



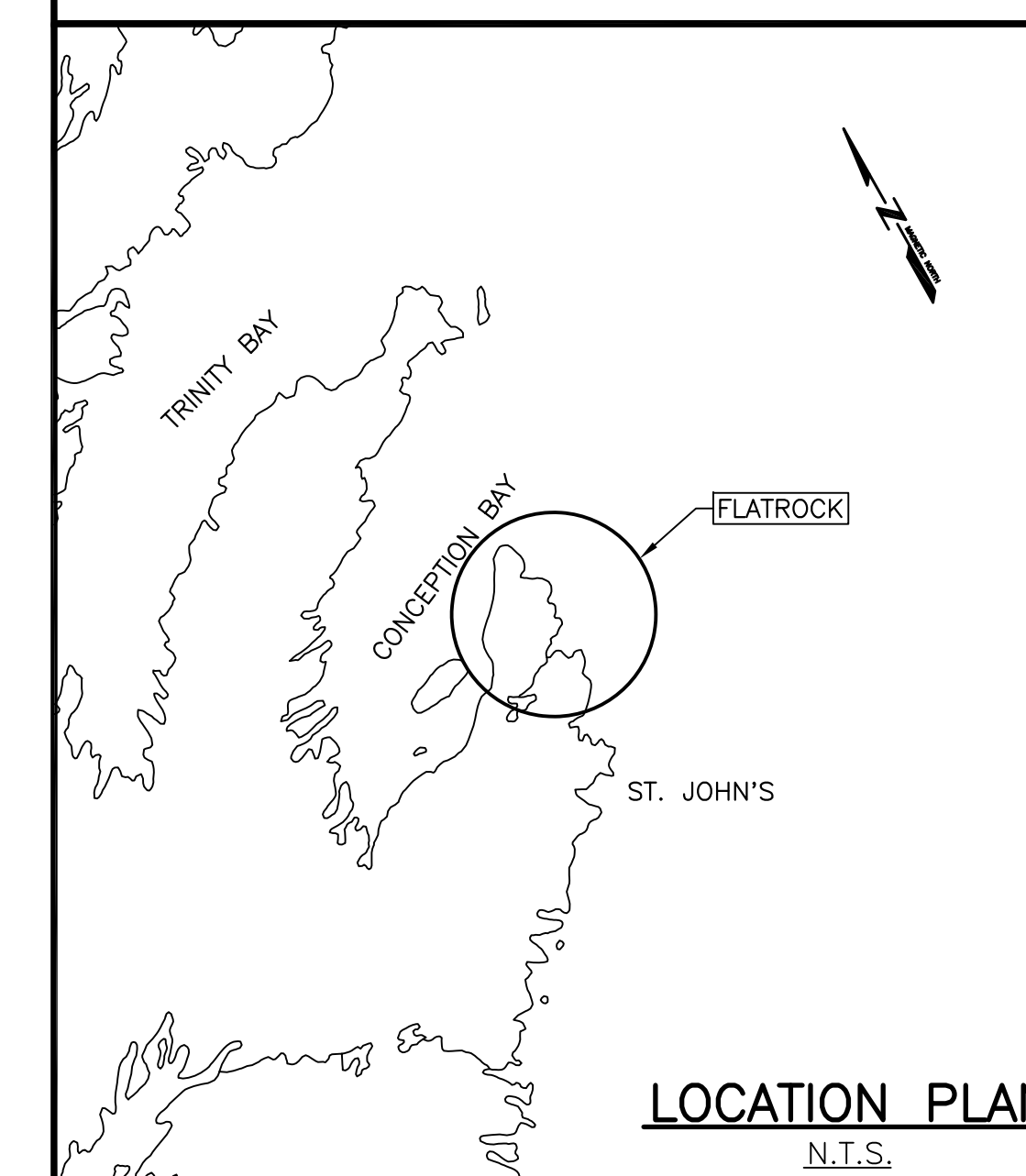
