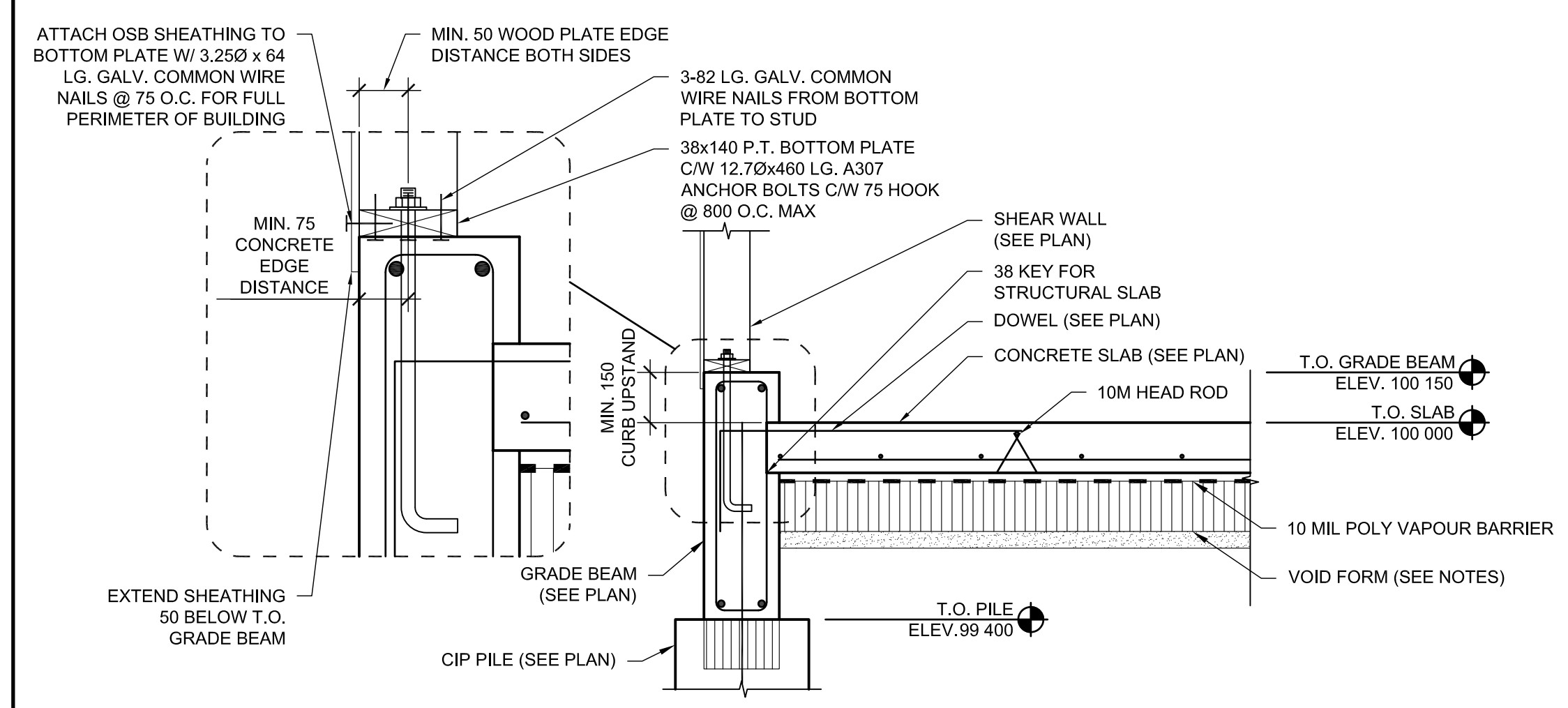
