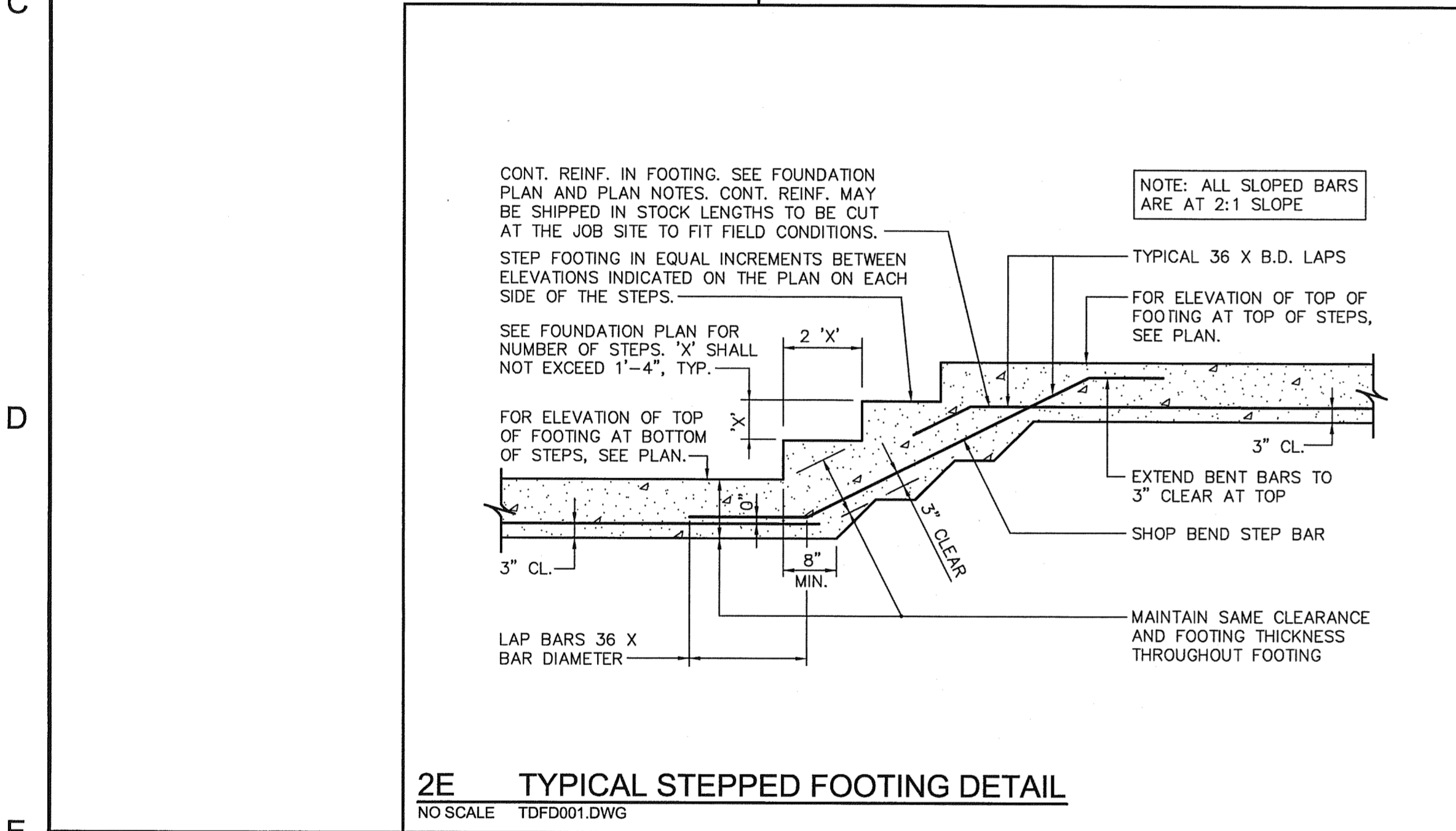
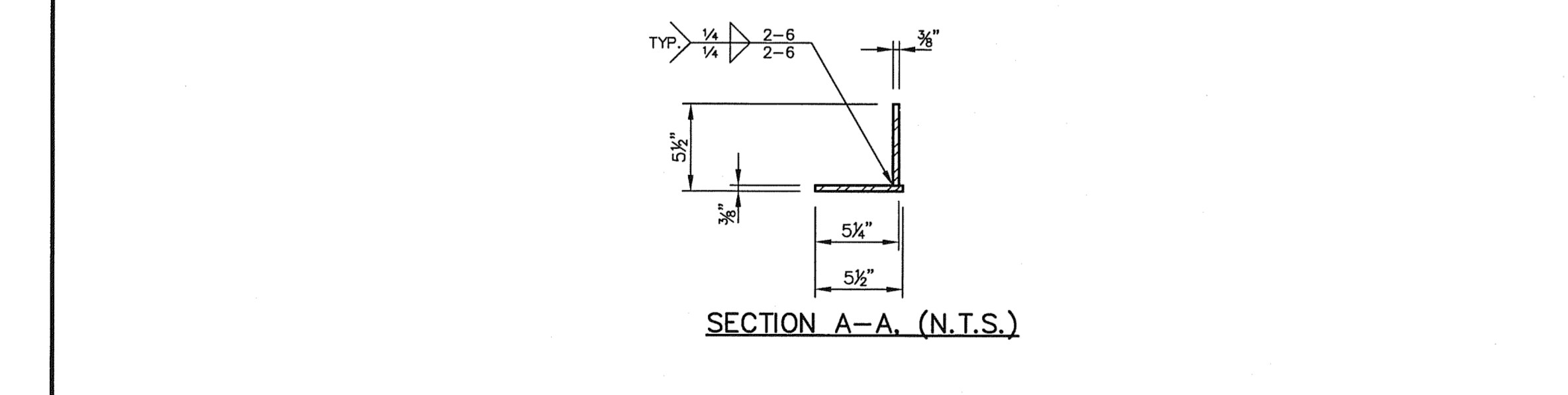


