

**GENERAL NOTES**

ALL WORK SHALL CONFORM TO THE 8TH EDITION OF THE COMMONWEALTH OF MASSACHUSETTS STATE BUILDING CODE.

THE OWNER SHALL RETAIN THE SERVICES OF AN INDEPENDENT TESTING AGENCY TO PERFORM STRUCTURAL INSPECTIONS AS INDICATED ON THE DRAWINGS AND AS REQUIRED/INDICATED BY THE PROGRAM OF STRUCTURAL TESTS AND INSPECTIONS.

THE CONTRACTOR SHALL EXAMINE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR VERIFICATION, LOCATION AND DIMENSIONS OF CHASES, INSERTS, OPENINGS, SLEEVES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON THE STRUCTURAL/FOUNDATION DRAWINGS.

THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS IN THE FIELD AND WITH THE ARCHITECTURAL DRAWINGS AND SHALL NOTIFY THE OWNER/ARCHITECT/ENGINEER OF ANY DISCREPANCY BEFORE PROCEEDING WITH THE WORK. EXISTING CONDITIONS SHOWN ARE NOT GUARANTEED.

THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BRACING & SHORING UNTIL ALL STRUCTURAL WORK IS COMPLETE.

SHOP DRAWINGS, IN ADDITION TO THE SUBMITTALS REQUIRED BY THE PROJECT SPECIFICATIONS, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND COMMENTS PRIOR TO FABRICATION FOR THE FOLLOWING:

- 1) CONCRETE REPAIR
- 2) EXPANSION BOLTS AND ADHESIVE ANCHORS

**STRUCTURAL DESIGN NOTES**

DESIGN LOADS:  
PROPOSED BUILDING  
TRUCK WEIGHT WITH WATER ≈ 48,000 LBS  
REAR WHEEL LOAD = 16,000 LBS

**STRUCTURAL INSPECTIONS**

INSPECTION AND TESTING WILL BE PERFORMED PER CHAPTER 17 OF THE MASSACHUSETTS STATE BUILDING CODE & IBC 2009. THE OWNER WILL EMPLOY A TESTING AGENCY (SELECTED BY THE ENGINEER/OWNER) TO PERFORM STRUCTURAL TESTS AND INSPECTIONS AS INDICATED ON THIS SHEET. TEST REPORTS SHALL BE ADDRESSED TO THE OWNER & SENT DIRECTLY TO THE OWNER AND McBRIE, LLC FROM THE TESTING AGENCY.

THE CONTRACTOR SHALL COORDINATE WITH, NOTIFY, AND PROVIDE ACCESS AND A SAFE WORKING ENVIRONMENT FOR THE OWNER'S TESTING AGENCY BOTH IN THE SHOP AND IN THE FIELD.

ALL FILL INSTALLATION, CONCRETE REINFORCING, CONCRETE PLACEMENT AND STRUCTURAL STEEL INSTALLATIONS SHALL BE INSPECTED/OBSERVED BY THE SER OR AN INDEPENDENT TESTING AGENCY. ANY WORK COMPLETED WITHOUT INSPECTIONS SHALL BE CONSIDERED AS UNACCEPTABLE AND SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.

AT A MINIMUM, THE FOLLOWING WILL BE INSPECTED:

1. REBAR PLACEMENT
2. CONCRETE PLACEMENT/REPAIRS
3. STRUCTURAL STEEL, INCLUDING EXPANSION BOLTS AND ADHESIVE ANCHORS

**CONCRETE & REINFORCING**

ALL CONCRETE WORK SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-05)" AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301).

ALL CONCRETE IN FOOTINGS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.

REINFORCING STEEL SHALL CONFORM TO THE FOLLOWING:

- (A) ASTM 615, GRADE 60 FOR DEFORMED BARS (Fy = 60,000 P.S.I.)

**STRUCTURAL STEEL**

STRUCTURAL STEEL WORK SHALL CONFORM TO PART 5 OF THE MANUAL OF STEEL CONSTRUCTION (AISC ASD 1989). ALL WELDING SHALL CONFORM TO AWS D1.1 AND BE PERFORMED BY APPROVED CERTIFIED WELDERS. ALL WELDS SHALL USE E70XX ELECTRODES BOTH IN THE SHOP AND IN THE FIELD.

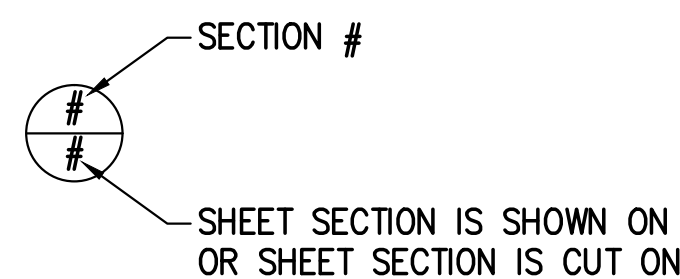
SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.

STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50ksi) FOR W-SHAPES, ASTM A36 FOR CHANNELS & OTHER ROLLED SHAPES, ASTM A500, GRADE B (Fy = 46ksi) FOR HSS TUBES AND PIPE COLUMNS. BOLTED CONNECTIONS SHALL BE MADE USING A MINIMUM OF 3/4" ASTM A490 HIGH STRENGTH BOLTS.

ALL STRUCTURAL STEEL TO RECEIVE ONE SHOP COAT OF STANDARD GRAY PRIMER U.N.O. TOUCH UP ALL BARE AREAS AFTER ERECTION.

**LEGEND / ABBREVIATIONS**

- ADD'L = ADDITIONAL
- ALT. = ALTERNATE
- APPROX. = APPROXIMATELY
- BM. = BEAM
- BRG. PL = BEARING PLATE
- COL. = COLUMN
- CONN. = CONNECTION
- DBL = DOUBLE
- DL = DEAD LOAD
- DWGS = CONSTRUCTION DRAWINGS
- EL. = ELEVATION
- EMB. = EMBEDMENT
- EXIST. = EXISTING
- FTG. = FOOTING
- GALV. = GALVANIZED
- HOR. = HORIZONTAL
- LL = LIVE LOAD
- MANUF. = MANUFACTURER
- MAX. = MAXIMUM
- MIN. = MINIMUM
- N.T.S. = NOT TO SCALE
- REINF. = REINFORCING
- SER = STRUCTURAL ENGINEER OF RECORD
- SIM. = SIMILAR
- STIFF. PL = STIFFENER PLATE
- T.O.S. = TOP OF STEEL
- U.N.O. = UNLESS NOTED OTHERWISE
- VERT. = VERTICAL
- V.I.F. = VERIFY IN FIELD
- V.W.O. = VERIFY WITH OWNER
- WF = WIDE FLANGE
- WWF = WELDED WIRE FABRIC



**PROGRAM OF STRUCTURAL TESTS AND INSPECTIONS**

FOR COMPLIANCE WITH THE 2009 INTERNATIONAL BUILDING CODE

THE OWNER WILL EMPLOY A TESTING AGENCY (SELECTED BY THE ENGINEER/OWNER) TO PERFORM STRUCTURAL TESTS AND INSPECTIONS AS INDICATED ON THIS SHEET. TEST REPORTS SHALL BE ADDRESSED TO McBRIE, LLC & SENT DIRECTLY FROM THE TESTING AGENCY.

OWNER: CITY OF SALEM  
OWNER'S ADDRESS: CITY HALL, 93 WASHINGTON STREET, SALEM, MA  
ARCHITECT OF RECORD: NONE  
STRUCTURAL ENGINEER OF RECORD (SER): MICHAEL PERHAM, McBRIE, LLC

THE FOLLOWING FIRMS, AGENCIES, OR INDIVIDUALS (HEREINAFTER REFERRED TO COLLECTIVELY AS AGENTS) WILL PERFORM THE TESTS AND INSPECTIONS UNDER THE DIRECTION OF THE SER:

ABBREVIATION	AGENT
SER	STRUCTURAL ENGINEER OF RECORD (LISTED ABOVE)
OTS	OWNER'S TESTING SERVICE
GER	GEOTECHNICAL ENGINEER OF RECORD
N/A	NOT APPLICABLE FOR THIS PROJECT

THE ABBREVIATIONS WILL BE USED TO IDENTIFY WHICH AGENT IS PERFORMING THE PARTICULAR TESTS OR INSPECTIONS.

THE FOLLOWING CATEGORIES OF STRUCTURAL TESTS AND INSPECTIONS ARE INCLUDED IN THE PROGRAM FOR STRUCTURAL TESTS AND INSPECTIONS FOR THIS PROJECT.