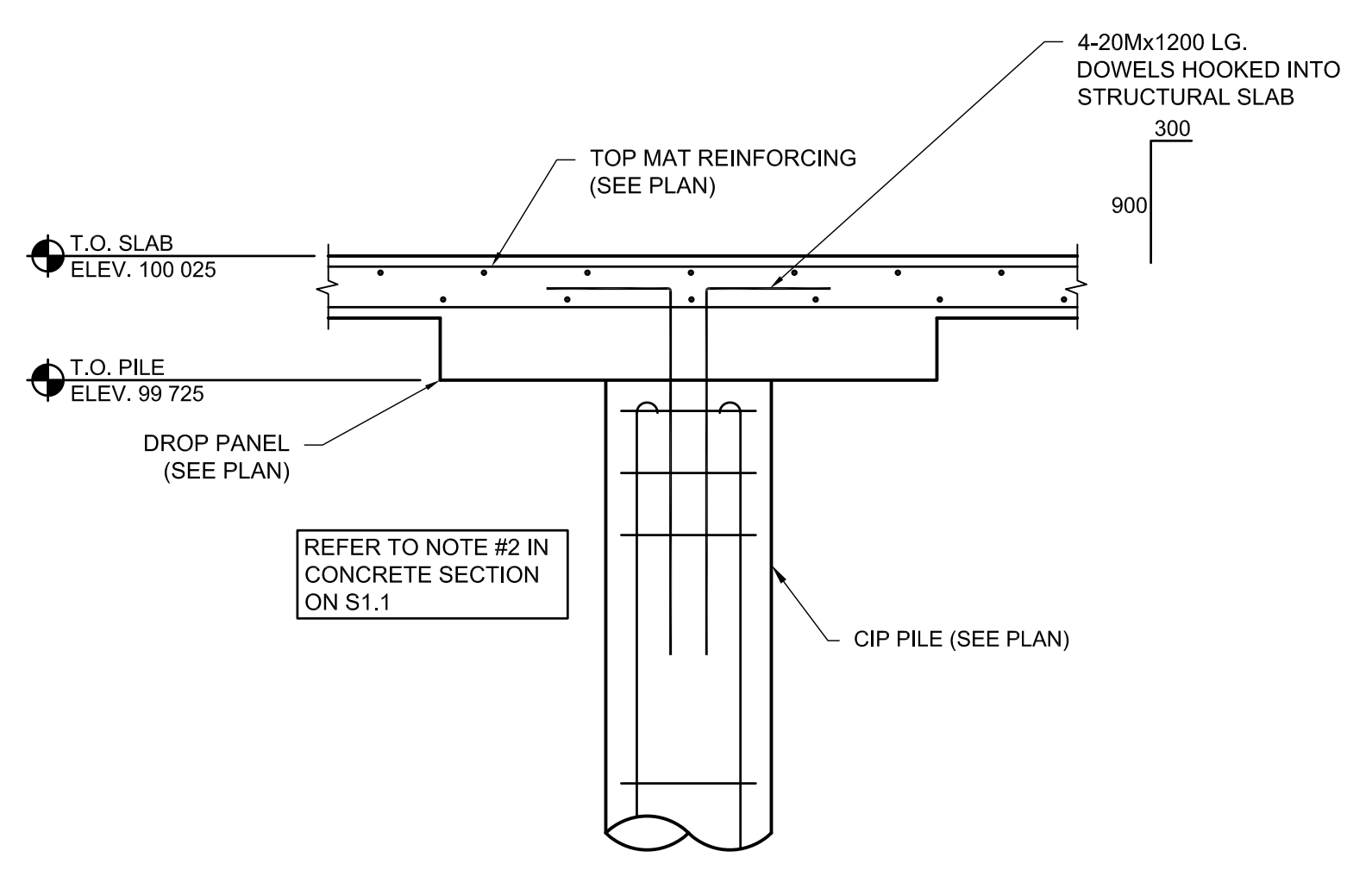


