GENERAL NOTES:

DESIGN:

1. BUILDING CODE – 2006 IBC
2. SNOW LOADS:
   - GROUND SNOW LOAD = Pg = 0 psf
   - FLAT ROOF SNOW LOAD = Pf = 0 psf
   - SNOW EXPOSURE FACTOR = Ce = 1.0
   - SNOW LOAD IMPORTANCE FACTOR = Is = 1.0
   - THERMAL FACTOR = Ct = 1.0
3. WIND LOADS:
   - BASIC WIND SPEED = 85 MPH
   - WIND IMPORTANCE FACTOR Iw = 1.0
   - BUILDING CATEGORY = II
   - OVERALL EXPOSURE CATEGORY = C
   - INTERNAL PRESSURE COEFFICIENT = ±0.18
4. SEISMIC:
   - SEISMIC DESIGN CATEGORY = C
   - Sa = 17.2% g
   - S1.0 = 8.8% g
   - SDS = 0.183
   - SD1 = 0.141
   - SITE CLASS = D
   - BASIC SEISMIC-FORCE-RESISTING SYSTEM = ORDINARY PLAIN MASONRY SHEAR WALLS
   - BASE SHEAR = 0.122 W
   - SEISMIC IMPORTANCE FACTOR Ie = 1.0
   - SEISMIC RESPONSE COEFFICIENT Cs = 0.122
   - RESPONSE MODIFICATION FACTOR R = 1.5
   - ANALYSIS = EQUIVALENT LATERAL FORCE

STRUCTURAL STEEL:

1. STEEL SHALL CONFORM TO THE FOLLOWING GRADES:

WIDE FLANGE SHAPES	A992 OR A572 GR. 50 (Fy = 50)
CHANNELS, ANGLES, PLATES, ETC. (UNO)	A36 (Fy = 36)
STRUCTURAL TUBE	A500 (Fy=46)
STEEL PIPE	A53 (Fy=35)
THREADED RODS	F1554, A36 OR A307
BOLTS	A325
WELDING ELECTRODES	E70XX

2. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE (1992), EXCEPT AS MODIFIED IN THESE NOTES AND THE PROJECT SPECIFICATIONS.
3. UNLESS NOTED OTHERWISE, BEAMS SHALL BEAR 8" MINIMUM ON CONCRETE OR MASONRY. UNLESS NOTED OTHERWISE, ANCHOR BEAMS TO MASONRY WITH TWO (2) 3/4" DIAMETER ANCHOR BOLTS WITH 4" HOOK AND 1'-4" EMBEDMENT.
4. ALL STRUCTURAL STEEL TO HAVE A SHOP GRADE PRIMER.

MISCELLANEOUS:

1. THESE GENERAL NOTES SUPPLEMENT THE PROJECT SPECIFICATIONS. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.
3. NO OPENINGS SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE PROFESSIONAL OF RECORD.
4. NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE PROFESSIONAL OF RECORD.
5. DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.
6. THE CONTRACTOR SHALL INFORM THE PROFESSIONAL OF RECORD IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY OF SUCH DEVIATION BY THE PROFESSIONAL OF RECORD REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE PROFESSIONAL OF RECORD OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE PROFESSIONAL OF RECORD HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.

MASONRY:

1. GROUT FOR VERTICALLY REINFORCED MASONRY WALLS AND BOND BEAMS SHALL CONSIST OF: 1 PART CEMENT, 2-1/2 PARTS FINE AGGREGATE, 2 PARTS PEA GRAVEL. STRENGTH f'c = 3000 PSI AT 28 DAYS. GROUT SLUMP 9" TO 10".
2. GROUT SOLID ALL CELLS CONTAINING REINFORCING.
3. PROVIDE 24" DEEP MINIMUM SOLID GROUTED MASONRY BELOW ALL LINTEL BEARINGS.
4. LAP ALL VERTICAL WALL REINFORCEMENT SPLICES AS FOLLOWS:
   - 25" FOR #4 BARS AND 32" FOR #5 BARS
5. REINFORCE ALL BOND BEAMS WITH (2) – #5 BARS BOTTOM, CONTINUOUS. LOCATE BOND BEAMS AT TOP COURSE OF ALL BEARING AND NON-BEARING WALLS.
6. MASONRY WALLS SHALL BE LAID UP AND GROUTED IN 4 FOOT LIFTS (LOW LIFT GROUTING PROCEDURE PER ACI 531.1). IF CLEANOUTS ARE PROVIDED AT EACH GROUTED CORE, WALLS MAY BE GROUTED IN 8 FOOT LIFTS (HIGH LIFT GROUTING PROCEDURE PER ACI 531.1.)
7. THE PROCEDURES OF ACI 530.1 FOR COLD WEATHER CONSTRUCTION SHALL BE ADHERED TO WHENEVER THE AIR OR UNIT TEMPERATURE IS BELOW 40 DEGREES F.
8. MORTAR IN ALL CMU WALLS SHALL BE PORTLAND CEMENT/LIME, TYPE M BELOW GRADE AND TYPE S ABOVE GRADE.
9. VERTICAL REINFORCEMENT SHALL BE HELD IN PLACE AT TOP AND BOTTOM OF WALL AND AT INTERVALS NOT EXCEEDING 200 BAR DIAMETERS OR 10 FEET MAX.

COLD-FORMED STEEL:

1. ALL SIZING BASED ON STEEL STUD MANUFACTURERS ASSOCIATION (ICBO ER-4943P) PRODUCT TECHNICAL INFORMATION.
2. MATERIALS SHALL CONFORM TO THE FOLLOWING:
   - A. GALVANIZED MATERIAL
     1. ALL GALVANIZED STUDS 12, 14 AND 16 GAUGE SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE MINIMUM REQUIREMENTS OF ASTM A653 SS, GRADE 50, CLASS 1 OR 3 WITH A MINIMUM YIELD OF 50,000 PSI.
     2. ALL GALVANIZED 18 AND 20 GAUGE STUDS, ALL GALVANIZED TRACK, BRIDGING, END CLOSURES AND ACCESSORIES SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE REQUIREMENTS OF ASTM A653 SS, GRADE 33 WITH A MINIMUM YIELD OF 33,000 PSI.
     3. ALL GALVANIZED STUDS, TRACK, BRIDGING AND ACCESSORIES SHALL BE FORMED FROM STEEL HAVING A GALVANIZED COATING MEETING THE REQUIREMENTS OF ASTM A525.
   - B. PROPERTIES
     1. THE PHYSICAL AND STRUCTURAL PROPERTIES LISTED BY THE STEEL STUD MANUFACTURER ASSOCIATION AND AISI DESIGN MANUAL SHALL BE CONSIDERED THE MINIMUM PERMITTED.
   - C. SUBSTITUTIONS
     1. ANY SUBSTITUTIONS MUST BE APPROVED IN WRITING PRIOR TO DELIVERY, BY THE ARCHITECT AND/OR ENGINEER OF RECORD.
3. INSTALLATION OF STUDS SHALL BE AS PER ASTM C1007-00 "INSTALLATION OF LOAD BEARING (TRANSVERSE AND AXIAL) STEEL STUDS AND ACCESSORIES", ASTM C955-00a "SPECIFICATION FOR LOAD BEARING (TRANSVERSE AND AXIAL) STEEL STUDS, RUNNERS (TRACK), AND BRACING OR BRIDGING FOR SCREW APPLICATION OF GYPSUM BOARD AND METAL PLASTER BASES", AND ASTM C754-00 "SPECIFICATION FOR INSTALLATION OF STEEL FRAMING MEMBERS TO RECEIVE SCREW ATTACHED GYPSUM BOARD".
4. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS, OR AS REQUIRED FOR AN ANGULAR FIT AGAINST ABUTTING MEMBERS. MEMBERS SHALL BE HELD POSITIVELY IN PLACE UNTIL PROPERLY FASTENED.
5. ALL TRACK BUTT JOINTS, ABUTTING PIECES OF TRACK SHALL BE SECURELY ANCHORED TO A COMMON STRUCTURAL ELEMENT, OR THEY SHALL BE BUTT-WELDED OR SPLICED TOGETHER.
6. ALL STUD BRIDGING SHALL BE ATTACHED IN A MANNER TO PREVENT STUD ROTATION. BRIDGING ROWS SHALL BE SPACED ACCORDING TO DIETRICH INDUST. RECOMMENDATION.
7. TEMPORARY BRACING SHALL BE PROVIDED UNTIL ERECTION IS COMPLETED.
8. STUD ENDS MUST BE SQUARELY SEATED AGAINST THE TRACK WEB. BOTH STUD FLANGES MUST BE ATTACHED TO TRACK MEMBERS AT TOP AND BOTTOM.
9. STUD BRIDGING SHALL BE PROVIDED BY 1-1/2" COLD ROLLED U-CHANNEL. THE U-CHANNEL MUST BE ATTACHED TO EACH STUD BY WELDING OR ATTACHING WITH CLIP ANGLES AND SCREWS. HORIZONTAL STRAPPING AND SOLID BRIDGING WITH TRACK MEMBERS CAN ALSO BE USED FOR BRIDGING. BRIDGING SHALL BE SPACED AT 4'-0" O.C. MAX.
10. THE FOLLOWING MINIMUM COLD FORMED STEEL ATTACHMENTS SHALL BE PROVIDED U.N.O.:
    - TRACK TO STRUCTURAL STEEL ——— (1) – .145"ø POWER DRIVEN FASTENER @ 2'-8" O.C.
    - TRACK TO METAL DECK ——— (1) – #10 TEK SCREW @ 1'-4" O.C.
    - TRACK TO MASONRY ——— (1) – .145"ø POWER DRIVEN FASTENER @ 2'-8" O.C.
    - STUD TO STRUCTURAL STEEL ——— (1) – 1.2x 2x – 14 GA. CLIP ANGLE CONNECTION W/ (2) – #10 TEK SCREWS INTO METAL STUD AND (2) – .145"ø POWER DRIVEN FASTENERS INTO STRUCTURAL STEEL.