**STEEL CONSTRUCTION**

ITEM/SCOPE	AGENT
1. FABRICATOR CERTIFICATION/QUALITY CONTROL PROCEDURES: REVIEW EACH FABRICATOR'S QUALITY CONTROL PROCEDURES	N/A
2. FABRICATOR INSPECTION(1705.4.2 & R1705.4.2): INSPECT IN-PLANT FABRICATION, OR REVIEW FABRICATOR'S APPROVED INDEPENDENT INSPECTION AGENCY'S REPORTS.	N/A
3. MATERIAL CERTIFICATION: REVIEW FOR CONFORMANCE TO THE SPECIFICATIONS.	SER
4. BOLTING: TEST AND INSPECT BOLTED CONNECTIONS IN ACCORDANCE WITH SPECIFICATIONS. VERIFY BOLT SIZE AND GRADE.	OTS
5. WELDING: CHECK WELDER QUALIFICATIONS. VISUALLY INSPECT FILLET WELDS AND TEST FULL-PENETRATION FIELD WELDS IN ACCORDANCE WITH SPECIFICATIONS.	OTS
6. SHEAR CONNECTORS: INSPECT FOR SIZE AND PLACEMENT. TEST FOR PROPER WELD ATTACHMENT.	N/A
7. STRUCTURAL FRAMING, DETAILS AND ASSEMBLIES: INSPECT FOR SIZE, GRADE OF STEEL, CAMBER, INSTALLATION AND CONNECTION DETAILS. CHECK AGAINST APPROVED CONSTRUCTION DOCUMENTS AND SHOP DRAWINGS.	SER

**CAST-IN-PLACE CONCRETE CONSTRUCTION**

ITEM/SCOPE	AGENT
1. MIX DESIGN: REVIEW MIX DESIGNS.	N/A
2. MATERIALS CERTIFICATION: REVIEW FOR CONFORMANCE TO SPECIFICATIONS.	SER
3. BATCHING PLANT: REVIEW PLANT QUALITY CONTROL PROCEDURES AND BATCHING AND MIXING METHODS.	N/A
4. REINFORCEMENT INSTALLATION: INSPECT REINFORCING FOR SIZE, QUALITY, CONDITION AND PLACEMENT.	SER/OTS
5. POST-TENSIONING OPERATIONS (1705.6.2): INSPECT TENSIONING AND ANCHORAGE OF TENDONS. INSPECT GROUTING OF BONDED TENDONS.	N/A
6. FORM WORK GEOMETRY: INSPECT FORM SIZES.	N/A
7. CONCRETE PLACEMENT: OBSERVE CONCRETE PLACEMENT OPERATIONS. VERIFY CONFORMANCE TO SPECIFICATIONS INCLUDING COLD-WEATHER AND HOT-WEATHER PLACEMENT PROCEDURES. PERFORM SLUMP, DENSITY AND AIR CONTENT TESTS AT POINT OF DISCHARGE.	OTS
8. EVALUATION OF CONCRETE STRENGTH: TEST AND EVALUATE IN ACCORDANCE WITH THE SPECIFICATIONS.	N/A
9. CURING AND PROTECTION: OBSERVE PROCEDURE FOR CONFORMANCE TO THE SPECIFICATIONS.	OTS