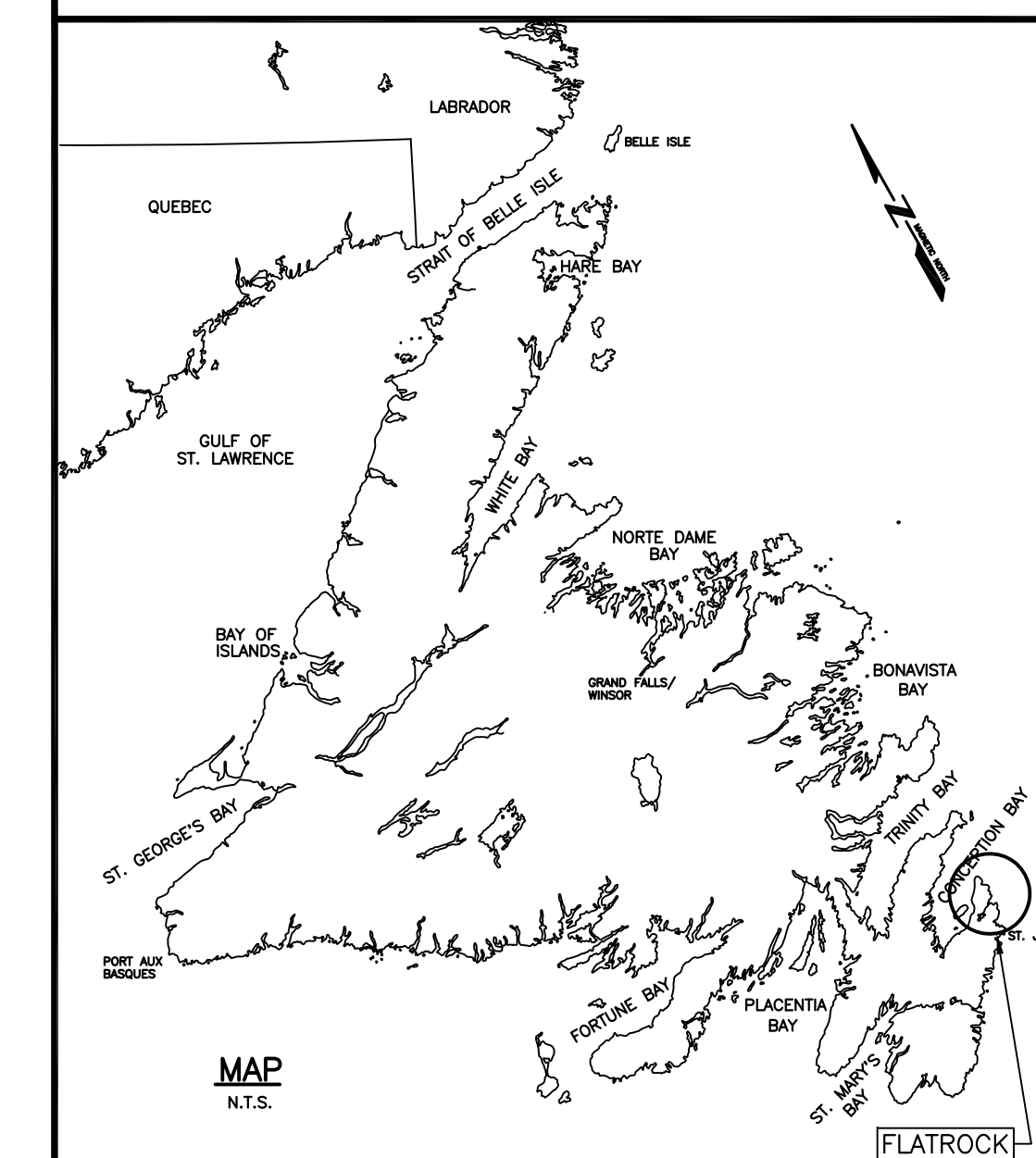
FISHERIES AND OCEANS  
CANADA

