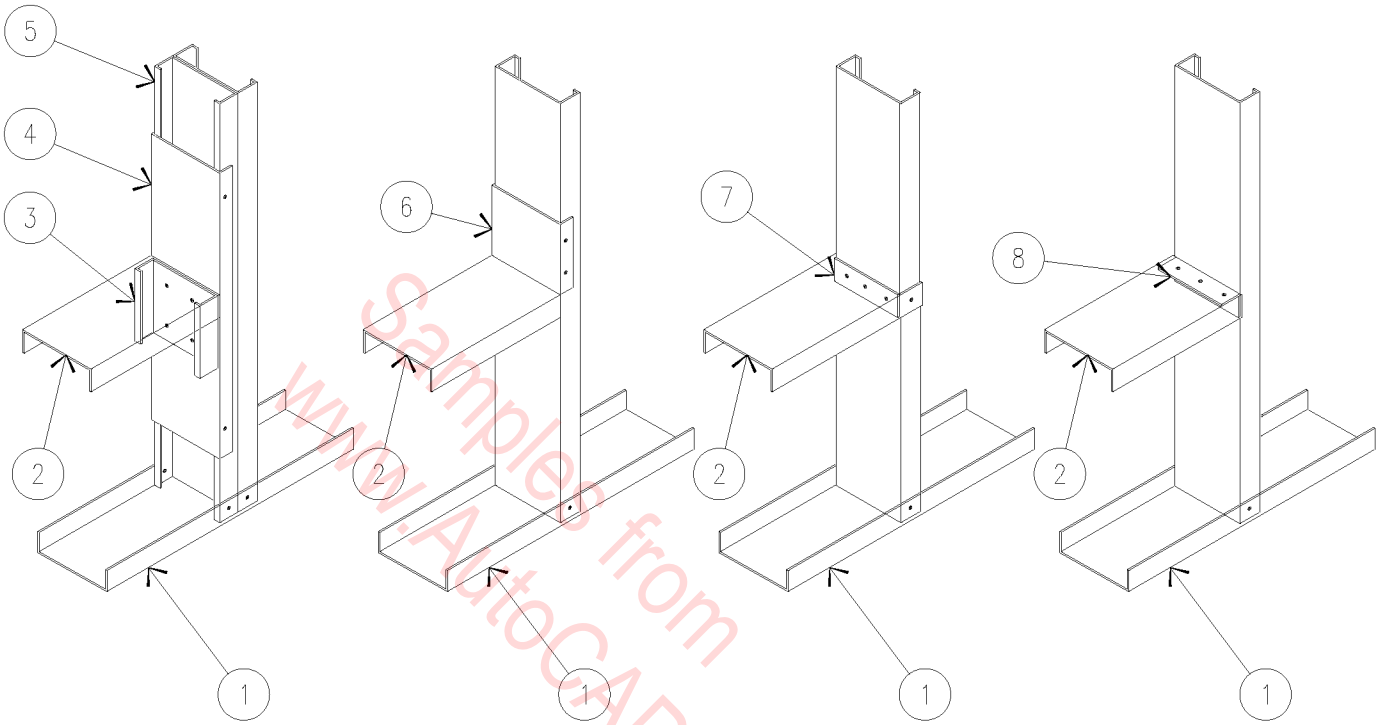


1. BOTTOM TRACK.
2. SILL TRACK.
3. SECTION OF STUD.
4. EXTEND CLOSURE TRACK AS REQUIRED FOR SILL CONNECTION AND JAMB STRENGTH.
5. MULTIPLE MEMBERS AS REQUIRED AT JAMB.
6. CUT TRACK FLANGE AND BEND TO ALLOW CONNECTION.
7. CUT TRACK AND BEND TO ALLOW EXTENSION OF FLANGES FOR CONNECTION.
8. CLIP ANGLE NO LESS THAN 1/2" LESS THAN STUD DEPTH.

METAIL STUD SILLS

1 1/2" = 1'-0"

05B-2089

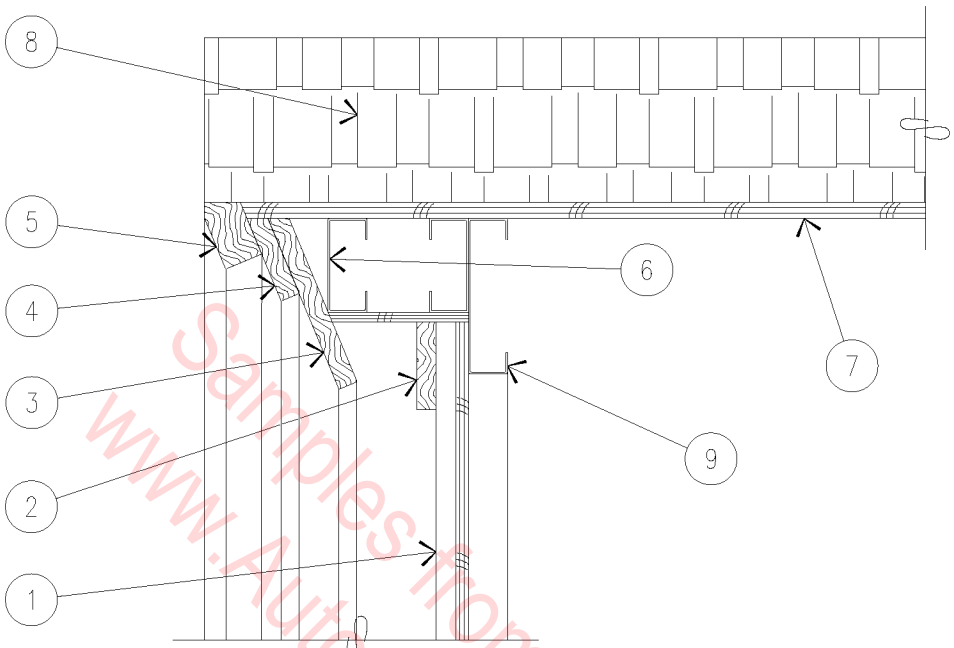


1. BOTTOM TRACK.
2. SILL TRACK.
3. SECTION OF STUD.
4. EXTEND CLOSURE TRACK AS REQUIRED FOR SILL CONNECTION AND JAMB STRENGTH.
5. MULTIPLE MEMBERS AS REQUIRED AT JAMB.
6. CUT TRACK FLANGE AND BEND TO ALLOW CONNECTION.
7. CUT TRACK AND BEND TO ALLOW EXTENSION OF FLANGES FOR CONNECTION.
8. CLIP ANGLE NO LESS THAN 1/2" LESS THAN STUD DEPTH.

METAIL STUD SILLS

1 1/2" = 1'-0"

05B-2089

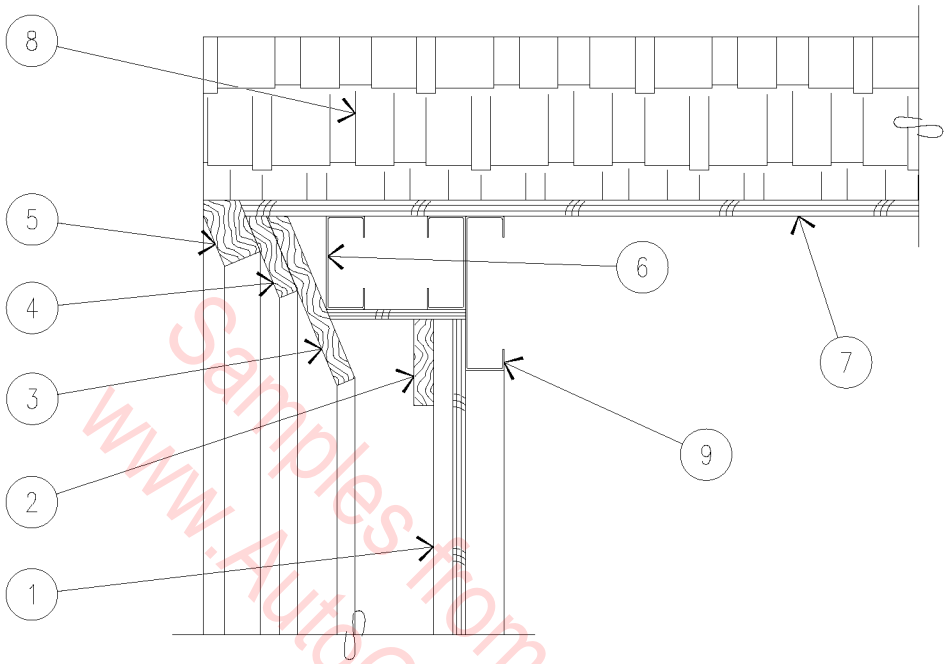


1. E.I.F.S. – SEE ELEVATIONS FOR SPECIFICATIONS.
2. 5/4" X 3 1/2" HARDBOARD TRIM – PAINTED.
3. 1 X 8 HARDBOARD TRIM – PAINTED.
4. 5/4" X 5 1/2" HARDBOARD TRIM – PAINTED.
5. 5/4" X 1 1/2" HARDBOARD TRIM – PAINTED.
6. CONTINUOUS BENT METAL BLOCKING.
7. 5/8" A.P.A. RATED ROOF DECK.
8. ROOF SHINGLES BEYOND – SEE ELEVATIONS FOR SPECIFICATIONS.
9. HANDFRAME – SEE FRAMING PLAN.

TYPICAL FASCIA AT DORMERS

1 1/2" = 1'-0"

05B–2090

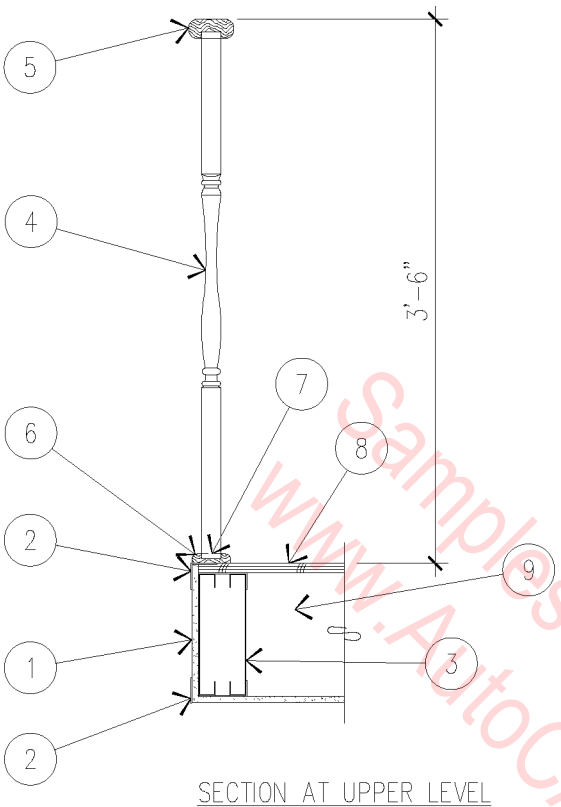


1. E.I.F.S. – SEE ELEVATIONS FOR SPECIFICATIONS.
2. 5/4" X 3 1/2" HARDBOARD TRIM – PAINTED.
3. 1 X 8 HARDBOARD TRIM – PAINTED.
4. 5/4" X 5 1/2" HARDBOARD TRIM – PAINTED.
5. 5/4" X 1 1/2" HARDBOARD TRIM – PAINTED.
6. CONTINUOUS BENT METAL BLOCKING.
7. 5/8" A.P.A. RATED ROOF DECK.
8. ROOF SHINGLES BEYOND – SEE ELEVATIONS FOR SPECIFICATIONS.
9. HANDFRAME – SEE FRAMING PLAN.

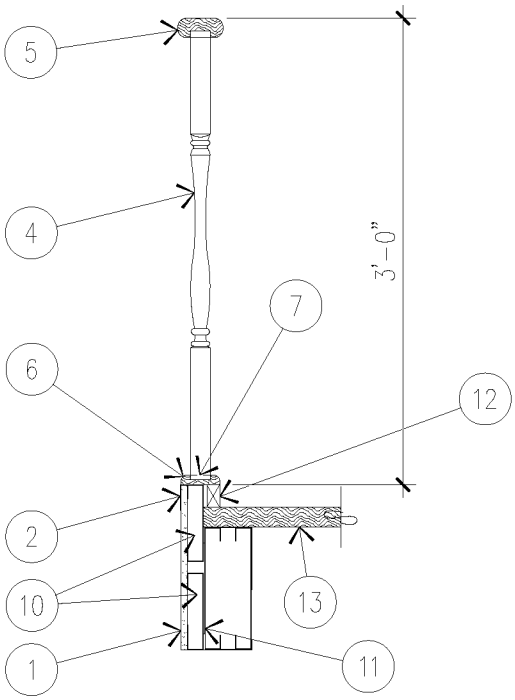
TYPICAL FASCIA AT DORMERS

1 1/2" = 1'-0"

05B–2090



SECTION AT UPPER LEVEL



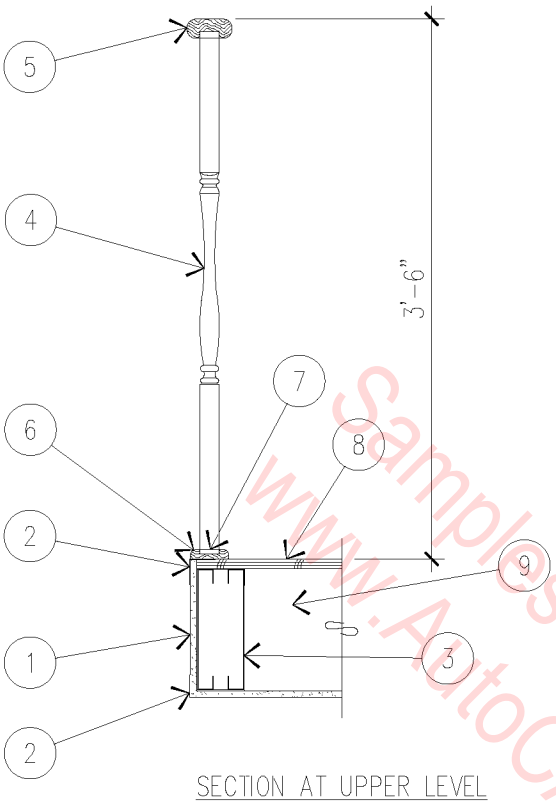
SECTION AT STAIRWAY

1. 5/8" TYPE 'X' GYPSUM BOARD, TAPED, TEXTURED, AND PAINTED.
2. METAL TRIM.
3. BOX BEAM AS REQUIRED – SEE FRAMING PLAN.
4. BALUSTER.
5. 1 1/2" X 2 1/2" SOLID OAK HANDRAIL.
6. SOLID OAK SHOE.
7. SHOE FILLER.
8. 3/4" A.P.A. RATED FLOOR DECK.
9. FLOOR JOISTS – SEE FRAMING PLAN.
10. 2 X 2 BLOCKING.
11. BOXED STRINGER.
12. 1" X 3/4" WOOD FILLER.
13. 2 X 12 TREAD WITH OPEN RISER.

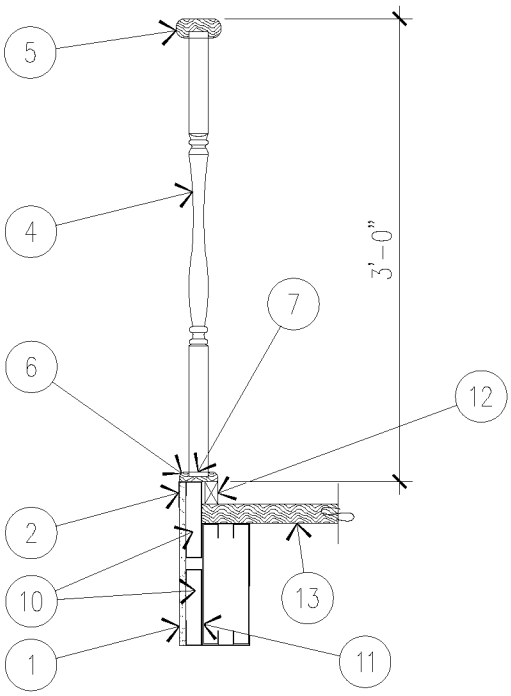
STAIR SECTIONS

3/4" = 1'-0"

05B-2091



SECTION AT UPPER LEVEL



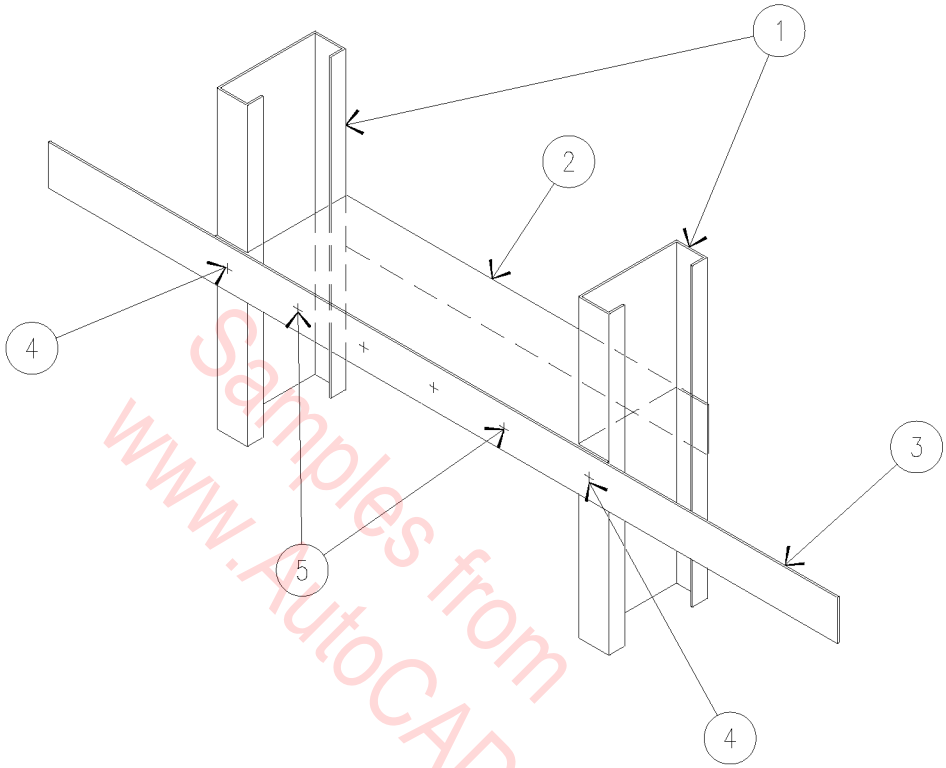
SECTION AT STAIRWAY

1. 5/8" TYPE 'X' GYPSUM BOARD, TAPED, TEXTURED, AND PAINTED.
2. METAL TRIM.
3. BOX BEAM AS REQUIRED – SEE FRAMING PLAN.
4. BALUSTER.
5. 1 1/2" X 2 1/2" SOLID OAK HANDRAIL.
6. SOLID OAK SHOE.
7. SHOE FILLER.
8. 3/4" A.P.A. RATED FLOOR DECK.
9. FLOOR JOISTS – SEE FRAMING PLAN.
10. 2 X 2 BLOCKING.
11. BOXED STRINGER.
12. 1" X 3/4" WOOD FILLER.
13. 2 X 12 TREAD WITH OPEN RISER.

STAIR SECTIONS

3/4" = 1'-0"

05B-2091

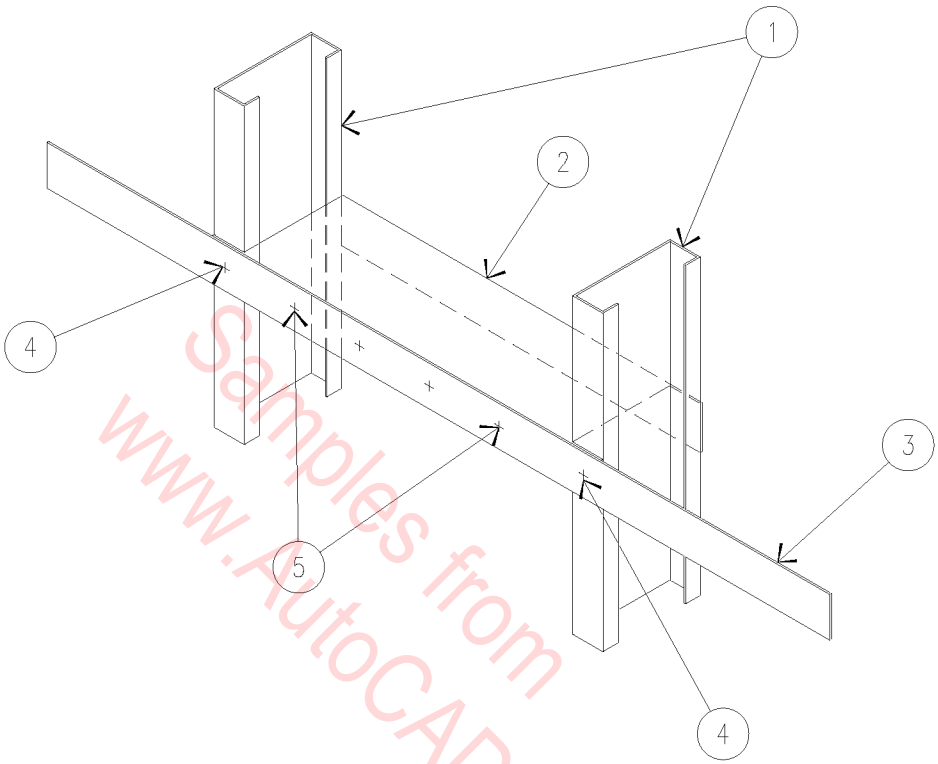


1. METAL STUD.
2. HORIZONTAL BLOCKING.
3. 2" X 20 GAUGE HORIZONTAL STRAP.
4. (1) #8 SCREW AT EACH STUD.
5. (4) #8 SCREWS TO BLOCKING.

HORIZONTAL BRACING

N.T.S.

05B-2092

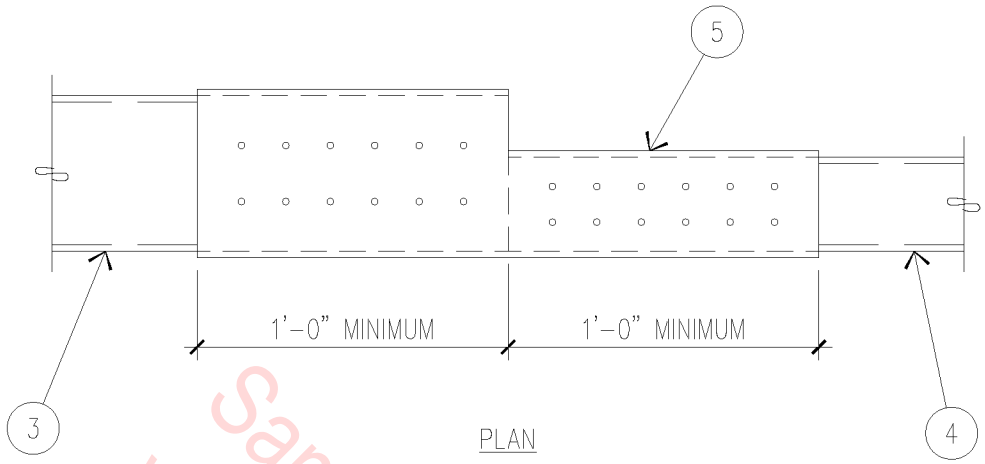


1. METAL STUD.
2. HORIZONTAL BLOCKING.
3. 2" X 20 GAUGE HORIZONTAL STRAP.
4. (1) #8 SCREW AT EACH STUD.
5. (4) #8 SCREWS TO BLOCKING.

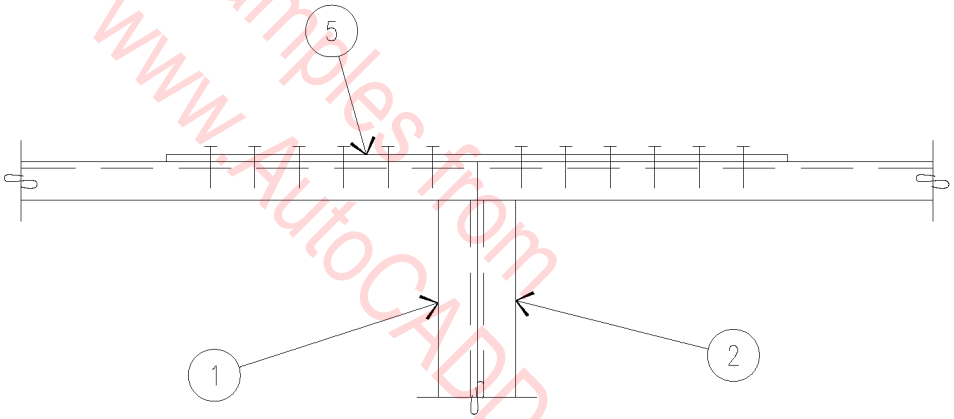
HORIZONTAL BRACING

N.T.S.

05B–2092



PLAN



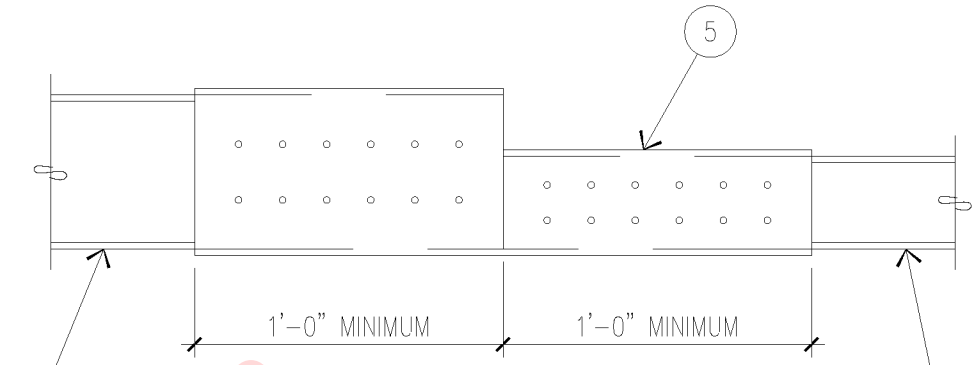
ELEVATION

1. 6" X 18 GAUGE METAL STUD.
2. 3 5/8" X 20 GAUGE METAL STUD.
3. 6" X 18 GAUGE TOP TRACK.
4. 3 5/8" X 20 GAUGE TOP TRACK.
5. 24" LONG X 18 GAUGE METAL TRACK WITH (12) #10 SCREWS AT EACH TOP TRACK (BEND TRACK LEG AS REQUIRED).

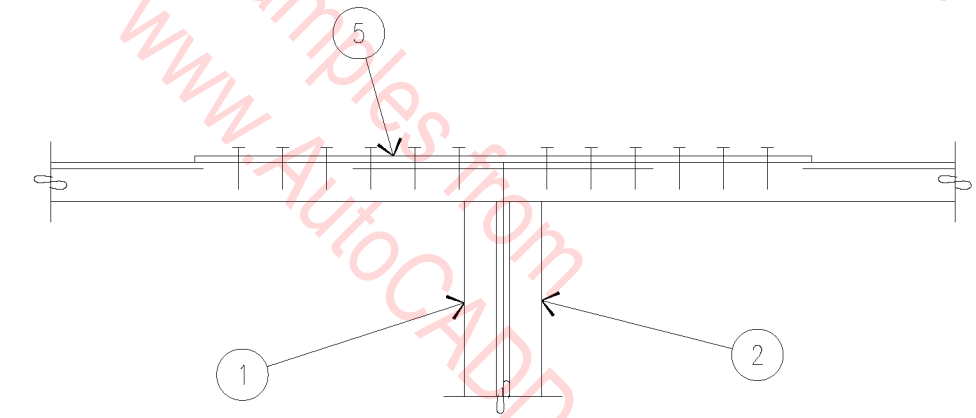
TRACK SPLICE

1 1/2" = 1'-0"

05B-2093



PLAN



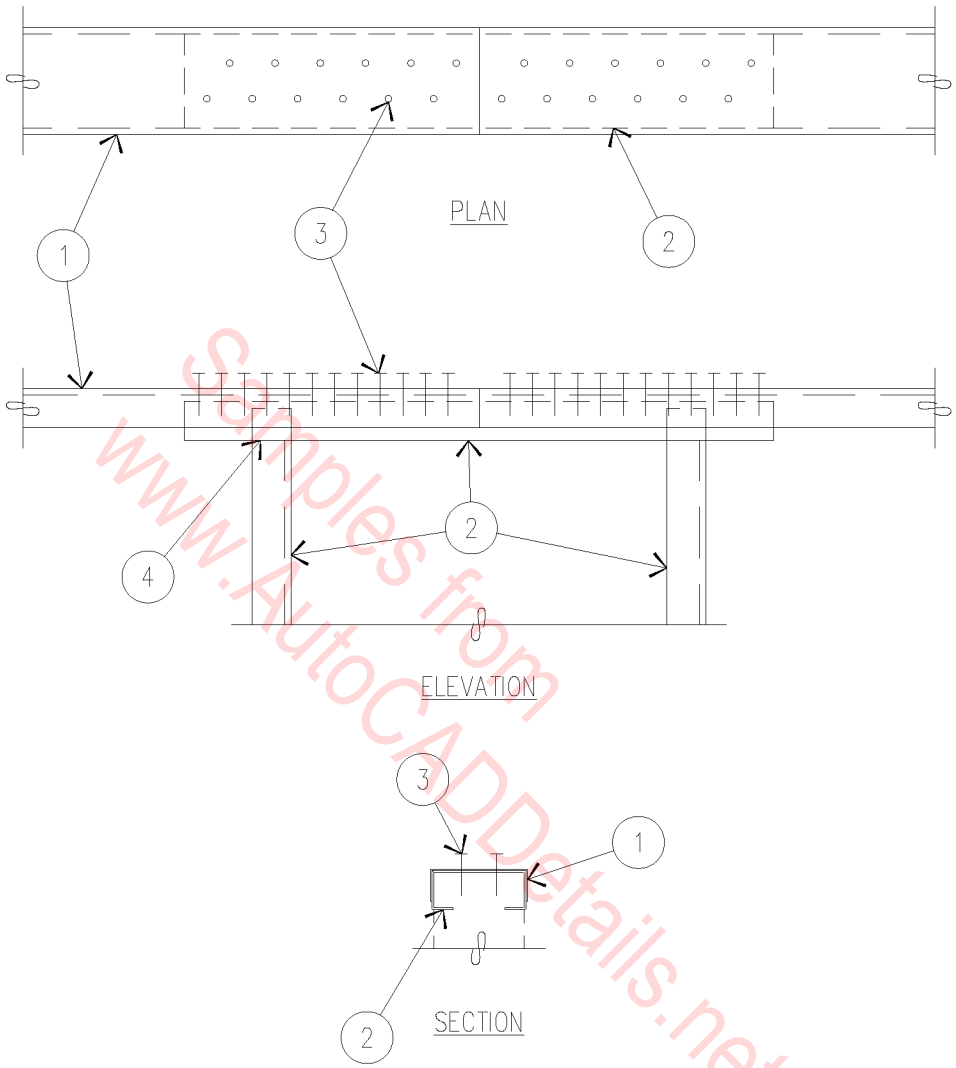
ELEVATION

1. 6" X 18 GAUGE METAL STUD.
2. 3 5/8" X 20 GAUGE METAL STUD.
3. 6" X 18 GAUGE TOP TRACK.
4. 3 5/8" X 20 GAUGE TOP TRACK.
5. 24" LONG X 18 GAUGE METAL TRACK WITH (12) #10 SCREWS AT EACH TOP TRACK (BEND TRACK LEG AS REQUIRED).

TRACK SPLICE

1 1/2" = 1'-0"

05B-2093

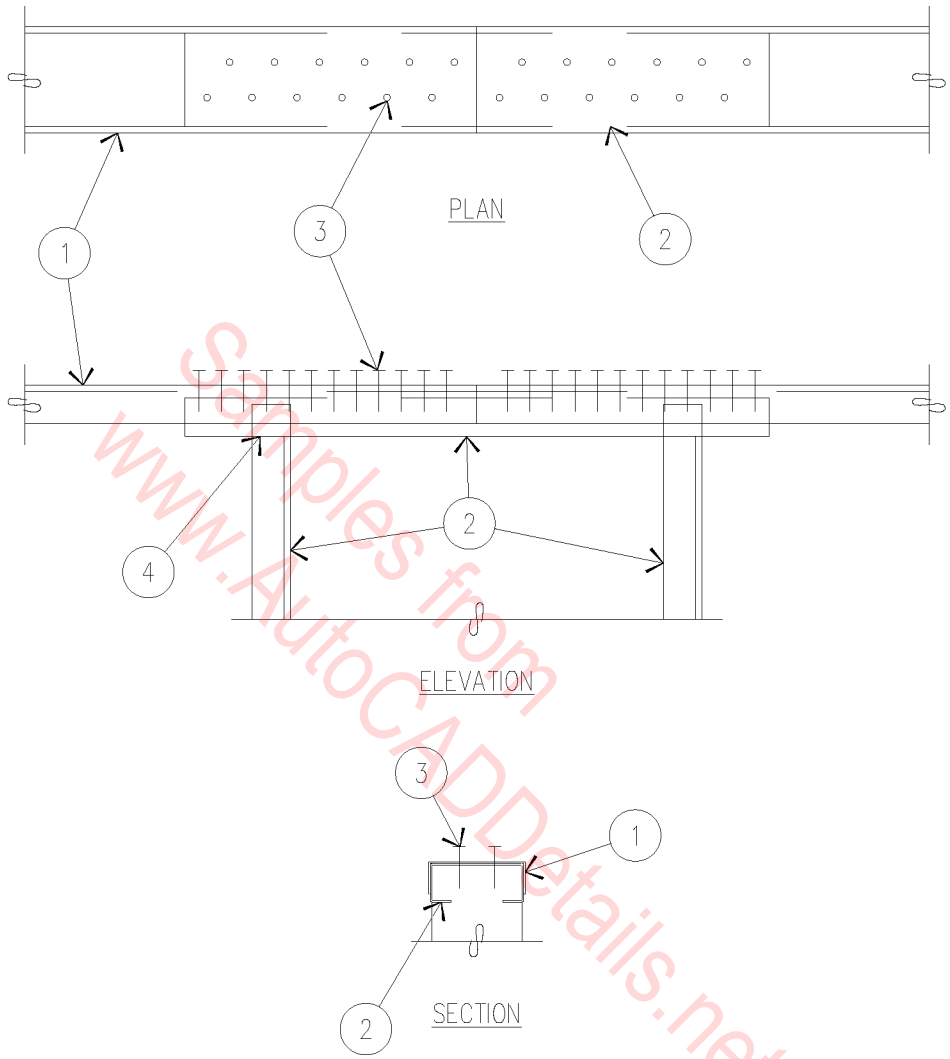


1. 20 GAUGE TOP TRACK.
2. 3 5/8" X 20 GAUGE METAL STUD.
3. (12) #10 SCREWS AT 7/8" O.C., STAGGERED, EACH SIDE OF SPLICE.
4. TRIM FLANGE AS NEEDED TO ALLOW FOR VERTICALS.

TYPICAL TRACK SPLICE

1 1/2" = 1'-0"

05B-2094

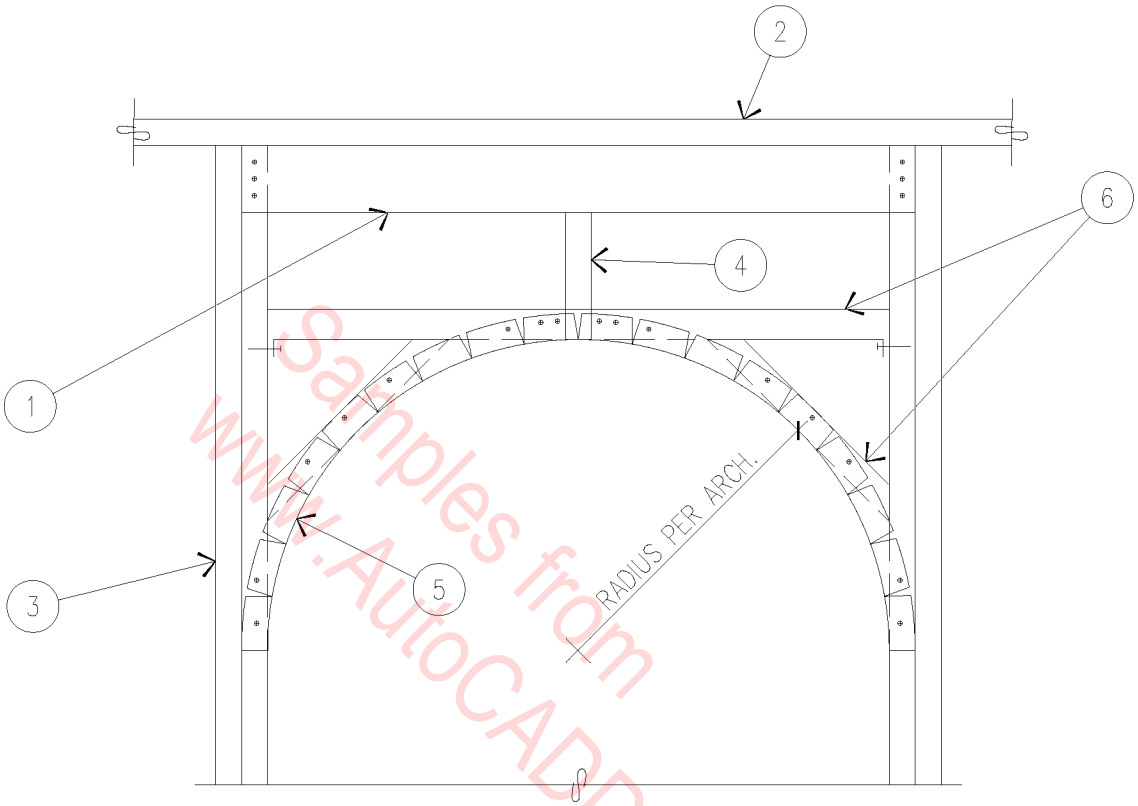


1. 20 GAUGE TOP TRACK.
2. 3 5/8" X 20 GAUGE METAL STUD.
3. (12) #10 SCREWS AT 7/8" O.C., STAGGERED, EACH SIDE OF SPLICE.
4. TRIM FLANGE AS NEEDED TO ALLOW FOR VERTICALS.

TYPICAL TRACK SPLICE

1 1/2" = 1'-0"

05B-2094

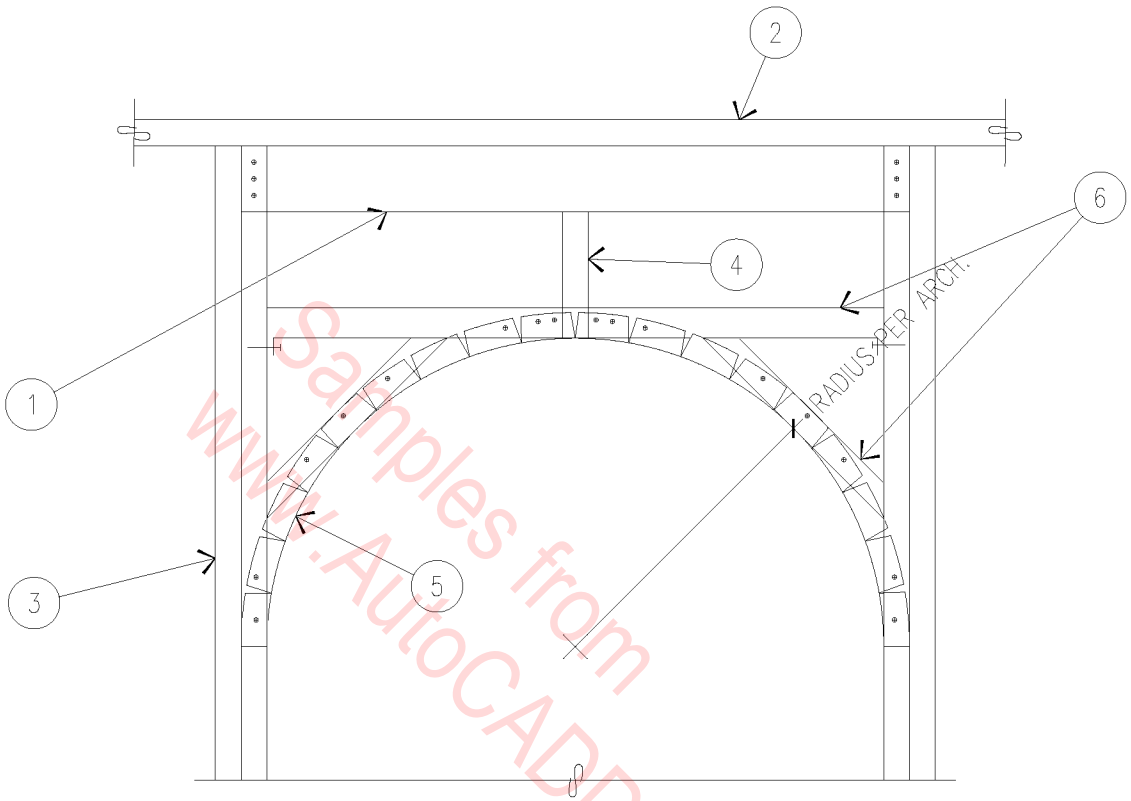


1. HEADER.
2. TOP TRACK.
3. 3 5/8" X 20 GAUGE METAL STUDS - (1) KING AND (1) JACK.
4. CRIPPLE STUD.
5. 20 GAUGE ARCHED TRACK - NOTCH AS REQUIRED.
6. METAL STUD SUPPORT.

ARCHWAY

1" = 1'-0"

05B-2095

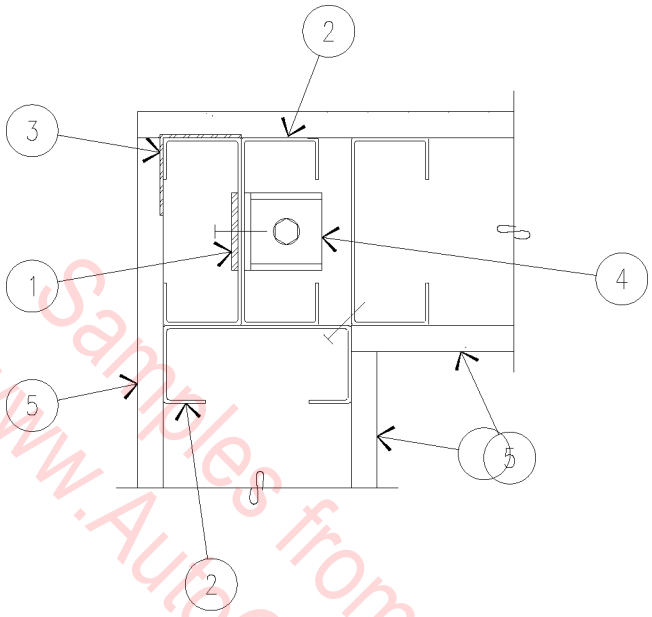


1. HEADER.
2. TOP TRACK.
3. 3 5/8" X 20 GAUGE METAL STUDS – (1) KING AND (1) JACK.
4. CRIPPLE STUD.
5. 20 GAUGE ARCHED TRACK – NOTCH AS REQUIRED.
6. METAL STUD SUPPORT.

ARCHWAY

1" = 1'-0"

05B-2095

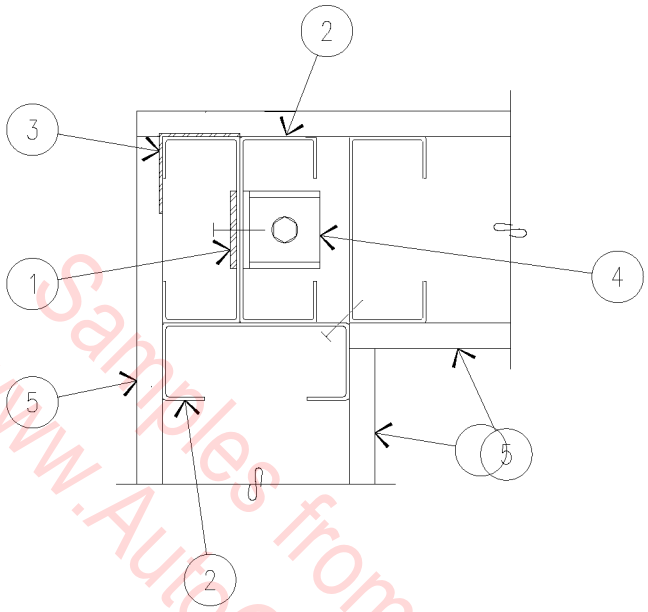


1. TIE DOWN STRAP (WHERE OCCURS).
2. 3 5/8" X 20 GAUGE METAL STUDS.
3. 1 1/2" X 1 1/2" X 20 GAUGE ANGLE.
4. HOLD DOWN (WHERE OCCURS).
5. 1/2" GYPSUM BOARD.