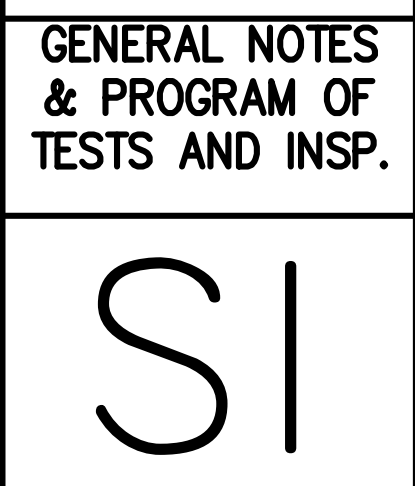
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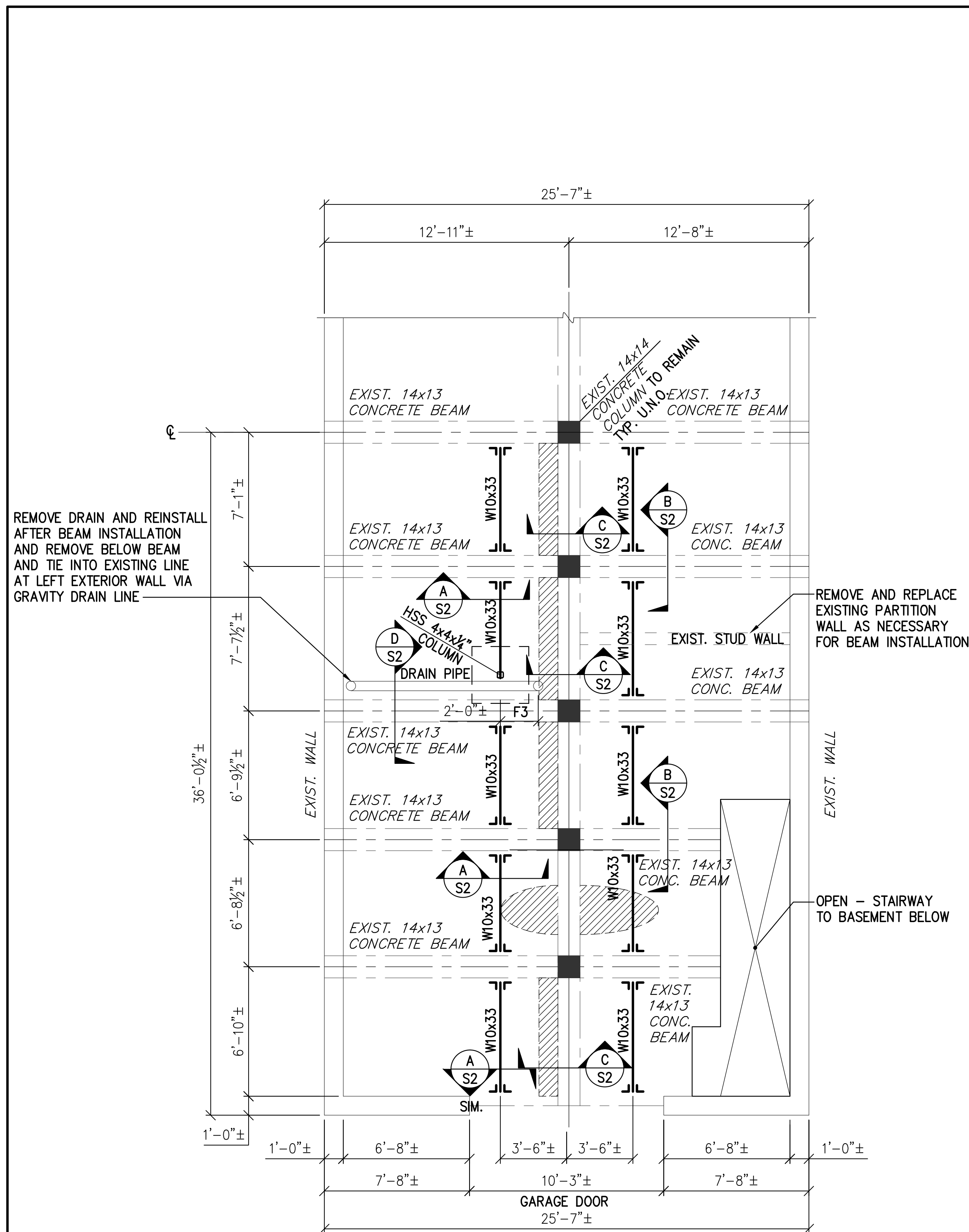
PREPARED FOR:  
CITY OF SALEM  
CITY HALL  
93 WASHINGTON ST  
SALEM, MA 01970

SALEM FIRE DEPARTMENT  
142 NORTH STREET  
SALEM, MA 01970  
McBRIE, LLC PROJECT #15-108

DRWN BY:	NHW
CHK'D BY:	MLP
DATE:	06/10/15

GENERAL NOTES & PROGRAM OF TESTS AND INSP.





REMOVE DRAIN AND REINSTALL AFTER BEAM INSTALLATION AND REMOVE BELOW BEAM AND TIE INTO EXISTING LINE AT LEFT EXTERIOR WALL VIA GRAVITY DRAIN LINE