SMALL CRAFT HARBOURS



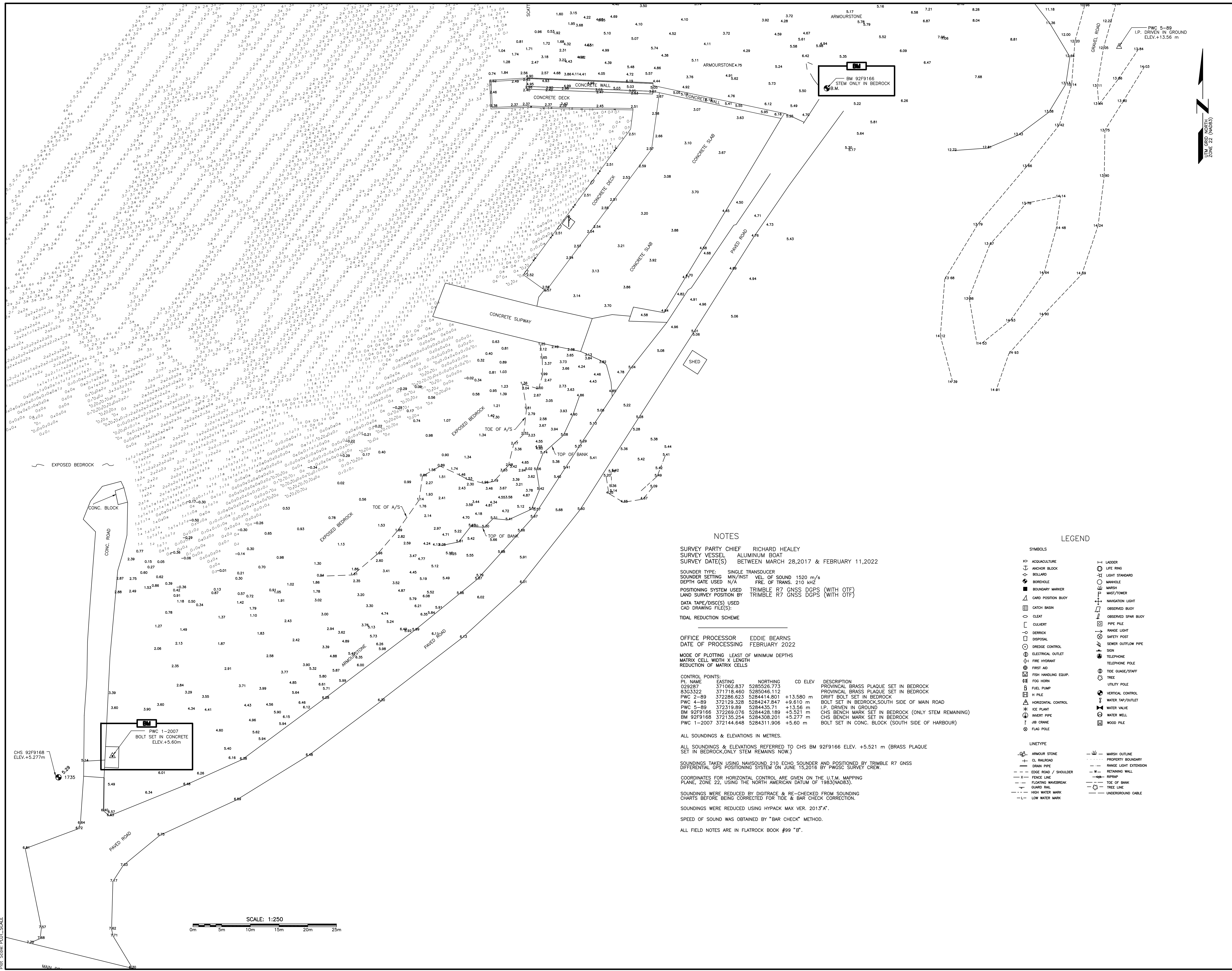
SHORELINE PROTECTION IMPROVEMENTS  
FLATROCK  
NEWFOUNDLAND AND LABRADOR

PROJECT No. C2-00470  
ISSUED FOR TENDER



LIST OF DRAWINGS:

- |         |                    |
|---------|--------------------|
| C1 OF 4 | EXISTING SITE PLAN |
| C2 OF 4 | NEW SITE PLAN      |
| C3 OF 4 | SECTIONS           |
| C4 OF 4 | SECTIONS           |



**Fisheries and Oceans Canada** / **Pêches et Océans Canada**

**SMALL CRAFT HARBOURS**

**NOTES:**  
 1. ALL ELEVATIONS ARE IN METRES UNLESS OTHERWISE NOTED.  
 2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.

**PROVINCE OF NEWFOUNDLAND**  
**PERMIT HOLDER**  
 This Permit Allows  
**APN ENGINEERING INC.**  
 To practice Professional Engineering in Newfoundland and Labrador. *NSP 1110*  
 Permit No. as issued by APGNL F0292 which is valid for the year 2022.

**REGISTERED PROFESSIONAL ENGINEER**  
**NEIL C. HUNT**  
 REGISTRATION NO. 1110  
 EXP. DATE 11/30/2022  
 NEWFOUNDLAND & LABRADOR

**NOTES**

SURVEY PARTY CHIEF RICHARD HEALEY  
 SURVEY VESSEL ALUMINUM BOAT  
 SURVEY DATE(S) BETWEEN MARCH 28, 2017 & FEBRUARY 11, 2022

SOUNDER TYPE: SINGLE TRANSDUCER  
 SOUNDER SETTING MIN/WINST VEL OF SOUND 1520 m/s  
 DEPTH GATE USED N/A FREQ. OF TRANS. 210 kHz

POSITIONING SYSTEM USED TRIMBLE R7 GNSS DGPS (WITH OTF)  
 LAND SURVEY POSITION BY TRIMBLE R7 GNSS DGPS (WITH OTF)  
 DATA TAPE/DISC(S) USED  
 CAD DRAWING FILE(S):

TIDAL REDUCTION SCHEME

OFFICE PROCESSOR EDDIE BEARNS  
 DATE OF PROCESSING FEBRUARY 2022

MODE OF PLOTTING LEAST OF MINIMUM DEPTHS  
 MATRIX CELL WIDTH X LENGTH  
 REDUCTION OF MATRIX CELLS

CONTROL POINTS:

PL. NAME	EASTING	NORTHING	CD ELEV	DESCRIPTION
029287	371062.837	5285526.773		PROVINCIAL BRASS PLAQUE SET IN BEDROCK
83C3322	371718.460	5285046.112		PROVINCIAL BRASS PLAQUE SET IN BEDROCK
PWC 2-89	372286.623	5284414.801	+13.580 m	DRIFT BOLT SET IN BEDROCK
PWC 4-89	372128.328	5284247.847	+9.610 m	BOLT SET IN BEDROCK SOUTH SIDE OF MAIN ROAD
PWC 5-89	372319.889	5284435.711	+13.56 m	L.P. DRIVEN IN GROUND
BM 92F9166	372289.076	5284428.189	+5.521 m	CHS BENCH MARK SET IN BEDROCK (ONLY STEM REMAINING)
BM 92F9168	372135.254	5284308.201	+5.277 m	CHS BENCH MARK SET IN BEDROCK
PWC 1-2007	372144.648	5284311.906	+5.60 m	BOLT SET IN CONC. BLOCK (SOUTH SIDE OF HARBOUR)

**LEGEND**

**SYMBOLS**

- ANCHOR BLOCK
- BOLLARD
- BOROHOLE
- BOUNDARY MARKER
- CARD POSITION BUOY
- CATCH BASIN
- CLEAR
- CULVERT
- DECK
- DISPOSAL
- DREDGE CONTROL
- ELECTRICAL OUTLET
- FIRE HYDRANT
- FIRST AID
- FISH HANDLING EQUIP.
- FUEL PUMP
- H PILE
- HORIZONTAL CONTROL
- INVERT PIPE
- JIB CRANE
- FLAG POLE
- LAGGER
- LIFE RING
- LIGHT STANDARD
- MANHOLE
- MARSH
- MAST/TOWER
- NAVIGATION LIGHT
- OBSERVED BUOY
- OBSERVED SPARK BUOY
- PIPE PILE
- RANGE LIGHT
- SAFETY POST
- SEWER DISPOSAL
- SEWER OUTFLOW PIPE
- SIGN
- TELEPHONE POLE
- TELEPHONE
- TIDE GAUGE/SWIFT
- TREE
- UTILITY POLE
- VERTICAL CONTROL
- WATER TAP/OUTLET
- WATER WALL
- WATER VALVE
- WOOD PILE

**LINE TYPE**

- ARMOUR STONE
- CL RAILROAD
- DRAIN PIPE
- EDGE ROAD / SHOULDER
- FENCE LINE
- FLOATING WAVEBREAK
- GUARD RAIL
- HIGH WATER MARK
- LOW WATER MARK
- MARSH OUTLINE
- PROPERTY BOUNDARY
- RANGE LIGHT EXTENSION
- RETAINING WALL
- RISER
- TOE OF BANK
- TREE LINE
- UNDERGROUND CABLE

ALL SOUNDINGS & ELEVATIONS IN METRES.  
 ALL SOUNDINGS & ELEVATIONS REFERRED TO CHS BM 92F9166 ELEV. +5.521 m (BRASS PLAQUE SET IN BEDROCK, ONLY STEM REMAINS NOW.)

SOUNDINGS TAKEN USING NAVISOUND 210 ECHO SOUNDER AND POSITIONED BY TRIMBLE R7 GNSS DIFFERENTIAL GPS POSITIONING SYSTEM ON JUNE 15, 2016 BY PWSCC SURVEY CREW.

COORDINATES FOR HORIZONTAL CONTROL ARE GIVEN ON THE U.T.M. MAPPING PLANE, ZONE 22, USING THE NORTH AMERICAN DATUM OF 1983 (NAD83).

SOUNDINGS WERE REDUCED BY DIGITRACE & RE-CHECKED FROM SOUNDING CHARTS BEFORE BEING CORRECTED FOR TIDE & BAR CHECK CORRECTION.

SOUNDINGS WERE REDUCED USING HYPACK MAX VER. 2013'A'.

SPEED OF SOUND WAS OBTAINED BY "BAR CHECK" METHOD.

ALL FIELD NOTES ARE IN FLATROCK BOOK #99 "B".