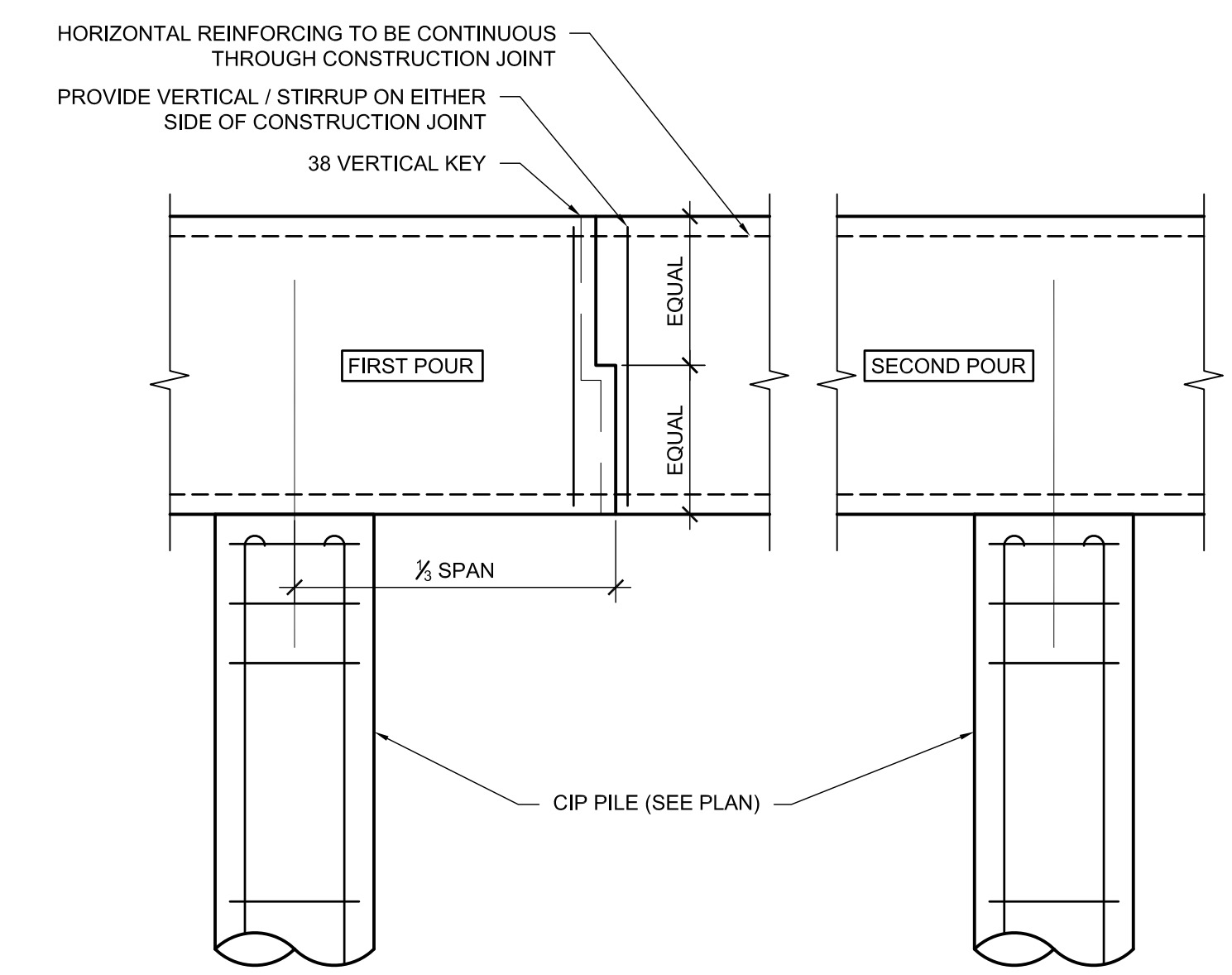
ALL DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF THE STRUCTURAL ENGINEER.  
 NO REPRODUCTIONS MAY BE MADE WITHOUT THE CONSENT OF THE STRUCTURAL ENGINEER AND ALL REPRODUCTIONS MUST BEAR THE NAME OF THE STRUCTURAL ENGINEER.  
 THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS, DATUMS AND LEVELS NOTED ON THE DRAWINGS WITH THE CONDITIONS ON SITE AND SHALL BE RESPONSIBLE FOR REPORTING ANY ERRORS OR OMISSIONS TO THE STRUCTURAL ENGINEER FOR ADJUSTMENTS.  
 THIS DRAWING SHALL NOT BE SCALED.