METAL STUD CORNER

3" = 1'-0"

05B-2096

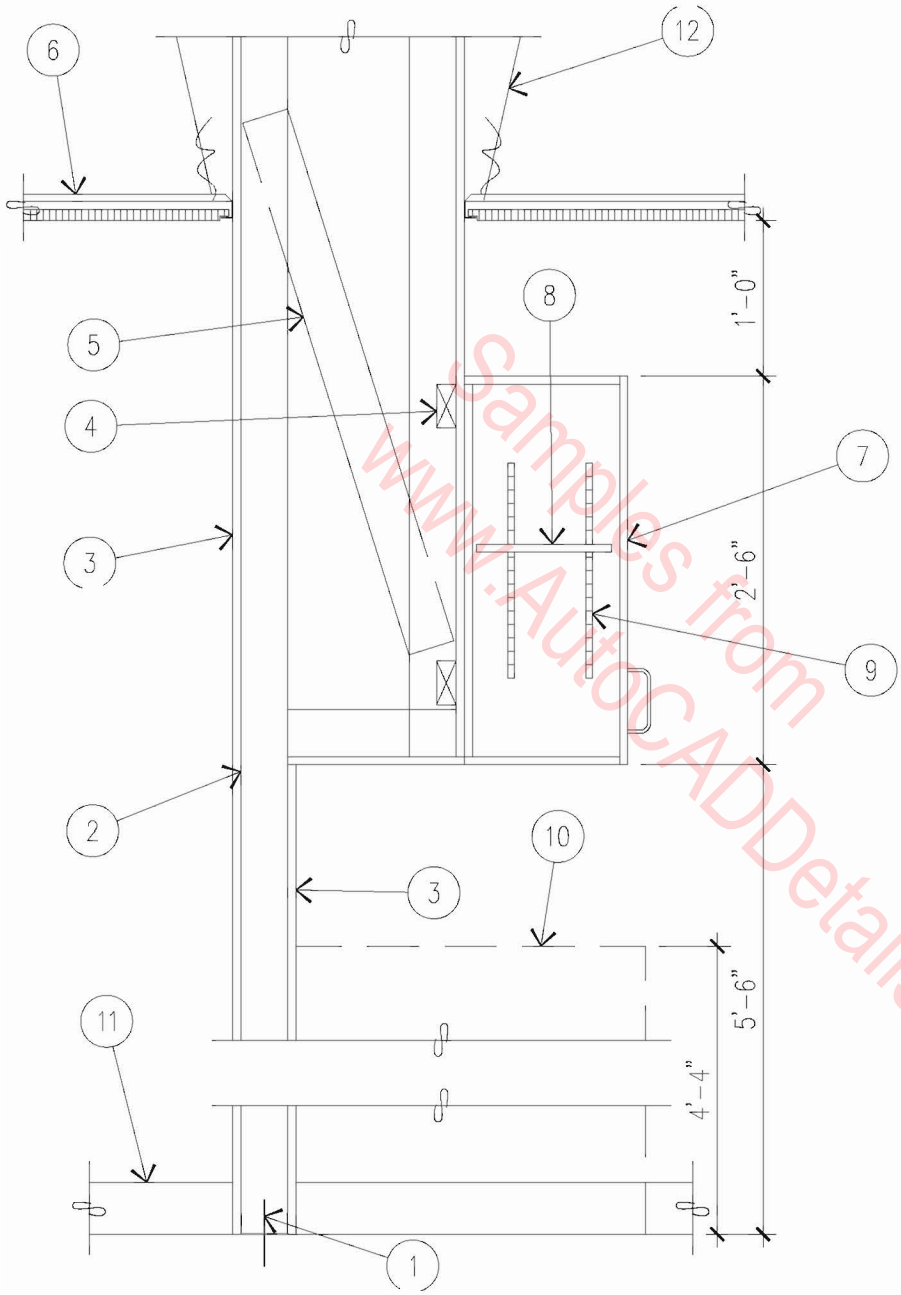


1. TIE DOWN STRAP (WHERE OCCURS).
2. 3 5/8" X 20 GAUGE METAL STUDS.
3. 1 1/2" X 1 1/2" X 20 GAUGE ANGLE.
4. HOLD DOWN (WHERE OCCURS).
5. 1/2" GYPSUM BOARD.

METAL STUD CORNER

3" = 1'-0"

05B-2096

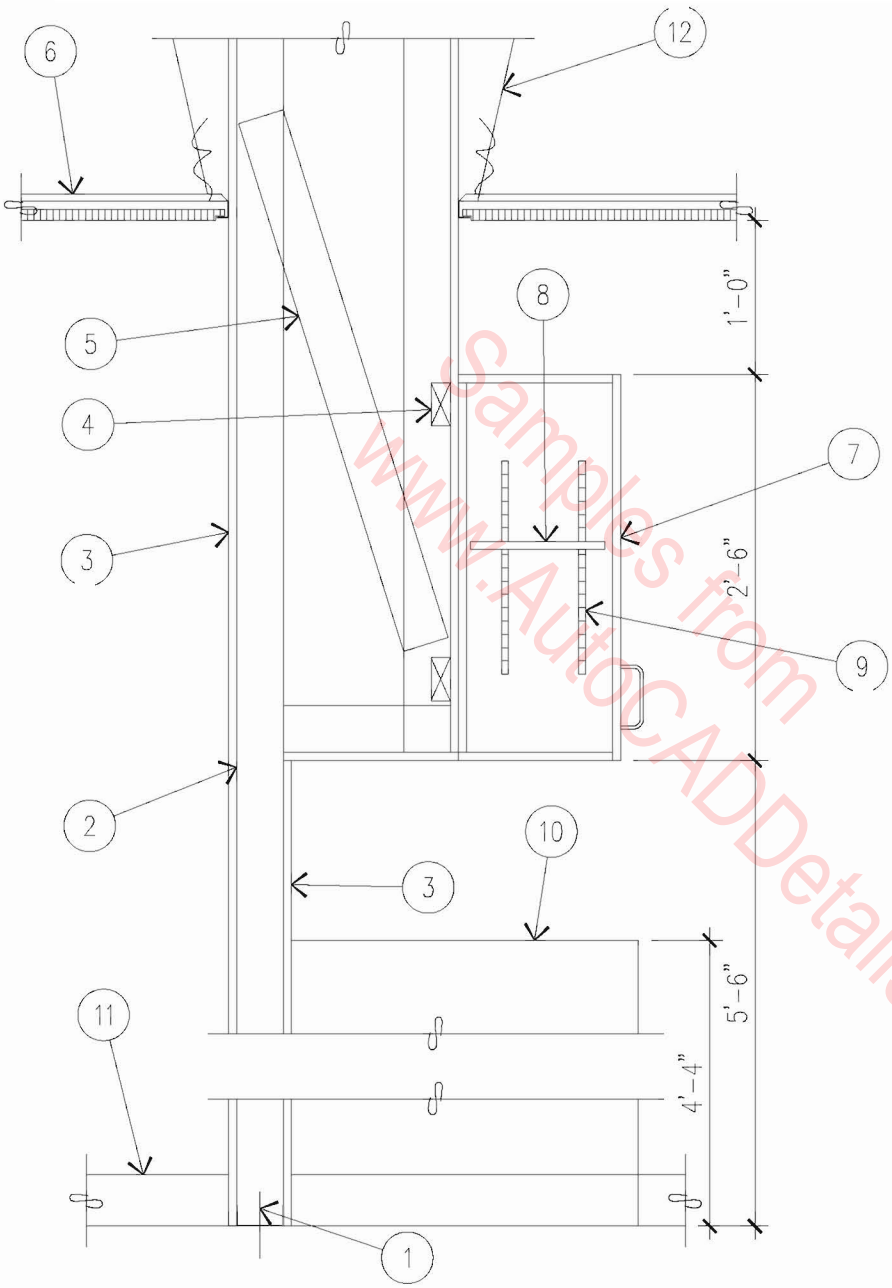


1. .0145 DRIVE PINS @ 24" O.C.
2. 3 5/8" X 20 GA. METAL STUDS AT 24" O.C.
3. 5/8" GYPSUM BOARD.
4. CONTINUOUS 2 X BLOCKING.
5. METAL STUD BRACING.
6. SUSPENDED CEILING TILE.
7. OVERHEAD CABINET.
8. SHELF.
9. RECESSED SHELF BRACKETS.
10. FILE CABINETS – N.I.C.
11. WOOD BASE COVE.
12. 12 GAUGE GALVANIZED WIRE.

CABINET SECTION

3/4" = 1'-0"

05B-2097

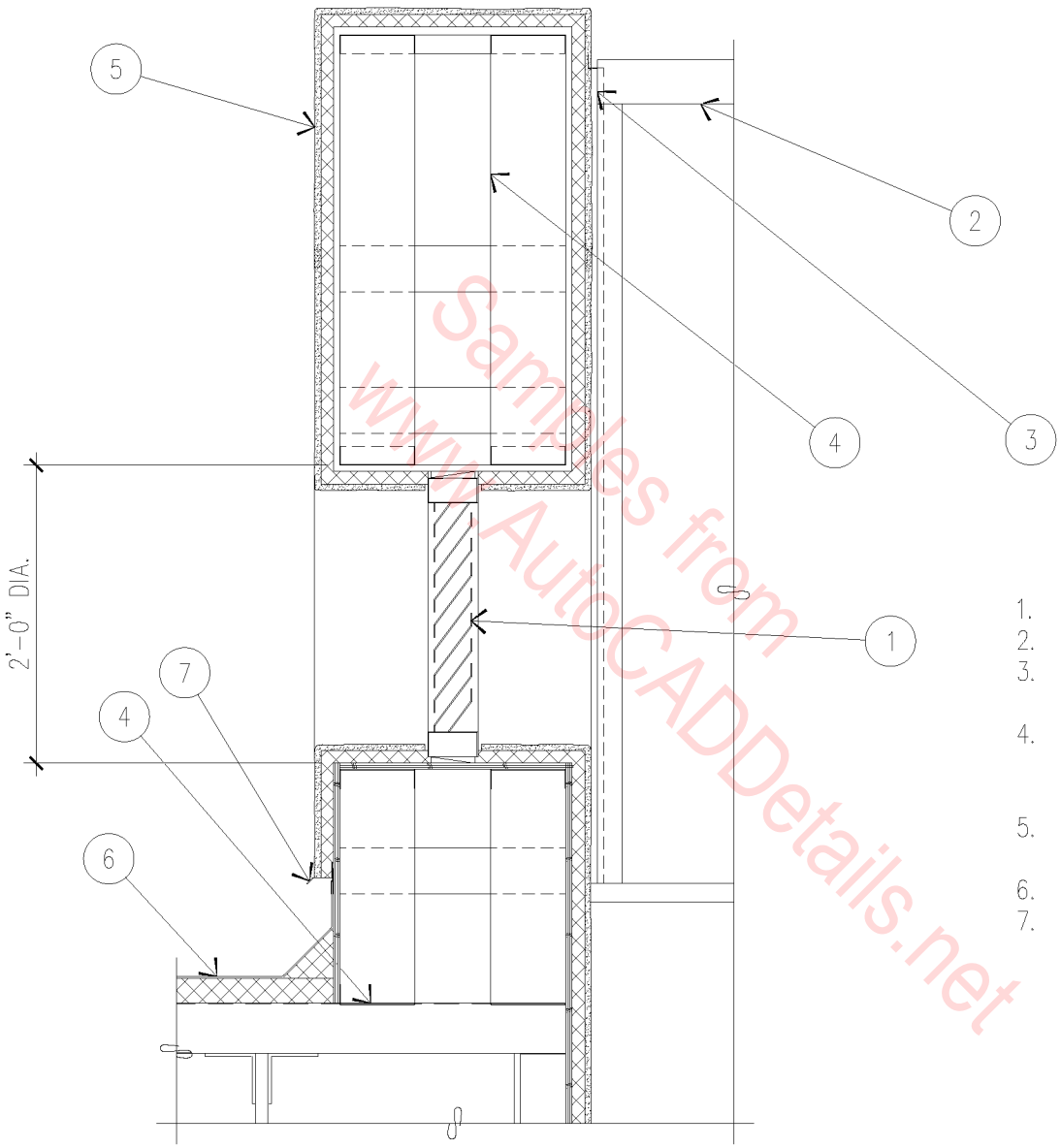


1. .0145 DRIVE PINS @ 24" O.C.
2. 3 5/8" X 20 GA. METAL STUDS AT 24" O.C.
3. 5/8" GYPSUM BOARD.
4. CONTINUOUS 2 X BLOCKING.
5. METAL STUD BRACING.
6. SUSPENDED CEILING TILE.
7. OVERHEAD CABINET.
8. SHELF.
9. RECESSED SHELF BRACKETS.
10. FILE CABINETS – N.I.C.
11. WOOD BASE COVE.
12. 12 GAUGE GALVANIZED WIRE.

CABINET SECTION

3/4" = 1'-0"

05B-2097

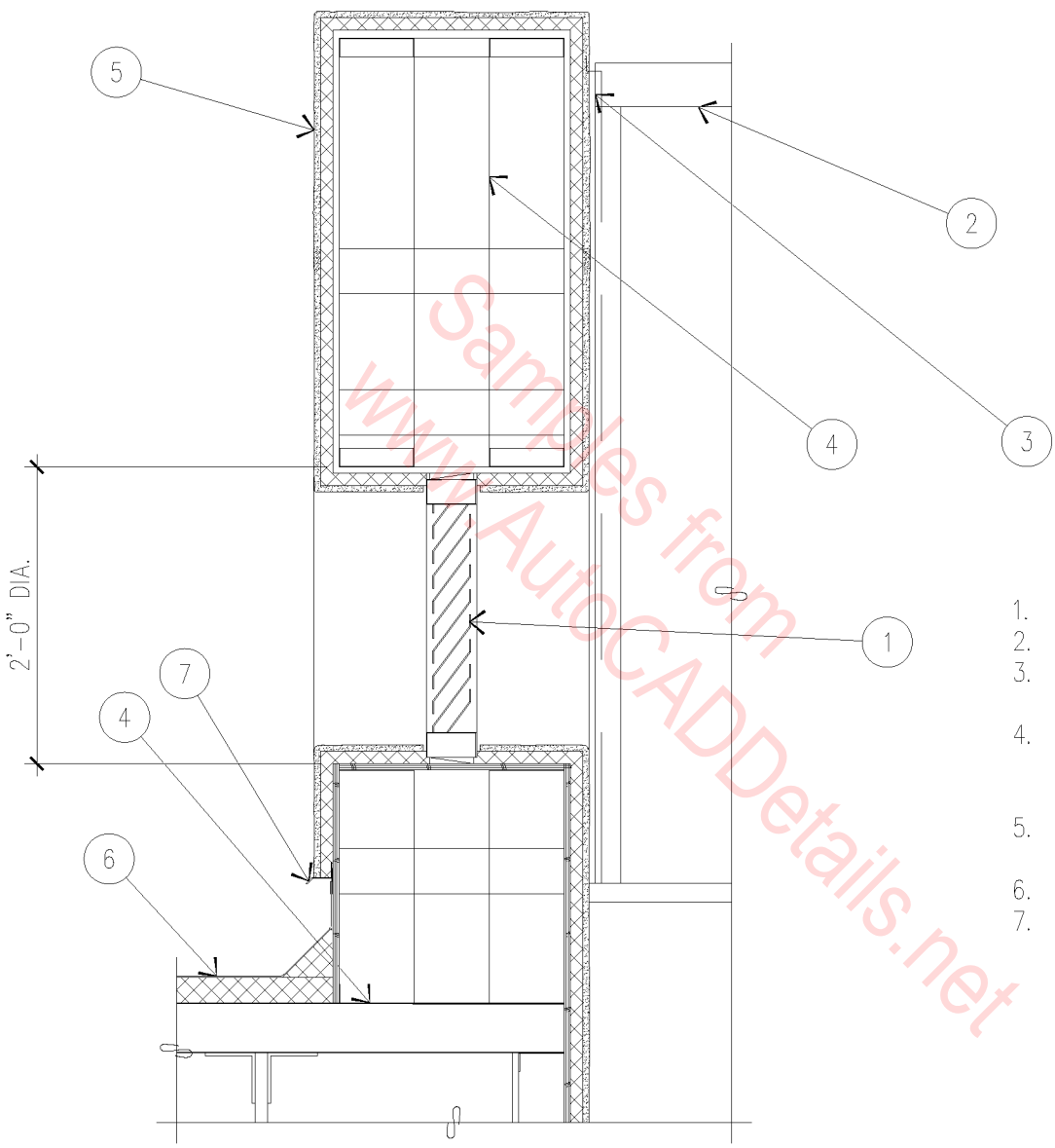


1. METAL LOUVER.
2. SKYLIGHT RIDGE.
3. ALUMINUM REGLET FLASHING BY SKYLIGHT MANUFACTURER.
4. 6" X 20 GAUGE METAL STUD WALL WITH 1/2" PLYWOOD SHEATHING.
5. CEMENT STUCCO OVER METAL LATH AND 1" RIGID INSULATION.
6. SINGLE PLY MEMBRANE ROOF.
7. METAL WEEP SCREED / STUCCO STOP.

SKYLIGHT END WALL

3/4" = 1'-0"

05B-2098

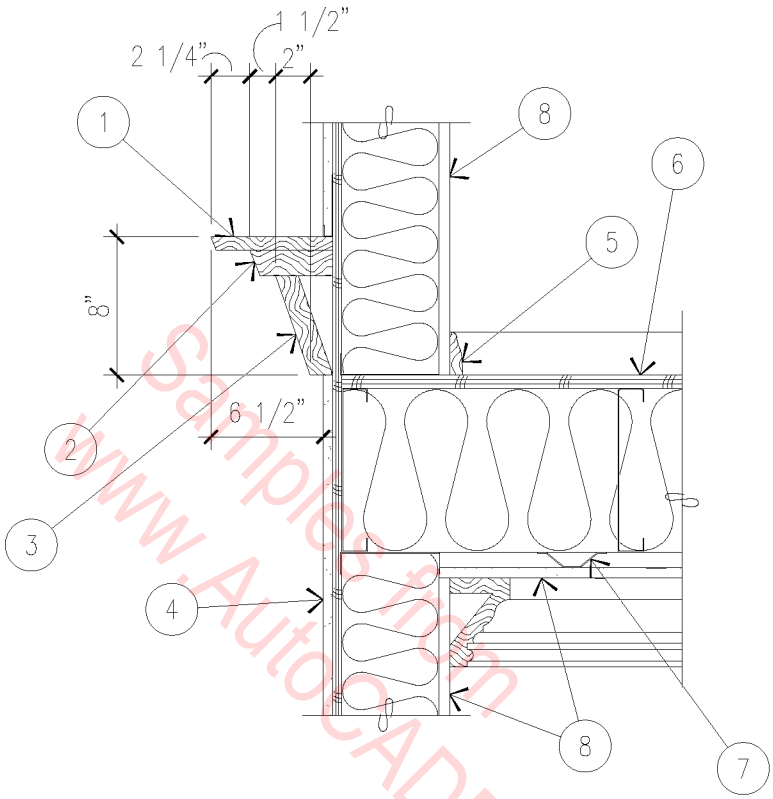


1. METAL LOUVER.
2. SKYLIGHT RIDGE.
3. ALUMINUM REGLET FLASHING BY SKYLIGHT MANUFACTURER.
4. 6" X 20 GAUGE METAL STUD WALL WITH 1/2" PLYWOOD SHEATHING.
5. CEMENT STUCCO OVER METAL LATH AND 1" RIGID INSULATION.
6. SINGLE PLY MEMBRANE ROOF.
7. METAL WEEP SCREED / STUCCO STOP.

SKYLIGHT END WALL

3/4" = 1'-0"

05B-2098

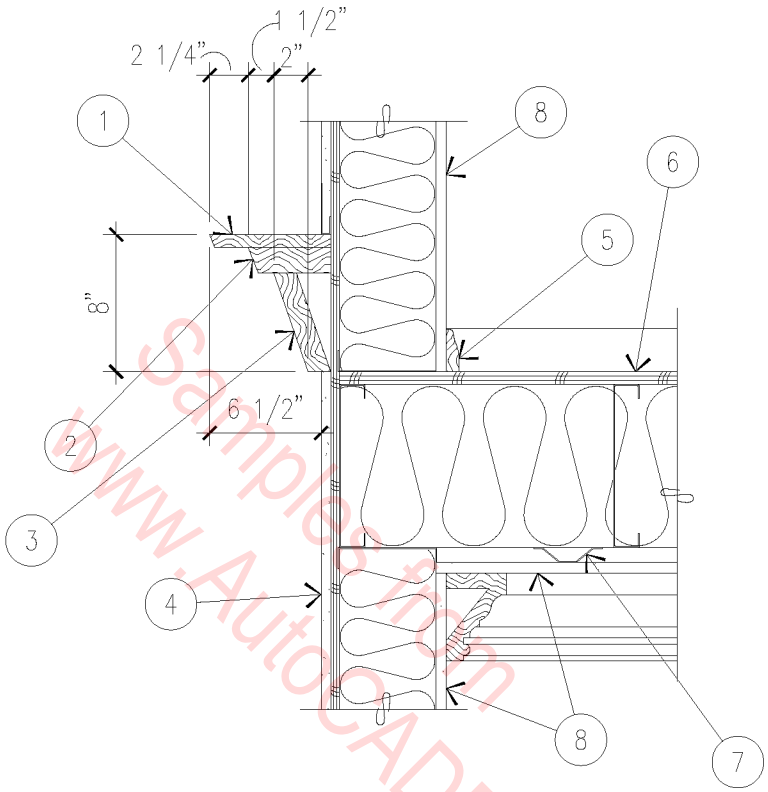


1. 1 X 8 TRIM, PAINTED.
2. 2 X 4 TRIM, PAINTED.
3. 5/4" X 5 1/2" TRIM, PAINTED.
4. EXTERIOR FINISH SYSTEM – SEE SPECIFICATIONS.
5. BASEBOARD TRIM.
6. 3/4" A.P.A. RATED FLOOR SHEATHING.
7. RC-1 CHANNELS.
8. 5/8" TYPE 'X' GYPSUM BOARD, TAPED, TEXTURED, AND PAINTED.

DECORATIVE TRIM

1" = 1'-0"

05B-2099

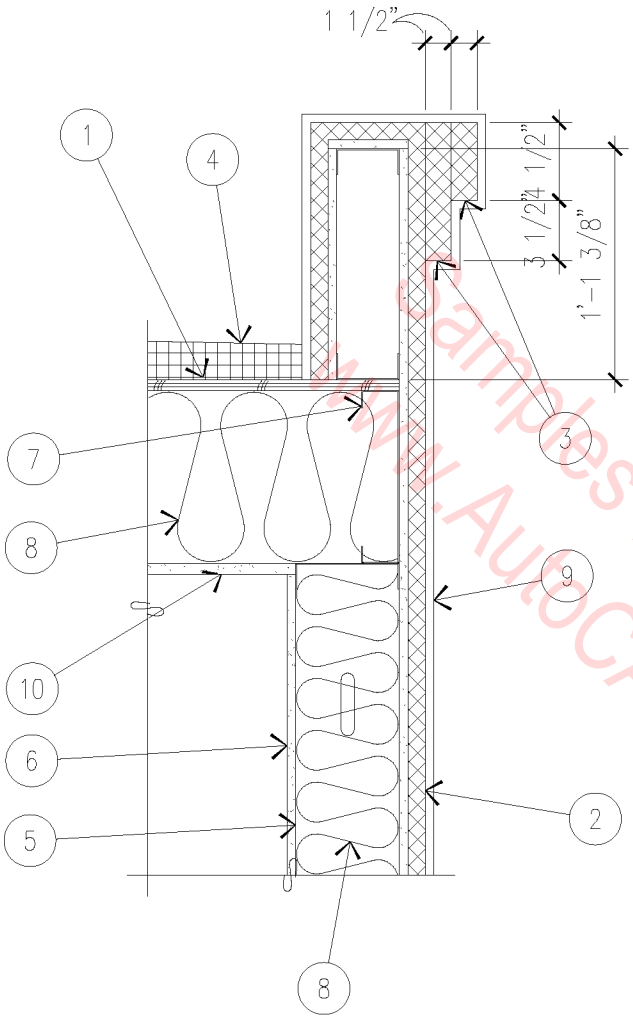


1. 1 X 8 TRIM, PAINTED.
2. 2 X 4 TRIM, PAINTED.
3. 5/4" X 5 1/2" TRIM, PAINTED.
4. EXTERIOR FINISH SYSTEM – SEE SPECIFICATIONS.
5. BASEBOARD TRIM.
6. 3/4" A.P.A. RATED FLOOR SHEATHING.
7. RC–1 CHANNELS.
8. 5/8" TYPE 'X' GYPSUM BOARD, TAPED, TEXTURED, AND PAINTED.

DECORATIVE TRIM

1" = 1'–0"

05B–2099

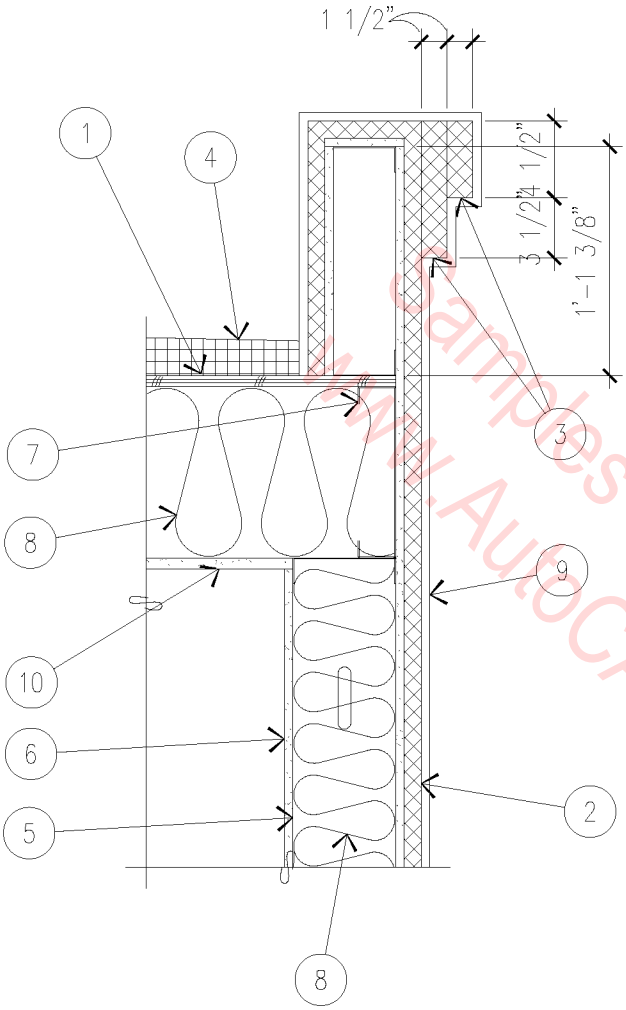


1. 5/8" A.P.A. RATED SHEATHING.
2. 1" STYROFOAM.
3. 1 1/2" STYROFOAM.
4. BUILT-UP ROOFING.
5. 6" METAL STUD WALL.
6. 1/2" GYPSUM BOARD.
7. ROOF JOISTS - SEE STRUCTURAL.
8. BATT INSULATION.
9. 1/2" STUCCO.
10. 5/8" GYPSUM BOARD.

PARAPET WALL

1" = 1'-0"

05B-2100

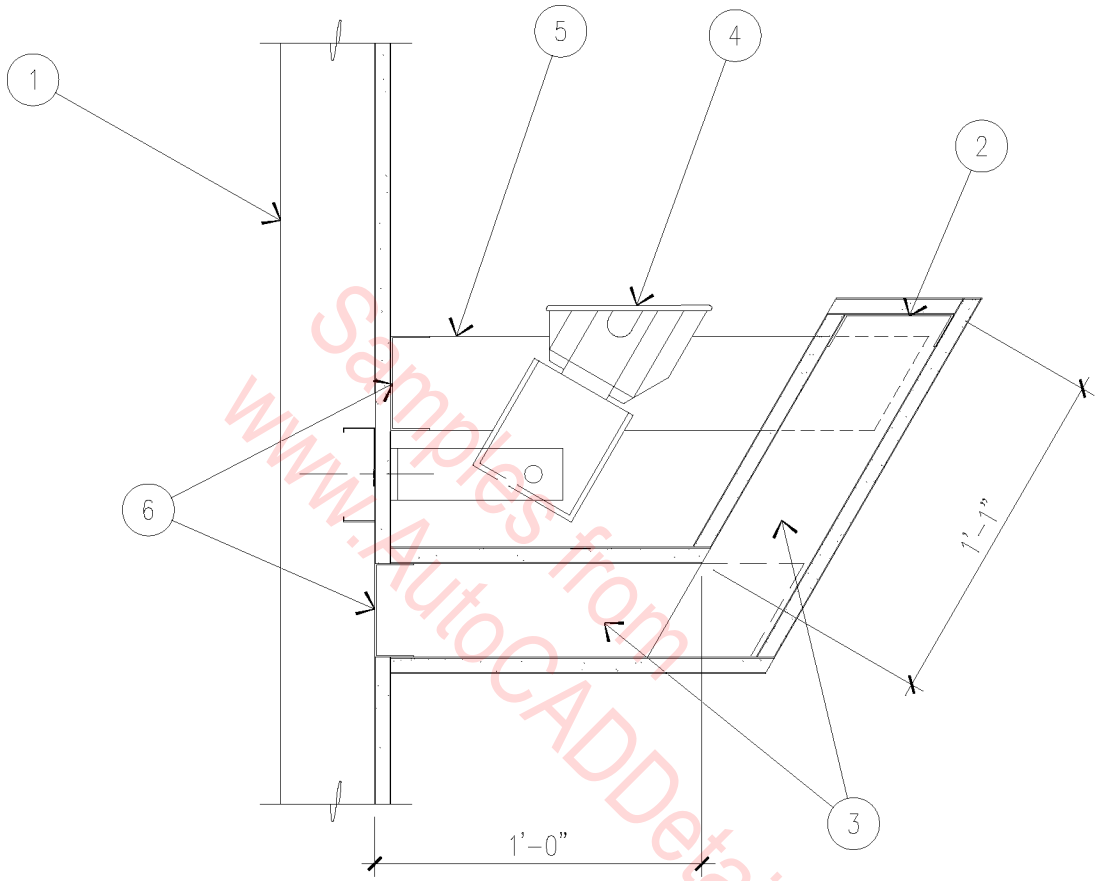


1. 5/8" A.P.A. RATED SHEATHING.
2. 1" STYROFOAM.
3. 1 1/2" STYROFOAM.
4. BUILT-UP ROOFING.
5. 6" METAL STUD WALL.
6. 1/2" GYPSUM BOARD.
7. ROOF JOISTS - SEE STRUCTURAL.
8. BATT INSULATION.
9. 1/2" STUCCO.
10. 5/8" GYPSUM BOARD.

PARAPET WALL

1" = 1'-0"

05B-2100

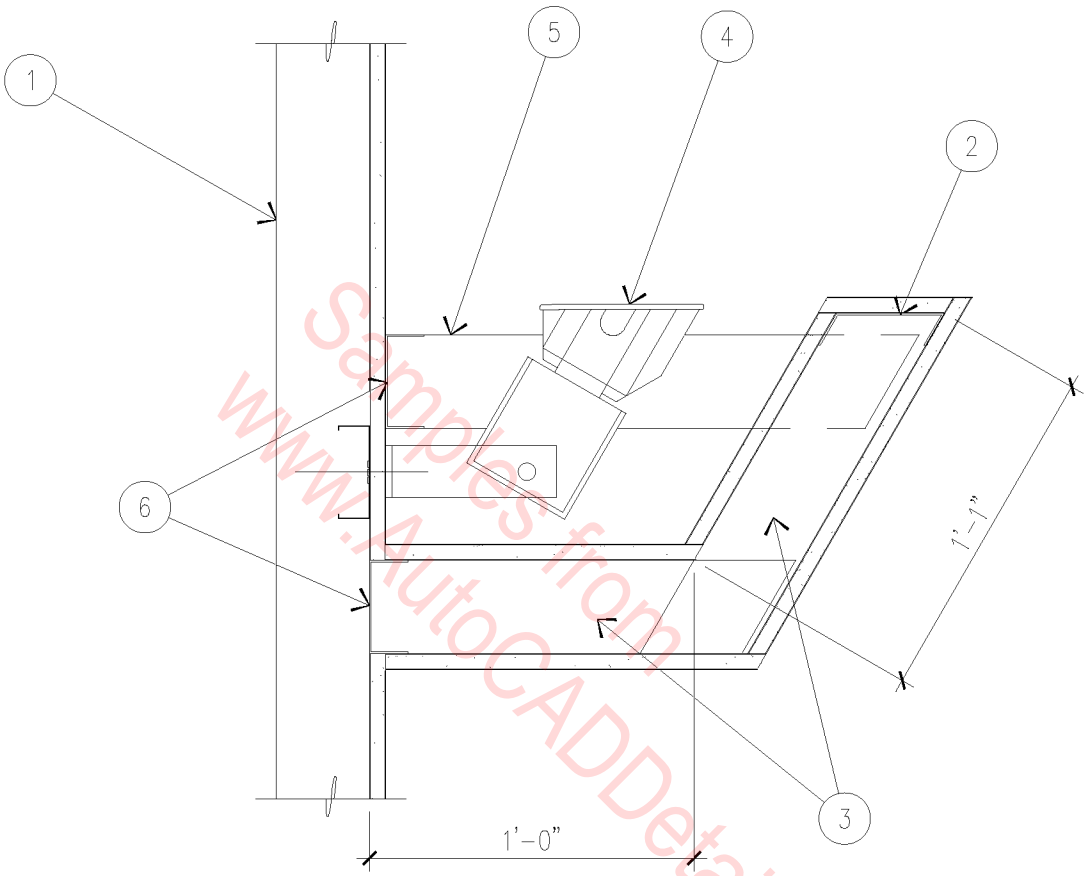


1. 3 5/8" METAL STUD WALL WITH 5/8" GYPSUM BOARD.
2. 3 5/8" METAL STUD BRAKE METAL 'TRACK'.
3. 3 5/8" METAL STUD LIGHT COVE WITH 5/8" GYPSUM BOARD ON EACH SIDE.
4. LIGHT FIXTURE AND MOUNTING BRACKET.
5. 3 5/8" METAL STUD BRACE AT 48" O.C.
6. 3 5/8" METAL STUD TRACK.

LIGHT COVE

1 1/2" = 1'-0"

05B-2101

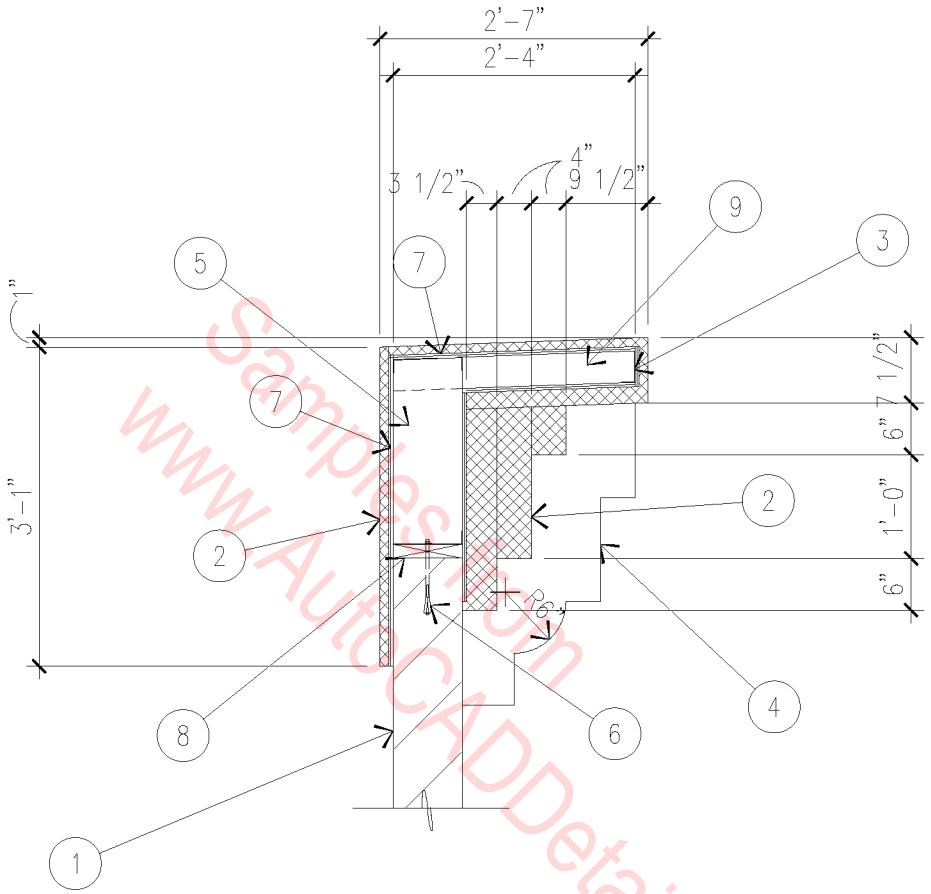


1. 3 5/8" METAL STUD WALL WITH 5/8" GYPSUM BOARD.
2. 3 5/8" METAL STUD BRAKE METAL 'TRACK'.
3. 3 5/8" METAL STUD LIGHT COVE WITH 5/8" GYPSUM BOARD ON EACH SIDE.
4. LIGHT FIXTURE AND MOUNTING BRACKET.
5. 3 5/8" METAL STUD BRACE AT 48" O.C.
6. 3 5/8" METAL STUD TRACK.

LIGHT COVE

1 1/2" = 1'-0"

05B-2101



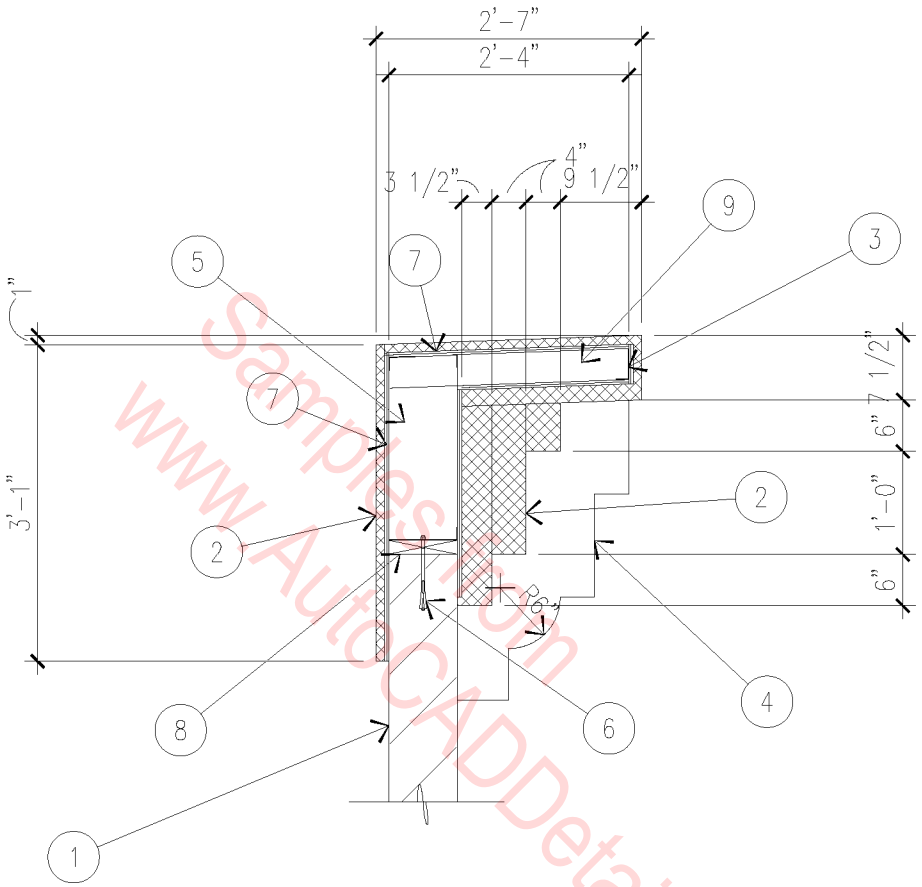
1. FOUNDERS BLOCK MASONRY.
2. RIGID FOAM POP-OUT.
3. METAL STUD & FOAM POP OUT.
4. RIGID FOAM BRACKET.
5. 8" X 16 GAUGE METAL STUDS AT 24" O.C.
6. 5/8" ø X 6" WEDGE ANCHOR AT 32" O.C.
7. 1/2" GYPSUM SHEATHING.
8. 2 X 8 CONTINUOUS TOP PLATE.
9. 3 5/8" X 18 GAUGE METAL STUDS AT 24" O.C.

NOTE: CEMENT STUCCO OVER METAL LATH TO COVER ALL RIGID FOAM POP OUTS NOT SHOWN FOR CLARITY

PARAPET CAP

1/2" = 1'-0"

05B-2102



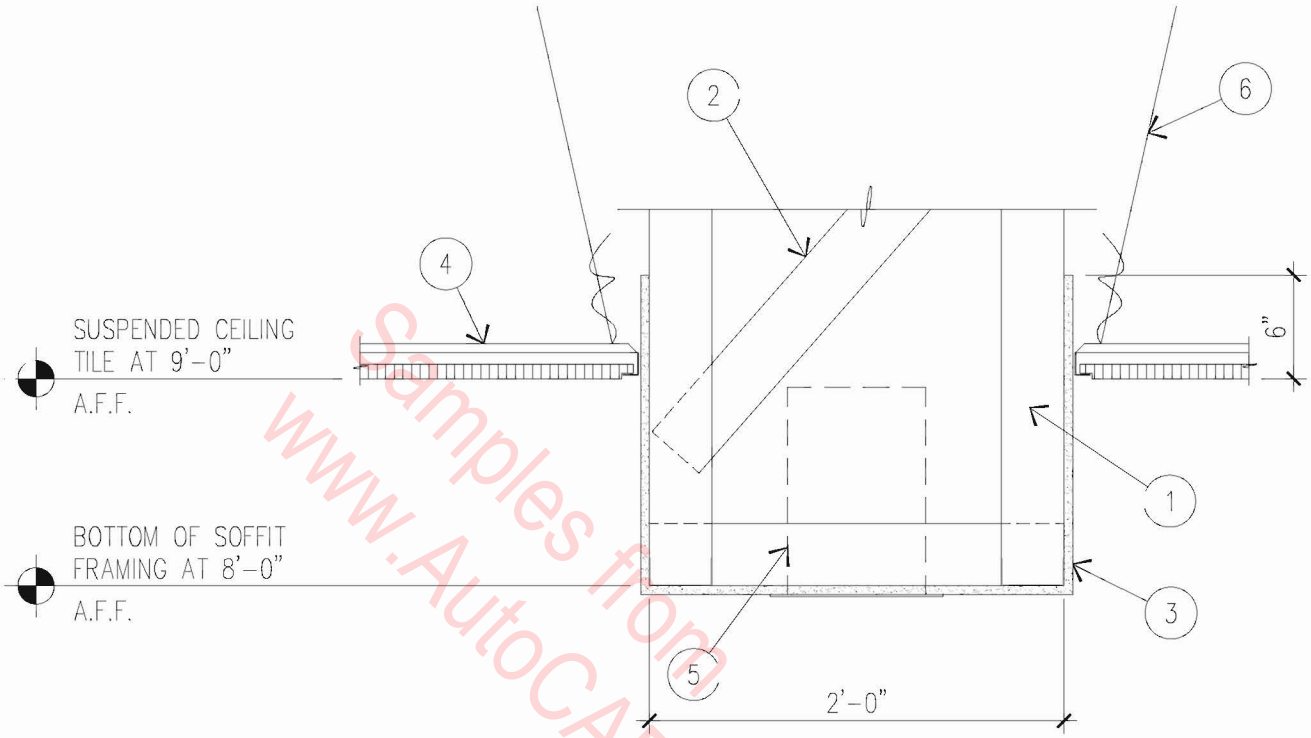
1. FOUNDERS BLOCK MASONRY.
2. RIGID FOAM POP-OUT.
3. METAL STUD & FOAM POP OUT.
4. RIGID FOAM BRACKET.
5. 8" X 16 GAUGE METAL STUDS AT 24" O.C.
6. 5/8" ø X 6" WEDGE ANCHOR AT 32" O.C.
7. 1/2" GYPSUM SHEATHING.
8. 2 X 8 CONTINUOUS TOP PLATE.
9. 3 5/8" X 18 GAUGE METAL STUDS AT 24" O.C.

NOTE: CEMENT STUCCO OVER METAL LATH TO COVER ALL RIGID FOAM POP OUTS NOT SHOWN FOR CLARITY

PARAPET CAP

1/2" = 1'-0"

05B-2102

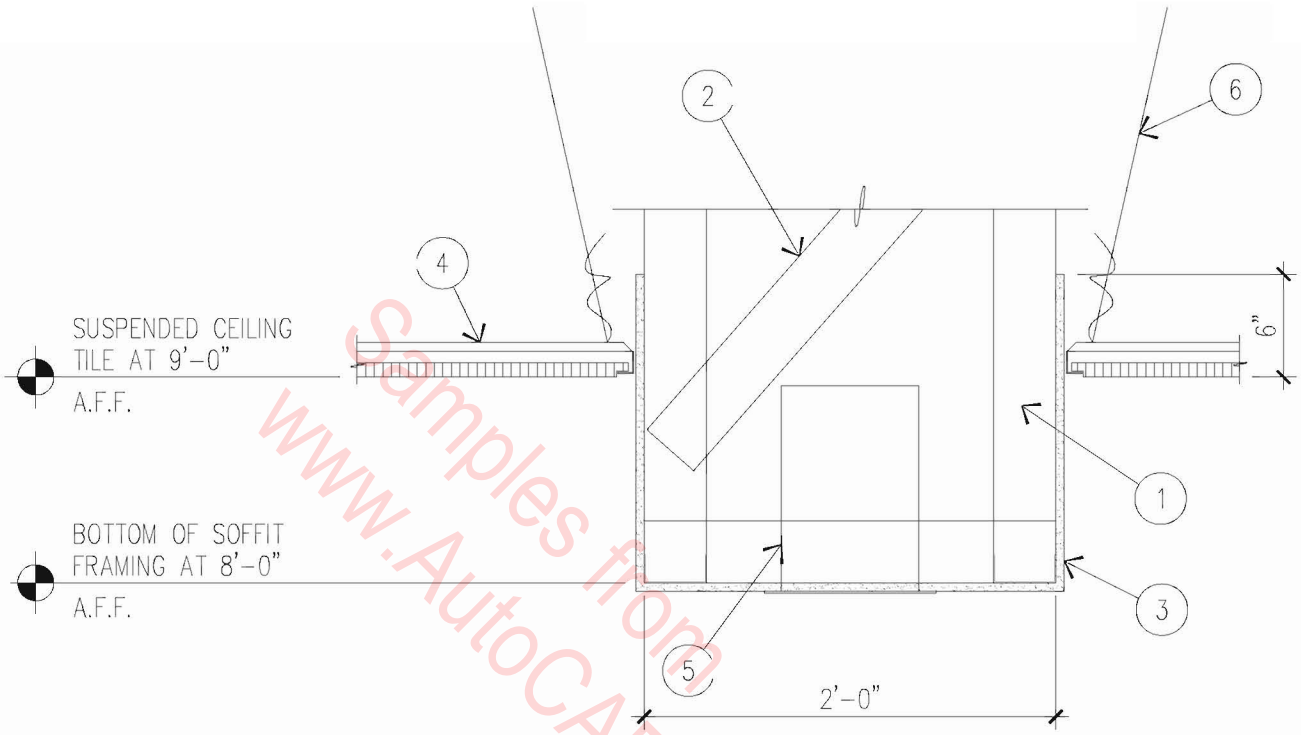


1. 3 5/8" X 20 GAUGE METAL STUDS AT 24" O.C.
2. METAL STUD BRACE AT 24" O.C.
3. 1/2" GYPSUM BOARD.
4. STIFFENED "TEE" GRID CEILING.
5. RECESSED CAN LIGHT - SEE ELECTRICAL.
6. 12 GAUGE GALVANIZED WIRE.

SOFFIT SECTION

1" = 1'-0"

05B-2103



1. 3 5/8" X 20 GAUGE METAL STUDS AT 24" O.C.
2. METAL STUD BRACE AT 24" O.C.
3. 1/2" GYPSUM BOARD.
4. STIFFENED "TEE" GRID CEILING.
5. RECESSED CAN LIGHT – SEE ELECTRICAL.
6. 12 GAUGE GALVANIZED WIRE.

SOFFIT SECTION

1" = 1'-0"

05B-2103

MINIMUM NAILING SCHEDULE

U.O.N.