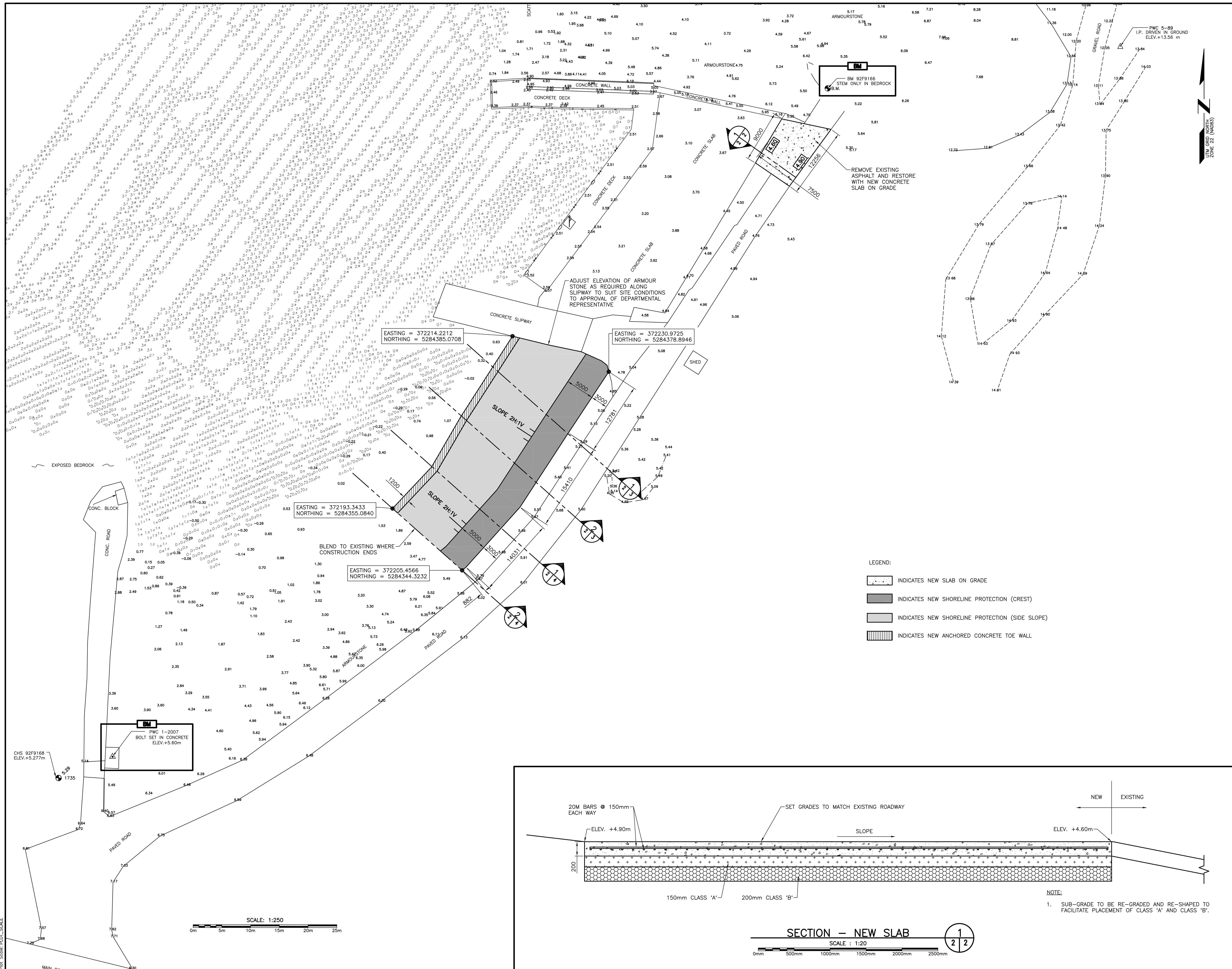
**SHORELINE PROTECTION IMPROVEMENTS**  
**FLATROCK, NL**

drawing no. **C1**      dessein

**EXISTING SITE PLAN**

designed N.H.      concu  
 date APRIL 22, 2022  
 drawn P.H.      dessein  
 date APRIL 22, 2022  
 approved      approve

Tender *Paul Curran*      soumission  
 DFO Project Manager  
 project number **C2-00470**      no. du projet  
 drawing no. **C1**      no. du dessein



**Fisheries and Oceans Canada** / **Pêches et Océans Canada**

**SMALL CRAFT HARBOURS**

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**PERMIT HOLDER**  
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 To practice Professional Engineering in Newfoundland and Labrador. *PEL 110*  
 Permit No. as issued by APEGNL F0292 which is valid for the year 2022.

**REGISTERED PROFESSIONAL ENGINEER**  
**NEIL C. HUNT**  
 SIGNATURE  
 4/22/2022  
 DATE  
 NEWFOUNDLAND & LABRADOR

B	ISSUED FOR TENDER	4/22/22
A	ISSUED FOR REVIEW	2/22/22

project \_\_\_\_\_ project \_\_\_\_\_

**SHORELINE PROTECTION IMPROVEMENTS**

**FLATROCK, NL**

drawing \_\_\_\_\_ dessin \_\_\_\_\_

**NEW SITE PLAN**

designed N.H. concu  
 date APRIL 22, 2022  
 drawn P.H. dessine  
 date APRIL 22, 2022  
 approved \_\_\_\_\_ approve

