

**GENERAL STRUCTURAL NOTES**

- 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
  - ASHI COLD FORMED STEEL DESIGN MANUAL, 2001
  - ANSI-AFPA NDS-2005
- DESIGN LOADS
  - GRAVITY ROOF DESIGN LOADS:
    - FLAT ROOF SNOW LOAD 42 PSF BALANCED + DRIFT
    - TANK DEAD LOAD 15K
    - TANK FLUID LOAD 250K (FULL)
  - LATERAL - WIND: (DOES NOT CONTROL SLAB DESIGN)
  - LATERAL - SEISMIC: IBC 2009 CH 1.5
    - S<sub>s</sub>=0.245, SITE=D, F<sub>a</sub>=1.6, S<sub>ds</sub>=0.26, I=1.0
    - R= 2.0 SKIRT SUPPORTED VERTICAL VESSEL, V=36.3K
  - ALLOWABLE SOIL BEARING PRESSURE 3000PSF PER S.W. COLE GEOTECHNICAL REPORT.
- 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.
- 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.
- 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.
- 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.
- UNLESS OTHERWISE NOTED, DETAILS, SECTIONS, AND NOTES SHOWN ON ANY DRAWING SHALL BE CONSIDERED TYPICAL FOR ALL SIMILAR DETAILS.
- 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.
- 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.

**CONCRETE NOTES**

- CODES:
  - COMPLY WITH THE FOLLOWING LATEST EDITIONS AND CURRENT AMENDMENTS:
    - ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"
    - ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
    - CRSI "CONCRETE REINFORCING STEEL INSTITUTE, MANUAL OF STANDARD PRACTICE"
  - TESTING:
    - FIELD QUALITY CONTROL
      - TESTING AGENCY: CONTRACTOR 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.
        - TESTING SERVICES: TESTING OF COMPOSITE SAMPLES OF FRESH CONCRETE OBTAINED ACCORDING TO ASTM C 172 SHALL BE PERFORMED ACCORDING TO THE FOLLOWING REQUIREMENTS:
          - TESTING FREQUENCY: OBTAIN ONE COMPOSITE SAMPLE FOR EACH DAYS FOUR OF EACH CONCRETE MIX EXCEEDING 5 CU. YD, BUT LESS THAN 25 CU. YD. PLUS ONE SET FOR EACH ADDITIONAL 50 CU. YD OR FRACTION THEREOF.
          - WHEN FREQUENCY OF TESTING WILL PROVIDE FEWER THAN FIVE COMPRESSIVE-STRENGTH TESTS FOR EACH CONCRETE MIX, TESTING SHALL BE CONDUCTED FROM AT LEAST FIVE RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN FIVE ARE USED.
- SUBMITTALS:
  - PRODUCT DATA: FOR EACH TYPE OF MANUFACTURED MATERIAL AND PRODUCT INDICATED.
  - DESIGN MIXES: FOR EACH CONCRETE MIX, INCLUDE ALTERNATE MIX DESIGNS WHEN CHARACTERISTICS OF MATERIALS, PROJECT CONDITIONS, WEATHER, TEST RESULTS, OR OTHER CIRCUMSTANCES WARRANT ADJUSTMENTS.
    - INDICATE AMOUNTS OF MIX WATER TO BE WITHHELD FOR LATER ADDITION AT PROJECT SITE.
  - MATERIAL CERTIFICATES: SIGNED BY MANUFACTURERS CERTIFYING THAT EACH OF THE FOLLOWING ITEMS COMPLIES WITH REQUIREMENTS:
    - CEMENTITIOUS MATERIALS AND AGGREGATES.
    - ADMIXTURES.
    - CURING MATERIALS.
    - CONCRETE REINFORCING BARS.
  - SUBMIT FOR RECORD, A WRITTEN PLAN OF THE FIELD PROCEDURES TO BE IMPLEMENTED FOR COLD WEATHER PROTECTION.
- MATERIALS:
  - REINFORCING STEEL: GRADE 60, ASTM G15, NEW DEFORMED BARS.
  - REINFORCING FOR SLABS: SEE PLAN
  - MIXING WATER SHALL BE POTABLE, FREE OF ANY SUBSTANCES THAT MAY BE DELETERIOUS TO THE CONCRETE OR REINFORCING STEEL.
  - CONCRETE MIX:
    - EXTERIOR SLABS:
      - CEMENT SHALL BE ASTM 150, TYPE II PORTLAND CEMENT
      - 28 DAY COMPRESSIVE STRENGTH: 4000 PSI
      - MAX. AGG. SIZE: 3/4"
      - AIR CONTENT: 6% ± 1% BY VOLUME
      - MAX WATER-CEMENT RATIO: 0.45
      - AGGREGATE SHALL CONFORM TO ASTM C33
    - OMITTED
    - ADMIXTURES:
      - PROVIDE ADMIXTURES WHICH ARE CHEMICALLY COMPATIBLE FOR THEIR INTENDED USE. COMPLY WITH MANUFACTURERS INSTRUCTIONS FOR USE. BASE DOSAGE RATES ON CEMENT CONTENT. CALCIUM CHLORIDE IS NOT ALLOWED.
      - HIGH RANGE WATER REDUCERS (SUPER PLASIZERS): EQUAL TO DARACEM 100 BY W.R. GRADE 4 CO., ASTM C-494;
      - ACCELERATORS: EQUAL TO DARASET BY W.R. GRADE 4 CO., ASTM C-404 TYPE C OR E.
      - AIR ENTRAINING: EQUAL TO "DARAVAIR" BY W.R. GRADE 4 CO., ASTM C-260 AND ARMY CORP'S CRD-C-13.
    - CONCRETE SURFACE COATINGS:
      - BITUMINOUS DAMPPROOFING: EQUAL TO BRUSH GRADE FOUNDATION COATING BY EUCLID (EXTERIOR WALLS ONLY).
    - FORMS AND RELATED MATERIAL:
      - FORMS FOR CONCRETE SURFACES THAT WILL BE EXPOSED IN THE FINISHED BUILDING SHALL BE FLYFORM CLASS 1, B-B EXTERIOR TYPE CONFORMING TO U.S. PRODUCT STANDARD PS 1. FORMS FOR CONCRETE SURFACES NOT EXPOSED IN THE FINISHED BUILDING MAY BE FLYFORM OR MATCHED LUMBER. FORM OIL USED ON SURFACE OF FORMS SHALL BE A NON-STAINING TYPE.

