

1. ONLY LARGE OPENINGS IN STRUCTURAL FRAMING MEMBERS ARE SHOWN ON THE STRUCTURAL DRAWINGS. HOWEVER, ALL SLEEVES, EMBEDS, INSERTS, OPENINGS AND FRAMES THAT ARE NECESSARY FOR THE WORK SHALL BE PROVIDED. THE CONTRACTOR SHALL COORDINATE WITH ALL TRADES SIZES, LOCATIONS AND PLACEMENT. ALL OPENINGS AND EMBEDDED ITEMS WHICH HAVE AN EFFECT ON THE STRUCTURE SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
2. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR FLOOR ELEVATION, LOCATION OF DERESSED OR ELEVATED FLOOR AREAS, SLOPES AND DRAINS.
3. CONTRACTOR SHALL COORDINATE THE REQUIREMENTS FOR BUILDING EQUIPMENT SUPPORTED ON OR FROM THE STRUCTURE. SUBMITTALS IDENTIFY ALL EQUIPMENT INCLUDING SIZE, DIMENSIONS, CLEARANCES, ACCESSIBILITY, WEIGHTS AND REACTIONS. ANY DEVIATIONS FROM SPECIFIED EQUIPMENT SHALL BE NOTED ON THE SUBMITTALS.
4. SHOP DRAWINGS SHALL BE PREPARED FOR ALL STRUCTURAL ITEMS AND SUBMITTED FOR REVIEW BY THE ENGINEER. CONTRACT DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS. ALL ITEMS DEVIATING FROM THE CONTRACT DRAWINGS OR FROM PREVIOUSLY SUBMITTED SHOP DRAWINGS SHALL BE NOTED.
5. THE DETAILS DESIGNATED AS "TYPICAL DETAILS" APPLY GENERALLY TO THE DRAWINGS IN ALL AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAILS.

1. ALL REQUESTS FOR SUBSTITUTIONS OF MATERIALS OR DETAILS SHOWN IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED FOR APPROVAL DURING THE BIDDING PERIOD. ONCE BIDS ARE ACCEPTED, PROPOSED SUBSTITUTIONS WILL BE CONSIDERED ONLY WHEN THEY ARE OFFICIALLY SUBMITTED WITH AN IDENTIFIED SAVINGS TO BE DEDUCTED FROM THE CONTRACT.

1. BUILDING CODE: 2012 INTERNATIONAL BUILDING CODE.
2. STRUCTURAL CONCRETE: BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, AMERICAN CONCRETE INSTITUTE, ACI 318-11.
3. MASONRY: BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES, AMERICAN CONCRETE INSTITUTE, ACI 530-11 / ASCE 5-11 / TMS 402-11.
4. STRUCTURAL STEEL: MANUAL OF STEEL CONSTRUCTION, LOAD AND RESISTANCE FACTOR DESIGN, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, FOURTEEN EDITION.
5. LIGHT GAUGE STEEL: SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS, AMERICAN IRON AND STEEL INSTITUTE, LATEST EDITION.
6. WOOD FRAMING: NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION WITH SUPPLEMENT, NATIONAL FOREST AND PAPER PRODUCTS ASSOCIATION, 2012.
7. STRUCTURAL PLYWOOD: PLYWOOD DESIGN SPECIFICATION, AMERICAN PLYWOOD ASSOCIATION, LATEST EDITION.
8. PREFABRICATED FLOOR TRUSS JOISTS: PRODUCTS SHALL BE PROVEN BY TESTING AS DEMONSTRATED EITHER BY ICBO AND NIBR ACCEPTANCE OR THROUGH A TEST PROGRAM MEETING UBC STANDARD.

1. LIVE LOADS.
 - OFFICE (NOT INCL. PARTITIONS) 50 PSF
 - PUBLIC AREAS, CORRIDORS, LOBIES 100 PSF
 - MECHANICAL ROOMS 150 PSF
 - STORAGE (MINIMUM) 125 PSF
 - KITCHEN—COMMERCIAL (MINIMUM) 125 PSF
 - RETAIL 75 PSF
 - CLASSROOMS 40 PSF
 - SINGLE FAMILY RESIDENTIAL:
 - 1) TYPICAL U.N.O. 40 PSF
 - ATTIC SPACE 10 PSF
 - BALCONIES 60 PSF
 - RESTROOMS 50 PSF
 - STAIRS 100 PSF
 - PARTITION AT AREAS WITH 20 PSF
80 PSF LIVE LOAD OR LESS
 - AWNINGS OR CANOPIES 5 PSF
2. DEAD LOADS INCLUDE THE SELF WEIGHT OF THE STRUCTURAL ELEMENTS AND THE FOLLOWING SUPERIMPOSED LOADS:
 - CEILING AND MECHANICAL AT FLOOR 10 PSF
 - CEILING AND MECHANICAL AT ROOF 5 PSF
 - THE MINIMUM ALLOWED ROOF LIVE LOAD IS 20 PSF, UNLESS A ROOF LOAD REDUCTION CAN BE APPLIED, REFER 2012 IBC.

WIND LATERAL LOAD ON STRUCTURAL FRAME IS BASED ON THE FOLLOWING:

- I) BASIC WIND SPEED (3 SEC GUST) 90 MPH
- I) WIND IMPORTANCE FACTOR 1.00
- I) WIND EXPOSURE C
- V) INTERNAL PRESSURE COEFFICIENT ± 0.18
- V) COMPONENT & CLADDING DESIGN PRESSURES:

EFFECTIVE AREA:		10F ³
ZONE1 +9.22 PSF;		-22.67 PSF
ZONE2 +8.22 PSF;		-38.04 PSF
ZONE3 +9.22 PSF;		-57.25 PSF
ZONE4 +22.67 PSF;		-24.59 PSF
ZONE5 +22.67 PSF;		-30.35 PSF
EFFECTIVE AREA:		50F ²
ZONE1 +7.88 PSF;		-21.33 PSF
ZONE2 +7.88 PSF;		-28.64 PSF
ZONE3 +7.88 PSF;		-34.42 PSF
ZONE4 +20.30 PSF;		-22.22 PSF
ZONE5 +20.30 PSF;		-25.61 PSF
EFFECTIVE AREA:		100F ²
ZONE1 +7.30 PSF;		-20.75 PSF
ZONE2 +7.30 PSF;		-24.59 PSF
ZONE3 +7.30 PSF;		-34.42 PSF
ZONE4 +20.30 PSF;		-22.22 PSF
ZONE5 +20.30 PSF;		-23.57 PSF

4. LOADING FOR MECHANICAL ROOMS AND KITCHENS ARE BASED ON THE WEIGHTS OF EQUIPMENT AND CONCRETE PADS AS INDICATED ON THE CONTRACT DOCUMENTS. ANY REVISIONS IN EQUIPMENT TYPE, SIZE, OR QUANTITY SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY FOR VERIFICATION OF THE STRUCTURAL DESIGN.
5. FLOOR AND ROOF LIVE LOADS HAVE NOT BEEN REDUCED.

WORK SPECIFICATION HEREIN SHALL BE PERFORMED BY A QUALIFIED INDEPENDENT TESTING LABORATORY, SELECTED AND PAID BY THE OWNER.

2. PIER DRILLING OPERATION: MAKE CONTINUOUS INSPECTIONS TO DETERMINE THAT THE PROPER BEARING STRATUM IS OBTAINED AND UTILIZED FOR BEARING AND THAT THE SHAFTS ARE CLEAN AND DRY BEFORE POURING CONCRETE.

3. FILLING AND BACKFILLING OPERATION:

- ANALYZE BACKFILL SAMPLES DELIVERED BY THE CONTRACTOR TO DETERMINE COMPLIANCE WITH GRADATION AND QUALITY REQUIREMENTS OF THE GEOTECHNICAL REPORT.
- MAKE IN PLACE COMPACTION TESTS FOR MOISTURE CONTENT, MOISTURE DENSITY RELATIONSHIP, AND DENSITY OF MATERIALS IN PLACE. PERFORM ONE TEST FOR EACH 5000 SQUARE FEET OF AREA PER LIFT.

4. CONCRETE INSPECTION AND TESTING:

- SECURE COMPOSITE SAMPLES OF CONCRETE AT THE JOBSITE IN ACCORDANCE WITH ASTM C172.
- MOLD AND CURE THREE SPECIMENS FROM EACH SAMPLE IN ACCORDANCE WITH ASTM C31. TEST SPECIMENS IN ACCORDANCE WITH ASTM C39. TWO SPECIMENS SHALL BE TESTED AT 28 DAYS FOR ACCEPTANCE AND ONE SHALL BE TESTED AT SEVEN DAYS FOR INFORMATION.
- PERFORM ONE STRENGTH TEST (THREE CYLINDERS) FOR EACH 100 CUBIC YARDS OF FRACTION THEREOF, OF EACH MIX DESIGN PLACED IN ONE DAY.
- MAKE ONE SLUMP TEST FOR EACH SET OF CYLINDERS FOLLOWING THE PROCEDURAL REQUIREMENTS OF ASTM C143 AND C172.
- DETERMINE TOTAL AIR CONTENT OF AIR ENTRAINED CONCRETE IN ACCORDANCE WITH ASTM C231. PERFORM ONE TEST FOR EACH STRENGTH TEST.

5. CONCRETE REINFORCEMENT: INSPECT ALL CONCRETE REINFORCING STEEL AND EMBEDDED METAL ASSEMBLIES PRIOR TO PLACEMENT OF CONCRETE FOR COMPLIANCE WITH CONTRACT DOCUMENTS AND SHOP DRAWINGS. ALL INSTANCES OF NON-COMPLIANCE SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION, AND IF UNCORRECTED, REPORTED TO THE ENGINEER.

6. STRUCTURAL MASONRY: PROVIDE A QUALIFIED MASONRY INSPECTOR TO INSPECT ALL MASONRY WORK ON A PERIODIC BASIS. INSPECT WORK IN PROGRESS AT LEAST ONCE FOR EVERY 5000 SQUARE FEET OF WALL LAID, BUT NOT LESS THAN ONCE A DAY.

- INSPECTIONS: INSPECT THE PLACEMENT OF REINFORCING, MORTAR AND GROUT MIXING OPERATIONS, BEDDING OF MORTAR FOR EACH TYPE OF UNIT AND PLACING OF UNITS.
- PRISM TESTS: DETERMINE THE COMPRESSIVE STRENGTH OF CLAY MASONRY BY THE PRISM TEST METHOD IN ACCORDANCE WITH ASTM C 1314. PRISMS SHALL BE LAID IN STACK BOND IN STRETCHER POSITION, A MINIMUM OF 2 UNITS HIGH, AND HAVE A HEIGHT-TO-THICKNESS RATIO BETWEEN 1.3 AND 5.0. APPLY MORTAR TO FACE SHELLS AND WEBS. TEST THREE SPECIMENS OF EACH TYPE OF MASONRY UNIT FOR EACH 5000 SQUARE FEET OF WALL PLACED.

7. EXPANSION ANCHORS: PROVIDE CONTINUOUS INSPECTION OF EXPANSION BOLT INSTALLATION TO ENSURE THAT HOLES ARE OF THE SPECIFIED SIZE, AND THAT BOLTS ARE PROPERLY INSTALLED INCLUDING APPLICATION OF MINIMUM INSTALLATION TORQUES.

8. STRUCTURAL STEEL: FIELD INSPECTION OF PROPER ERECTION OF ALL MEMBERS, VISUAL EXAMINATION OF ALL FIELD WELDING, VISUAL INSPECTION OF ALL BOLTS, INSPECTION OF ALL SHOP FABRICATED MEMBERS UPON ARRIVAL AT THE JOBSITE FOR CONFORMANCE WITH ACCEPTED FABRICATION AND ERECTION DRAWINGS, VERIFICATION OF WELDER'S CERTIFICATES.