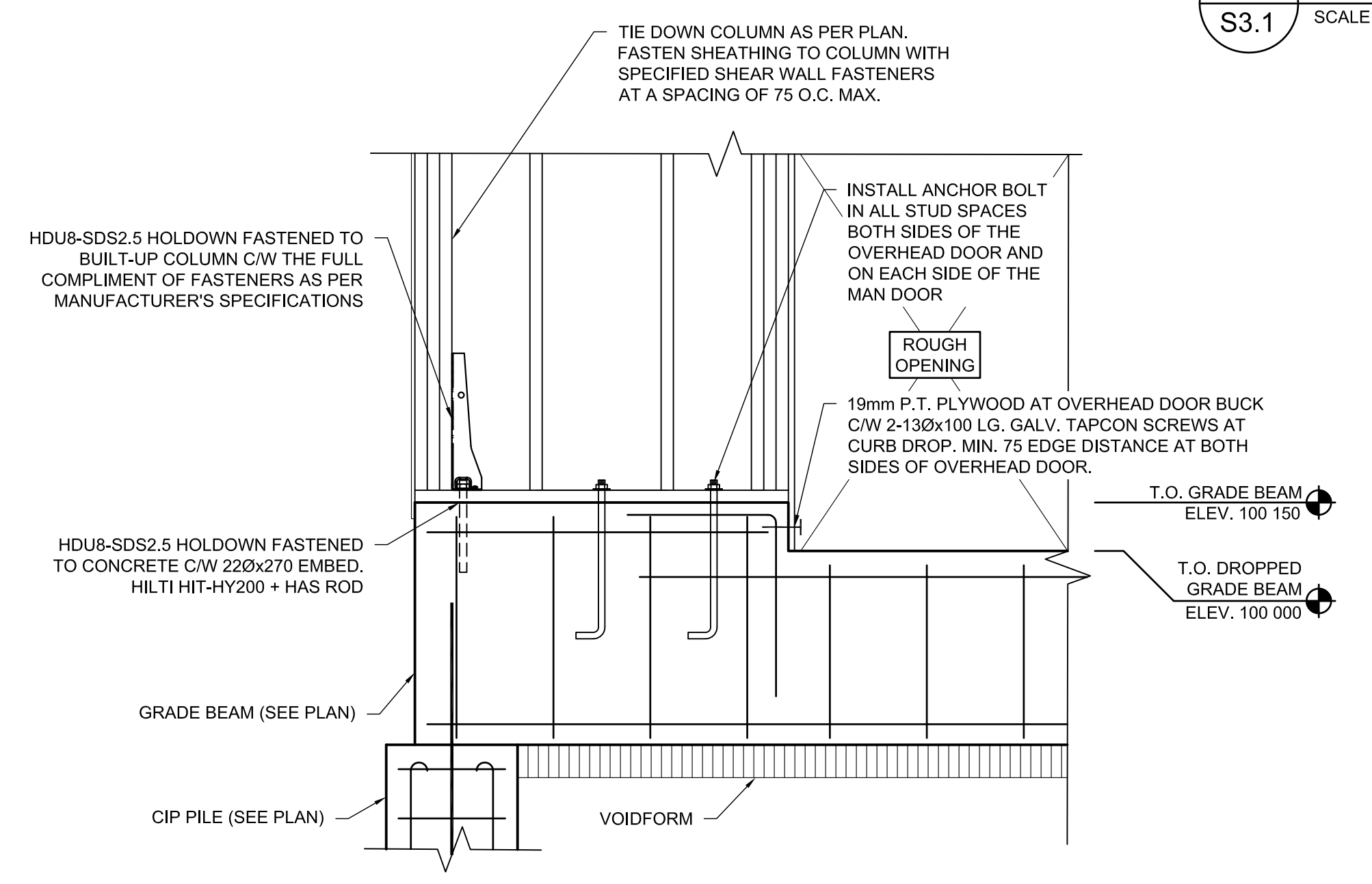
1 TYPICAL STRUCTURAL SLAB DETAIL  
 S3.1 SCALE: 1:16



