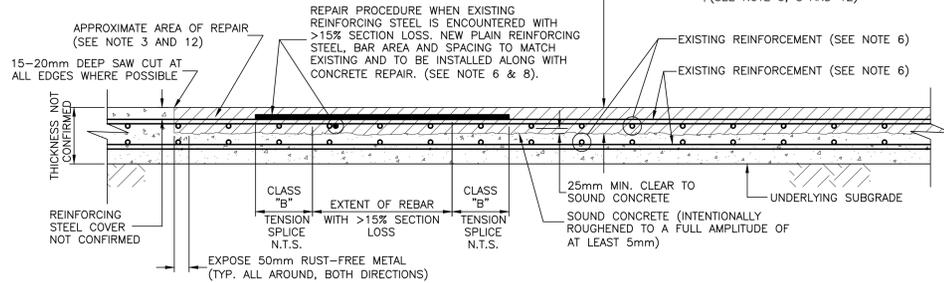


NOTES (DETAIL 1):

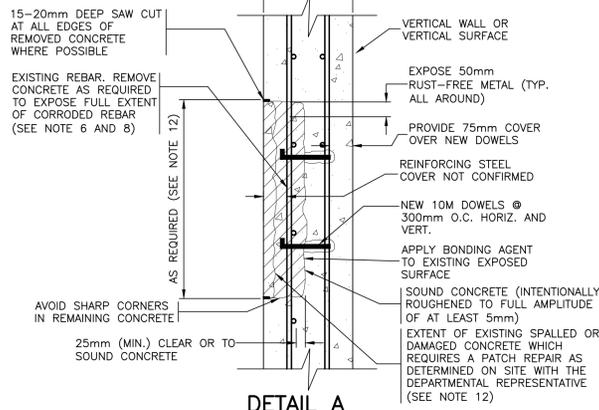
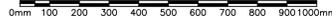
- A. AVOID SHARP CORNERS IN REMAINING CONCRETE
- B. 15-20mm DEEP SAW CUT AT ALL EDGES OF REMOVED CONCRETE WHERE POSSIBLE
- C. ROUGHEN EDGES OF SAW CUTS TO FULL AMPLITUDE OF AT LEAST 5mm PRIOR TO PLACING REPAIR CONCRETE. WHERE SAW CUTTING IS NOT PRACTICAL, USE CHIPPING TOOLS TO REMOVE CONCRETE. ENSURE THAT EDGES OF REPAIR AREA ARE CUT PERPENDICULAR TO THE SURFACE.
- D. IF DEPTH TO SOUND CONCRETE WITHIN THE REPAIR AREA DOES NOT EXCEED 25mm THEN CONDUCT SHALLOW DEPTH REPAIRS AS PER DETAIL 2, THIS SHEET.
- E. EDGE REPAIR PROCEDURES TO BE THE SAME AS SURFACE REPAIRS SHOWN IN THIS DETAIL.

IF DEPTH TO SOUND CONCRETE WITHIN THE DESIGNATED AREA (AS DETERMINED ON SITE BY THE DEPARTMENTAL REPRESENTATIVE) IS GREATER THAN 25mm, EXPOSE TOP MAT OF REINFORCEMENT PLUS 25mm MIN. COVER BEYOND TO SOUND CONCRETE. COMPLETE THIS CONCRETE REMOVAL BY APPROVED METHODS ACCEPTED BY THE DEPARTMENTAL REPRESENTATIVE. USE CHIPPING TOOLS AS PER SPECIFICATION REQUIREMENTS TO REMOVE DETERIORATED CONCRETE. IF SOUND CONCRETE IS NOT ENCOUNTERED AT THESE MINIMUMS THEN ADDITIONAL CONCRETE, AS DETERMINED BY THE DEPARTMENTAL REPRESENTATIVE, SHALL BE REMOVED TO SOUND MATERIAL. ALL EXPOSED REINFORCING STEEL SHALL REMAIN AND BE REPAIRED AS PER DESCRIBED PROCEDURES (SEE NOTE 3, 8 AND 12)

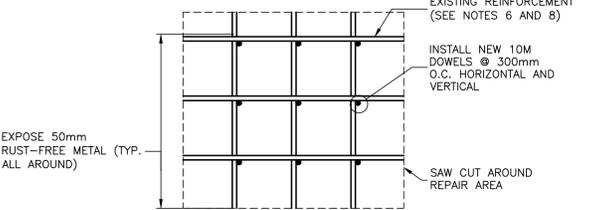


1 TYPICAL DEEP HORIZONTAL CONCRETE PATCH REPAIR DETAILS
(AREAS OF DETERIORATED CONCRETE WITH GREATER THAN 25mm TO SOUND CONCRETE)