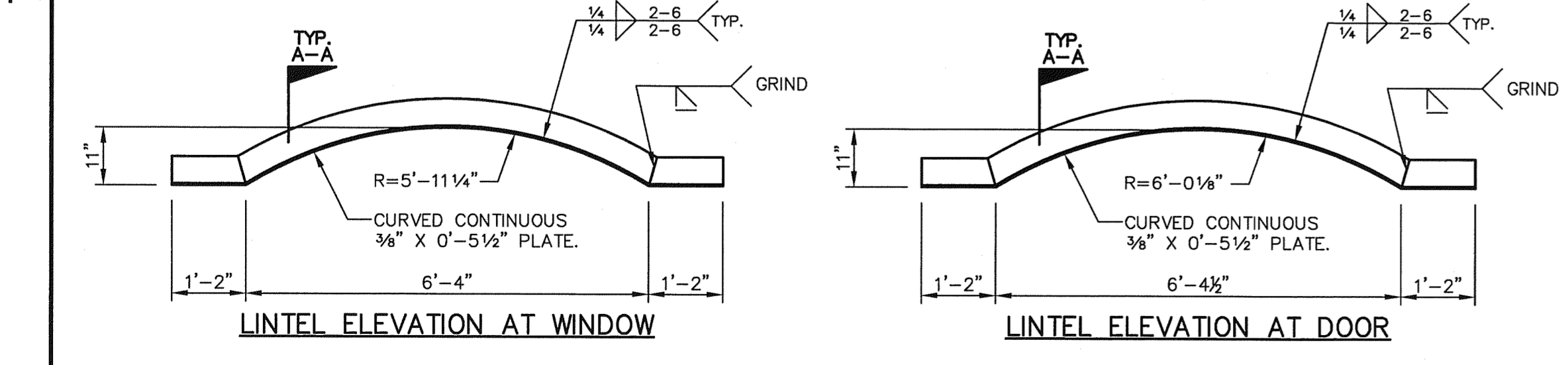
3C TYPICAL FOOTING CONSTRUCTION JOINT DETAIL
NO SCALE TDFD005.DWG



2E TYPICAL STEPPED FOOTING DETAIL
NO SCALE TDFD001.DWG



SECTION A-A, (N.T.S.)



