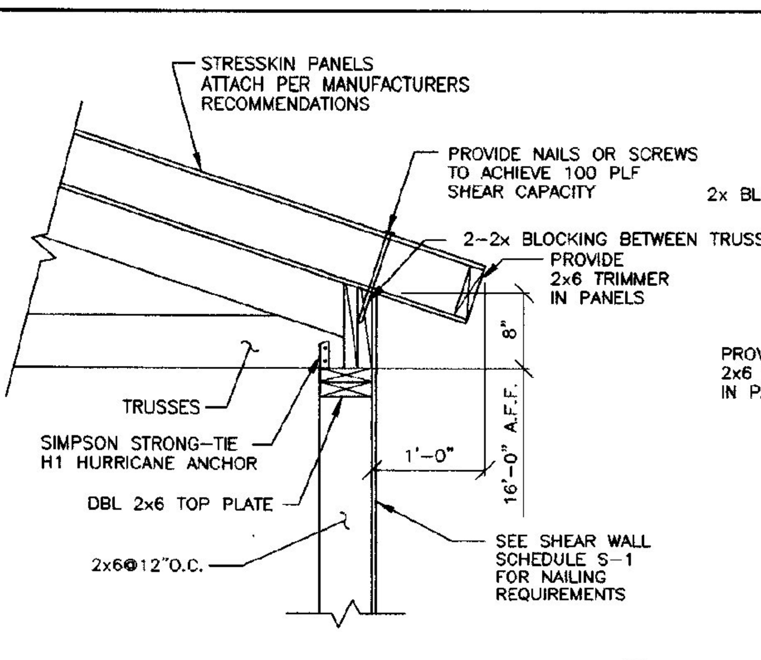
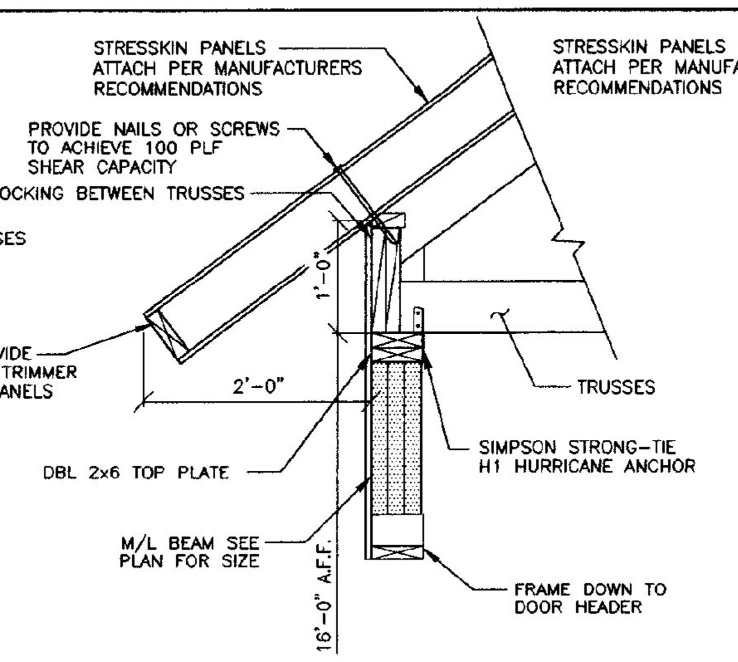
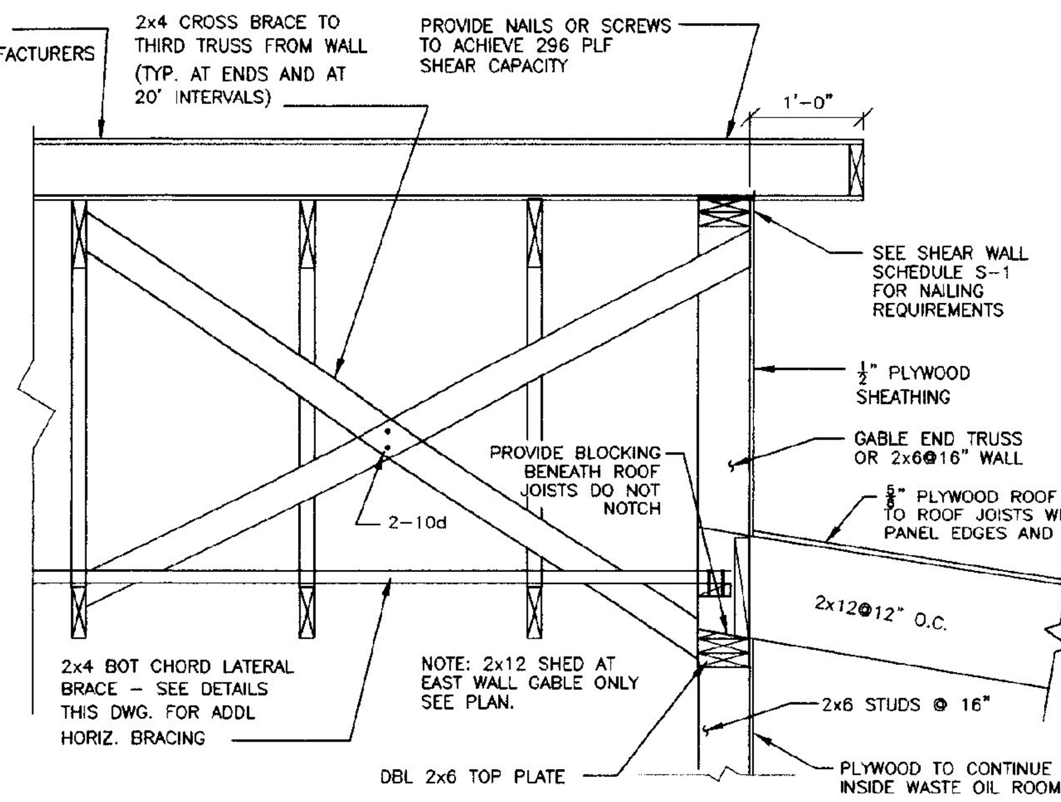
DRAWING FILE: 98074.DWG VIEW: PLOTS2 PLOTTING DATE: 8/13/99