BUILDING PAD PREPARATION

1. STRUCTURAL FILL MATERIAL SHALL HAVE A PLASTICITY INDEX NO GREATER THAN 12, AND A LIQUID LIMIT LESS THAN 35. GRADATION OF MATERIAL SHALL BE AS FOLLOWS:

- PERCENT FINER ON 1-1/4" SCREEN 100%
- PERCENT FINER ON 1" SCREEN 95%-100%
- PERCENT FINER ON 3/4" SCREEN 70%-95%
- PERCENT FINER ON 3/8" SCREEN 30%-90%
- PERCENT FINER ON NO. 4 SIEVE 30%-80%
- PERCENT FINER ON NO. 10 SIEVE 15%-70%

2. PRIOR TO PLACING FILL MATERIAL, REMOVE ALL ORGANIC AND OTHER DELETERIOUS MATERIAL FROM THE EXISTING SUBGRADE FOR A DISTANCE OF 3'-0" BEYOND BUILDING LINE. ALL EXPOSED SURFACES SHALL THEN BE SCARIFIED TO A DEPTH OF 6 INCHES, WATERED AS REQUIRED AND RECOMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DEFINED BY ASTM D 698 (STANDARD PROCTOR TEST) AT A MOISTURE CONTENT WITHIN 3 PERCENT OF THE OPTIMUM MOISTURE CONTENT.

3. STRUCTURAL FILL SHALL BE PLACED IN 6 INCH LOOSE LIFTS, WATERED AS REQUIRED AND COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DEFINED IN ASTM D 698 AT A MOISTURE CONTENT WITHIN 3 PERCENT OF THE OPTIMUM MOISTURE CONTENT.

4. COMPACTION AND MOISTURE CONTENT OF SUBGRADE AND EACH LIFT OF STRUCTURAL FILL SHALL BE INSPECTED AND APPROVED BY A QUALIFIED ENGINEERING TECHNICIAN, SUPERVISED BY A GEOTECHNICAL ENGINEER.

5. STRUCTURAL FILL SHALL NOT BE PLACED BEYOND THE LIMITS OF THE EXTERIOR BUILDING STRUCTURE.

6. PROVIDE A 10 MIL POLYETHYLENE VAPOR BARRIER. PLACE VAPOR BARRIER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION ON TOP OF STRUCTURAL FILL.

7. BUILDING PAD PREPARATION INFORMATION IS BASED ON A GEOTECHNICAL REPORT PROVIDED BY BURGE-MARTINEZ CONSULTING, INC.

SLAB ON GROUND:

1. SOIL SUPPORT SYSTEM : THE SOIL SUPPORT SYSTEM SHOULD BE WELL DRAINED AND PROVIDE ADEQUATE AND UNIFORM LOAD-BEARING SUPPORT.

2. BASE MATERIAL : THE MATERIAL SHOULD BE A COMPACTIBLE, EASY-TO-TRIM, GRANULAR FILL THAT WILL REMAIN STABLE AND SUPPORT CONSTRUCTION TRAFFIC. A CLEAN, FINE-GRADED MATERIAL WITH AT LEAST 10 PERCENT TO 30 PERCENT OF PARTICLES PASSING A #100 SIEVE BUT NOT CONTAMINATED WITH CLAY, SILT, OR ORGANIC MATERIAL IS RECOMMENDED.

3. VAPOR BARRIER : IF A VAPOR BARRIER OR VAPOR RETARDER IS REQUIRED DUE TO LOCAL CONDITIONS, THESE PRODUCTS SHOULD BE PLACED UNDER A MINIMUM OF 4" OF TRIMBLE, COMPACTIBLE, GRANULAR FILL (NOT SAND). A USUALLY GRADED FROM 1 1/2" TO 2" DOWN TO ROCK DUST, IS SUITABLE. FOLLOWING COMPACTION, THE SURFACE CAN BE CHECKED OFF WITH A FINE GRADED MATERIAL TO REDUCE FRICTION BETWEEN THE BASE MATERIAL AND THE SLAB. THE RECOMMENDED POLYETHYLENE FILM A THICKNESS OF NOT LESS THAN 10 MILS BE USED.

4. SAW-CUT JOINTS: THE RECOMMENDED SAW CUTTING SHOULD BE PERFORMED

- (i) BEFORE CONCRETE STARTS TO COOL, (ii) AS SOON AS THE CONCRETE SURFACE IS FIRM ENOUGH TO BE TORN OR DAMAGED BY THE BLADE, AND (iii) BEFORE RANDOM - DRYING - SHRINKAGE CRACKS CAN FORM IN THE CONCRETE SLAB. IF SAWING IS UNDULY DELAYED, THE CONCRETE CAN CRACK RANDOMLY BEFORE IT IS SAWED. ADDITIONALLY, DELAY CAN GENERATE CRACKS THAT RUN OFF FROM THE SAW BLADE TOWARD THE EDGE OF THE SLAB AT AN OBTUSE OR SKEWED ANGLE TO THE SAW CUT.

5. JOINT FILLING : WHERE THERE ARE WET CONDITIONS, HYGIENIC AND DUST-CONTROL REQUIREMENTS, OR WHERE THE FLOOR IS SUBJECTED TO TRAFFIC BY SMALL, HARD-WHEELED VEHICLES SUCH AS FORKLIFTS, CONTRACTION & CONSTRUCTION JOINTS SHOULD BE FILLED AND PROTECTED WITH A SEMIRIGID EPOXY THAT GIVES ADEQUATE SUPPORT TO THE JOINT EDGES AND HAS SUFFICIENT RESISTANCE TO WEAR.

1. CAST IN PLACE CONCRETE SHALL MEET THE FOLLOWING REQUIREMENTS:

28 DAYS AGGREGATE				
CLASS	STRENGTH	TYPE	SIZE	SUMP USE
A	3000 PSI	33"	3"-4"	ALL, U.N.O.
B	3000 PSI	33"	5"-7"	DRILLED PIERS

2. PROVIDE 5 PERCENT PLUS OR MINUS 1 1/2 PERCENT OF ENTRAINED AIR IN CONCRETE PERMANENTLY EXPOSED TO THE WEATHER AND ELSEWHERE AT THE CONTRACTORS OPTION. DO NOT USE ENTRAINED AIR IN DRILLED PIERS.

3. HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE POURS SHALL BE PERMITTED ONLY WHERE INDICATED ON THE DRAWINGS. ALL VERTICAL CONSTRUCTION JOINTS SHALL BE MADE IN THE CENTER OF SPANS IN ACCORDANCE WITH THE TYPICAL DETAILS. CONTRACTOR SHALL SUBMIT PROPOSED LOCATIONS FOR CONSTRUCTION JOINTS NOT SHOWN ON DRAWINGS FOR REVIEW BY THE ARCHITECT AND STRUCTURAL ENGINEER. ADDITIONAL CONSTRUCTION JOINTS MAY REQUIRE ADDITIONAL REINFORCING AS SPECIFIED BY THE ENGINEER WHICH SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

4. EMBEDDED CONDUITS, PIPES, AND SLEEVES SHALL MEET THE REQUIREMENTS OF ACI 318-98, SECTION 6.3, INCLUDING THE FOLLOWING:

- CONDUITS AND PIPES EMBEDDED WITHIN A SLAB, WALL, OR BEAM (OTHER THAN THOSE PASSING THROUGH) SHALL NOT BE LARGER IN OUTSIDE DIMENSION THAN 1/3 THE OVERALL THICKNESS OF THE SLAB, WALL OR BEAM IN WHICH THEY ARE EMBEDDED.
- CONDUITS, PIPES AND SLEEVES SHALL NOT BE SPACED CLOSER THAN THREE DIAMETERS OR WIDTHS ON CENTER.

5. CONCRETE POURS SHALL NOT EXCEED 5000 SQUARE FEET OR 100 LINEAR FEET ON EACH SIDE WITHOUT PRIOR APPROVAL BY THE ARCHITECT FOR EACH POUR.

1. REINFORCING STEEL SHALL BE DEFORMED NEW BILLET STEEL BARS IN ACCORDANCE WITH ASTM A615 GRADE 60.
2. DETAILING OF REINFORCING STEEL SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE DETAILING MANUAL.
3. ALL HOOKS AND BENDS IN REINFORCING BARS SHALL CONFORM TO ACI DETAILING STANDARDS UNLESS SHOWN OTHERWISE.
4. PROVIDE REINFORCING BARS IN ACCORDANCE WITH THE BAR BENDING DIAGRAM IF BAR TYPES ARE SPECIFIED. IN UNSCHEDULED BEAMS, SLABS, COLUMNS AND WALLS DETAIL REINFORCING AS FOLLOWS:
 - LAP TOP REINFORCING BARS AT MID SPAN.
 - LAP BOTTOM REINFORCING BARS AT THE SUPPORTS.
 - LAP VERTICAL BARS IN COLUMNS AND WALLS ONLY AT FLOOR LINES, UNLESS NOTED OTHERWISE.
 - LAP REINFORCING BARS 38 BAR DIAMETERS MINIMUM, UNLESS NOTED OTHERWISE.
 - PROVIDE STANDARD HOOKS IN TOP BARS AT CANTILEVER AND DISCONTINUOUS ENDS OF BEAMS, WALLS AND SLABS.
 - PROVIDE CORNER BARS FOR ALL HORIZONTAL BARS AT THE INSIDE AND OUTSIDE FACES OF INTERSECTING BEAMS OR WALLS. CORNER BARS ARE NOT REQUIRED IF TOP, BOTTOM, OR HORIZONTAL BARS ARE HOOKED.
5. WELDING OF REINFORCING STEEL WILL NOT BE PERMITTED.
6. HEAT SHALL NOT BE USED IN THE FABRICATION OR INSTALLATION OF REINFORCEMENT.
7. REINFORCING STEEL CLEAR COVER SHALL BE AS FOLLOWS:

- EARTH)
- DRILLED PIERS -3" BOTTOM, 3" SIDES
- SLABS ABOVE GRADE -1"

8. SUBMITTAL: SUBMIT SHOP DRAWINGS FOR FABRICATION, BENDING, AND PLACEMENT OF CONCRETE REINFORCEMENT. COMPLY WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT". DO NOT REPRODUCE THE CONTRACT DRAWINGS FOR USE AS SHOP DRAWINGS.

