GENERAL STRUCTURAL NOTES

1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE STATE AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO:
   - -IBC BUILDING CODE 2009 ED
   - -ANSI-ASCE 7-05
   - -ACI 318-05 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
   - -ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"
   - -AISC STEEL CONSTRUCTION MANUAL 9TH ED ASD
   - -AISI COLD FORMED STEEL DESIGN MANUAL, 2001
   - -ANSI-AF&PA NDS-2005

2. DESIGN LOADS
   - 2.1. GRAVITY ROOF DESIGN LOADS:
     FLAT ROOF SNOW LOAD 42 PSF BALANCED DRIFT PER ASCE 7-05
   - 2.2. LATERAL - WIND: V=98MPH, EXP B, I=1.0, Kd=0.85, Kz=0.71, Kzt=1.0, Qh=15.0 PSF, Pw=-13.3PSF WORST CASE ZE COMPONENTS AND CLADDING PRESSURES BASED ON ASCE 7-05 AND TRIBUTARY COMPONENT AREA.
   - 2.3. LATERAL - SEISMIC.
     Ss=0.31, S1=0.078, SITE=D, Fa=1.52, Fv=2.4, Sds=0.314, Sd1=0.125, I=1.0, SDC=B,
     Rx=3 ORCMF Vx=62K (N-S DIRECTION)
     Ry=4 ORCSW Vy=81K (E-W DIRECTION)
     TANK SEISMIC LOADS PER ASCE 7-05 CHT 15.
     V = 20K, Vc = 10.6 K (PER TANK)
   - 2.4. FERMENTATION TANK GRAVITY LOADS
     TANK DL (EMPTY) = 25K
     TANK FLUID WT (OVERFILL CONDITION) = 165K
3. CONTRACTOR SHALL BRING TO THE ATTENTION OF THE ENGINEER ANY CONDITIONS DIFFERENT FROM THOSE SHOWN ON THE DRAWINGS AND ALSO ANY CONDITIONS THAT PREVENT THE CONTRACTOR'S COMPLETION OF THE WORK AS SHOWN ON THE CONSTRUCTION DRAWINGS.
4. ALL WORK SHALL BE PERFORMED BY PERSONS QUALIFIED IN THEIR TRADE AND LICENSED TO PRACTICE SUCH TRADE IN THE STATE IN WHICH THE PROJECT IS LOCATED.
5. THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH ANY ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS, IN ADDITION TO SPECIFICATIONS AND ANY SHOP DRAWINGS PROVIDED BY SUBCONTRACTORS AND SUPPLIERS.
6. ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS SHALL BE VERIFIED IN THE FIELD BY GENERAL CONTRACTOR (G.C.) AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
7. UNLESS OTHERWISE NOTED, DETAILS, SECTIONS, AND NOTES SHOWN ON ANY DRAWING SHALL BE CONSIDERED TYPICAL FOR ALL SIMILAR DETAILS.
8. THESE DRAWINGS DO NOT SHOW SIZE, LOCATION OR TYPE OF OPENING IN THE FOUNDATION SYSTEM FOR ELECTRICAL, PLUMBING OR MECHANICAL EQUIPMENT. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING THESE ITEMS.
9. ALL SHOP DRAWINGS PROVIDED BY OTHERS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION OF MATERIAL OR THE PURCHASE OF NON-RETURNABLE STOCK. DIMENSIONAL REVIEW IS THE CONTRACTOR'S RESPONSIBILITY.
10. FIRE SUPPRESSION SYSTEM TO BE EXTENDED FROM EXISTING FERMENTATION TANK STRUCTURE INTO NEW FERMENTATION TANK STRUCTURE. SEE MECHANICAL SPECIFICATIONS FOR DESIGN BUILD REQUIREMENTS.