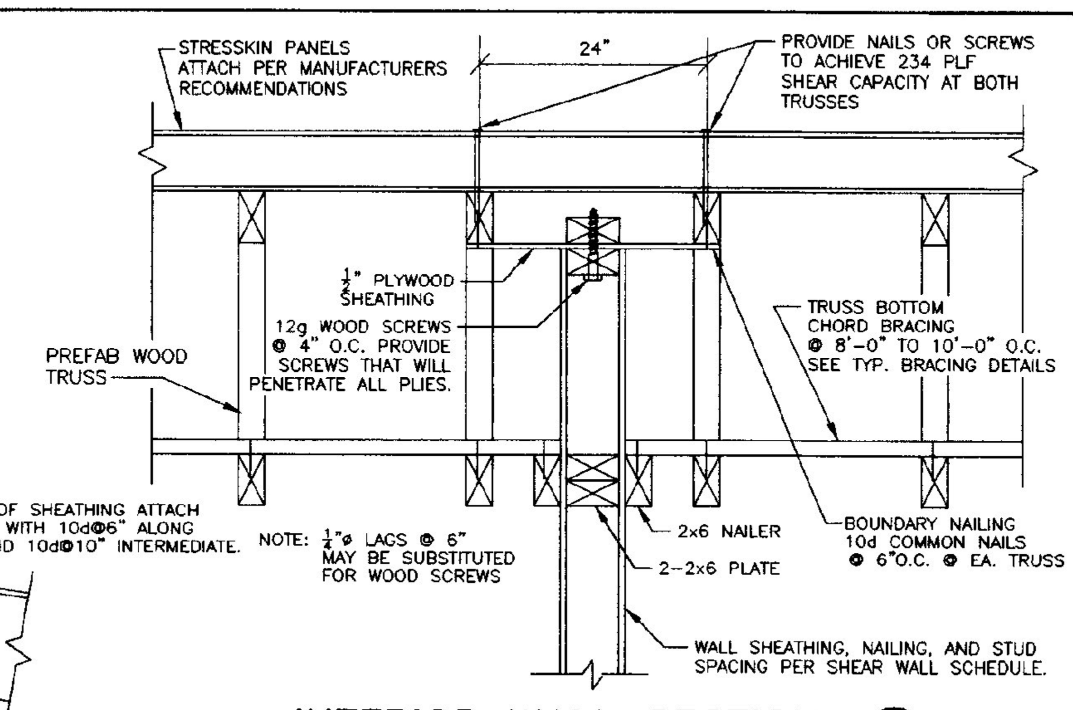
TYPICAL EAVE SECTION (1/S-2)
SCALE: 3/4"=1'-0"



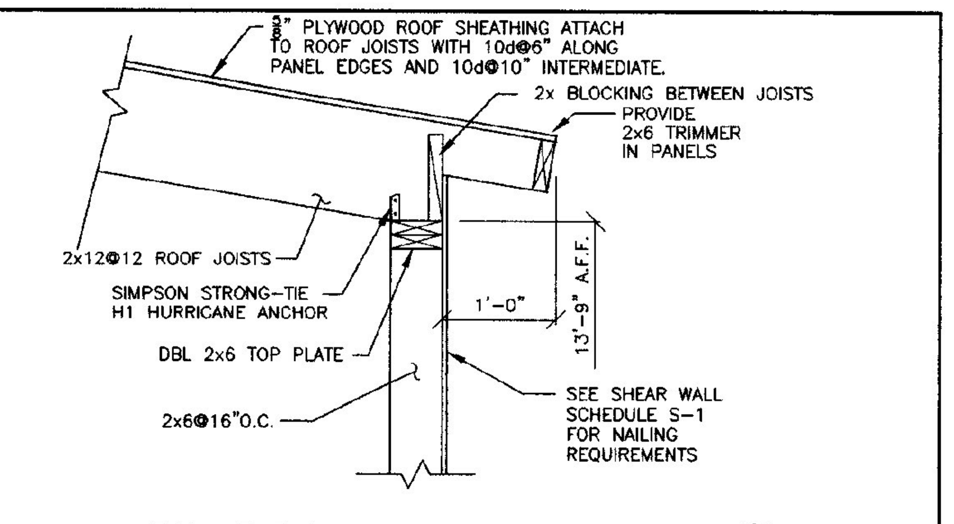
TYPICAL EAVE SECTION (2/S-2)
SCALE: 3/4"=1'-0"



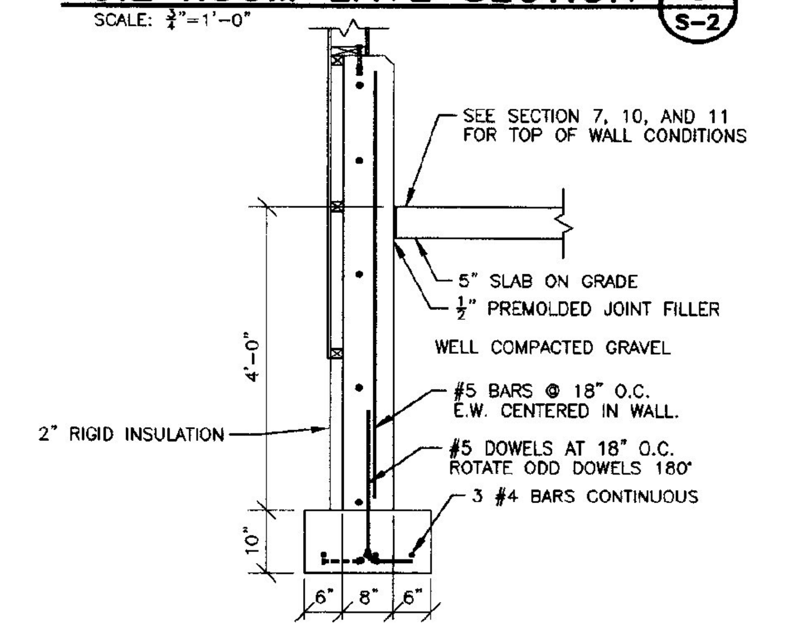
TYPICAL GABLE END SECTION (3/S-2)
SCALE: 3/4"=1'-0"



