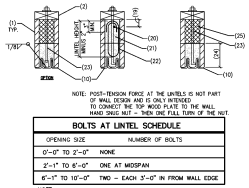
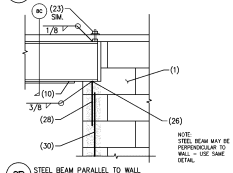


NOTE: POST-TENSION FORCE AT THE LINTELS IS NOT PART OF WALL DESIGN AND IS ONLY INTENDED TO CONNECT THE TOP WOOD PLATE TO THE WALL. HAND SNUG NUT. – THEN ONE FULL TURN OF THE NUT.

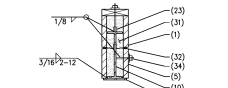
BOLTS AT LINTEL SCHEDULE	
OPENING SIZE	NUMBER OF BOLTS
0'-0" TO 2'-0"	NONE
2'-1" TO 6'-0"	ONE AT MIDSPAN
6'-1" TO 10'-0"	TWO – EACH 3'-0" IN FROM WALL EDGE

NOTE:
IT IS INTENDED THAT ALL BOLTS OCCUR IN THE CENTER OF A CELL. VERIFY LOCATION OF CELL PRIOR TO PLACING BOLT.

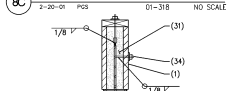
8A TYPICAL LINTEL SECTIONS AND SCHEDULE
12-28-93 PGS REVISED 2/20/01 NO SCALE



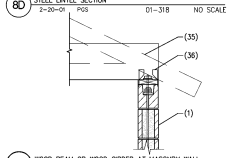
8B STEEL BEAM PARALLEL TO WALL
2-20-01 PGS 01-318 NO SCALE



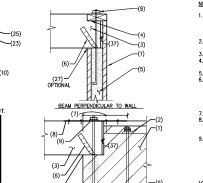
8C STEEL LINTEL SECTION
2-20-01 PGS 01-318 NO SCALE



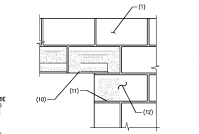
8D STEEL LINTEL SECTION
2-20-01 PGS 01-318 NO SCALE



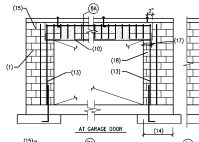
8E WOOD BEAM OR WOOD GIRDER AT MASONRY WALL
2-28-01 PGS 01-318 NO SCALE



7 WOOD BEAMS INTO MASONRY WALL
6-25-92 PGS REVISED 2/20/01 NO SCALE



7A TYPICAL LINTEL BEARING
6-25-92 PGS REVISED 2/20/01 NO SCALE



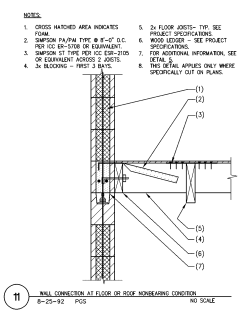
8 WALL ELEVATIONS SHOWING LINTELS
7-23-93 JF/PGS REVISED 2/20/01 NO SCALE

NOTES:

1. THE *Intrax®* WALL SYSTEM WITH TYPICAL VERTICAL 7/16" DIAMETER (1/2" DIAMETER ROLL THREADS) POST TENSION ROD, TYPICAL WOOD TOP PLATE, NUT AND WASHER, PLATE BEARING BLOCK W/ PLATE WASHER, DIRECT TENSION INDICATOR WASHER AND NUT.
2. WOOD BEAM OR PLAN.
3. ALL WOOD BEAM TO ALLOW CONTINUATION OF TOP PLATE.
5. SOLID GROUT CELL AT BEAM BEARING.
6. SIMPSON PA/PAI TYPE PER ICC ER-5708 OR EQUIVALENT– EMBED INTO GROUTED CELL – NAIL TO BEAM. AT BEAM PARALLEL TO WALL, IT IS ACCEPTABLE TO PLACE STRAP AT END OF BEAM.
7. 12" TYPICAL TO LOCATION OF FIRST ROD.
8. SIMPSON ST TYPE STRAP PER ICC ESR-2105 OR EQUIVALENT – WITH 5 SIMPSON N10 NAILS EACH END – TYPICAL.
9. 1/2" DIA. TYP. X 30" LONG ANCHOR WITH 2" DIA. WASHER AT BOTTOM (ALTERNATE TO SIMPSON PAT TYPE STRAP (OPTIONAL FOR PAI TYPE STRAP). INSTALL W/ 2" DIA. WASHER OR STANDARD TOP PLATE WASHER THRU BEAM AND TOP PLATE (WHERE OCCURS) INTO SOLID GROUTED CELL.
10. STEEL LINTEL MANUFACTURED OR SUPPLIED BY SUPERLITE BLOCK.
11. MATERIAL TO BLOCK GROUT.
12. GROUT CELL SOLID 8" MINIMUM DEPTH – ROD ADEQUATELY TO INSURE COMPLETE FILLING OF CELL. ADDITIONAL DEPTHS MAY BE REQUIRED. SEE ENGINEERING DRAWINGS.
13. #4 BAR MINIMUM FILL HEIGHT IN END CELL SEE ARCH'L OR ENGINEERING DRAWINGS – GROUT SOLID FULL HEIGHT.
14. RETURN WALL AT GARAGE DOOR, DIMENSION VARIES.
15. HORIZ. JOINT REINF. WHEN SHOWN ON WALL PLAN AS MANUFACTURED OR SUPPLIED BY SUPERLITE BLOCK–TYP.
16. DIMENSION SHOULD BE MODULAR BUT NOT TO EXCEED 4'-0". BARS TO OCCUR IN CELLS.
17. 4" BEARING FOR STEEL LINTEL – TYP.
18. CONTINUOUS WHERE LINTEL OCCURS, TO EXTEND PAST END OF LINTEL TO TOP OF WALL.
19. 1 1/2" CLEAR TO TOP REBAR.
20. TOP REBAR AS OCCURS.
21. SOLID GROUT UNTIL PER PLANS.
22. STEEL STIRRUP (AS REQUIRED – SEE PLANS).
23. POST–TENSION RODS AS NEW(S) OR SUPPLIED BY SUPERLITE BLOCK AND AS SHOWN ON BOLTS AT LINTEL SCHEDULE. W/ 3" HOOK RESTING ON LINTEL. OPTION TO 2" HOOK IS TO WELD COUPLER TO STEEL LINTEL AS SHOWN.
24. HEIGHT OF GROUT VARIES SEE PLANS. (8" MIN).
25. CROSS–HATCHED AREA INDICATES FOAM – SEE PLANS.
26. #4 BAR 8" EACH END.
27. AS AN OPTION TO THE SIMPSON STRAP IT IS ACCEPTABLE TO USE A SIMPSON CLS SEAT OR EQUIVALENT.
28. #4x18" LONG.
29. NOT USED.
30. VERTICAL REINFORCING AS SHOWN ON PLANS.
31. SOLID GROUT OR MORTAR.
32. MASONRY VENEER TIES AT 16" O.C. WELD TO BEAM WITH 1/8 FILLET.
33. CONTINUOUS 1-1/4"x1-1/2" STEEL PLATE – STOP SHORT OF CMU AS SHOWN.
34. BOLTS TO ATTACH GARAGE DOOR AS OCCURS.
35. WOOD BEAM OR WOOD GIRDER.
36. SIMPSON HCS OR EQUIVALENT AT EACH SIDE AND AT ENDS (4 TOTAL).
37. 1/2" GAP BETWEEN WOOD AND MASONRY.

NOTES:

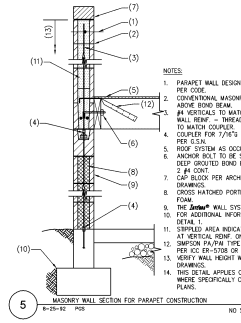
1. CROSS HATCHED AREA INDICATES FOAM.
2. SIMPSON PA/PAI TYPE @ 8'-0" O.C. PER ICC ER-5708 OR EQUIVALENT.
3. SIMPSON ST TYPE PER ICC ESR-2105 OR EQUIVALENT ACROSS 2 JOISTS.
4. 3x BLOCKING – FIRST 2 BLKS.
5. 2x FLOOR JOISTS– TYP. SEE PROJECT SPECIFICATIONS.
6. WOOD LOUVER – SEE PROJECT SPECIFICATIONS.
7. FOR ADDITIONAL INFORMATION, SEE DETAIL 5.
8. THIS DETAIL APPLIES ONLY WHERE SPECIFICALLY CUT ON PLANS.



