GENERAL CONCRETE NOTES:

DESIGN LOADS (IBC 2015)

1. LIVE LOADS ROOF 20 PSF
   FLOOR 100 PSF

2. ULTIMATE DESIGN WIND SPEED 130 MPH, RISK CATEGORY II, EXPOSURE C.

3. ALL CONCRETE REINFORCING BARS SHALL CONFORM TO ASTM, GRADE 60. NO. 3 BARS MAY CONFORM TO ASTM A615, GRADE 40.

4. CONCRETE SHALL BE REGULAR WEIGHT, SAND AND GRAVEL AGGREGATE, WITH TYPE 1 PORTLAND CEMENT . 5 SACK MIX, DESIGNATED MINIMUM COMPRESSIVE STRENGTH (F'c) OF 3000 PSI IN 28 DAYS.

5. ALL MIXING, TRANSPORTING, PLACING AND CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE.

6. CONCRETE COVERING PROTECTION OF THE REINFORCEMENT BARS SHALL BE:
   SLAB ON GRADE...1" FROM TOP
   GRADE BEAM.....1 1/2" FROM SIDES/TOP; 3" FROM BOTTOM

THERE SHALL BE NO HORIZONTAL CONSTRUCTION JOINTS IN GRADE BEAM OTHER THAN CONSTRUCTION JOINTS SHALL BE MADE IN QUARTER SPANS BETWEEN FOOTING WITH VERTICAL BULKHEADS .

7. LAP CONTINUOUS UNSCHEDULED REINFORCING BARS AS FOLLOWS: BOTTOM BARS IN MEMBERS SUPPORTED BY FOOTING AT LOCATIONS –12" . TOP BARS SHALL BE LAP AT OR NEAR MID SPAN. LAP SHALL BE 50 BAR DIAMETERS.

8. GROUT UNDER THE BASE PLATES SHALL BE NON SHRINKING TYPE WITH MINIMUM COMPRESSIVE STRENGTH OF 6,000 PSI IN 28 DAYS.

9. DETAILING AND PLACING OF CONCRETE REINFORCEMENT BARS AND ITS ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI 315, LATEST EDITION.

10. ALL CONFLICT OR OMISSIONS BETWEEN DRAWING, NOTE, SOIL REPORT AND SITE CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER. FAILURE TO DO SO WILL OBLIGATE THE CONTRACTOR TO ANY JOB EXPENSE ARISING DUE TO ANY ERRORS THAT MAY OCCUR HEREON.

FILL & SUBGRADE PREPARATION

1. THE SITE SHOULD BE STRIPPED TO SUITABLE DEPTH TO REMOVE TOP SOIL, AS PER GEOTECHNICAL REPORT.

2. THE NATURAL SUBGRADE SHOULD BE SCARIFIED TO A MIN. DEPTH OF 6 IN. THE SCARIFIED SOIL SHOULD BE RECOMPACTED TO A MIN. 95% OF THE MAX. DRY DENSITY. THE MOISTURE CONTENT SHALL RANGE 1% TO 3% OF OPTIMUM MOISTURE.

3. SELECT FILL SHOULD CONSIST OF A CLEAN SANDY CLAY WITH LL LESS THAN 35 AND PI BETWEEN 10 & 20.

4. SELECT FILL SHOULD BE PLACED IN 8 IN. LOOSE LIFTS AND COMPACTED TO 95% OF MAX. DRY DENSITY AS PER ASTM D698. 5. A BEDDING LAYER OF LEVELING SAND OF 2" MAY BE PLACED UNDER THE FLOOR SLAB. VAPOR BARRIER OF 10 MIL SHEETING SHOULD BE PLACED OVER SAND.

6. SLAB ON GRADE SHALL BE PLACED ON SELECT FILL. REFER TO SOIL REPORT NO. RT–18–322 BY RSB ENVIRONMENTAL.. DATE: AUGUST 31, 2018. FOR STRUCTURAL FILL & SUBGRADE. SUBGRADE AND ADDITIONAL FILL SHALL BE COMPACTED TO A MINIMUM OF NINETY–FIVE PERCENT (95%) OF ITS MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMPACTION TEST, BY ASTM D–698 PROCEDURE. COVER THE PREPARED GRADE WITH 10 MIL POLYETHYLENE SHEETING. ADDITIONAL FILL MATERIALS SHALL BE SILTY OR SANDY CLAY HAVING A PLASTICITY INDEX (P.I.) OF 10 TO 20 AND A LIQUID LIMIT OF 28 OR MORE. FILL MATERIALS SHALL BE PLACED IN SIX TO EIGHT INCH LOOSE LIFTS.