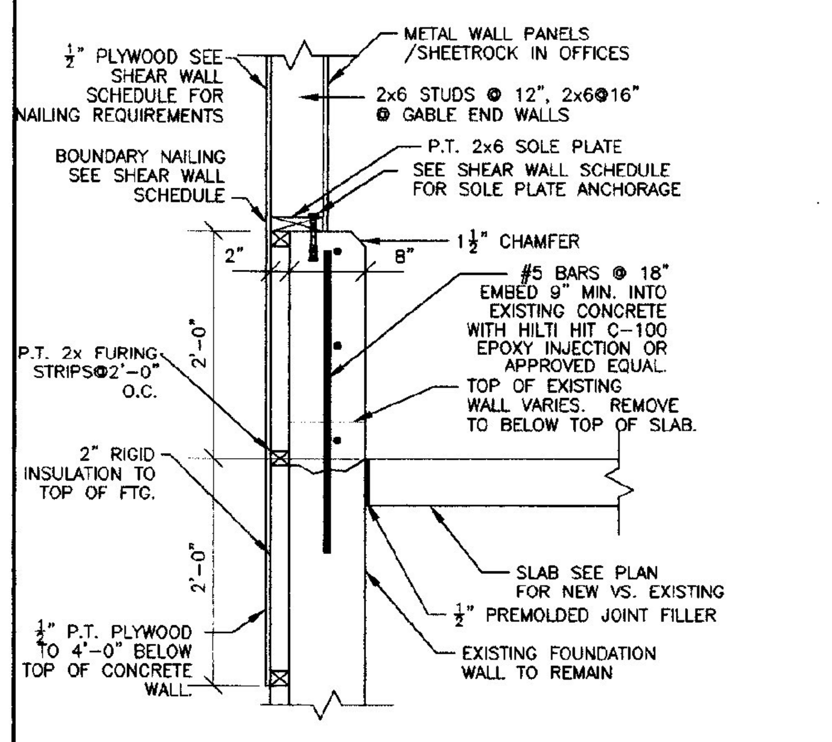
INTERIOR WALL SECTION (4/S-2)
SCALE: 3/4"=1'-0"



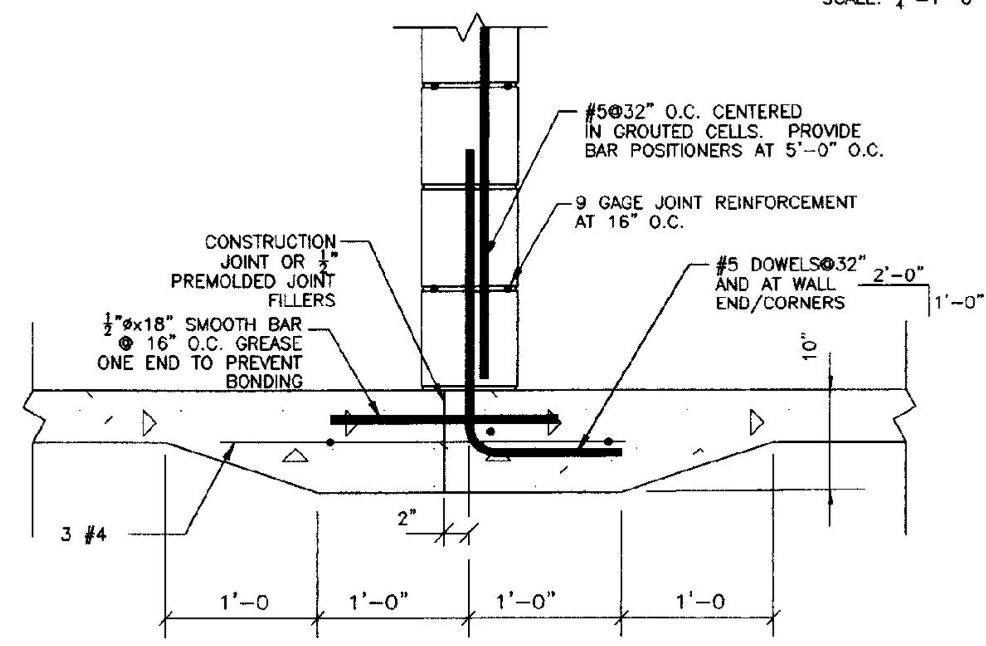
OIL ROOM EAVE SECTION (5/S-2)
SCALE: 3/4"=1'-0"



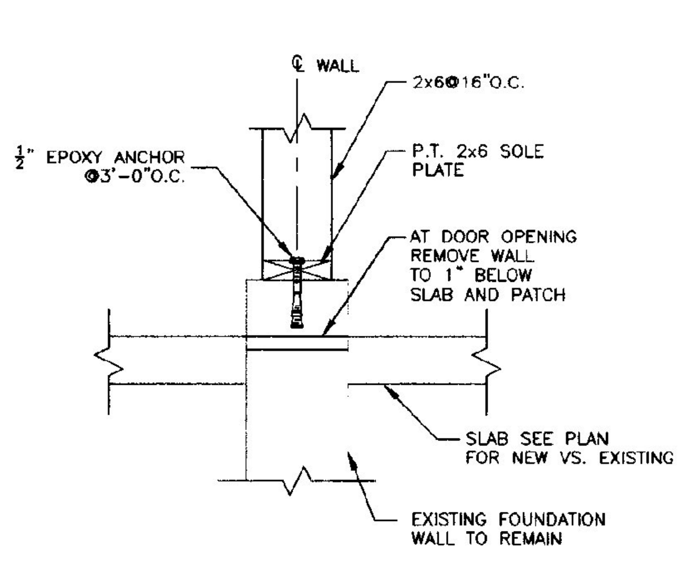
TYPICAL NEW WALL SECTION (6/S-2)
SCALE: 1/2"=1'-0"