CONCRETE NOTES

1. CODES:

   COMPLY WITH THE FOLLOWING LATEST EDITIONS AND CURRENT AMENDMENTS:

   - 1.1 ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"
   - 1.2 ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
   - 1.3 CRSI "CONCRETE REINFORCING STEEL INSTITUTE, MANUAL OF STANDARD PRACTICE"

2. TESTING:

   1.2 FIELD QUALITY CONTROL

   A. TESTING AGENCY: OWNER WILL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO SAMPLE MATERIALS, PERFORM TESTS, AND SUBMIT TEST REPORTS DURING CONCRETE PLACEMENT. SAMPLING AND TESTING FOR QUALITY CONTROL MAY INCLUDE THOSE SPECIFIED IN THIS ARTICLE.

   B. TESTING SERVICES: TESTING OF COMPOSITE SAMPLES OF FRESH CONCRETE OBTAINED ACCORDING TO ASTM C 172 SHALL BE PERFORMED ACCORDING TO THE FOLLOWING REQUIREMENTS:
      1. TESTING FREQUENCY: OBTAIN ONE COMPOSITE SAMPLE FOR EACH DAY'S POUR OF EACH CONCRETE MIX EXCEEDING 5 CU. YD. (4 CU. M), BUT LESS THAN 25 CU. YD. (19 CU. M), PLUS ONE SET FOR EACH ADDITIONAL 50 CU. YD. (38 CU. M) OR FRACTION THEREOF.
      2. SLUMP: ASTM C 143; ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIX. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE.
      3. AIR CONTENT: ASTM C 231, PRESSURE METHOD, FOR NORMAL-WEIGHT CONCRETE; ASTM C 173, VOLUMETRIC METHOD, FOR STRUCTURAL LIGHTWEIGHT CONCRETE; ONE TEST FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIX.
      4. CONCRETE TEMPERATURE: ASTM C 1064; ONE TEST HOURLY WHEN AIR TEMPERATURE IS 40 DEG F (4.4 DEG C) AND BELOW AND WHEN 80 DEG F (27 DEG C) AND ABOVE, AND ONE TEST FOR EACH COMPOSITE SAMPLE.
         a. TEST TWO FIELD-CURED SPECIMENS AT 7 DAYS AND TWO AT 28 DAYS.
         b. A COMPRESSIVE-STRENGTH TEST SHALL BE THE AVERAGE COMPRESSIVE STRENGTH FROM TWO SPECIMENS OBTAINED FROM SAME COMPOSITE SAMPLE AND TESTED AT AGE INDICATED.

3. SUBMITTALS:
   A. PRODUCT DATA: FOR EACH TYPE OF MANUFACTURED MATERIAL AND PRODUCT INDICATED.
   B. DESIGN MIXES: FOR EACH CONCRETE MIX. INCLUDE ALTERNATE MIX DESIGNS WHEN CHARACTERISTICS OF MATERIALS, PROJECT CONDITIONS, WEATHER, TEST RESULTS, OR OTHER CIRCUMSTANCES WARRANT ADJUSTMENTS.
      1. INDICATE AMOUNTS OF MIX WATER TO BE WITHHELD FOR LATER ADDITION AT PROJECT SITE.
   C. MATERIAL CERTIFICATES: SIGNED BY MANUFACTURERS CERTIFYING THAT EACH OF THE FOLLOWING ITEMS COMPLIES WITH REQUIREMENTS:
      1. CEMENTITIOUS MATERIALS AND AGGREGATES.
      2. ADMIXTURES.
      3. CURING MATERIALS.
      4. CONCRETE REINFORCING BARS.
   I. SUBMIT FOR RECORD, A WRITTEN PLAN OF THE FIELD PROCEDURES TO BE IMPLEMENTED FOR COLD WEATHER PROTECTION.

4. MATERIALS:

   - 4.1 REINFORCING STEEL: GRADE 60, ASTM 615, NEW DEFORMED BARS.
   - 4.2 REINFORCING FOR SLABS: WWF PER PLAN.
   - 4.3 MIXING WATER SHALL BE POTABLE, FREE OF ANY SUBSTANCES THAT MAY BE DELETRIOUS TO THE CONCRETE OR REINFORCING STEEL.