11 WALL CONNECTION AT FLOOR OR ROOF NONBEARING CONDITION
8-25-92 PGS NO SCALE

NOTES:

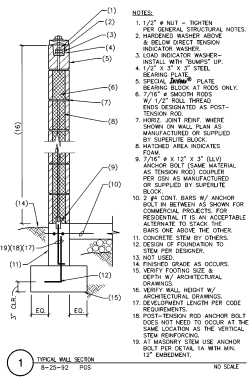
1. PARAPET WALL DESIGN PER CODE.
2. CONVENTIONAL MASONRY CONSTR. ABOVE BOND BEAM.
3. #4 VERTICALS TO MATCH VERTICAL WALL REINF. – THREAD ONE END TO MATCH COUPLER.
4. COUPLER FOR 7/16"ø ROD PER G.S.N.
5. ROOF SYSTEM AS OCCURS.
6. ANCHOR BOLT TO BE SET INTO 8" DEEP GROUTED BOND BEAM WITH 2 #4 CONT.
7. CAP BLOCK PER ARCHITECTURAL DRAWINGS.
8. CROSS HATCHED PORTIONS INDICATES FOAM.
9. THE *Intrax®* WALL SYSTEM.
10. FOR ADDITIONAL INFORMATION SEE DETAIL 1.
11. STIPPLED AREA INDICATES GROUT – AT VERTICAL REINF. ONLY.
12. SIMPSON PA/PAI TYPE @ 48" O.C. PER ICC ER-5708 OR EQUIVALENT.
13. VERIFY WALL HEIGHT W/ ARCH'L DRAWINGS.
14. THIS DETAIL APPLIES ONLY WHERE SPECIFICALLY CUT ON PLANS.



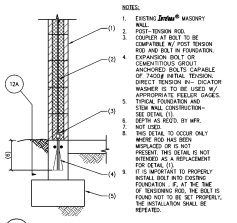
5 MASONRY WALL SECTION FOR PARAPET CONSTRUCTION
8-25-92 PGS NO SCALE

NOTES:

1. 1/2" ø NUT – TIGHTEN PER GENERAL STRUCTURAL NOTES.
2. HARDENED WASHER ABOVE & BELOW DIRECT TENSION INDICATOR WASHER.
3. LOAD INDICATOR WASHER. INSTALL WITH "BUMPS" UP. SEE GENERAL STEEL & BEARING PLATE.
4. SPECIAL *Intrax®* PLATE BEARING BLOCK AT RODS ONLY. 6 7/16" ø SMOOTH RODS W/ 1/2" ROLL THREAD ENDS DESIGNED AS POST–TENSION ROD.
5. HORIZ. JOINT REINF. WHERE SHOWN ON WALL PLAN AS MANUFACTURED OR SUPPLIED BY SUPERLITE BLOCK.
6. MATCHED AREA INDICATES FOAM.
7. 9 7/8" ø x 12" x 3" (LLV). ANCHOR BOLT (SAME MATERIAL AS TENSION ROD) COUPLER PER GSN #5 MANUFACTURED OR SUPPLIED BY SUPERLITE BLOCK.
10. 2 #4 CONT. BARS W/ ANCHOR BOLT IN BETWEEN AS SHOWN FOR COMMERCIAL PROJECTS. FOR RESIDENTIAL IT IS AN ACCEPTABLE ALTERNATE TO STAGGER THE BARS ONE ABOVE THE OTHER.
11. CONCRETE STEM BY OTHERS.
12. DESIGN OF FOUNDATION TO STEM PER DESIGNER.
13. NOT USED.
14. FOOTING BY OTHERS AS OCCURS.
15. VERIFY FOOTING SIZE & DEPTH W/ ARCHITECTURAL DRAWINGS.
16. VERIFY WALL HEIGHT W/ ARCHITECTURAL DRAWINGS.
17. DEVELOPMENT LENGTH PER CODE REQUIREMENTS.
18. POST–TENSION ROD ANCHOR BOLT DOES NOT NEED TO OCCUR AT THE SAME LOCATION AS THE VERTICAL STEM REINFORCING.
19. AT MASONRY STEM USE ANCHOR BOLT PER DETAIL 1A WITH MIN. 12" EMBEDMENT.