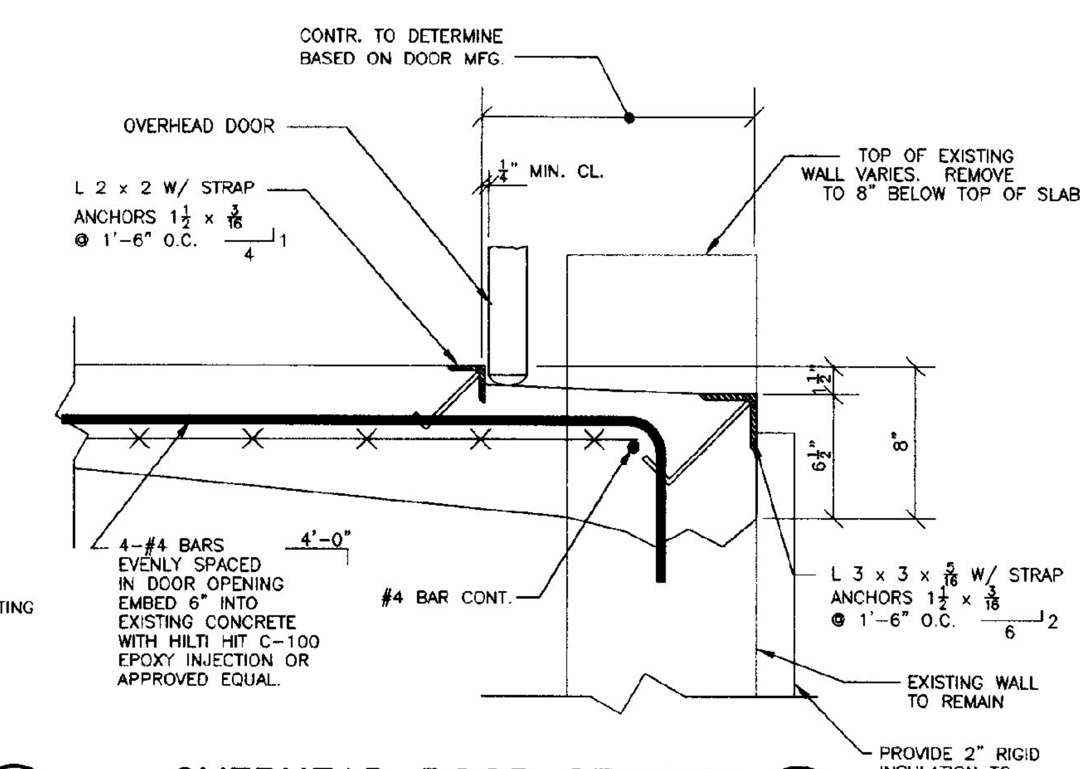
TYPICAL EXTERIOR WALL SECTION (7/S-2)
SCALE: 3/4"=1'-0"



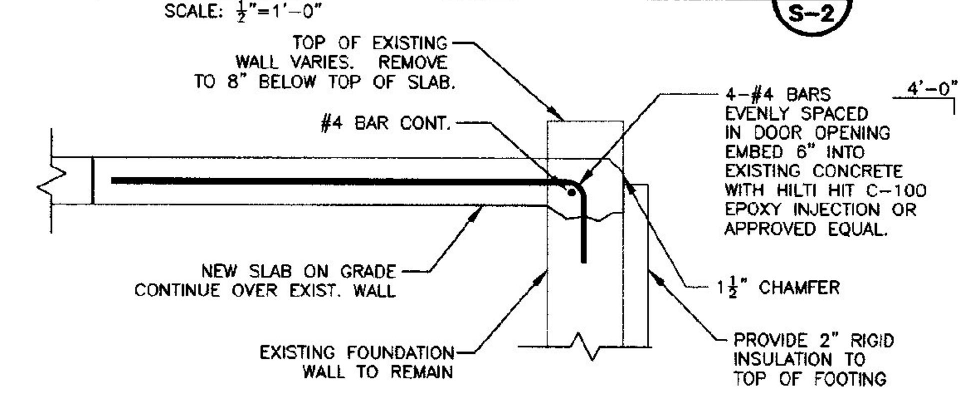
BLOCK WALL FOUNDATION SECTION (8/S-2)
SCALE: 1"=1'-0"



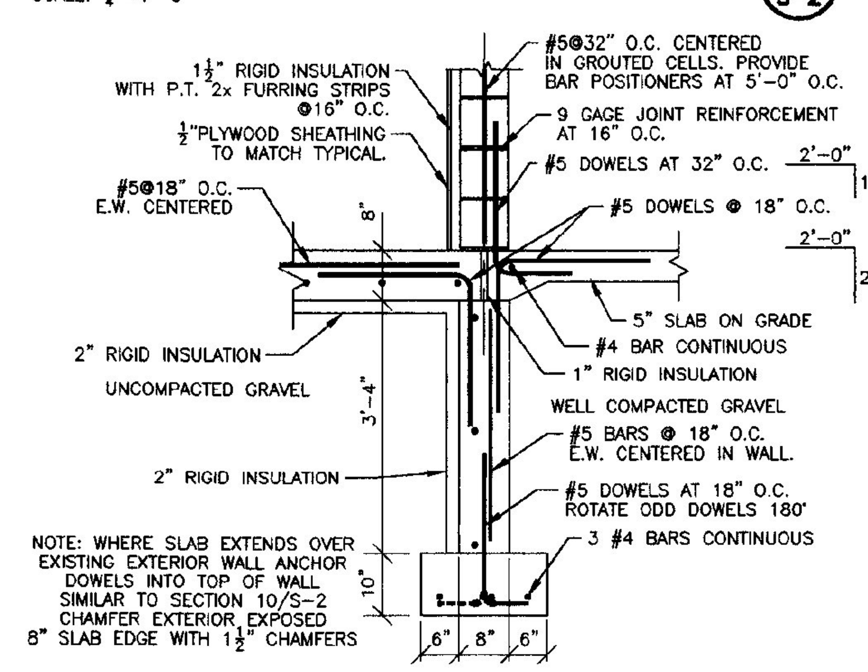
INTERIOR WALL SECTION (9/S-2)
SCALE: 1"=1'-0"