7. ALL FOOTINGS ARE TO BEAR ON FIRM AND CLEAN SOIL. THE SOIL BEARING AT ALL FOOTING SHALL BE VERIFIED BY AN ACCEPTED METHOD. THE MINIMUM SOIL BEARING PRESSURE FOR THIS PROJECT IS 5,100 PSF FOR TOTAL AND 3,400 PSF FOR DEAD LOAD PLUS SUSTAINED LIVE LOAD. DRILLED FOOTING SHALL BE POURED IMMEDIATELY AFTER DRILLING.

LIGHT GAUGE METAL FRAMING:

1. ALL LIGHT GAUGE METAL FRAMING INCLUDING METAL STUDS, METAL JOISTS, TRACK RUNNERS AND BRIDGING (STRAP OR OTHER) SHALL BE AS MANUFACTURED BY U.S.G. OR EQUAL. ALL SIZE GAUGES AND SPACES SHALL BE AS PER THE DRAWINGS.

2. PAINTED METAL STUDS SHALL BE PAINTED TO CONFORM TO ASTM A570 GRADE 50. GALVANIZED METAL STUDS SHALL CONFORM TO ASTM A446 GRADE D, 50 KSI YIELD. PAINTED METAL STUDS SHALL BE PAINTED TO CONFORM TO FEDERAL SPECIFICATION TT–P664. FIELD ABRASIONS TO MEMBERS DUE TO CUTTING OR WELDLING SHALL BE TOUCHED UP WITH THE SAME GALVANIZED METAL. STUDS SHALL BE FORMED FROM STEEL HAVING A G–60 GALVANIZE COATING. FIELD ABRASIONS TO MEMBERS DUE TO CUTTING OR WELDING SHALL BE REPAIRED WITH COLD GALVANIZING COMPOUND PER MANUFACTURERS SPECIFICATIONS.

3. PROVIDE HORIZONTAL BRIDGING AND PURLIN CONNECTION AS SUGGESTED BY MBMA.

4. PROVIDE 16 GAUGE CONTINUOUS TRACK AT ENDS OF STUDS. STUDS SHALL BE SEATED SQUARELY IN TRACK.

5. UNLESS NOTED OTHERWISE, PROVIDE 2–NO. 12 SCREWS OR 1/8" FILLET WELDS, 2 INCHES LONG FOR STUD TO STUD OR STUD TO TRACK CONNECTIONS.

6. STUD OR TRACK ATTACHMENTS TO STRUCTURAL STEEL SHALL BE ACCOMPLISHED BY FUSION WELDING 1" EACH SIDE OF STUD/TRACK, AT EACH SUPPORT AND CONNECTION.

7. FUSION WELDING OF STUDS SHALL CONFORM TO ASTM E60.

8. WALLS VERTICAL STUD SHALL BE 60CSW16 BY UNIMAST INCORPORATED OR APPROVED EQUAL WITH THE FOLLOWING TYPE, GAGE, AND PHYSICAL PROPERTIES. U.N.O. ON DWGS.
   WALL STUDS . . . . . GAGE: 18
   MOMENT OF INERTIA:. . . . . 3.129 IN 4/FT
   SECTION MODULUS. . . . . 1.022 IN 3/FT
   MINIMUM DEPTHS. . . . . 6 IN (NOMINAL)

STRUCTURAL AND MISCELLANEOUS STEEL

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL DIMENSION, ELEVATION AND REVIEW THESE DRAWINGS BEFORE FABRICATION OR ORDERING MATERIALS.

2. ALL STRUCTURAL & MISC. SHAPES SHALL BE ASTM A572 GRADE 50.

3. ALL DETAILING SHALL BE IN CONFORMANCE WITH THE STANDARDS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).

4. UNLESS NOTED OTHERWISE, PROVIDE FRAMED BEAM CONNECTIONS IN ACCORDANCE WITH PART 4, AISC MANUAL – 3/4" ASTM A–325 BOLTS. DESIGN FOR SHEARS IN TABLES FOR ALLOWABLE LOADS ON BEAMS, PART 2.

5. FIELD CONNECTIONS SHALL BE EQUIVALENT TO STANDARD BOLTED CONNECTIONS USING 3/4" ASTM A–325 BOLTS UNLESS OTHERWISE SHOWN. IF CONNECTION BOLTS ARE IN SINGLE SHEAR, BOLTS SHALL BE PLACED IN VERTICAL ROWS. CONNECTION SHALL BE BOLTED OR WELDED – SEE DETAILS.

