

Fillion
Group, Inc.
Structural Engineering

email: mrf.structure@verizon.net

71 East Street Sharon, MA 02067 Tel: 781-784-5110

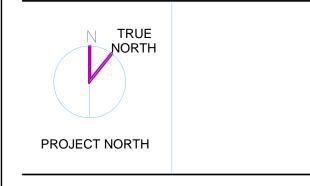
WILDSTAR
FARM
EQUESTRIAN
FACILITY

SHERRORN MASSACHUSETTS



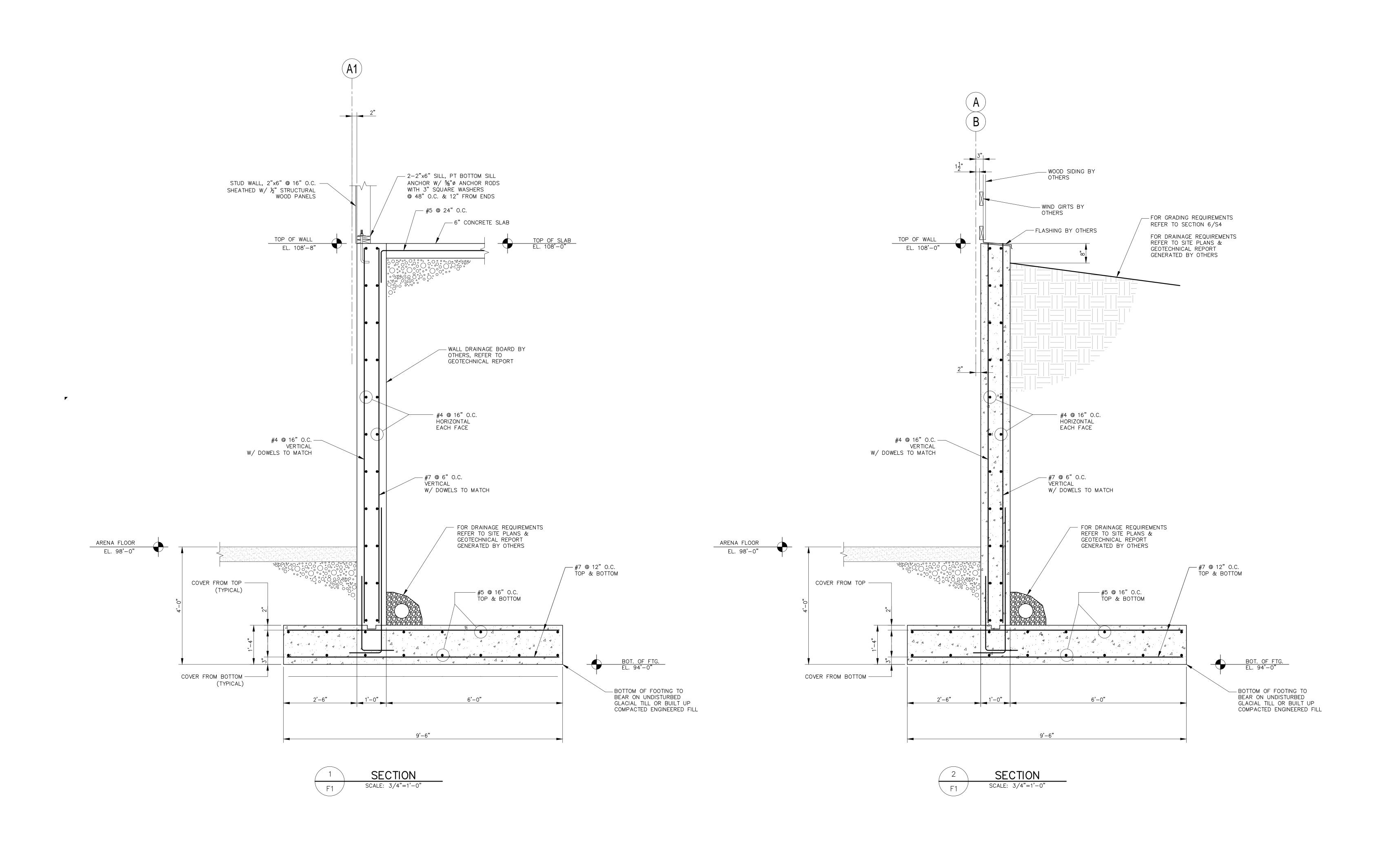
Polly Kornblith and Michael Newman 16 Nason Hill Lane Sherborn, Massachusetts, 01770