SCALE : 1:10



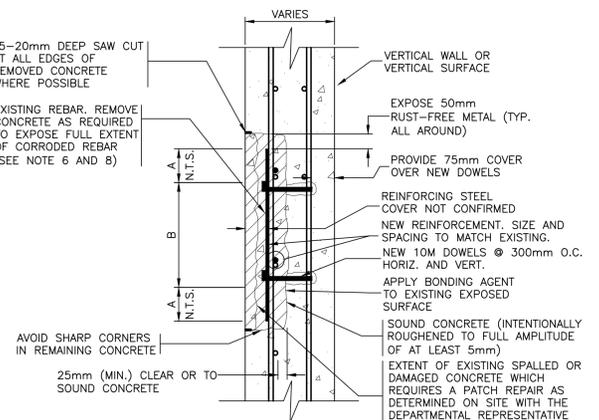
DETAIL A



DETAIL B

5 TYPICAL DEEP VERTICAL CONCRETE PATCH REPAIR DETAILS
(AREAS OF DETERIORATED CONCRETE WITH GREATER THAN 25mm TO SOUND CONCRETE)

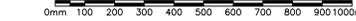
SCALE : 1:10



A = CLASS "B" TENSION LAP
B = EXTENT OF EXISTING REBAR WITH >15% SECTION LOSS (CLEAN OR REMOVE)

6 TYPICAL DEEP VERTICAL CONCRETE PATCH REPAIR WHERE REBAR IN ANY AREA HAS GREATER THAN 15% LOSS OF SECTION
(AREAS OF DETERIORATED CONCRETE WITH GREATER THAN 25mm TO SOUND CONCRETE)

SCALE : 1:10

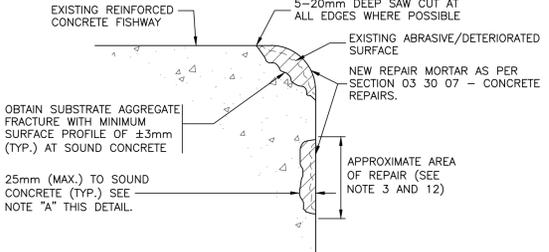


GENERAL NOTES:

1. DO NOT SCALE FROM DRAWINGS.
2. ALL DIMENSIONS SHOWN ON DRAWINGS ARE IN MILLIMETERS. ALL ELEVATIONS AND STATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
3. CONCRETE REMOVAL FOR PATCH REPAIRS WILL RESULT IN THE CONTRACTOR WORKING OVER A SURFACE WITH A SIGNIFICANTLY REDUCED CAPACITY. AS SUCH, THE CONTRACTOR SHALL PHASE AND PROVIDE TEMPORARY BRACINGS AS NECESSARY TO CARRY OUT THE REPAIRS IN A SAFE MANNER. WORK METHOD TO CARRY OUT THE TEMPORARY SUPPORTS/BRACING SHALL BE SUBMITTED TO THE DEPARTMENTAL REPRESENTATIVE UNDER SEAL OF A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN NEWFOUNDLAND AND LABRADOR PRIOR TO START OF CONCRETE REPAIR WORK.
4. CONTRACTOR TO VERIFY ALL CRITICAL DIMENSIONS IN THE FIELD PRIOR TO START OF WORK AND NOTIFY DEPARTMENTAL REPRESENTATIVE ON ANY DISCREPANCIES.
5. MOST DIMENSIONS SHOWN FOR EXISTING COMPONENTS ARE FROM PREVIOUS SURVEYS AND HAVE NOT BEEN CONFIRMED FOR ACCURACY WITH THE CURRENT AS-BUILT CONDITIONS. REPAIRS SHALL BE COMPLETED TO MATCH EXISTING GEOMETRY. DIMENSIONS INDICATED ARE TO BE CONSIDERED APPROXIMATE. CONTRACTOR IS RESPONSIBLE TO CONFIRM ALL CRITICAL DIMENSIONS PRIOR TO THE START OF WORK AND BARE ALL COSTS RELATED TO THESE UNKNOWN AND ASSOCIATED RISKS ACCORDINGLY.
6. THE REINFORCING STEEL SIZE, LOCATION, COVER, NUMBER OF MATS AND CONFIGURATION WITHIN THE EXISTING CONCRETE STRUCTURES ARE COMPLETELY UNKNOWN, WITH NO ORIGINAL DRAWINGS AVAILABLE. THE INFORMATION SHOWN HAS BEEN ASSUMED BASED ON TYPICAL INDUSTRY STANDARDS FOR REINFORCED CONCRETE. THEREFORE, THIS INFORMATION SHOULD BE USED WITH CAUTION. THE CONTRACTOR SHALL CONFIRM ALL CRITICAL INFORMATION IN THE FIELD AND MAKE ADJUSTMENTS AS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE. THE CONTRACTOR IS RESPONSIBLE TO BARE ALL COSTS RELATED TO THESE UNKNOWN AND ASSOCIATED RISKS ACCORDINGLY. NEW METRIC BARS USED FOR REPAIRS SHALL HAVE AN AREA EQUAL TO OR GREATER THAN THAT OF THE EXISTING BAR SIZES.
7. CONTRACTOR SHALL TAKE ALL AS-BUILT MEASURES FOR ITEMS WHICH REQUIRE REMOVAL AND REINSTATEMENT TO MATCH THAT OF THE EXISTING CONDITIONS.
8. EXISTING REINFORCEMENT EXPOSED DURING CONCRETE REMOVAL THAT IS DESIGNATED TO REMAIN SHALL BE SECURED AS NECESSARY. CARE AND CAUTION SHALL BE TAKEN DURING THE REMOVAL OF CONCRETE AS NOT TO DAMAGE THE EXISTING REINFORCEMENT AND INSERTS. IN AREAS WHERE THE EXISTING REINFORCEMENT IS CORRODED (LESS THAN 15% REDUCTION IN CROSS-SECTION), THE SURROUNDING CONCRETE SHALL BE ADDITIONAL REMOVED BEYOND THE BAR 25mm. CONTINUE TO EXPOSE REINFORCING STEEL ALONG THE LENGTH UNTIL AT LEAST 50mm OF SOUND RUST FREE MATERIAL IS EXPOSED. IN ANY AREAS WHERE CORROSION OF REBAR HAS RESULTED IN GREATER THAN 15% LOSS OF SECTION, OR THE REBAR IS DAMAGED BEYOND SALVAGE (AS DETERMINED BY THE DEPARTMENTAL REPRESENTATIVE), A BAR OF SAME TYPE AND AREA SHALL BE SPLICED TO SOUND STEEL AND EXTEND OVER FULL AREA OF CORROSIONS OR DAMAGE AND CONCRETE REMOVED AS REQUIRED TO COMPLETE THIS WORK. THE CONTRACTOR IS RESPONSIBLE FOR ALL FIELD MEASUREMENTS NECESSARY TO HAVE SHOP FABRICATED REINFORCING BARS BENT AND CUT TO SUIT THE REQUIRED LOCATIONS. ALL EXPOSED REINFORCEMENT DESIGNATED TO REMAIN SHALL BE CLEANED TO SSPC-SP6, COMMERCIAL BLAST CLEAN.
9. ALL NEW REINFORCING STEEL TO BE UNCOATED.
10. UNLESS NOTED OTHERWISE, REINFORCING STEEL TO BE SPLICED AS FOLLOWS:
a.) ALL SPLICES TO BE TENSION LAP SPLICES, CLASS "B"
b.) NO MORE THAN 50% OF THE REINFORCING STEEL TO BE SPLICED AT ANY GIVEN LOCATION.
11. CONCRETE PROTECTIVE COVERINGS FOR NEW REINFORCING STEEL SHALL BE 75±12 OR AS NOTED ON THE DRAWINGS. THESE COVER REQUIREMENTS MAYBE SUBJECT TO CHANGE BY DEPARTMENTAL REPRESENTATIVE IN AREAS WHERE EXISTING REINFORCEMENT IS TO REMAIN IN PLACE AND NEW REINFORCEMENT IS TO BE INTO EXISTING.
12. SECTIONS OF DETERIORATED CONCRETE ON THE EXISTING FISHWAY THAT NECESSITATES EITHER A DEEP PATCH REPAIR OR SHALLOW REPAIR SHALL BE DETERMINED ONSITE WITH THE CONTRACTOR AND DEPARTMENTAL REPRESENTATIVE. ONCE THE FISHWAY IS DEWATERED AND ACCESSIBLE FOR INSPECTION, BOTH CONTRACTOR AND DEPARTMENTAL REPRESENTATIVE SHALL SIGN OFF ON THE AGREED AREAS NECESSITATING A PATCH. THE AMOUNT OF PATCH REPAIRS TO BE UNDERTAKEN SHALL BE WITHIN THE ALLOCATED QUANTITY STIPULATED IN THE UNIT PRICE TABLE UNLESS WRITTEN AUTHORIZATION FROM THE DEPARTMENTAL REPRESENTATIVE APPROVES OTHERWISE.
13. CONCRETE CRACKS THAT NECESSITATE REPAIRS ON THE EXISTING FISHWAY SHALL BE DETERMINED ONSITE WITH THE CONTRACTOR AND DEPARTMENTAL REPRESENTATIVE. ONCE THE FISHWAY IS DEWATERED AND ACCESSIBLE FOR INSPECTION, BOTH CONTRACTOR AND DEPARTMENTAL REPRESENTATIVE SHALL SIGN OFF ON THE AGREED LENGTH OF CRACKS TO BE REPAIRED. THE AMOUNT OF REPAIRS TO BE UNDERTAKEN SHALL BE WITHIN THE ALLOCATED QUANTITY STIPULATED IN THE UNIT PRICE TABLE UNLESS WRITTEN AUTHORIZATION FROM THE DEPARTMENTAL REPRESENTATIVE APPROVES OTHERWISE.