**CONCRETE NOTES (CONT.)**

- SLUMP: ASTM C 143, ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAYS FOUR OF EACH CONCRETE MIX. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE.
- 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 DAYS FOUR OF EACH CONCRETE MIX.
- CONCRETE TEMPERATURE: ASTM C 1064; ONE TEST HOURLY WHEN AIR TEMPERATURE IS 40 DEG F AND BELOW AND WHEN 80 DEG F AND ABOVE, AND ONE TEST FOR EACH COMPOSITE SAMPLE.
- COMPRESSION TEST SPECIMENS: ASTM C 31C 31M; CAST AND LABORATORY CURE ONE SET OF FOUR STANDARD CYLINDER SPECIMENS FOR EACH COMPOSITE SAMPLE.
- COMPRESSIVE STRENGTH TESTS: ASTM C 59; TEST TWO LABORATORY-CURED SPECIMENS AT 7 DAYS AND TWO AT 28 DAYS.
- STRENGTH OF EACH CONCRETE MIX WILL BE SATISFACTORY IF EVERY AVERAGE OF ANY THREE CONSECUTIVE COMPRESSIVE-STRENGTH TESTS EQUALS OR EXCEEDS SPECIFIED COMPRESSIVE STRENGTH AND NO COMPRESSIVE-STRENGTH TEST VALUE FALLS BELOW SPECIFIED COMPRESSIVE STRENGTH BY MORE THAN 500 PSI.
- CHECK SLAB FOR COMPLIANCE WITH SPECIFIED FLOOR FLATNESS TOLERANCES IN ACCORDANCE WITH ASTM E 1155.
- TEST RESULTS SHALL BE REPORTED IN WRITING TO ENGINEER, CONCRETE MANUFACTURER, AND CONTRACTOR WITHIN 48 HOURS OF TESTING. REPORTS OF COMPRESSIVE-STRENGTH TESTS SHALL CONTAIN PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING AND INSPECTING AGENCY, LOCATION OF CONCRETE BATCH IN WORK, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIX PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH, AND TYPE OF BREAK FOR BOTH 7-DAY AND 28-DAY TESTS.
- NONDESTRUCTIVE TESTING: IMPACT HAMMER, SONOSCOPE, OR OTHER NONDESTRUCTIVE DEVICE MAY BE PERMITTED BY ENGINEER BUT WILL NOT BE USED AS SOLE BASIS FOR APPROVAL OR REJECTION OF CONCRETE. CORE TESTS WILL BE REQUIRED.
- ADDITIONAL TESTS: TESTING AND INSPECTING AGENCY SHALL MAKE ADDITIONAL TESTS OF CONCRETE WHEN TEST RESULTS INDICATE THAT SLUMP, AIR ENTRAINMENT, COMPRESSIVE STRENGTHS, OR OTHER REQUIREMENTS HAVE NOT BEEN MET, AS DIRECTED BY ENGINEER. TESTING AND INSPECTING AGENCY MAY CONDUCT TESTS TO DETERMINE ADEQUACY OF CONCRETE BY CORED CYLINDERS COMPLYING WITH ASTM C 42 OR BY OTHER METHODS AS DIRECTED BY ENGINEER.
- SUBMITTALS:
  - PRODUCT DATA: FOR EACH TYPE OF MANUFACTURED MATERIAL AND PRODUCT INDICATED.