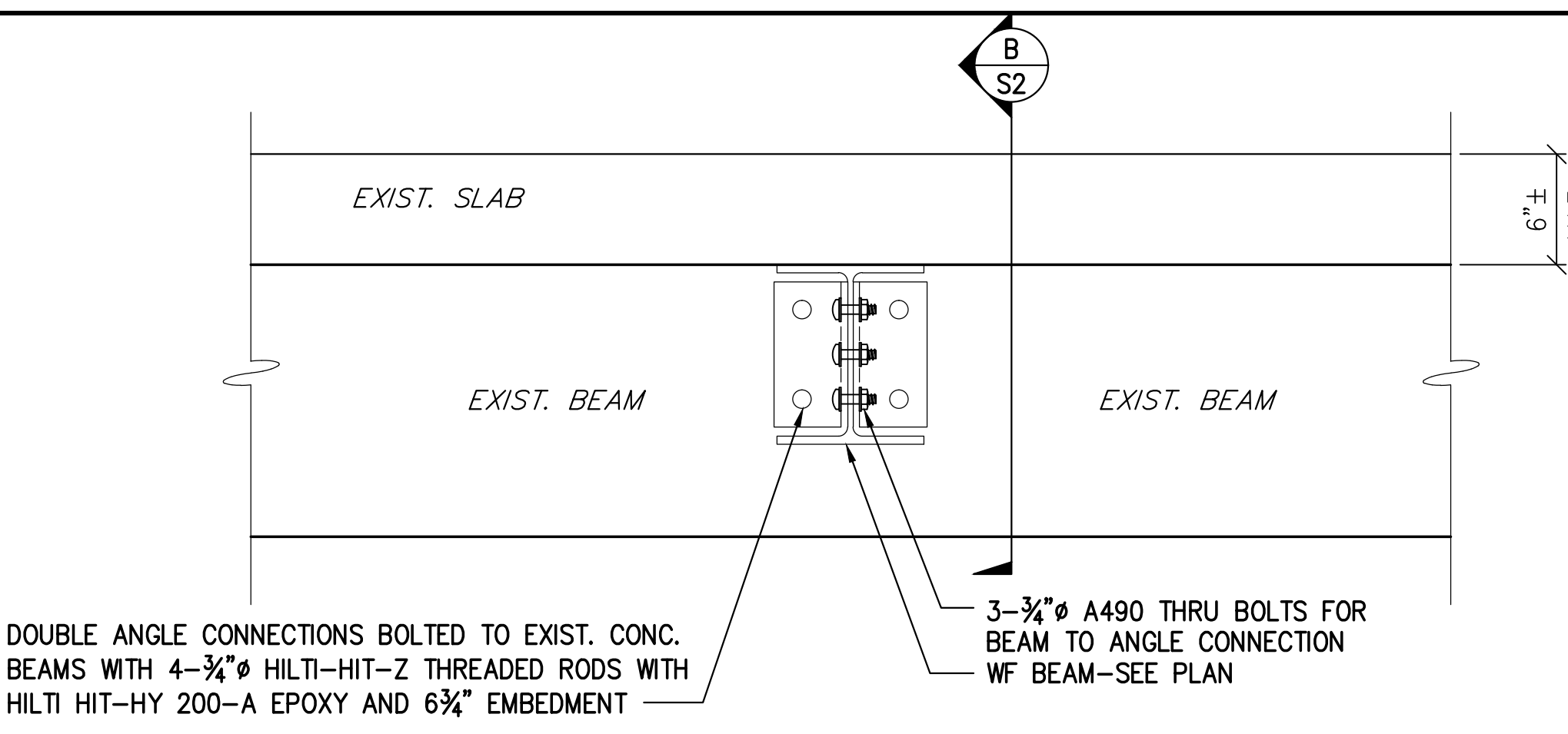
REMOVE AND REPLACE EXISTING PARTITION WALL AS NECESSARY FOR BEAM INSTALLATION

REMOVE/RELOCATE ANY ELECTRICAL/UTILITIES IN THE WAY OF STEEL BEAMS

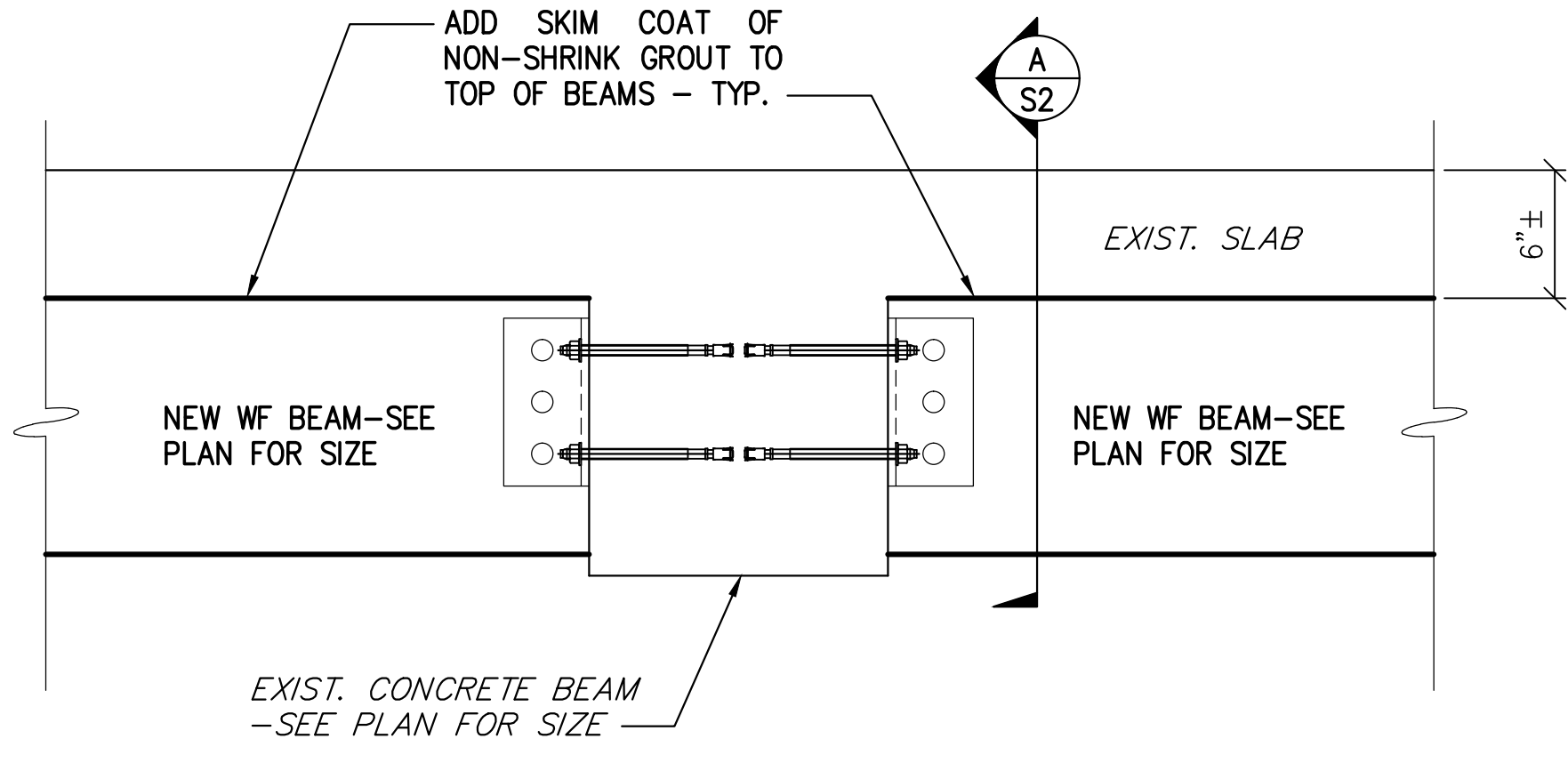
FIRST FLOOR FRAMING PLAN/SLAB REINFORCING PLAN  
SCALE: 1/4" = 1'-0"