NOTES (DETAIL 2):

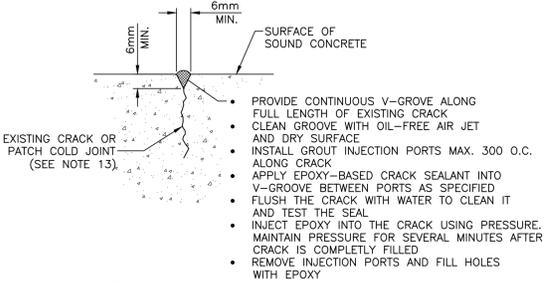
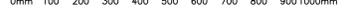
- A. IF DEPTH TO SOUND CONCRETE WITHIN THE REPAIR AREA EXCEEDS 25mm THEN CONDUCT DEEP PATCH REPAIRS AS PER DETAIL 1, 5, OR 6, THIS SHEET.
- B. ROUGHEN EDGES OF SAW CUTS TO FULL AMPLITUDE OF AT LEAST 5mm PRIOR TO PLACING REPAIR CONCRETE. WHERE SAW CUTTING IS NOT PRACTICAL, USE CHIPPING TOOLS TO REMOVE CONCRETE. ENSURE THAT EDGES OF REPAIR AREA ARE CUT PERPENDICULAR TO THE SURFACE.
- C. REFER TO REPAIR PROCEDURES IN THE TECHNICAL SPECIFICATION UNDER SECTION 3 30 07 - CONCRETE REPAIR.



PLAN

2 TYPICAL SHALLOW HORIZONTAL AND VERTICAL CONCRETE REPAIR DETAILS
(AREAS OF DETERIORATED CONCRETE WITH 25mm OR LESS TO SOUND CONCRETE)

SCALE : 1:10

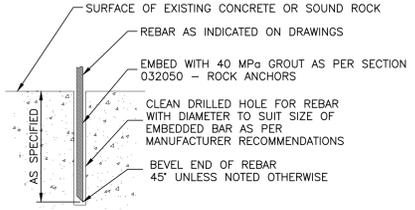
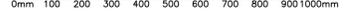


NOTES (DETAIL 3):

PROVIDE TO ALL CRACKS IN SOUND CONCRETE THAT ARE BETWEEN 1mm AND 3mm WIDE, CONDUCT PATCH REPAIR FOR WIDER CRACKS OR CRACKS IN DAMAGED OR UNSOUND CONCRETE TO DETAILS FOR DEEP OR SHALLOW CONCRETE REPAIRS, INCLUDED ON THIS SHEET.

3 TYPICAL CRACK AND COLD-JOINT REPAIR DETAIL

SCALE : 1:10



4 TYPICAL EMBEDMENT OF DRILL-AND-GROUTED REBAR

SCALE : 1:10



PROVINCE OF NEWFOUNDLAND AND LABRADOR
PERMIT HOLDER
This Permit Allows
Meridian Engineering Inc.
To practice Professional Engineering in Newfoundland and Labrador.
Permit No. as issued by PEG 20453
which is valid for the year 2015.

REGISTERED PROFESSIONAL ENGINEER
PEG
LEE M. BENNETT
15/10/22
NEWFOUNDLAND & LABRADOR

C	ISSUED FOR TENDER	15/10/22
B	ISSUED FOR 99% REVIEW	15/10/19
A	ISSUED FOR 66% REVIEW	15/09/22

BISHOP'S FALLS FISHWAY UPGRADES

CONCRETE REPAIRS

designed	L. BENNETT	conçu
date	AUG, 2015	
drawn	R. SNOW	dessiné
date	AUG, 2015	
approved	Gary MacGillivray Oct 23, 2015	approuvé
date		
Tender		Soumission
PWSGC Project Manager	Administrateur de projets TPSCG	
project number	no. du projet	
	R.075582.004	
drawing no.	no. du dessin	
	C03	