  - DESIGN MIXES: FOR EACH CONCRETE MIX, INCLUDE ALTERNATE MIX DESIGNS WHEN CHARACTERISTICS OF MATERIALS, PROJECT CONDITIONS, WEATHER, TEST RESULTS, OR OTHER CIRCUMSTANCES WARRANT ADJUSTMENTS.
    - INDICATE AMOUNTS OF MIX WATER TO BE WITHHELD FOR LATER ADDITION AT PROJECT SITE.
  - MATERIAL CERTIFICATES: SIGNED BY MANUFACTURERS CERTIFYING THAT EACH OF THE FOLLOWING ITEMS COMPLIES WITH REQUIREMENTS:
    - CEMENTITIOUS MATERIALS AND AGGREGATES.
    - ADMIXTURES.
    - CURING MATERIALS.
    - CONCRETE REINFORCING BARS.
  - SUBMIT FOR RECORD, A WRITTEN PLAN OF THE FIELD PROCEDURES TO BE IMPLEMENTED FOR COLD WEATHER PROTECTION.
- MATERIALS:
  - REINFORCING STEEL: GRADE 60, ASTM G15, NEW DEFORMED BARS.
  - REINFORCING FOR SLABS: SEE PLAN
  - MIXING WATER SHALL BE POTABLE, FREE OF ANY SUBSTANCES THAT MAY BE DELETERIOUS TO THE CONCRETE OR REINFORCING STEEL.
  - CONCRETE MIX:
    - EXTERIOR SLABS:
      - CEMENT SHALL BE ASTM 150, TYPE II PORTLAND CEMENT
      - 28 DAY COMPRESSIVE STRENGTH: 4000 PSI
      - MAX. AGG. SIZE: 3/4"
      - AIR CONTENT: 6% ± 1% BY VOLUME
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      - AGGREGATE SHALL CONFORM TO ASTM C33
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    - ADMIXTURES:
      - PROVIDE ADMIXTURES WHICH ARE CHEMICALLY COMPATIBLE FOR THEIR INTENDED USE. COMPLY WITH MANUFACTURERS INSTRUCTIONS FOR USE. BASE DOSAGE RATES ON CEMENT CONTENT. CALCIUM CHLORIDE IS NOT ALLOWED.
      - HIGH RANGE WATER REDUCERS (SUPER PLASIZERS): EQUAL TO DARACEM 100 BY W.R. GRADE 4 CO., ASTM C-494;
      - ACCELERATORS: EQUAL TO DARASET BY W.R. GRADE 4 CO., ASTM C-404 TYPE C OR E.
      - AIR ENTRAINING: EQUAL TO "DARAVAIR" BY W.R. GRADE 4 CO., ASTM C-260 AND ARMY CORP'S CRD-C-13.
    - CONCRETE SURFACE COATINGS:
      - BITUMINOUS DAMPPROOFING: EQUAL TO BRUSH GRADE FOUNDATION COATING BY EUCLID (EXTERIOR WALLS ONLY).
    - FORMS AND RELATED MATERIAL:
      - FORMS FOR CONCRETE SURFACES THAT WILL BE EXPOSED IN THE FINISHED BUILDING SHALL BE FLYFORM CLASS 1, B-B EXTERIOR TYPE CONFORMING TO U.S. PRODUCT STANDARD PS 1. FORMS FOR CONCRETE SURFACES NOT EXPOSED IN THE FINISHED BUILDING MAY BE FLYFORM OR MATCHED LUMBER. FORM OIL USED ON SURFACE OF FORMS SHALL BE A NON-STAINING TYPE.