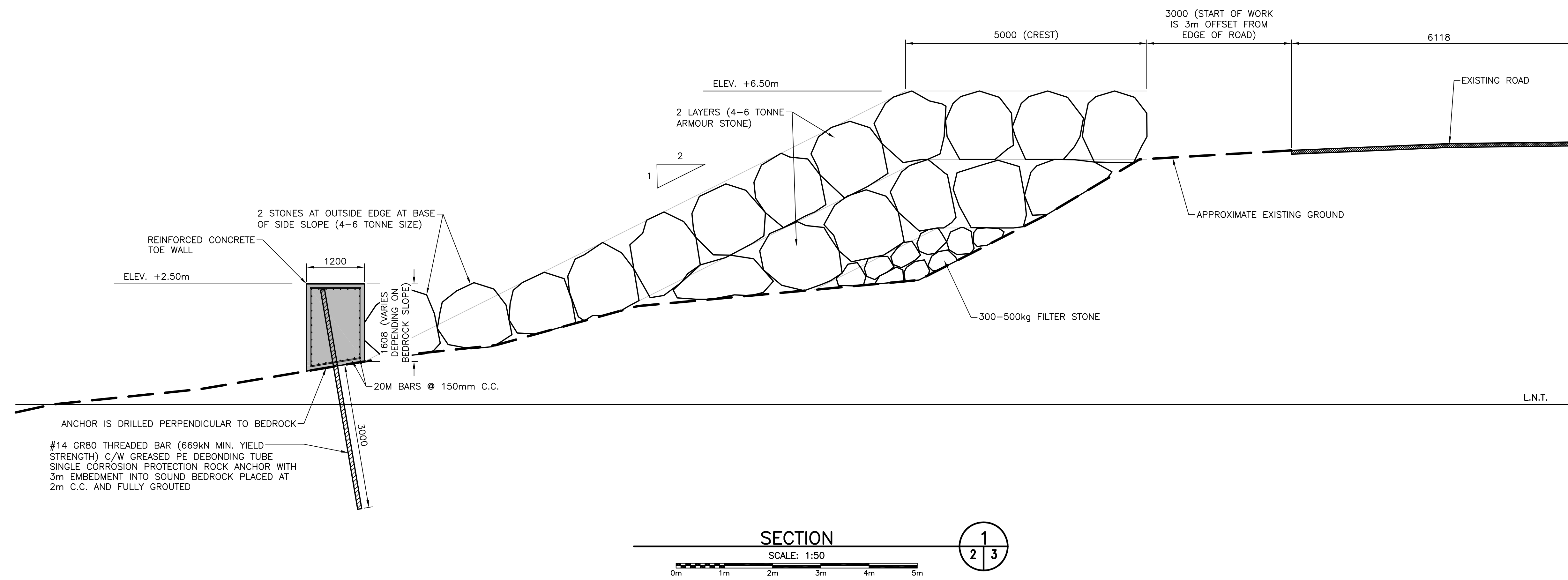
Tender *Paul Curran* Soumission  
 DFO Project Manager  
 project number \_\_\_\_\_ no. du projet  
**C2-00470**  
 drawing no. \_\_\_\_\_ no. du dessin  
**C2**

EDRM Document No.