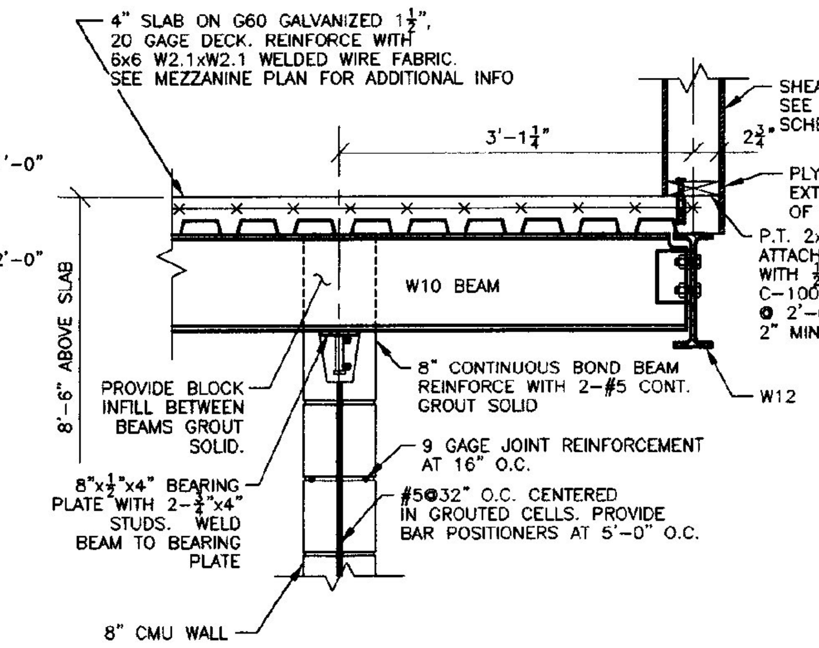
OVERHEAD DOOR SECTION (10/S-2)
SCALE: 1 1/2"=1'-0"



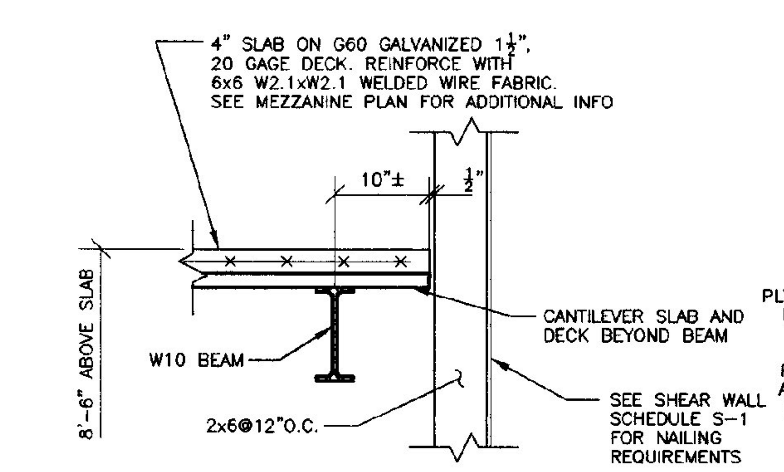
TYPICAL MANDOOR SECTION (11/S-2)
SCALE: 1"=1'-0"



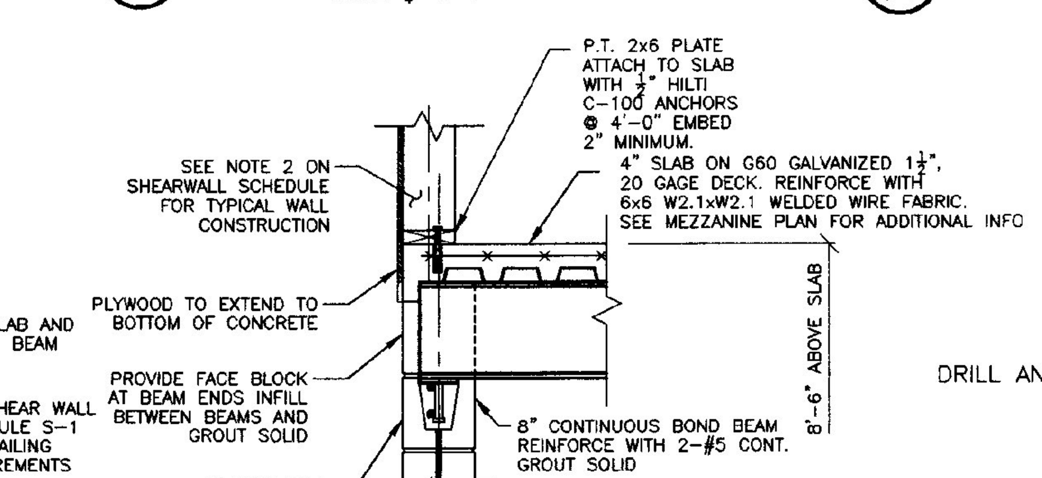
SECTION AT ENTRY SLAB (12/S-2)
SCALE: 1/2"=1'-0"



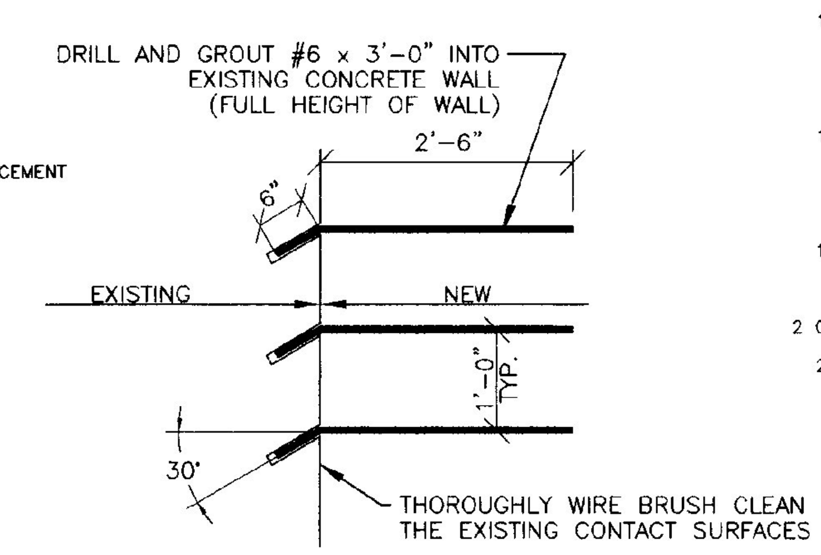
SECTION AT CANTILEVER (13/S-2)
SCALE: 3/4"=1'-0"