**CONCRETE NOTES (CONT.)**

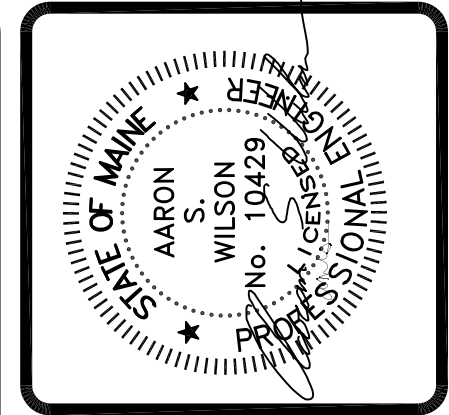
- ALUMINUM PRODUCTS:
  - NO ALUMINUM CONDUIT, PIPE, INSERTS, REGLETS, ETC. SHALL BE PLACED IN ANY CONCRETE, UNLESS COATED WITH BITUMINOUS DAMPPROOFING.
  - NO EQUIPMENT MADE OF ALUMINUM OR ALUMINUM ALLOYS SHALL BE USED FOR PLUMB LINES, TREMIES OR CHUTES IN CONVEYING CONCRETE TO POINT OF PLACEMENT.
- GROUT:
  - NON-SHRINK GROUT FOR USE UNDER COLUMN BASE PLATES AND BEAM BEARING PLATES SHALL BE EMBECO GROUT #885, PRE-MIXED, AS MANUFACTURED BY MASTER BUILDERS, OR APPROVED EQUIVALENT.
  - PREFORMED EXPANSION JOINT FILLER:
    - A NON-EXTENDING AND RESILIENT BITUMINOUS TYPE JOINT FILLER, 1/2" THICK.
  - EMBEDDED ITEMS:
    - EMBEDDED ITEMS SUCH AS ANCHOR BOLTS, ETC., SHALL BE INSTALLED USING A TEMPLATE AND BE SECURELY HELD IN PLACE DURING CONCRETE PLACEMENT.
  - SPACERS, SUPPORTS AND FASTENERS:
    - FORM SPACERS, REINFORCING TIES AND CHAIRS, AND OTHER DEVICES NEEDED FOR PROPERLY SPACING, SUPPORTING, AND FASTENING REINFORCEMENT SHALL BE PROVIDED. CLAY BRICKS ARE NOT ALLOWED FOR USE AS SLAB STEEL BOLSTERS.
  - VAPOR BARRIER:
    - 6 mil. POLY AT BUILDING FOOTPRINT ONLY
- CONSTRUCTION PRACTICES:
  - REINFORCEMENT:
    - COMPLY WITH REQUIREMENTS OF CRSI, LATEST EDITION.
    - MINIMUM CONCRETE COVER: 3" FOR CONCRETE CAST AGAINST SOIL; 2" FOR OTHER CONCRETE, UNLESS OTHERWISE SHOWN.
  - DEVELOPMENT AND SPlicing:
    - PROVIDE DEVELOPMENT AND TENSION LAP SPlice LENGTHS IN ACCORDANCE WITH THE FOLLOWING, UNLESS NOTED OTHERWISE ON PLANS:

DEVELOPMENT BAR SIZE	LENGTH*	CLASS C LAP SPlice
#4	12	16"
#5	12	20"
#6	15	26"
#7	21	36"
#8	28	48"

\*INCREASE BY 30% FOR BARS SPACED <6".
  - CHAMFERS:
    - CHAMFER ALL EXPOSED EDGES AND CORNERS OF CONCRETE 1/2" OR 1" SIMILAR THROUGHOUT.
  - JOINTS:
    - CONSTRUCTION JOINTS: PLACE PERPENDICULAR TO THE MAIN REINFORCEMENT. CONTINUE REINFORCEMENT ACROSS CONSTRUCTION JOINTS. PROVIDE KEYWAYS AT LEAST 1/2" (UNLESS OTHERWISE SHOWN) DEEP IN CONSTRUCTION JOINTS IN WALLS, SLAB, AND BETWEEN WALLS AND FOOTINGS. ACCEPTED BULKHEADS DESIGNED FOR THIS PURPOSE MAY BE USED IN SLABS. PROVIDE WATERSTOP WHERE INDICATED.
    - ISOLATION JOINTS: PROVIDE IN SLABS-ON-GRADE AT POINTS OF CONTACT BETWEEN SLABS-ON-GRADE AND VERTICAL SURFACES, SUCH AS FOUNDATION WALLS, GRADE BEAMS, COLUMN PEDESTALS, AND ELSEWHERE AS NECESSARY.
    - CONTRACTION (CONTROL) JOINT: PROVIDE IN SLABS-ON-GRADE BY SAW CUTTING TO A DEPTH OF 1/2 THE SLAB THICKNESS. PROVIDE A ONE PART ELASTOMERIC JOINT SEALANT TO JOINT GROOVE, A MINIMUM OF 60 DAYS AFTER SLAB PLACEMENT UNLESS OTHERWISE APPROVED. SEE PLAN FOR JOINT LAYOUT.
  - CONCRETE MIXING:
    - READY-MIXED CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN ASTM C94.
    - ALL CONCRETE SHALL BE MIXED UNTIL THERE IS A UNIFORM DISTRIBUTION OF THE MATERIALS BEFORE DISCHARGE. THE MIXING SHALL BE CONTINUOUS AFTER THE WATER HAS BEEN ADDED TO THE MIX IN THE DRUM.
    - NO CONCRETE SHALL BE PLACED IN THE FORMS MORE THAN 90 MINUTES AFTER THE WATER HAS BEEN ADDED.
    - AFTER THE MAXIMUM WATER CEMENT RATIO HAS BEEN ACHIEVED, RETEMPERING OF THE CONCRETE WILL NOT BE ALLOWED, UNLESS APPROVED BY ENGINEER.