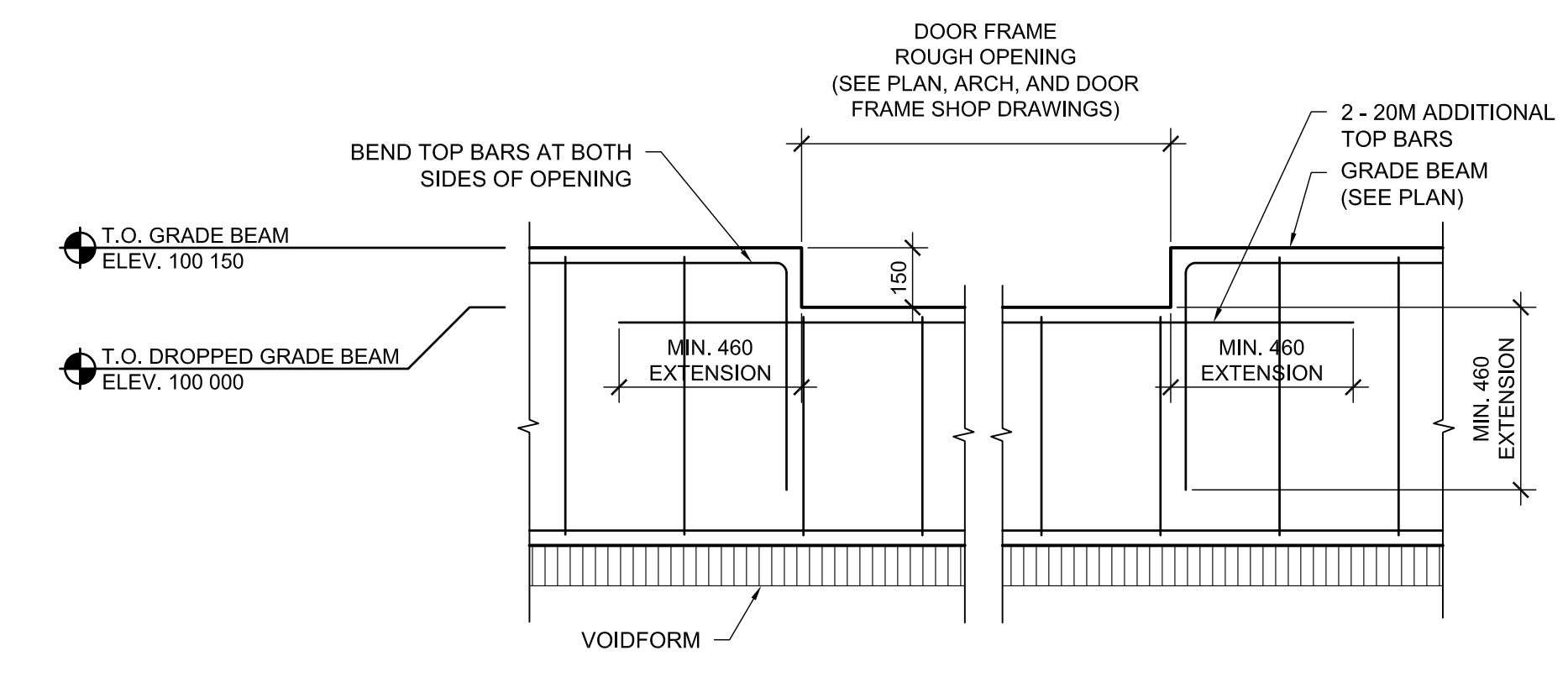
2 TYPICAL STRUCTURAL SLAB @ DROP PANEL DETAIL  
 S3.1 SCALE: 1:16