CONCRETE:

1. CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH AND DENSITY, IN ACCORDANCE WITH THE FOLLOWING:

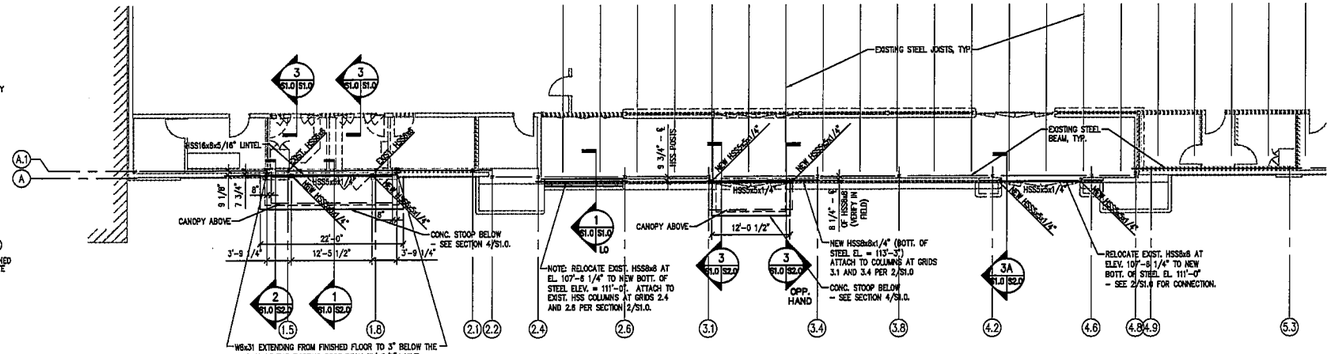
	STRENGTH PSI	DENSITY PCF
EXTERIOR SLABS, CURBS, SIDEWALKS	4000	145

2. SLUMP OF CONCRETE SHALL NOT EXCEED 4" UNLESS A HIGH RANGE WATER-REDUCING ADMIXTURE IS USED. THE SLUMP OF CONCRETE PRIOR TO ADDITION OF A HIGH RANGE WATER-REDUCING ADMIXTURE SHALL NOT EXCEED 4". THE SLUMP OF CONCRETE CONTAINING A HIGH RANGE WATER-REDUCING ADMIXTURE SHALL NOT EXCEED 10".
3. CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED. AIR CONTENT SHALL BE BETWEEN 4.5 AND 7.5 PERCENT.
4. THE COARSE AGGREGATE SIZE SHALL BE # 57 OR LARGER.
5. THE MINIMUM PORTLAND CEMENT CONTENT (ASTM C150) OF ALL CONCRETE SHALL CONFORM TO THE FOLLOWING TABLE. (FLY ASH NOT PERMITTED)