1. CONCRETE MASONRY UNITS SHALL BE HOLLOW LOAD BEARING TYPE N-1 UNITS WHICH CONFORM TO ASTM C90, WITH A MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI.
2. CLAY MASONRY UNITS SHALL BE EITHER FACING BRICK UNITS OR STRUCTURAL CLAY FACING TILE UNITS WHICH CONFORM TO ASTM C216 OR ASTM C212, RESPECTIVELY, BOTH WITH A MINIMUM COMPRESSIVE STRENGTH OF 1400 PSI.
3. MINIMUM COMPRESSIVE PRISM STRENGTH OF THE MASONRY (F_m) SHALL BE 1500 POUNDS PER SQUARE INCH WHEN TESTED AT 28 DAYS.
4. CHASES SHALL BE BUILT IN AND NOT CUT IN. CHASES SHALL BE PLUMB AND SHALL BE MINIMUM ONE-UNIT LENGTH FROM JAMBS OF OPENINGS, ANCHORS, WALL PLUGS, ACCESSORIES AND OTHER ITEMS TO BE BUILT IN SHALL BE INSTALLED AS THE MASONRY WORK PROGRESSES. ALL CUTTING AND FITTING OF MASONRY, INCLUDING THAT REQUIRED TO ACCOMMODATE THE WORK OF OTHER SECTIONS SHALL BE DONE BY MASONS WITH MASONRY SAWS.
5. MORTAR SHALL CONFORM TO ASTM C270, TYPE S, BY PROPORTION. MASONRY CEMENT SHALL NOT BE USED.
6. COARSE GROUT SHALL CONFORM TO ASTM C476, BY PROPORTION, WITH A MAXIMUM AGGREGATE SIZE OF 1/2".
7. REINFORCE CONCRETE MASONRY UNIT AND STRUCTURAL CLAY FACING TILE UNIT JOINTS WITH LADDER TYPE HOT DIP GALVANIZED COLD-DRAWN STEEL CONFORMING TO ANSI/ASTM A82, WITH (NO. 9 GAUGE OR 3/16 INCH) SIDE BARS WITH NO. 9 GAUGE CROSS RODS. SPACE JOINT REINFORCING AT 16" O.C. UNLESS NOTED OTHERWISE. PROVIDE "TIERRO" JOINT REINFORCING WHERE 6" OR WIDER MASONRY UNITS BACKUP BRICK MASONRY. LAP JOINT REINFORCING 14" AT SPLICES. JOINT REINFORCING SHALL BE DISCONTINUOUS AT CONTROL AND EXPANSION JOINTS.
8. PROVIDE REINFORCED AND GROUTED VERTICAL CELLS OF CONCRETE MASONRY UNITS AND STRUCTURAL CLAY FACING TILE UNITS AT 48" ON CENTER. UNLESS NOTED OTHERWISE ON THE DRAWINGS. REINFORCING SHALL CONSIST OF #4 BARS. GROUT AND REINFORCE THE FIRST CELL AT THE ENDS OF WALLS AND AT CORNERS.
9. REINFORCE EACH CELL OF CONCRETE MASONRY UNITS AND STRUCTURAL CLAY FACING TILE UNITS EACH SIDE OF FRAMED OPENINGS WITH 1-#4 VERTICAL. GROUT CELL FULL HEIGHT OF WALL.
10. LAP REINFORCING BARS IN GROUTED MASONRY 36 BAR DIAMETERS MINIMUM AT FOUNDATIONS AND 48 BAR DIAMETERS AT ALL OTHER LOCATIONS, UNLESS NOTED OTHERWISE. EXCEPT AT FOUNDATIONS, SPLICES IN REINFORCING SHALL BE STAGGERED SO THAT NOT MORE THAN 1/2 OF ALL BARS ARE SPLICED AT THE SAME LOCATION.
11. PROVIDE ADJUSTABLE UNIT TIES IN BED JOINTS OF MASONRY UNITS SHOWN ON PLAN ATTACHED TO STEEL COLUMNS AT 16" O.C., VERTICALLY.
12. Z-TIES SHALL BE PROVIDED ON MASONRY SURFACES USED AS A FORM FOR TIES SHALL BE HOT DIP GALVANIZED, 6" LONG WITH A 2" HOOK AT EACH END, UNLESS NOTED OTHERWISE.
13. PROVIDE 1" CLEAR COVER BETWEEN TIES OR LONGITUDINAL REINFORCING AND THE INSIDE FACE OF MASONRY USED AS FORMS IN GROUTED BEAMS, PILASTERS AND COLUMNS.

1. STRUCTURAL STEEL SHALL CONFORM TO ASTM SPECIFICATION A992 OR A572, GRADE 50 EXCEPT WHERE A36 IS NOTED ON PLAN, EXCEPT THAT MISCELLANEOUS PLATES, ANGLES, AND CHANNELS MAY BE A572, GRADE 50 OR A36. STEEL PIPE SHALL CONFORM TO ASTM SPECIFICATION A53, TYPE E OR S, GRADE B. RECTANGULAR HOLLOW STRUCTURAL STEEL SECTIONS SHALL CONFORM TO ASTM SPECIFICATION A500, GRADE B, $F_y=46$ KSI. ROUND HOLLOW STRUCTURAL STEEL SECTIONS SHALL CONFORM TO ASTM SPECIFICATION A500, GRADE B, $F_y=42$ KSI.
2. COLUMN BASE PLATES SHALL BE GROUTED WITH A NON-SHRINK, HIGH STRENGTH NONMETALLIC GROUT.
3. SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ENGINEER AS TO LOCATION AND TYPE OF SPLICE TO BE MADE. ANY MEMBER HAVING SPLICE NOT SHOWN AND DETAILED ON SHOP DRAWINGS WILL BE REJECTED.
4. ALL WELDS DENOTED AS MOMENT CONNECTION OR FULL PENETRATION WELD SHALL BE ULTRASONICALLY OR X-RAY CERTIFIED BY AN INDEPENDENT TESTING AGENCY.
5. CONTRACTOR SHALL COORDINATE STRUCTURAL STEEL FIREPROOFING REQUIREMENTS. ALL INTERIOR STRUCTURAL STEEL, INCLUDING STEEL JOISTS, SCHEDULED OR INDICATED TO RECEIVE SPRAY APPLIED FIREPROOFING SHALL BE DELIVERED TO THE PROJECT SITE UNPRIMED. STEEL EXPOSED TO CORROSIVE CONDITIONS AFTER INSTALLATION SHALL BE PRIMED WITH A PROTECTIVE COATING WHICH DOES NOT DIMINISH THE BOND BETWEEN THE SPRAY APPLIED FIREPROOFING, AND THE STEEL SUBSTRATE. ANY PRIMER, AND/OR COATING APPLIED TO STRUCTURAL STEEL SHALL BE APPROVED FOR USE IN THE APPLICABLE U.L. FIRE RESISTANCE ASSEMBLY USED ON THE PROJECT. CONTRACTOR SHALL PROTECT ANY UNPRIMED STRUCTURAL STEEL FROM DETRIMENTAL EFFECTS OF CORROSION, AS REQUIRED, UNTIL THE STEEL IS ENCLOSED AND PROTECTED BY THE NEW CONSTRUCTION.
6. SHOP PAINTING: PAINT STRUCTURAL STEEL WITH ONE COAT OF MANUFACTURER'S STANDARD RED OXIDE PRIMER APPLIED AT A RATE TO PROVIDE A UNIFORM DRY FILM THICKNESS OF 2.5 MILS.
7. SUBMITTAL: PROVIDE DRAWINGS SHOWING DETAILS FOR FABRICATION AND SHOP ASSEMBLY OF MEMBERS, ERECTION PLANS AND DETAILS. INCLUDE DETAILS OF CONNECTIONS, CAMBER, WELD PROFILES AND SIZES AND SPACING. SHOP AND ERECTION DRAWINGS SHALL NOT BE MADE USING REPRODUCTIONS OF THE CONTRACT DRAWINGS.

1. WELDING SHALL CONFORM TO AWS/AWS D1.1, LATEST EDITION.
2. BOLTS CONFORM TO ASTM A325. BOLTS SHALL BE DESIGNED USING VALUES FOR BEARING TYPE BOLTS WITH THREAD ALLOWED IN THE SHEAR PLANE.
3. STRUCTURAL STEEL CONNECTIONS NOT SPECIFICALLY DETAILED ON THE DRAWINGS SHALL BE DESIGNED AND DETAILED BY THE CONTRACTOR UNDER THE DIRECT SUPERVISION OF A REGISTERED ENGINEER LICENSED IN THE STATE OF TEXAS. SEALED CALCULATIONS FOR ALL CONNECTIONS DESIGNED BY THE CONTRACTOR SHALL BE SUBMITTED FOR THE ARCHITECT'S FILES.
4. BEAM CONNECTIONS SHALL BE DESIGNED AND DETAILED AS FOLLOWS, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
 - CONNECTIONS SHALL BE AISC TYPE 2 SIMPLE FRAMING CONNECTIONS. SHEAR TAB CONNECTIONS SHALL NOT BE USED.
 - IN GENERAL, SHOP CONNECTIONS SHALL BE BOLTED OR WELDED AND FIELD CONNECTIONS SHALL BE BOLTED.
 - WHERE INDICATED, CONNECTIONS SHALL BE DESIGNED FOR THE SCHEDULED SHEAR FORCE, THE SHEAR FORCE INDICATED ON THE DRAWINGS AS "V = ", AND THE HORIZONTAL FORCE INDICATED AS "H = ".
 - IF NOT INDICATED ON THE DRAWINGS, CONNECTIONS SHALL BE DESIGNED FOR 55 PERCENT OF THE TOTAL LOAD CAPACITY FOR THE BEAM SPAN SHOWN IN THE BEAM TABLES IN SECTION 2 OF THE AISC MANUAL, NINTH EDITION.
 - THE MINIMUM NUMBER OF ROWS OF BOLTS SHALL BE 1/6 OF THE BEAM DEPTH WITH ANY FRACTION BE ROUNDED TO THE NEXT HIGHER NUMBER.
 - BOLTS SHALL BE "SNUG TIGHT", U.N.O.
 - SHORT SLOTTED HOLES SHALL BE PERMITTED PROVIDED WASHERS ARE INSTALLED IN ACCORDANCE WITH AISC REQUIREMENTS. WASHERS SHALL BE HARDENED WHERE A325 BOLTS ARE UTILIZED.

5. WIND BRACE AND TRUSS CONNECTIONS SHALL BE DESIGNED AND DETAILED AS FOLLOWS, UNLESS NOTED OTHERWISE ON THE DRAWINGS:

- CONNECTIONS SHALL BE WELDED.
- CONNECTIONS SHALL BE DESIGNED AND DETAILED FOR THE FORCES SHOWN ON THE DRAWINGS.
- IF FORCES ARE NOT INDICATED ON THE DRAWINGS, CONNECTIONS SHALL BE DESIGNED TO DEVELOP THE FULL TENSILE CAPACITY OF THE MEMBERS.

6. FOR CONNECTIONS NOT SPECIFICALLY ADDRESSED BY THESE NOTES OR THE DRAWINGS, PROVIDE FILLET WELDS AT ALL CONTACT SURFACES SUFFICIENT TO DEVELOP THE TENSILE STRENGTH OF THE SMALLER MEMBER AT THE JOINT.
7. MOMENT CONNECTIONS INDICATED ON DRAWINGS AS "MC" SHALL BE WELDED TO DEVELOP THE FULL CAPACITY OF THE MEMBER ON BOTH SIDES OF SUPPORTING MEMBER.
8. ROOF EDGES ANGLES SHALL BE CONTINUOUS AND SHALL BE SPICED ONLY AT SUPPORTS. SPICES SHALL BE BUTT-WELDED TO DEVELOP FULL CAPACITY OF THE MEMBER.
9. FILLET WELDS WITH NO SIZE SPECIFIED SHALL BE 3/16", OR MINIMUM SIZE REQUIRED BY AISC, WHICHEVER IS LARGER.

1. STEEL FOR DECK SHALL CONFORM TO ASTM A446, GRADE E, WITH A GALVANIZED COATING CONFORMING TO ASTM A525, G90 COATING CLASS.
2. LAP ENDS OF DECK 2" AT SUPPORTS AND 1 CORRUGATION AT SIDES. WELD DECK TO SUPPORTS WITH 3 PUDDLE WELDS PER SHEET PER BEARING USING 1/2" WELD WASHERS. ATTACH DECK TO CONCRETE SUPPORTS USING THREE 3/16" POWDER ACTUATED PINS PER SHEET PER BEARING.