PER U.B.C. 1991

JOIST TO SILL OR GIRDER, TOE NAIL	3-8D
BRIDGE TO JOIST, TOE NAIL EACH END	2-8D
1" X 6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	2-8D
WIDER THAN 1" X 6" SUBFLOOR TO EACH JOIST, FACE NAIL	3-8D
2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL	2-16D
SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16D AT 16" O.C.
TOP PLATE TO STUD, TOE NAIL	4-8D
END NAIL	2-16D
DOUBLE STUDS, FACE NAIL	16D-24"O.C.
DOUBLE TOP PLATES, FACE NAIL	16D-16"O.C.
TOP PLATES, LAPS & INTERSECTIONS, FACE NAIL	2-16D
CONT HEADER, TWO PIECES ALONG EACH SIDE	16D-16"O.C.
CEILING JOISTS TO PLATE, TOE NAIL	3-8D
CONT HEADER TO STUDS, TOE NAIL	4-8D
CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	3-16D
CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	3-16D
RAFTER TO PLATE, TOE NAIL	3-16D
RAFTER TO RIDGE BOARD, TOE NAIL	3-8D
RAFTER TO VALLEY OR HIP RAFTER, TOE NAIL	3-8D
RAFTER TO VALLEY OR HIP RAFTER, TOE NAIL	3-8D
OR FACE NAIL	3-8D
1" BRACE TO EACH STUD AND PLATE, FACE NAIL	2-8D
1" X 8" SHEATHING OR LESS TO EACH BEARING, FACE NAIL	2-8D
WIDER THAN 1 X 8 SHEATHING TO EACH BEARING, FACE NAIL	2-8D
BUILT-UP GIRDER & BEAMS, AT TOP, BOTTOM & STAGGERED	20d AT 32" O.C.
AT ENDS AND AT EACH SPLICE	20d AT 32" O.C.
BUILT-UP CORNER STUDS	16D-24"O.C.
2" PLANKS	2-16D AT EACH BEARING
PLYWOOD AND PARTICLE BOARD: (SEE NOTE 5)	
SUBFLOOR, ROOF AND WALL SHEATHING (TO FRAMING):	
1/2" AND LESS	6D (SEE NOTE 2)
19/32" - 3/4"	8D (SEE NOTE 3) OR 6D (SEE NOT 4)
7/8" - 1"	8D (SEE NOTE 2)
1 1/8" - 1 1/4"	10D (SEE NOTE 3) OR 8D (SEE NOTE 4)
COMBINATION SUBFLOOR-UNDERLAYMENT (TO FRAMING):	
3/4" AND LESS	6D (SEE NOTE 4)
7/8" - 1"	8D (SEE NOTE 4)
1 1/8" - 1 1/4"	10D (SEE NOTE 3) OF 8D (SEE NOTE 4)
PANEL SIDING (TO FRAMING):	
1/2" OR LESS	6D (SEE NOTE 6)
5/8"	8D (SEE NOTE 6)
FIBERBOARD SHEATHING: (SEE NOTE 7)	
1/2"	NO. 11 GA. (SEE NOTE 8), 6D (SEE NOTE 3), NO. 16 GA. (SEE NOTE 9)
25/32"	NO. 11 GA. (SEE NOTE 8), 6D (SEE NOTE 3), NO. 16 GA. (SEE NOTE 9)

NOTE: BEARING STUD WALLS AND SHEAR WALLS INTERSECTING WITH MASONRY TO HAVE DOUBLE STUDS WITH 1/2 DIAMETER ANCHOR BOLTS AT 24" O.C.

1. COMMON OR BOX NAILS MAY BE USED EXCEPT WHERE OTHERWISE STATED.
2. COMMON OR DEFORMED SHANK.
3. COMMON.
4. DEFORMED SHANK.
5. NAILS SPACED AT 6" O.C. AT EDGES, 12" AT INTERMEDIATE SUPPORTS EXCEPT 6" AT ALL SUPPORTS WHERE SPANS ARE 48" OR MORE. FOR NAILING OF PLYWOOD AND PARTICLE BOARD DIAPHRAGMS AND SHEAR WALLS, REFER TO SECTION 2513 (c). NAILS FOR WALL SHEATHING MAY BE COMMON, BOX OR CASING.
6. CORROSION-RESISTANT SIDING OR CASING NAILS CONFORMING TO THE REQUIREMENTS OF SECTION 2516 (j) 1.
7. FASTENERS SPACED 3" O.C. AT EXTERIOR EDGES AND 6" O.C. AT INTERMEDIATE SUPPORTS.
8. CORROSION-RESISTANT ROOFING NAILS WITH 7/16" DIAMETER HEAD AND 1 1/2" LENGTH FOR 1/2" SHEATHING AND 1 3/4" LENGTH FOR 25/32" SHEATHING CONFORMING TO THE REQUIREMENTS OF SECTION 2516 (j) 1.
9. CORROSION-RESISTANT STAPLES WITH NOMINAL 7/16" CROWN AND 1 1/8" LENGTH FOR 1/2" SHEATHING AND 1 1/2" LENGTH FOR 25/32" SHEATHING CONFORMING TO THE REQUIREMENTS OF SECTION 2516 (j) 1.

MINIMUM NAILING SCHEDULE

NOT TO SCALE

SPREAD FOOTING SCHEDULE

TYPE	FOOTING SIZE			REINFORCING STEEL	
	WIDTH	LENGTH	THICK.	LONGITUDINAL	TRANSVERSE
F1	3'-0	3'-0	1'-0	(3)-#5's x 2'-8	(3)-#5's x 2'-8
F2	3'-6	3'-6	1'-0	(4)-#5's x 3'-2	(4)-#5's x 3'-2
F3	4'-0	4'-0	1'-2	(5)-#5's x 3'-8	(5)-#5's x 3'-8
F4	5'-0	5'-0	1'-6	(6)-#6's x 4'-8	(6)-#6's x 4'-8
F5	6'-0	6'-0	1'-10	(7)-#7's x 5'-8	(7)-#7's x 5'-8
F6	6'-6	6'-6	2'-0	(7)-#8's x 6'-2	(7)-#8's x 6'-2
F7	7'-0	7'-0	2'-0	(8)-#8's x 6'-8	(8)-#8's x 6'-8

SPREAD FOOTING SCHEDULE

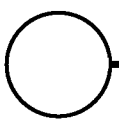
NOT TO SCALE

BEAM SCHEDULE		
MARK	SIZE	REMARKS
B-1	11 7/8"	(4) QTY. MICROLAMS
B-2	11 7/8"	(2) QTY. MICROLAMS
B-3	14"	(3) QTY. MICROLAMS
B-4		(TO BE DETERMINED)
B-5	1 3/4" X 18"	(4) QTY. MICROLAMS

BEAM SCHEDULE

NOT TO SCALE

COLUMN SCHEDULE	
MARK	POST SIZE
1	4" X 4" X 1/4" TUBE STEEL
2	5" X 5" X 1/4" TUBE STEEL
3	4 X 6 WOOD POST
4	6 X 6 WOOD POST
5	(2) 2 X 6 WOOD POST



COLUMN SCHEDULE

NOT TO SCALE

GIRDER SCHEDULE		
MARK	SIZE	REMARKS
G-1	32G6N12.0K	
G-2	32G7N12.0K	

GIRDER SCHEDULE

NOT TO SCALE

HEADER SCHEDULE		
MARK	SIZE	REMARKS
H-1	2 X 12	DOUBLED UP AND EXTENDING 4" MIN. PAST EACH END OF OPENING.
H-2	2 X 8	(4) QTY. @ EACH LOCATION SHOWN.

HEADER SCHEDULE

NOT TO SCALE

JOIST SCHEDULE		
MARK	SIZE	REMARKS
J-1	11 7/8" TJI/55	SPACED @ 19.2" ON CENTER
J-2	2 X 8	SPACED @ 16" ON CENTER
J-3	2 X 6	SPACED @ 16" ON CENTER
J-4	2 X 8	ROOF JOISTS SPACED @ 16" ON CENTER

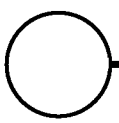
JOIST SCHEDULE

NOT TO SCALE

LINTEL SCHEDULE

MARK	SIZE	REMARKS
L-1	PS8 - 40"	POWERS STEEL PREFAB. LINTEL
L-2	PS8-24"	POWERS STEEL PREFABRICATED LINTEL
L-3	PS8 - 20"	POWERS STEEL PREFABRICATED LINTEL

NOTE:
SPECIAL INSPECTION IS REQUIRED FOR PLACEMENT OF GROUT @ "POWERS STEEL" PREFABRICATED STEEL LINTELS.

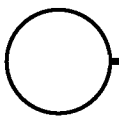


LINTEL SCHEDULE

NOT TO SCALE

PAD SCHEDULE

MARK	PAD SIZE	REINFORCING
A	3'-6" X 3'-6" X 1'-0"	(4) #5 REBARS EACH WAY
B	2'-6" X 2'-6" X 1'-0"	(6) #5 EACH WAY
C	2'-6" X 2'-6" X 1'-0"	(6) #5 EACH WAY
D	7'-0" X 7'-0" X 1'-6"	#5 REBARS @ 12" O.C. EACH WAY
E	5'-0" X 5'-0" X 1'-3"	#5 REBARS @ 12" O.C. EACH WAY
F	5'-4" X 5'-0" X 1'-3"	#5 REBARS @ 12" O.C. EACH WAY
G	9'-0" X 4'-4" X 1'-3"	#5 REBARS @ 12" O.C. EACH WAY



PAD SCHEDULE

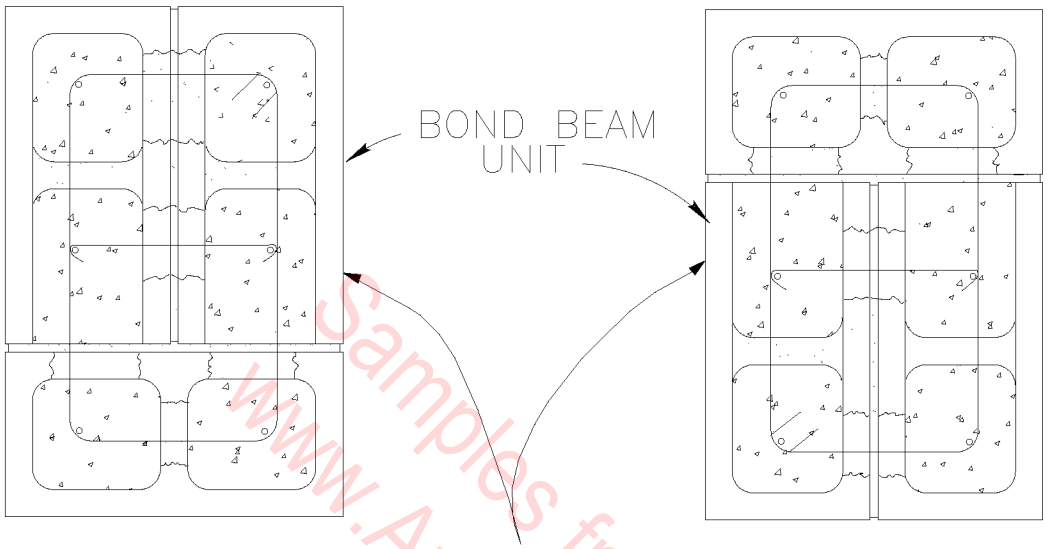
NOT TO SCALE

ROOF SCHEDULE		
MARK	SIZE	REMARKS
A	PRE-FABRICATED ROOF TRUSSES @ 24" O.C.	
B	2 X 8 RAFTERS @ 24" O.C.	
C	JACK TRUSSES @ 24" O.C.	

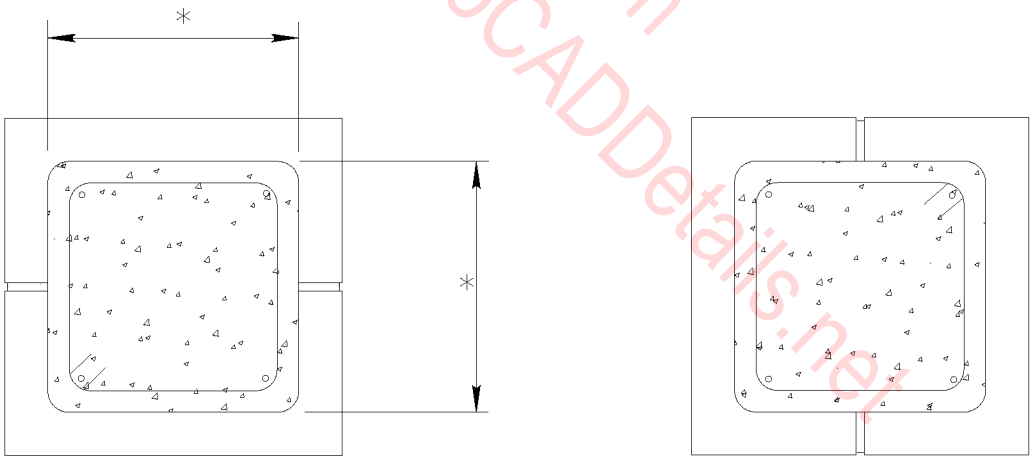
ROOF SCHEDULE

NOT TO SCALE

NOTE: REMOVE WEBS AS NEEDED
FOR TIES AND GROUTING



ALTERNATE COURSES

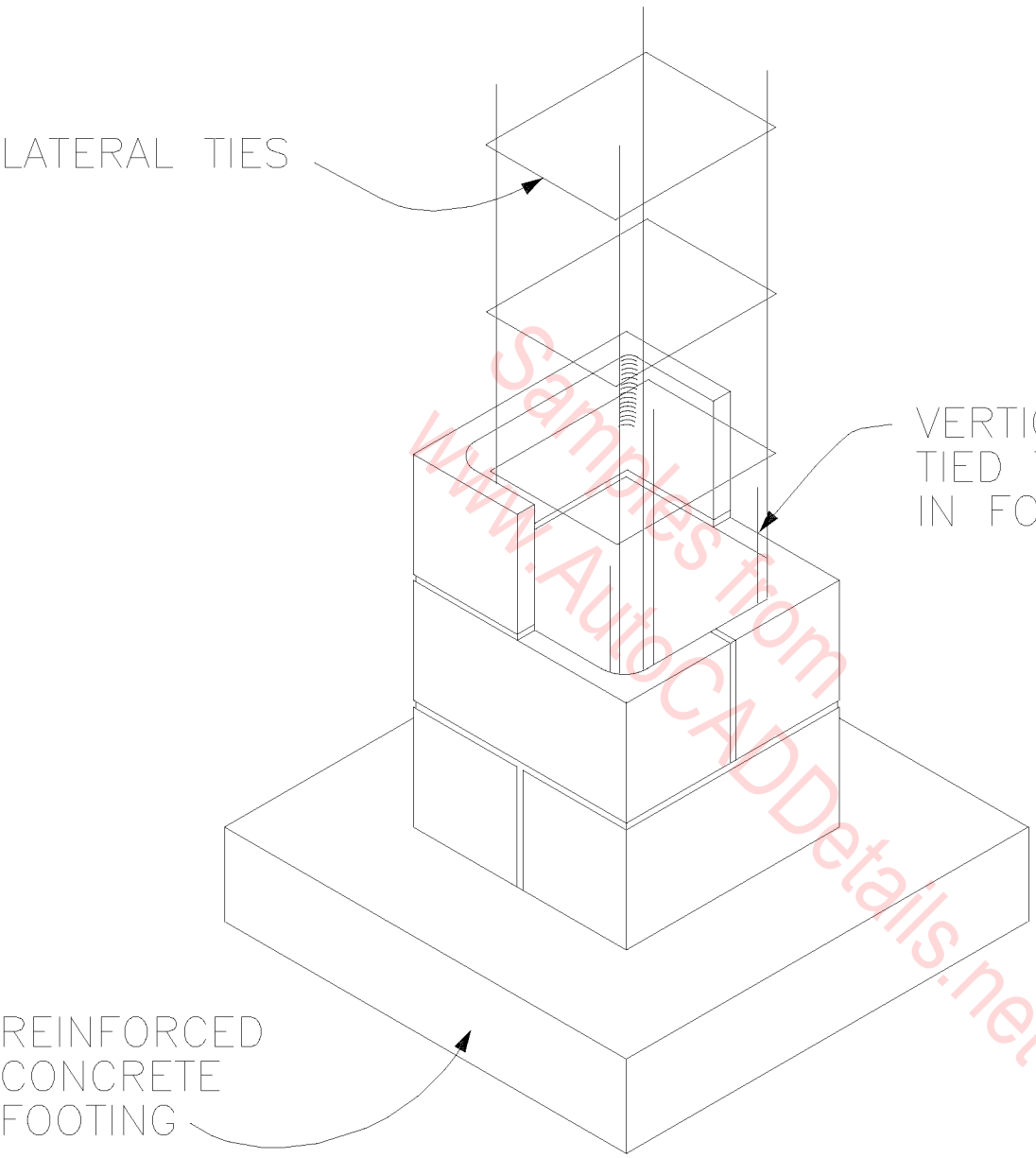


(b) BUILT WITH PILASTER UNITS.

NOTE: DESIGNER TO DIMENSION REINFORCEMENT LOCATION REQUIREMENTS.

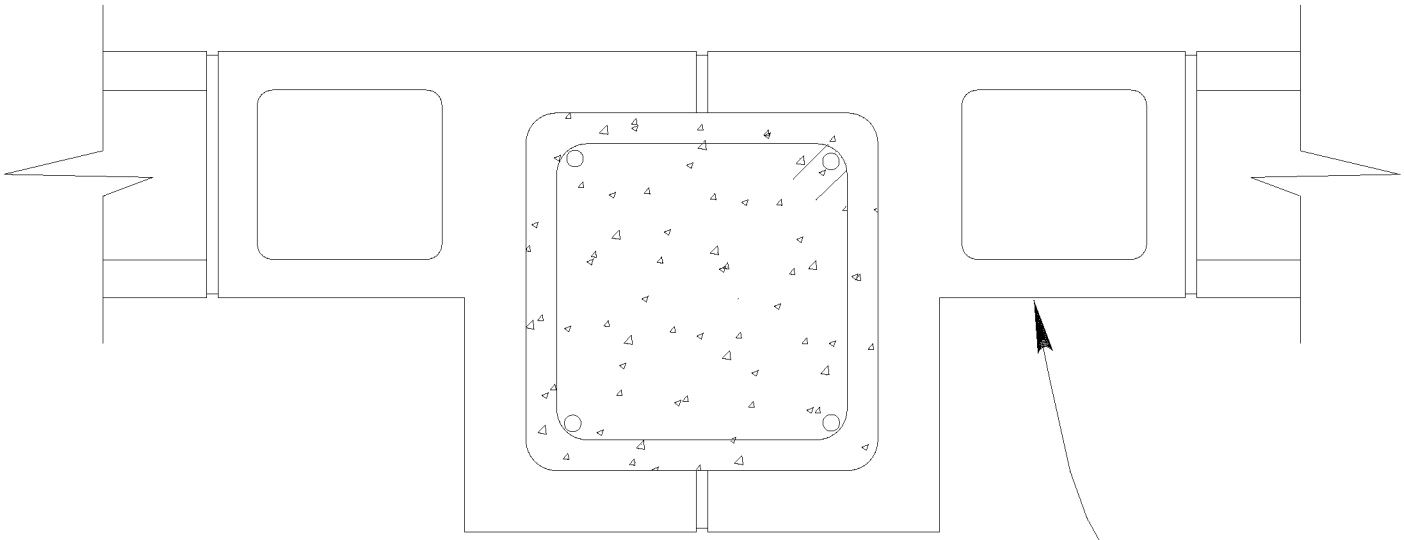
* 8" MIN.–12x12 COLUMN
* 12" MIN.–16x16 COLUMN

COLUMN SECTIONS



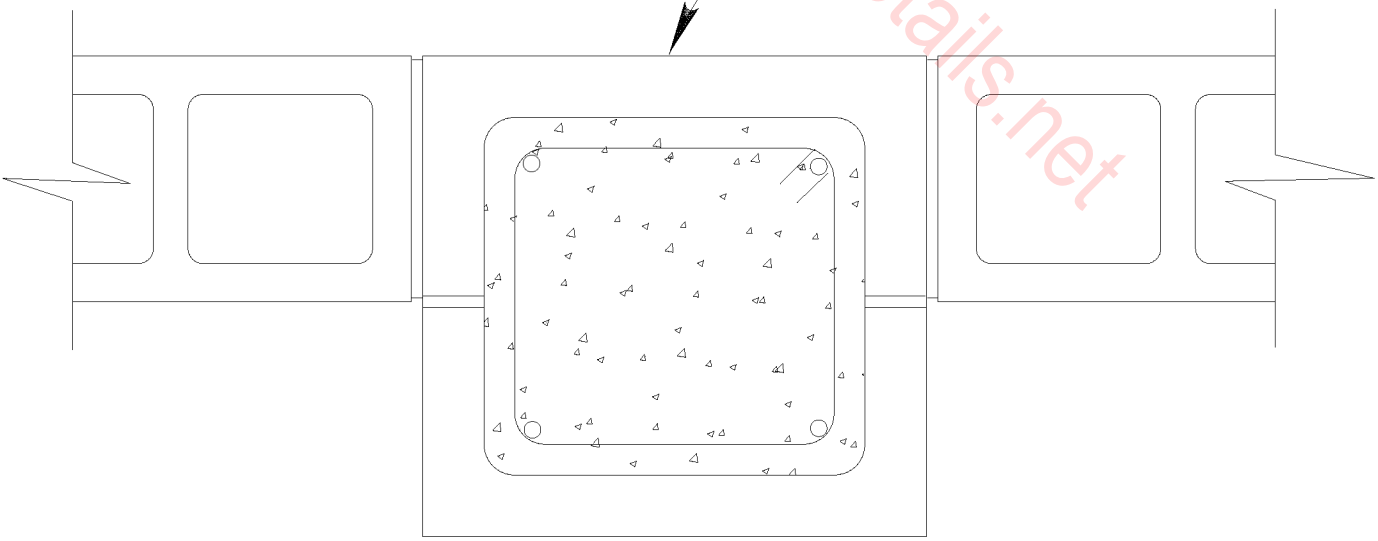
COLUMN DETAIL

N.T.S.

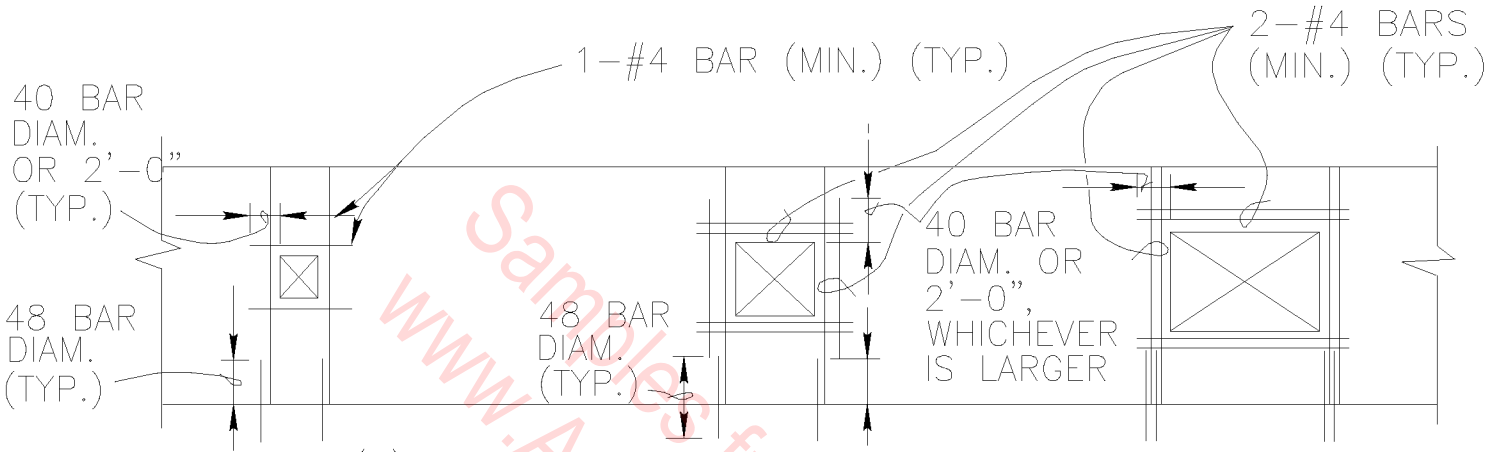


ALTERNATE
COURSES

ALTERNATE
COURSES



PILASTER SECTIONS



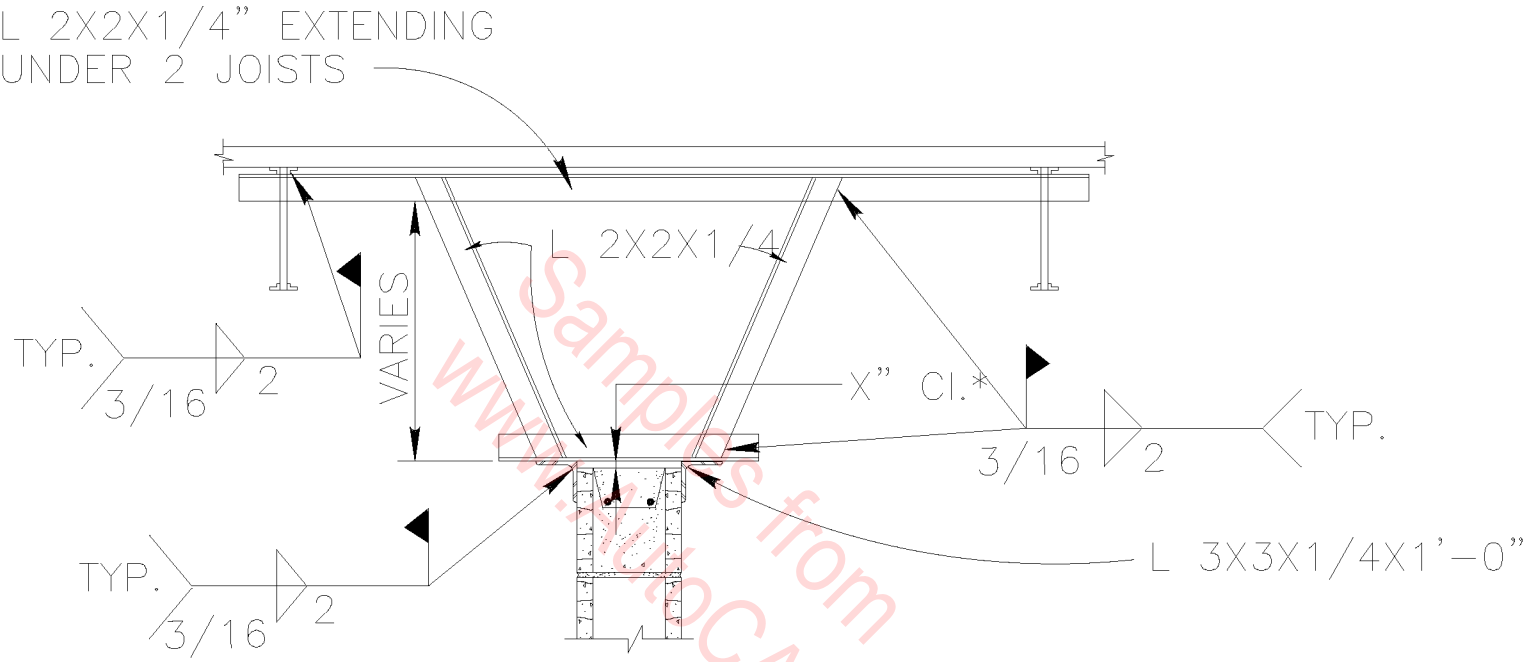
CASE I: APPLIES TO (1) ALL OPENINGS IN NON-STRUCTURAL PARTITIONS OVER 100 SQ. IN., AND (2) ANY OPENING 2 FEET OR LESS BOTH WAYS BUT OVER 100 SQ. IN. IN STRUCTURAL OR EXTERIOR WALLS.

CASE II: APPLIES TO STRUCTURAL AND EXTERIOR WALL WHEN OPENING EXCEEDS 2 FEET BUT NOT MORE THAN 4 FEET IN EITHER DIRECTION.

CASE III: APPLIES TO STRUCTURAL AND EXTERIOR WALLS WHEN OPENING EXCEEDS 4 FEET IN EITHER DIRECTION.

NOTES:
1. VERTICAL REINFORCEMENT OF 2 BARS, EACH BAR MAY BE PLACED IN A SEPARATE CELL.
2. VERTICAL BARS SHALL BE OF THE SAME SIZE, EXTENT, AND ANCHORAGE AS THE TYPICAL REINF. IN THAT WALL UNLESS OTHERWISE INDICATED.
3. VERTICAL BARS CAN BE PART OF NORMAL REINF. IN THE WALL.
4. REINFORCEMENT AT TOP OF OPENINGS SHALL BE NOT LESS THAN THAT REQUIRED BY THE LINTEL DESIGN.

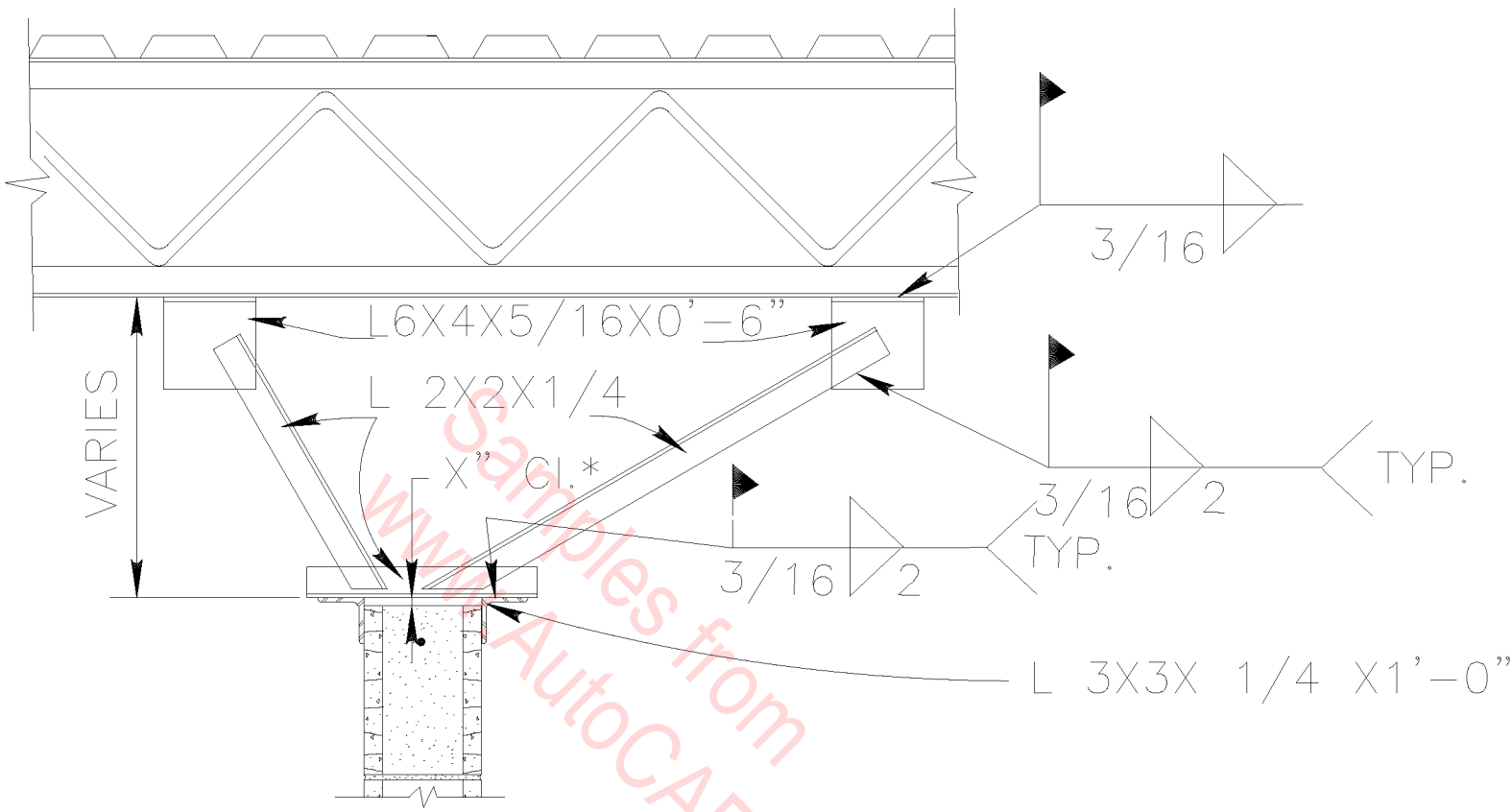
REINFORCING AROUND WALL OPENINGS



* X CLEAR DIMENSION SHALL BE AS REQUIRED BY JOIST DEFLECTION, BUT NOT LESS THAN 1-INCH.

NOTE: SPACE AT A MAXIMUM OF 8'-0" O.C. USING A MIN. OF TWO PER WALL IN ANY ONE DIRECTION.

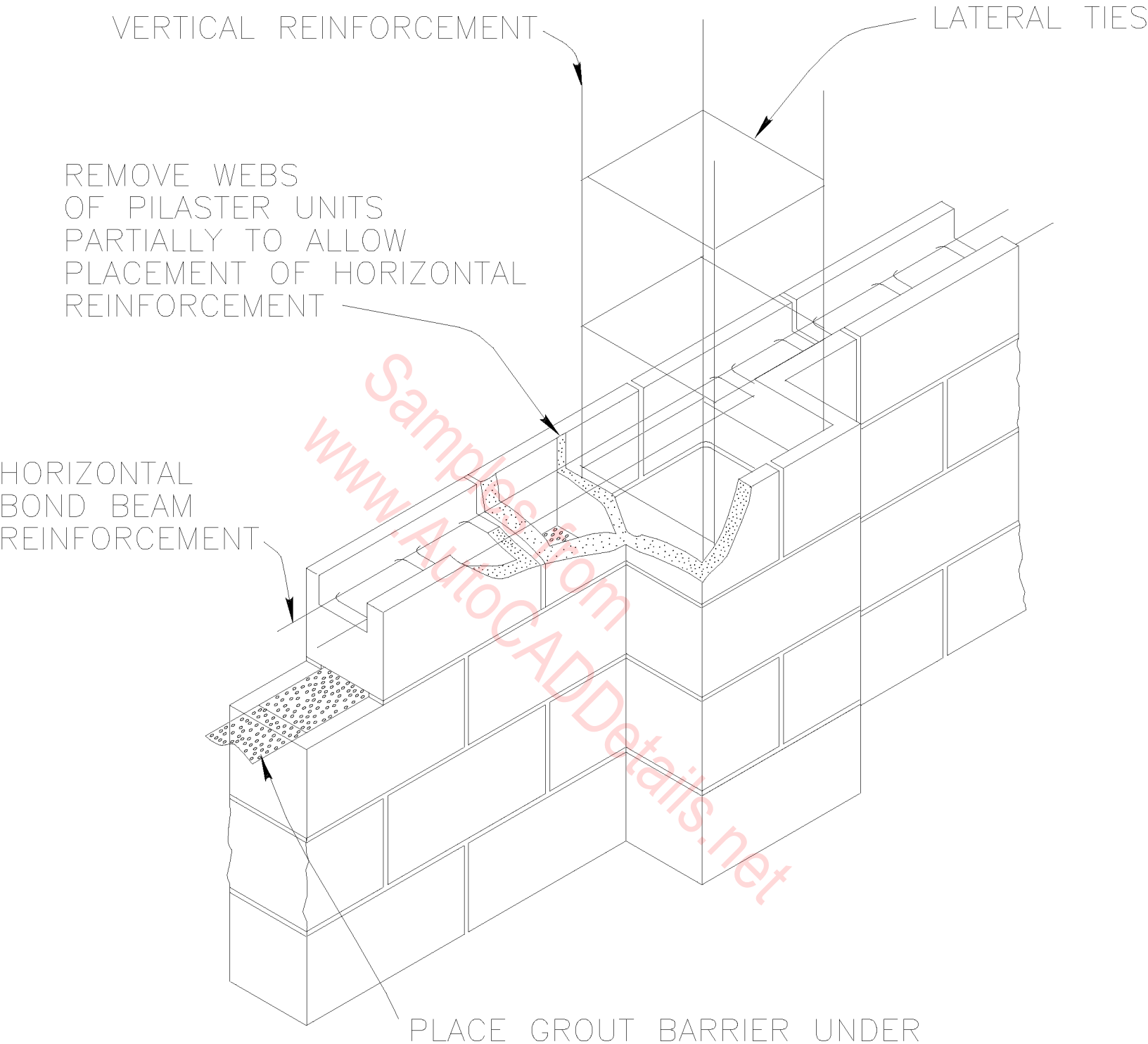
PARTITION SUPPORTS, PARTIAL HEIGHT WALL PARALLEL TO JOISTS



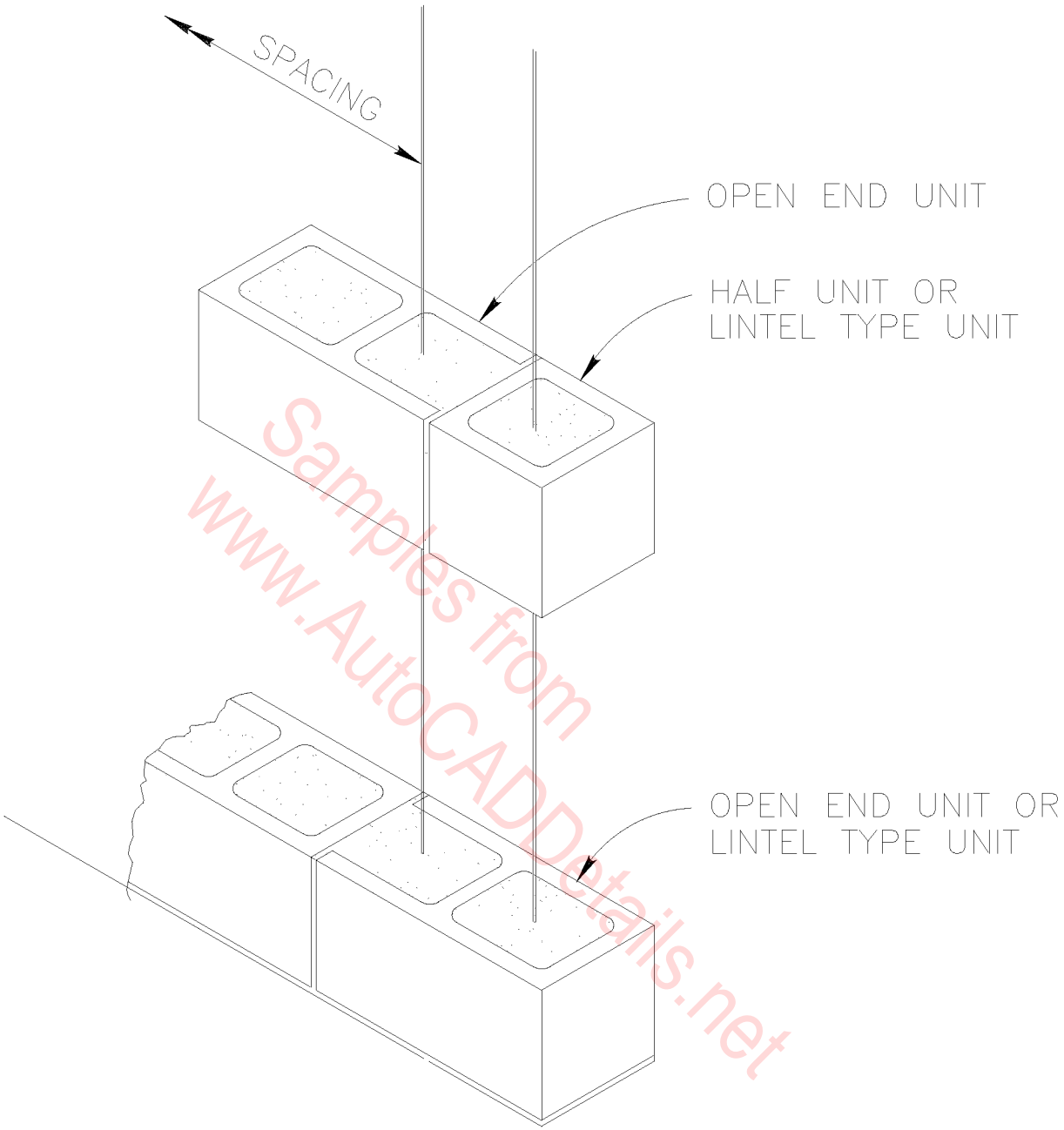
*X CLEAR DIMENSION SHALL BE AS REQUIRED BY JOIST DEFLECTION, BUT NOT LESS THAN 1-INCH.

NOTE: SPACE AT A MAXIMUM OF 8'-0" O.C. USING A MIN. OF TWO PER WALL IN ANY ONE DIRECTION.