5. CONCRETE MIX:

   5.1 EXTERIOR SLABS:
   - -CEMENT SHALL BE ASTM 150, TYPE II PORTLAND CEMENT
   - -28 DAY COMPRESSIVE STRENGTH: 4000 PSI
   - -MAX. AGG. SIZE: ¾"
   - -AIR CONTENT: 6% + 1% BY VOLUME
   - -MAX WATER-CEMENT RATIO: 0.45
   - -AGGREGATE SHALL CONFORM TO ASTM C33

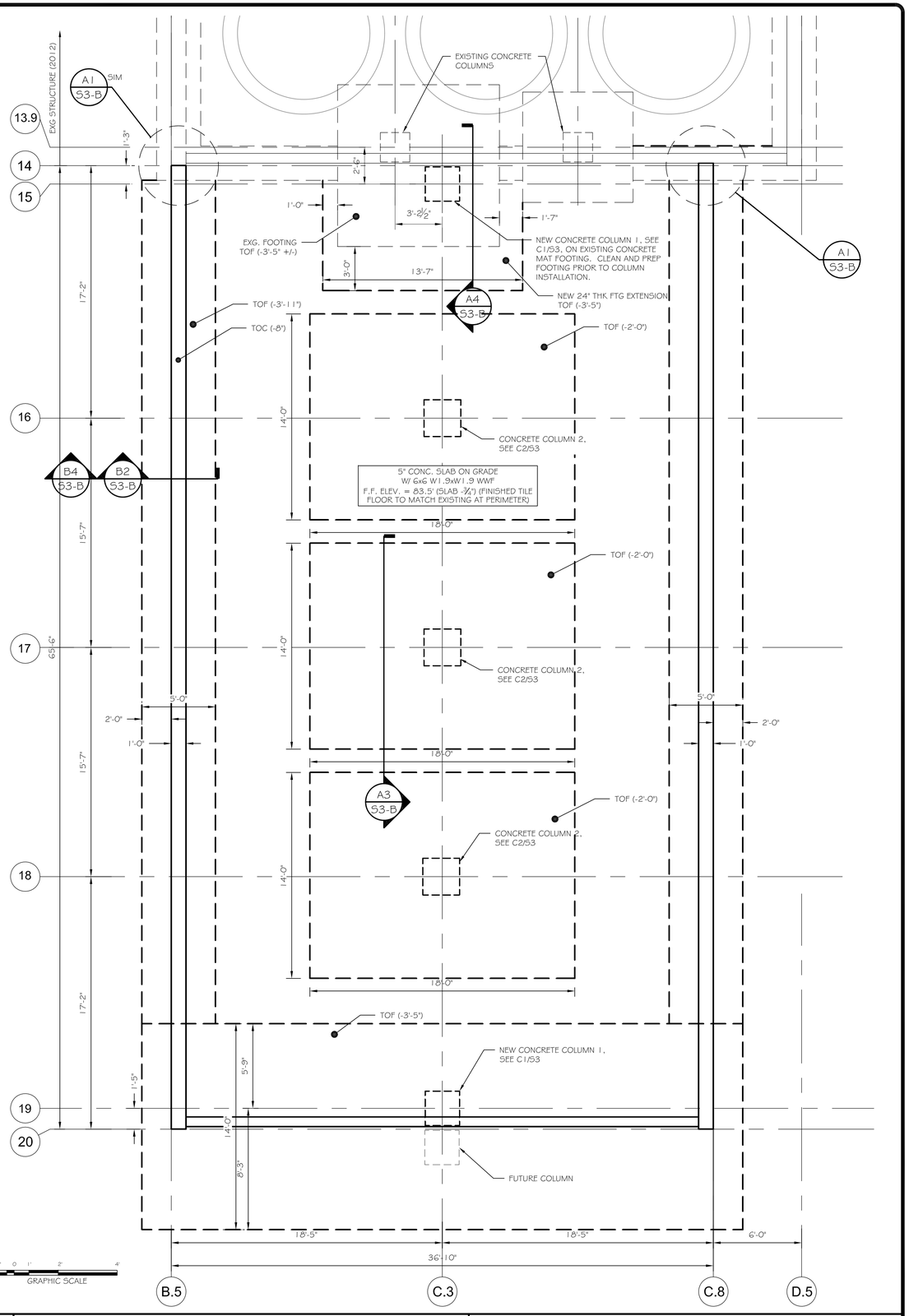
   5.2 INTERIOR SLABS ON GRADE:
   - -CEMENT SHALL BE ASTM 150, TYPE II PORTLAND CEMENT
   - -28 DAY COMPRESSIVE STRENGTH: 4000 PSI
   - -MAX. AGG. SIZE: ¾"
   - -AIR CONTENT: (ONLY IF SLAB IS ANTICIPATED TO BE EXPOSED TO FREEZING DURING CONSTRUCTION) 5% + 1% BY VOLUME.
   - -MAX WATER-CEMENT RATIO: 0.45
   - -AGGREGATE SHALL CONFORM TO ASTM C33
   - -PROVIDE "STEEL" TROWEL FINISH AT AREAS TO RECEIVE KAGTECH TILES, TYPICAL.