1G TYPICAL CURVED LINTEL DETAILS
3/4\"/>

- A. FOUNDATIONS**
- ALL FOUNDATIONS SHALL BE FOUNDED ON UNDISTURBED SOIL OR STRUCTURAL FILL HAVING A MINIMUM BEARING CAPACITY OF 3000 PSF.
 - ALL CONCRETE FOR FOOTINGS SHALL BE CAST ON THE SAME DAY THAT THE EXCAVATIONS ARE MADE TO THE FINAL GRADE.
 - THE CONTRACTOR SHALL HAVE A TESTING LAB VERIFY THE BEARING CAPACITY OF THE BEARING SOILS IN THE FOOTING EXCAVATION PRIOR TO CASTING ANY FOOTINGS. WRITTEN VERIFICATION SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER.
 - ALL BACKFILL SHALL BE PLACED IN 8-INCH LIFTS, MAXIMUM. PROPER EQUIPMENT SHALL BE USED, SELECTED ACCORDING TO TYPE OF BACKFILL MATERIAL, FOR THE COMPACTION OPERATIONS.
 - SEE ALSO SPECIFICATIONS AND SOILS REPORT FOR SITE PREPARATION REQUIREMENTS.

- B. CAST-IN-PLACE CONCRETE**
- CAST-IN-PLACE CONCRETE SHALL HAVE THE FOLLOWING MINIMUM 28-DAY COMPRESSIVE STRENGTHS UNLESS OTHERWISE NOTED IN THE PROJECT SPECIFICATIONS:
FOOTINGS/PIERS 3000 PSI
SLABS-ON-GRADE 4000 PSI
MASONRY FILL 3000 PSI
 - ALL CONCRETE SHALL BE MADE IN ACCORDANCE WITH DESIGN MIXES WHICH ARE TO BE APPROVED BY THE ARCHITECT OR ENGINEER PRIOR TO CASTING ANY CONCRETE. SEE THE PROJECT SPECIFICATIONS FOR THE REQUIREMENTS OF THE DESIGN MIX SUBMITTAL.
 - FOR CONCRETE MATERIALS, MIX ADMIXTURES, SLUMP, TESTS, FORMWORK AND WORKMANSHIP, REMOVAL OF FORMS, RESHORING, CURING, HARDENING AND PROTECTING, FINISHING, CLEANING AND PATCHING, SEE THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
 - ALL CONCRETE WHICH IS SUBJECT TO CONDITIONS OF FREEZING OR DE-ICING SALTS SHALL HAVE A MINIMUM WATER/CEMENT RATIO OF 0.45, AND SHALL CONTAIN ENTRAINED AIR. DO NOT USE HIGH-RANGE WATER REDUCING ADMIXTURES IN AIR-ENTRAINED CONCRETE.
 - ADDITION OF WATER TO THE CONCRETE AT THE JOB SITE FOR THE PURPOSE OF INCREASING THE SLUMP OR FOR RETEMPERING THE CONCRETE WHICH HAS BEGUN TO SET IS STRICTLY PROHIBITED. SEE THE PROJECT SPECIFICATIONS FOR REQUIREMENTS OF WATER ADDITION TO CONCRETE AT THE JOBSITE.
 - SLAB-ON-GRADE SHALL BE AS NOTED ON THE FOUNDATION PLAN NOTES. WELDED WIRE FABRIC SHALL BE SUPPORTED ON HIGH CHAIRS SO THAT THE FABRIC IS POSITIONED 1-INCH BELOW THE TOP SURFACE.
 - CONCRETE FOR SLAB-ON-GRADE SHALL BE PLACED IN A SEQUENCE AND MANNER THAT IS CONSISTENT WITH THE RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE. LOCATE CONSTRUCTIONS AND CONTROL JOINTS IN SUCH A WAY TO MINIMIZE THE EFFECTS OF SHRINKAGE OF THE CONCRETE SLAB SECTIONS. INDICATED ON THE DRAWINGS ARE SUGGESTED LOCATIONS OF CONSTRUCTION AND CONTROL JOINTS. SUBMIT TO THE ARCHITECT/ENGINEER THE SEQUENCE AND METHOD OF CASTING CONCRETE SLAB-ON-GRADE PRIOR TO PLACING THESE ELEMENTS. SEE THE TYPICAL DETAILS ON THE DRAWINGS FOR JOINT CONSTRUCTION.
 - THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONCRETE ISOLATION MATERIAL TO SEPARATE CONCRETE POURS AS REQUIRED.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ANCHOR BOLTS, CLIPS, INSERTS, CONNECTION PLATES, SLEEVES, SLOTS, AND OTHER REQUIRED ITEMS IN ACCORDANCE WITH THE CONTRACT DRAWINGS, AND IN COOPERATION WITH OTHER TRADES PRIOR TO PLACING CONCRETE.
 - ONLY ADMIXTURES PERMITTED BY THE SPECIFICATIONS SHALL BE USED. NO CALCIUM CHLORIDE MAY BE ADDED TO THE MIX AT ANY TIME.