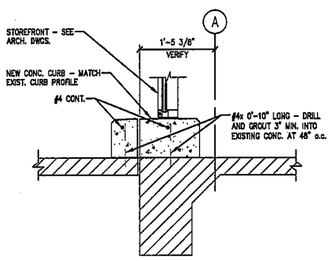
SPECIFIED COMPRESSIVE STRENGTH (PSI)	NON-AIR ENTRAINED CONCRETE	AIR ENTRAINED CONCRETE
4000	564	611

6. CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS FOR REVIEW WELL IN ADVANCE OF CONCRETE PLACEMENT. CONCRETE MIX DESIGN SHALL INCLUDE ALL STRENGTH DATA NECESSARY TO SHOW COMPLIANCE WITH THE PROJECT SPECIFICATIONS FOR EITHER THE TRIAL BATCH OR FIELD EXPERIENCE METHOD AND SHALL BE CERTIFIED BY AN ENGINEER REGISTERED IN THE STATE WHERE THE STRUCTURE IS LOCATED.
7. REINFORCING SHALL CONFORM TO ASTM A615, GR60, UNLESS NOTED OTHERWISE.
8. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
9. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED, IN ACCORDANCE WITH ACI DETAILING MANUAL 1992.
10. ALL REINFORCING SHALL BE SUPPORTED IN FORMS, SPACED WITH NECESSARY ACCESSORIES AND SHALL BE SECURELY WIRED TOGETHER, IN ACCORDANCE WITH CRSI "MANUAL OF STANDARD PRACTICE" (1997).
11. MINIMUM CONCRETE COVER, UNLESS NOTED OTHERWISE:

UNFORMED SURFACE IN CONTACT WITH THE GROUND.	3 IN.
FORMED SURFACES EXPOSED TO EARTH OR WEATHER.	
#6 BARS AND LARGER	2 IN.
#5 BARS AND SMALLER	1-1/2 IN.
FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER:	
BEAMS, GIRDERS, AND COLUMNS	1-1/2 IN.
SLABS, WALLS, AND JOISTS	
#11 BARS AND SMALLER	3/4 IN.
#14 AND #18 BARS	1-1/2 IN.



ENLARGED STRUCTURAL PLAN
SCALE = 3/32"=1'-0"



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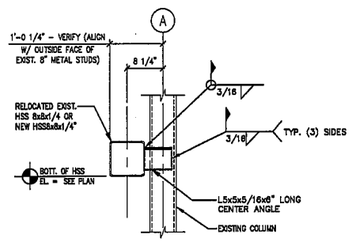

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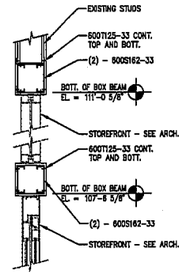

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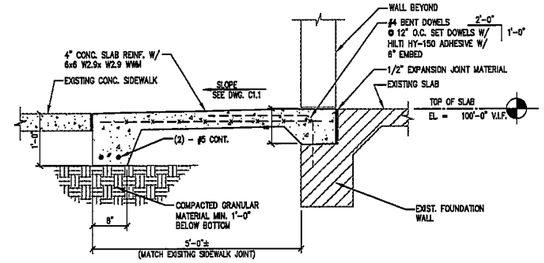

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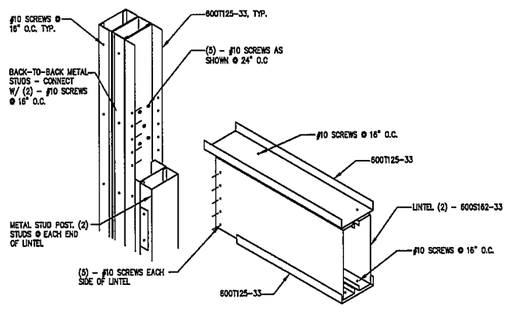
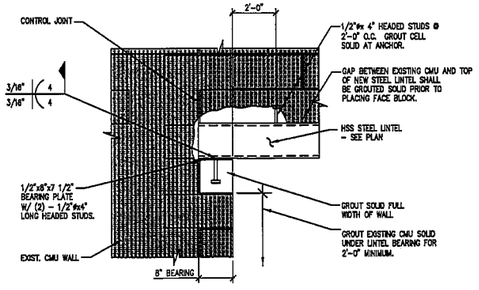