SECTION AT EXT. WALL (14/S-2)
SCALE: 3/4"=1'-0"



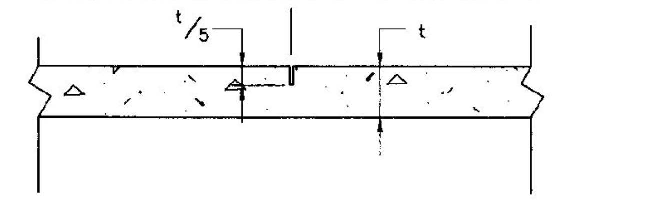
TYPICAL BLOCK SECTION (15/S-2)
SCALE: 3/4"=1'-0"



TYPICAL DETAIL
WHERE NEW CONCRETE WALL MEETS EXISTING
NOT TO SCALE

℄

SAW-CUT JOINT AS SOON AS CONC. HAS HARDENED SUFFICIENTLY TO PREVENT AGGREGATES FROM BEING DISLODGED BY THE SAW, & COMPLETE BEFORE SHRINKAGE STRESSES BECOME SUFFICIENT TO PRODUCE CRACKING



TYPICAL SLAB CONTROL JOINT
SCALE: 1"=1'-0"

GENERAL NOTES

1 GENERAL:

1.1 ALL WORK SHALL BE PERFORMED IN A FIRST CLASS MANNER, AND IN ACCORDANCE WITH STATE CODE (BOCA 1987 WITH LATEST SUPPLEMENTS), AND LOCAL CODES AND ORDINANCES.

1.2 USE THESE STRUCTURAL DRAWINGS IN CONJUNCTION WITH THE ARCHITECTURAL & MECHANICAL DRAWINGS. SHOULD A CONFLICT DEVELOP, NOTIFY THE ENGINEER BEFORE PROCEEDING.

1.3 ALL DIMENSIONS SHOWN MUST BE VERIFIED BY THE CONTRACTOR DURING CONSTRUCTION BY THE AID OF ARCHITECTURAL, MECHANICAL DRAWINGS, FIELD CHECKS, AND SUBCONTRACTORS SHOP DRAWINGS.

1.4 SEE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS AND HOUSEKEEPING SLABS NOT SHOWN ON STRUCTURAL DRAWINGS.

1.5 CONTRACTOR SHALL PROTECT EXISTING FACILITIES, STRUCTURES, UTILITY LINES FROM ALL DAMAGE.

1.6 CONTRACTOR IS RESPONSIBLE FOR ADEQUATE BRACING OF STRUCTURAL MEMBERS, WALLS, AND NON-STRUCTURAL ITEMS DURING CONSTRUCTION.

1.7 BUILDING IS DESIGNED FOR THE FOLLOWING LIVE LOADS:

ON GROUND SNOW LOAD	50 PSF
MEZZANINES	125 PSF
OFFICES	50 PSF
STAIRS	100 PSF
MECHANICAL	125 PSF
WIND PRESS. BASED OF VEL. OF	70 MPH

1.8 THE CONTRACTOR SHALL REVIEW AND STAMP ALL SHOP DRAWINGS BEFORE SUBMISSION TO THE ENGINEER; THUS, PROVIDING ANY INFORMATION REQUIRED OF THE FABRICATOR SUCH AS FIELD DIMENSIONS, ELEVATIONS, ETC. OTHERWISE THE SHOP DRAWINGS WILL BE REJECTED UNTIL SUCH INFORMATION IS FURNISHED BY THE CONTRACTOR.

1.9 ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL HAVING A MINIMUM BEARING CAPACITY OF 3,000 PSF, OR ON CONTROLLED ENGINEERED FILL, OR ON SOUND LEVEL ROCK. IT IS ASSUMED THAT THIS WILL BE ATTAINED AT A MINIMUM DEPTH OF 5'-0" BELOW FINISHED EXTERIOR GRADE OR AT THE ELEVATION NOTED ON PLANS - LOWER AS NECESSARY. NOTIFY THE ENGINEER IF UNSUITABLE MATERIAL IS ENCOUNTERED.

1.10 BACKFILL INSIDE OF FOUNDATION WALLS AT SLAB ON GRADE WITH IMPORTED BANK RUN GRAVEL, OR SELECT ON-SITE MATERIAL THAT WILL MEET COMPACTION CRITERIA, AS DETERMINED BY THE TESTING LABORATORY, IN 8" LIFTS TO 95% OF THE MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT, ASTM D1557.

1.11 PROVIDE A 6 MIL POLYETHYLENE VAPOR BARRIER UNDER FLOOR SLAB BETWEEN THE SAND AND THE GRAVEL BASE. SCARIFY AND COMPACT SUB BASE TO 95%, AND BASE MATERIAL ABOVE TO 95% OF THE MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT, ASTM D1557.

1.12 THE CONTRACTOR SHALL THOROUGHLY CLEAN THE PREMISES AT COMPLETION OF WORK AND AT TIMES AS DIRECTED BY THE OWNER. LEGALLY DISPOSE OF EXCESS MATERIAL OFF SITE.

2 CONCRETE:

2.1 ALL CONCRETE AND REINFORCING WORK SHALL BE IN STRICT ACCORDANCE WITH THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-89)". EXTERIOR CONCRETE AND FOUNDATION WALLS SHALL BE AIR-ENTRAINED WITH AIR CONTENT AS RECOMMENDED BY ACI 613. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. SUBMIT CONCRETE MIX DESIGN IN ACCORDANCE WITH ACI 318 FOR REVIEW OF ENGINEER. CONTRACTOR SHALL TAKE 4 TEST CYLINDERS OF CONCRETE FOR EACH 50 CUBIC YARDS OF CONCRETE OR FOR EACH DAYS POUR IF LESS THAN 50 C.Y. TESTING WILL BE AT OWNER'S EXPENSE.