- C. REINFORCING STEEL**
- REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. LAP 30X BAR DIAMETER AT THE SPLICES UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE PROJECT SPECIFICATIONS. LAP CONTINUOUS WALL FOOTING BARS INTO SPREAD FOOTINGS 24\"/>

- D. STRUCTURAL STEEL**
- ALL STRUCTURAL STEEL ROLLED SHAPES SHALL CONFORM TO ASTM A992. ALL PLATES AND MISCELLANEOUS STEEL SHAPES SHALL CONFORM TO ASTM A36.
 - STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500, GRADE B, UNLESS OTHERWISE NOTED IN THE PROJECT SPECIFICATIONS.
 - STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A501, UNLESS OTHERWISE NOTED IN THE PROJECT SPECIFICATIONS.
 - BOLTS FOR CONNECTING STRUCTURAL STEEL SHAPES SHALL BE ASTM A325-N, 3/4-INCH DIAMETER, UNLESS OTHERWISE NOTED ON THE DRAWINGS OR THE PROJECT SPECIFICATIONS.
 - ANCHOR BOLTS SHALL CONFORM TO ASTM A36.
 - UNLESS SPECIFICALLY INDICATED OTHERWISE IN CONTRACT DOCUMENTS, ALL FABRICATION AND ERECTION OF ALL STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE LATEST SPECIFICATION/COMMENTARY AND CODE OF STANDARD PRACTICE OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, EXCEPT THAT ALL REFERENCES TO THE "OWNERS" RESPONSIBILITY SHALL BE CHANGED TO "CONTRACTORS" RESPONSIBILITY.
 - WELDING ELECTRODES SHALL BE E70 SERIES, LOW HYDROGEN.
 - WELDS SHALL BE MADE ONLY BY WELDERS WHO HAVE BEEN PREQUALIFIED BY TESTS OF THE AMERICAN WELDING SOCIETY, PRESCRIBED IN THE "STRUCTURAL WELDING CODE," AWS D1.1 (LATEST EDITION), DOCUMENTATION OF PREQUALIFICATION FOR PROJECT-SPECIFIC WELD TYPES, JOINTS, AND WELDING POSITIONS SHALL BE SUBMITTED FOR APPROVAL.
 - ANY CONNECTION NOT SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED AND DETAILED BY THE STRUCTURAL STEEL FABRICATOR. SEE THE TYPICAL BEAM CONNECTION DETAILS ON THE DRAWINGS.

- 5G GENERAL NOTES**
NO SCALE 07096GEN-NTS.DWG

- E. METAL ROOF DECK**
- SEE ROOF FRAMING PLAN NOTES FOR DECK SIZE, TYPE, AND REQUIRED PROPERTIES.
 - ALL ROOF DECKING SHALL BE ATTACHED TO STEEL FRAMING MEMBERS AS NOTED IN THE ROOF FRAMING PLAN NOTES.
 - FASTENING INSTRUCTIONS SHALL APPEAR ON THE SUPPLIER'S SHOP DRAWING SUBMITTAL. SEE THE PROJECT SPECIFICATIONS FOR OTHER REQUIREMENTS FOR THESE SUBMITTALS.