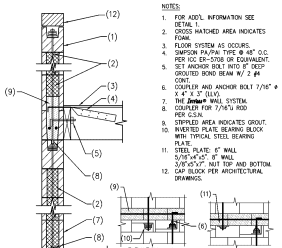
1 TYPICAL WALL SECTION
8-25-92 PGS NO SCALE



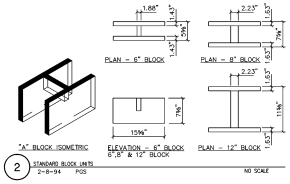
12 REPAIR BOLT CONNECTION FOR POST TENSION ROD IN WALL
NO SCALE

NOTES:

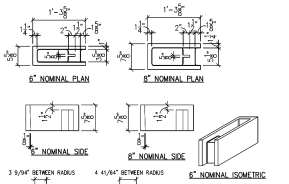
1. FOR ADD'L INFORMATION SEE DETAIL 1.
2. CROSS HATCHED AREA INDICATES FOAM.
3. FLOOR SYSTEM AS OCCURS.
4. SIMPSON PA/PAI TYPE @ 48" O.C. PER ICC ER-5708 OR EQUIVALENT.
5. SET ANCHOR BOLT INTO 8" DEEP GROUTED BOND BEAM W/ 2 #4 CONT.
6. COUPLER AND ANCHOR BOLT 7/16" ø X 4" X 3" (LLV).
7. THE *Intrax®* WALL SYSTEM.
8. COUPLER FOR 7/16"ø ROD PER G.S.N.
9. STIPPLED AREA INDICATES GROUT.
10. INVERTED PLATE BEARING BLOCK WITH TYPICAL STEEL BEARING PLATE.
11. STEEL PLATE, 6" WALL 3/8"x4"x5" 4" WALL 3/8"x3"x7". NUT TOP AND BOTTOM.
12. CAP BLOCK PER ARCHITECTURAL DRAWINGS.



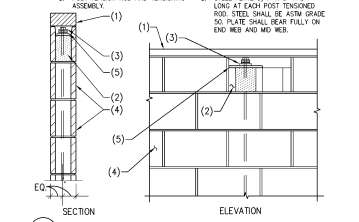
6 MASONRY WALL SECTION FOR TWO STORY CONSTRUCTION
8-25-92 PGS NO SCALE



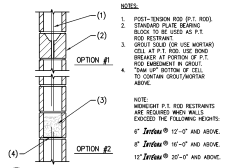
2 STANDARD BLOCK UNITS
2-8-94 PGS NO SCALE



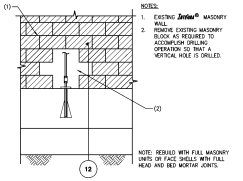
3 *Intrax®* PLATE BEARING BLOCK
6-9-00 NO SCALE



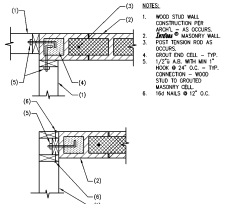
16 TYPICAL POST TENSION ROD ANCHORAGE AT TOP OF WALL
NO SCALE



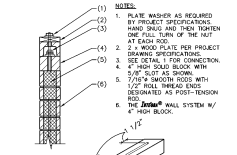
15 P.T. ROD RESTRAINT DETAIL AT MIDHEIGHT OF WALL
96-318 NO SCALE