KEYPLAN



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rawn By: **MRF**

TYPICAL PIER DETAILS



FOR REVIEW
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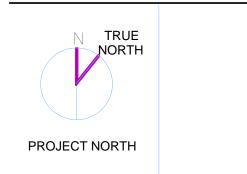
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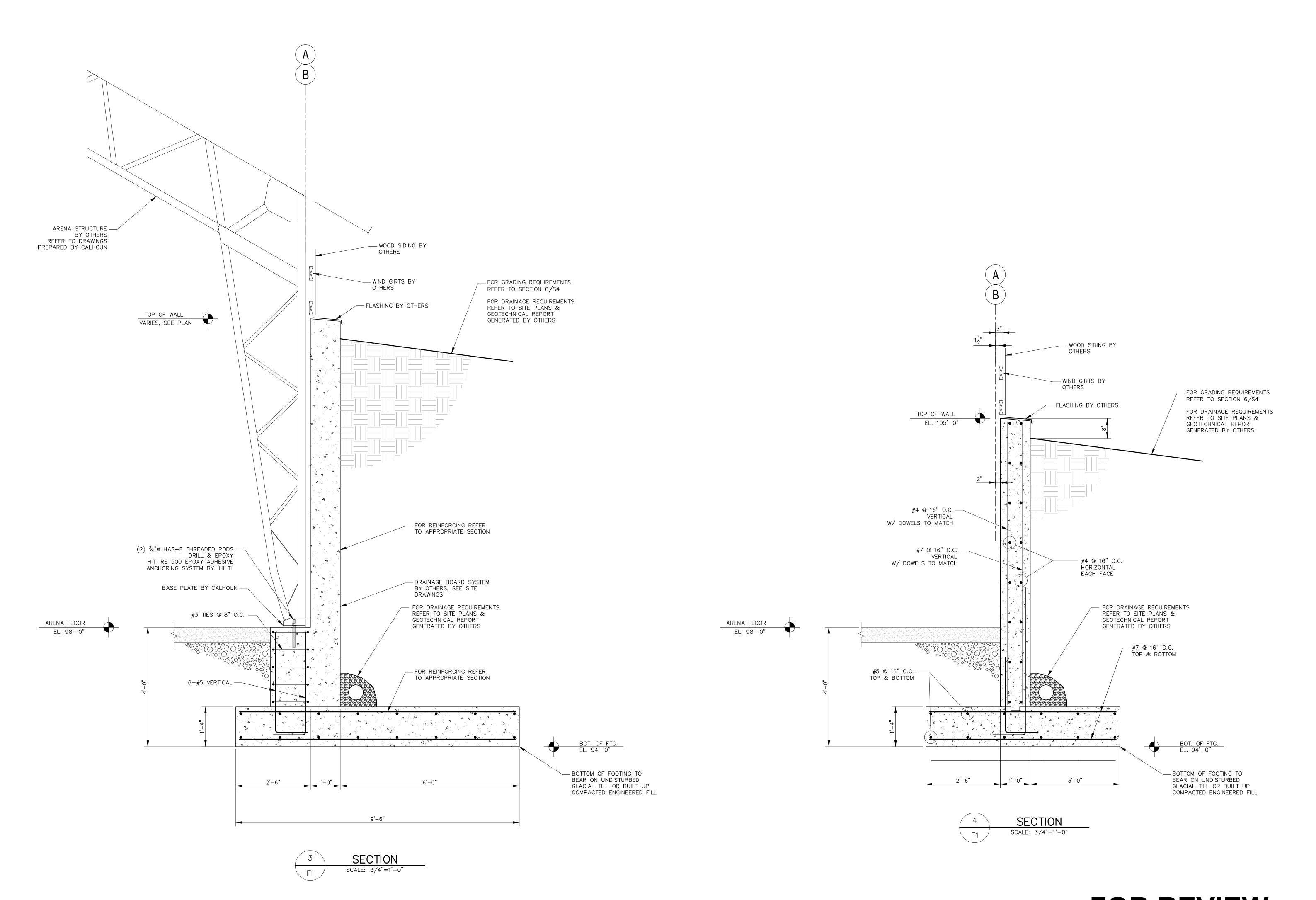