/// = APPROXIMATE AREA OF UNDERSIDE SLAB REPAIR - SEE THIS SHEET FOR DETAILS.

BEAMS SHOULD BE INSTALLED WITHOUT FIRE TRUCK IN BAY AND SHALL REMAIN UNLOADED FOR 3 DAYS.



(A) TYPICAL FLUSH FRAMED W10 BEAM INSTALLATION  
SCALE: 1 1/2" = 1'-0"



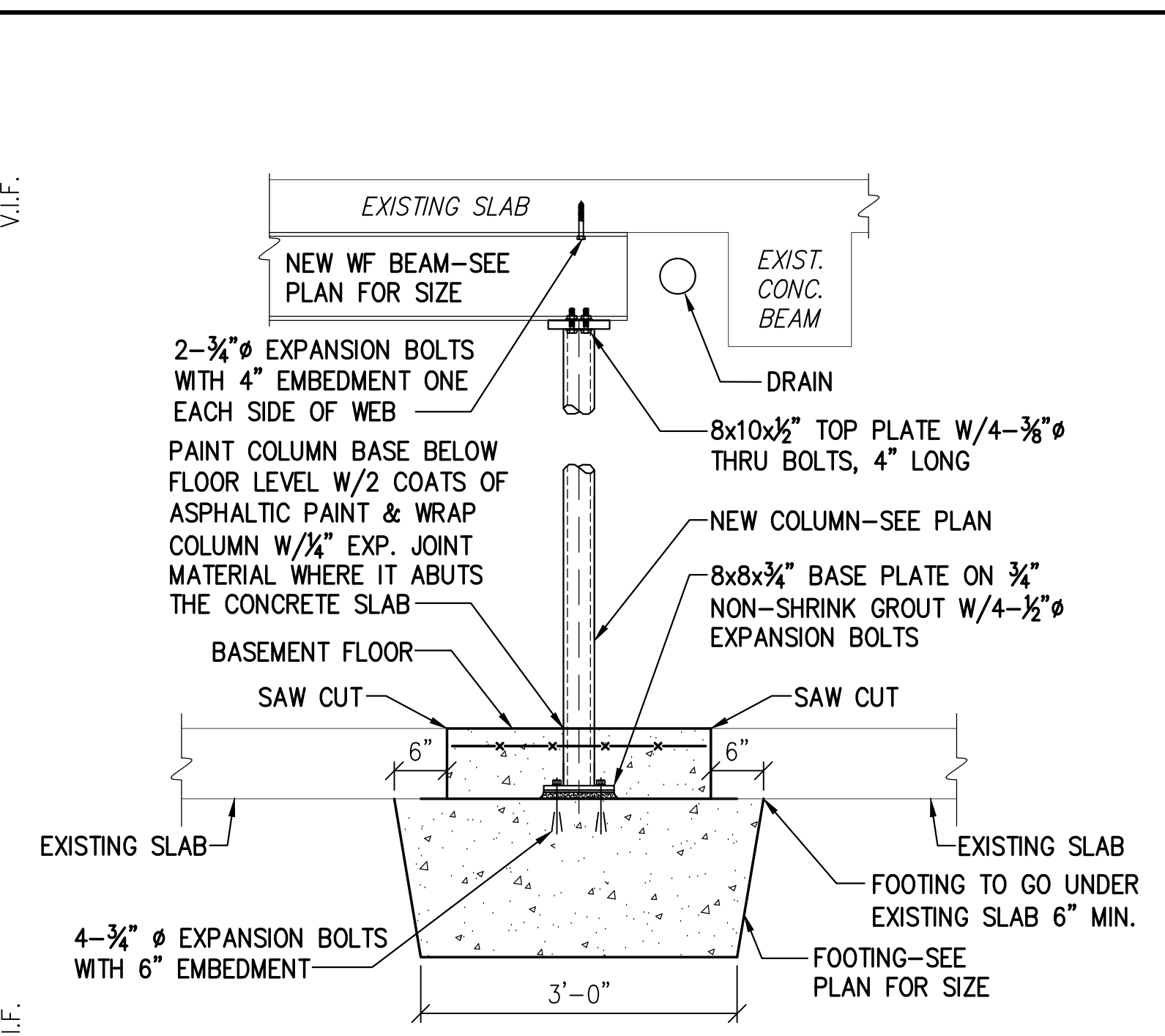
(B) TYPICAL FLUSH FRAMED W10 BEAM INSTALLATION  
SCALE: 1 1/2" = 1'-0"