TYPICAL METAL STUD LINTEL/JAMB DETAIL



TYPICAL STEEL LINTEL IN EXISTING MASONRY WALL CONSTRUCTION

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No	Date	Description
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Prototype Updates
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BID DATE: 03/12/07
CADD NAME: 156-103-S1 PROJECT NO.: 50251804
DRAWN BY: JDF CHECKED BY: MK
PROTOTYPE BRU PROTO 2005

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Drawing Title
STRUCTURAL PLAN AND DETAILS

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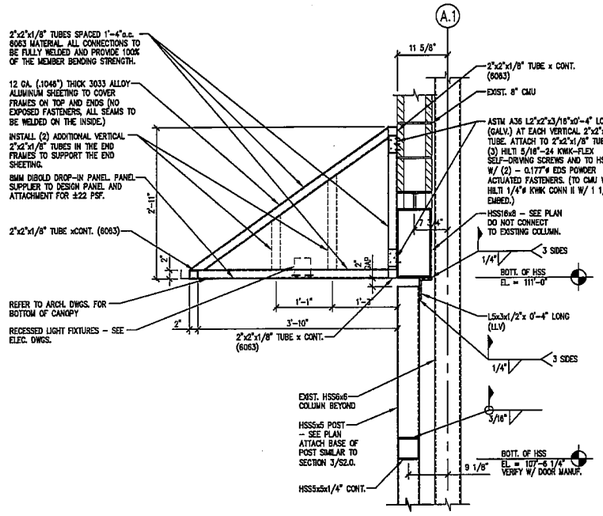
Sheet No.
S1.0 0R



1 S1.0 S2.0 SECTION
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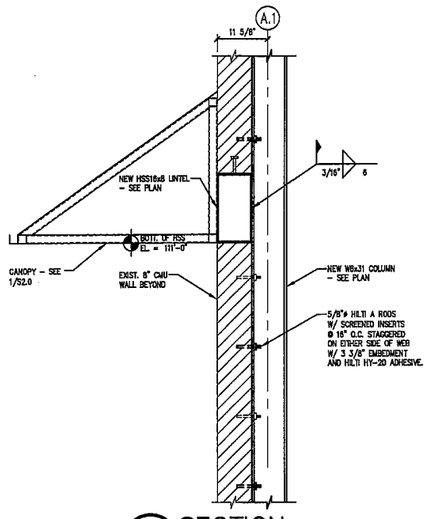

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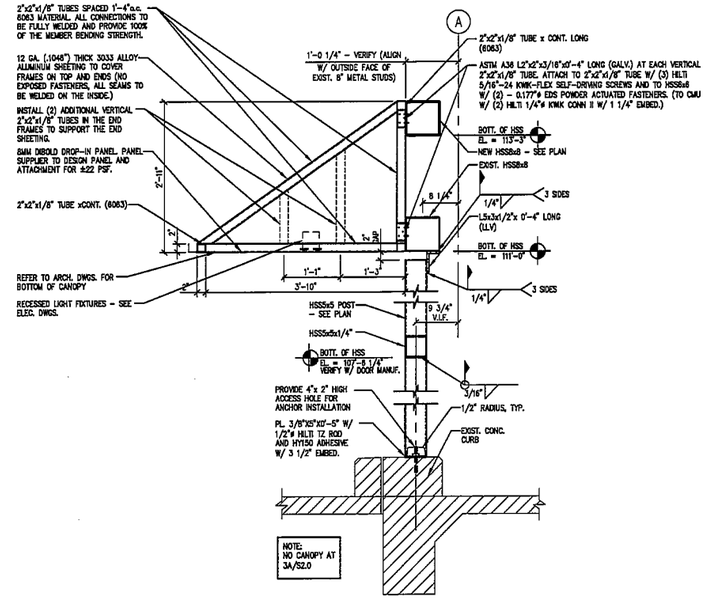

3A 3 S1.0 S2.0 SECTION
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