6. WELDING SHALL CONFORM TO THE "CODE OF WELDING IN BUILDING CONSTRUCTION" BY THE AMERICAN WELDING SOCIETY, LATEST EDITION. WELDS NOT CALLED OUT ON DRAWINGS SHALL BE 3/16" CONTINOUS FILLET WELDS. WELDING ELECTRODES SHALL CONFORM TO AWS A5.1 OR A5.5 E70XX.

7. ANCHOR BOLTS SHALL CONFORM TO ASTM A–325 FOR HEADED A.B. AND SHALL BE SET USING RIGID TEMPLATES.

STEEL DECK:

1. DESIGN, FABRICATION AND ERECTION OF METAL DECK SHALL BE CONFORMED TO THE STEEL DECK INSTITUTE "CODE OF RECOMMENDED STANDARD PRACTICE AND BASIC DESIGN SPECIFICATION", LATEST EDITION.

2. WELDED MATERIALS AND PROCEDURES SHALL BE MADE TO ENSURE AGAINST BURNING OF HOLES IN THE DECK. WELDS SHALL CONFORM TO THE FOLLOWING PATTERNS USING STANDARD WELDED WASHERS, WHERE REQUIRED, AT SUPPORTING MEMBERS.
   A. WELD AT EACH SIDE LAP AND TWO EVENLY SPACED AT PANEL SEAMS.
   B. WELD AT 12" MAX. AT THE PERIMETER.
   C. #12" TEK FASTENERS AT 1/3 POINTS OF DECK SPAN AT PANEL SEAMS.

ROOF DECK	GAGE:22
MOMENT OF INERTIA	0.12 IN 4/FT.
SECTION MODULUS	1.111 IN 3/FT.
MINIMUM DEPTHS	1 1/2 INCH (NOMINAL)

USE "VULCRAFT 1.5F22" OR APPROVED EQUAL.

3. MAJOR OPENINGS ARE SHOWN ON THE DRAWINGS. ALL OPENINGS LARGER THAN 12" SQUARE OR ROUND, SHALL HAVE STRUCTURAL STEEL FRAMING AROUND OPENINGS FOR DECK SUPPORT.

GENERAL NOTES FOR WOOD FRAMING

(THESE NOTES SHALL CONTROL UNLESS NOTED OTHERWISE ON PLANS AND DETAILS.)

TIMBER GRADES

ROOF RAFTERS:——— NO. 3 SOUTHERN YELLOW PINE (SYP) OR EQUAL
CEILING AND FLOOR JOISTS:—— NO. 2 SOUTHERN YELLOW PINE (SYP) OR EQUAL
BEAMS & HEADERS:——— NO. 2 SOUTHERN YELLOW PINE (SYP) OR EQUAL
STUDS:——— STUD GRADE (SYP) OR EQUAL
WOOD POSTS:——— NO. 2 SYP, SURFACE GREEN.

JOISTS

1. JOIST BLOCKING
   A) JOISTS SHALL BE LATERALLY SUPPORTED AT EACH END AND AT EACH SUPPORT BY SOLID BLOCKING EXCEPT WHERE THE ENDS OF JOISTS ARE NAILED INTO A HEADER, BAND OR RIM JOIST OR TO AN ADJOINING STUD. SOLID BLOCKING SHALL NOT BE LESS THAN TWO INCHES IN THICKNESS AND SHALL MATCH THE DEPTH OF THE JOIST.
   B) PROVIDE SOLID BLOCKING UNDER ALL BEARING WALLS PERPENDICULAR TO THE DIRECTION OF THE JOISTS.
   C) PROVIDE DOUBLE JOISTS UNDER ALL BEARING WALLS PARALLEL TO THE DIRECTION OF THE JOISTS.
2. JOIST BRIDGING
   PROVIDE BRIDGING AT ALL FLOOR JOISTS AT SPACING NOT TO EXCEED 8'–0".
3. JOIST HOLES AND NOTCHES
   A) NOTCHES IN TOP OR BOTTOM OF JOISTS SHALL NOT EXCEED ONE SIXTH (1/6) THE JOIST DEPTH AND SHALL NOT BE LOCATED WITHIN MIDDLE THIRD OF THE SPAN.
   B) HOLES SHALL NOT BE CLOSER THAN 2" TO TOP OR BOTTOM OF JOIST, THE DIAMETER OF ANY HOLE SHALL NOT EXCEED ONE FOURTH (1/4) THE JOIST DEPTH UNLESS APPROVED BY THE ENGINEER.

