

PART 1 - GENERAL

- 1.1 Related Work
 - .1 Section 03 20 00 - Concrete Reinforcing
 - .2 Section 03 37 26 - Underwater Concreting
- 1.2 Reference Standards
 - .1 Canadian Standards Association (CSA)
 - .1 CAN/CSA-A23.1-14, Concrete Materials and Methods of Concrete Construction.
 - .2 CAN/CSA-O86-14, Engineering Design in Wood (Limit States Design).
 - .3 CSA O121-17, Douglas Fir Plywood.
 - .4 CSA S269.1-16 Falsework and Formwork.
- 1.3 Submissions
 - .1 Shop Drawings:
 - .1 Upon request, submit to Departmental Representative for review electronic set of formwork and falsework shop drawings, in accordance with Section 01 33 00, at least four (4) weeks prior to erection. All such drawings to be stamped and signed by a Professional Engineer registered in the Province of Nova Scotia.
 - .2 Clearly indicate method and schedule of construction, shoring, stripping and reshoring procedures, materials, arrangement of joints, ties, shores, liners, and locations of temporary embedded parts. Comply with CSA S269.1 for falsework and formwork drawings.
 - .3 Indicate formwork design data, such as permissible rate of concrete placement and temperature of concrete in forms.
 - .4 Indicate sequence of erection and removal of formwork/falsework as directed by Departmental Representative.

PART 2 - PRODUCTS

- 2.1 Materials
 - .1 Formwork and falsework materials: to CAN/CSA-A23.1. Materials to bear grade marks, or be accompanied with certificates, test reports, or other proof of conformity.
 - .2 Form release agent: non-toxic, chemically active release agents containing compounds that react with free lime present in concrete to provide water insoluble soaps, preventing set of film of concrete in contact with form.
 - .3 Form ties: removable or snap-off metal ties, fixed or adjustable length, free of devices

leaving holes larger than 25 mm diameter in concrete surface. When forms are removed, no metal will be less than 50 mm from the surface of the concrete.

- .4 Premoulded joint fillers: Bituminous impregnated fibreboard to ASTM D1751.
- .5 Bond Breaker: Impermeable tube formed of polyvinylchloride, rubber or similar material to the approval of the Departmental Representative. Internal diameter equal to dowels.

PART 3 - EXECUTION

3.1 Fabrication and Erection

- .1 Verify lines and levels before proceeding with formwork/falsework and ensure dimensions agree with drawings.
- .2 Construct forms to produce finished concrete conforming to shape, dimensions, locations and levels indicated within tolerances required by CSA A23.1
- .3 Line forms with material only as approved by Departmental Representative. Clean formwork in accordance with CAN/CSA-23.1 prior to placing concrete.
- .4 Construct falsework in accordance with CSA S269.1
- .5 Align form joints and make watertight. Keep form joints to minimum.
- .6 Use 25 mm chamfer strips on external and internal corners and joints, unless noted otherwise.
- .7 Clean formwork in accordance with CSA A23.1, before placing concrete.
- .8 Re-use of formwork and falsework subject to requirements of CSA A23.1
- .9 All holes from form ties and rods to be plugged with mortar to requirements of CSA A23.1. When forms are removed, no metal will be less than 50 mm from the surface of the concrete.
- .10 Form chases, slots, openings, drips, recesses, expansion and control joints as indicated.

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- .11 Build in anchors, sleeves, and other inserts required to accommodate Work specified in other sections. Assure that all anchors and inserts will not protrude beyond surfaces designated to receive applied finishes, including painting.
 - 3.2 Removal and Reshoring
 - .1 Leave formwork in place for at least seven (7) days, exclusive of days when temperature falls below 5 degrees C.
 - .2 Remove formwork when concrete has reached 75% of its design strength or minimum period noted above, whichever comes later, and replace immediately with adequate reshoring.
 - .3 Provide all necessary reshoring of members where early removal of forms may be required or where members may be subjected to additional loads during construction as required.
 - .4 Re-use formwork and falsework subject to requirements of CAN/CSAA23.1.
 - 3.3 Joint Fillers
 - .1 Locate and form expansion joints as indicated. Install joint filler in all joints.
 - 3.4 Joint Sealant
 - .1 Fill expansion and control joints with sealer as per manufacturer instructions.