PARTITION SUPPORTS, PARTIAL HEIGHT WALL PERPENDICULAR TO JOISTS

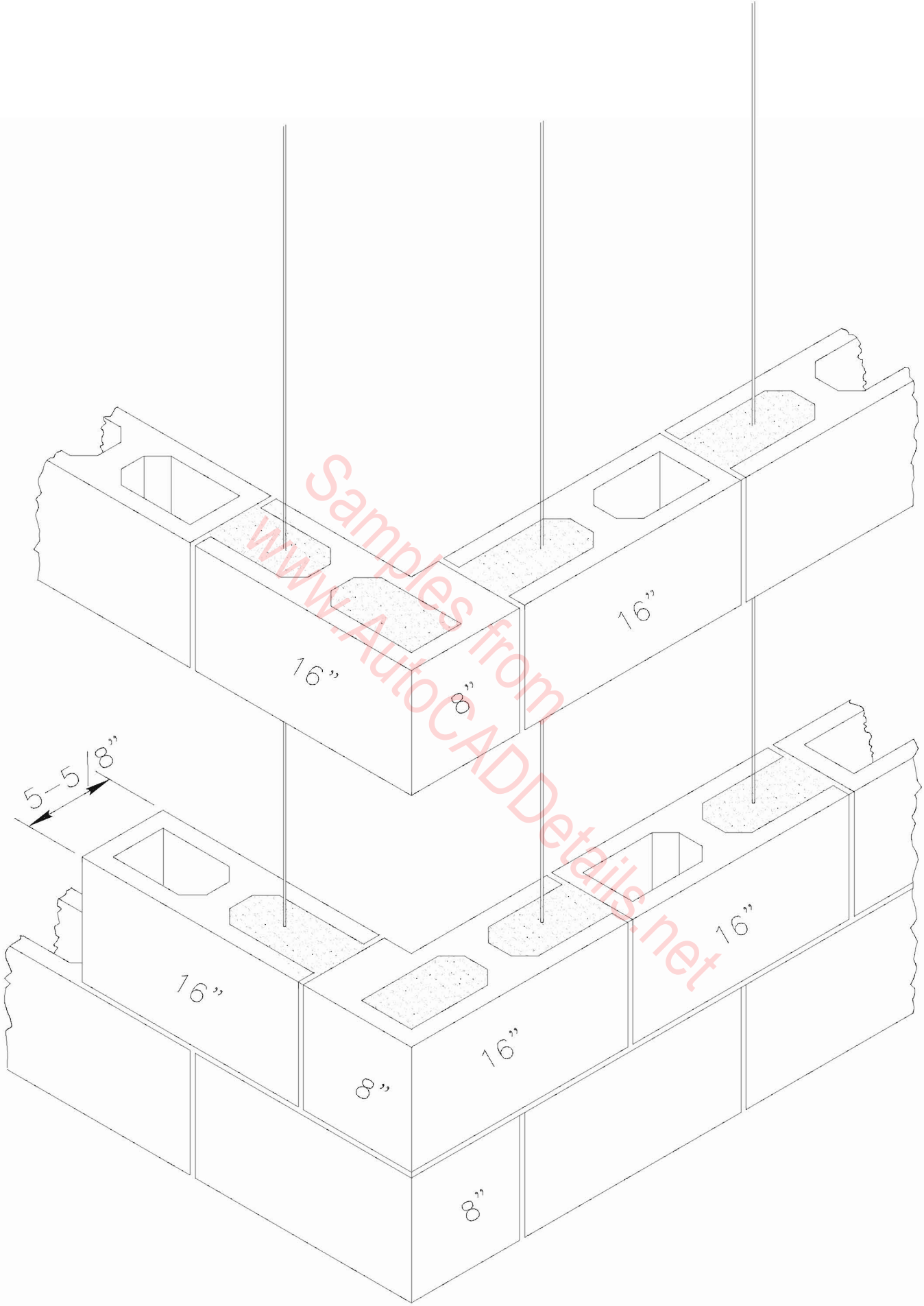


PILASTER

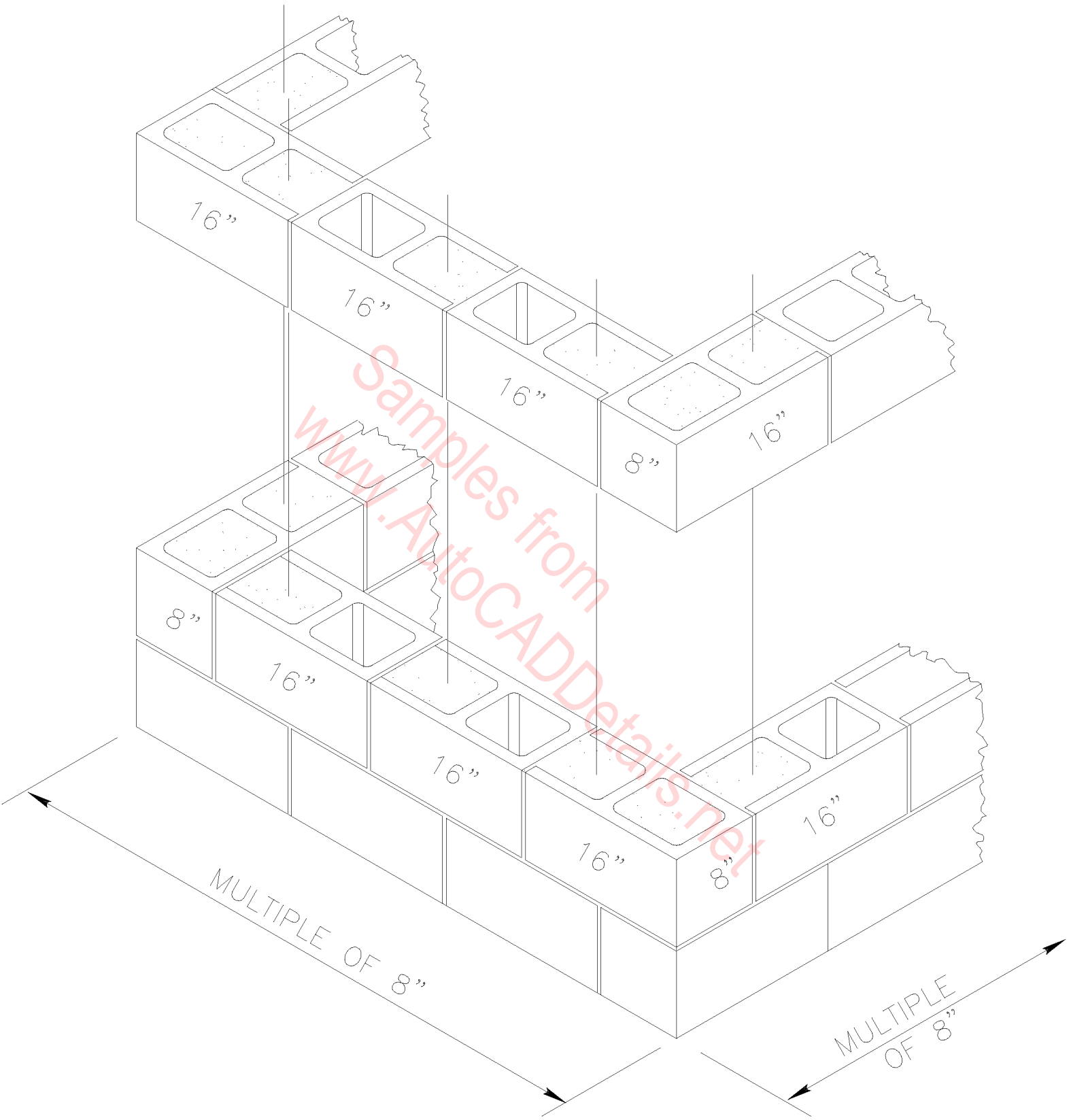


NOTES: 1. LINTEL TYPE UNITS MAY BE CUT FROM OPEN END UNITS
2. ALTERNATE ARRANGEMENT OF UNITS—STEEL FOR PARTIALLY OR FULLY GROUTED WALLS WHEN VERTICAL WALL REINFORCEMENT IS REQUIRED IN THE END CELL

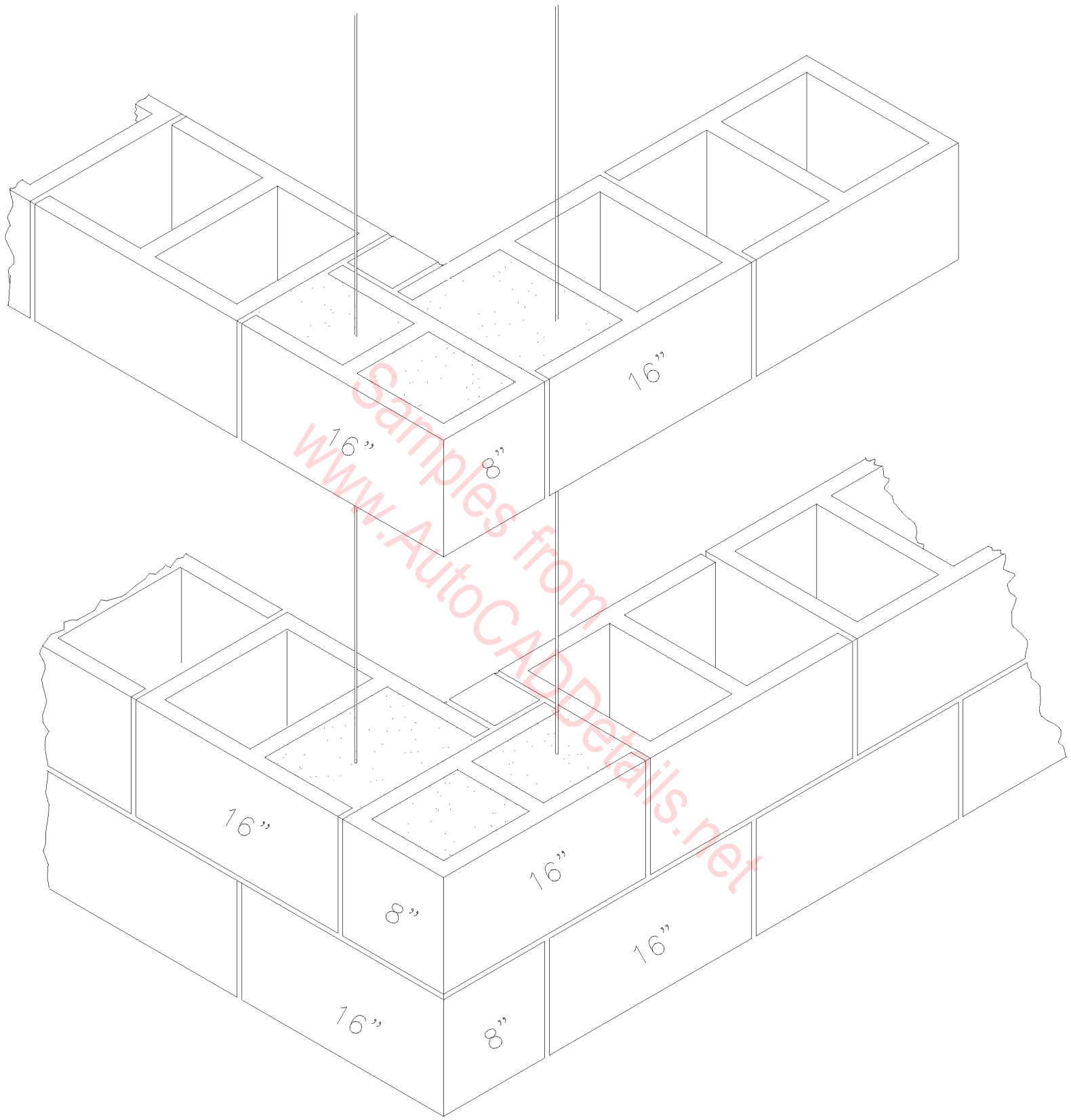
ALTERNATE END CELL GROUTED WALL



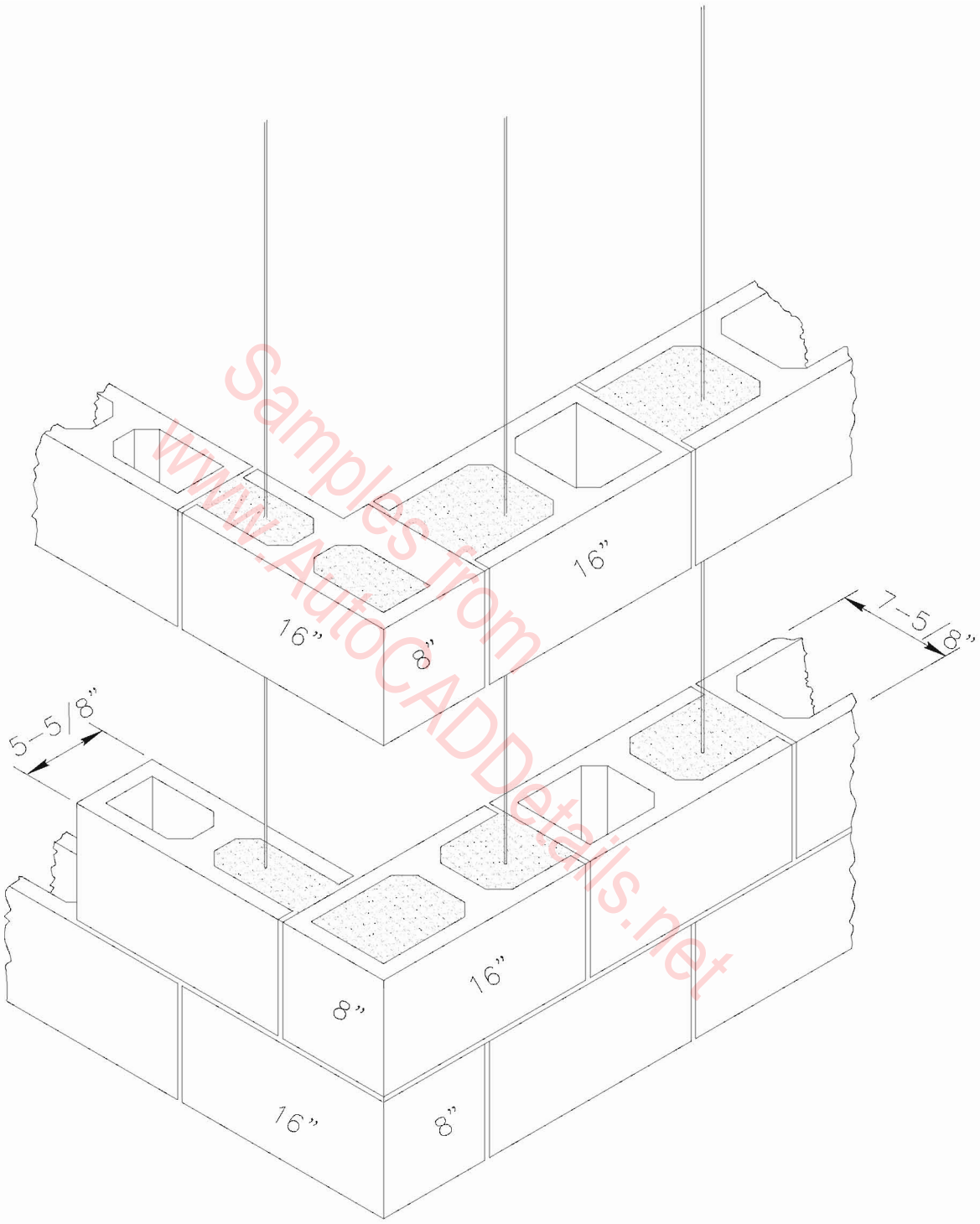
CORNER DETAIL, 6-INCH CMU WALL



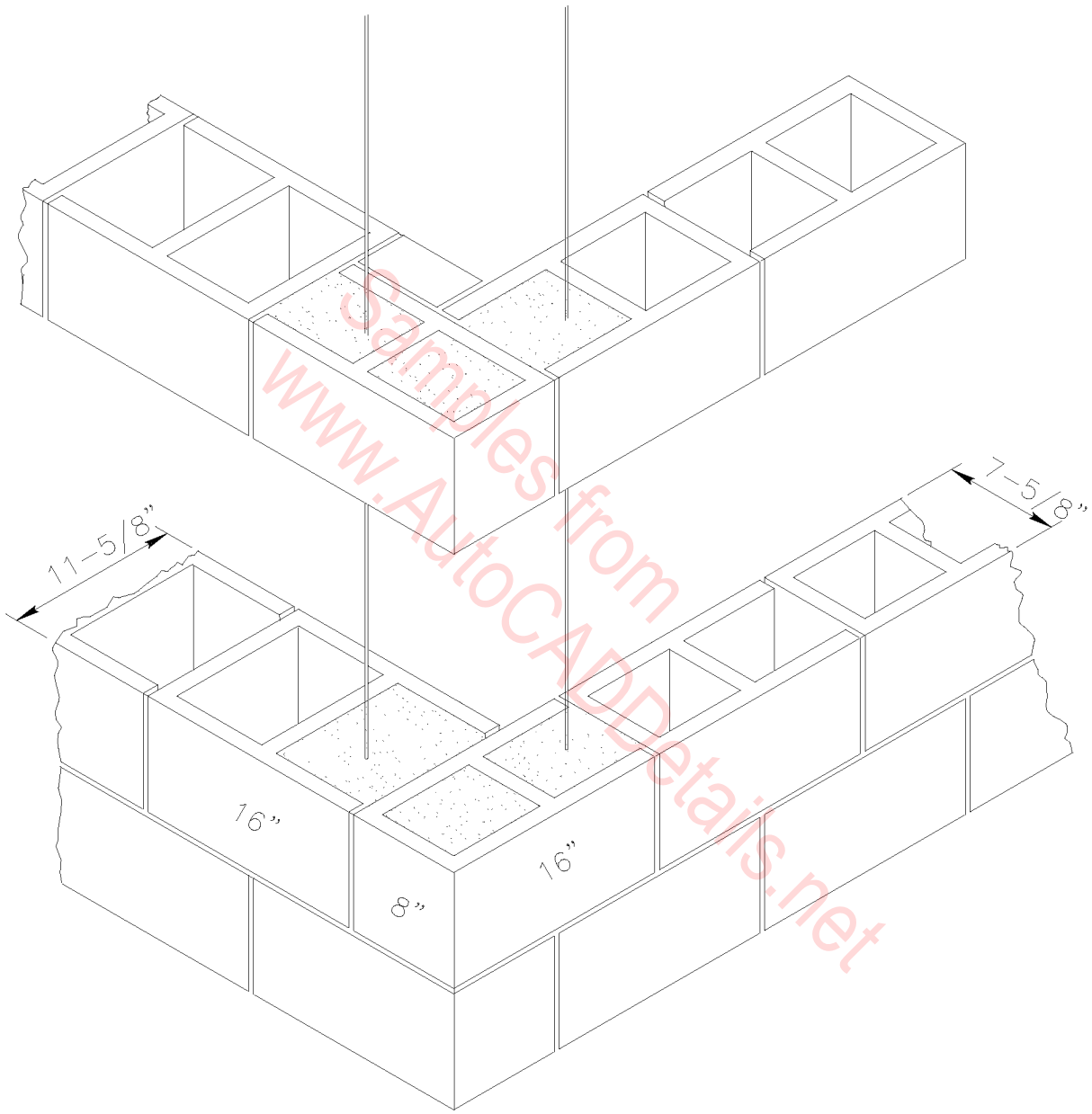
CORNER DETAIL, 8-INCH CMU WALL



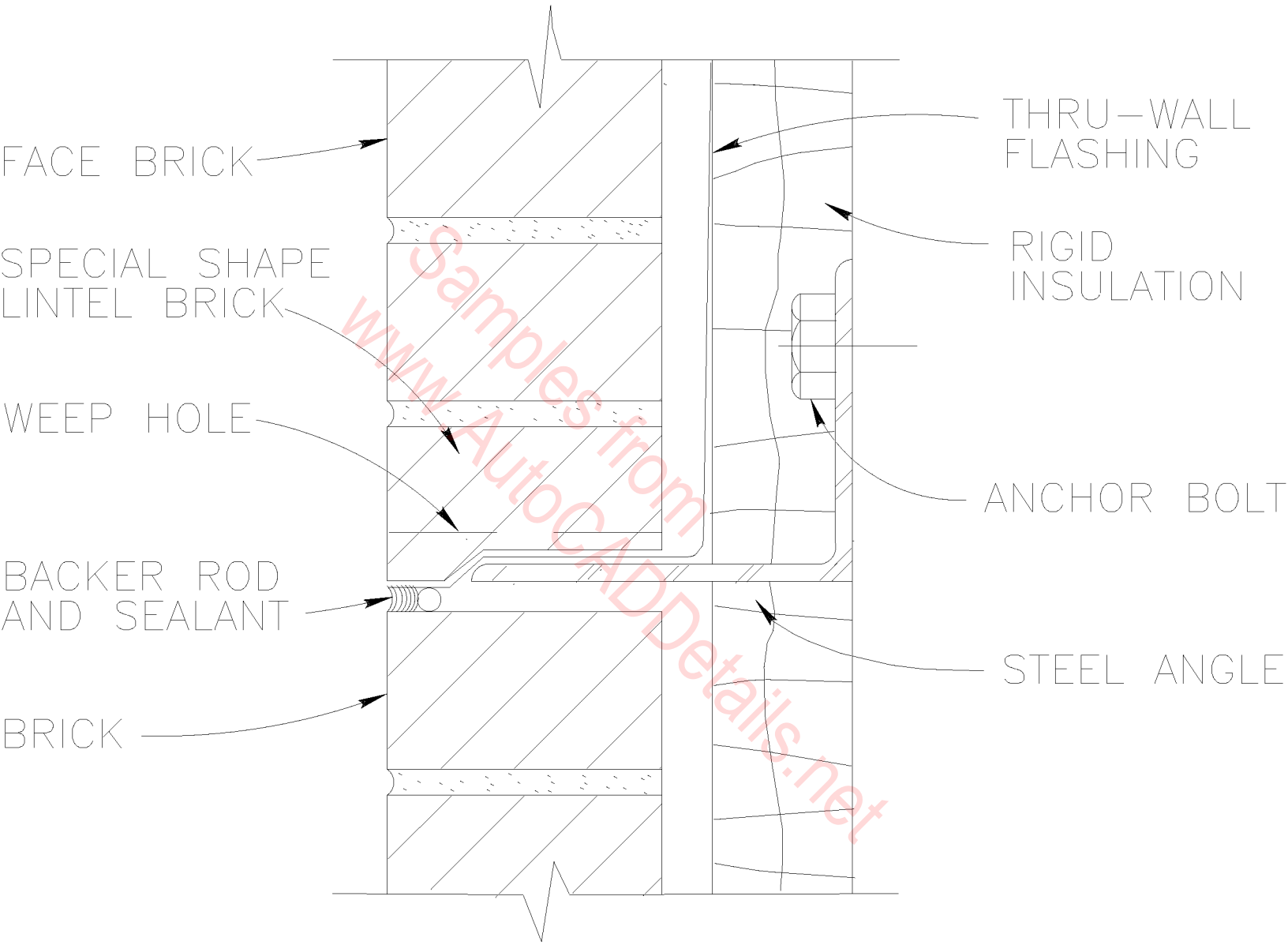
CORNER DETAIL, 12-INCH CMU WALL



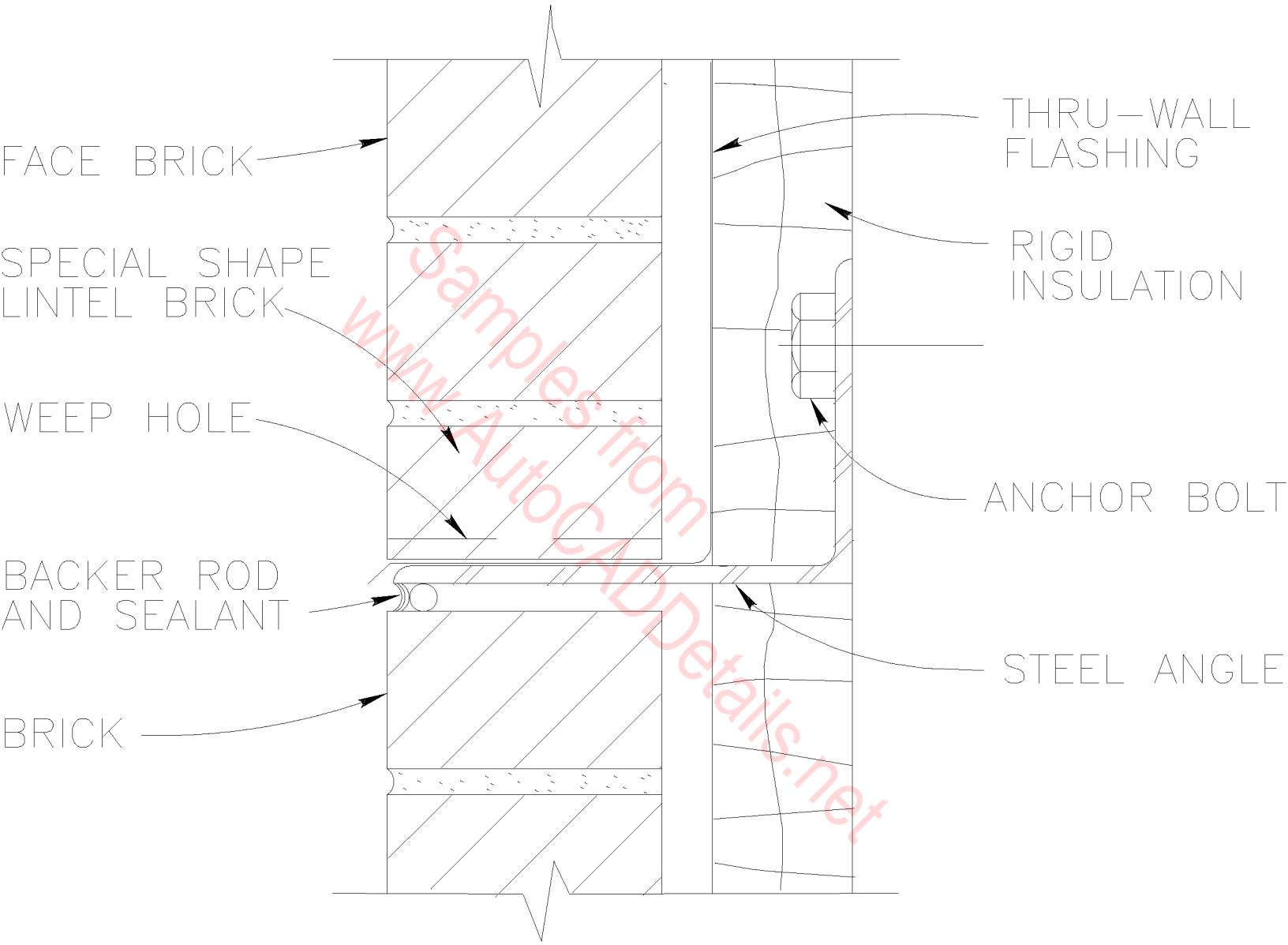
CORNER DETAIL, 6-INCH TO 8-INCH CMU WALL



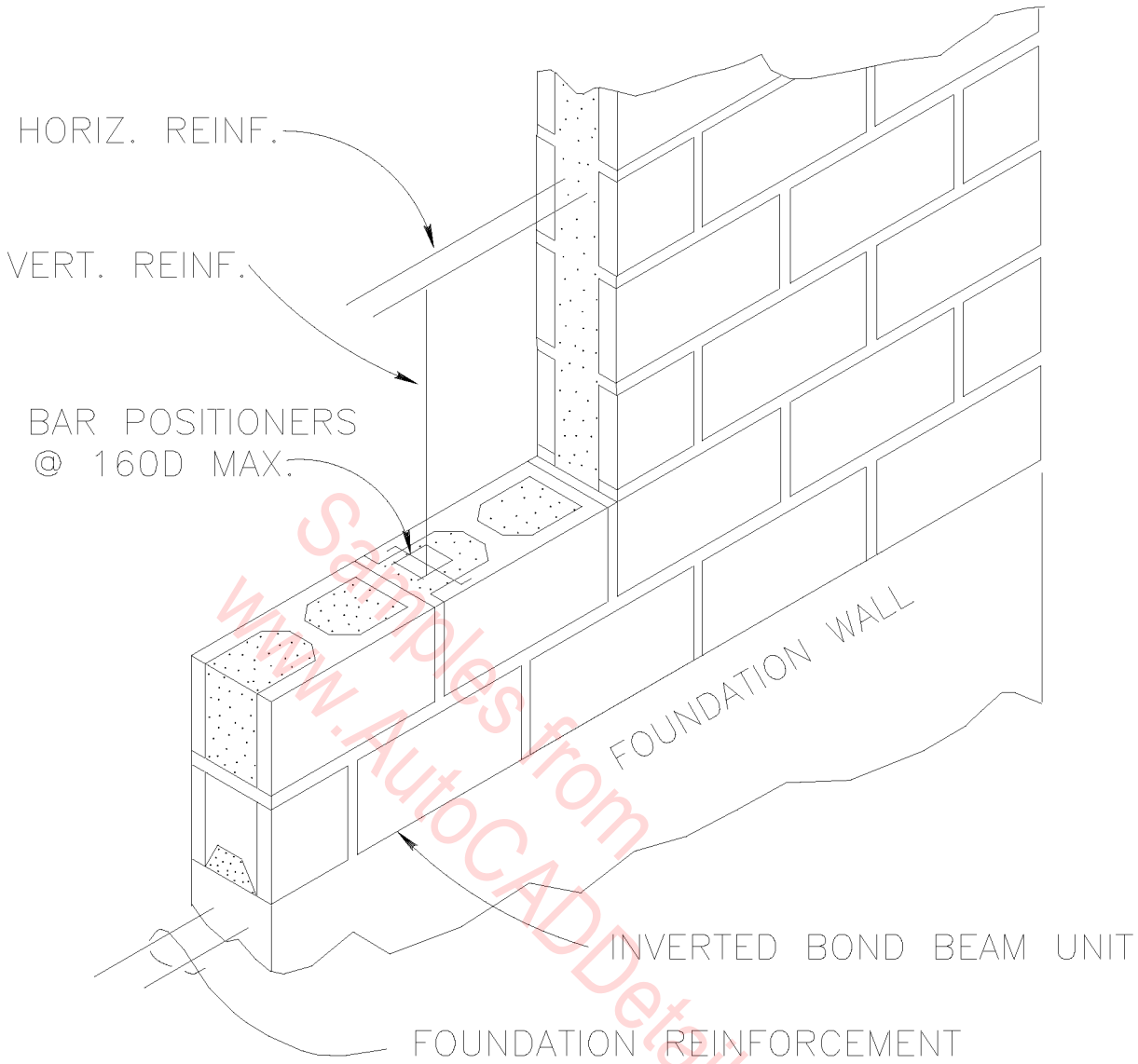
CORNER DETAIL, 8-INCH TO 12-INCH CMU WALL

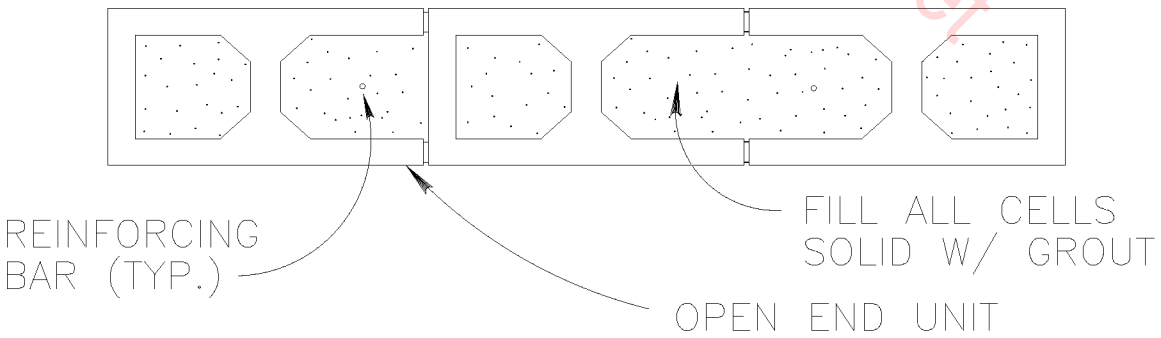


SHELF ANGLE



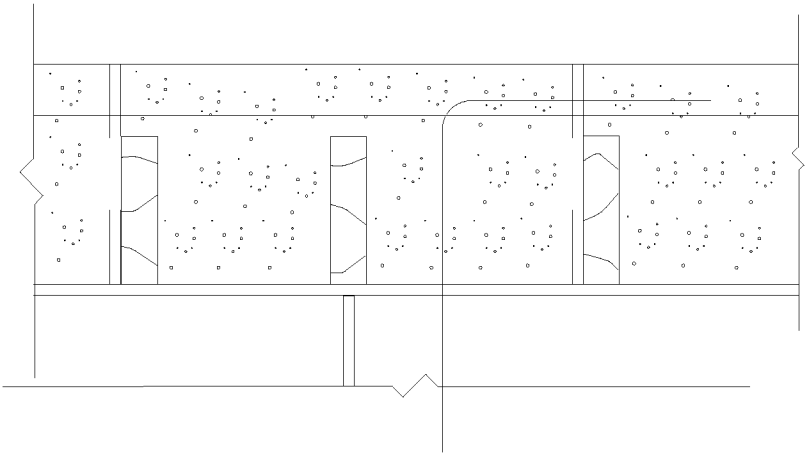
SHELF ANGLE OPTION



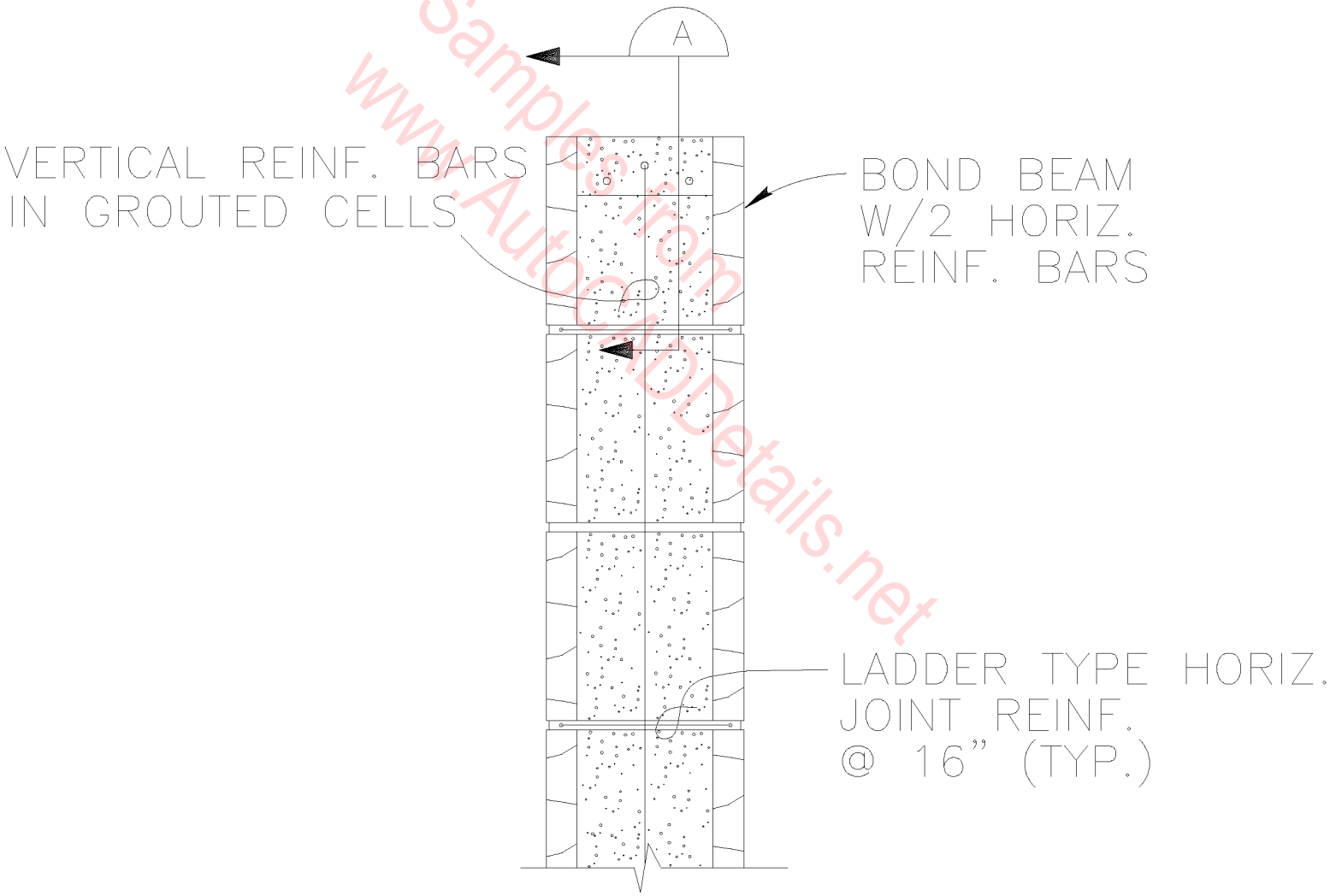


PLAN VIEW

SINGLE WYTHE WALL FULLY GROUTED

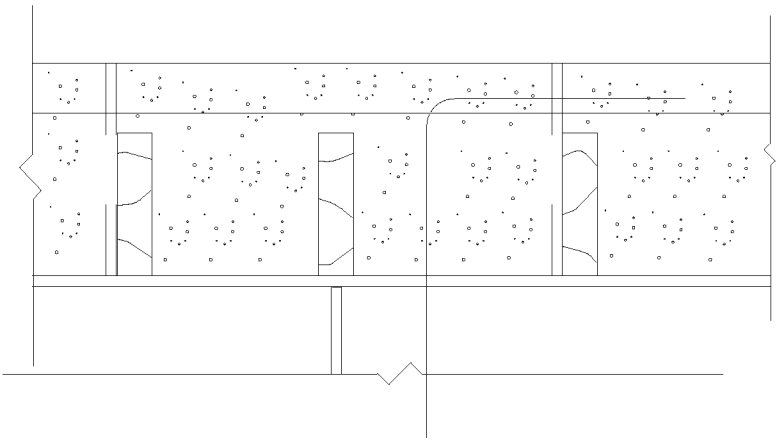


SECTION A

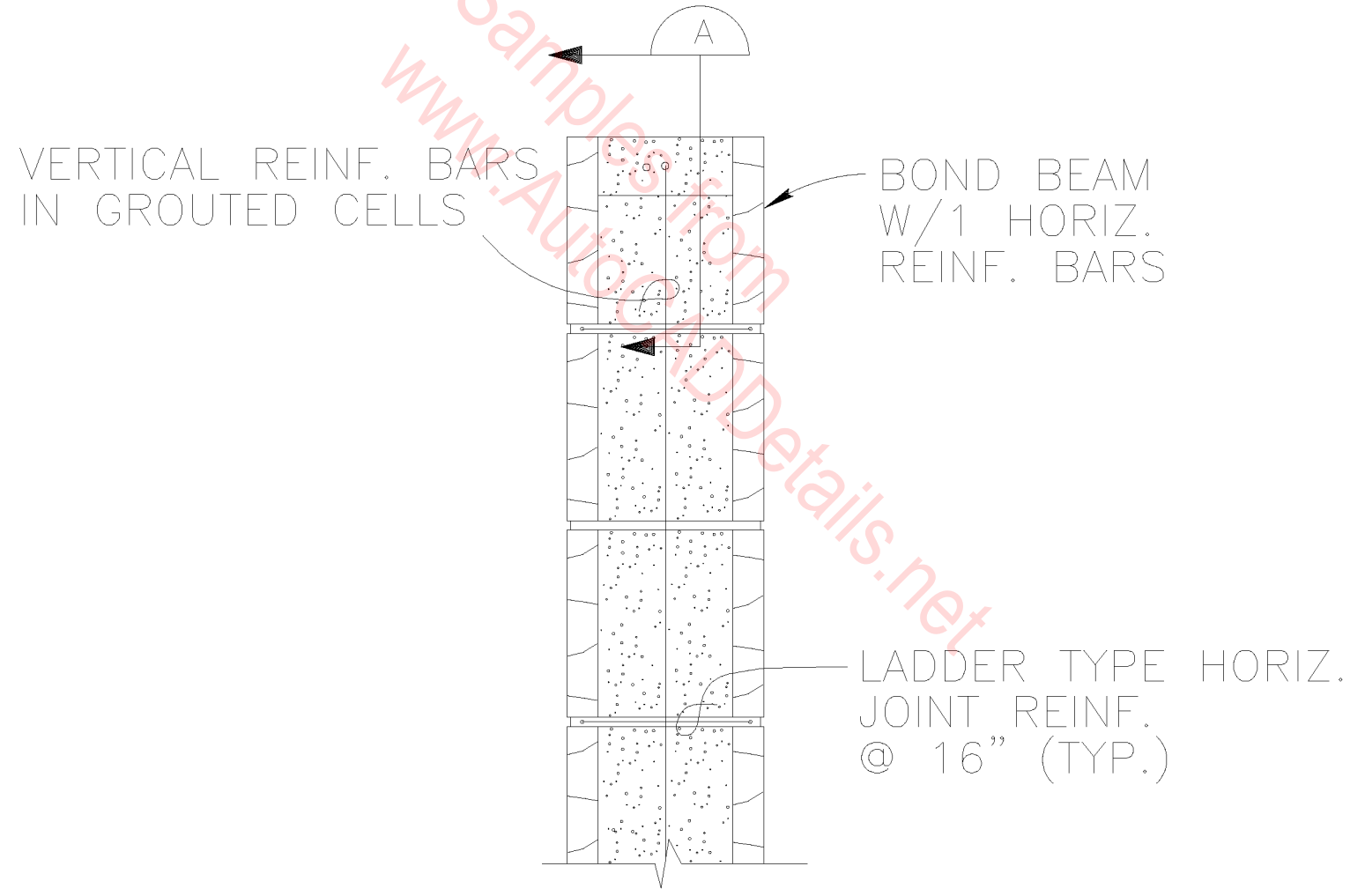


SINGLE WYTHE WALL

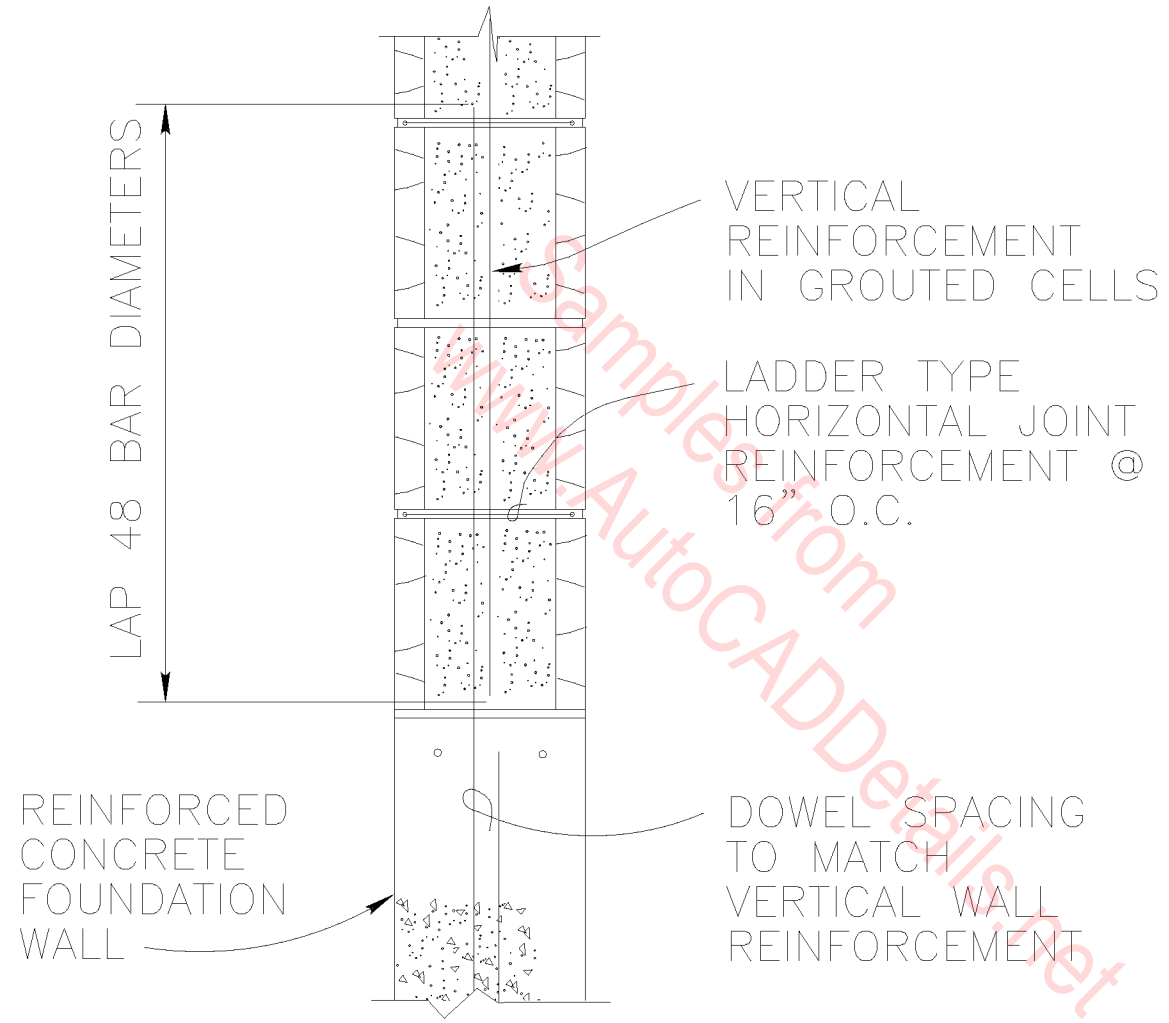
SECTION AT TOP OF WALL



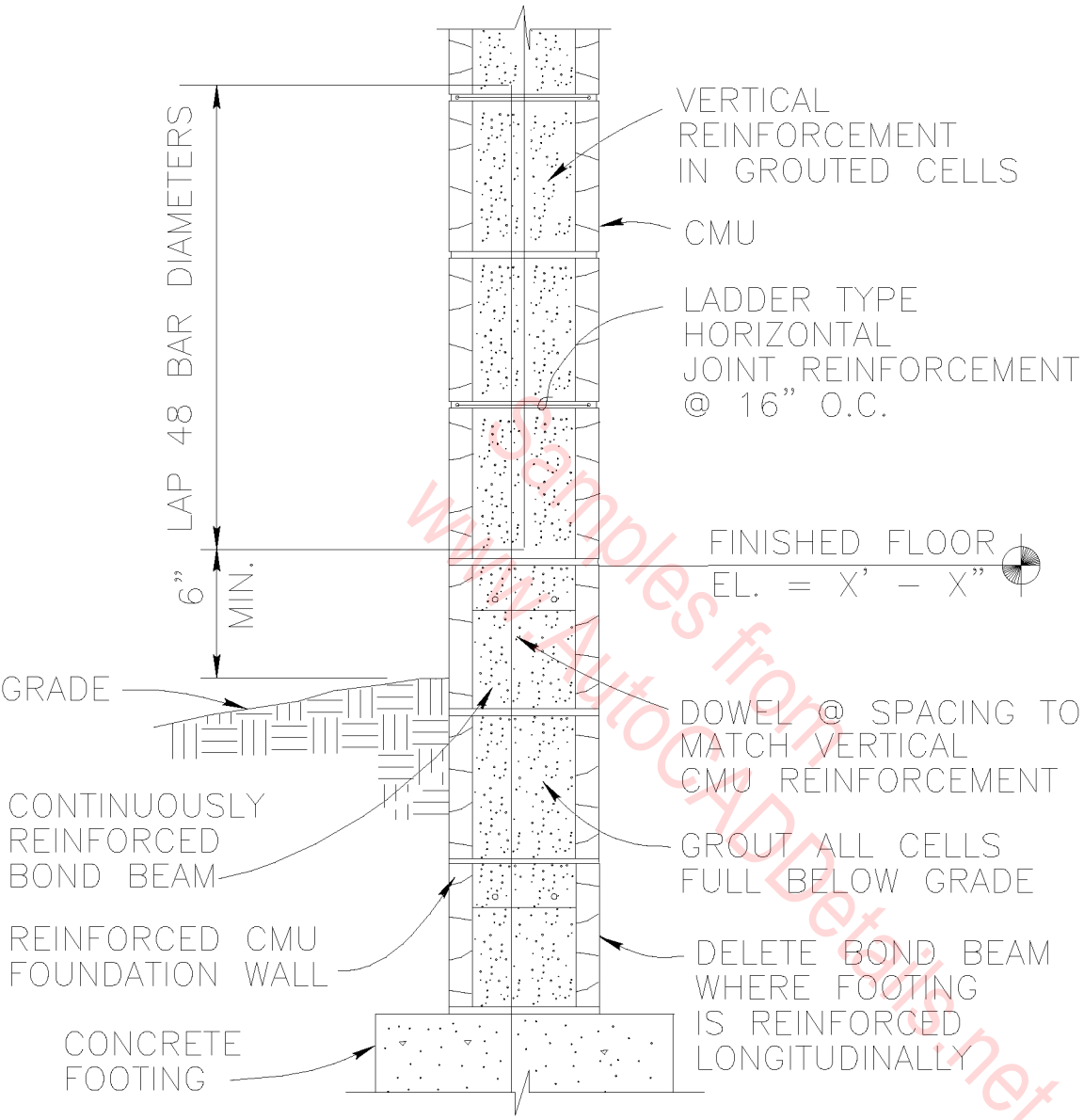
SECTION A



SINGLE WYTHE WALL
SECTION AT TOP OF WALL

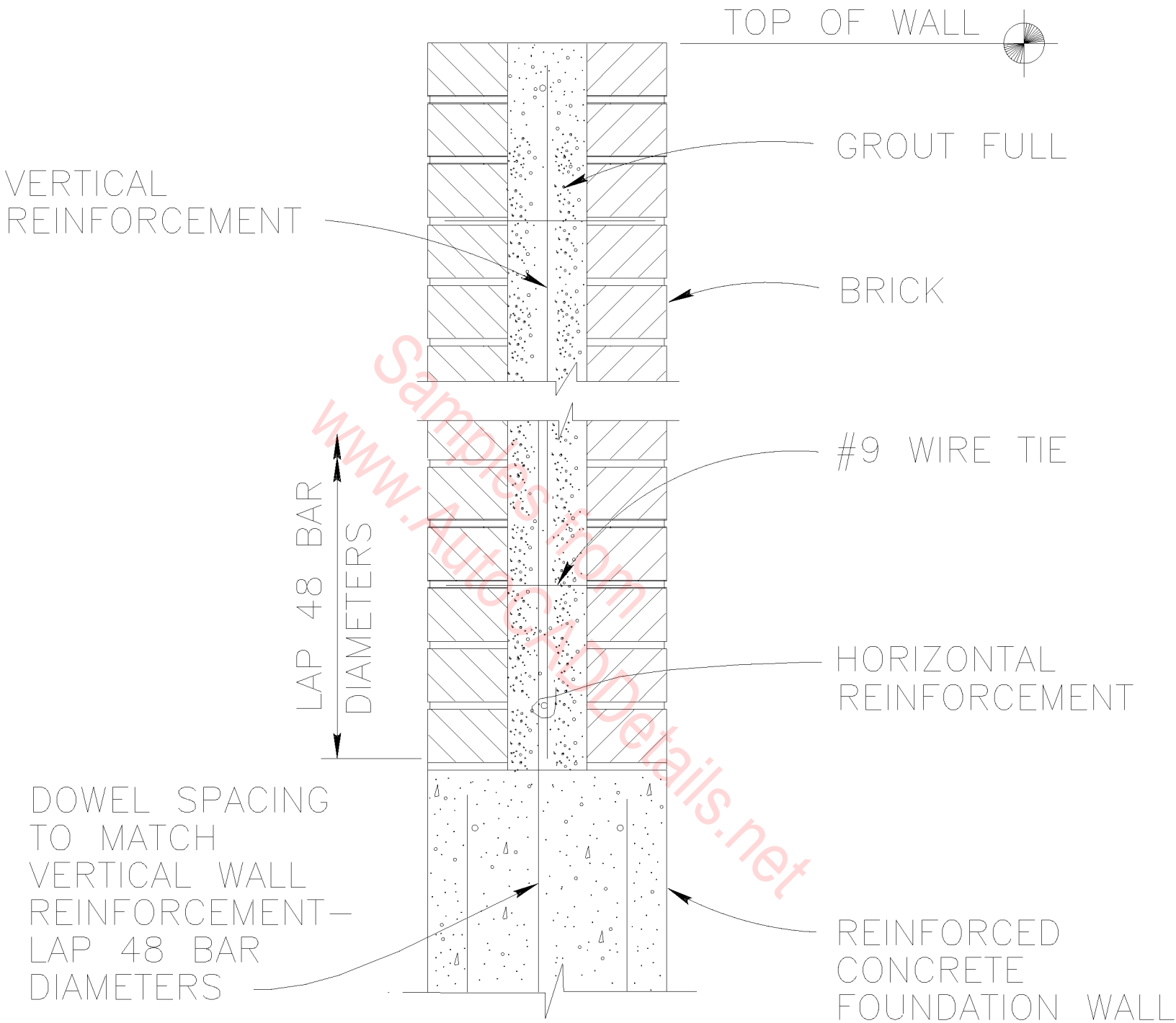


SINGLE WYTHE WALL
SECTION AT BASE (CONC. FOUND.)