- F. CONCRETE MASONRY**
- MATERIALS**
 - SEE ALSO SPECIFICATIONS FOR OTHER CONCRETE MASONRY UNIT REQUIREMENTS.
 - CONCRETE MASONRY UNITS SHALL BE TWO CORE UNITS WITH A MINIMUM COMPRESSIVE STRENGTH $f_m = 1800$ PSI, OR GREATER.
 - TYPE "S" MORTAR WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 1800 PSI SHALL BE USED FOR ALL REINFORCED MASONRY.
 - GROUT FILL FOR ALL REINFORCED MASONRY SHALL BE CONCRETE WITH 3/4" PEA GRAVEL AGGREGATE. MIX SHALL BE SUPERPLASTICIZED AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI. SEE ALSO SPECIFICATIONS FOR OTHER REQUIREMENTS.
 - WALL GROUTING**
 - CUT MORTAR CLEAN FROM INSIDE OF CELL AS WALL IS BEING LAID. AVOID MORTAR DROPPINGS IN WALL.
 - PROVIDE INSPECTION PORTS AT BOTTOM OF EACH LIFT AS REQUIRED FOR CMU. IF CMU CELLS ARE NOT CLEAN AFTER BLOCK LIFT IS COMPLETED, KNOCK OUT BLOCK SHELL AND CLEAN PLUG AND/OR FORM HOLES AS REQUIRED FOR FINISH.
 - GROUT WALL IN 4"-0" LIFTS, MAXIMUM.
 - STOP GROUTING FOR EACH LIFT 1" BELOW TOP OF LAST CMU COURSE, WITH EXCEPTION TO THE TOP OF THE CMU WALL.
 - MORTAR BED UNDER FIRST COURSE AT FOUNDATION SHALL NOT FILL CORE AREA.
 - PROVIDE FULL HEAD AND BED JOINTS.
 - CMU WALL CELLS SHALL BE GROUTED AS SOON AS POSSIBLE TO REDUCE SHRINKAGE CRACKING. MASONRY SHALL BE ALLOWED TO CURE A MINIMUM OF 24 HOURS BEFORE GROUTING.
 - PROVIDE CURING FOR GROUTED LIFTS ACCORDING TO RECOMMENDATIONS GIVEN BY "NOMA".
 - REINFORCING**
 - ALL BARS ARE TO BE TIED IN PLACE PRIOR TO GROUTING.
 - DIRECTLY AFTER CMU WALL CELLS ARE FILLED, ALL VERTICAL BARS ARE TO BE SHAKEN A MINIMUM OF (10) TIMES TO VIBRATE THE CONCRETE.
 - PROVIDE ACCESSORY DEVICES TO MAINTAIN REINFORCING POSITION AND TO PREVENT DISLOCATION DURING GROUTING.

- G. MISCELLANEOUS ITEMS**
- THE CONTRACTOR IS TO VERIFY ALL OPENING SIZES AND/OR LOCATIONS WITH THE REQUIREMENTS OF OTHER TRADES PRIOR TO FABRICATION AND ERECTION OF STEEL AND TRUSSES.
 - GROUT FOR SETTING BEARING SURFACES SHALL BE NON-SHRINK, NON-STAINING, EQUAL TO "MASTERFLOW 713" BY MASTERBUILDERS CORPORATION.
 - STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS, AND SCHEDULE DRAWINGS FURNISHED BY MATERIAL AND EQUIPMENT SUPPLIERS, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THE WORK OF ALL TRADES IS COORDINATED WITH THE STRUCTURAL WORK.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, ERECTING, AND REMOVING ANY TEMPORARY SHORING AND BRACING DURING CONSTRUCTION.
 - THE ENGINEER SHALL BE NOTIFIED AT THE PROPER TIME WHEN ALL ITEMS ARE READY FOR OBSERVATION. SUFFICIENT NOTICE SHALL BE GIVEN BY CONTRACTOR TO ALLOW FOR SCHEDULING OF THE OBSERVATION.
 - ALL SAFETY REGULATIONS SHALL BE STRICTLY FOLLOWED. WITH THE EXCEPTION OF SPECIFIC DIRECTION PROVIDED IN THE CONSTRUCTION DRAWINGS HEREIN, THE ENGINEER SHALL NOT HAVE CONTROL OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR ACTS OF OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
 - ALL SPECIALTY BOLTS AND ANCHORS ARE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS PRINTED INSTRUCTIONS.
 - "PROVIDE" SHALL BE INTERPRETED TO MEAN FURNISH AND INSTALL UNLESS OTHERWISE NOTED.
 - THE CONTRACTOR SHALL PROTECT FROM DAMAGE EXISTING BUILDING(S), OWNER EQUIPMENT, ROADS, WALKS, AND UTILITIES. HE SHALL MAINTAIN THEM DURING THE COURSE OF WORK, AND SHALL REPAIR ALL DAMAGES AT HIS OWN EXPENSE.