END OF SECTION

PART 1 - GENERAL

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| 1.1 | Related Work | .1 | Section 03 10 00 - Concrete Forming and Accessories. |
| | | .2 | Section 03 37 26 - Underwater Concreting |
| 1.2 | Reference Standards | .1 | American National Standards Institute/American Concrete Institute (ANSI/ACI)
.1 ANSI/ACI 315-2017, Details and Detailing of Concrete Reinforcement.
.2 ACI 315R-2018, Guide to Presenting Reinforcing Steel Design Details. |
| | | .2 | Canadian Standards Association (CSA)
.1 CSA-A23.1-1, Concrete Materials and Methods of Concrete Construction.
.2 CSA-A23.3-14, Design of Concrete Structures for Buildings.
.3 CSA-G30.18-09 (R2019), Carbon Steel Bars for Concrete Reinforcement.
.4 CSA-G40.21-13, General Requirements for Rolled or Welded Structural Quality Steel / Structural Quality Steel
.5 CSA G164-2018, Hot Dip galvanizing of Irregularly Shaped Articles |
| | | .3 | Reinforcing Steel Institute of Canada
.1 Manual of Standard Practice 2018 |
| | | .4 | American Society for Testing and Materials (ASTM)
.1 ASTM C881/ASTM C881M-15, Standard Specification for Epoxy-Resin-Base. |
| 1.3 | Source Sampling | .1 | Upon request, provide Departmental Representative with certified copy of mill test of steel supplied showing physical and chemical analysis not less than 2 weeks prior to commencement of work. |
| 1.4 | Submissions | .1 | Shop Drawings:
.1 Submit shop drawings including placing of reinforcement in accordance with Section 01 33 00 - Submittal Procedures.
.2 Prepare reinforcement drawings in accordance with Reinforcing Steel Manual of Standard Practice by Reinforcing Steel Institute of Canada, ANSI/ACI 315 and ACI 315R, Manual of Engineering and Placing Drawings for Reinforced Concrete Structure.
.2 Clearly indicate bending details, bar sizes, spacing, location and quantities of reinforcement, mesh, chairs, spacers and |

hangers with identifying code marks to permit correct placement without reference to structural drawings; to Reinforcing Steel Manual of Standard Practice.

- .2 Detail placement of reinforcing where special conditions occur.
- .3 Design and detail lap lengths and bar development lengths to CSA standard A23.1, unless otherwise specified on drawings.

.2 Product Data/Samples:

- .1 Provide product data for supports and spacers.

.3 Test Results:

- .1 Provide Mill Test Certificates cross referenced to the product supplied to the site.

1.5 Storage

- .1 Store reinforcing steel on racks or sills that will permit easy access for identification and handling and prevent it from becoming coated with material which would adversely affect bond.
- .2 Do not store reinforcing steel in direct contact with the ground.

PART 2 - PRODUCTS

2.1 Materials

- .1 Substitute different size bars only if permitted in writing by Departmental Representative.
- .2 Reinforcing steel: billet steel, grade 400, deformed bars to CAN/CSAG30.18, unless indicated otherwise.
- .3 Cold-drawn annealed steel wire ties: to CSA G30.3.
- .4 Chairs, bolsters, bar supports, spacers: to CAN/CSA-A23.1.
- .5 Mechanical splices: subject to approval of Departmental Representative.
- .6 Epoxy resin adhesive: high strength epoxy to ASTM C881/C881M, Type IV, Grade 3. Epoxy adhesive shall be an injectable two-component, hybrid adhesive. The two components are to be separated by means of a dual-cylinder foil pack attached to a manifold which keep component A and component B separate. Containers shall be designed to accept

static mixing nozzle which thoroughly blends component A and component B and allows injection of the mixed adhesive directly into the drilled hole. Only injection tools and static mixing nozzles supplied by the manufacturer may be used. Injection adhesive shall be formulated to include the resin and hardener to provide optimal curing speed, high strength and stiffness. Injection adhesive anchor system technical data shall be submitted to the Department Representative for review, prior to installation.

- .1 Acceptable material: Epcom Ceramic 6, Hilti HIT HY-200 or approved equal.

2.2 Reinforcing Steel Fabrication

- .1 Fabricate reinforcing to CSA standard A23.1
- .2 Fabrication tolerances for reinforcing steel to Reinforcing Steel Manual of Standard Practice.
- .3 Obtain Departmental Representative's acceptance for locations of reinforcement splices other than shown on steel placing drawings.
- .4 Ship bundles of bar reinforcement, clearly identified in accordance with bar list.
- .5 Do not weld reinforcing steel.