1. SHOP DRAWINGS SHALL BE PREPARED FOR ALL STRUCTURAL ITEMS AND SUBMITTED FOR REVIEW BY THE ENGINEER. CONTRACT DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS. ALL ITEMS DEVIATING FROM THE CONTRACT DRAWINGS OR FROM PREVIOUSLY SUBMITTED SHOP DRAWINGS SHALL BE CLOUDED.
2. THE CONTRACTOR SHALL REVIEW SHOP DRAWINGS FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS AND SHALL CERTIFY THAT HE HAS DONE SO BY A STAMP NOTING THAT THE DRAWINGS HAVE BEEN "APPROVED" AND WHICH BEARS THE SIGNATURE (OR INITIALS) OF AN AUTHORIZED REPRESENTATIVE OF THE CONTRACTOR AND THE DATE.
3. CORRECTIONS OR COMMENTS ON SHOP DRAWINGS OR MANUFACTURER'S DATA SHEETS DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. THE ENGINEER'S REVIEW IS FOR GENERAL CONFORMANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND DOCUMENTING. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRECTING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, AND COORDINATING HIS WORK WITH THAT OF ALL OTHER CONTRACTORS.
4. REFER TO 'INDIVIDUAL SECTIONS FOR SPECIFIC SUBMITTAL REQUIREMENTS.'

1. ROOF DECK SHALL BE GALVANIZED WITH A CLASS G90 COATING.
2. ROOF DECK SHALL BE CONTINUOUS OVER FOUR OR MORE SUPPORTS.
3. ROOF DECK CONNECTIONS SHALL BE AS FOLLOWS:
 - AT INTERIOR SUPPORTS: PUDDLE WELDS OR POWER DRIVEN FASTENERS AT EACH SIDE LAP AND AT INTERMEDIATE RIBS AT 12" ON CENTER.
 - AT PERIMETER SUPPORTS: PUDDLE WELDS OR POWER DRIVEN FASTENERS AT 12" ON CENTER.
 - AT SIDE LAPS: 2 SCREWS EQUALLY SPACED AT 3 EQUAL SPACES BETWEEN SUPPORTS.
4. SCREWS SHALL BE TEKs #10 OR EQUAL.
5. POWER DRIVEN FASTENERS SHALL BE SELECTED BY THE CONTRACTOR FOR THE COMBINATIONS OF DECK GAUGE AND DECK SUPPORT MEMBER THICKNESS. SUBMIT PROPOSED FASTENERS WITH COMPLETE MANUFACTURER'S INFORMATION, INCLUDING DIAPHRAGM SHEAR VALUES FOR ENGINEER'S REVIEW.
6. PUDDLE WELDS SHALL BE 5/8" MINIMUM DIAMETER AND SHALL BE MADE THROUGH WELD WASHERS FOR 12 GAUGE AND LIGHTER DECKING.
7. MECHANICAL, ELECTRICAL & PLUMBING SYSTEMS SHALL NOT BE SUPPORTED BY THE METAL ROOF DECK.
8. SUBMITTAL: SUBMIT DECK LAYOUT PLANS AND DETAILS INDICATING DECK TYPE, FASTENING METHODS AND LAYOUT, SUPPORT LOCATIONS, PROJECTIONS, OPENINGS AND REINFORCEMENT, AND ANY OTHER PERTINENT DETAILS AND ACCESSORIES.

1. UNLESS OTHERWISE NOTED, ALL STRUCTURAL FRAMING LUMBER SHALL BE CLEARLY MARKED NO. 2 SOUTHERN YELLOW PINE OR DOUGLAS FIR-LARCH, EXCEPT THAT NON-LOADBEARING INTERIOR WALLS MAY BE STUD GRADE SOUTHERN YELLOW PINE, DOUGLAS FIR-LARCH, OR SPRUCE-PINE-FIR.
2. STUDS SHALL BE 2X6'S AT 16" ON CENTER, TYPICAL, UNLESS NOTED OTHERWISE.
3. ALL WOOD HEADERS, BEAMS, AND TOP PLATES SHALL BE NO. 2 SOUTHERN YELLOW PINE OR DOUGLAS FIR-LARCH.
4. ALL WOOD STUD WALLS SHALL BE FULL HEIGHT WITHOUT INTERMEDIATE PLATE LINE UNLESS DETAILED OTHERWISE.
5. ALL LOAD BEARING WALLS SHALL HAVE SOLID 2X BLOCKING AT 4'-0" O.C. MAXIMUM VERTICALLY END NAIL WITH 2-16D NAILS OR SIDE TOE NAIL WITH 2-16D NAILS.
6. PROVIDE DOUBLE STUDS AT ALL WALL CORNERS AND ON EACH SIDE OF ALL OPENINGS, UNLESS NOTED OR DETAILED OTHERWISE.
7. FLOOR SHEATHING: 1/8" APA RATED TONGUE AND GROOVE SHEATHING WITH AN EXPOSURE 1 RATING WITH EXTERIOR GLUE. FLOOR SHEATHING SHALL BE GLUED TO THE WOOD SUPPORT MEMBERS WITH A WET USE ADHESIVE, IN ADDITION TO BEING NAILED TO THE SUPPORTS WITH 10D RING SHANK NAILS AT 6" ON CENTER AT SUPPORTED EDGES AND 12" ON CENTER AT INTERMEDIATE SUPPORTS. STAGGER JOINTS IN SHEATHING.
8. ROOF SHEATHING: 1/2" APA RATED SHEATHING WITH AN EXPOSURE 1 RATING WITH EXTERIOR GLUE. PANELS SHALL BE CONTINUOUS OVER TWO OR MORE SPANS WITH THE LONG DIMENSION ORIENTED PERPENDICULAR TO THE FRAMING MEMBERS. NAIL WITH 8D COMMON NAILS AT 6" ON CENTER AT SUPPORTED EDGES AND 12" ON CENTER AT INTERMEDIATE SUPPORTS. STAGGER JOINTS IN SHEATHING.
9. ALL WALL FRAMING SHALL BE ATTACHED WITH 1/2" PANEL OF APA RATED SHEATHING WITH AN EXPOSURE 1 RATING EXTENDING FROM THE TOP PLATE TO THE SILL PLATE. WHERE WALL IS TALLER THAN 8'-0", PROVIDE MULTIPLE PANELS AS REQUIRED TO EXTEND FROM SILL PLATE TO TOP PLATE. PROVIDE 2X BLOCKING AS REQUIRED TO SUPPORT ALL PANEL EDGES. NAIL WITH 8D COMMON NAILS AT 2" ON CENTER AT SUPPORTED EDGES AND 12" ON CENTER AT INTERMEDIATE SUPPORTS.
10. SOLID 2X BLOCKING OR BAND BOARD SHALL BE PROVIDED AT SUPPORTS AND CANTILEVER ENDS OF ALL WOOD JOISTS, AND BETWEEN SUPPORTS IN ROWS NOT EXCEEDING 8'-0" APART.
11. ALL FRAMING MEMBERS FRAMING INTO THE SIDE OF A HEADER SHALL BE ATTACHED USING METAL JOIST HANGERS OF TYPE "LJ" AS MANUFACTURED BY THE SIMPSON COMPANY OR EQUAL. THE HANGER SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS FOR THE SIZE OF JOIST SUPPORTED.
12. NAILING AND ATTACHMENT OF ALL FRAMING MEMBERS AND SHEATHING SHALL BE AS SPECIFIED IN THE INTERNATIONAL BUILDING CODE NAILING SCHEDULE (TABLE 2304.9.1) UNLESS NOTED OTHERWISE IN THE DRAWINGS. COMMON WIRE NAILS OR SPIKES, OR GALVANIZED BOX NAILS SHALL BE USED FOR ALL FRAMING UNLESS NOTED OTHERWISE.
13. PLACE A SINGLE PLATE AT THE BOTTOM AND A DOUBLE PLATE AT THE TOP OF ALL STUD WALLS. EXTERIOR SILL PLATES SHALL BE BOLTED TO THE FOUNDATION WITH 1/2" ANCHOR BOLTS WITH A MINIMUM EMBEDMENT OF 8" SPACED AT 4'-0" ON CENTER. PROVIDE A MINIMUM OF TWO BOLTS PER PLATE SEGMENT. SILL PLATES IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED WITH A PRESERVATIVE.
14. AS AN ALTERNATE, PLATES MAY BE ATTACHED TO CONCRETE FOUNDATION ELEMENTS WITH POWER ACTUATED FASTENERS. PROVIDE WASHERS AT LEAST 0.08 INCHES THICK, AND 1.1 INCHES SQUARE OR 1.425 INCHES IN DIAMETER AT EACH FASTENER. FASTENERS SHALL BE 3" LONG AND SHALL HAVE A MINIMUM SHANK DIAMETER OF 0.145 INCHES. PROVIDE TWO FASTENERS LOCATED 6 AND 10 INCHES FROM THE END OF EACH SILL PLATE PIECE, AND THEN AT A MAXIMUM SPACING OF 18 INCHES ON CENTER MAXIMUM AT EXTERIOR WALLS AND AT INTERIOR PARTY WALLS. AT INTERIOR NON-LOAD BEARING PARTITIONS, FASTENERS MAY BE SPACED AT 36" ON CENTER, MAXIMUM. FASTENERS SHALL BE HILTI X-DINI 72P856 PINS OR EQUAL. SUBMIT MANUFACTURER'S INFORMATION ON FASTENER TO BE USED PRIOR TO START OF CONSTRUCTION.
15. PROVIDE DOUBLE JOISTS UNDER ALL INTERIOR PARTITION WALLS ORIENTED PARALLEL TO THE JOISTS.
16. ALL BOLTS AND LAG SCREWS SHALL HAVE STANDARD WASHERS. ALL ANCHOR AND EXPANSION BOLTS USED IN WOOD TO CONCRETE CONNECTIONS IN CRAWL SPACE AREAS SHALL BE HOT DIP GALVANIZED OR STAINLESS STEEL.
17. REFER TO THE ARCHITECTURAL DRAWINGS FOR ADDITIONAL WOOD FRAMING MEMBERS. PROVIDE ADDITIONAL WOOD FRAMING MEMBERS SHOWN ON THE ARCHITECTURAL DRAWINGS EVEN THOUGH THEY MAY NOT BE SHOWN ON THE STRUCTURAL DRAWINGS.

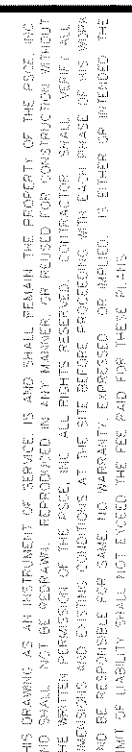
1. WHERE NOTED ON THE DRAWINGS, JOISTS SHALL BE T.J. "SP" SERIES ENGINEERED WOOD JOISTS, AND BEAMS SHALL BE "MICRO-LAM" OR "PARALLAM" BEAMS AS MANUFACTURED BY THE TRUS JOIST MACMILLAN CORPORATION.

2. DO NOT NOTCH JOISTS OR BEAMS. DRILL HOLES THROUGH WEBS OF ENGINEERED WOOD MEMBERS FOR MECHANICAL, ELECTRICAL OR PLUMBING SERVICES IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE ENGINEERED WOOD PRODUCT MANUFACTURER.

3. MULTIPLE WOOD BEAMS UP TO THREE MEMBERS THICK SHALL BE NAILED TOGETHER WITH THREE ROWS OF 16D NAILS AT 12" ON CENTER. FOUR OR MORE MULTIPLE WOOD BEAMS AND ANY MULTIPLE WOOD BEAMS UTILIZING BEAMS THICKER THAN 3 1/4" SHALL BE BOLTED TOGETHER WITH 1/2" DIAMETER BOLTS TOP AND BOTTOM AT SUPPORTS AND ENDS OF THE BEAM, THEN AT 24" ON CENTER, STAGGERED TOP AND BOTTOM FOR THE FULL LENGTH OF THE BEAM.