BEAMS AND HEADERS

1. AT BEAMS MADE UP OF A NUMBER OF 2x JOISTS, EACH JOIST WILL BEAR ON A WALL STUD (I.E. NUMBER OF WALL STUDS SHALL MATCH NUMBER OF JOISTS BEARING ON THESE STUDS). THE CENTERLINE OF THE BEAM SHALL BE THE CENTERLINE OF THE SUPPORTING WALL STUDS.
2. ALL BEAMS MADE UP OF A NUMBER OF 2x JOISTS SHALL BE FASTENED AS FOLLOWS: FOR THE MAXIMUM HORIZONTAL SPACING OF BOLTS:
   2–2x12 ——— 16d NAILS @ 12" TOP & BOTTOM, STAGGER, EA. FACE
   3–2x12 ——— 20d NAILS @ 12" TOP & BOTTOM, STAGGER, EA. FACE
   4–2x12 (OR MORE) —— 5/8" ø BOLTS @ 12" TOP & BOTTOM, STAGGER
   BOLTS SHALL BE 5/8"ø, LOCATED 2" MINIMUM FROM BEAM EDGES AND SHALL BE STAGGERED IN TOP AND BOTTOM ROWS. PROVIDE STANDARD WASHERS @ EACH FACE.
3. ALL DOOR AND WINDOW HEADERS (OR HEADERS AT ANY OTHER OPENING) THAT ARE NOT SPECIFIED ON PLANS SHALL BE AS FOLLOWS:
   FLOOR FRAMING: 2–2X12
   CEILING FRAMING: 2–2X8
4. MINIMUM BEARING OF ANY BEAM OR HEADER AT A STUD WALL IS 3–1/2"

STUD WALLS

1. STUDS SHALL BE AS FOLLOWS:
   2x4 @ 16" AT ALL FLOORS IN ONE– OR TWO– STORY STRUCTURES (U.O.N.)
   2–2x4 OR 2x6 @ 16" AT ALL STUD WALLS AT FIRST FLOOR AREAS DIRECTLY BELOW A THIRD FLOOR (U.O.N.)
   3–2x4 OR 2–2x6 @ 16" AT ALL STUD WALLS AT FIRST FLOOR AREAS DIRECTLY BELOW A FOUTH FLOOR (U.O.N.)
2. PROVIDE A MINIMUM OF TWO (2) STUDS AT EACH SIDE OF OPENINGS LARGER THAN 4'–0", FULL HEIGHT OF WALL (KING STUDS).
3. MAXIMUM STUD WALL HEIGHT SHALL BE AS FOLLOWS:
   2x4 STUDS @ 16" ℄s.c. 10'–0"
   2x6 STUDS @ 16" ℄s.c. 13'–0"
   2x8 STUDS @ 16" ℄s.c. 16'–0"
4. BLOCKING & LATERAL BRACING:
   A. PROVIDE BLOCKING AND/OR TEMPORARY CROSS BRACING AS REQUIRED TO ENSURE STUD STRAIGHTNESS ACCORDING TO SPECIFIED TOLERANCES.
   B. MAXIMUM TOLERANCE FOR STUD STRAIGHTNESS IN EITHER DIRECTION IS 1/4 INCH PER TEN (10) FEET OF STUD HEIGHT.
   C. MINIMUM BLOCKING:
      1 ROW FOR STUD HEIGHT UP TO 9'–0";
      2 ROWS FOR STUD HEIGHT UP TO 15'–0";
      3 ROWS FOR STUD HEIGHT OVER 15'–0".

CONNECTORS

1. CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON STRONG–TIE COMPANY, INC., DUBLIN, CA. OR APPROVED EQUAL. NAIL ALL NAIL HOLES.
2. CONNECTORS SHALL BE THE MANUFACTURER–DESIGNATED SIZE FOR FRAMED MEMBERS, AND SHALL BE INSTALLED IN STRICT CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. ALL NAIL & BOLT HOLES SHALL BE ENGAGED, WITH MANUFACTURER–DESIGNATED FASTENERS.
4. CONNECTORS SHALL BE INSTALLED AT THE ENDS OF ALL JOISTS & BEAMS FRAMING INTO OTHER (SUPPORTING) MEMBERS (UNLESS OTHERWISE NOTED).
5. THE FOLLOWING CONNECTORS SHALL BE PROVIDED AND SHALL BE CONSIDERED THE MINIMUM:
   SAWN–LUMBER JOISTS —— U SERIES
   I–JOISTS ——— IUS SERIES
   MULTIPLE–JOIST/BEAMS —— HUS SERIES
   PSL & LVL BEAMS ——— LBV SERIES
   LSL (GLU–LAM) BEAMS—— HGUS SERIES