PART 3 - EXECUTION

3.1 Placing

- .1 Accurately place reinforcing in positions indicated, in accordance with reviewed placement drawings, and to CAN/CSA A23.1. Hold firmly during placing, compacting and setting of concrete.
- .2 Use approved type purpose made chairs to accurately locate reinforcing steel and ensure specified protective cover to reinforcing is provided. Use of bricks or other non-purpose made spacers will not be permitted. Ensure cover to reinforcement is maintained during concrete placement.
- .3 Tie reinforcement where spacing in each direction is:
 - .1 Less than 300 mm: - tie at alternate intersections.
 - .2 300 mm or more: - tie at each intersection.
- .4 Epoxy adhesive dowels/anchors are to be installed in accordance with the manufacturer's printed

- instructions, by manufacturer trained installers. Provide installer certification details for Departmental Representative review upon request. Contractor is responsible for ensuring that final material meets the specified requirements and is purpose made and well suited for the selected application, exposure and installation conditions (including ambient temperature).
- 3.2 Field Bending .1 Do not field bend reinforcement except where indicated or authorized by Departmental Representative.
- .2 When authorized, bend reinforcement without heat, by applying slow and steady pressure.
- .3 Replace bars which develop cracks or splits.
- 3.3 Cleaning .1 Clean reinforcing before placing concrete.
- 3.4 Inspection .1 Do not place concrete until Departmental Representative has inspected and accepted reinforcement work in place.
- 3.5 Surface Conditions .1 Reinforcement, at time concrete is placed, to be free from mud, oil or other non-metallic coatings that adversely affect bonding capacity.
- .2 Reinforcement, with rust, mill scale, or combination of both to be considered as satisfactory, provided minimum dimensions, including height of deformations, and mass of hand wire brushed test specimen are not less than specified requirements in applicable CSA Standards.

END OF SECTION

PART 1 - GENERAL

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| 1.1 | Related Work | .1 | Section 03 10 00 - Concrete Falsework and Formwork |
| | | .2 | Section 03 20 00 - Concrete Reinforcement |
| 1.2 | Reference Standards | .1 | Do structural concrete work in accordance with CSA A23.1-14, Concrete Materials and Methods of Concrete Construction, except where stricter standards specify otherwise. |
| | | .3 | CAN/CSA A3000-18, Cementing Materials Compendium. |
| | | .4 | ASTM C494/C494M-17, Standard Specification for Chemical Admixtures for Concrete. |
| 1.3 | Definitions | .1 | Tremie Concrete Placement: Tremie concrete is placed underwater through a tube called a tremie pipe. Tremie pipe has a hopper at upper end and may be open ended or may have a foot valve, plug or travelling plug to control flow of concrete. Concrete is placed in hopper and a sufficient head of concrete is maintained in tremie pipe to provide desired rate of flow. |
| | | .2 | Pumped Concrete Placement: Pumped concrete method of placing concrete underwater uses a concrete pump with a discharge line used in a similar manner to a tremie pipe. |
| 1.4 | Submissions | .1 | Shop Drawings:
.1 Upon request, submit shop drawings and erection drawings for formwork and falsework. All such drawings to be stamped and signed by a Professional Engineer registered in the Province of Nova Scotia.
.2 Upon request, submit placement drawings for reinforcing steel.
.3 Upon request, submit placement drawings for miscellaneous items. |
| | | .2 | Product Data/Samples:
.1 Provide technical data for curing compounds, evaporation retardant and finishing aids, expansion joint materials/sealants, grouts. |
| | | .3 | Certificates:
.1 Minimum four weeks prior to starting concrete work submit to Departmental Representative manufacturer's test data and |

certification by qualified independent inspection and testing laboratory that the following materials will meet specified requirements:

- .1 Cement
- .2 Admixtures
- .3 Aggregates
- .4 Water

- .2 Provide certification that plant, equipment, and materials to be used in concrete work comply with requirements of CSA A23.1
- .3 Provide certification that mix proportions selected will produce concrete of specified quality and yield and that strength will comply with CSA A23.1
- .4 Provide certification that concrete will not include alkali reactivity aggregates.
- .5 Provide certification that mix proportions selected will produce concrete of specified quality, yield, strength, durability, and will comply with CSA standard A23.1. The certification must be accompanied by independent laboratory tests results for the selected mix, completed within the 6 months of the proposed placement, that show the proportioned mix satisfies the specified:
 - .1 compressive strength.
 - .2 workability.
 - .2 exposure class requirements for durability as per CSA A23.