4. WHERE MULTIPLES OF TWO 3 1/4" MICRO-LAM BEAMS ARE NOTED ON THE DRAWINGS, CONTRACTOR MAY PROVIDE SINGLE 3 1/2" BEAMS IN LIEU OF DOUBLE 1 3/4" BEAMS.

5. PROVIDE WEB STIFFENERS WHERE REQUIRED BY THE MANUFACTURER FOR THE

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PROFESSIONAL STRUCTURAL ENGINEER
CONSULTING CIVIL AND STRUCTURAL ENGINEERING
12710 RESEARCH BLVD., SUITE 300, AUSTIN, TX 78759 | TEL. 512.238.6422 | FAX 512.238.6423
P E

Project : **NORTH LOOP RETAIL CENTER**
226 & 238 TEXAS LOOP #604
SAN ANTONIO, TEXAS 78232

Title : **GENERAL NOTES**





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FIRM REGISTRATION F-4951

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Revision	Date	Description
1	01/03/13	ISSUED FOR APPROVAL
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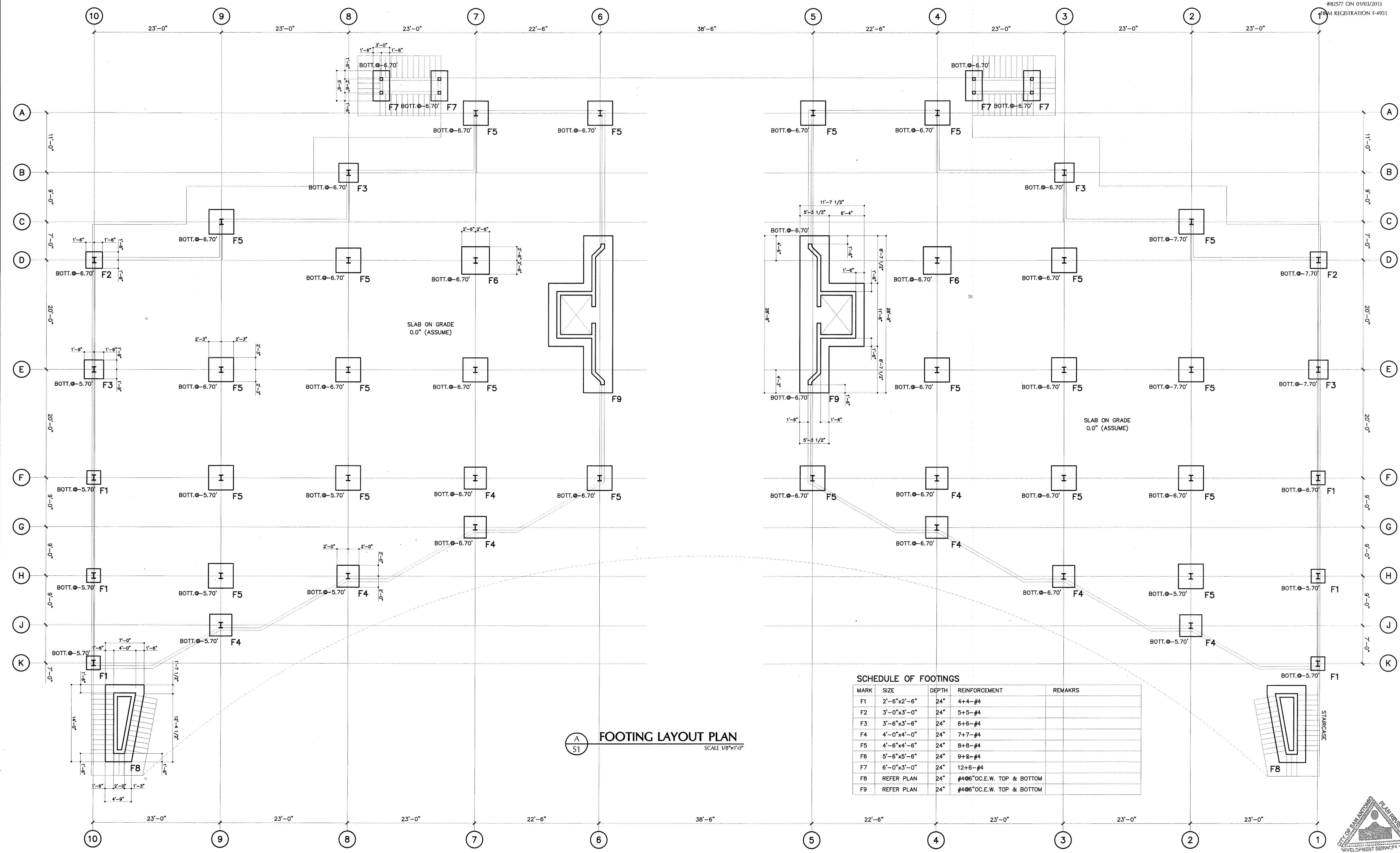
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Project: **NORTH LOOP RETAIL CENTER**
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78222

Title: **FOOTING LAY-OUT PLAN**

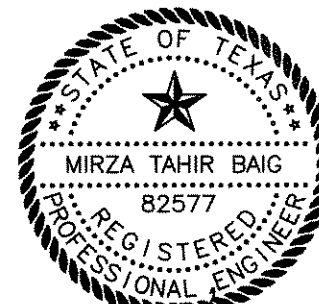
PROJECT: **28001**

SHEET: **S1**



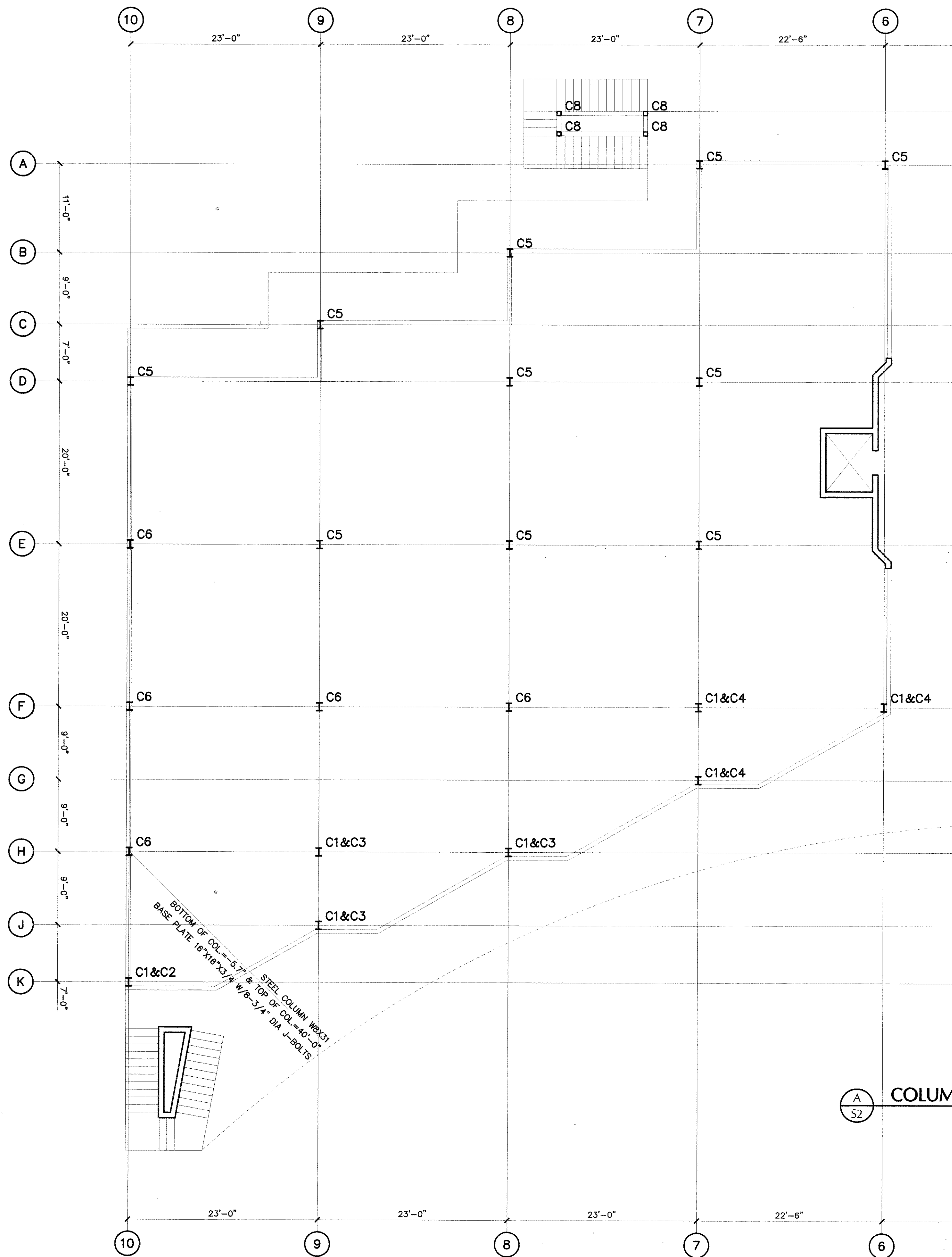
FOOTING LAYOUT PLAN
SCALE 1/8"=1'-0"

MARK	SIZE	DEPTH	REINFORCEMENT	REMARKS
F1	2'-6" x 2'-6"	24"	4+4-#4	
F2	3'-0" x 3'-0"	24"	5+5-#4	
F3	3'-6" x 3'-6"	24"	6+6-#4	
F4	4'-0" x 4'-0"	24"	7+7-#4	
F5	4'-6" x 4'-6"	24"	8+8-#4	
F6	5'-6" x 5'-6"	24"	9+9-#4	
F7	6'-0" x 3'-0"	24"	12+6-#4	
F8	REFER PLAN	24"	#4 @ 6" O.C. E.W. TOP & BOTTOM	
F9	REFER PLAN	24"	#4 @ 6" O.C. E.W. TOP & BOTTOM	