2.2 USE A MID RANGE SUPERPLASTICIZER ADDITIVE FOR SLAB ON GRADE CONCRETE. PROVIDE THE STANDARD MIX, EXCEPT THE SLUMP BEFORE ADDING THE MID RANGE SUPERPLASTICIZER SHALL BE 2" +OR- 1/4".

2.3 CONCRETE SLAB WORK SHALL BE PERFORMED IN ACCORDANCE WITH "RECOMMENDED PRACTICE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION" (ACI 302.1 R-80). CONCRETE SHALL NOT BE PLACED ON A SATURATED SAND BASE. PROTECT SAND BASE FROM RAIN OR AERATE UNTIL DRY AND RECOMPACT. FINISH TO BE HARD STEEL TROWELED (THREE TROWLINGS, MINIMUM). WHERE "C.J." IS INDICATED ON THE PLAN IT SHALL BE A SAW-CUT CONTROL JOINT 1 1/4" DEEP MADE AS SOON AS SLAB CAN BE CUT WITHOUT UNRAVELING THE AGGREGATE, BUT IN NO CASE LATER THAN 24 HOURS AFTER FINISHING. APPLY A LIQUID MEMBRANE CURING, SEALING, AND HARDENING COMPOUND (CONFORMING TO "SPECIFICATIONS FOR LIQUID MEMBRANE - FORMING COMPOUNDS FOR CURING CONCRETE, ASTM 309-74) IMMEDIATELY AFTER FINISHING.

2.4 CONCRETE SHALL BE PROTECTED FROM FREEZING. CONTRACTOR SHALL FOLLOW THE "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING (ACI 306, LATEST EDITION).

2.5 ALL CONCRETE SHALL BE PLACED IN THE DRY - PUMP AS NECESSARY.

2.6 CONCRETE SHALL BE SO PROPORTIONED SO AS TO HAVE A MAXIMUM SLUMP OF 4", EXCEPT CONCRETE SPECIFIED TO HAVE A SUPERPLASTICIZER.

2.7 CONCRETE SLABS AND SLABS ON GRADE SHALL BE REINFORCED WITH POLYPROPYLENE FIBERS AT 1.6 POUNDS PER CUBIC YARD OF CONCRETE. FOLLOW MANUFACTURERS SPECIFICATIONS.

2.8 THE CONCRETE CONTRACTOR SHALL INSTALL (OR GIVE OTHER TRADES AMPLE OPPORTUNITY TO INSTALL) ALL ANCHOR BOLTS, ANCHORS, PLATES, NAILERS, SLOTS, CHASES, PIPE SLEEVES, DUCT OPENINGS, ETC., AS REQUIRED BY OTHER TRADES. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE SETTING SCREEDS AND FORMS. FORM RELEASE OIL SHALL BE AN APPROVED NON-TOXIC(AFTER CURING) LIQUID.

2.9 CHAMFER EDGES OF EXPOSED BEAMS AND COLUMNS.

2.10 CURING: HORIZONTAL SURFACES SHALL BE KEPT CONTINUOUSLY MOIST OVER ENTIRE SURFACE FOR SEVEN DAYS WHEN WATER CURING IS USED. VERTICAL SURFACES SHALL RECEIVE 2 COATS ONE AT TIME OF STRIPPING AND ANOTHER 3 DAY LATER) OF AN APPROVED NON-TOXIC (AFTER CURING) LIQUID CURING COMPOUND.

2.11 ALL WALLS SHALL BE ADEQUATELY BRACED TO WITHSTAND BACKFILLING AND CONSTRUCTION LOAD PRESSURES. WALLS MUST BE AT LEAST SEVEN DAYS OLD BEFORE BACKFILLING.

3 REINFORCING STEEL:

3.1 REINFORCING STEEL SHALL BE NEW BILLET STEEL, ASTM A615, Fy=60 KSI, EXCEPT TIES AND STIRRUPS SHALL BE Fy=40 KSI.

3.2 THE MINIMUM CLEAR DISTANCE FROM REINFORCING STEEL TO ADJACENT SURFACE SHALL BE: 3" FROM BOTTOM OF FOOTINGS AND GRADE BEAMS; 1-1/2" (2" FOR #6 OR LARGER) FROM FACE OF WALLS AND GRADE BEAMS EXPOSED TO EARTH OR WEATHER, 3/4" FROM INSIDE FACE; AND 2" FOR SLAB ON GRADE.

3.3 REINFORCEMENT SHALL BE SECURELY TIED IN ITS PROPER PLACE BEFORE AND DURING CONCRETE PLACEMENT OPERATIONS USING APPROVED TIES, CHAIRS, AND SPACERS AS REQUIRED. NO BARS SHALL BE CUT OR OMITTED IN THE FIELD WITHOUT THE APPROVAL OF THE ENGINEER. USE PLASTIC TIPPED ACCESSORIES IN CONCRETE EXPOSED TO WEATHER, WATER, OR VIEW.

3.4 WHERE CONTINUOUS BARS ARE CALLED FOR, INDICATED OR OTHERWISE REQUIRED THEY SHALL BE RUN CONTINUOUSLY AROUND CORNERS, DOWELED INTO INTERSECTION WALLS AND LAPPED AT NECESSARY SPLICES WITH SPLICES STAGGERED WHEREVER POSSIBLE.

4 COMPOSITE STEEL DECK:

4.1 STEEL DECK SHALL BE 1-1/2" DEEP, 20 GAGE, GALVANIZED (ASTM A653 G60) FABRICATED FROM STEEL CONFORMING TO SECTION A3 OF THE LATEST EDITION OF THE AMERICAN IRON AND STEEL INSTITUTE, SPECIFICATION FOR THE DESIGN AND COLD-FORMED STEEL STRUCTURAL MEMBERS. MINIMUM OF 33 KSI STEEL AND DELIVERED THICKNESS NOT LESS THAT 95% OF DESIGN THICKNESS. WELD TO ALL SUPPORTS WITH A 5/8" NOMINAL DIAMETER PUDDLE WELD AT 12" O.C.