- .4 Methodology:
 - .1 Submit methodology for cold weather concreting (as applicable).
 - .2 Submit methodology for hot weather concreting (as applicable).
 - .3 Submit methodology for concrete placement operations.
 - .4 Submit methodology for supporting reinforcing steel. Purpose made support chairs to be used; supporting reinforcing on rocks, bricks, or similar will not be accepted.
 - .5 Submit outline of Quality Control plan for concrete production and placement. Quality Assurance (QA) performed by the Departmental Representative does not

replace Contractor Quality Control (QC) program.

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| 1.5 | Storage of Materials | .1 | Store all materials to prevent contamination or deterioration, whether at the plant or at the job site. |
| | | .2 | Store cement in watertight bins or silos that provide protection from dampness and easy access for inspection and identification of each shipment whether at the plant or at the job site. |
| | | .3 | Prevent stored liquid admixtures and compounds from freezing and powdered admixtures and compounds from absorbing moisture. |
| 1.6 | Source Sampling | .1 | At least 4 weeks prior to commencing work, inform Departmental Representative of proposed source of aggregates and provide access for sampling. |
| 1.7 | Ready-Mix Concrete Supply | .1 | Provide, with each load of concrete delivered to site, duplicate delivery slips containing following:
<div style="margin-left: 20px;"><div>1. Name of ready-mix batch plant.</div><div>2. Serial number of ticket.</div><div>3. Date and truck number.</div><div>4. Project identification.</div><div>5. Class of concrete or mix.</div><div>6. Amount of concrete in cubic metres.</div><div>7. Time of loading or first mixing of aggregate, cement and water.</div><div>8. Time of discharge of concrete.</div><div>9. Admixtures added at plant.</div><div>10. Amount of water added at plant.</div></div> |
| 1.8 | Measurement for Payment | .1 | Heating of water and aggregates and providing cold weather protection will not be measured but considered incidental to work. |
| | | .2 | Cooling of concrete and providing hot weather protection will not be measured but considered incidental to work. |
| | | .3 | Supply of anchor bolts, washers and nuts will not be measured but considered incidental to work. Bolt grouting and epoxy setting of reinforcing will be considered incidental to the work. |
| | | .4 | Supply and installation of rigid PVC sleeves, expansion joints/sealants and curing compounds, |

or other compounds will be considered incidental to the work.

- .5 Formwork, ties and other such items are considered incidental to work and will not be measured separately.

PART 2 - PRODUCTS

2.1 Materials

- .1 Aggregates: to CSA A23.1, for Class "C1" exposure.
- .2 Portland Cement: to CSA A23.1, for Class "C1" exposure.
- .3 Water: to CSA A23.1.
- .4 Admixtures:
 - .1 Admixtures will be subject to approval of Departmental Representative. Admixtures will only be permitted to correct deficiencies in mix or to improve placement of concrete.
 - .2 Departmental Representative may withdraw prior approval of admixtures if conditions encountered during course of work indicate unsatisfactory performance.
 - .3 Do not use calcium chloride or materials containing calcium chloride.
- .5 Non-shrink grout: premixed compound consisting of non-metallic aggregate, Portland cement, water reducing and plasticizing agents, of pouring consistency, capable of developing compressive strength of 50 MPa at 28 days.
- .6 Curing compound: To ASTM-C309 and CSA A23.1 type 1, 1D, or 2.

2.2 Concrete Mixes

- .1 Prior to starting concrete work, submit to the Departmental Representative the proposed mix design(s) for review, complete with batch test results for mix. Laboratory batch testing of the mix must be no older than 6 months, and show that the concrete meets the strength, workability, and durability requirements of the specified concrete. Mix design(s) to be in accordance with Alternative 1 of Table 11 in CSA A23.1. Departmental Representative review is for general conformance with project specifications and does not relieve contractor of their responsibility to

supply and install concrete to the project specifications.