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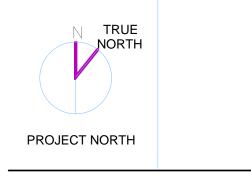
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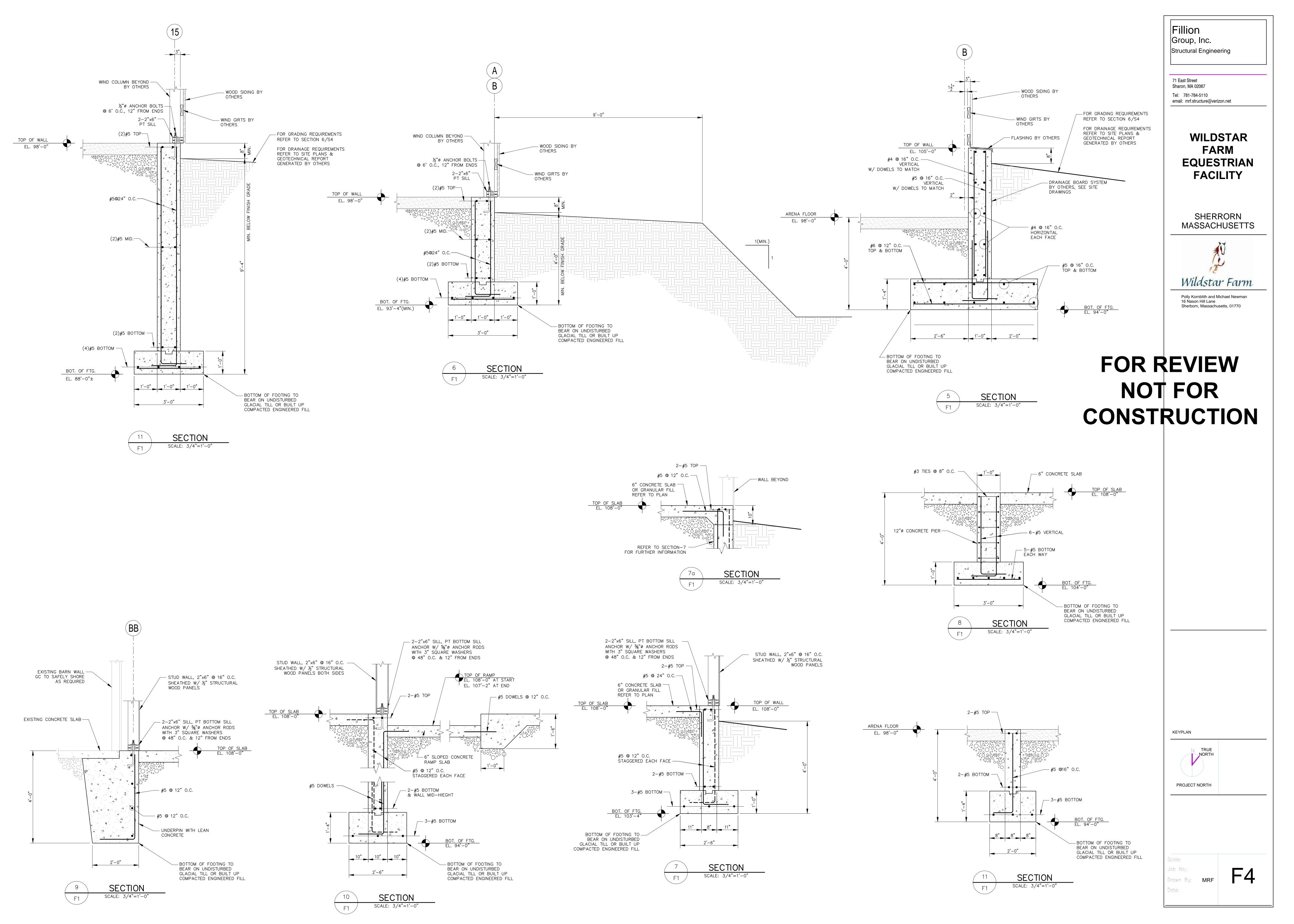
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GENERAL NOTES

ALL MATERIALS, WORKMANSHIP AND DETAILS SHALL CONFORM TO THE LATEST EDITION OF THE MASSACHUSETTS STATE BUILDING CODE AND THE REFERENCE STANDARDS INCLUDED THEREIN THAT ARE APPLICABLE TO THIS PROJECT. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DRAWINGS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ARCHITECT BEFORE PROCEEDING WITH THE AFFECTED WORK. ANY VARIATIONS OR SUBSTITUTIONS OF MATERIALS OR DETAILS FROM THOSE INDICATED ON THE DRAWINGS MAY BE MADE ONLY WITH PRIOR APPROVAL OF THE PROJECT ARCHITECT.