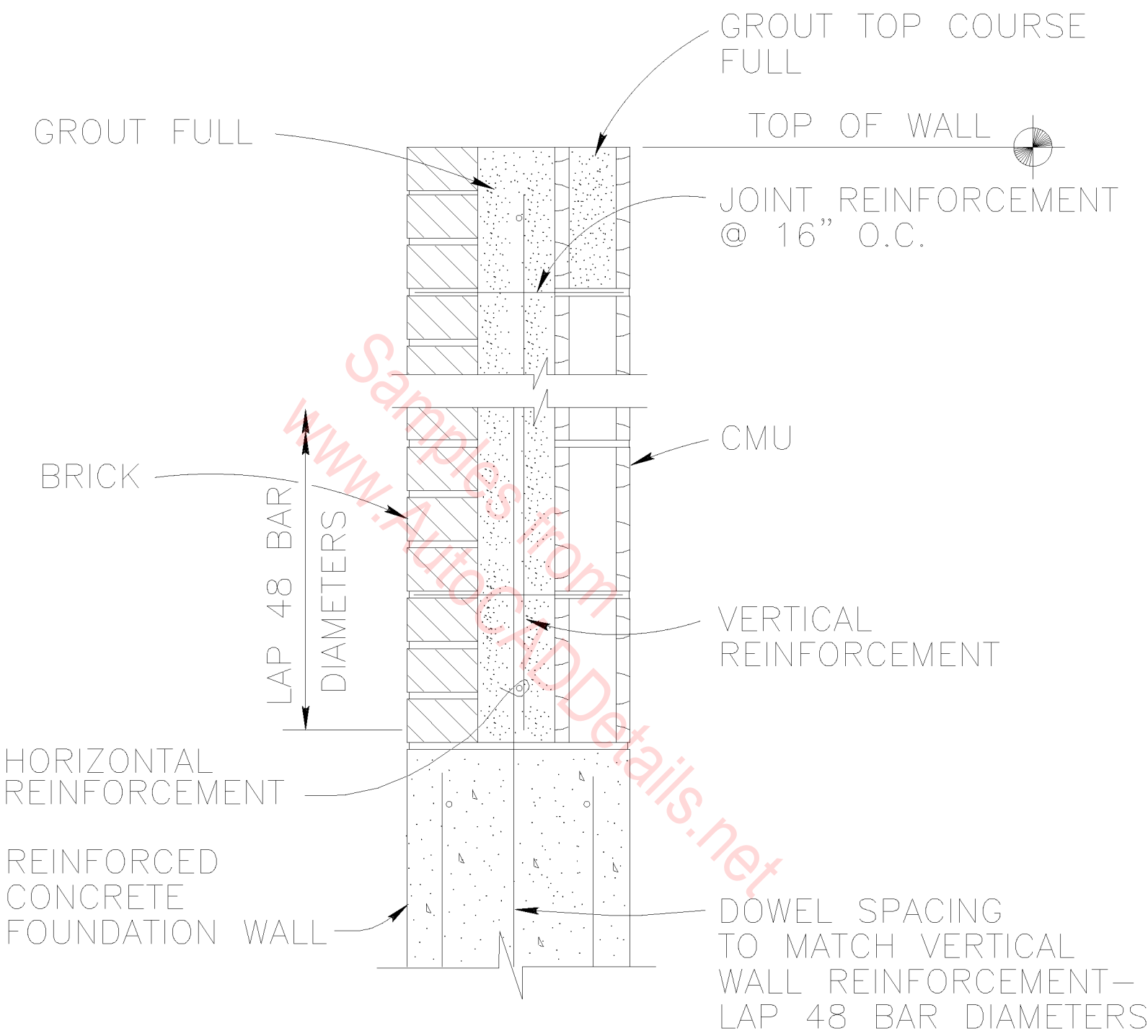


NOTE: TOP OF DOOR FRAME MUST MATCH COURSING TO PREVENT CUTTING CMU. OPTIONS ARE: VARYING DOOR FRAME HEAD OR VARYING DOOR HEIGHT. STARTING COURSING AT OTHER THAN FINISH FLOOR LEVEL IS NOT RECOMMENDED SINCE INTERIOR MASONRY WALLS PLACED ON THE FINISHED FLOOR MAY NEED TO COURSE WITH THE OTHER WALLS.

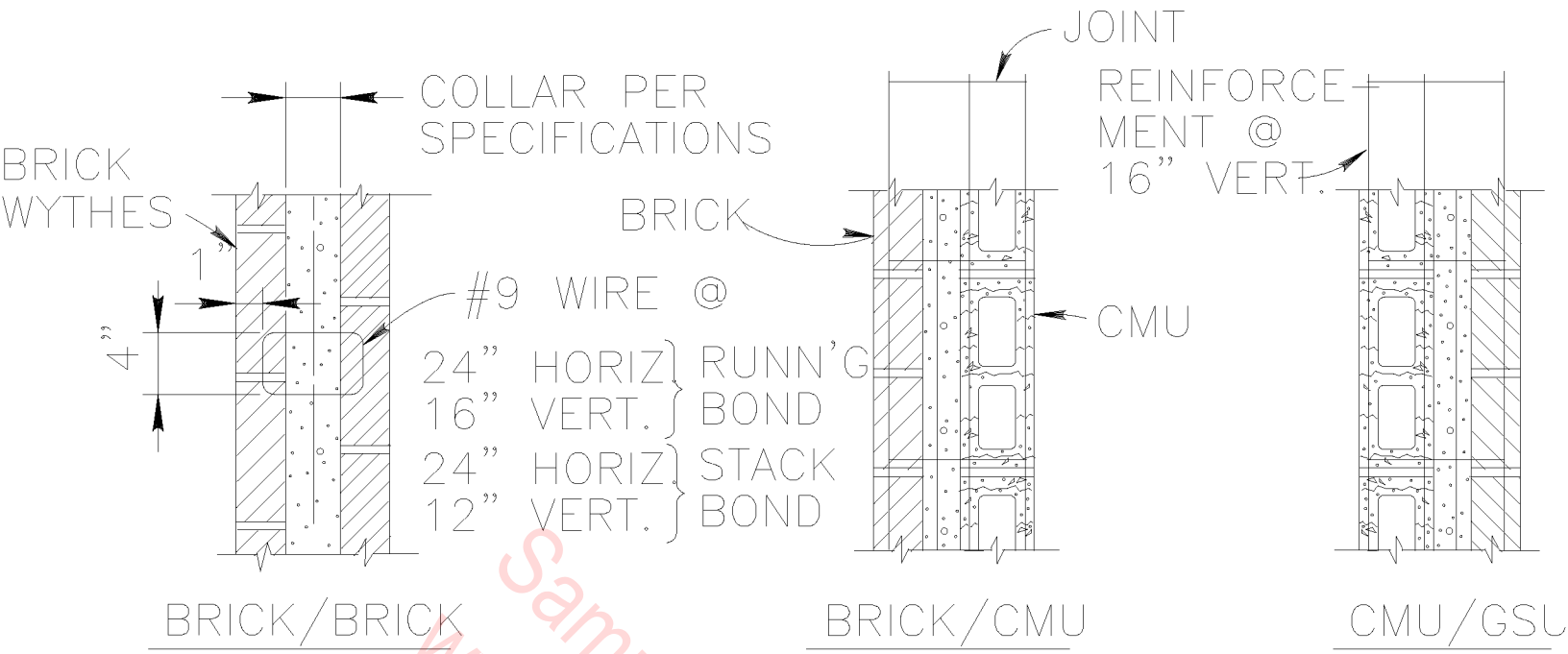
SINGLE WYTHE WALL SECTION AT BASE (CMU FOUND.)

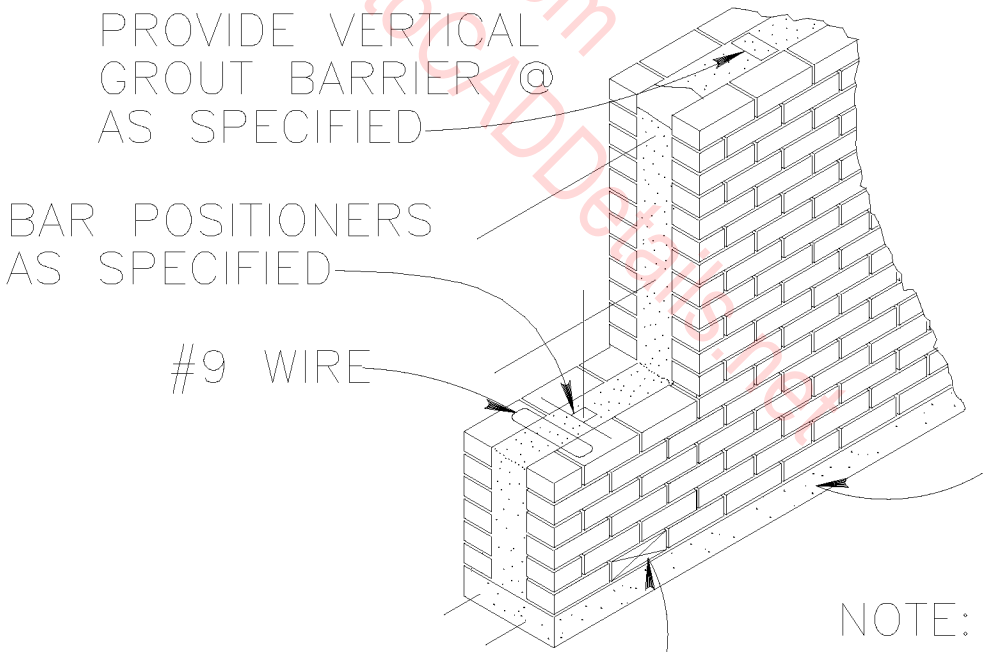


GROUTED MASONRY WALL SECTION (BRICK/BRICK)



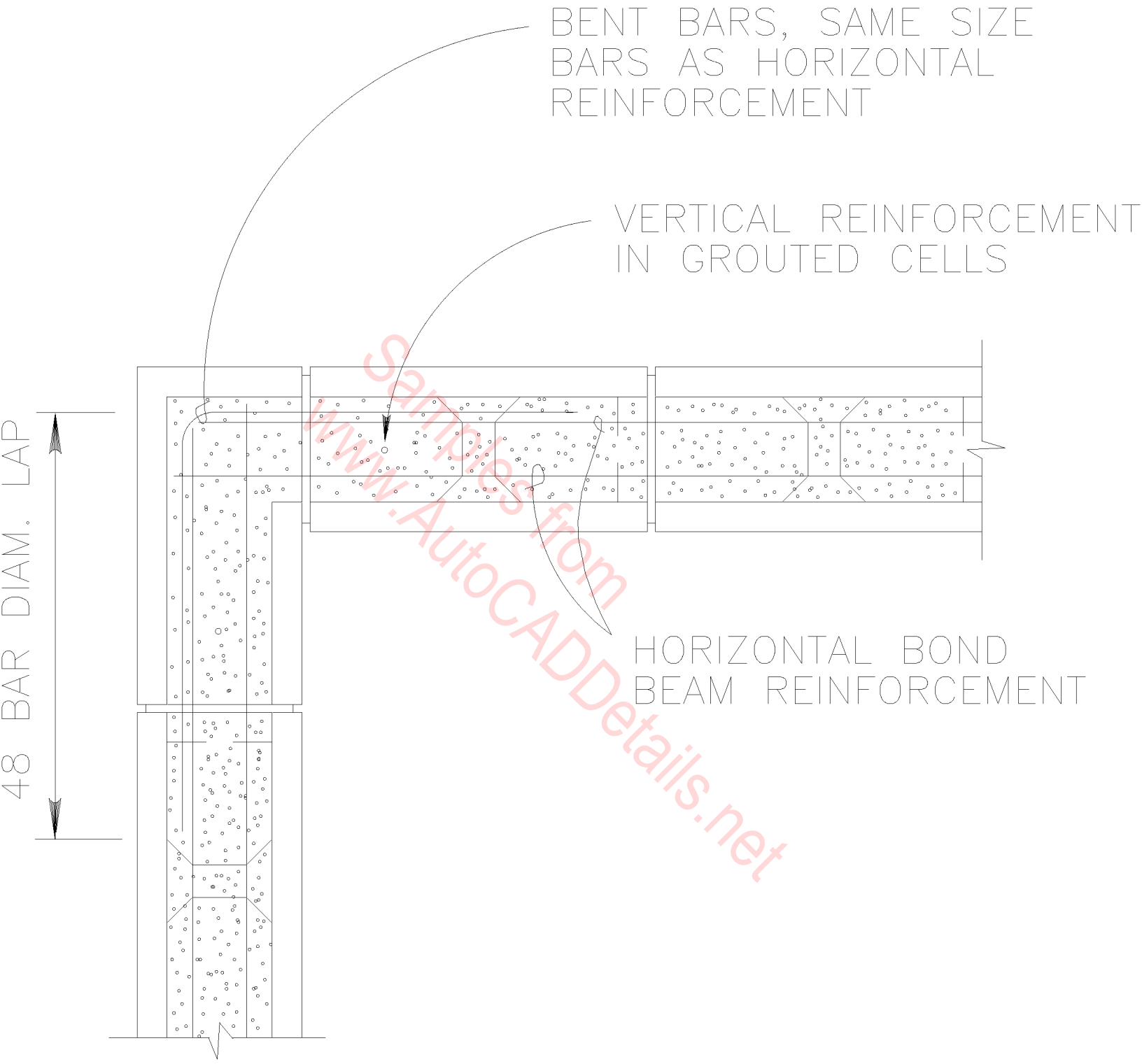
GROUTED MASONRY WALL SECTION (BRICK/CMU)



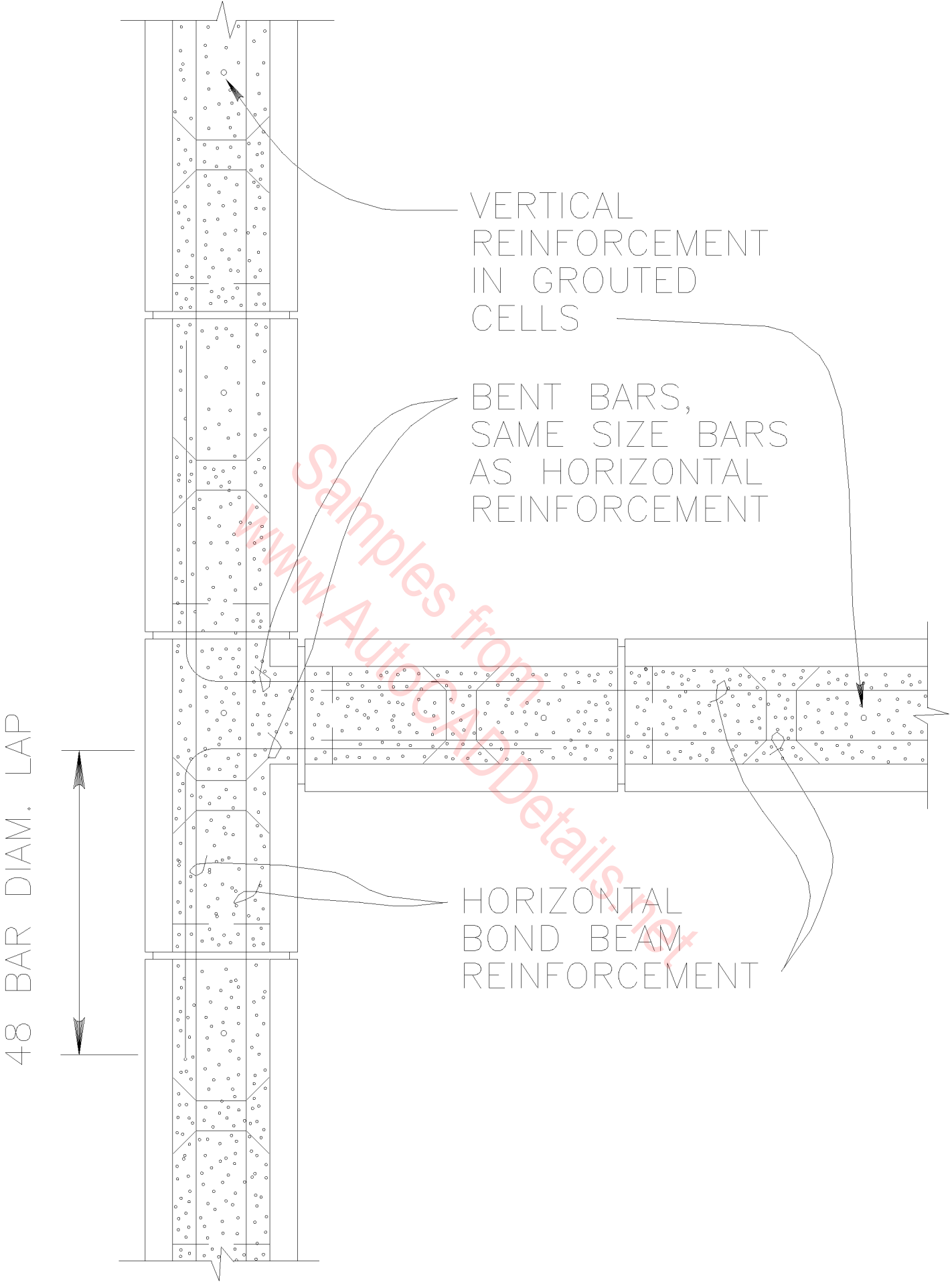


NOTE:
* APPLIES TO HIGH LIFT CONSTRUCTION METHOD ONLY

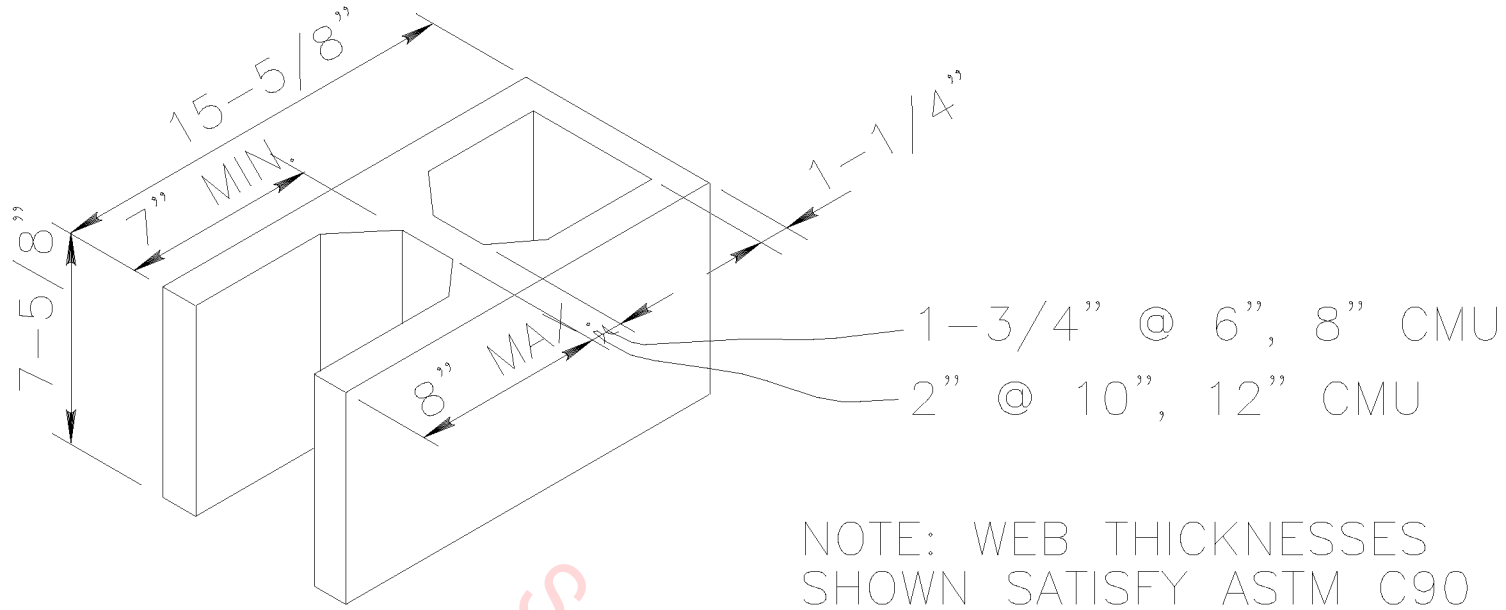
GROUTED MASONRY DETAILS



BOND BEAM CORNER

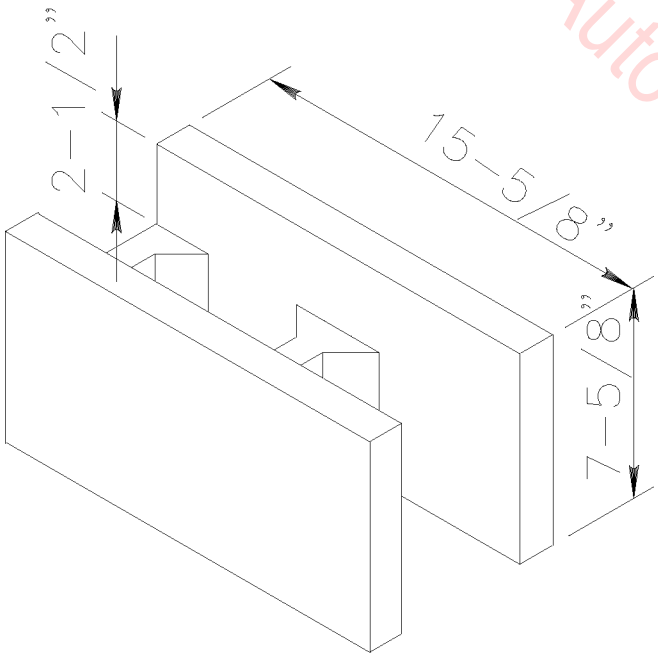


BOND BEAM INTERSECTION



OPEN END UNIT

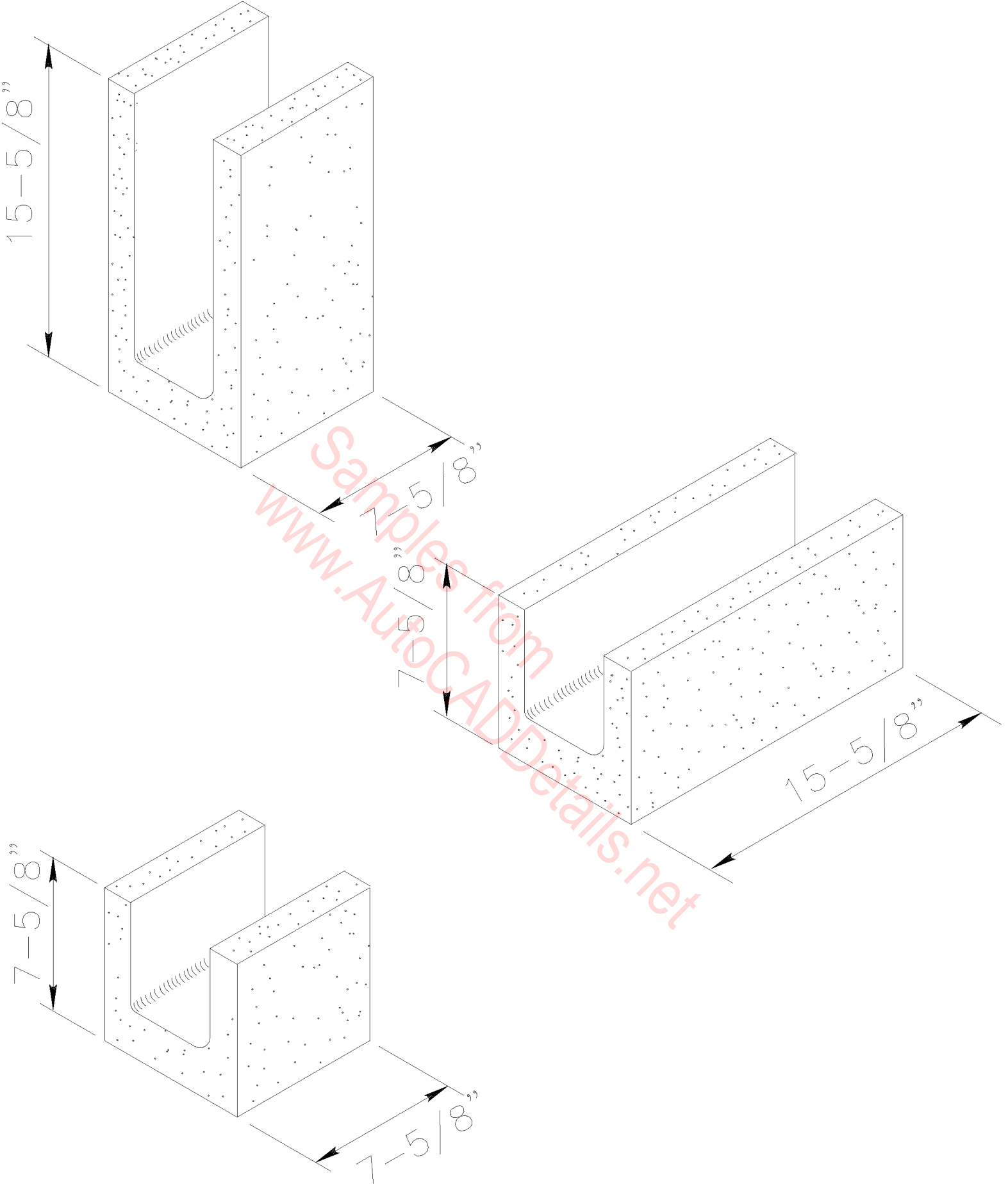
NOTE: WEB THICKNESSES SHOWN SATISFY ASTM C90 REQUIREMENTS. UNIT DIMENSIONS AND CONFIGURATION MAY VARY, BUT MUST SATISFY ASTM C90 REQUIREMENTS. THICKNESSES OF WEBS AND FACE SHELLS MAY BE REDUCED UNDER CERTAIN CONDITIONS AS ALLOWED BY ASTM C90. KNOCKOUT WEBS ARE PERMITTED TO FACILITATE HANDLING AND SHIPPING.



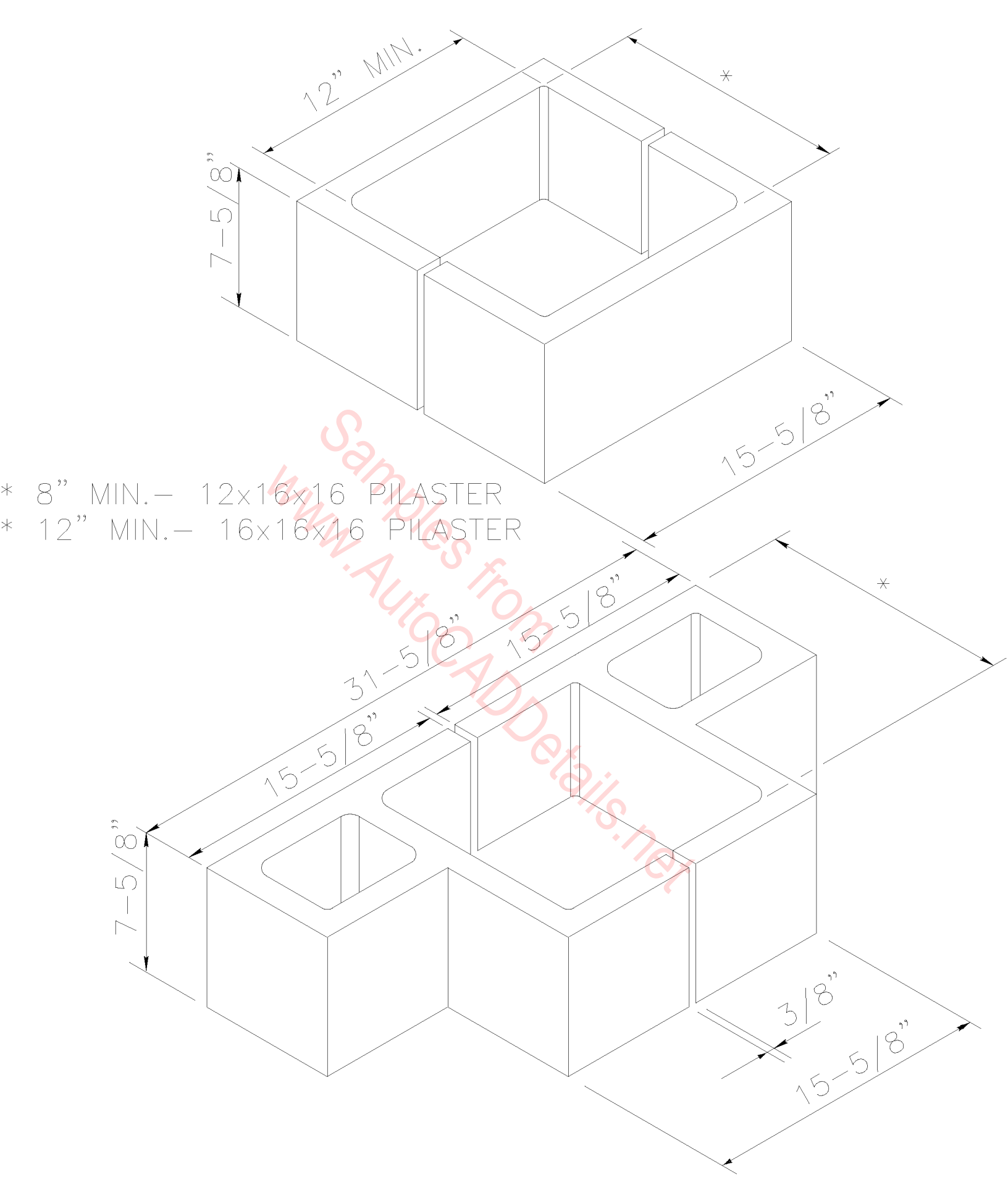
OPEN END BOND BEAM UNIT

NOTE: BOND BEAM UNITS MAY BE CUT FROM OPEN END UNITS.

OPEN END UNITS

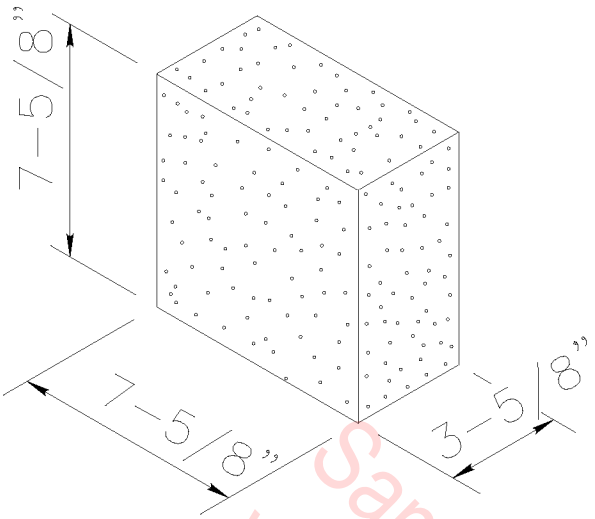


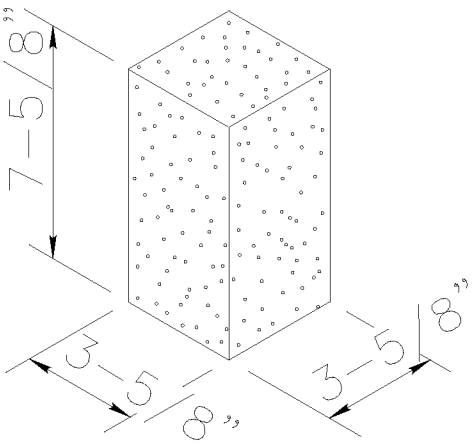
LINTEL UNITS

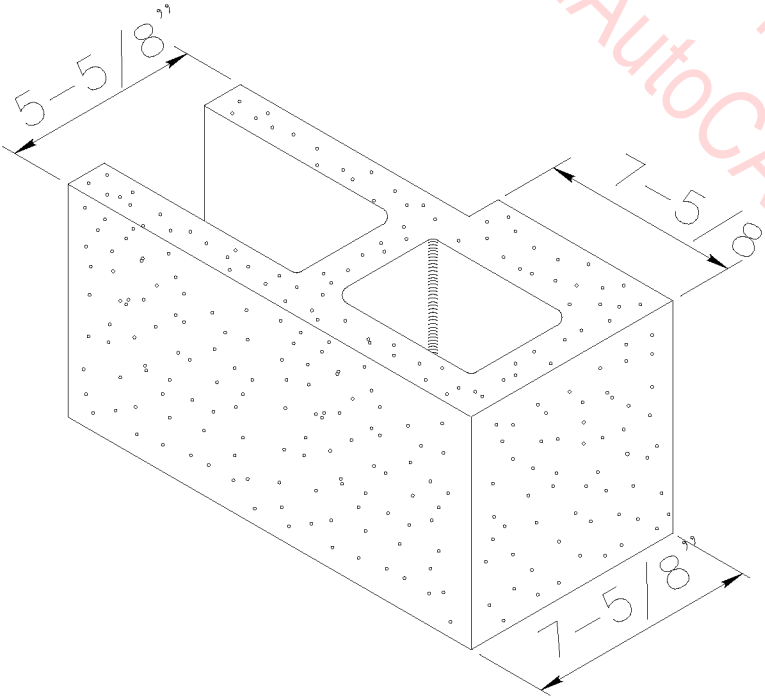


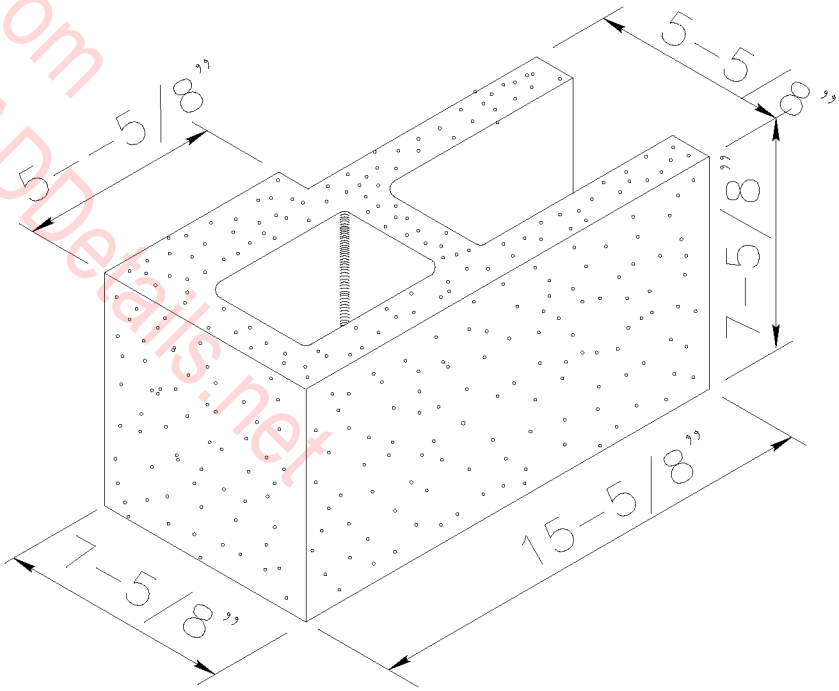
* 8" MIN.— 12x16x16 PILASTER
* 12" MIN.— 16x16x16 PILASTER

PILASTER UNITS



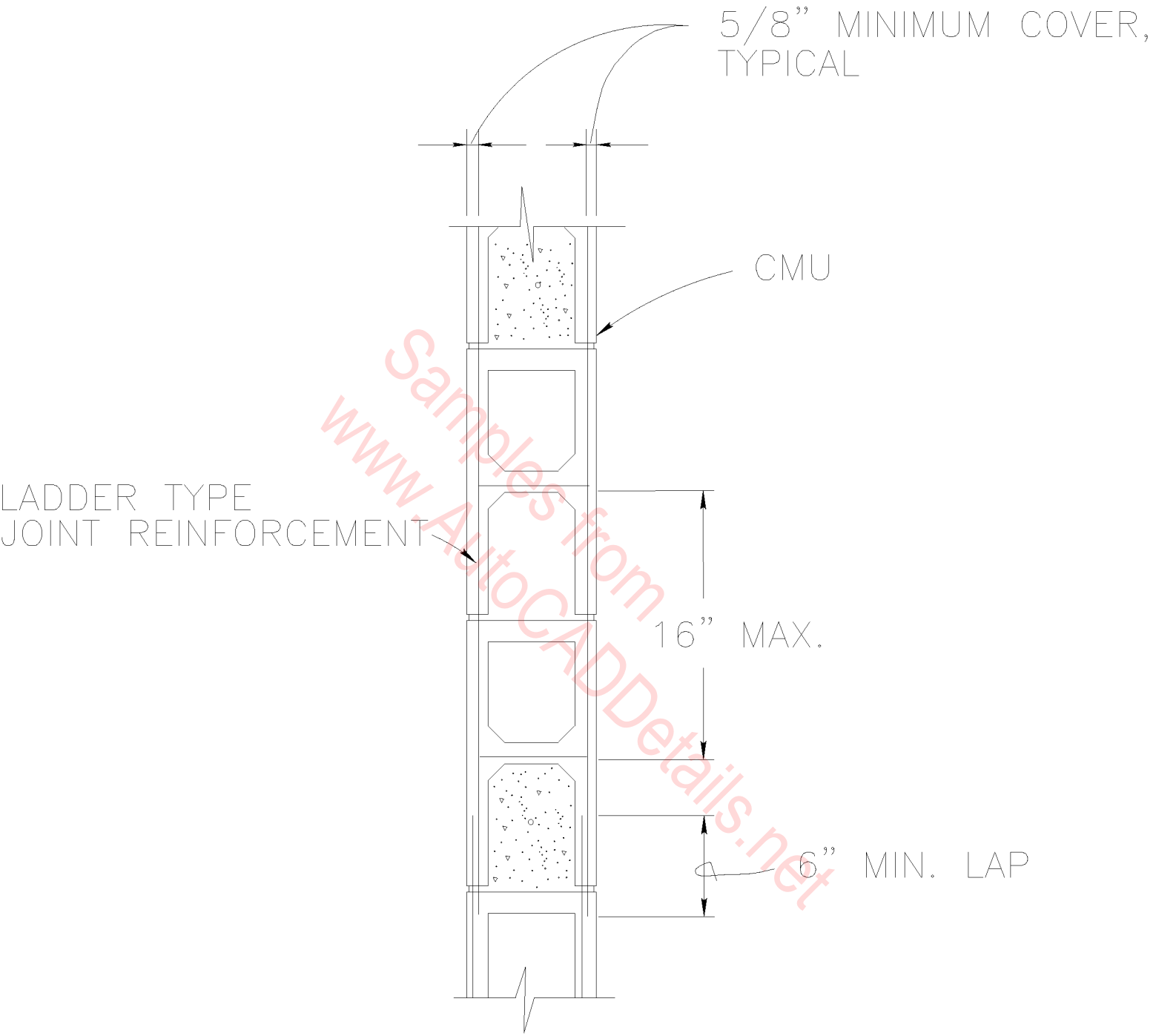






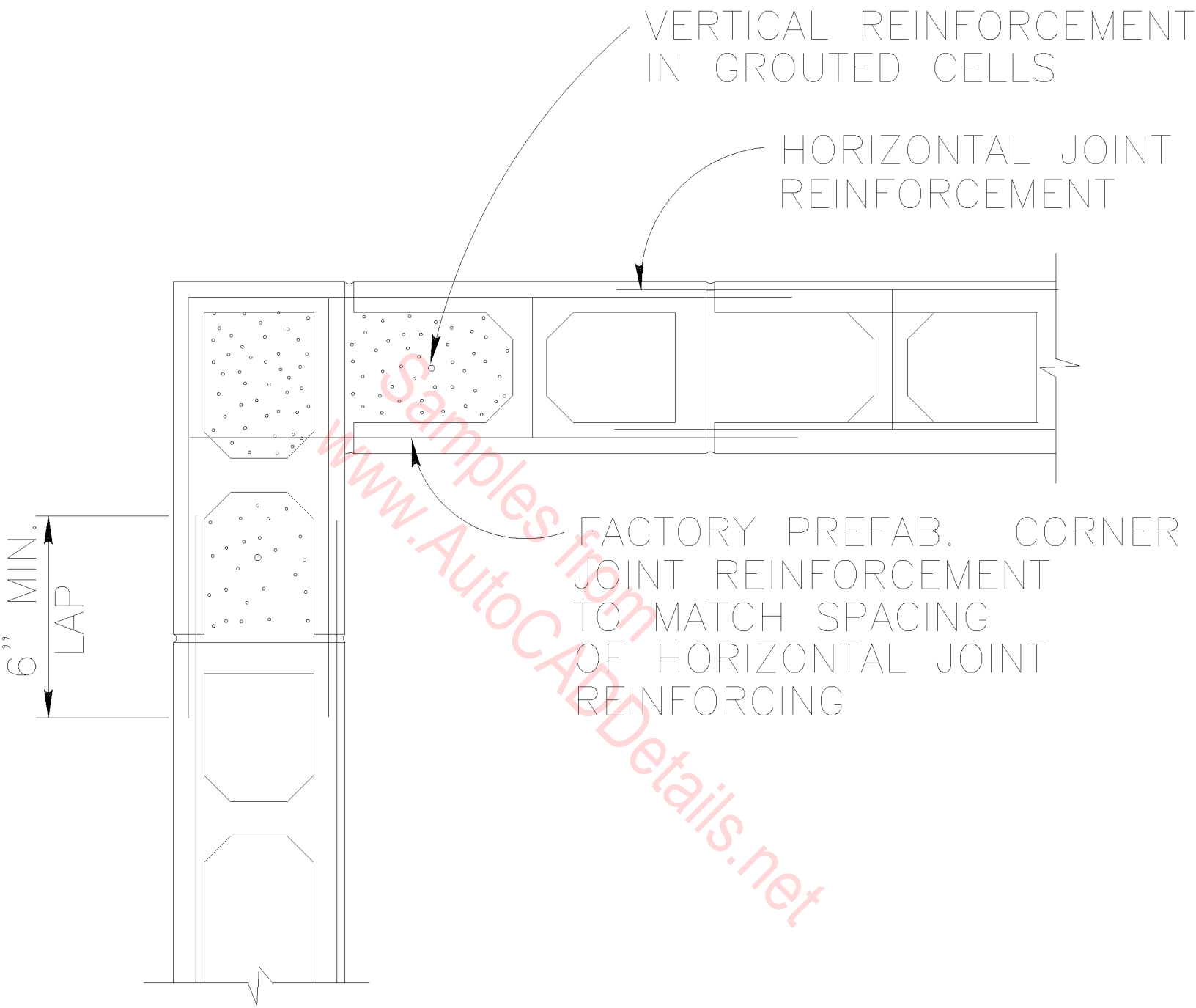
NOTE: BOND BEAM UNITS NOT SHOWN

CORNER TRANSITION UNITS



JOINT REINFORCEMENT SINGLE WYTHE WALL

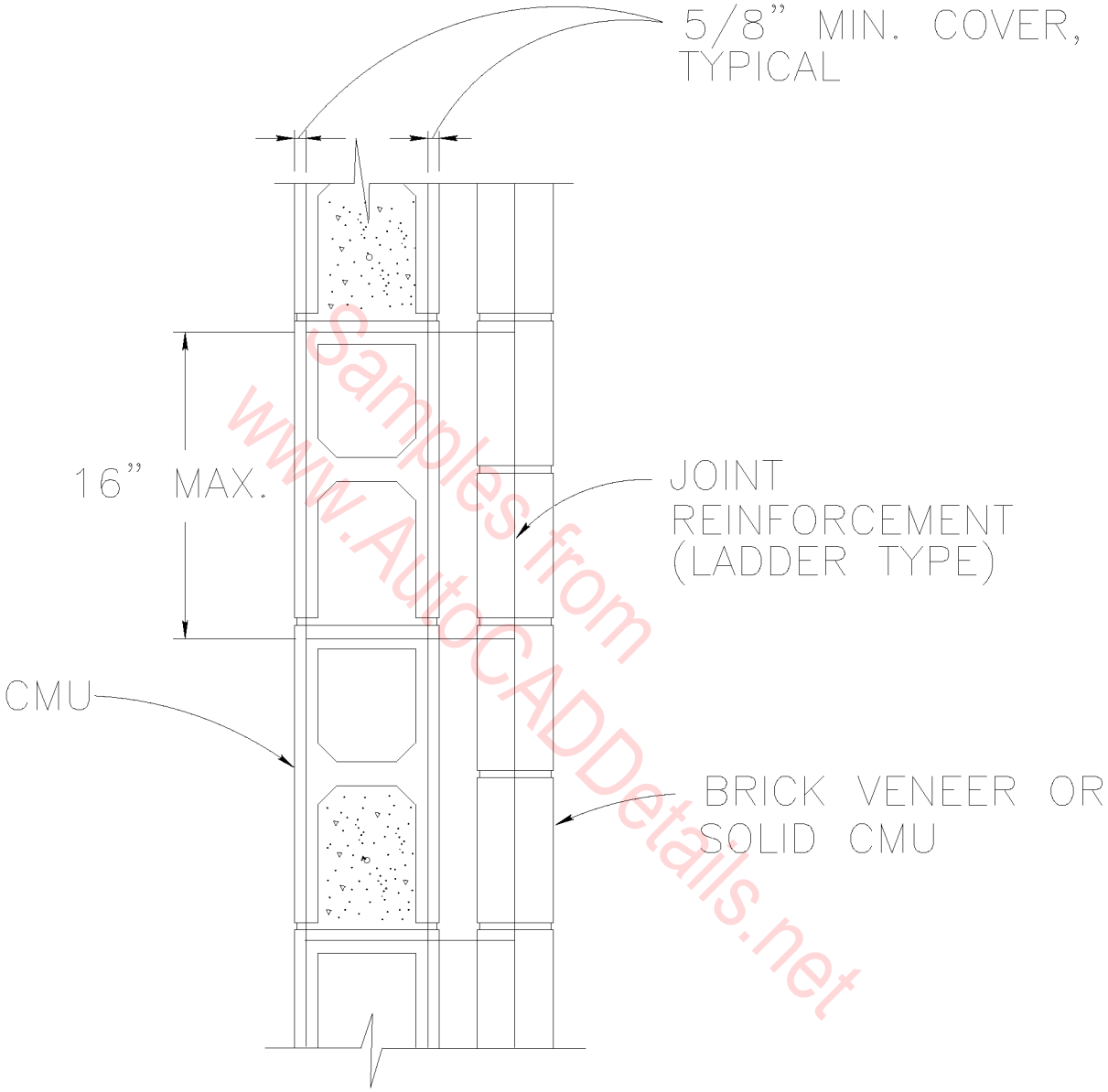
SCALE: 1" = 1'-0"



JOINT REINFORCEMENT

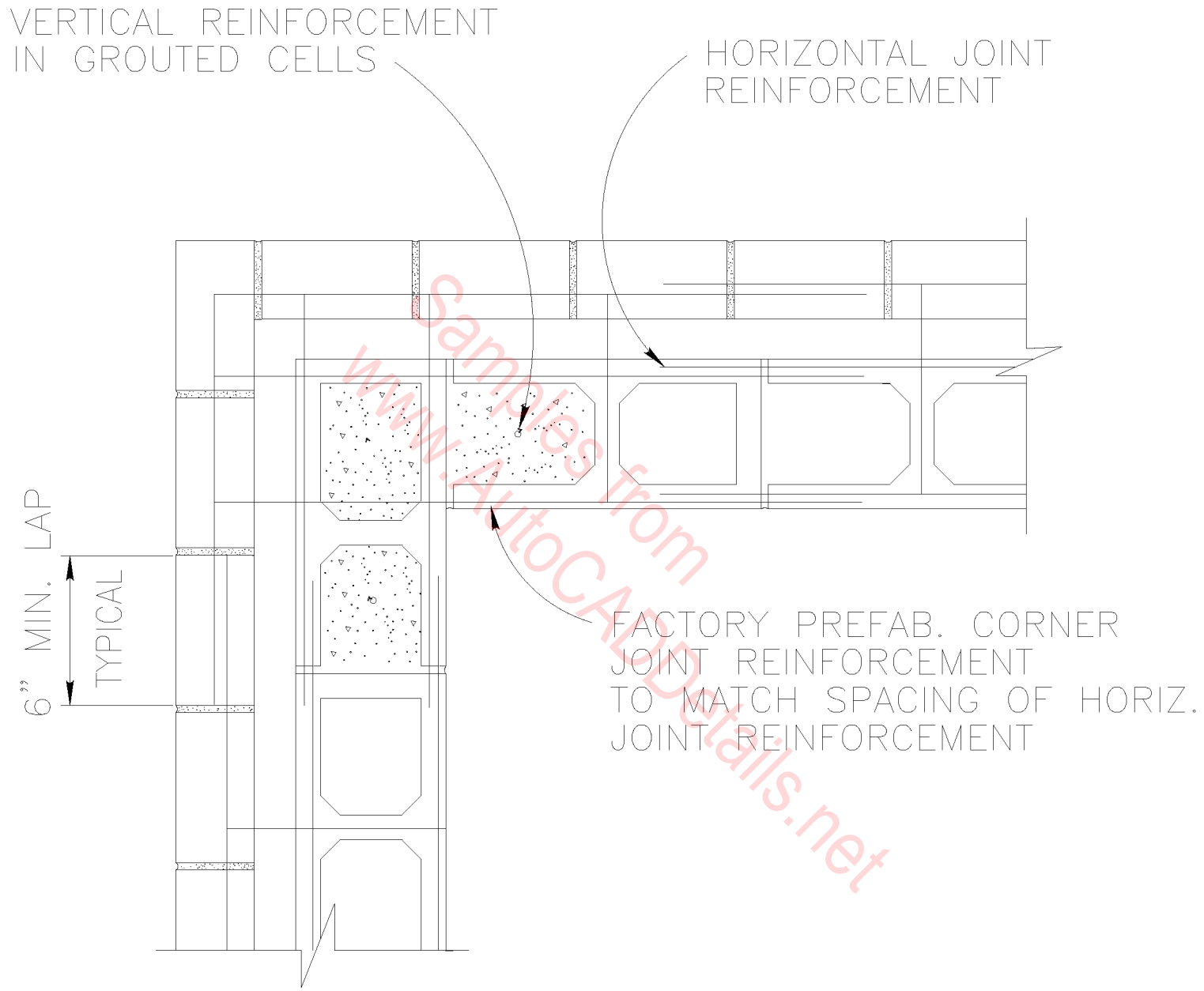
SINGLE WYTHE CORNER

N.T.S.