**CONCRETE NOTES (CONT.)**

- CONCRETE PLACEMENT:
  - DEPOSIT CONCRETE CONTINUOUSLY IN LAYERS NOT DEEPER THAN 24" OVER PREVIOUS LAYERS WHICH ARE STILL PLASTIC. AVOID COLD JOINTS. CONSOLIDATE CONCRETE BY MECHANICAL VIBRATING EQUIPMENT, SUPPLEMENTED BY HAND-SPACING, RODDING AND TAMPING. DO NOT USE MECHANICAL VIBRATORS TO TRANSPORT CONCRETE.
  - HOT-WEATHER PLACEMENT: PLACE CONCRETE ACCORDING TO RECOMMENDATIONS IN ACI 305R AND AS FOLLOWS, WHEN HOT-WEATHER CONDITIONS EXIST:
    - COOL INGREDIENTS BEFORE MIXING TO MAINTAIN CONCRETE TEMPERATURE BELOW 90 DEG F AT TIME OF PLACEMENT. CHILLED MIXING WATER OR CHOPPED ICE MAY BE USED TO CONTROL TEMPERATURE. PROVIDED WATER EQUIVALENT OF ICE IS CALCULATED TO TOTAL AMOUNT OF MIXING WATER. USING LIQUID NITROGEN TO COOL CONCRETE IS CONTRACTOR'S OPTION.
    - COVER STEEL REINFORCEMENT WITH WATER-SOAKED BURLAP 50 STEEL TEMPERATURE WILL NOT EXCEED AMBIENT AIR TEMPERATURE IMMEDIATELY BEFORE EMBEDDING IN CONCRETE.
    - FOG-SPRAY FORMS, STEEL REINFORCEMENT, AND SUBGRADE JUST BEFORE PLACING CONCRETE. KEEP SUBGRADE MOISTURE UNIFORM WITHOUT STANDING WATER, SOFT SPOTS, OR DRY AREAS.
  - COLD-WEATHER PLACEMENT: COMPLY WITH ACI 306.1 AND AS FOLLOWS.
    - PROTECT CONCRETE WORK FROM PHYSICAL DAMAGE OR REDUCED STRENGTH THAT COULD BE CAUSED BY FROST, FREEZING ACTIONS, OR LOW TEMPERATURES.
    - WHEN AIR TEMPERATURE HAS FALLEN TO OR IS EXPECTED TO FALL BELOW 40 DEG F, UNIFORM HEAT WATER AND AGGREGATES BEFORE MIXING TO OBTAIN A CONCRETE MIXTURE TEMPERATURE OF NOT LESS THAN 50 DEG F AND NOT MORE THAN 80 DEG F AT POINT OF PLACEMENT.
    - DO NOT USE FROZEN MATERIALS OR MATERIALS CONTAINING ICE OR SNOW. DO NOT PLACE CONCRETE ON FROZEN SUBGRADE OR ON SUBGRADE CONTAINING FROZEN MATERIALS.
    - DO NOT USE CALCIUM CHLORIDE, SALT, OR OTHER MATERIALS CONTAINING ANTIFREEZE AGENTS OR CHEMICAL ACCELERATORS, UNLESS OTHERWISE SPECIFIED AND APPROVED IN MIX DESIGNS.
- CONCRETE CURING:
  - SLABS: USE MOISTURE (WET) CURE PROCEDURES
  - FORMED SURFACES: CURE FORMED SURFACES WITH FORMS IN PLACE FOR ENTIRE CURING PERIOD, UNLESS ALTERNATE METHODS ARE APPROVED BY THE ENGINEER. CONTACT STRUCTURAL ENGINEER @ 207-878-1751 FOR ALTERNATIVE CURING METHODS. DURING COLD WEATHER CURING, PROVIDE CAST-IN THERMOMETERS FOR MONITORING CONCRETE CURING TEMPERATURE AT LOCATIONS AS DIRECTED BY ENGINEER. MAINTAIN A 50° WITH USE OF INDIRECT HEAT OR INSULATIVE BLANKETS.
  - ANCHOR BOLTS: USE TYPE, SIZE, AND LENGTH AS INDICATED ON PLANS.



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PROJECT: **ALLAGASH WASTEWATER TANK**  
**50 INDUSTRIAL WAY, PORTLAND, MAINE**  
 FOR: ALLAGASH BREWING CO.

SHEET TITLE: **STRUCTURAL NOTES ISSUED FOR PERMITTING**

NO.	BY	DESCRIPTION	DATE
1			
2			
3			
4			

DATE : 5/17/16  
 SCALE : AS NOTED  
 DESIGN BY: ASW  
 DRAWN BY: RSC  
 FILE #: 14307  
 PROJECT NUMBER:  
**14307**  
 SHEET NO:  
**S102**