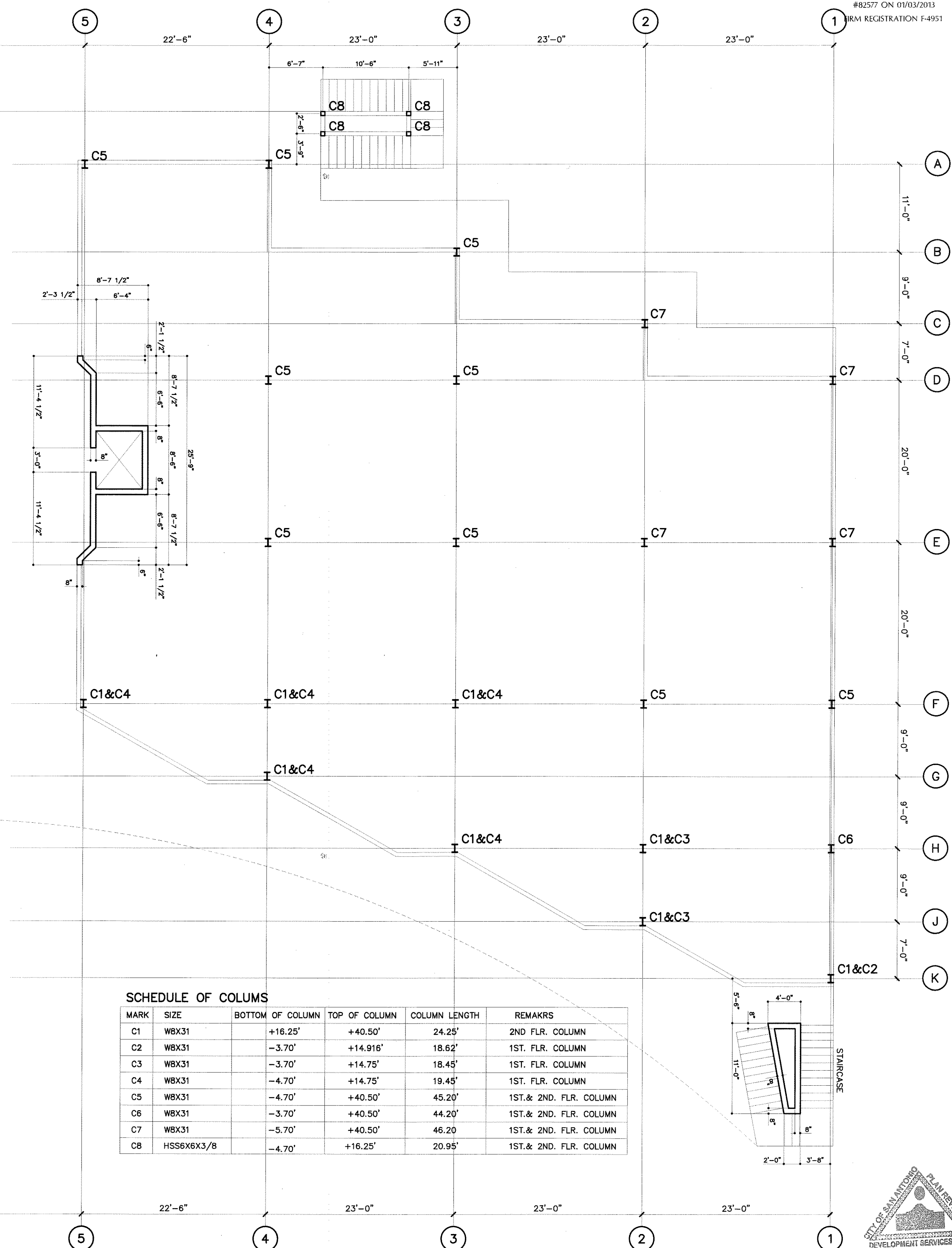


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COLUMN LAYOUT PLAN
SCALE 1/8"=1'-0"



SCHEDULE OF COLUMNS

MARK	SIZE	BOTTOM OF COLUMN	TOP OF COLUMN	COLUMN LENGTH	REMARKS
C1	W8X31	+16.25'	+40.50'	24.25'	2ND. FLR. COLUMN
C2	W8X31	-3.70'	+14.916'	18.62'	1ST. FLR. COLUMN
C3	W8X31	-3.70'	+14.75'	18.45'	1ST. FLR. COLUMN
C4	W8X31	-4.70'	+14.75'	19.45'	1ST. FLR. COLUMN
C5	W8X31	-4.70'	+40.50'	45.20'	1ST. & 2ND. FLR. COLUMN
C6	W8X31	-3.70'	+40.50'	44.20'	1ST. & 2ND. FLR. COLUMN
C7	W8X31	-5.70'	+40.50'	46.20'	1ST. & 2ND. FLR. COLUMN
C8	HSS6X6X3/8	-4.70'	+16.25'	20.95'	1ST. & 2ND. FLR. COLUMN

28001

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Project:

NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title:

COLUMN LAY-OUT PLAN

Professional Engineer

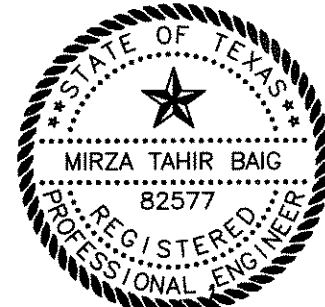
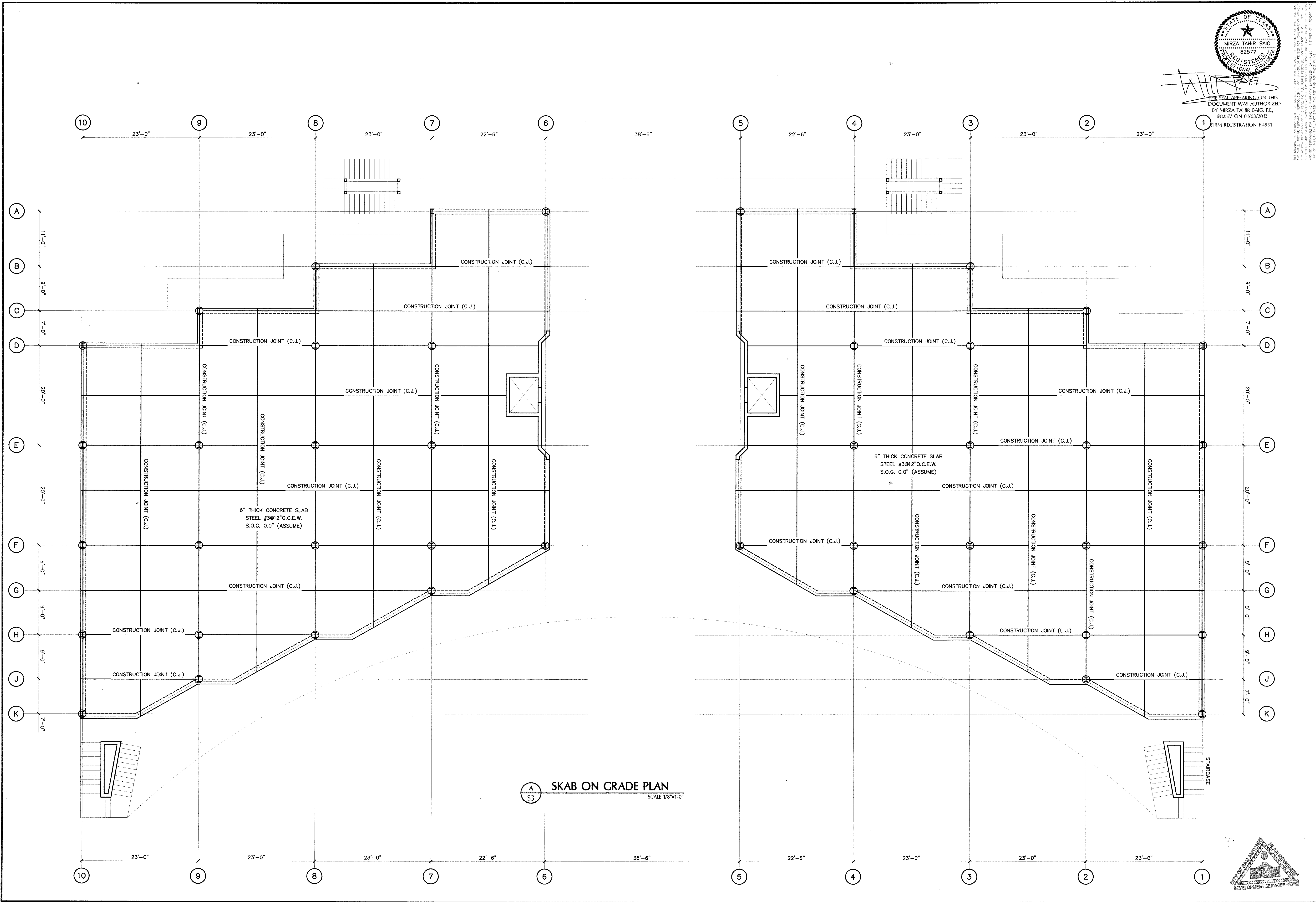
PROFESSIONAL STRUCTURAL ENGINEERS, INC.
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Project: 28001		Sheet: S3	
North Loop Retail Center 226 & 238 Texas Loop 1604 San Antonio, Texas 78232		Slab on Grade Plan	
Professional Structural Engineers, Inc. Consulting Civil and Structural Engineers 12710 Research Blvd., Suite 300, Austin, TX 78759 Tel: 512.238.6421 Fax: 512.238.8095		Professional Engineer Seal for Mirza Tahir Baig, State of Texas, No. 82577	
Revision		Date	
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Revision	Date	Drawn
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Revision	Description
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PROFESSIONAL STRUCTURAL ENGINEERS, INC.
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
12710 RESEARCH BLVD., SUITE 300, AUSTIN, TX 78759 | TEL: 512.238.6422 | FAX: 512.238.8095

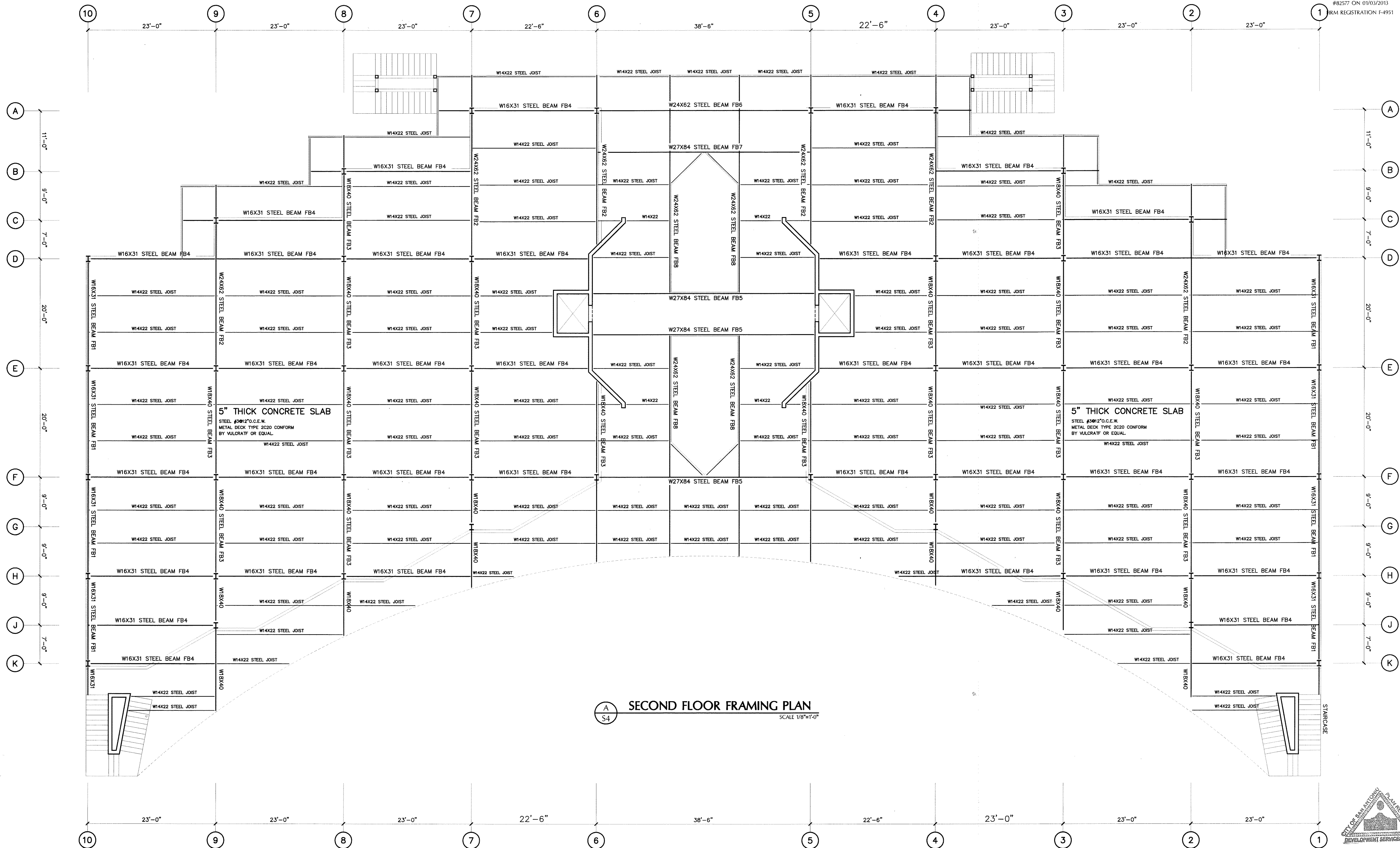
Revision	Description
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Project: **NORTH LOOP RETAIL CENTER**
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