CONCRETE SLAB TOPPING REPAIR - PROVIDE ADD ALTERNATIVE

- 1.) DEGREASE ANY AREAS THAT HAVE OIL, GREASE ETC. STAINING USING ULTRITE DEGREASER BY W. R. MEADOWS, INC.
- 2.) MECHANICALLY ROUGHEN THE EXISTING FLOOR OR PRESSURE WASH IT WITH A 5000 PSI PRESSURE WASHER TO GET THE SURFACE OF THE EXISTING CONCRETE TO CSP-4 OR HIGHER.
- 3.) APPLY SPECTRUM RE-KOTE TF BY W. R. MEADOWS PER MANUFACTURERS INSTRUCTIONS TO OBTAIN THE REQUIRED PITCH OF THE SLAB TO THE DRAINS.
- 4.) WET CURE THE SPECTRUM R-KOTE FOR THREE DAYS. DO NOT APPLY CURING COMPOUNDS AS RECOMMENDED BY W. R. MEADOWS.
- 5.) ALLOW SPECTRUM RE-KOYTE TO DRY UNTIL IT PASSES THE 'MAT TEST'.
- 6.) APPLY ICO-PRIMER LV BY MILAMAR COATINGS, LLC AS DIRECTED BY MILAMAR.
- 7.) APPLY ICO FLOOR COATING BY MILAMAR COATINGS, LLC AT 1/8" THICK
- 8.) FOR A TEXTURED SURFACE, BROADCAST SAND ONTO THE WET ICO FLOOR COATING AND BACK ROLL SURFACE