SMALL CRAFT HARBOURS



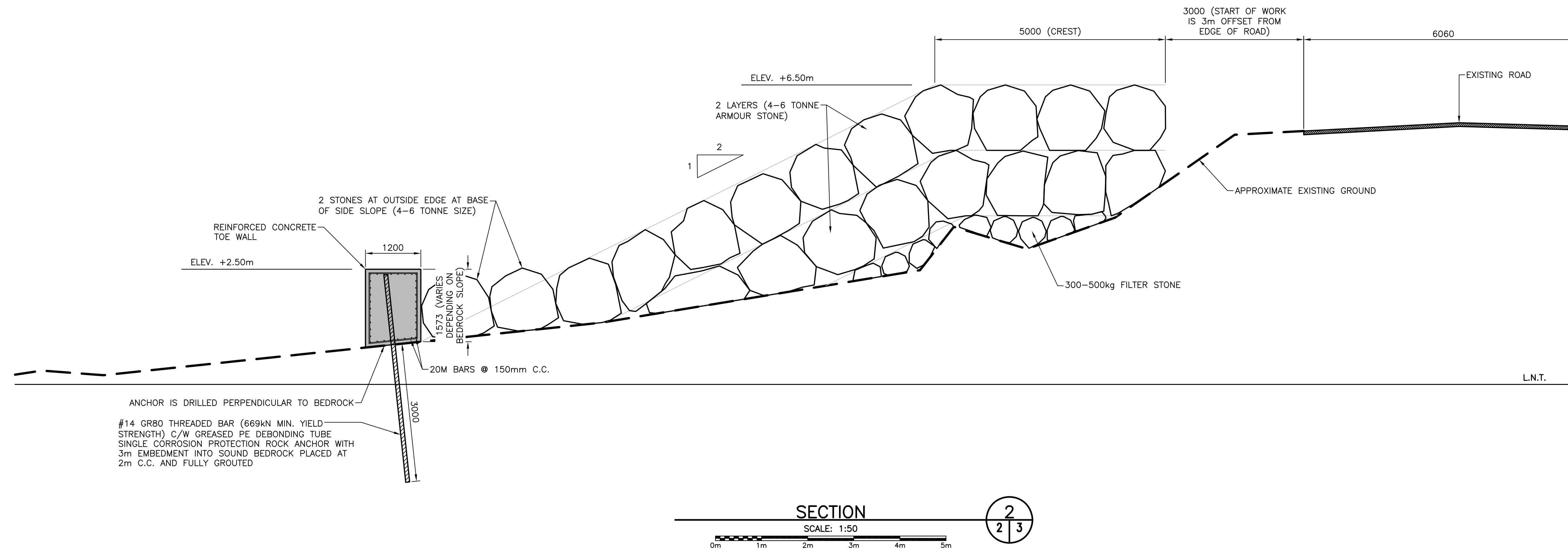
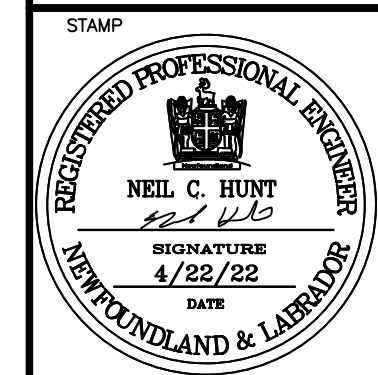
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REINFORCED CONCRETE TOE WALL  
ELEV. +2.50m  
1200  
3000  
20M BARS @ 150mm C.C.  
ANCHOR IS DRILLED PERPENDICULAR TO BEDROCK  
#14 GR80 THREADED BAR (669kN MIN. YIELD STRENGTH) C/W GREASED PE DEBONDING TUBE SINGLE CORROSION PROTECTION ROCK ANCHOR WITH 3m EMBEDMENT INTO SOUND BEDROCK PLACED AT 2m C.C. AND FULLY GROUTED  
1608 (VARIES DEPENDING ON BEDROCK SLOPE)  
2 STONES AT OUTSIDE EDGE AT BASE OF SIDE SLOPE (4-6 TONNE SIZE)

SECTION 1  
SCALE: 1:50

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which is valid for the year 2022



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3000  
20M BARS @ 150mm C.C.  
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1573 (VARIES DEPENDING ON BEDROCK SLOPE)  
2 STONES AT OUTSIDE EDGE AT BASE OF SIDE SLOPE (4-6 TONNE SIZE)

SECTION 2  
SCALE: 1:50

B	ISSUED FOR TENDER	4/22/22
A	ISSUED FOR REVIEW	2/22/22

project SHORELINE PROTECTION IMPROVEMENTS  
FLATROCK, NL

drawing desin

SECTIONS

designed N.H.	concu
date APRIL 22, 2022	
drawn P.H.	desine
date APRIL 22, 2022	
approved	approve

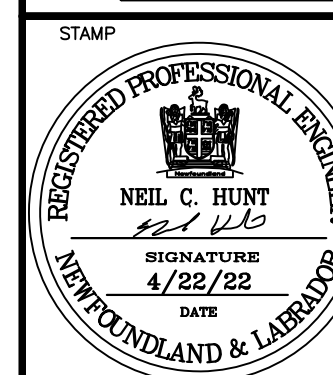
Tender Submission  
DFO Project No. *Paul Curran*  
project number no. du projet  
**C2-00470**  
drawing no. no. du dessin  
**C3**

SMALL CRAFT HARBOURS



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A	ISSUED FOR REVIEW	2/22/22
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project \_\_\_\_\_ projet \_\_\_\_\_