SHOP DRAWINGS FOR REINFORCING STEEL, (INCLUDING ALL ACCESSORIES) SHALL BE SUBMITTED TO THE ENGINEER AND A STAMPED APPROVAL RECEIVED BEFORE FABRICATION CAN PROCEED. NO MAIN FRAMING OR STRUCTURAL MEMBERS ARE TO BE MODIFIED, ALTERED OR CUT WITHOUT THE APPROVAL OF THE PROJECT ENGINEER.

FOR EXACT LOCATION OF FLOOR AND ROOF OPENINGS, SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND SHOP

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL JOB SAFETY DURING CONSTRUCTION INCLUDING BUT NOT LIMITED TO SHEETING, SHORING AND GUYING STRUCTURES, BARRIERS AND SIGNAGE. ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL

UNLESS OTHERWISE INDICATED, DETAILS SHOWN ON ANY DRAWING ARE TO BE CONSIDERED TYPICAL FOR ALL

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, CO-ORDINATION OF OTHER TRADES AND TECHNIQUES TO PRODUCE A SOUND AND QUALITY BUILDING. ALL DIMENSIONS, ELEVATIONS AND

MASSACHUSETTS STATE BUILDING CODE, EIGHTH EDITION.

SNOW: Pg=40 PSF V=105 MPH

SECOND FLOOR LIVE: 40 PSF

FOUNDATIONS

REFER TO THE GEOTECHNICAL REPORT AND RECOMMENDATIONS PREPARED FOR THIS PROJECT BY:

McPHAIL ASSOCIATES, LLC, DATED MARCH 24, 2017. FOR: PROPOSED EQUESTRIAN FACILITY, 16 NASON HILL LANE, SHERBORN, MA

CONDITIONS MUST BE VERIFIED BY THE GENERAL CONTRACTOR OR RESPONSIBLE TRADES.

THE STRUCTURE SHALL BE SUPPORTED ON NATURAL UNDISTURBED SOIL OR ON CONTROLLED GRANULAR BACKFILL BACKFILL COMPACTED ON THE NATURAL MATERIAL TO 95 % MAXIMUM DRY DENSITY. THE MAXIMUM ALLOWABLE BEARING PRESSURE SHALL BE 2 TSF IN EITHER INSTANCE AND SHALL BE VERIFIED BY THE GENERAL CONTRACTOR. BOTTOM OF FOOTING ELEVATION SHALL BE 4'-0" MINIMUM BELOW FINISHED EXTERIOR GRADE.

PLACE BACKFILL SIMULTANEOUSLY ON BOTH SIDES OF FOUNDATION WALLS TO THE GRADES INDICATED. WHERE EXTERIOR GRADE IS MORE THAN TWO FEET BELOW SLAB, WALLS SHALL BE BRACED UNTIL SLAB TO WHICH THEY ARE CONNECTED IS AT LEAST TWO WEEKS OLD.

FOR LOCATIONS OF PIPES AND CONDUITS, SEE SITE, PLUMBING AND ELECTRICAL DRAWINGS. PIPES WHICH CARRY WATER SHALL NOT BE ALLOWED TO PASS UNDER FOOTINGS. STEP FOOTINGS APPROPRIATELY TO ALLOW PIPE TO

CONCRETE

CONCRETE SHALL BE PROPORTIONED, MIXED AND PLACED IN ACCORDANCE WITH ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", AND ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", WITH A MAXIMUM SLUMP OF 4 1/2 INCHES.

MINIMUM COMPRESSIVE STRENGTH OF CONCRETE AT THE END OF 28 DAYS SHALL BE AS FOLLOWS:

NO ADMIXTURES OTHER THAN LOW RANGE WATER REDUCER WILL BE ALLOWED. CONCRETE SHALL NOT BE CAST IN WATER OR ON FROZEN GROUND.

WELDED WIRE FABRIC SHALL BE LAID IN FLAT SHEETS AND CONFORM TO AFFMICAPTION PLACE WIRE FABRIC 1 INCH FROM THE TOP OF CONCRETE UNLESS OTHERWISE NOTED.