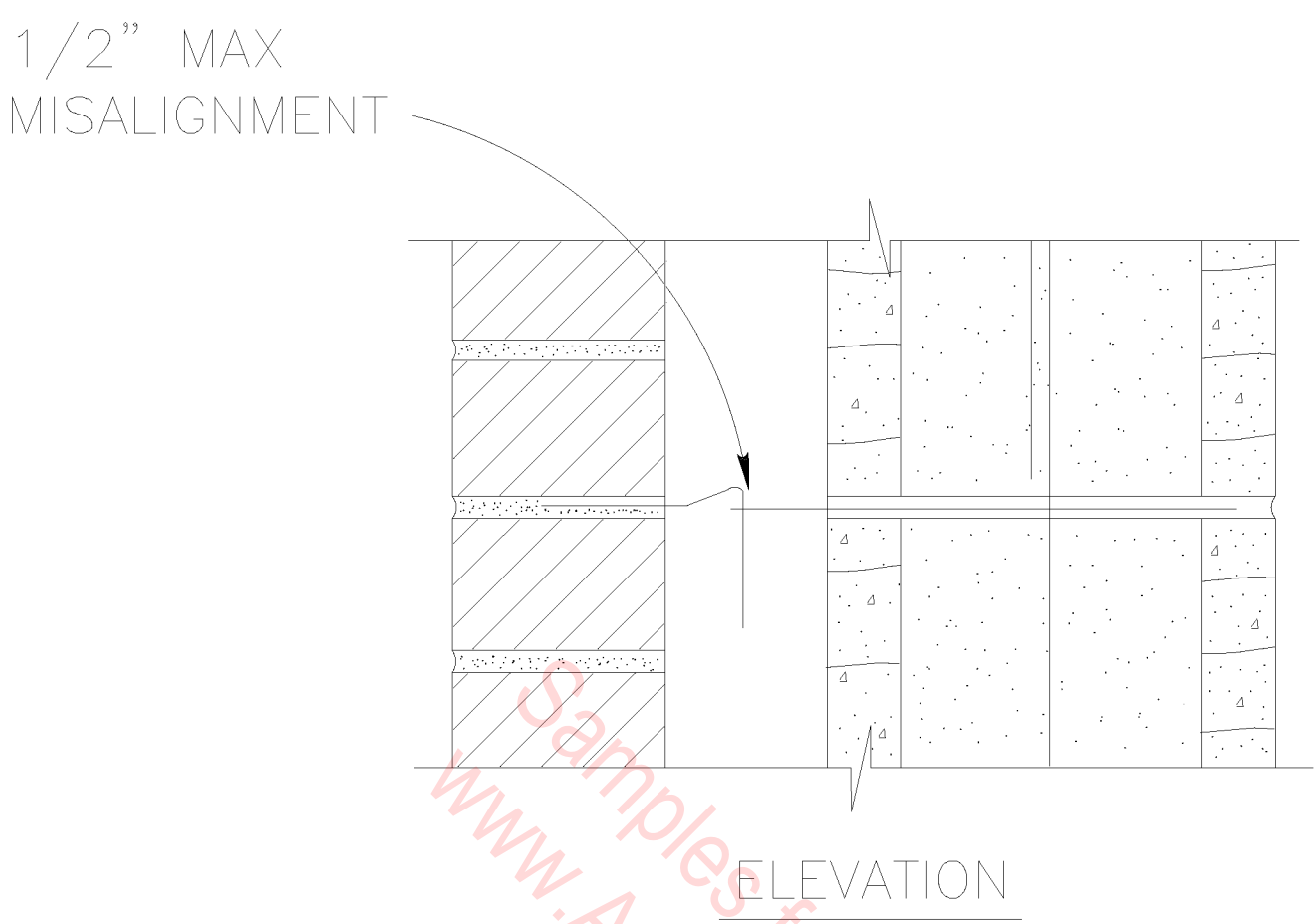


JOINT REINFORCEMENT MULTIPLE WYTHE WALL

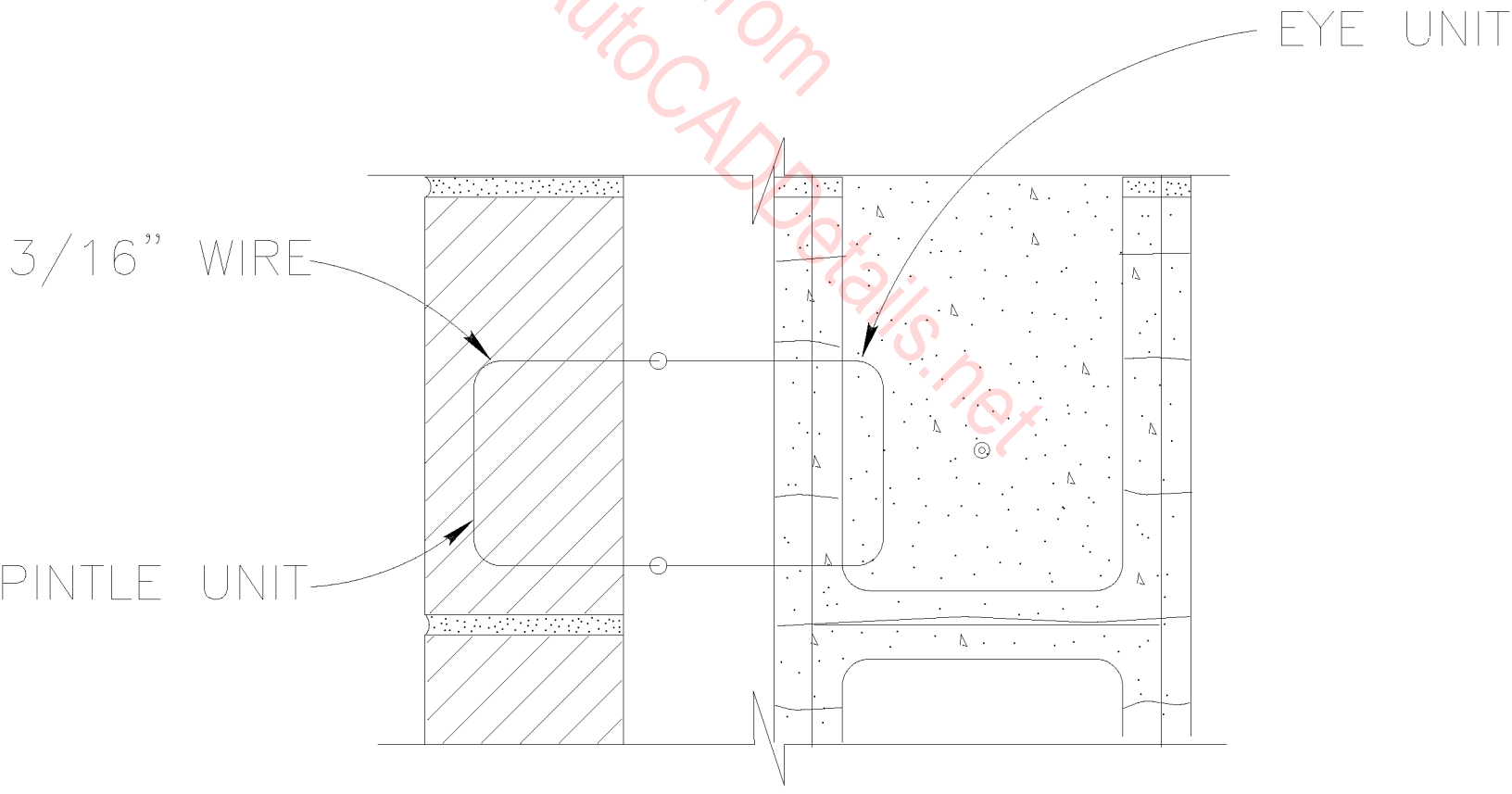
SCALE: 1" = 1'-0"



JOINT REINFORCEMENT MULTIPLE WYTHE CORNER

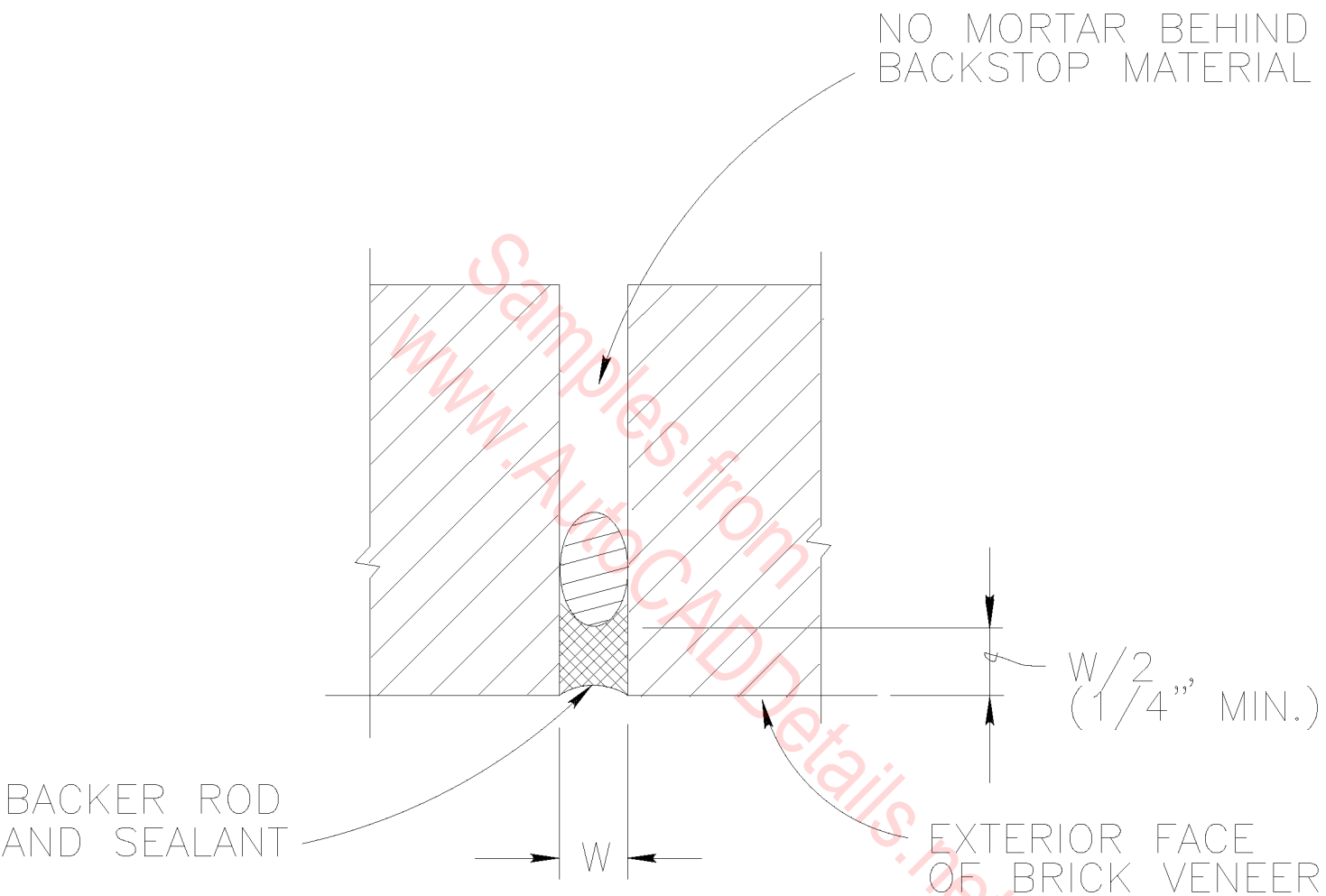


ELEVATION



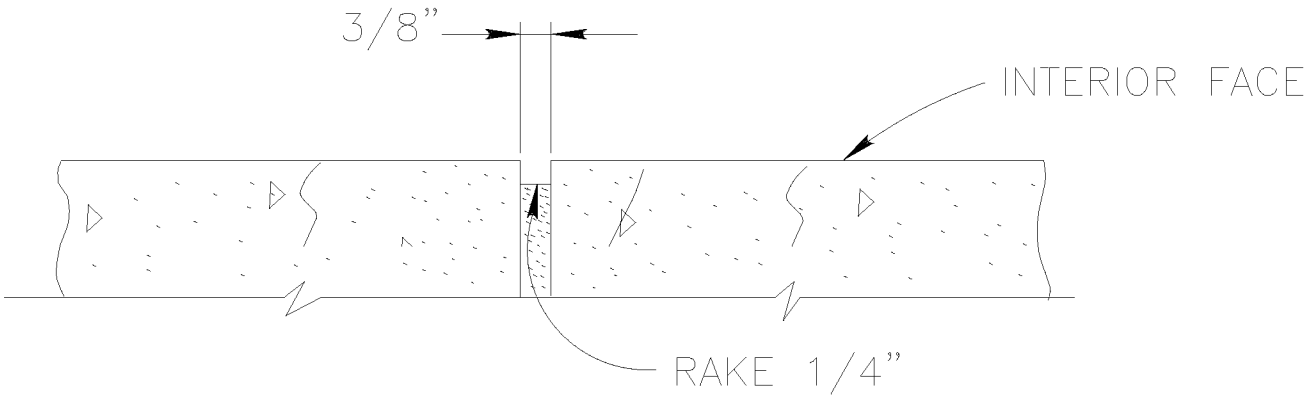
PLAN

ADJUSTABLE TIES

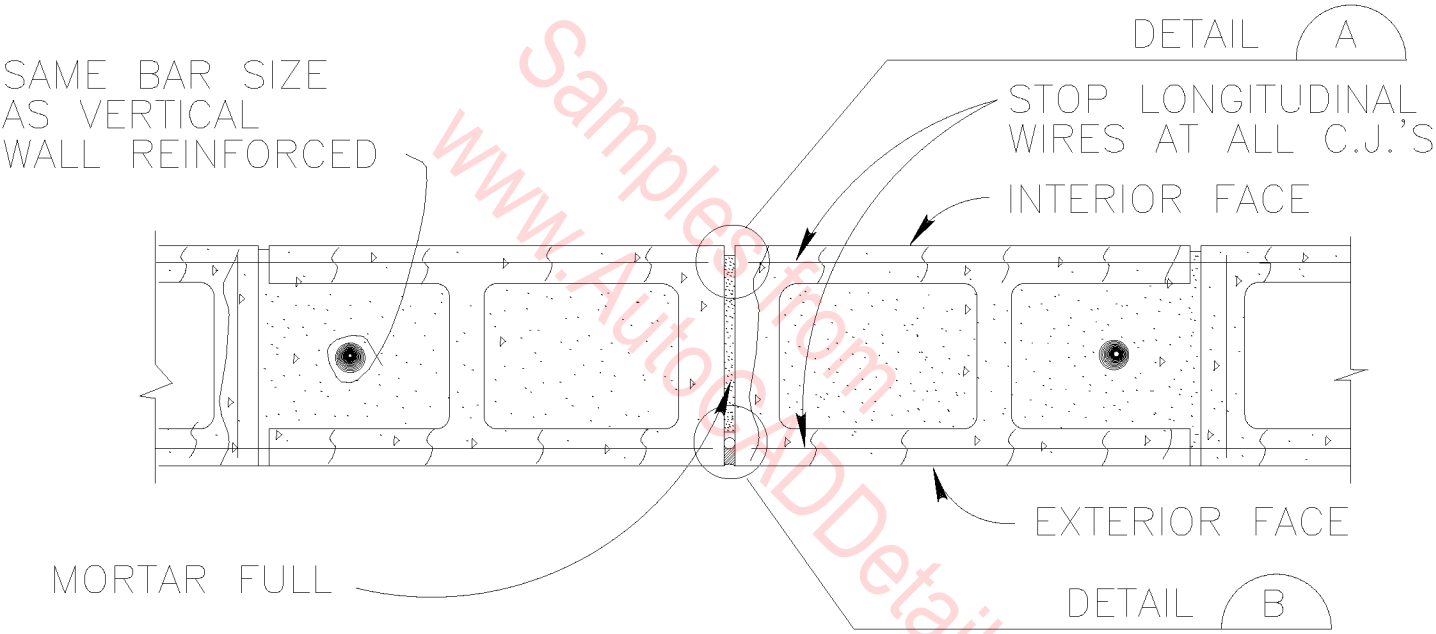


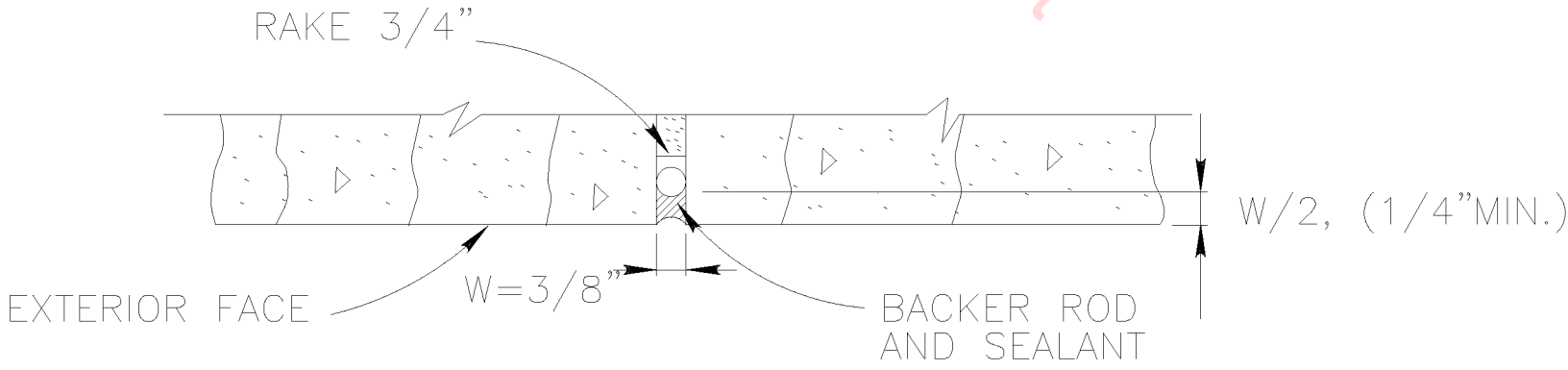
W = JOINT WIDTH

BRICK EXPANSION JOINT (B.E.J.)



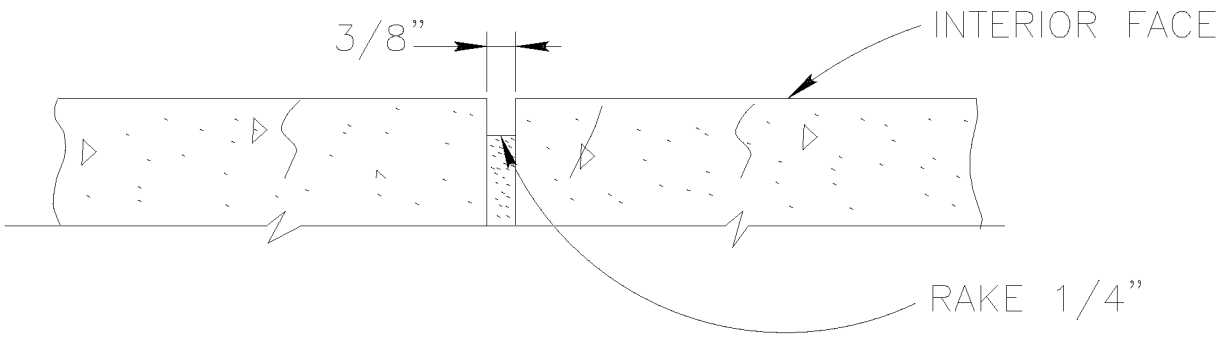
DETAIL A



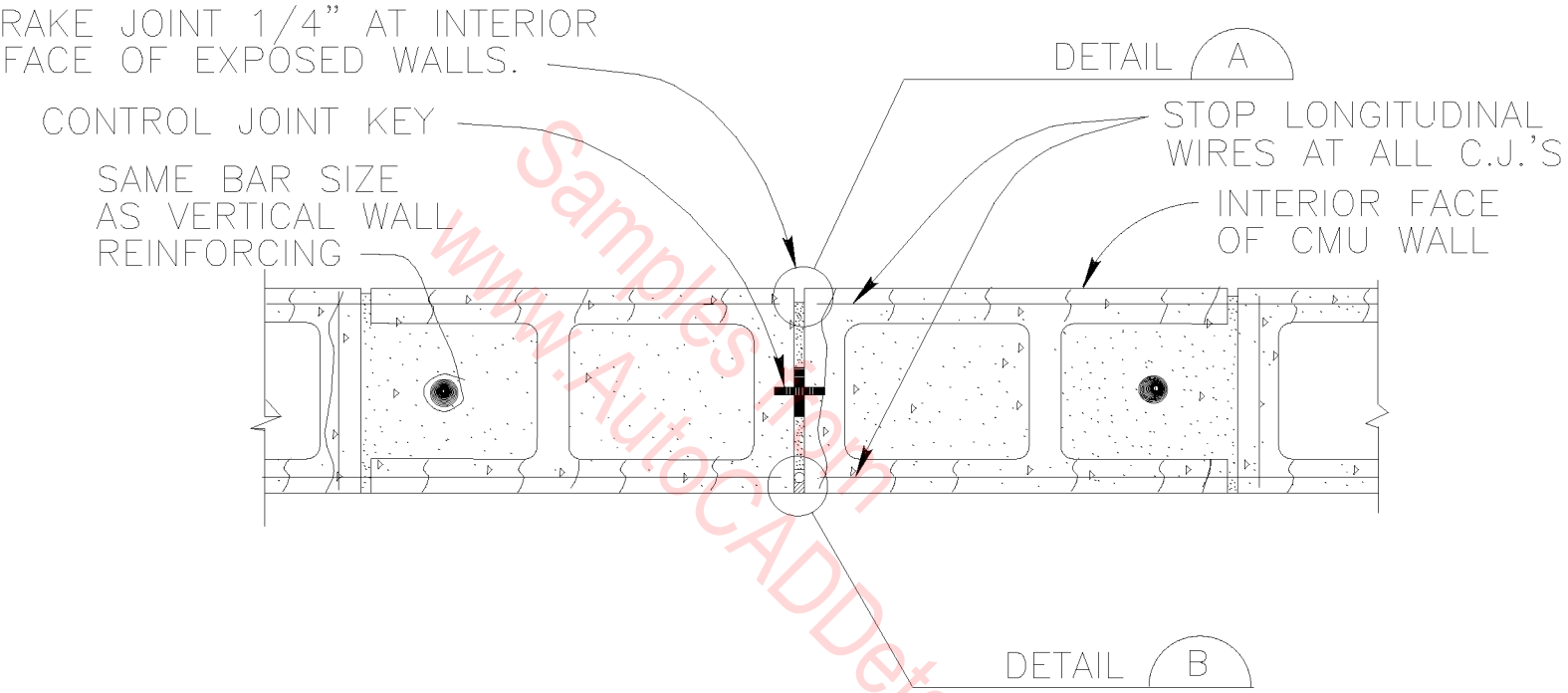


DETAIL B

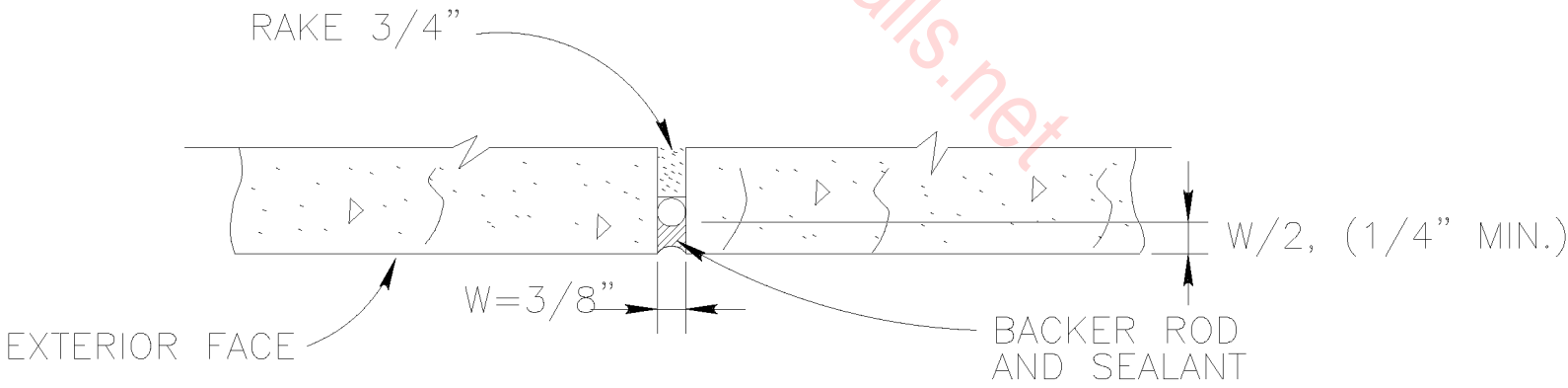
CMU CONTROL JOINT (C.J.)



DETAIL A

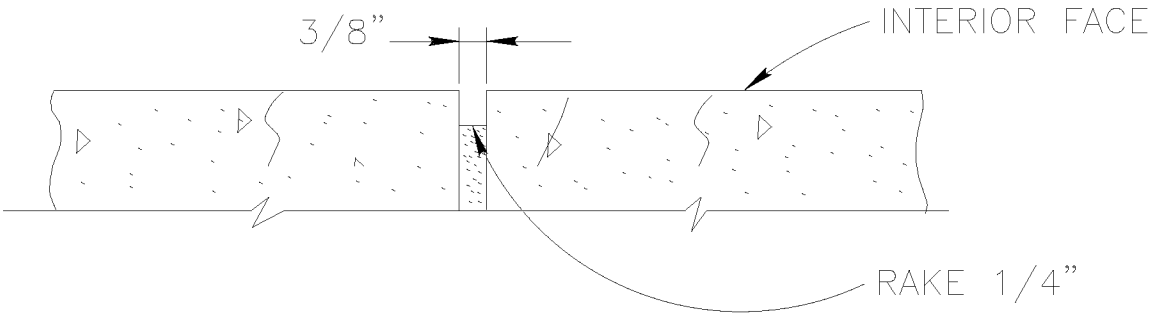


DETAIL B

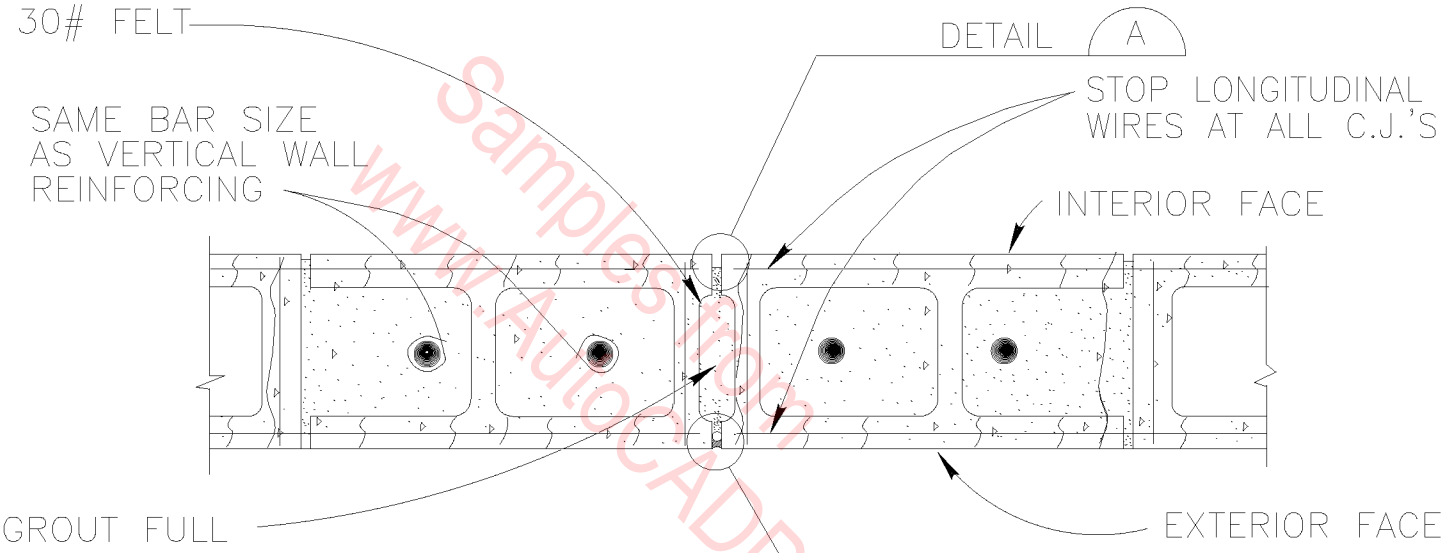


DETAIL B

CMU CONTROL JOINT WITH RUBBER KEY

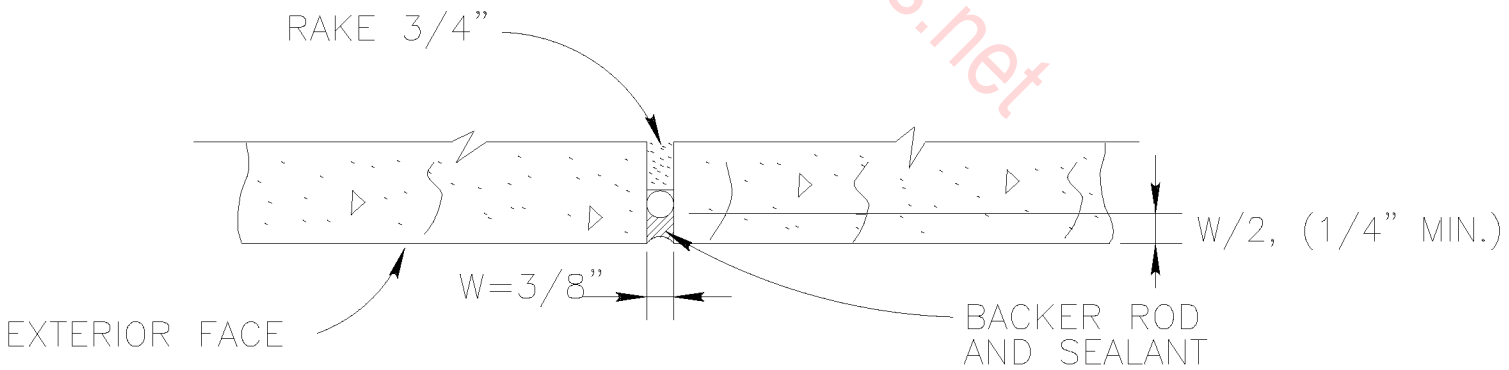


DETAIL A



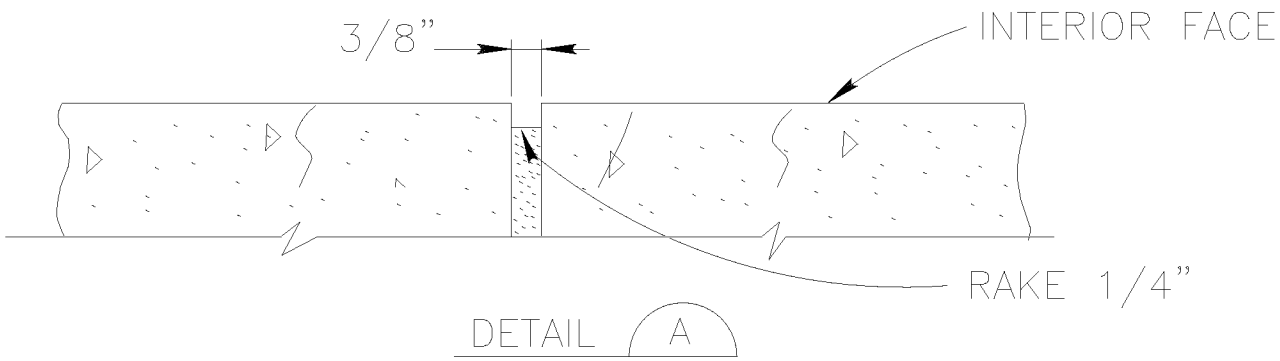
DETAIL B

NOTE: THE USE OF STANDARD AND HALF UNITS WITH 30# FELT OR SASH BLOCK UNITS WITH KEY IS A CONTRACTOR'S OPTION.



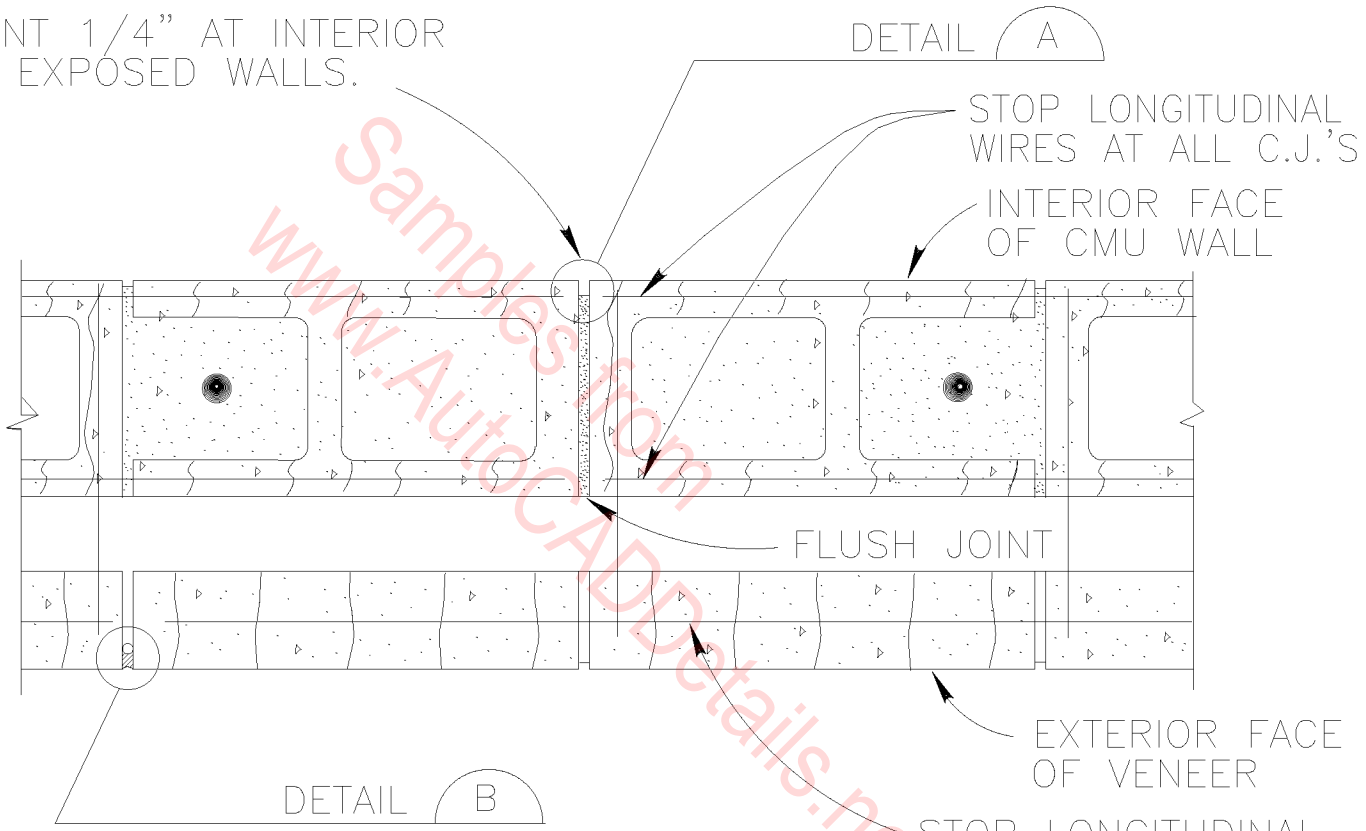
DETAIL B

CMU CONTROL JOINT WITH GROUT KEY

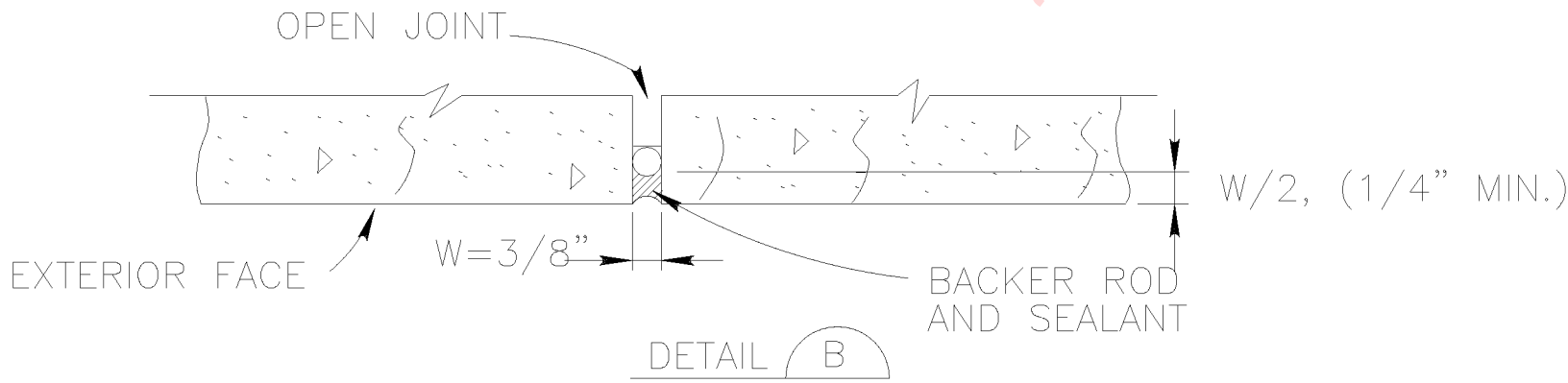


DETAIL A

RAKE JOINT 1/4" AT INTERIOR FACE OF EXPOSED WALLS.