   5.3 BELOW GRADE FOUNDATION FOOTINGS:
   - -CEMENT SHALL BE ASTM 150, TYPE II PORTLAND CEMENT
   - -28 DAY COMPRESSIVE STRENGTH: 3000 PSI
   - -MAX. AGG. SIZE: 3/4"
   - -AIR CONTENT: 5% + 1% BY VOLUME
   - -MAX WATER-CEMENT RATIO: 0.50
   - -AGGREGATE SHALL CONFORM TO ASTM C33

   5.4 FOUNDATION WALLS, STRUCTURAL COLUMNS, ELEVATED BEAMS AND SLABS AT TANK SUPPORT STRUCTURE:
   - -CEMENT SHALL BE ASTM 150, TYPE II PORTLAND CEMENT
   - -28 DAY COMPRESSIVE STRENGTH: 5000 PSI
   - -MAX. AGG. SIZE: 3/4"
   - -AIR CONTENT: 5% + 1% BY VOLUME
   - -MAX WATER-CEMENT RATIO: 0.42
   - -AGGREGATE SHALL CONFORM TO ASTM C33
   - -PROVIDE XYPEX C-500 WATERPROOFING ADDITIVE (2% PER WEIGHT OF PORTLAND CEMENT) TO EXTERIOR WALLS AND ELEVATED SLABS. CONTRACTOR SHALL COORDINATE WITH XYPEX AND ADJUST PERCENTAGE OF ADDITIVE AS RECOMMENDED BY XYPEX. VERIFY ADDITIVE TYPE WITH XYPEX.
   - -BROOM FINISH AT EXTERIOR AND ELEVATED SLABS.

   5.11 VAPOR BARRIER:

   5.11.1 HIGH-PERFORMANCE UNDERSLAB MOISTURE VAPOR BARRIER EXCEEDING ASTM E1745 A,B,C (MAX 0.01 PERMS). PRODUCTS: WR MEADOWS 10 MIL "PERMINATOR" STEGO INDUSTRIES 15MIL "STEGOWRAP" PLACE VAPOR BARRIER BETWEEN SLAB AND SUB-GRADE (¾" CRUSHED STONE), OR BETWEEN SLAB AND RIGID INSULATION (AT RADIANT HEAT AREAS).



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PROJECT: ALLAGASH BREWERY
FERMENTATION TANK STRUCTURE #3
FOR: ALLAGASH BREWING CO, 50 INDUSTRIAL WAY, PORTLAND ME

SHEET TITLE: FOUNDATION PLAN
ISSUED FOR PERMITTING

REVISIONS No.	DESCRIPTION	BY	DATE
1			
2			
3			
4			

DATE : 7-7-14
SCALE : AS NOTED
DESIGN BY: ASW
DRAWN BY: RSC
FILE #:
PROJECT NUMBER: 13209
SHEET NO: S1-B

A2

A1 FOUNDATION PLAN
SCALE: 1/4" = 1'-0"