- H. DESIGN LOADS:**
- SOIL BEARING CAPACITY 3000 PSF
 - ROOF LIVE LOADS 20 PSF
 - FLOOR LIVE LOADS:**
OFFICE 50 PSF
LOBBIES & CORRIDORS 100 PSF
 - SNOW LOADS:**
GROUND SNOW LOAD 15 PSF
SNOW EXPOSURE FACTOR 1.0
SNOW LOAD IMPORTANCE FACTOR 1.0
THERMAL FACTOR 1.0
 - SEISMIC DESIGN CRITERIA:**
SEISMIC DESIGN CATEGORY SDC = C
SPECTRAL RESPONSE COEFFICIENTS
 $S_s = 21.9\% g$
 $S_1 = 8.3\% g$
 $S_{ms} = 35.0\% g$
 $S_{m1} = 20.0\% g$
 $S_{ps} = 23.3\% g$
 $S_{p1} = 13.4\% g$
SITE CLASS CLASS D
DESIGN BASE SHEAR 20.0 K
BASIC STRUCTURAL SYSTEM & SEISMIC RESISTING SYSTEM STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
RESPONSE MODIFICATION FACTOR, R 3
DEFLECTION AMPLIFICATION FACTOR, C_d 3
ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE

6. WIND DESIGN CRITERIA (ASCE 7-05):
EXPOSURE C
BASIC WIND SPEED, V 100 MPH
IMPORTANCE FACTOR 1.0
INTERNAL PRESSURE COEFFICIENTS ±0.18
COMPONENTS AND CLADDING—WIND PRESSURES AND SUCTIONS:

| TRIBUTARY AREA OF COMPONENT (SQUARE FEET) | INTERIOR ZONE (PSF) | CORNER ZONE (PSF) |
|---|---------------------|-------------------|
| 1-20 | +23.3, -25.3 | +23.3, -31.2 |
| 20.1-30 | +22.9, -24.3 | +22.9, -29.2 |
| 30.1-40 | +22.3, -23.7 | +22.3, -28.3 |
| 40.1-50 | +21.3, -23.3 | +21.3, -27.3 |
| 100 | +19.8, -21.9 | +19.8, -24.3 |
| 200 | +19.0, -20.4 | +19.0, -22.3 |
| 300 | +18.4, -20.0 | +18.4, -21.9 |

- NOTES:**
- TABULATED WALL PRESSURES AND SUCTIONS ARE CALCULATED PER ASCE 7-05 SECTION 6.5.12.4 FOR ENCLOSED BUILDING STRUCTURE.
 - DESIGN WIND SPEED, $V = 100$ MPH
 - WIND EXPOSURE C
 - WIND IMPORTANCE FACTOR, $I_w = 1.0$
 - MEAN ROOF HEIGHT, $H = 17$ FEET
 - TABULATED POSITIVE VALUES ARE PRESSURES ACTING TOWARD BUILDING SURFACE. TABULATED NEGATIVE VALUES ARE SUCTIONS ACTING AWAY FROM BUILDING SURFACE.
 - WIND PRESSURES AND SUCTIONS ASSOCIATED WITH TRIBUTARY AREAS NOT SPECIFICALLY OUTLINED HEREIN SHALL BE CALCULATED PER ASCE 7-05 SECTION 6.5.12.4 OR SHALL BE BASED ON THE TABULATED TRIBUTARY AREA CLOSEST TO (BUT LESS THAN) THE TRIBUTARY AREA OF THE COMPONENT BEING EVALUATED.
 - CORNER ZONES ARE 7'-0" IN WIDTH, MEASURED FROM BUILDING PERIMETER CORNERS

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12/12/08
ROBERT C. KEMNER
REGISTERED PROFESSIONAL ENGINEER
STATE OF NORTH CAROLINA

- OWNER REVIEW
- PRELIMINARY DOCUMENTS
- DESIGN DEVELOPMENT DOCUMENTS
- PERMITTING DOCUMENTS
- BID DOCUMENTS
- CONSTRUCTION DOCUMENTS
- RECORD DOCUMENTS

REVISIONS:

JOB NO: 07096
SHEET
S6.6
DATE: 10/15/10
DRAWN: WJP