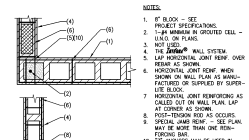
12A ELEVATION
NO SCALE



13 PLAN VIEW – WOOD STUD WALL AT MASONRY WALL
NO SCALE



14 4" HIGH MASONRY AT TENSION ASSEMBLY
NO SCALE

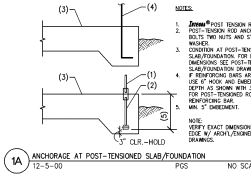


9 CONTROL JOINT IN THE *Intrax®* WALL
8-25-92 PGS NO SCALE

10 PLAN – THE *Intrax®* WALL AND CONVENTIONAL BLOCK AND AT CORNERS
10-28-92 PGS NO SCALE

DETAIL NOT USED

8-25-92 PGS



1A ANCHORAGE AT POST–TENSIONED SLAB/FOUNDATION
12-5-00 PGS NO SCALE

GENERAL STRUCTURAL NOTES

1. POST TENSIONED RODS SHALL BE TENSIONED TO 7400ø. THE FINAL DESIGN ASSUMED TENSION FORCE EQUALS 5000ø.
2. MORTAR TYPE S 1800 PSI.
3. GROUT 2000 PSI.
4. CONCRETE 2500 PSI MINIMUM.
5. POST TENSIONING RODS AND ANCHOR BOLTS AS MANUFACTURED OR SUPPLIED BY SUPERLITE BLOCK. RODS SHALL BE 7/16" DIAMETER WITH 1/2" ROLL THREADS. RODS SHALL CONFORM TO AISI C1008, Fy=60,000 PSI, AREA EQUALS 1503 INC.
6. STRUCTURALLY, THE FOAM CONTRIBUTES NO STRENGTH TO THE *Intrax®* WALL SYSTEM MASONRY WALL. THEREFORE, FOAM SHALL BE INSTALLED AS DIRECTED BY THE BUILDER AND/OR SUPERLITE BLOCK.
7. ALL MASONRY UNITS SHALL BE MANUFACTURED BY SUPERLITE BLOCK OR THEIR LICENSEE. HOLLOW CONC. MASONRY UNITS SHALL CONFORM TO ASTM C90. ALL MASONRY UNITS SHALL BE MIN. 28 DAYS OLD BEFORE POST TENSIONING OCCURS. MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3000 PSI.
8. ALL PLATES, NUTS, BOLTS AND COUPLERS SHALL BE AS MANUFACTURED OR SUPPLIED BY SUPERLITE BLOCK. STEEL PLATES SHALL COMPLY WITH ASTM A36. HARDENED WASHERS SHALL BE PER ASTM F436.
9. HORIZONTAL JOINT REINFORCING IN WALLS SHALL BE AS MANUFACTURED OR SUPPLIED BY SUPERLITE BLOCK. WIRE REINFORCING SHALL CONFORM TO ASTM A82, AND BE STANDARD 9 GAGE UNLESS NOTED OTHERWISE.
10. DEFORMED BARS (#5 AND SMALLER) WHERE REQUIRED SHALL CONFORM TO ASTM A615 (Fy=60,000 PSI).
11. ALL MASONRY BLOCK FOR BOTH ABOVE AND BELOW GRADE WALLS SHALL BE SUPPLIED BY THE SAME MANUFACTURER.
12. CRITERIA FOR HORIZONTAL JOINT REINFORCING:

PLACEMENT–
A. CONT. IN THE FIRST JOINT BELOW THE TOP OF THE WALL.
B. ABOVE AND BELOW OPENINGS–IN EITHER THE FIRST OR SECOND MORTAR JOINT–TO EXTEND A MINIMUM OF 24" PAST THE JAMB.
C. AS SHOWN ON ENGINEERED PLAN.
D. LAP HORIZONTAL JOINT REINFORCING A MIN. OF 16".

EXCEPTIONS–
A. NO JOINT REINFORCING REQUIRED IN WALLS OR PIERS 16" LONG OR LESS.