SHORELINE PROTECTION IMPROVEMENTS

FLATROCK, NL

drawing \_\_\_\_\_ dessin \_\_\_\_\_

SECTIONS

designed N.H. \_\_\_\_\_ conçu \_\_\_\_\_

date APRIL 22, 2022 \_\_\_\_\_

drawn P.H. \_\_\_\_\_ dessiné \_\_\_\_\_

date APRIL 22, 2022 \_\_\_\_\_

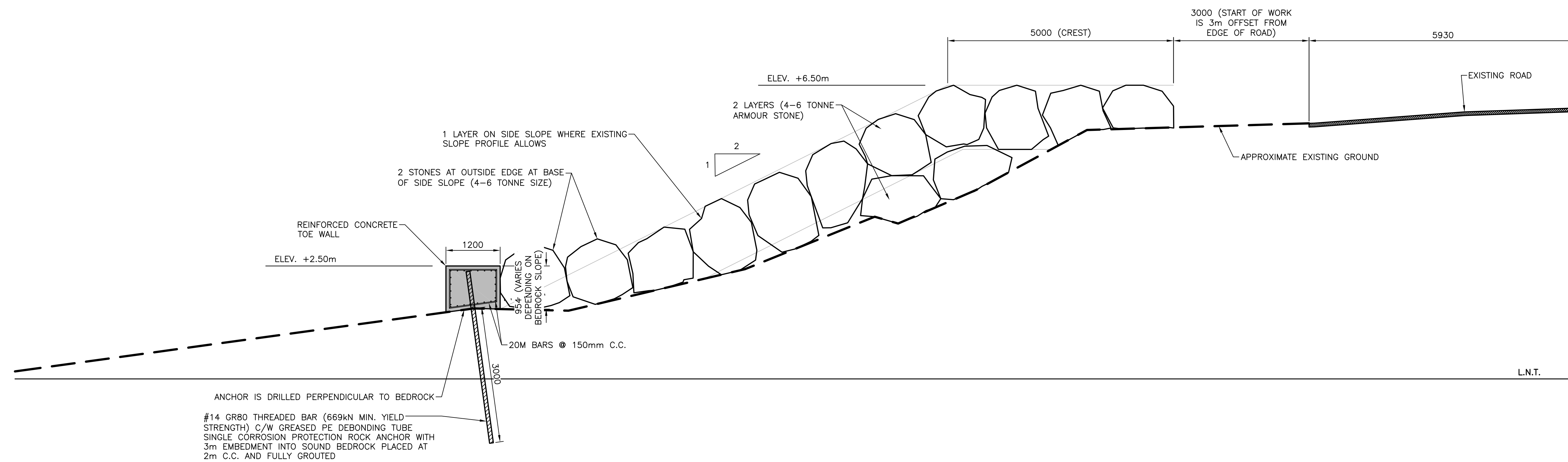
approved \_\_\_\_\_ approuvé \_\_\_\_\_

Tender *Paul Curran* \_\_\_\_\_ Submission

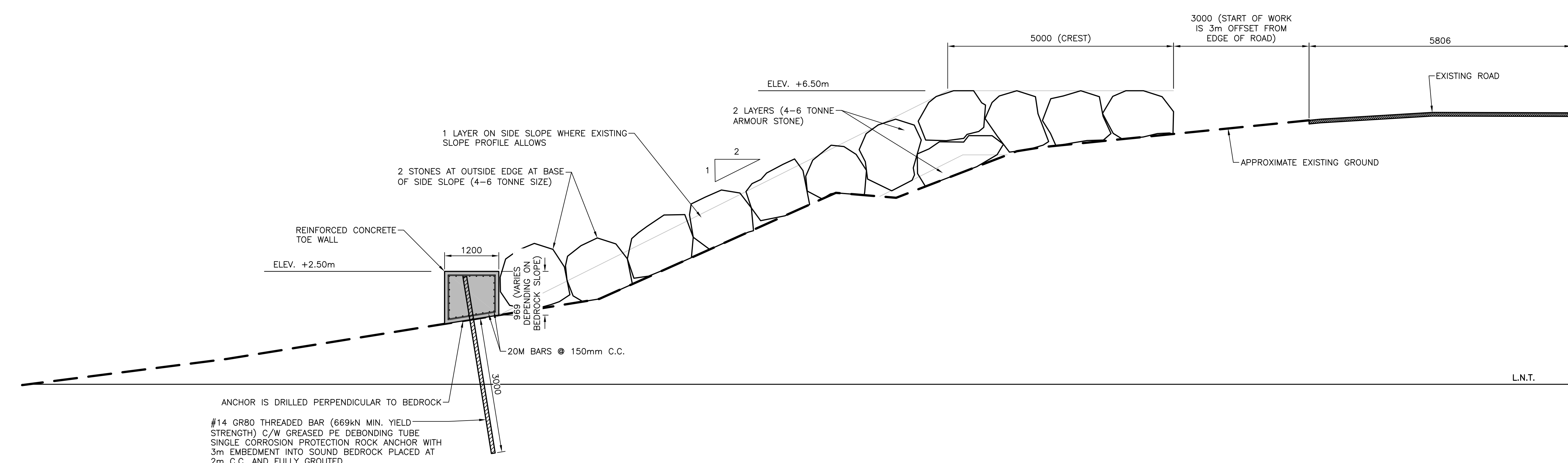
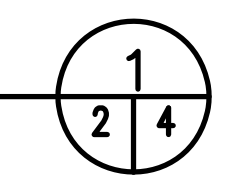
DFO Project Manager \_\_\_\_\_

project number C2-00470 no. du projet

drawing no. C4 no. du dessin



SECTION  
 SCALE: 1:50



SECTION  
 SCALE: 1:50