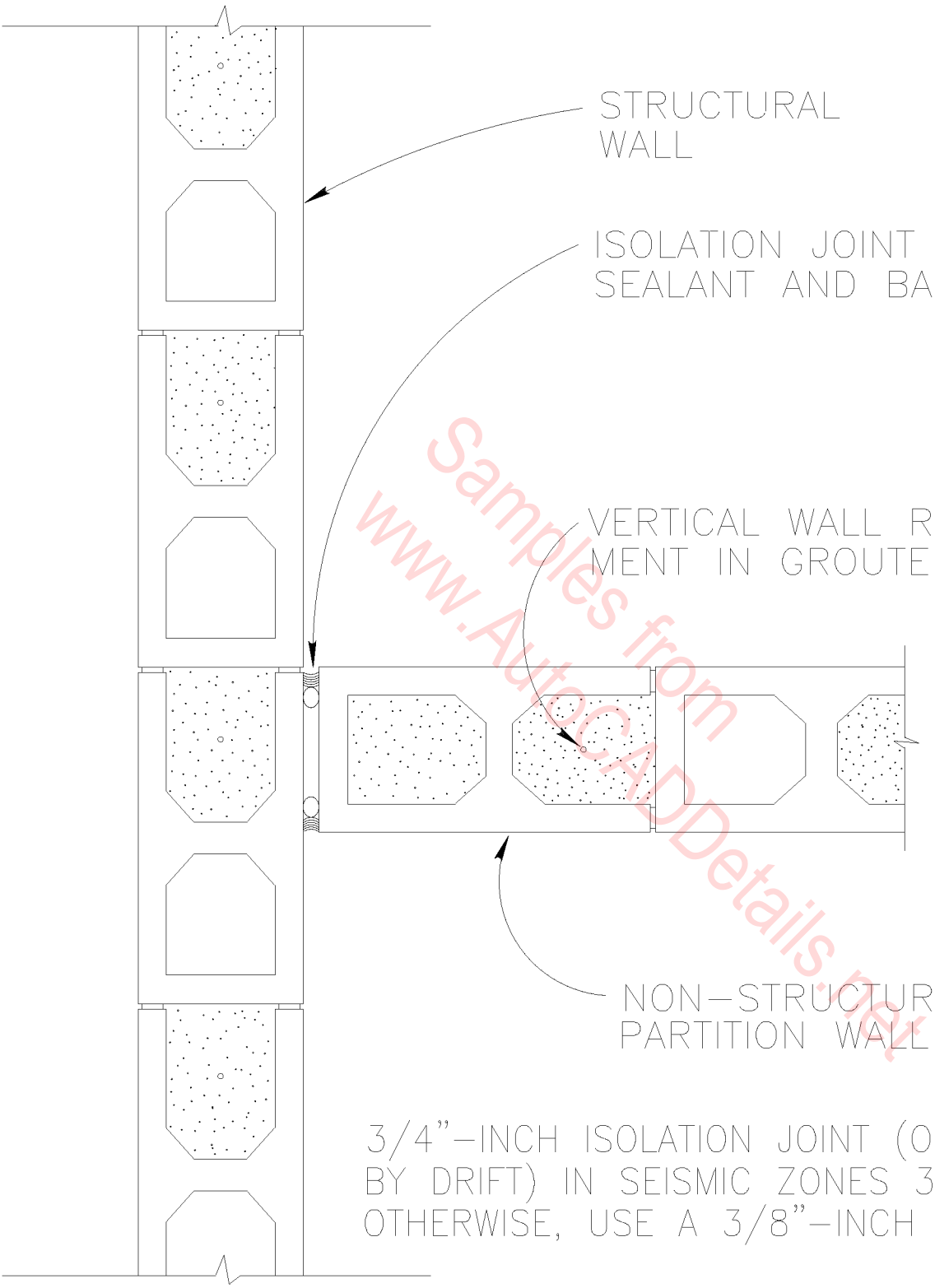


DETAIL B



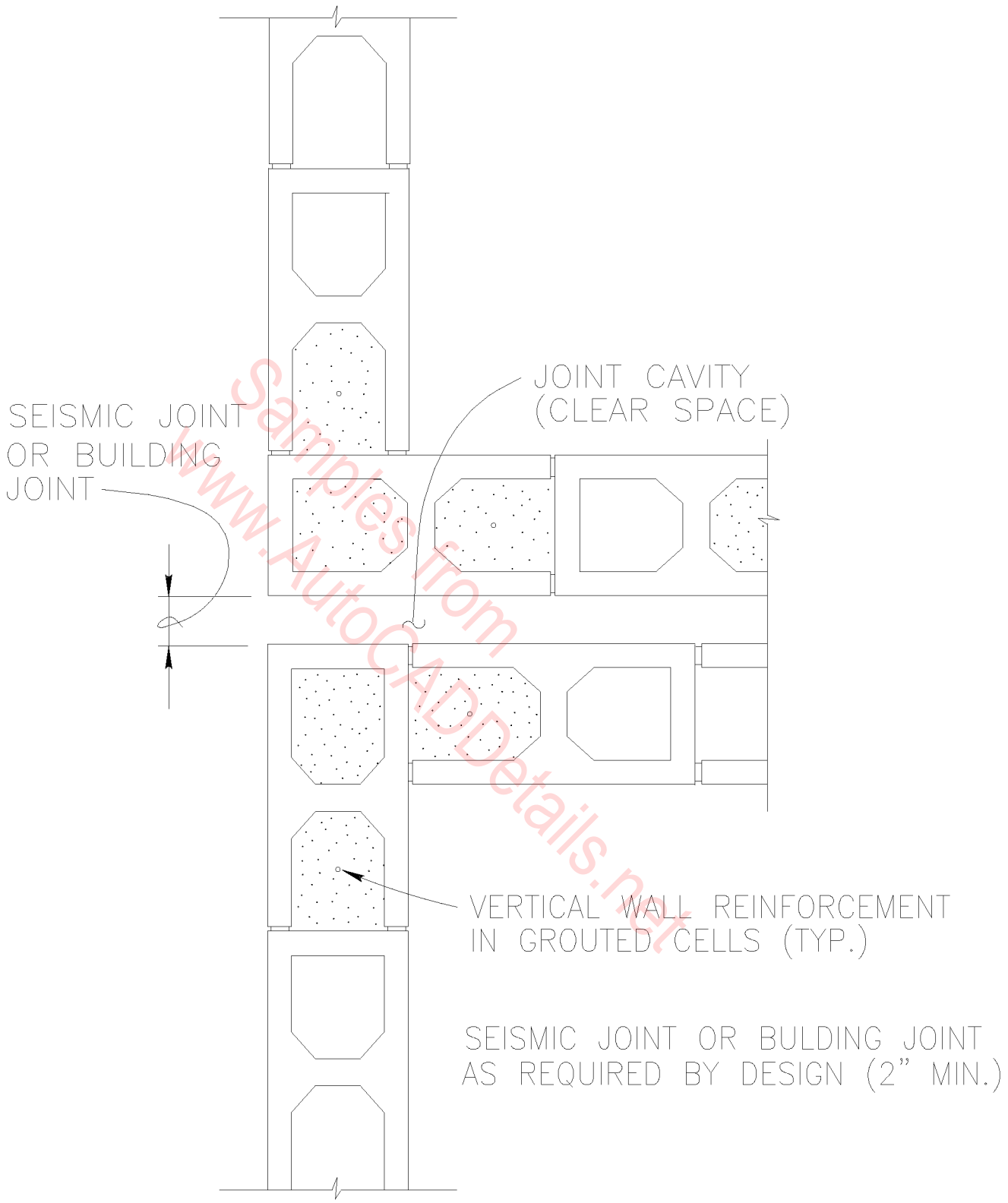
DETAIL B

ANCHORED VENEER JOINT

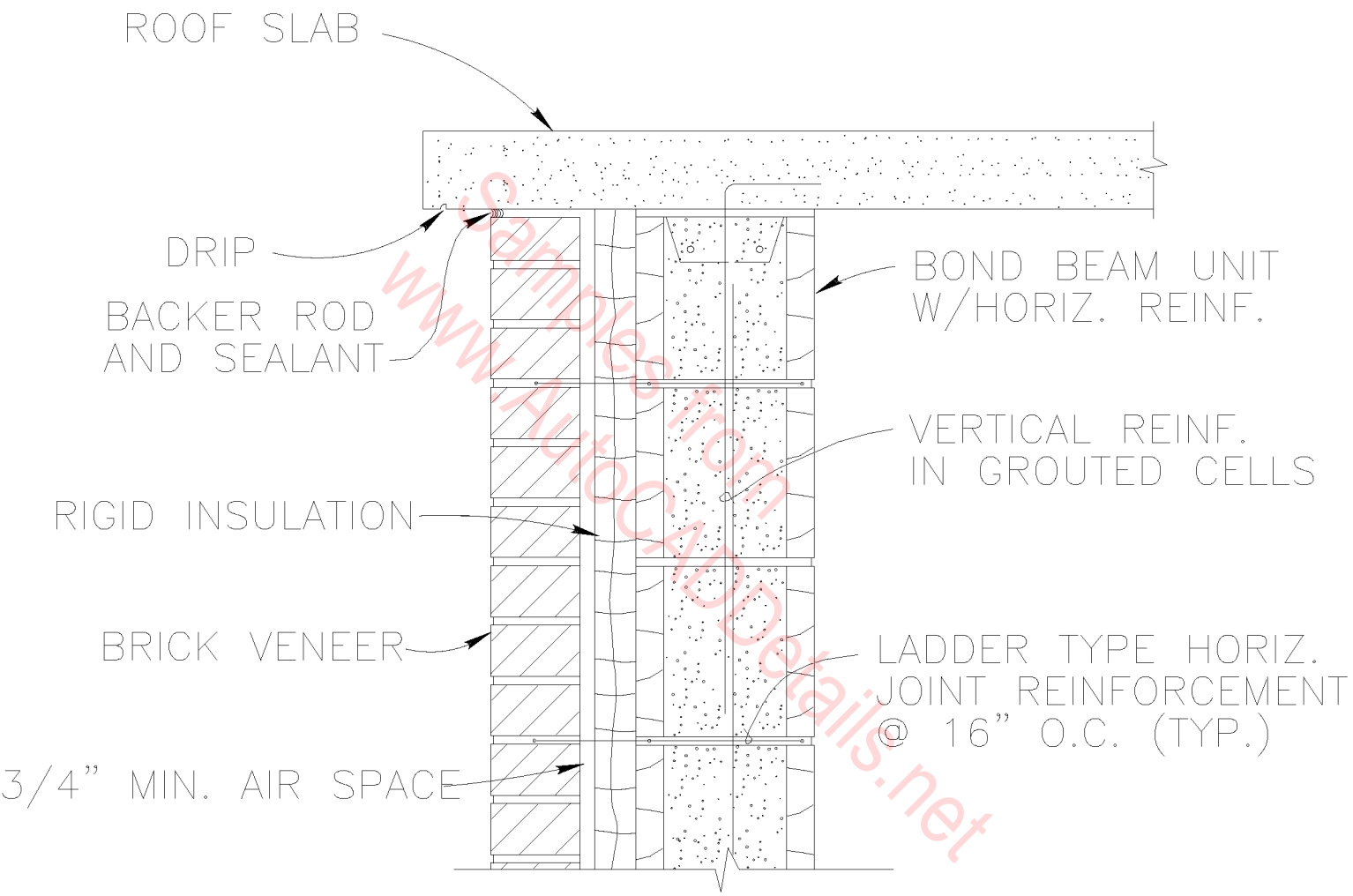


3/4"-INCH ISOLATION JOINT (OR AS REQUIRED BY DRIFT) IN SEISMIC ZONES 3 & 4. OTHERWISE, USE A 3/8"-INCH ISOLATION JOINT

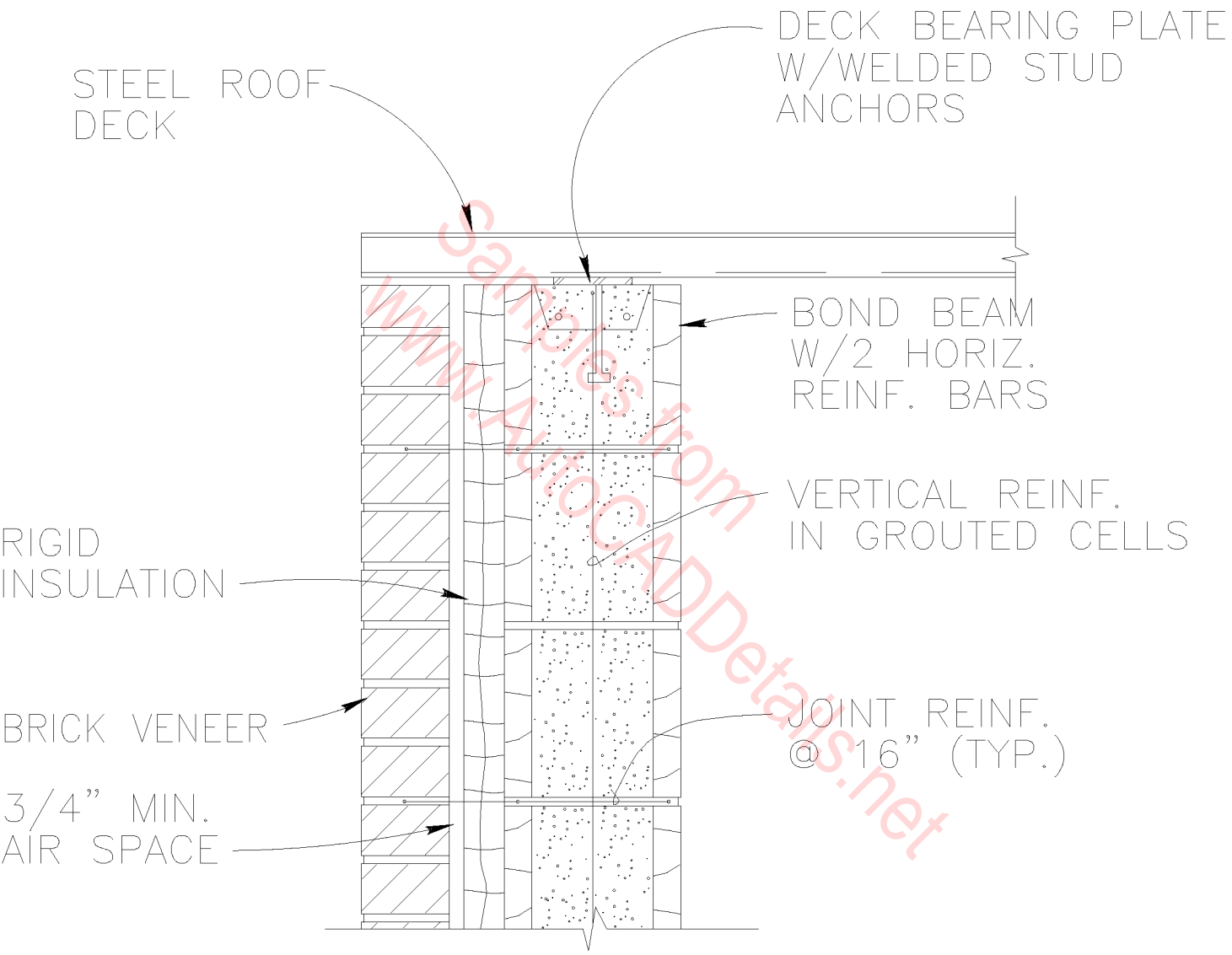
ISOLATION JOINT (PARTITION-STRUCTURAL WALL)



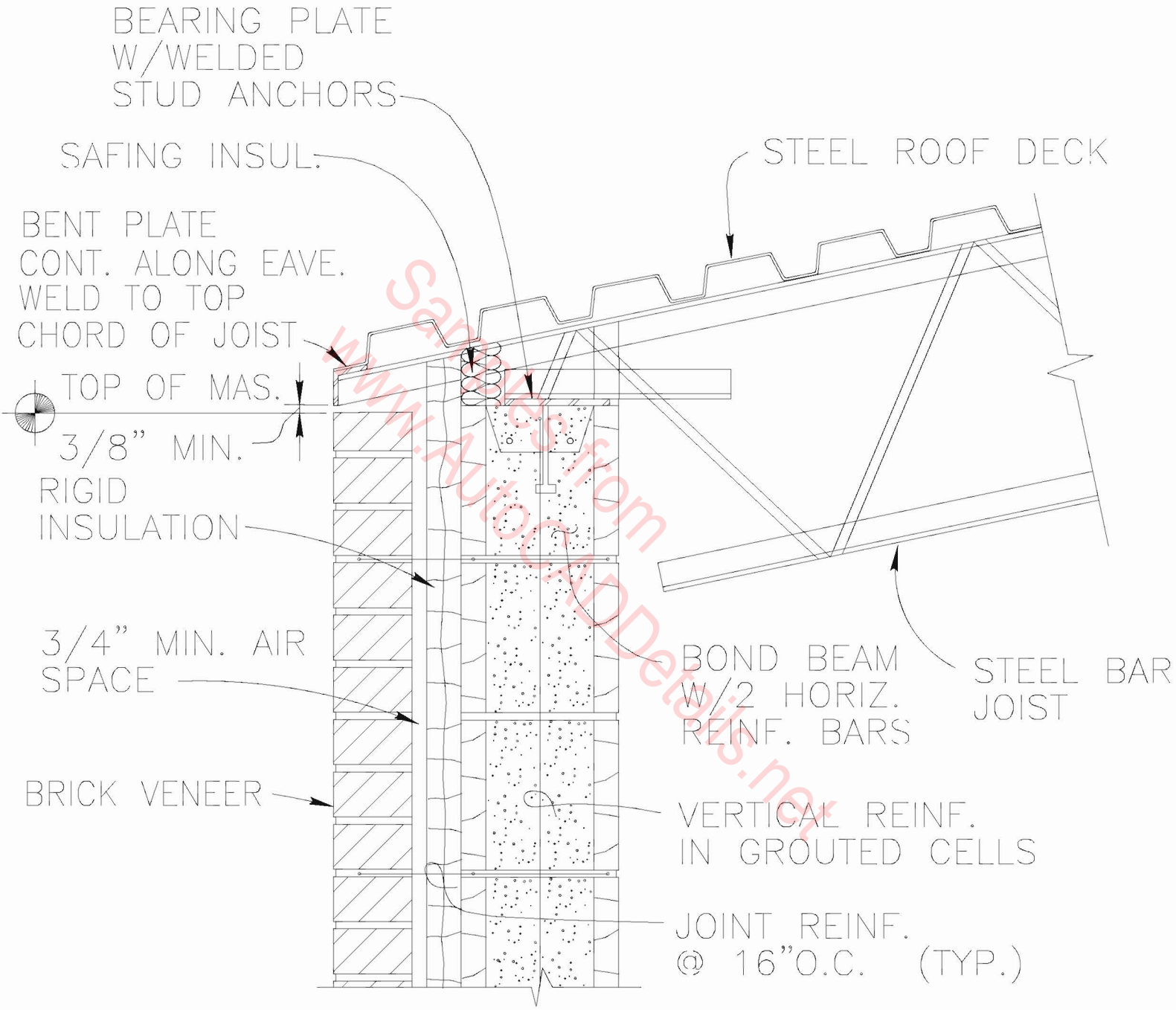
SEISMIC JOINT OR BUILDING JOINT



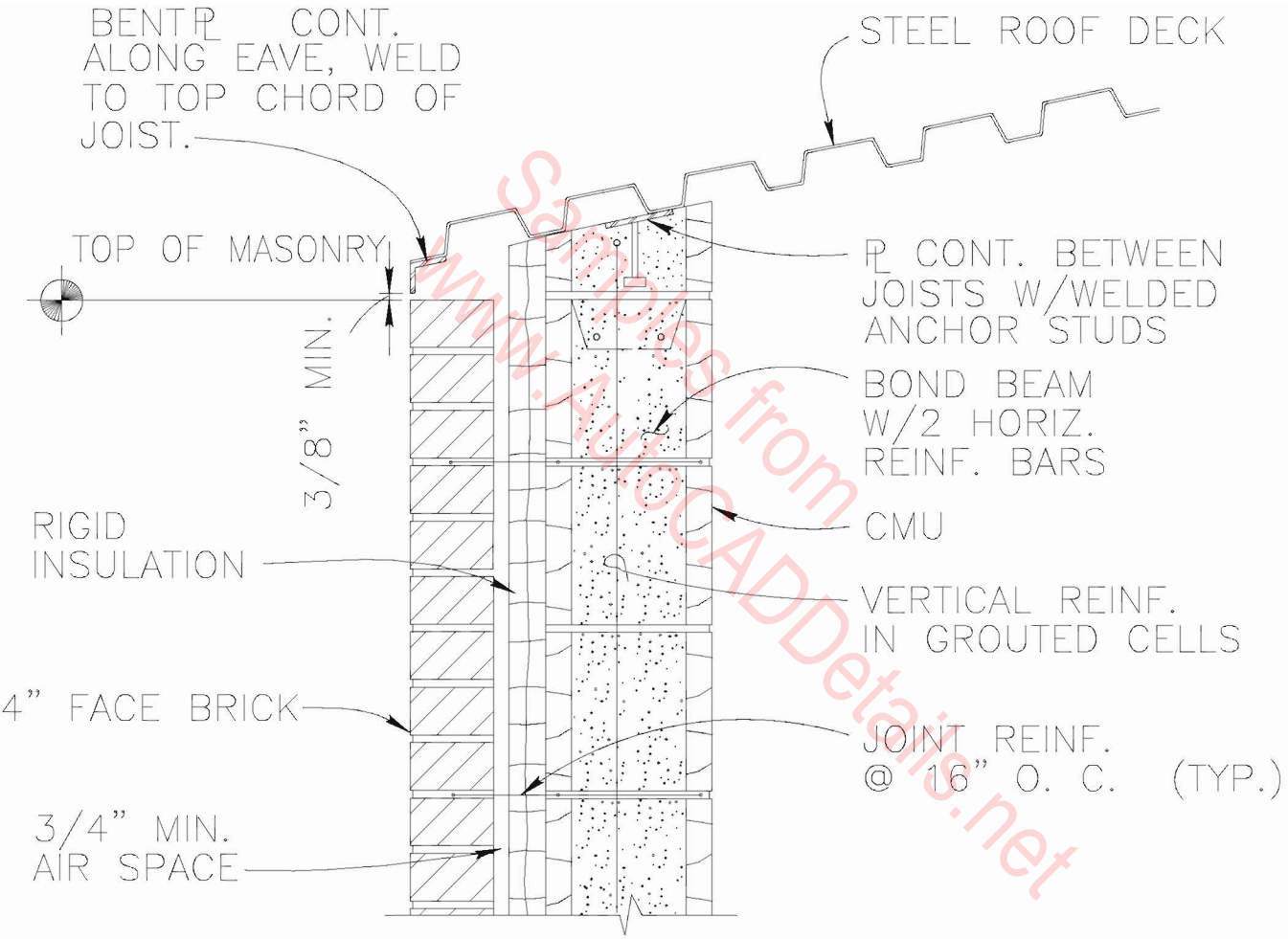
ROOF CONNECTION ROOF SLAB



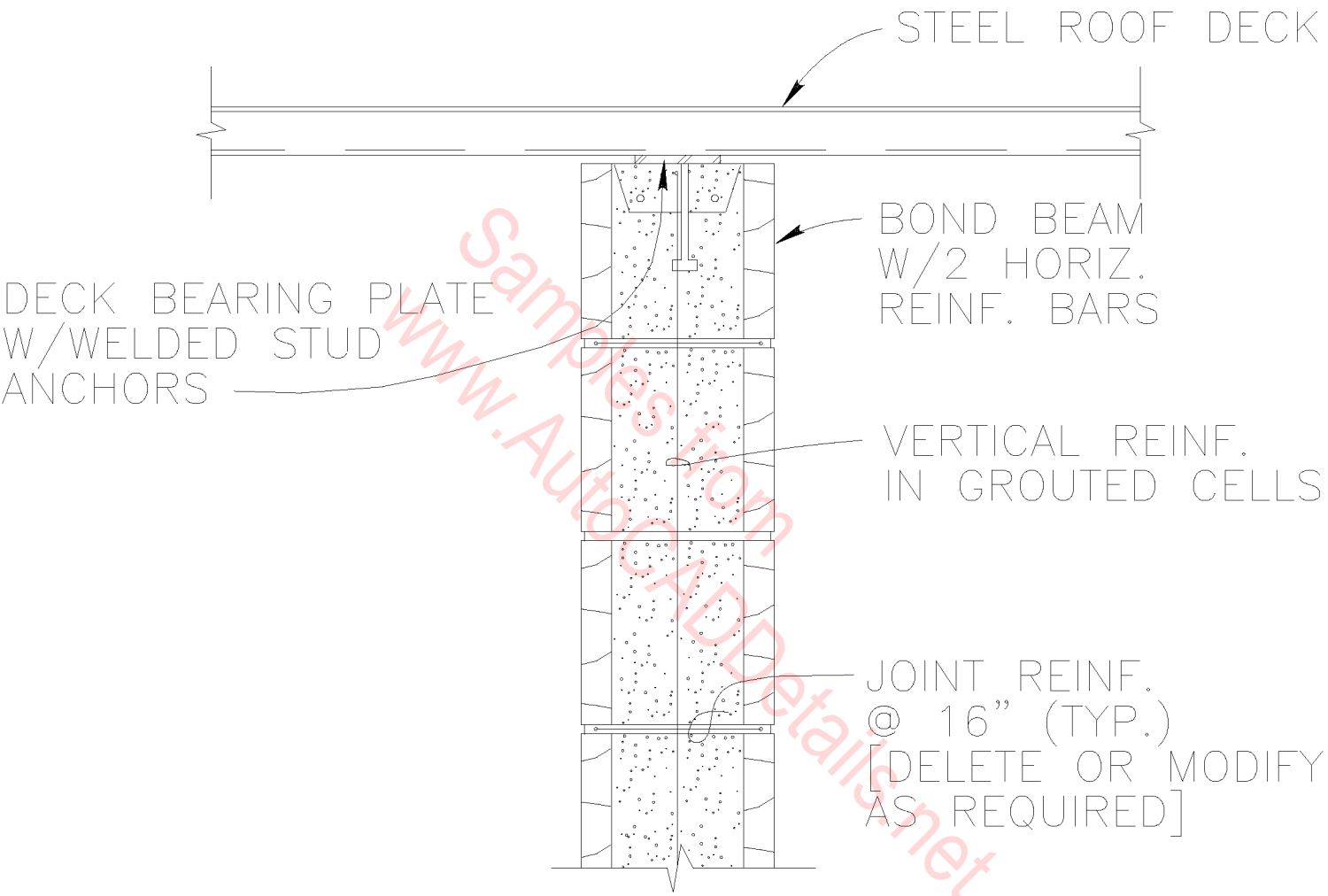
ROOF CONNECTION ROOF DECK



ROOF CONNECTION BAR JOIST

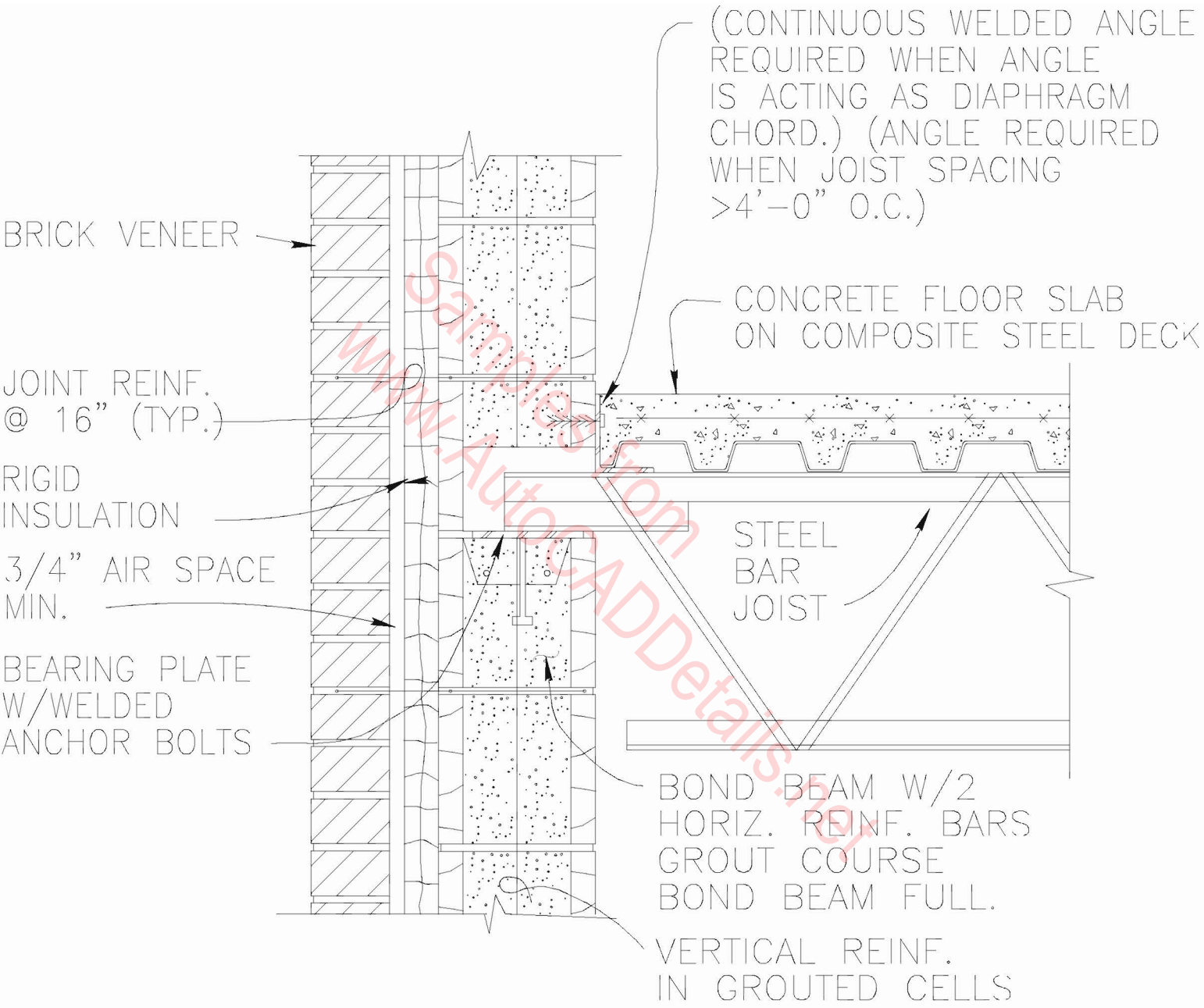


ROOF CONNECTION BETWEEN JOISTS

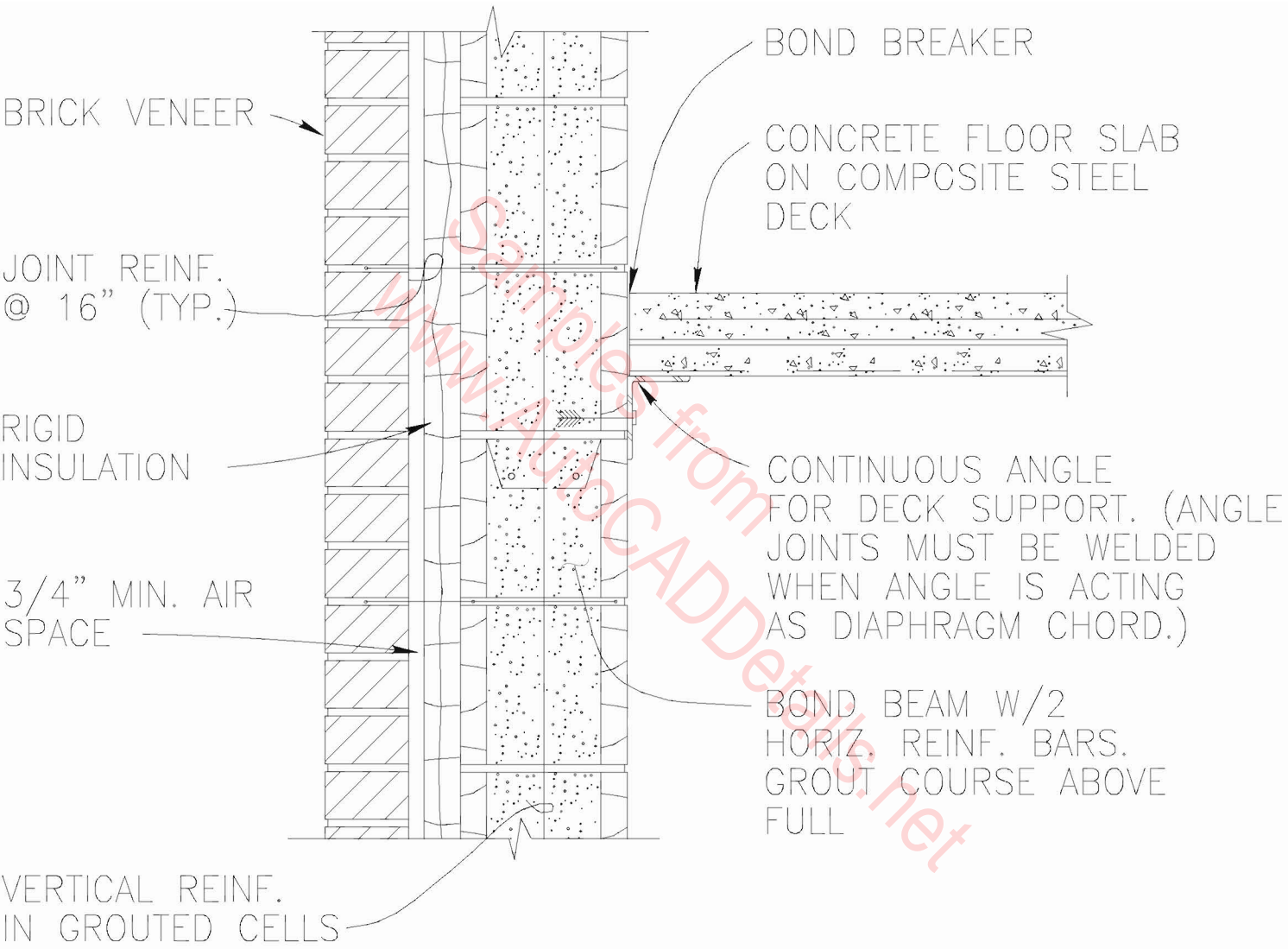


INTERIOR ROOF CONNECTION

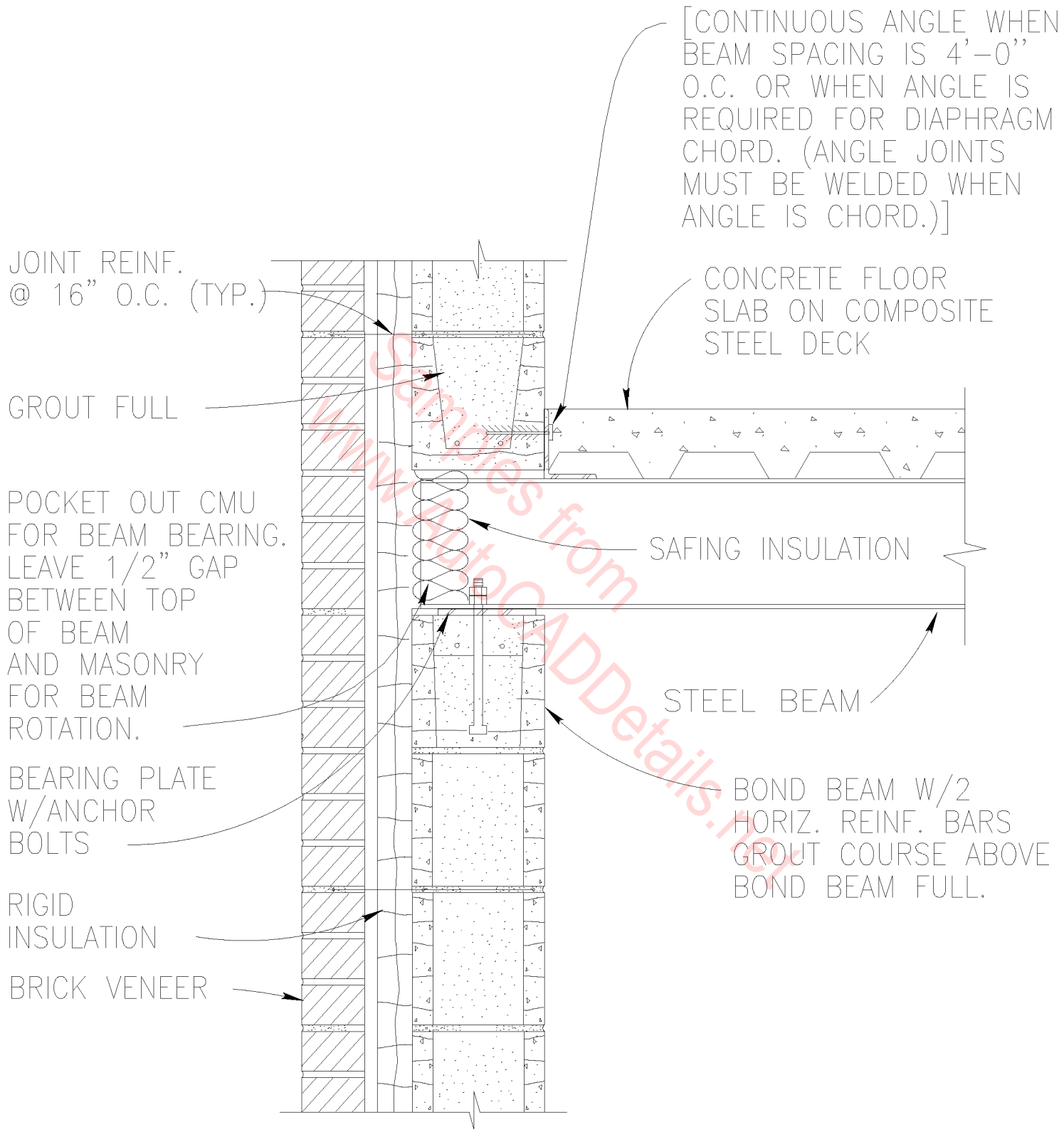
SHEAR WALL TO ROOF DECK



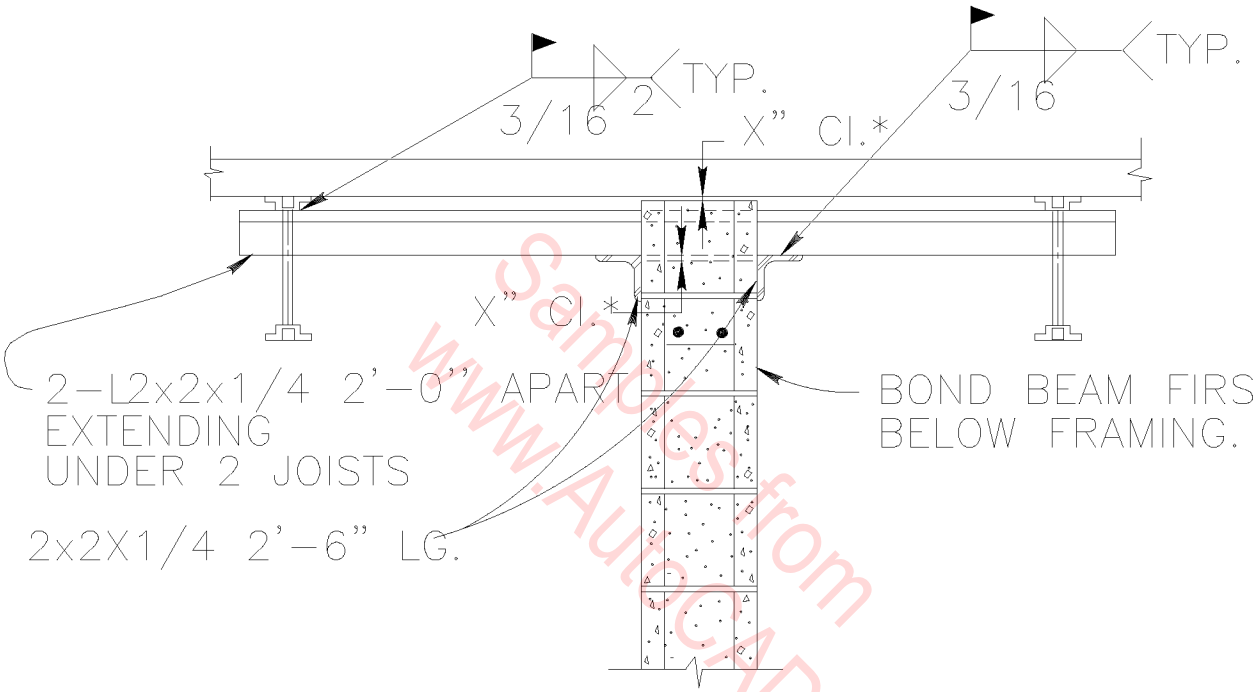
BAR JOIST-FLOOR CONNECTION



FLOOR DECK-FLOOR CONNECTION



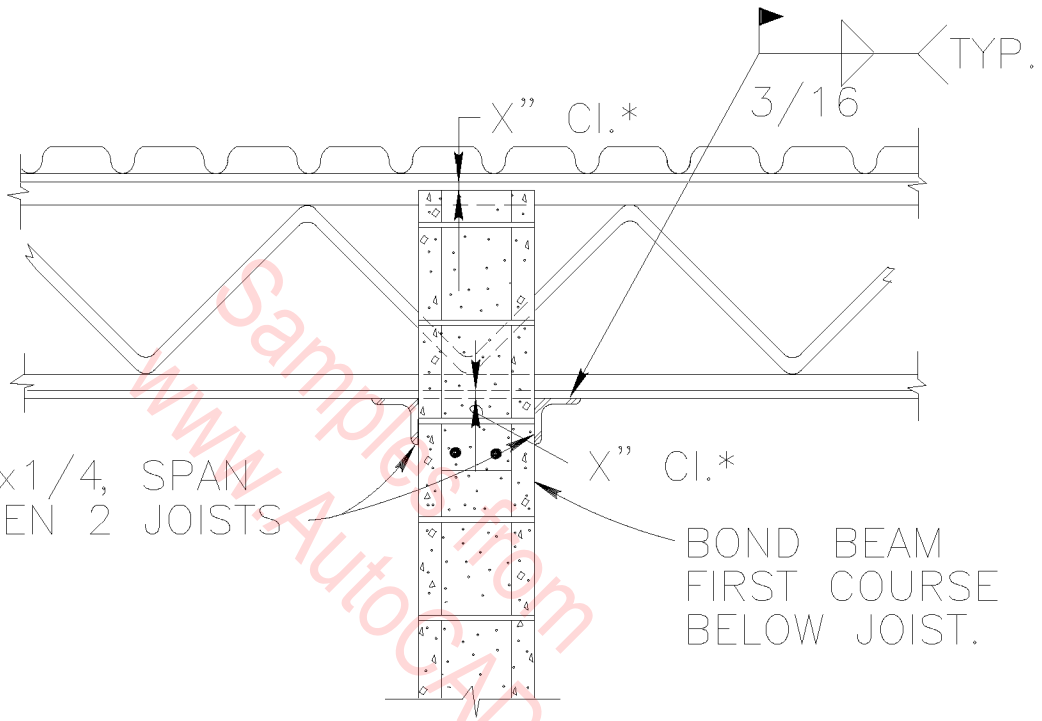
STEEL BEAM FLOOR CONNECTION



* X CLEAR DIMENSION SHALL BE AS REQUIRED BY JOIST DEFLECTION, BUT NOT LESS THAN 1-INCH.

NOTE: SPACE AT A MAXIMUM OF 8'-0" O.C. USING A MIN. OF TWO PER WALL IN ANY ONE DIRECTION.

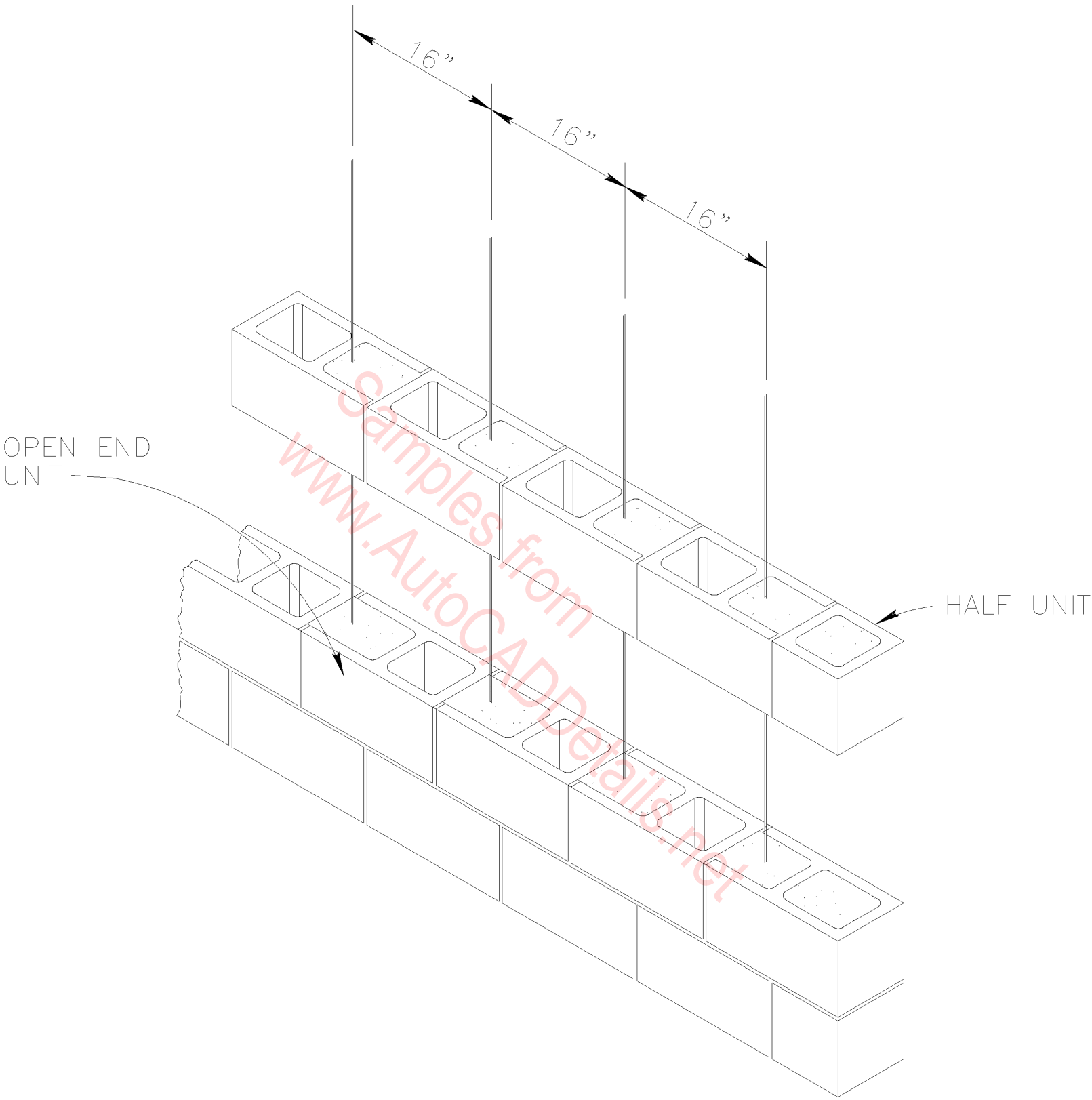
PARTITION SUPPORTS FULL HEIGHT WALL PARALLEL TO JOISTS



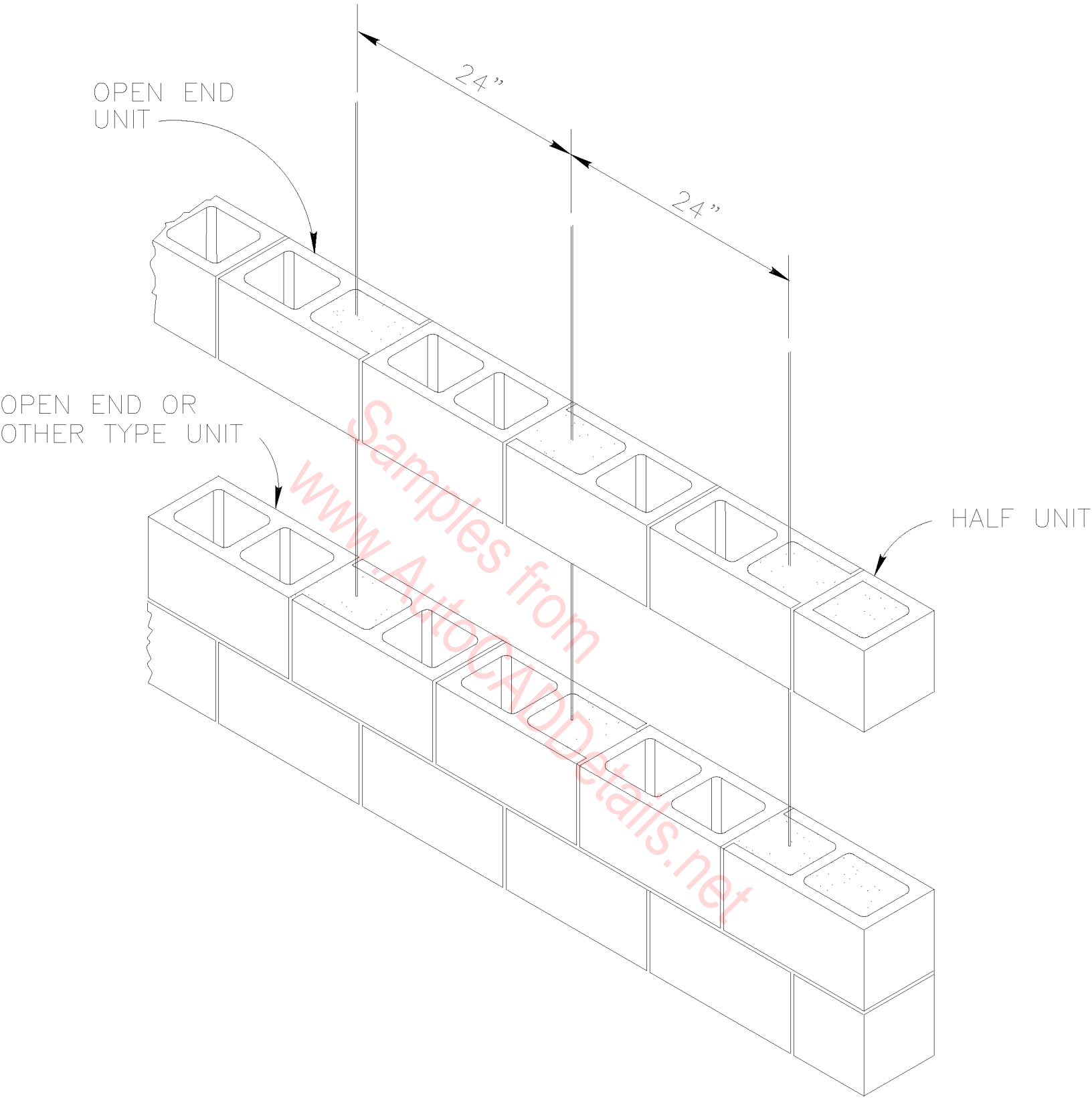
* X CLEAR DIMENSION SHALL BE AS REQUIRED BY JOIST DEFLECTION, BUT NOT LESS THAN 1-INCH.