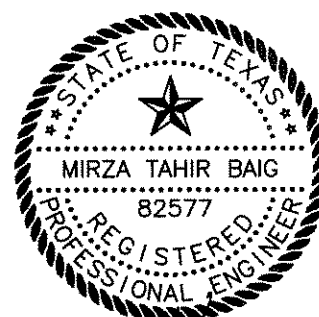
Title: **SECOND FLOOR FRAMING PLAN**

PROJECT: **28001**

SHEET: **S4**

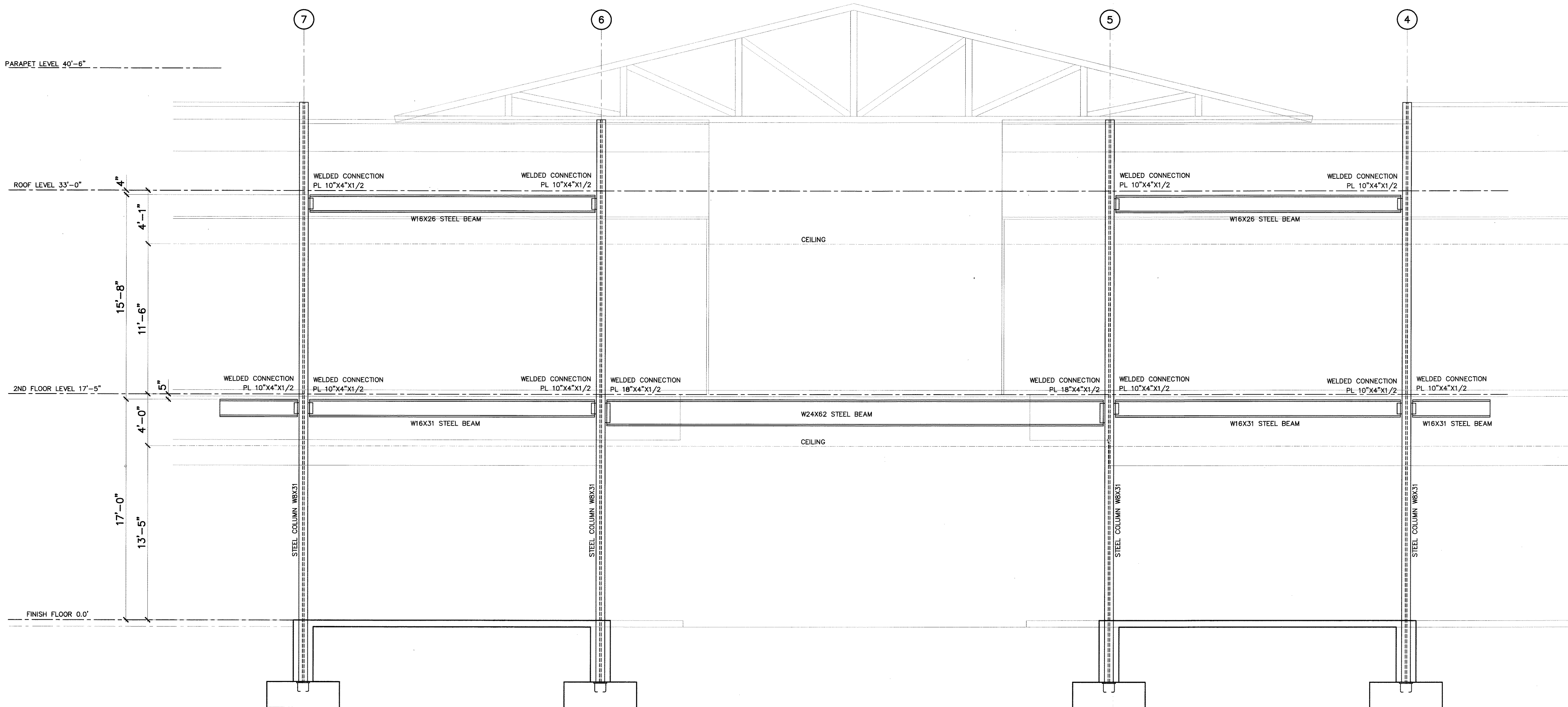


SECOND FLOOR FRAMING PLAN
SCALE 1/8"=1'-0"



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STEEL FRAME ELEVATION ALONG GRID NO: A
SCALE 1/4"=1'-0"

Revision	Date	Description
0	01/03/13	ISSUED FOR APPROVAL
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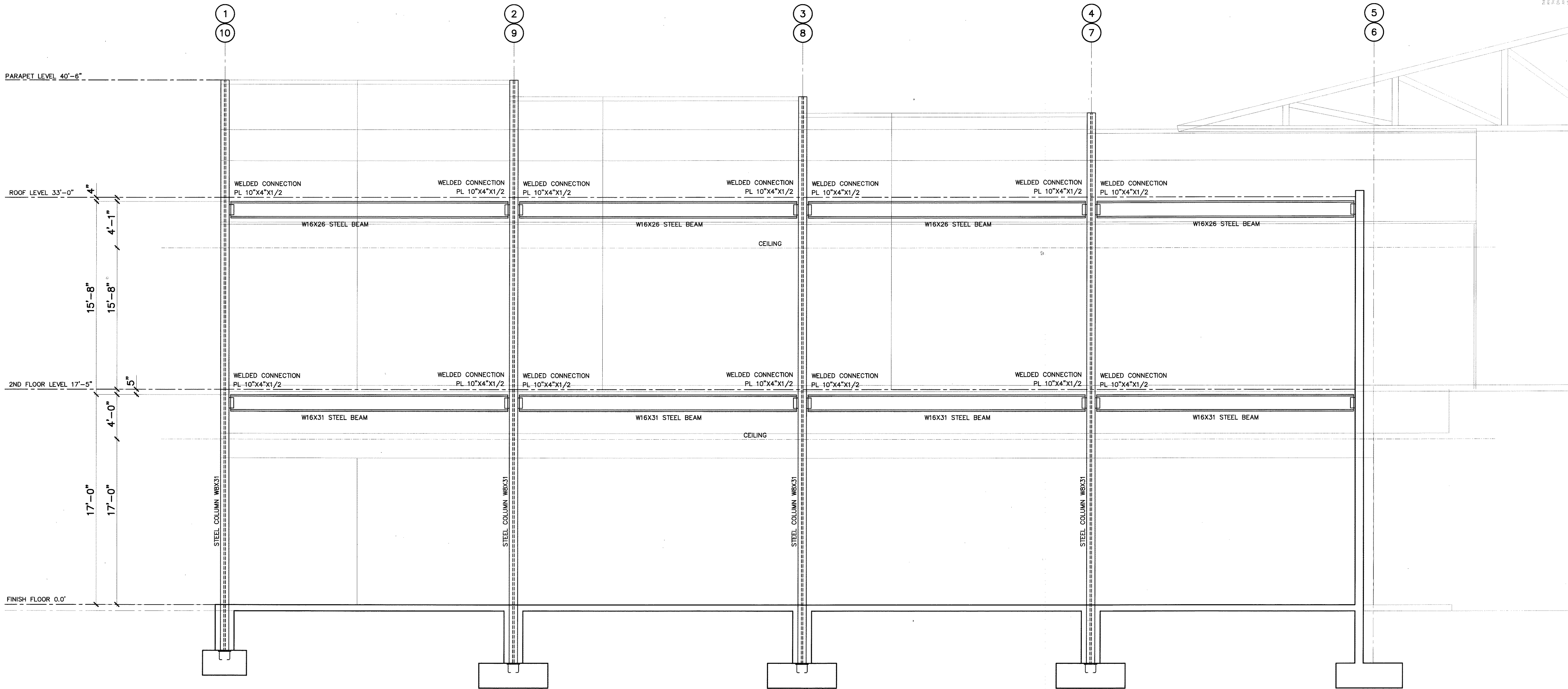
Project: NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title: STEEL FRAME ELEVATION

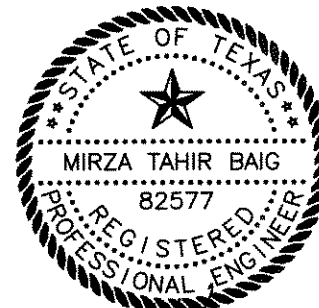
Project: 28001

Sheet: S8





A
S9
STEEL FRAME ELEVATION ALONG GRID NO:D & E
SCALE 1/4"=1'-0"



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12710 RESEARCH BLVD., SUITE 300, AUSTIN, TX 78759 | TEL: 512.228.6421 FAX: 512.258.8008

P	E	P	E	P	E	P	E	P	E
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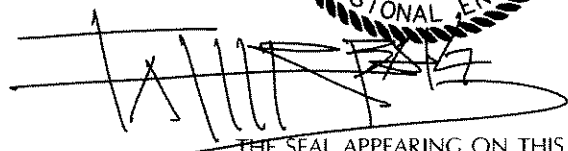
Project:
NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title:
STEEL FRAME ELEVATION

28001

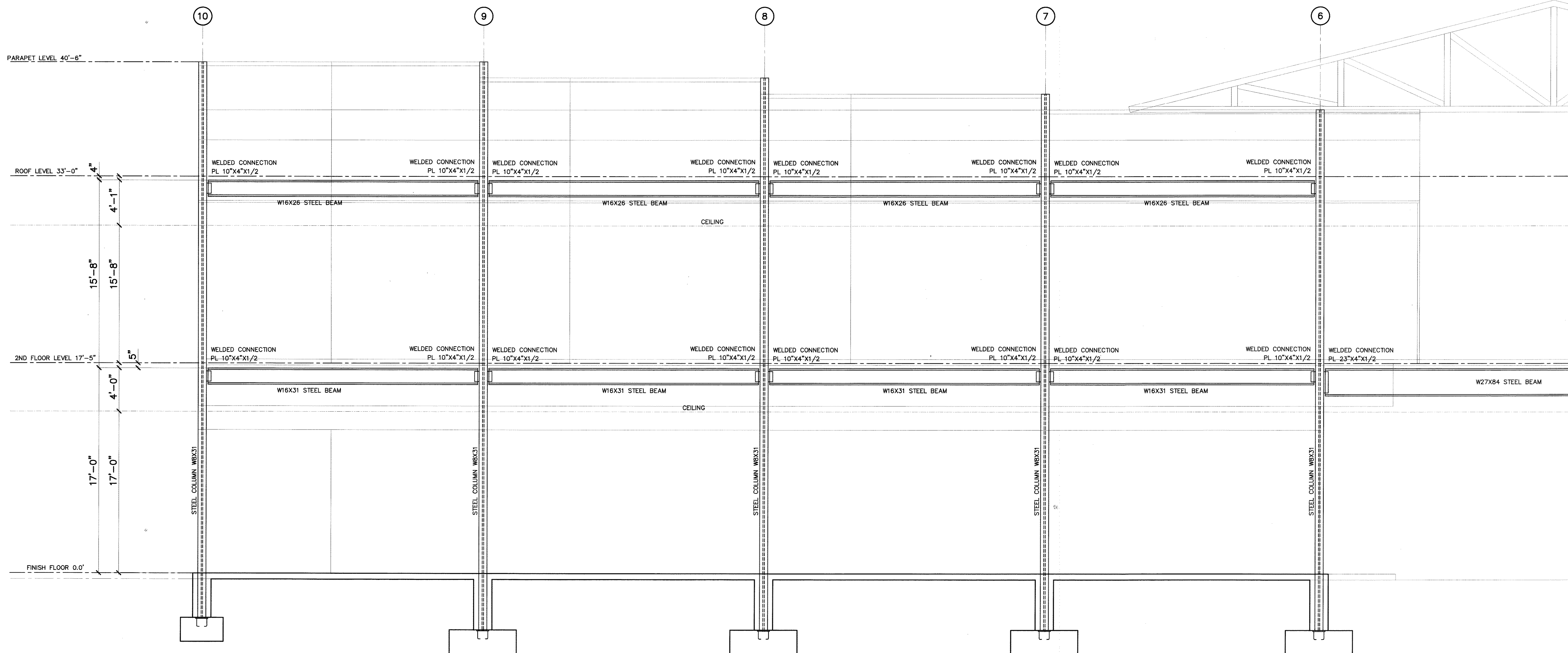
S9





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STEEL FRAME ELEVATION ALONG GRID NO: F