CONTACT - LEN ANASTASI  
EXO-TECH COMPANIES  
647A SUMMER STREET  
BOSTON, MA 02210

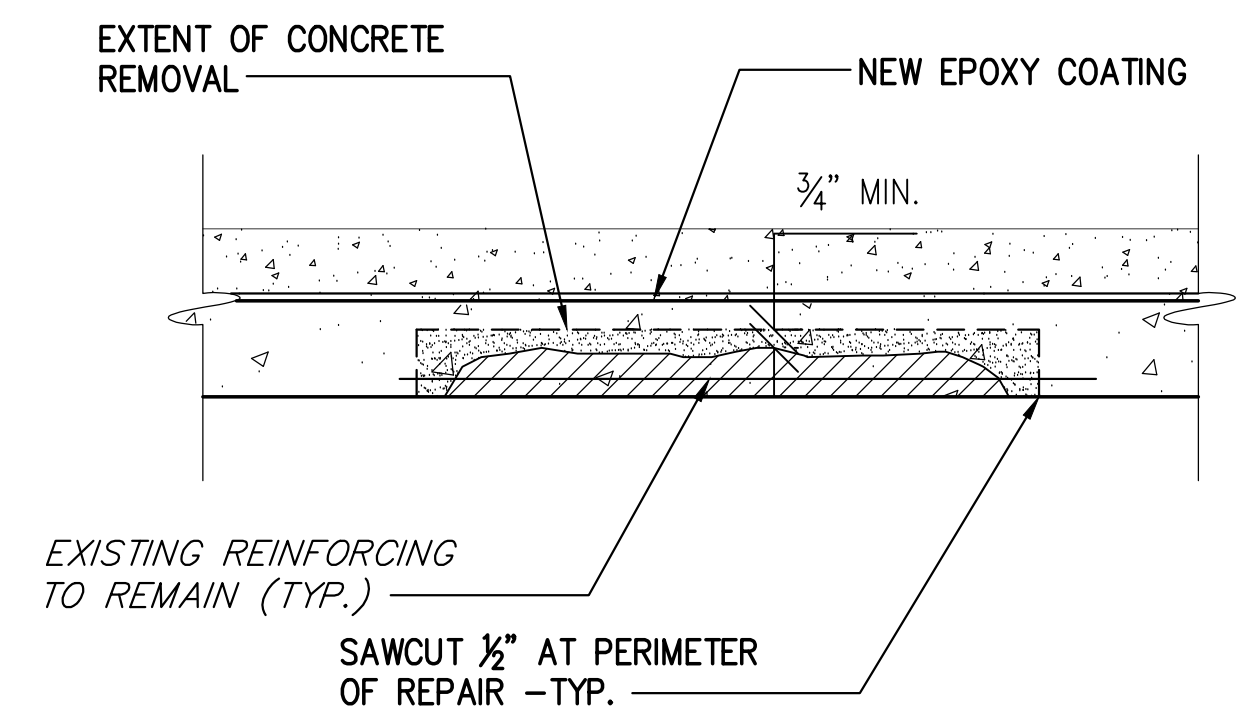
P 617-464-1200  
F 617-464-1202  
C 781-408-9040  
E LEN@EXO-TEC.BIZ



(D) NEW COLUMN & FOOTING INSTALLATION  
SCALE: 3/4" = 1'-0"

NOTIFY McBRIE, LLC IF AN ALTERNATE DETAIL IS REQUIRED

FOOTING SCHEDULE			
MARK	PLAN SIZE	DEPTH	REINFORCING
F3	3'-0" x 3'-0"	18"	N/A



(C) EXISTING CONDITION AND UNDERSIDE SLAB REPAIR  
SCALE: 1 1/2" = 1'-0"

REPAIR PROCEDURE

1. REMOVE UNSOUND AND SOUND CONCRETE AS DIRECTED BY THE ENGINEER TO A DEPTH OF 3/4" BEHIND EXISTING REINFORCING USING CHIPPING HAMMERS AND SANDBLAST CLEAN ALL EXPOSED REINFORCING STEEL

EXPOSED REBAR TO BE CLEANED DOWN TO BARE METAL (SSPC-SP5), APPLY EPOXY REBAR COATING AND COVER WITH CEMENTITIOUS MORTAR PER MANUFACTURERS REQUIREMENTS

SUPPLEMENT EXISTING REINFORCING THAT HAVE LOST MORE THAN 20% OF THEIR ORIGINAL CROSS SECTION WITH NEW EPOXY COATED BARS OF EQUAL SIZE. NEW REINFORCING SHALL BE PROPERLY LAP SPLICED TO EXISTING.

APPLY EPOXY MODIFIED CEMENTITIOUS BONDING AND ANTI CORROSION AGENT TO ALL EXPOSED REBAR AND EPOXY BONDING AGENT TO EXISTING CONCRETE SURFACES IN CONTACT WITH NEW WORK

APPLY NON SAG REPAIR MORTAR IN LAYERS AS PER MANUFACTURER'S REPAIR PROCEDURE. LAYERS SHALL BE LIMITED IN THICKNESS. EXISTING CONCRETE SURFACE SHALL BE COATED WITH EPOXY BONDING COMPOUND PRIOR TO APPLICATION.

CURE AND PROTECT FINISHED REPAIR

- \*CEMENTITIOUS REPAIR MORTAR
- SIKA CORPORATION; SIKAREPAIR 223
  - SILPRO: VO PATCH
  - BASF, THE CHEMICAL COMPANY: EMACO S88 CI
  - APPROVED EQUAL

- \*\* EPOXY REBAR SPRAY
- SEYMOUR GREEN REBAR EPOXY
  - DAYTON SUPERIOR REBAR SPRAY J62
  - AERVOE REBAR GREEN EPOXY COATING
  - APPROVED EQUAL

NO.	DATE	REVISIONS

PREPARED FOR:  
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McBRIE, LLC PROJECT #15-108

DRWN BY: NHW  
CHK'D BY: MLP  
DATE: 06/10/15

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DANVERS, MA 01923  
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SLAB REINFORCEMENT & DETAILS

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