- .2 Proportion shrinkage compensating concrete mix in accordance with CSA A23.1 concrete mix designed to meet the following requirements:
 - .1 Cement to be in accordance with requirements for C-1 Concrete.
 - .2 Minimum compressive strength at 28 days: 35 MPA.
 - .3 Exposure: Class C-1.
 - .4 Maximum aggregate size: 10 mm.
 - .5 Air content: 6 to 9%.
 - .6 Maximum water/cement ratio to be 0.40.
 - .7 Slump at time and point of discharge 80 mm +/- 20 mm. Where the nature of the work requires larger slumps, they are to be obtained by the use of admixtures rather than increasing the water content. The use of such admixtures and the increase in slump to be approved by the Departmental Representative prior to implementation in the work.
 - .8 Chloride ion penetrability at 56 days: less than 1500 coulombs.
 - .9 Modify concrete mix to the approval of the Departmental Representative to accommodate pumping.
 - .10 Admixtures to the approval of the Departmental Representative and the recommendation of the manufacturer. Admixtures must be dispersed separately into mixing water.
- .3 Do not use calcium chloride or compounds containing calcium chloride.
- .4 Weigh aggregates, cement, water and admixtures separately when batching. Inspect and test scales for accuracy as directed. Accuracy to be such that successive quantities can be measured to within one percent of desired amounts. Test certificates to be submitted to Departmental Representative upon request.
- .5 Where seven day strength is less than 70% of specified 28 day strength, provide additional protection curing and make changes to mix proportions to the satisfaction of the Departmental Representative.
- .6 Provide certification that plant, equipment and all materials to be used in concrete comply with

the requirements of CSA A23.1 (or latest edition).

- .7 Provide certification from independent Testing and Inspection Company that mix proportions selected will produce concrete of specified quality and can be effectively placed and finished for all work under this contract.

PART 3 - EXECUTION

3.1 General

- .1 Obtain Departmental Representative's approval before placing concrete. Provide minimum 24 hours notice of intention to commence underwater work.
- .2 Concrete must be pumped from wharf approach to the area(s) of work, unless noted otherwise. Access to wharf by concrete truck is prohibited due to loading restrictions.
- .3 Place concrete in one continuous operation to full depth required. Provide sufficient supply of concrete to complete pour without interruption and supply complete equipment for all phases of operation.
- .4 Place, consolidate, finish, cure and protect concrete to CSA A23.1 except where specified otherwise.
- .5 Prior to placing of concrete, obtain Departmental Representative's approval of proposed method for protection of concrete during placing and curing in adverse weather.
- .6 Do not commence placing concrete until Departmental Representative has inspected/reviewed forms, inserts, dowels, reinforcing steel, joints; conveying, spreading, consolidation, finishing, curing and protective methods.
- .7 Ensure that reinforcement and anchorage are not disturbed during placing.
- .8 Maintain accurate records of placed concrete items to indicate date, location of pour (including in place limits of each truck load of concrete), quality, air temperature and test samples taken.

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| | .9 | Do not place load(s) upon new concrete until Departmental Representative is satisfied that the Contractor has carried out all calculations and tests necessary to confirm that the load(s) will not cause damage or create a safety hazard. Calculations and tests to be stamped by a Professional Engineer registered in the Province of Nova Scotia. |
| 3.2 Reinforcing Steel | .1 | Place new reinforcing steel according to Section 03 20 00. |
| | .2 | Provide 75 mm minimum cover for all reinforcing steel unless indicated otherwise on drawings. |
| 3.3 Formwork | .1 | Verify field dimensions to determine applicable sizes of formwork. |
| | .2 | Design and construct form work to allow adequately for proper placement and consolidation while conforming to shape and dimensions shown on plans. |
| | .3 | Formwork design will include closures at both top and bottom of form, and all necessary hardware to support the forms. |
| | .4 | Upon request, submit drawings for review by the Departmental Representative, at least 3 weeks before placement of concrete. Drawings will show formwork details and illustrate dimensions, method of placing of concrete, connections and support. |
| | .5 | Strip formwork after minimum 7 days. This condition might be waived only if an alternative method to curing and preventing alternate wetting and drying is provided, to the satisfaction of the Departmental Representative. This condition will be waived if the forms are left permanently in place, where approved by the Departmental Representative. |
| 3.4 Concrete Placement
(Tremie Method) | .1 | Place and consolidate concrete to CSA A23.1. |
| | .1 | Provide tremie pipe which is watertight and sufficiently large to allow free flow of concrete. Diameter of tremie pipe to be not less than 200 mm or less than eight times maximum size of coarse aggregate. |