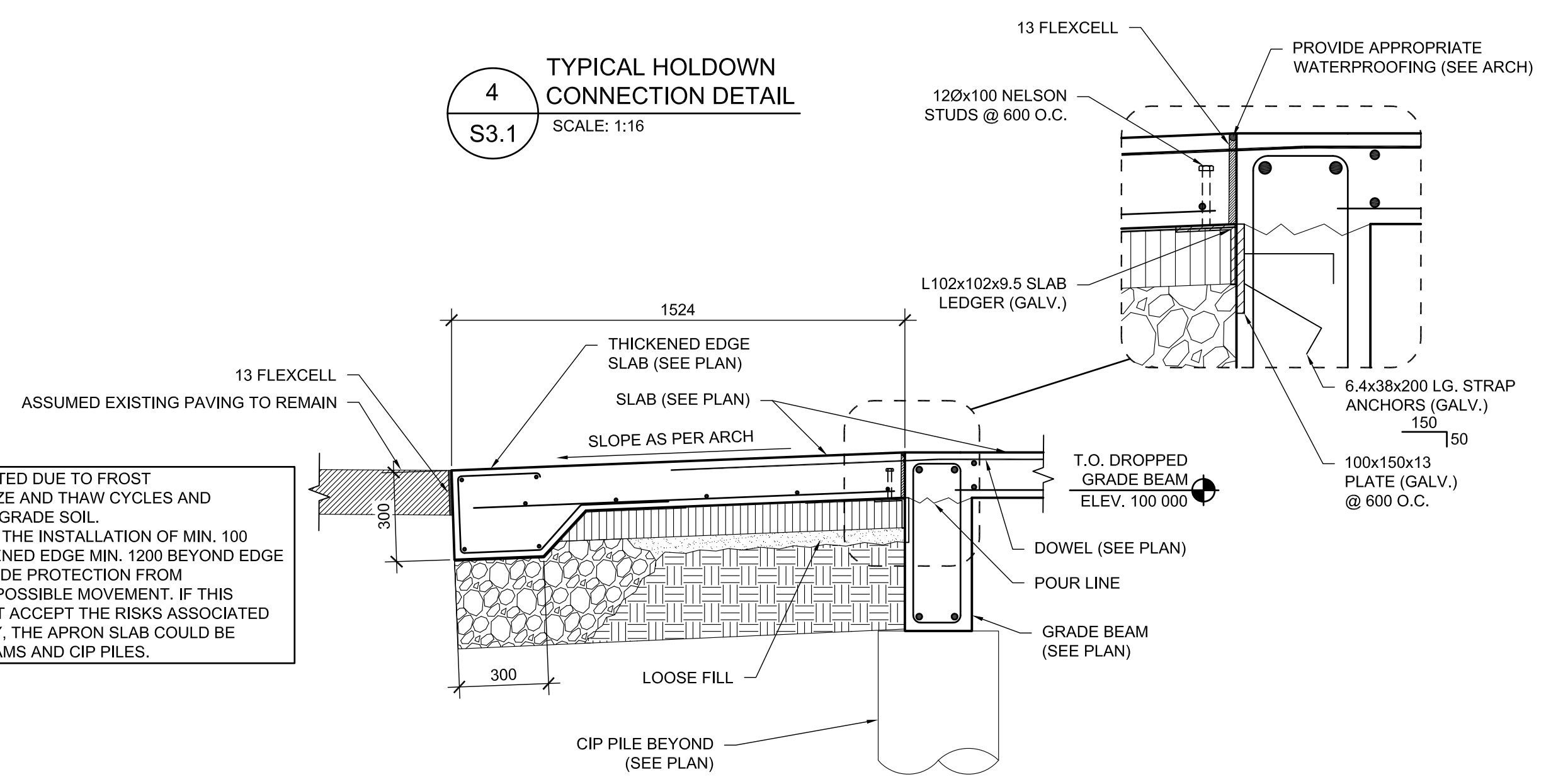
3 TYPICAL GRADE BEAM CONSTRUCTION JOINT DETAIL  
 S3.1 SCALE: 1:16