REINFORCING STEEL

ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE LATEST ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCING". REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615, GRADE 60. CLEAR CONCRETE COVER OVER BARS SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON THE DRAWINGS:

TIMBER FRAMING

TIMBER DESIGN SHALL CONFORM TO THE PROVISIONS OF THE 2005 NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION PUBLISHED BY THE AMERICAN FOREST AND PAPER ASSOCIATION. TIMBER CONSTRUCTION SHALL CONFORM TO THE PROVISIONS OF THE 2006 WOOD CONSTRUCTION MANUAL FOR ONE AND TWO

FAMILY DWELLINGS AND THE GUIDE TO WOOD CONSTRUCTION IN HIGH WIND AREAS FOR ONE AND TWO-FAMILY DWELLINGS

SHOP DRAWINGS FOR ALL ENGINEERED LUMBER PRODUCTS SHALL BE SUBMITTED INCLUDING BEAM TO BEAM CONNECTION HARDWARE.

NEW TIMBER FOR STRUCTURAL USE SHALL HAVE A MOISTURE CONTENT AS SPECIFIED IN THE "NATIONAL DESIGN SPECIFICATION FOR

WOOD CONSTRUCTION" (NFPA, 1991 EDITION). TIMBER CONSTRUCTION SHALL CONFORM TO CHAPTER 23 OF THE COMMONWEALTH OF MASSACHUSETTS STATE BUILDING CODE.

MATERIAL PROPERTIES SHALL CONFORM TO THE FOLLOWING: (A) FOR MEMBERS WITH NOMINAL 2" THICKNESS. S-P-F #1/#2 (5% MAX MC)

ALLOWABLE BENDING STRESS

Fb=875 PSI (SINGLE MEMBER USE) Fb=1000 PSI (MULTIPLE MEMBER USE)

ALLOWABLE SHEAR STREESS Fv=70 PSI

COMPRESSION PERPENDICULAT TO GRAIN = 425 PSI MODULUS OF ELASTICITY E= 1,400,000 PSI

(B) FOR PRESSURE TREATED MEMBERS WITH NOMINAL 2" THICKNESS, SOUTHERN YELLOW PINE #1 OR BETTER (19% MAX MC).

ALLOWABLE BENDING STRESS Fb= 1300 PSI ALLOWABLE SHEAR STRESS Fv= 90 PSI

COMPRESSION PARALLEL TO GRAIN = 1550 PSI

COMPRESSION PERPENDICULAR TO GRAIN= 565 PSI

MUDULUS OF ELASTICITY E= 1,500,000 PSI (C) 1-3/4" X 11-7/8" LVL ETC INDICATES LAMINATED VENEER LUMBER - 2.0E BEAM OR POST BY THE BOISE CASCADE COMPANY OR EQUAL

(C1) VERSA-LAM BEAMS (LVL) ALLOWABLE BENDING STRESS Fb= 3080 PSI

ALLOWABLE SHEAR Fv= 285 PSI

MODULUS OF ELASTICITY E= 2,000,000 PSI

(C2) VERSA-LAM COLUMNS (PSL) ALLOWABLE BENDING STRESS Fb= 2200 PSI

ALLOWABLE SHEAR STRESS Fv= 285 PSI COMPRESSION PARALLEL TO GRAIN FcII= 3000 PSI

COMPRESSION PERPENDICULAR TO GRAIN Fc= 900 PSI

BUILT UP TIMBER BEAMS SHOULD BE FIRMLY NAILED OR BOLTED TOGETHER.

MODULUS OF ELASTICITY E= 2,000,000 PSI "PT" INDICATES PRESSURE-TREATED LUMBER (TO BE USED WHEN IN CONTACT WITH CONCRETE, MASONRY, OR WEATHERED).