13. COUPLERS TO BE CAPABLE OF DEVELOPING 125% OF THE FULL TENSION VALUE OF ROD (1.25 TIMES Fy TIMES As).
14. DIRECT TENSION INDICATOR WASHERS A–325 SHALL BE RATED FOR 7400 POUNDS AND BE MANUFACTURED TO THE SAME QUALITY CONTROL PROCEDURES OF ASTM F959 1985 EDITION.
15. ø INDICATES OPENING IN WALL – SEE PLANS FOR OPENING WIDTH AND LINTEL SIZE.
16. BUILDER SHALL VERIFY ALL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS – REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.
17. ALL LINTELS SHALL BE AS SUPPLIED BY SUPERLITE BLOCK.
18. REFERENCE ICC LEGACY REPORT ER–4845.
19. 4" HIGH MASONRY UNITS MAY BE USED IN LIEU OF 8" HIGH MASONRY UNITS SHOWN HERE.
20. ALL VERTICAL AND HORIZONTAL REINFORCING BARS MAY BE LAPPED AS NECESSARY. LAP AS FOLLOWS:

BAR SIZE	VERTICAL LAP	HORIZONTAL LAP
#4	24"	18"
#5	30"	24"

21. UNLESS NOTED OTHERWISE ON PLANS, PLACE CONTROL JOINTS IN MASONRY WALLS SUCH THAT NO STRAIGHT RUN OF WALL EXCEED 32'-0".

INSTALLATION NOTES

1. **FOOTING:**
   PLACE AND SECURE FOOTING REINFORCING (SEE DETAIL 1).
2. **STEM WALL:**
   PLACE AND SECURE 2 #4 IN TOP OF STEM. MARK ON FORMS LOCATION OF ANCHOR BOLTS FOR POST TENSIONING RODS IN WALL. STAB ANCHOR BOLTS IN STEM.
3. ***Intrax®* WALL SYSTEM:**
   INSTALL POST TENSIONING RODS IN COUPLERS ON ANCHOR BOLTS. BEGIN MASONRY WALL AT LOCATIONS WHERE GROUT IS SPECIFIED – GROUT LIFTS MAY NOT EXCEED 4'–0". CELL SHALL BE WELL RODDED TO INSURE GROUT FULLY ENCASES REINFORCING ROD IN MASONRY CELL. IT IS ACCEPTABLE TO USE MORTAR AS GROUT IN 8" MAXIMUM LIFTS. INSTALL ALL HARDWARE FOR BEAM BEARINGS ETC. – SEE PLANS.
4. **LINTELS:**
   SHORE LINTELS OVER 6'–0" UNLESS I BEAM LINTELS ARE USED. GROUT SHALL CURE FOR A MINIMUM OF 3 DAYS PRIOR TO REMOVING SHORES.

INTEGRA® WALL SYSTEMS
4150 WEST TURNEY, PHOENIX, ARIZONA 85019 (602) 269 – 3561
* ENGINEERED INSULATED BLOCK WALL SYSTEM
# PATENTS PENDING METHOD AND STRUCTURE

BUILDER / ARCHITECT:	ENG:
MODEL NUMBER:	DRAWN:
CARUSO TURLEY SCOTT JOB #	CHECKED: PGS

CARUSO TURLEY SCOTT INC.
consulting structural engineers
1215 W. Rio Salado Pkwy
Suite 200
Tempe, Arizona 85281
(480) 774-1700
(480) 774-1701 FAX

REGISTERED PROFESSIONAL ENGINEER (STRUCTURAL) 14427 PAUL F. SCOTT 12/31/10 ARIZONA U.S.A. EXPIRES 06-30-10

REVISIONS:

07-30-93	POS/BCR
08-31-93	POS/LFB
10-12-93	POS/NEW
11-15-93	POS/BCR
03-08-94	POS/TWH
02-21-95	POS/TWH
06-03-96	POS/WSW
04-04-96	POS/SSR
02-12-97	POS/TWH
03-03-97	POS/TWH
02-20-98	POS/WGB
12-05-00	POS/AJH
04-16-01	POS/JAC
06-27-01	POS/TWH
02-28-02	POS/TWH
03-12-02	POS/TWH
08-24-02	POS/TWH
08-08-02	POS/TWH
04-14-04	POS/WGB
07-08-05	POS/TWH
06-21-07	POS/CJJ
07-26-07	POS/CJJ
10-24-07	POS/CJJ
02-29-08	POS/JXK
03-07-08	POS/CED

SCALE = N.T.S.

MASONRY WALL PLAN

INTEGRA® WALL SYSTEMS

S1.1