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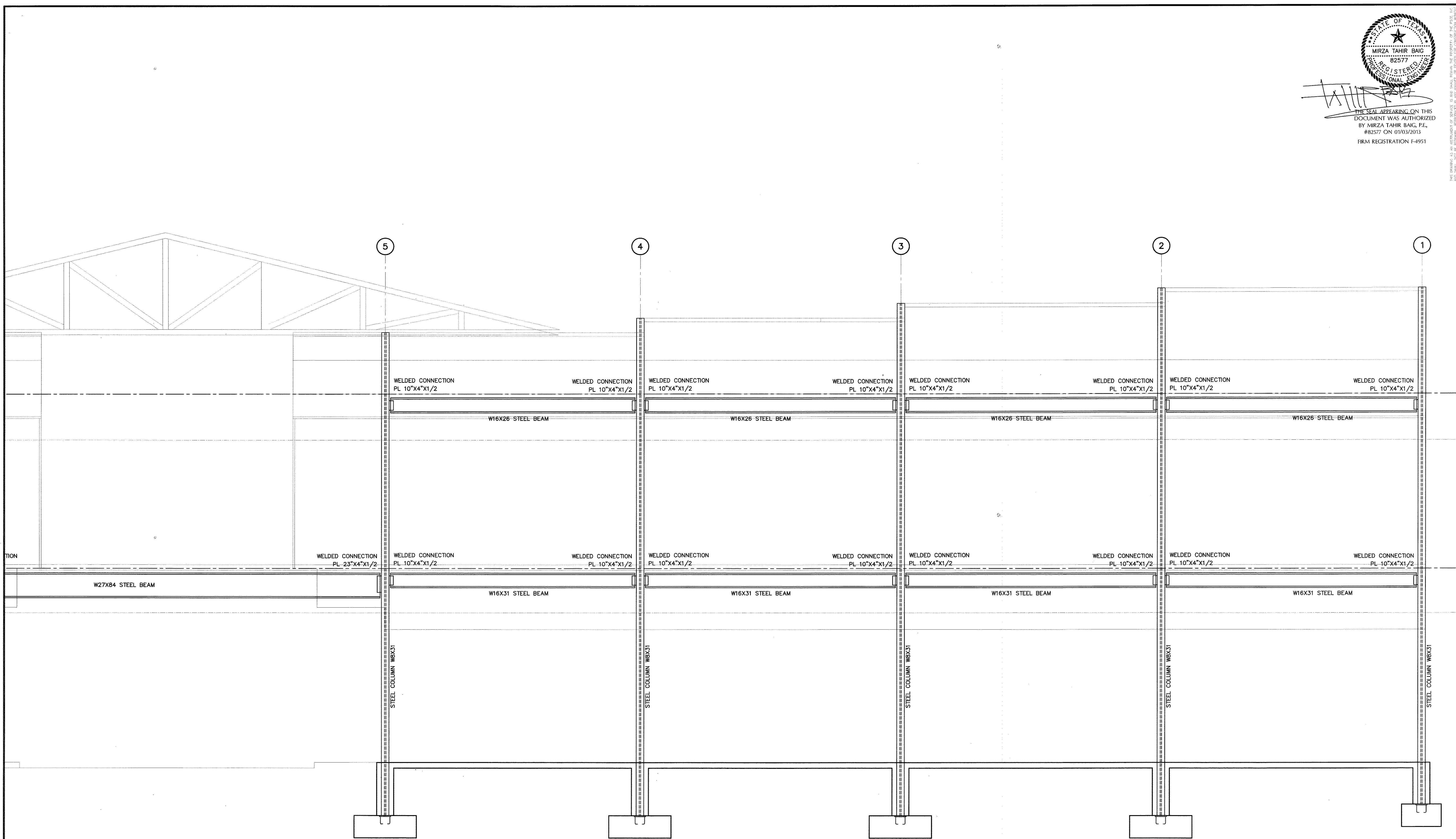
Project : **NORTH LOOP RETAIL CENTER**
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78222

Title : STEEL FRAME ELEVATION

2800

P

S10



A S11 STEEL FRAME ELEVATION ALONG GRID NO.F
SCALE 1/4"=1'-0"

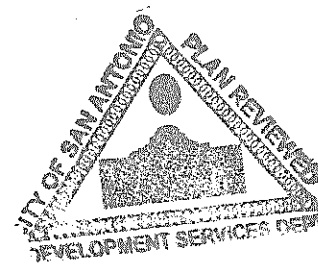
STATE OF TEXAS
82577
MIRZA TAHIR BAIG
P.E.
FIRM REGISTRATION F-4951

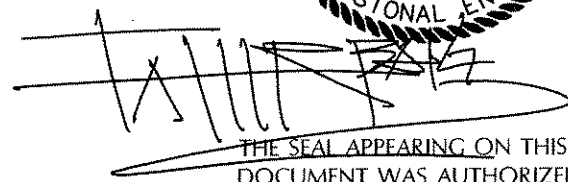
Revision	Date	Description
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Project: NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232
Title: STEEL FRAME ELEVATION

PROJECT 28001
SHEET S11





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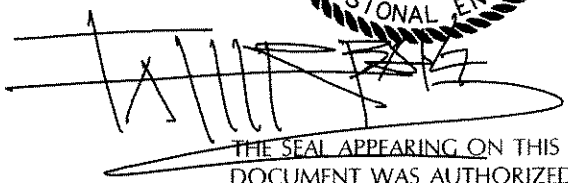


710 RESEARCH BLVD SUITE 300 AUSTIN TX 78759 | TEL 512 238 6422 | FAX 512 258 8085

Title : **STEEL FRAME ELEVATION**

P

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Project : **NORTH LOOP RETAIL CENTER**
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title : STEEL FRAME ELEVATION



PROJECT
2800

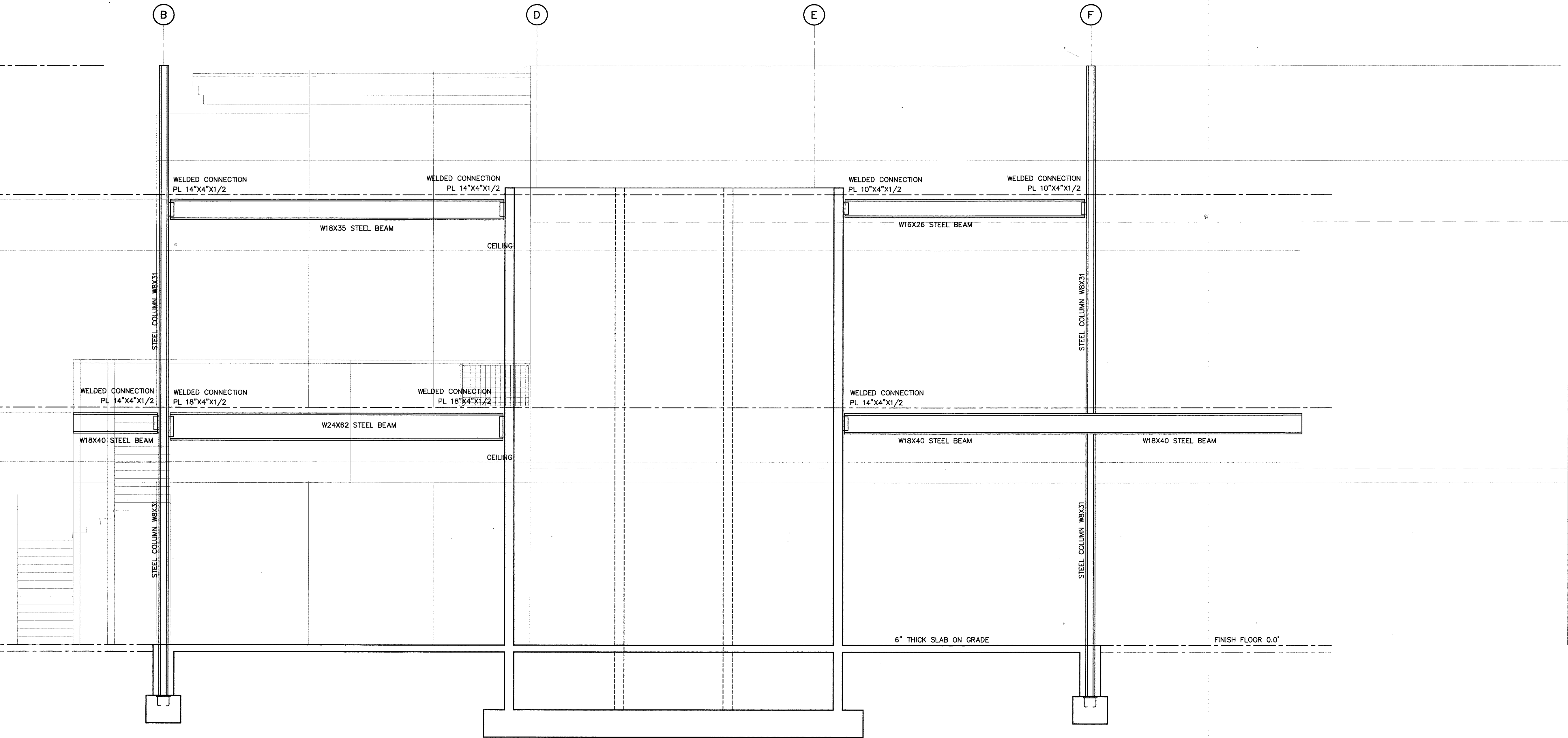
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S16

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STEEL FRAME ELEVATION ALONG GRID NO:5 & 6
SCALE 1/4"=1'-0"

Revision	Date	Description
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Project: NORTH LOOP RETAIL CENTER
226 & 238 TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232
Title: STEEL FRAME ELEVATION

PROJECT: 28001
SHEET: S17

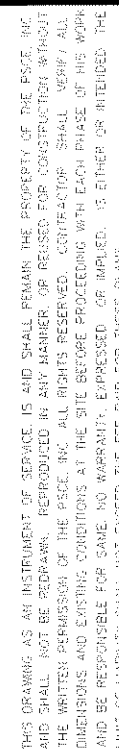




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P   SHEET
 E S18



Project : **NORTH LOOP RETAIL CENTER**
226 & 238, TEXAS LOOP 1604
SAN ANTONIO, TEXAS 78232

Title : **STARICASE CONCRETE WALL**



Figure 1 illustrates the effect of a 10% increase in the number of objects. The figure is a 2x2 grid of images. The top row shows the original images, and the bottom row shows the images with an additional object. The objects are labeled P (Project), E (Expense), and S (Salary). The top-left image shows 'PROJECT 28001' with a 'P' label. The top-right image shows 'P' and 'E' labels. The bottom-left image shows 'P' and 'E' labels. The bottom-right image shows 'S19' with a 'S' label.