NOTE: SPACE AT A MAXIMUM OF 8'-0" O.C. USING A MIN. OF TWO PER WALL IN ANY ONE DIRECTION.

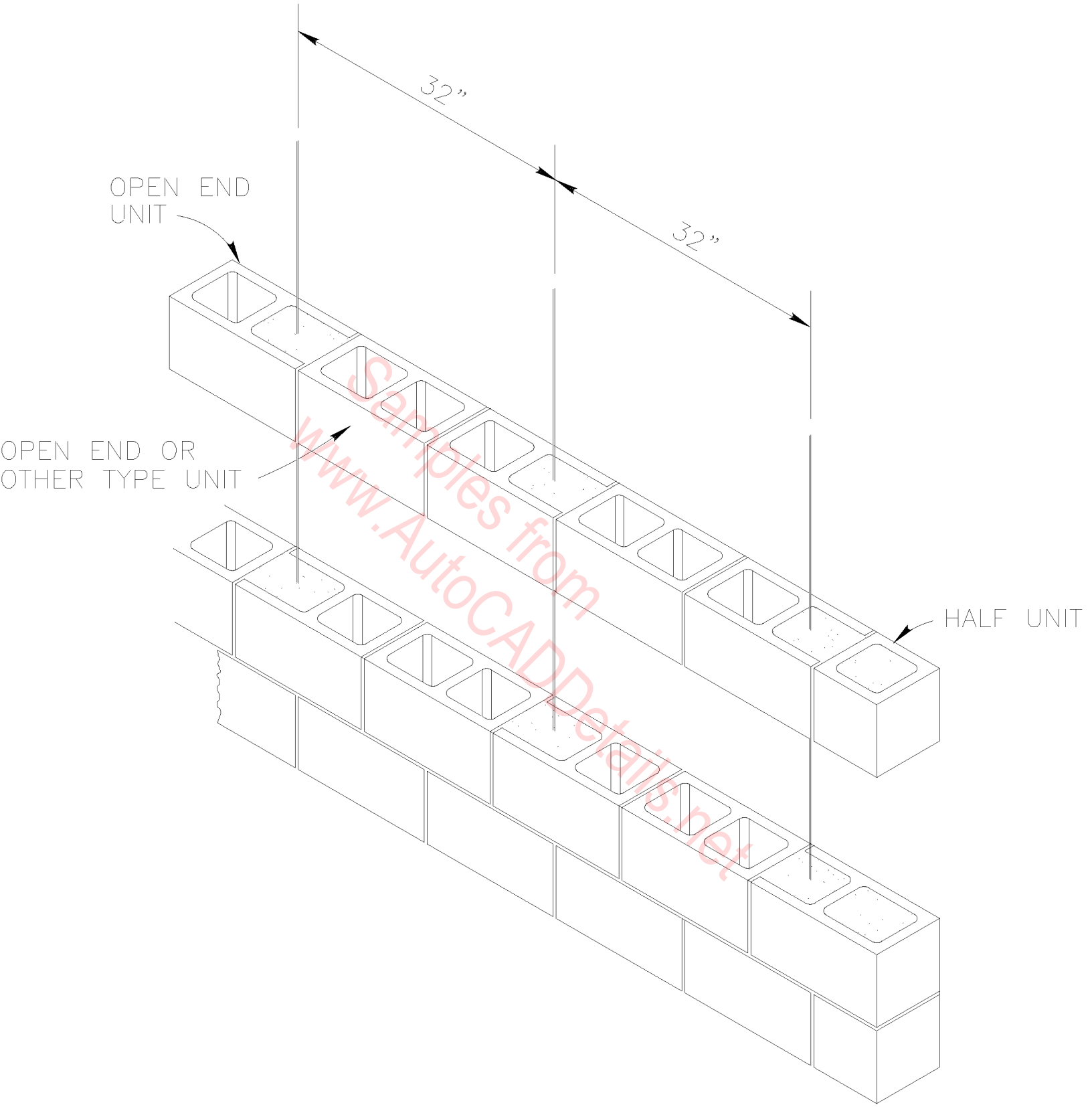
PARTITION SUPPORTS, FULL HEIGHT WALL PERPENDICULAR TO JOISTS



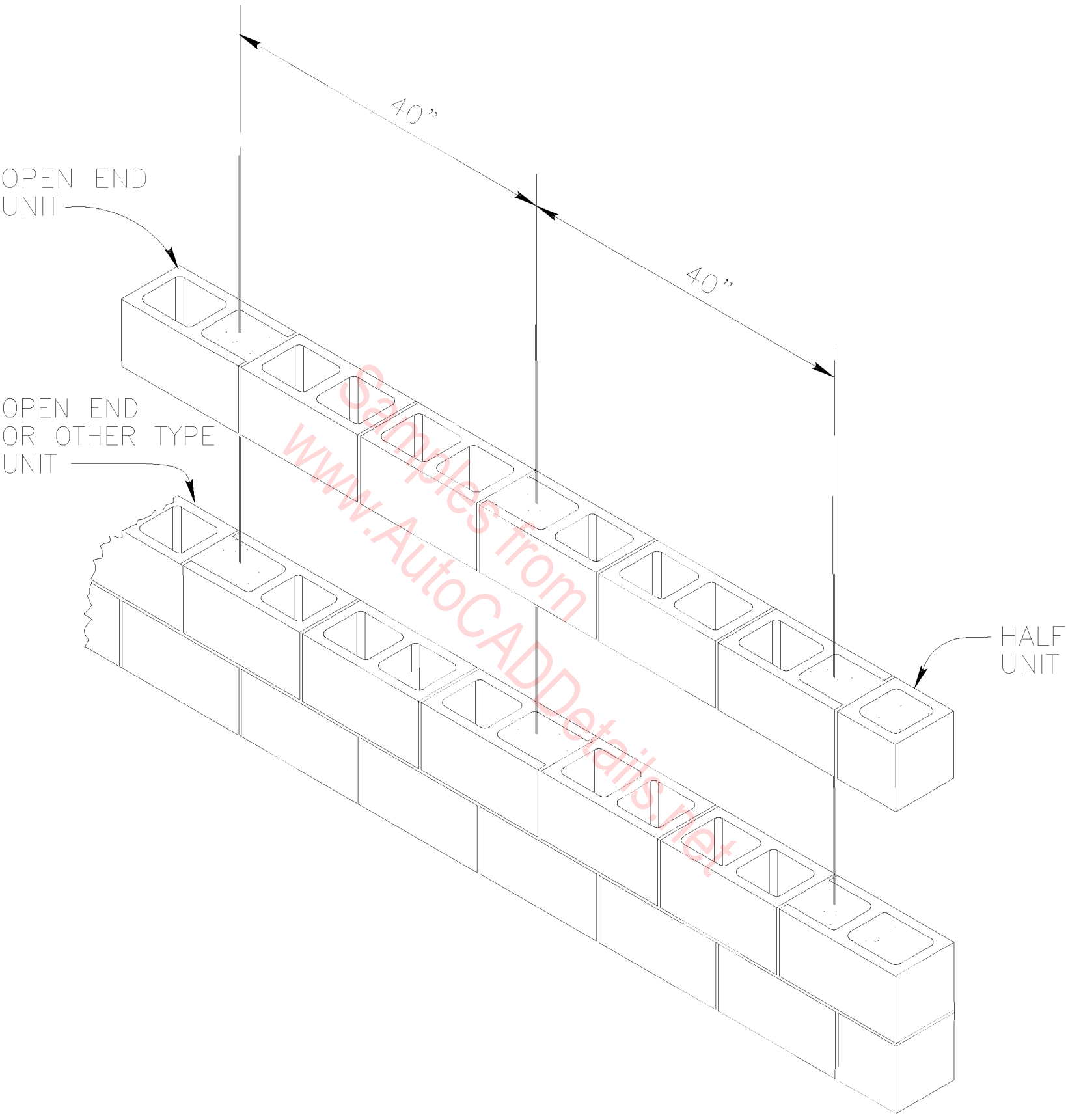
PARTIALLY GROUTED CMU
16–INCH REINFORCEMENT SPACING



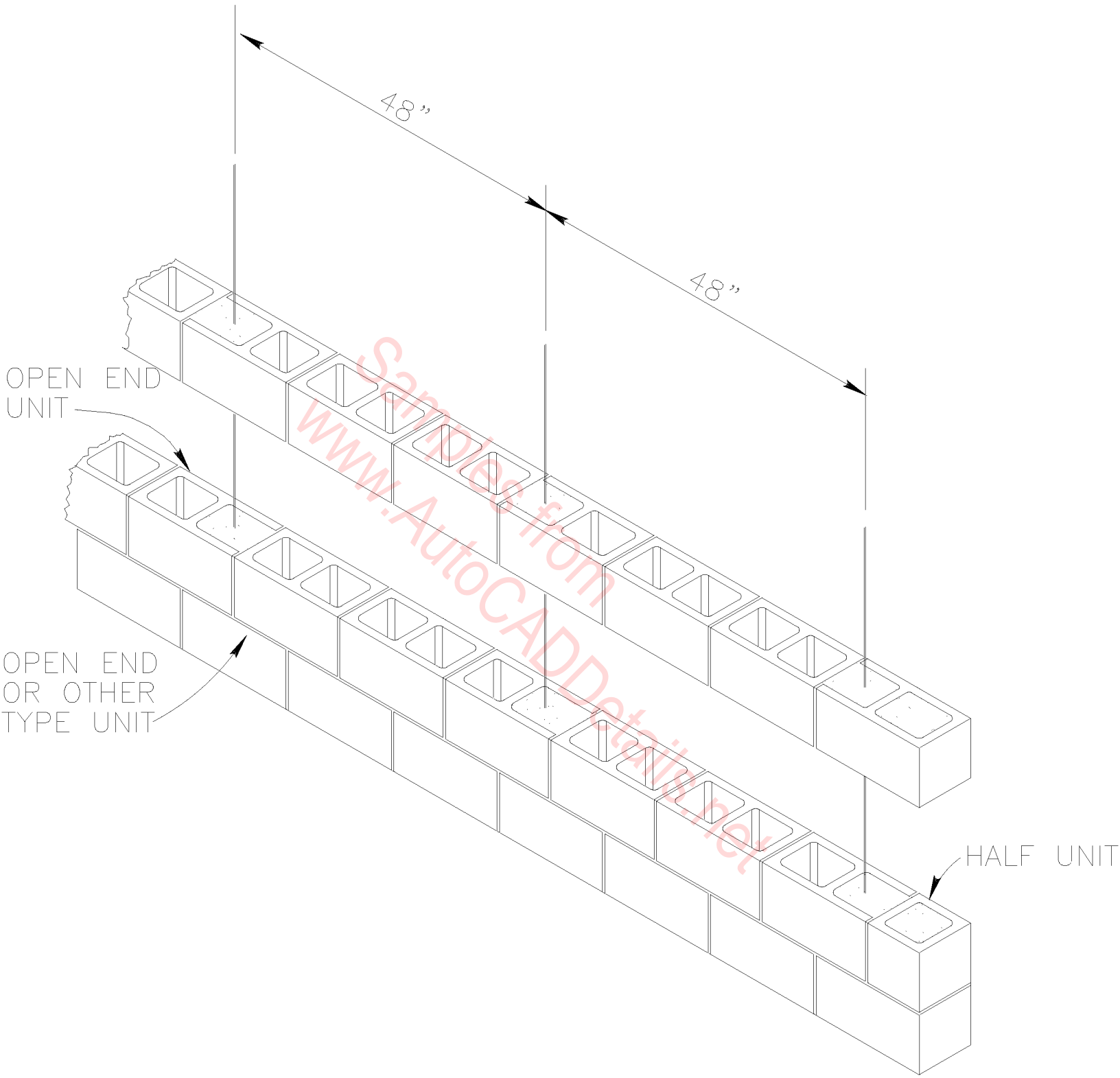
PARTIALLY GROUTED CMU
24—INCH REINFORCEMENT SPACING



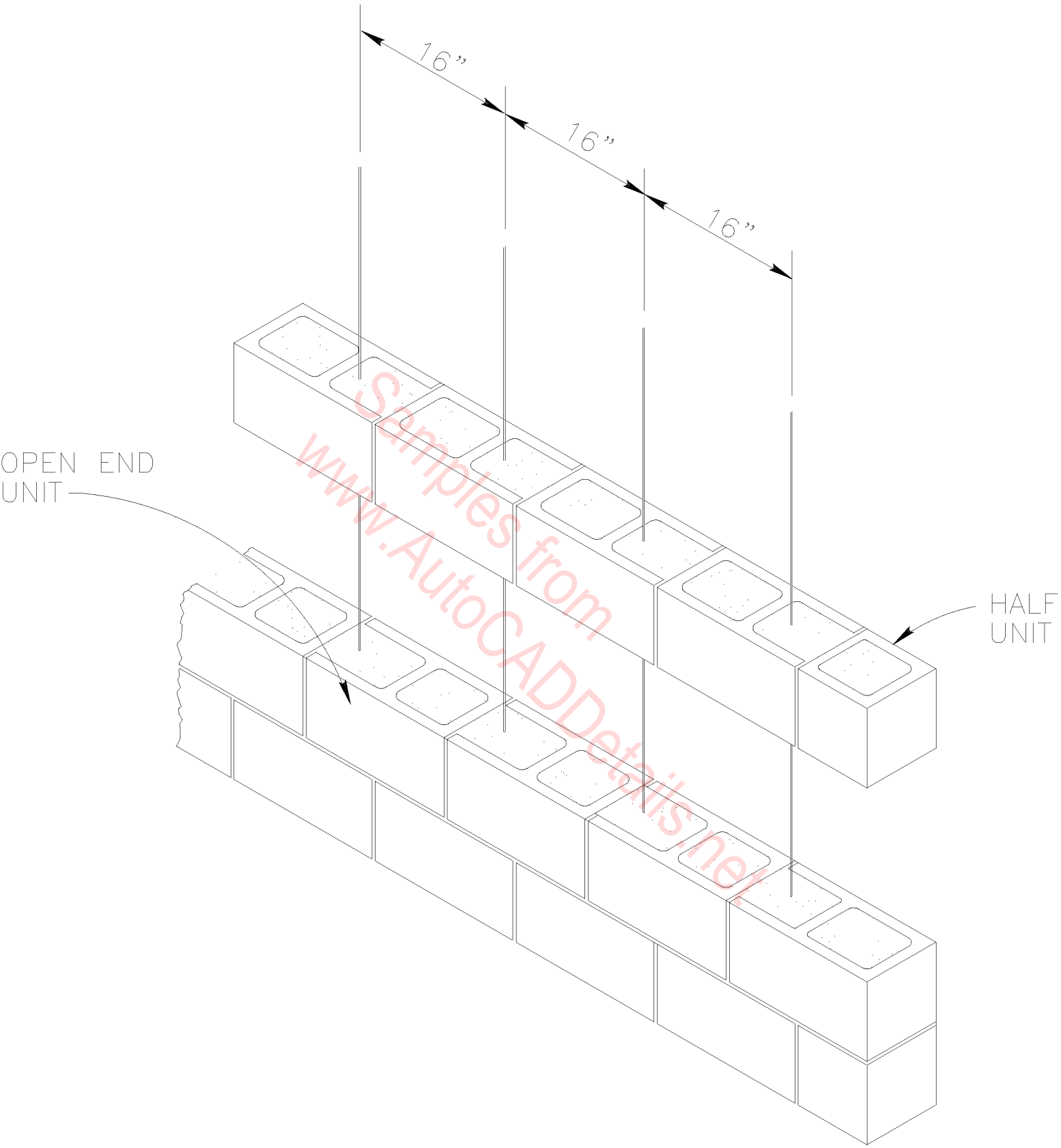
PARTIALLY GROUTED CMU
32-INCH REINFORCEMENT SPACING



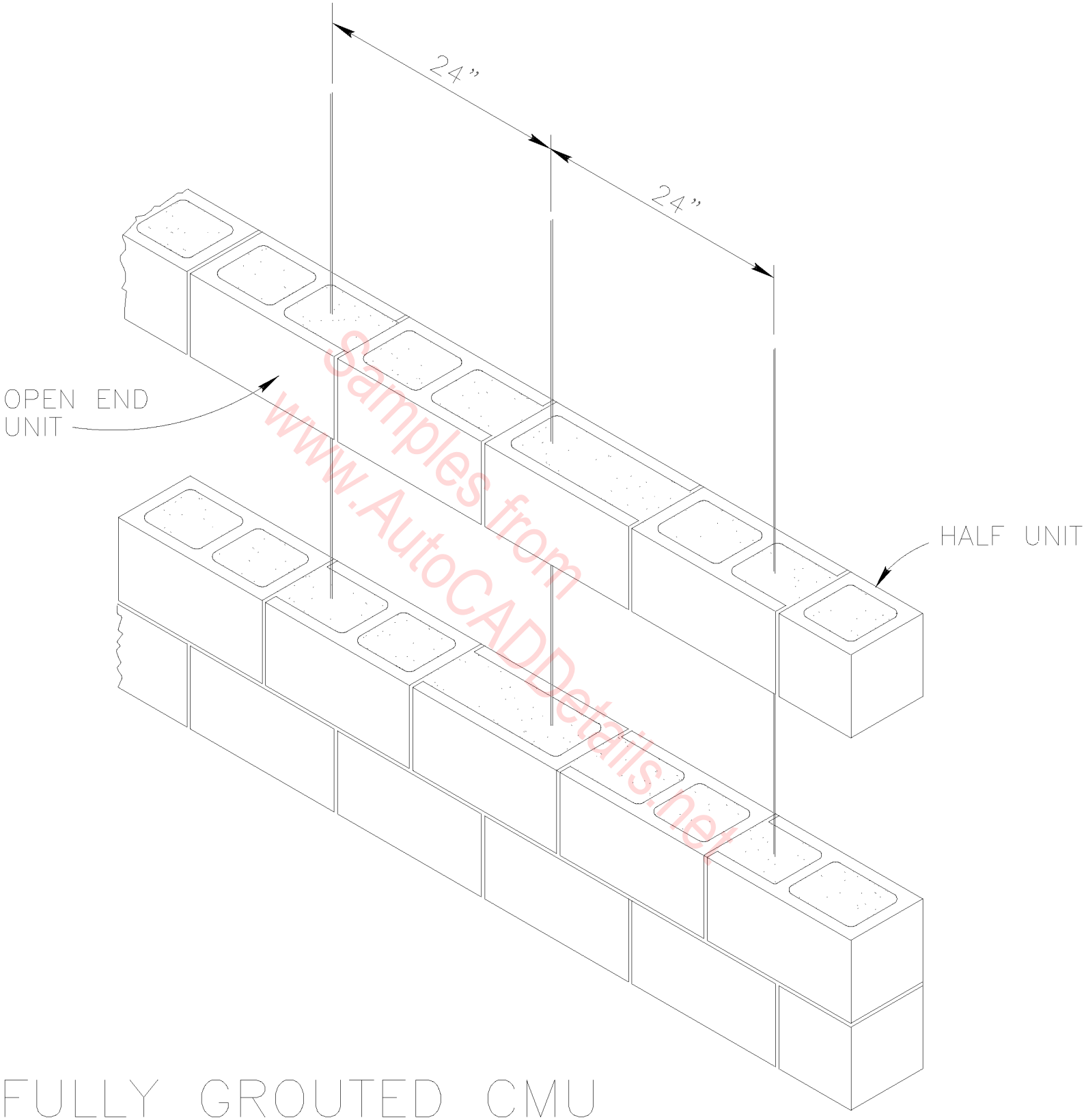
PARTIALLY GROUTED CMU
40-INCH REINFORCEMENT SPACING



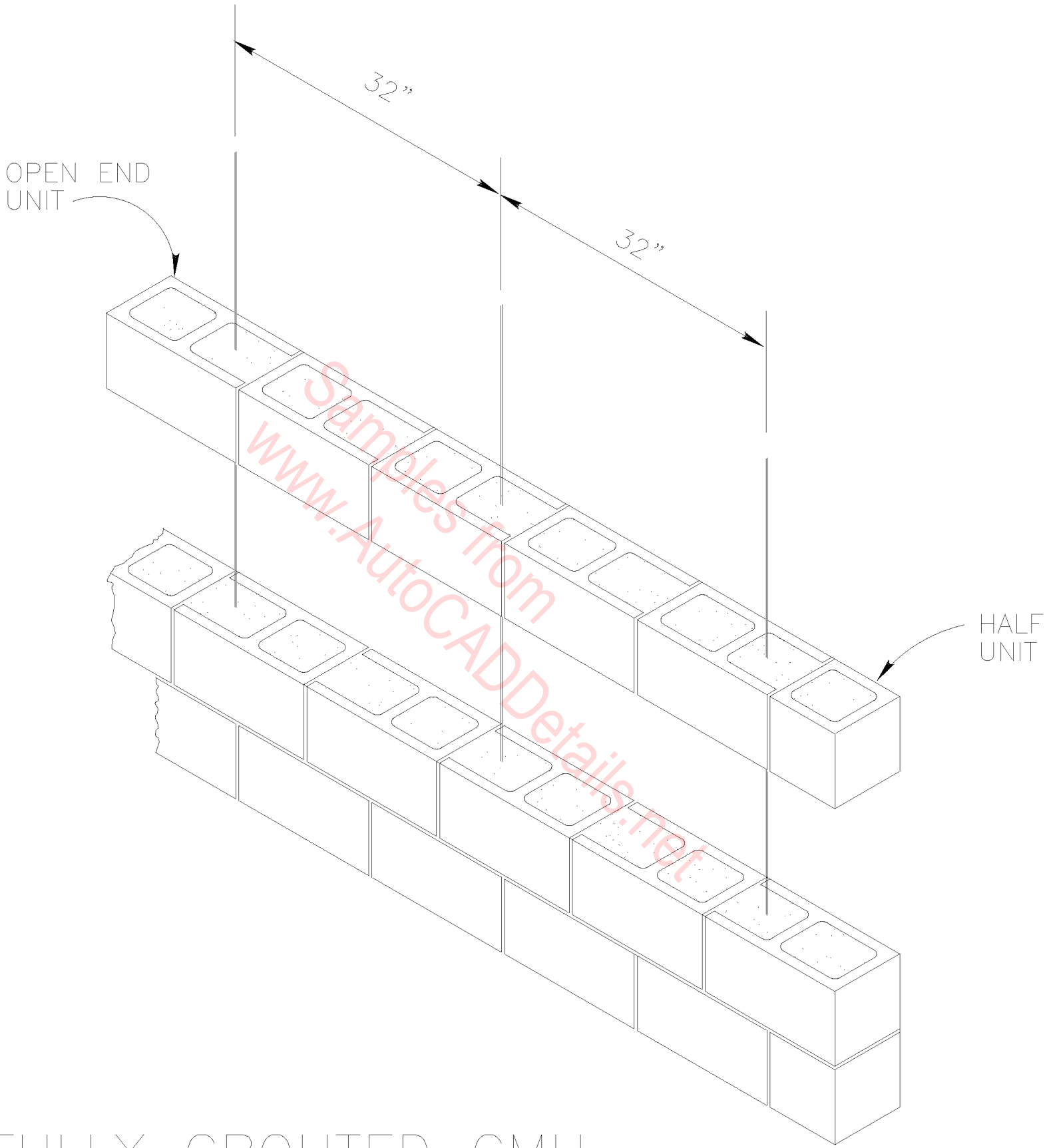
PARTIALLY GROUTED CMU
48–INCH REINFORCEMENT SPACING



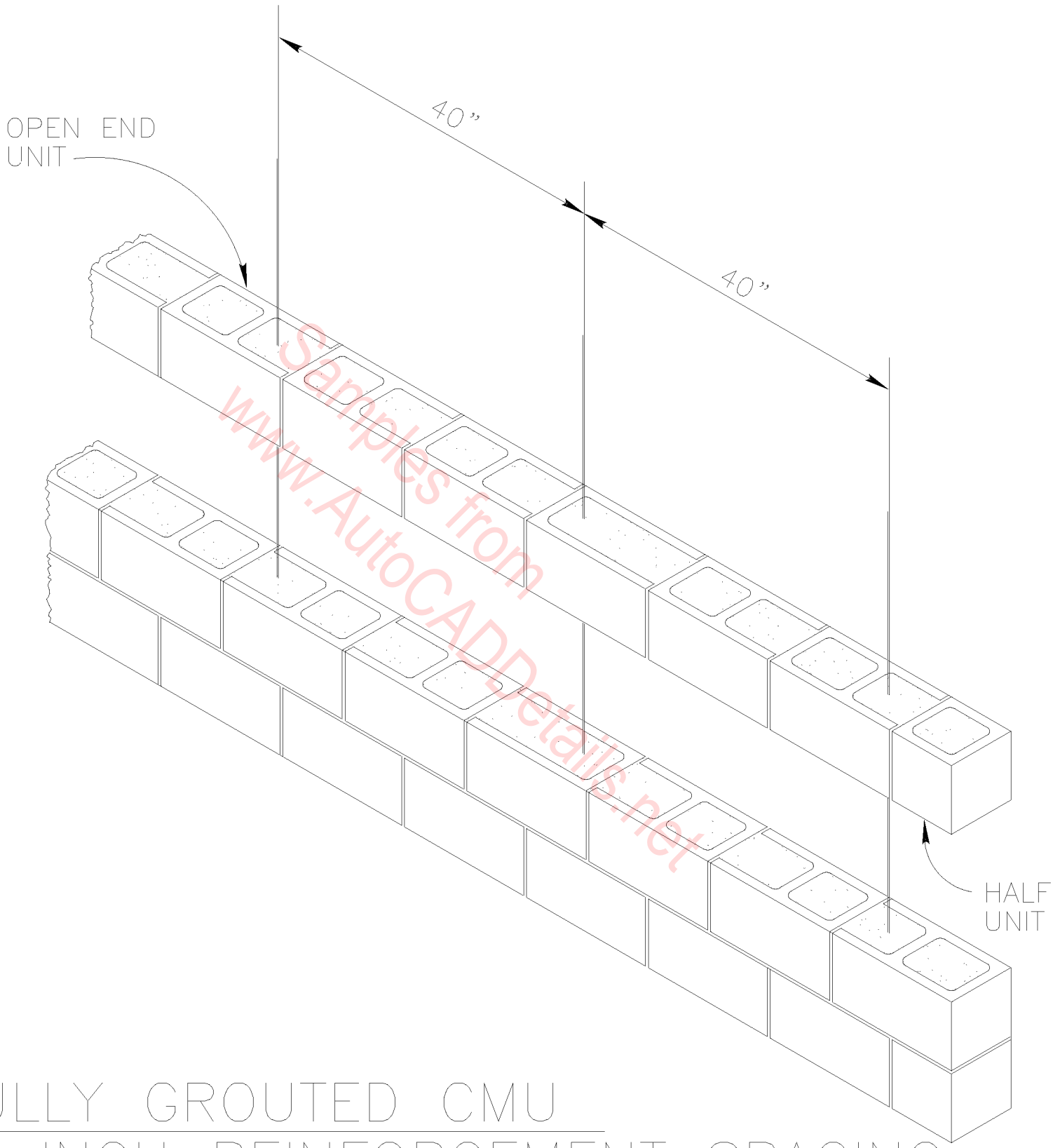
FULLY GROUTED CMU
16-INCH REINFORCEMENT SPACING



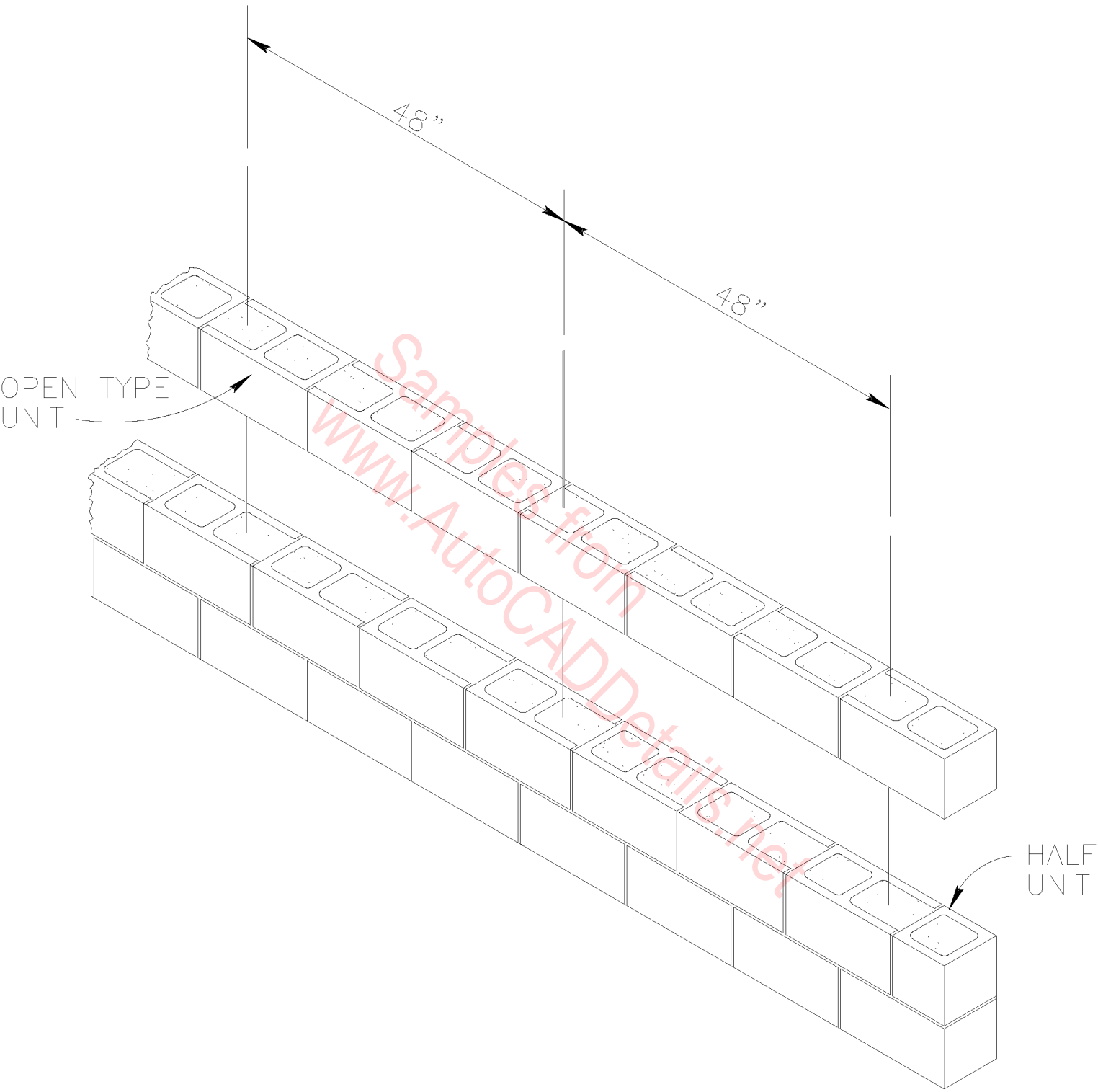
FULLY GROUTED CMU
24–INCH REINFORCEMENT SPACING



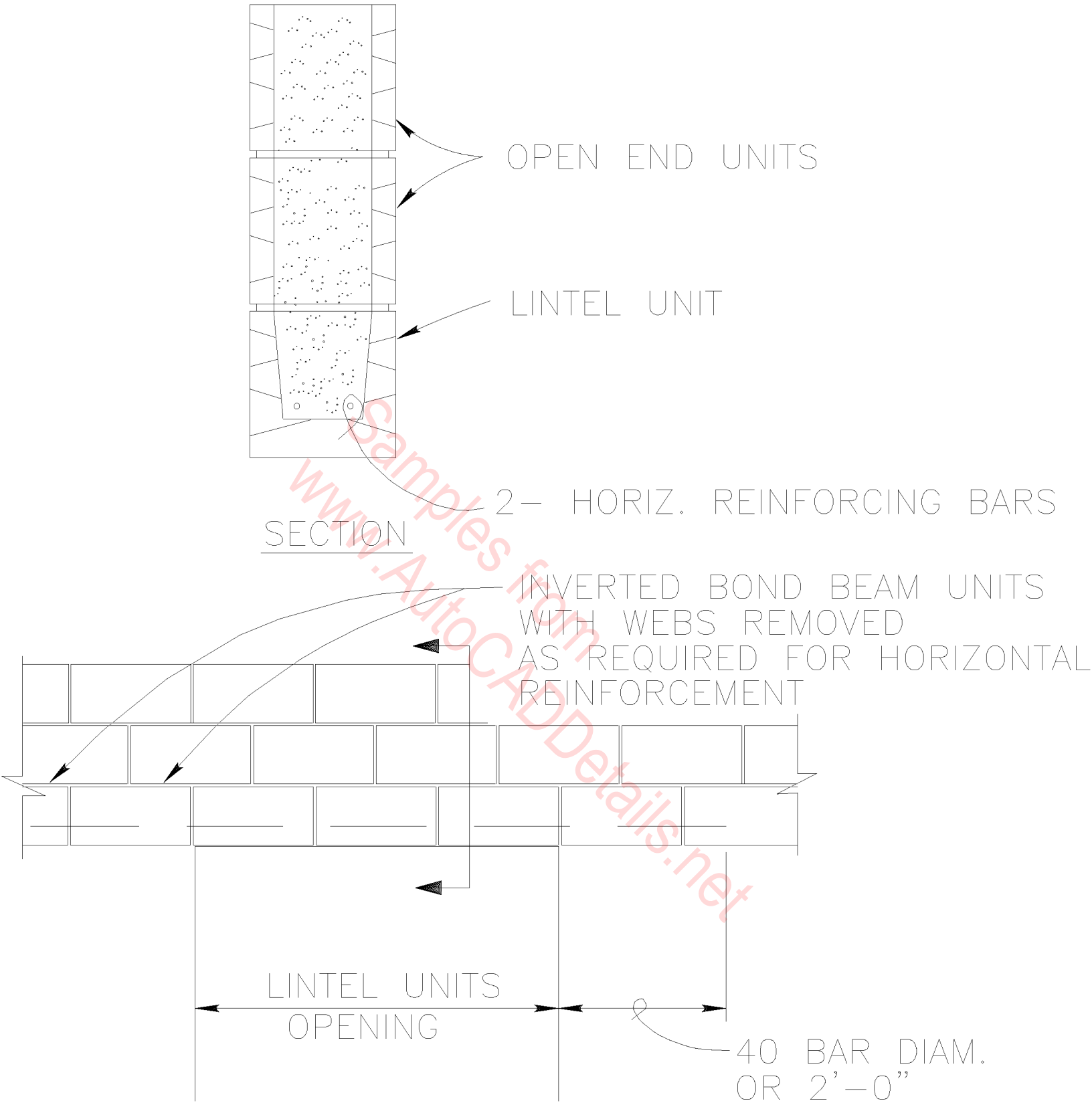
FULLY GROUTED CMU
32–INCH REINFORCEMENT SPACING



FULLY GROUTED CMU
40-INCH REINFORCEMENT SPACING



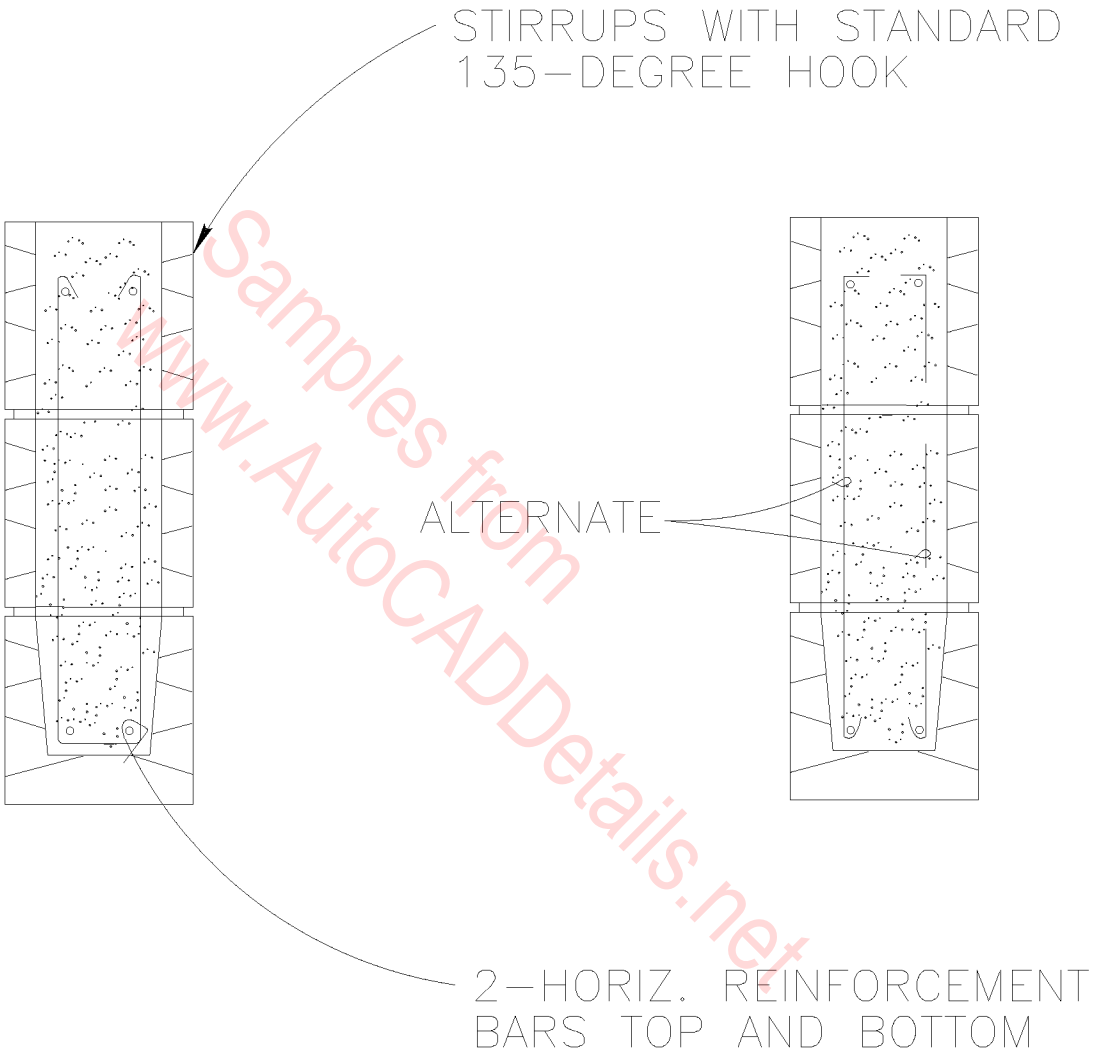
FULLY GROUTED CMU
48–INCH REINFORCEMENT SPACING



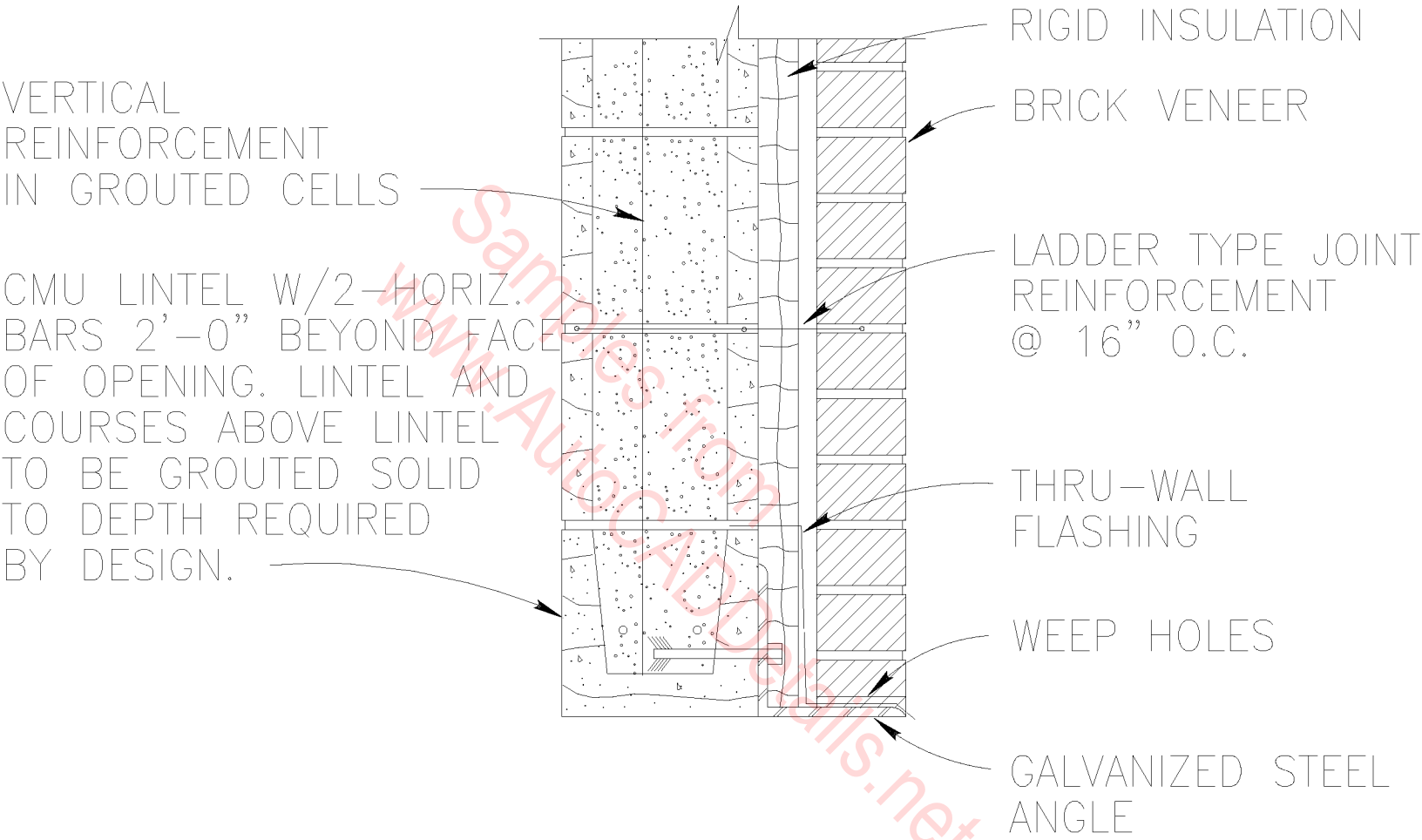
SECTION

ELEVATION

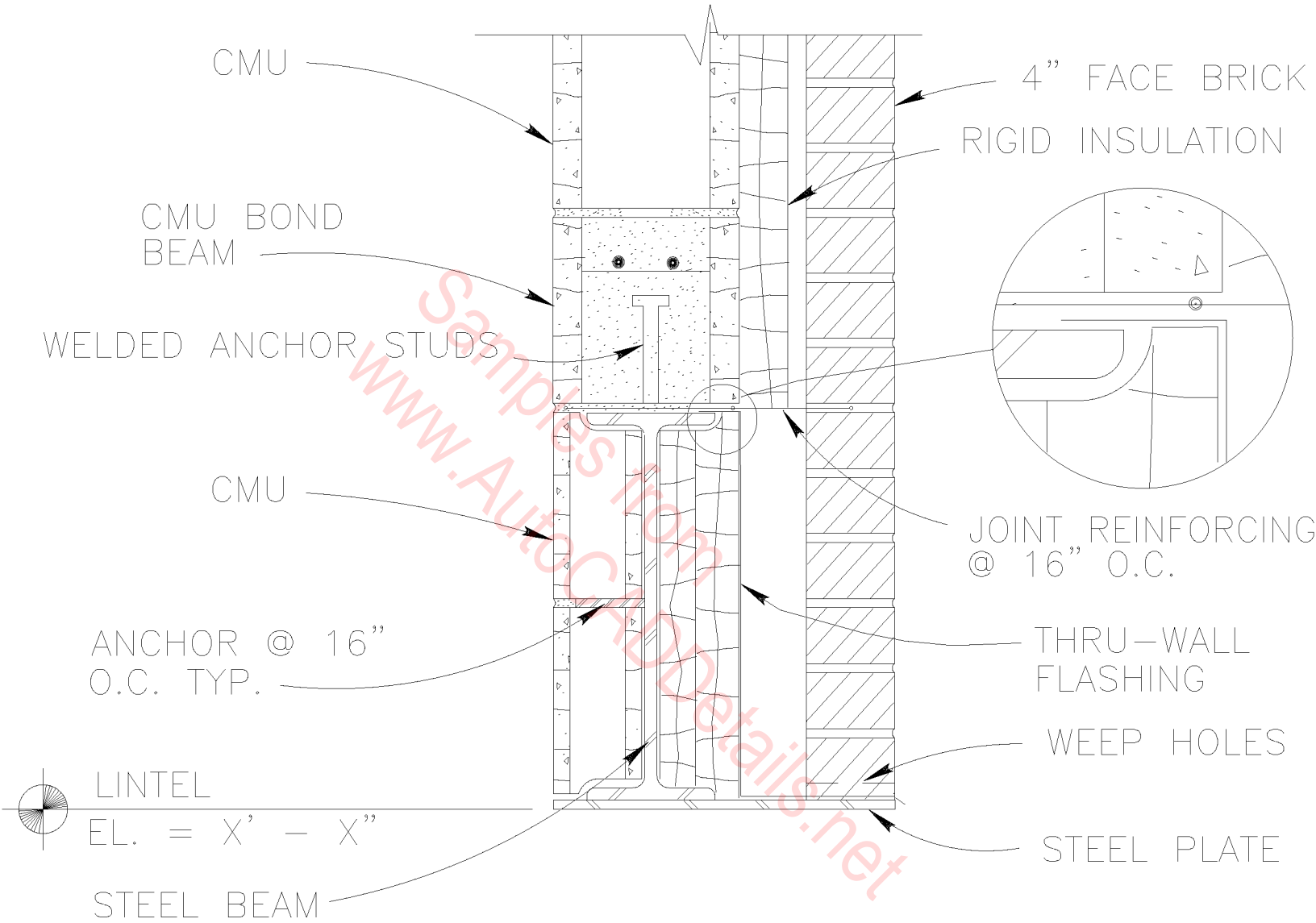
LINTEL



LINTEL SECTIONS WITH STIRRUPS



LINTEL SECTION FOR ANCHORED VENEER



W-SHAPE LINTEL SECTION FOR ANCHORED VENEER