4 TYPICAL HOLDDOWN CONNECTION DETAIL  
 S3.1 SCALE: 1:16

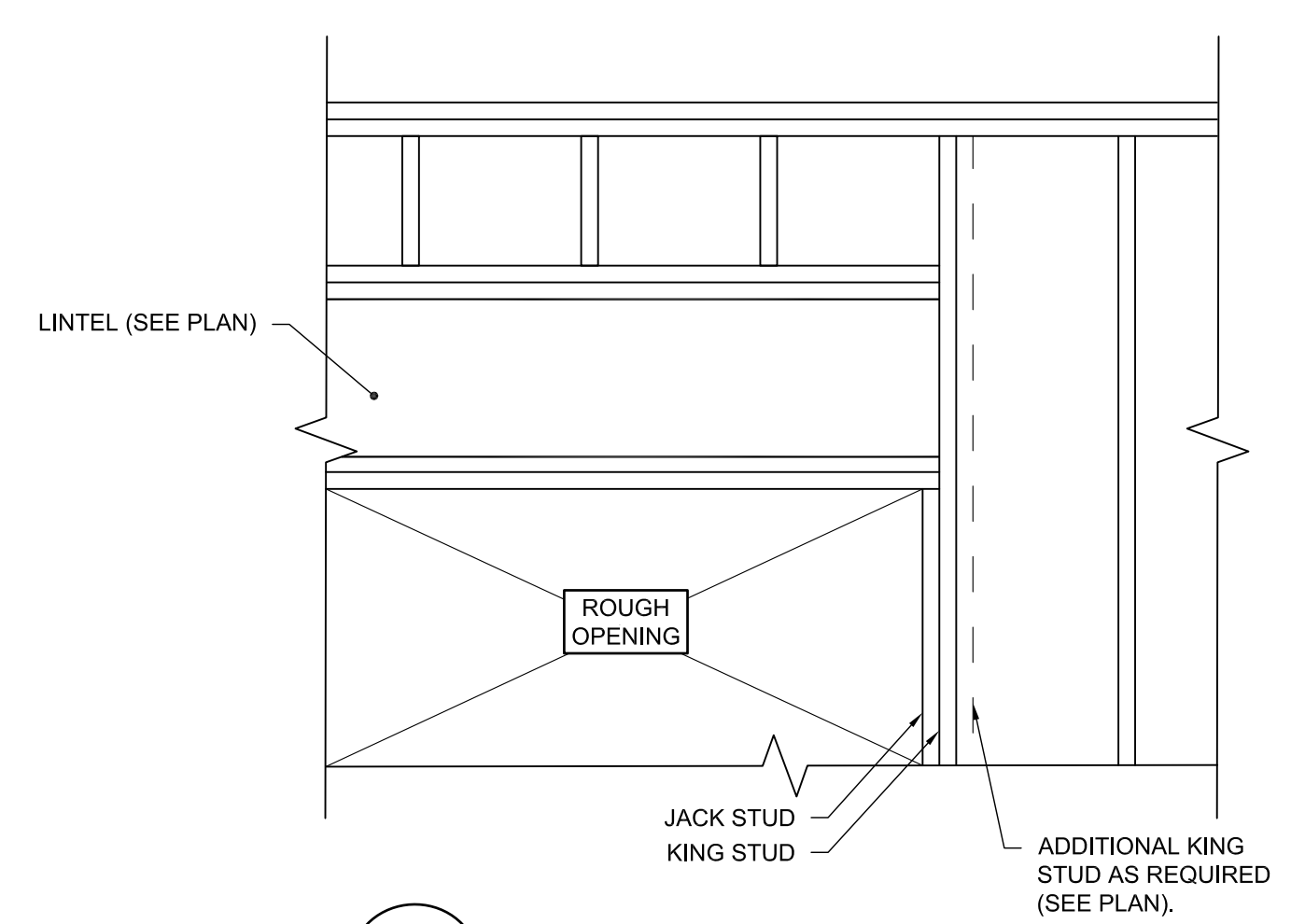


5 TYPICAL GRADE BEAM DROPDOWN DETAIL  
 S3.1 SCALE: 1:16



6 GARAGE ENTRANCE SLAB DETAIL  
 S3.1 SCALE: 1:16

MOVEMENT AND CRACKING ARE TO BE EXPECTED DUE TO FROST HEAVE/SETTLEMENT DUE TO SEASONAL FREEZE AND THAW CYCLES AND CHANGES IN MOISTURE CONTENT IN THE SUB-GRADE SOIL. KNH SAWATZKY & ASSOCIATES RECOMMENDS THE INSTALLATION OF MIN. 100 TYPE IV RIGID INSULATION BELOW THE THICKENED EDGE MIN. 1200 BEYOND EDGE OF THICKENED EDGE SLAB BEARING TO PROVIDE PROTECTION FROM FREEZE/THAW AND REDUCE THE AMOUNT OF POSSIBLE MOVEMENT. IF THIS INSULATION IS NOT INSTALLED, THE CITY MUST ACCEPT THE RISKS ASSOCIATED WITH INCREASED MOVEMENT. ALTERNATIVELY, THE APRON SLAB COULD BE STRUCTURALLY SUPPORTED WITH GRADE BEAMS AND CIP PILES.



7 TYPICAL LINTEL SECTION  
 S3.1 SCALE: 1:16

**APEGM**  
 Certificate of Authorization  
 KNH Sawatzky & Associates Ltd.  
 No. 1193 Date: Nov. 27, 2019

Prime Consultant:

**KNH**  
 KNH SAWATZKY & ASSOCIATES  
 STRUCTURAL ENGINEERING CONSULTANTS

SEAL

PROVINCE OF MANITOBA  
 Nov. 27, 2019  
 SAATK  
 Registered Professional Engineer  
 Member 30886

SEAL

- STRUCTURAL ONLY  
 - CONTACT ENGINEER FOR INSPECTIONS

Project:

CITY OF WINNIPEG  
**BRIDGWATER STORAGE GARAGE**

200 NORTH ROAD  
 WINNIPEG, MANITOBA

drawing title  
 DETAILS AND SECTIONS

approved by MI	drawn by BC
date NOVEMBER 2019	project no. 19,236
designed by ZL	
sheet S3.1	REV.