5 STRUCTURAL STEEL:

5.1 STRUCTURAL WIDE FLANGE BEAMS SHALL BE ASTM A572 GRADE 50 STEEL WITH SPECIAL REQUIREMENTS PER AISC TECHNICAL BULLETIN #3, ALL OTHER STRUCTURAL STEEL SHALL BE ASTM A36 STEEL. UNLESS OTHERWISE NOTED, ALL BOLTING SHALL BE 3/4" DIA. A325 SNUG TIGHT HIGH STRENGTH BOLTS. SHOP CONNECTIONS SHALL BE PREQUALIFIED WELDS USING E-70 ELECTRODES BY AWS CERTIFIED WELDERS, OR BOLTED. FIELD CONNECTIONS SHALL BE BOLTED, U.O.N. ALL STRUCTURAL STEEL WORK SHALL BE IN STRICT ACCORDANCE WITH THE A.I.S.C "MANUAL OF STEEL CONSTRUCTION" LATEST EDITION. ALL STEEL SHALL RECEIVE ONE COAT OF RUST INHIBITIVE PRIMER. SUBMIT SHOP DRAWINGS FOR REVIEW OF ENGINEER.

5.2 ALL WELDING WHETHER FIELD OR SHOP SHALL BE PREQUALIFIED WELDS WITH E-70 ELECTRODES BY AWS PREVIOUSLY CERTIFIED WELDERS.

5.3 STEEL LINTELS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.

6 WOOD FRAMING:

6.1 WOOD FRAMING WORK SHALL BE IN ACCORDANCE WITH STATE CODE WHICH INCORPORATES THE NATIONAL DESIGN SPECIFICATIONS OF THE NATIONAL FOREST PRODUCTS ASSOC. ALL LUMBER SHALL BE AGENCY GRADE STAMPED OF THE SPECIES AND GRADE INDICATED IN THE PROJECT SPECIFICATIONS OR HEREIN.

6.2 FRAMING SAWN LUMBER SHALL BE SPRUCE-PINE-FIR NO. 1 OR NO.2 AND/OR SOUTHERN PINE NO. 2. NO MIXTURE OF LOWER GRADES WITHIN THE THE SPECIES WILL BE ALLOWED. SAWN LUMBER SHALL BE KILN DRIED TO 15% MOISTURE CONTENT.

6.3 M/L INDICATES MICRO=LAM OR LVL LAMINATED TIMBER AS MANUFACTURED BY TJI OR GNI RESPECTIVELY, OR APPROVED EQUAL. MIN. Fb=2800 psi, Fv=250 psi, E=1,900,000 psi, Fc PERPENDICULAR TO GRAIN = 500 psi. ALL PIECES SHALL BE CONTINUOUS WITHOUT JOINTS, EXCEPT WHERE "SPLICE" IS INDICATED ON PLAN. NAIL 2-MEMBER BEAMS WITH 2 ROWS OF 16d AT 12" O.C., AND 3-MEMBER BEAMS WITH 3 ROWS OF 16d @ 12" ON EACH SIDE.

6.4 TJI OR GNI JOISTS SHALL BE A MANUFACTURED BY TRUS JOIST CORPORATION, OR GANG-NAIL SYSTEMS, INC. RESPECTIVELY.

6.5 CONNECTION MATERIAL, BOLTS, NUTS, AND WASHERS EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED. ALL OTHER CONNECTIONS SHALL BE PRIME PAINTED.

6.6 COLUMNS SHALL BE CONTINUOUS. FRAME BEAMS INTO SIDES OF COLUMNS, EXCEPT AT CANTILEVERED BEAMS.

6.7 UNLESS OTHERWISE NOTED, THE MINIMUM NAILING SHALL BE IN ACCORDANCE WITH THE "RECOMMENDED FASTENER SCHEDULE", OF THE STATE CODE.

6.8 ALL JOISTS FRAMING INTO BEAMS OR COLUMNS SHALL BE SUPPORTED ON CODE APPROVED METAL HANGERS. NAILING SHALL BE PER MANUFACTURER'S SPECIFICATIONS.

7 CONCRETE MASONRY:

7.1 MASONRY WORK SHALL COMPLY WITH THE BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-92/ASCE 5-92/TMS 402-92), AND THE SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1-92/ASCE 6-92/TMS 602-92).

7.2 LOAD BEARING CONCRETE MASONRY UNITS SHALL BE EQUAL TO ASTM C90, GRADE N, TYPE I, AND SHALL HAVE A MINIMUM UNIT STRENGTH OF 2,000 psi AND AN ASSEMBLED (PRISM) COMPRESSIVE STRENGTH (f'm) = 1,500 psi WITH STONE, GRAVEL, OR LIMESTONE AGGREGATE. CINDER AGGREGATE IS NOT PERMITTED.

7.3 MORTAR SHALL COMFORM TO ASTM C270 AND SHALL BE TYPE "S" WITH A MINIMUM COMPRESSIVE STRENGTH OF 1,800 psi.

7.4 GROUT MATERIAL AND PROPORTION REQUIREMENTS SHALL BE AS SPECIFIED IN ASTM C 476 AND SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 psi AT 28 DAYS.

7.5 ALL EXPOSED MASONRY CORNERS SHALL BE BULLNOSED. USED DOUBLE BULLNOSED BLOCK AT WALL PENETRATIONS (IE. DOOR AND WINDOW OPENINGS).

NO.	DATE	REVISION
1		
2		
3		
4		
5		
6		
7		

DEA
DeWolfe Engineering Associates, Inc.
CIVIL & STRUCTURAL ENGINEERS
1100 US RT 2, SUITE 2, BERLIN, VT 05602
TELEPHONE: (802) 223-4727 FAX: (802) 223-4740
STATE OF VERMONT — CHRISTOPHER J. TEMPLE — No. 7023 — REGISTERED PROFESSIONAL ENGINEER

STATE OF VERMONT DISTRICT NO. 9 SERVICE BUILDING
DERBY, VERMONT

SHEET DESCRIPTION: DETAILS AND SECTIONS

PROJECT NO. 9746	DATE AUGUST 13, 1999
SCALE AS NOTED	S-2
DRAWN CJT	
CHECKED CJT	