NO JOISTS OR BEAMS SHOULD BE NOTCHED OR DRILLED WITHOUT APPROVAL FROM THE SER

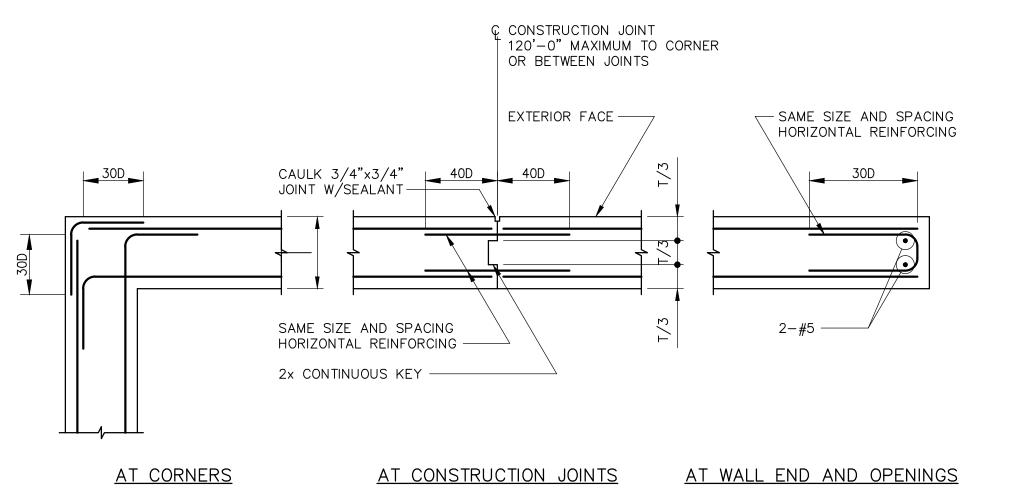
ALL HEADERS FOR INTERIOR OPENINGS SHALL BE 3-2X10

ALL HEADERS FOR EXTERIOR OPENINGS SHALL BE 3-2X10 MINIMUM BEARING FOR ALL JOISTS AND RAFTERS SHALL BE 3-1/2 INCHES.

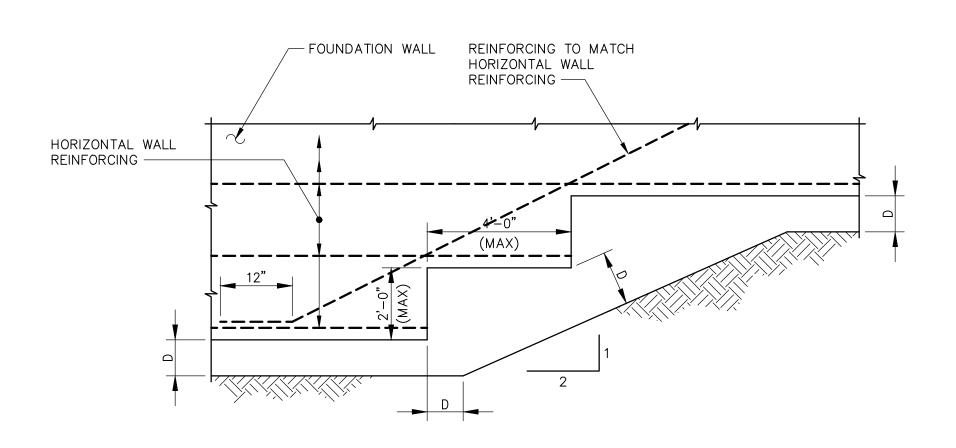
USE DOUBLE JOIST UNDER ALL PARTITIONS.

BUILT UP BEAMS OF ENGINEERED LUMBER SHOULD BE NAILED OR BOLTED TOGETHER IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. TEMPORARY ERECTION BRACING SHALL BE PROVIDED TO HOLD STRUCTURAL TIMBER SECURELY IN POSITION AS DESCRIBED ON THE

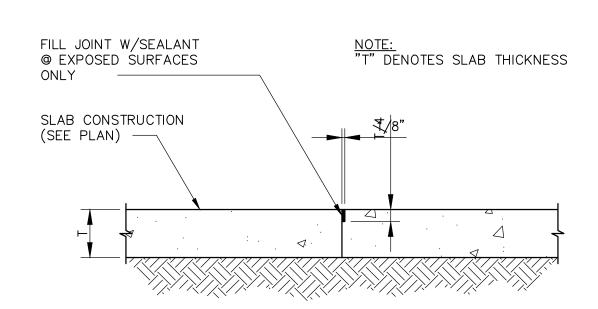
SHOP DRAWINGS. IT SHOULD NOT BE REMOVED UNTILL PERMANENT SUPPORT HAS BEEN INSTALLED.



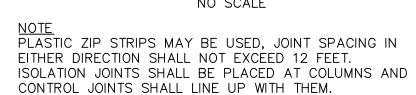
TYPICAL FOUNDATION WALL DETAILS



ELEVATION OF CONTINUOUS STEPPED WALL FOOTING



TYPICAL CONTROL JOINT DETAIL



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NORTH PROJECT NORTH

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