FASTENERS

1. BOLTS
   A. USE ASTM A–307 BOLTS, WITH STANDARD WASHERS AT ALL CONTACT SURFACES.
   B. PROVIDE 5/8"ø x 0'–12" LONG ANCHOR BOLTS @ 2'–6" O.C. AT ALL EXTERIOR WALL SILL PLATES, WITH 2" PROJECTION AND 1" THREAD.
   C. ALL BOLTS, NUTS, AND WASHERS EXPOSED TO WEATHER SHALL BE GALVANIZED.
   D. ALL BOLTS, NUTS, AND WASHERS IN CONTACT W/ TREATED WOOD SHALL BE GALVANIZED.
2. ADHESIVE ANCHORS
   A. USE HILTI–HIT RE500 ANCHORS, OR APPROVED EQUAL.
   B. INSTALL IN STRICT ACCORDANCE W/ MANUFACTURER'S RECOMMENDATIONS.
3. POWDER–ACTUATED PINS
   A. USE HILTI X–EDNI (0.145" SHANK) OR APPROVED EQUAL.
   B. INSTALL IN STRICT ACCORDANCE W/ MANUFACTURER'S RECOMMENDATIONS.

HURRICANE CLIPS:

ALL HURICANE CLIP AND NAILS IN CONTACT WITH PRESSURE TREATED WOOD MEMBER SHALL BE GALVANIZED.

MISCELLANEOUS:

ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE TREATED LUMBER.

NAILING SCHEDULE (WALL SHEATHING AND SIDING)

SHEATHING TYPE & THICKNESS	FASTNER SIZE & TYPE	NAILING PATTERN
PLYWOOD & PARTICLE BOARD		6" O.C. @ PANEL EDGES
LESS THAN 1/2"	6D COMMON OR EQUAL	12" O.C. @ INTERMEDIATE SUPPORTS
1/2" THRU 3/4"	8D COMMON OR EQUAL	
FIBERBOARD		3" O.C. @ PANEL EDGES
1/2" OR LESS	6D COMMON OR EQUAL	6" O.C. @ INTERMEDIATE SUPPORTS
25/32"	8D COMMON OR EQUAL	
GYPSUM SHEATHING		4" O.C. @ EDGES
1/2" OR 5/8"	12 GA. (4) OR EQUAL	8" O.C. @ INTERMEDIATE SUPPORTS
GYPSUM WALLBOARD		
1/2"	1 3/8" DRYWALL NAILS	7" O.C. @ CEILINGS
5/8"	1 1/2" DRYWALL NAILS	8" O.C. @ WALLS
PANEL SIDING (TO FRAMING)		1 EACH PANEL
1/2" OR LESS	6D COMMON OR EQUAL	
5/8"	8D COMMON OR EQUAL	

NOTES ON "NAILING––WALL SHEATHING & SIDING"

1. CORROSION–RESISTANT SIDING OR CASING NAILS CONFORMING TO THE REQUIREMENTS OF IRC
2. CORROSION–RESISTANT ROOFING NAILS WITH 7/16–INCH DIAMETER HEAD AND 1 1/2–INCH IN LENGTH FOR 1/2–INCH SHEATHING AND 1 3/4–INCH LENGTH FOR 25/32–INCH SHEATHING CONFORMIMG TO THE REQUIREMENTS OF IRC
3. CORROSION–RESISTANT STAPLES WITH NOMINAL 7/16–INCH CROWN AND 1 1/8–INCH LENGTH FOR 1/2–INCH SHEATHING AND 1 1/2–INCH LENGTH FOR 25/32–INCH SHEATHING CONFORMING TO THE REQUIREMENTS OF IRC
4. CORROSION–RESISTANT, LARGE HEAD.

TYPICAL NAILING SCHEDULE

06/11/19

M. W. MIRZA 84151 REGISTERED PROFESSIONAL ENGINEER

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DRAWN BY: AS | CHECKED BY: MM

PROJ. NO.: PE19–105

THE MONTESSORIOM AT BELLA TERRA

23421 FM 1093 RD.
RICHMOND, TX 77406

NO.	DESCRIPTION	DATE
1	FINAL SCHEME	02.01.19
2	REV.FINAL SCHEME	02.07.19
3	CD REVIEW	04.15.19

WALL SECTION FRAMING

Project No. 1801.74
Date
Drawn by
Checked by

Sheet No.

S10