- .2 Provide hopper at top of tremie pipe and means to raise and lower tremie.
- .3 Provide plug or foot valve at end of tremie pipe to permit filling pipe with concrete initially.
- .4 Start pour with tremie pipe full of concrete and keep end of pipe buried in freshly placed concrete by at least 300 mm. Control rate of flow by increasing or decreasing depth of end in concrete.
- .5 If seal is lost, allowing water to enter pipe, with draw pipe immediately.
- .6 If tremie operation is interrupted so that a horizontal construction joint has to be made, cut surface laitance by jetting, within 24 to 36h and remove loose material by pumping or air lifting before placing next lift.
- .7 Do not place concrete in flowing water. Do not vibrate, disturb or puddle concrete after it has been placed.

3.5 Inserts

- .1 Set galvanized sleeves and other inserts and openings as indicated or specified elsewhere. Sleeves and openings greater than 100 X 100 mm not indicated on drawings must be approved by Departmental Representative.
- .2 Do not eliminate or displace reinforcement to accommodate hardware. If inserts cannot be located as specified, obtain approval of all modifications from Departmental Representative before placing of concrete.
- .3 Galvanized items embedded in concrete will be completely separated from reinforcing steel. Submit methodology for isolation to Departmental Representative for review.
- .4 Anchor bolts:
 - .1 Set anchor bolts to rigid templates under supervision of appropriate trade prior to placing concrete.
 - .2 With Departmental Representative's concurrence, grout anchor bolts in pre-formed holes or holes drilled after concrete has set. Formed holes to be at least 100 mm in diameter. Drilled holes to be minimum 25 mm larger in diameter than bolts used.

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- .3 Protect anchor bolt holes from water accumulations.
 - .4 Set bolts and fill holes with non-shrink grout. Ensure installation sheds water.
 - .5 Anchor bolts for base plates will be set to allow at least 25 mm of grout under the base plates.
 - 3.6 Protection and Curing
 - .1 Provide protection and curing in accordance with CSA A23.1
 - .2 Supply approved heating equipment to maintain inside air at following temperatures (as required for cold weather concreting):
 - .1 For an initial three days, at not less than 10° C nor more than 25° C at surfaces.
 - .2 At not less than 10° C for an additional 4 consecutive days or for the time necessary to attain 70% of the specified 28-day compressive strength of the concrete.
 - .3 Reduce temperature near end of curing period at rate not exceeding 20° C per day.
 - .4 Do not overheat.
 - .3 Freshly deposited concrete will be protected from premature drying and excessively hot and cold temperatures, will be maintained without drying at a relatively constant temperature for the period of time necessary for hydration of the cement and proper hardening of the concrete. It will be protected from harmful effects of sunshine, drying winds, cold weather, running or surface water and mechanical shock.
 - 3.7 Field Quality Control
 - .1 Quality Assurance Inspection and testing of concrete and concrete materials will be carried out by Testing Laboratory designated by the Departmental Representative in accordance with CSA A23.1.
 - .2 Departmental Representative will pay for costs of Quality Assurance tests as specified in Section 01 45 00.
 - .3 Departmental Representative will take additional test cylinders during cold weather concreting.
 - .4 If tests do not meet requirements of the Departmental Representative, take such measures

as indicated in CSA A23.1 and CSA A23.2 (or latest editions).

- .5 Arrange and pay for inspection and testing when necessary for production control to meet requirements.
- .6 Quality Assurance (QA) inspection and testing by Departmental Representative will not augment Contractor's Quality Control or relieve them of contractual responsibility.

3.8 Defective Work

- .1 Concrete is defective when:
 - .1 failing to meet any requirement of this specification.
 - .2 concrete contains honeycombing or embedded debris .
 - .3 28-day strength in any area is less than 95% of specified minimum.
- .2 Repair or remove and replace defective work as directed by the Departmental Representative. Submit proposed remediation plan to Departmental Representative for preliminary review prior to auctioning.
- .3 Any repair must be accompanied by a certification by a Professional Engineer Registered in Nova Scotia that the repair will be equal to or better than the original specified product in all aspects including but not limited to loading, exposure resistance, life expectance and durability. Only complete submissions covering all aspects listed above will be considered.
- .3 Take corrective measures as directed by the Departmental Representative to prevent occurrence of further defective concrete.

END OF SECTION