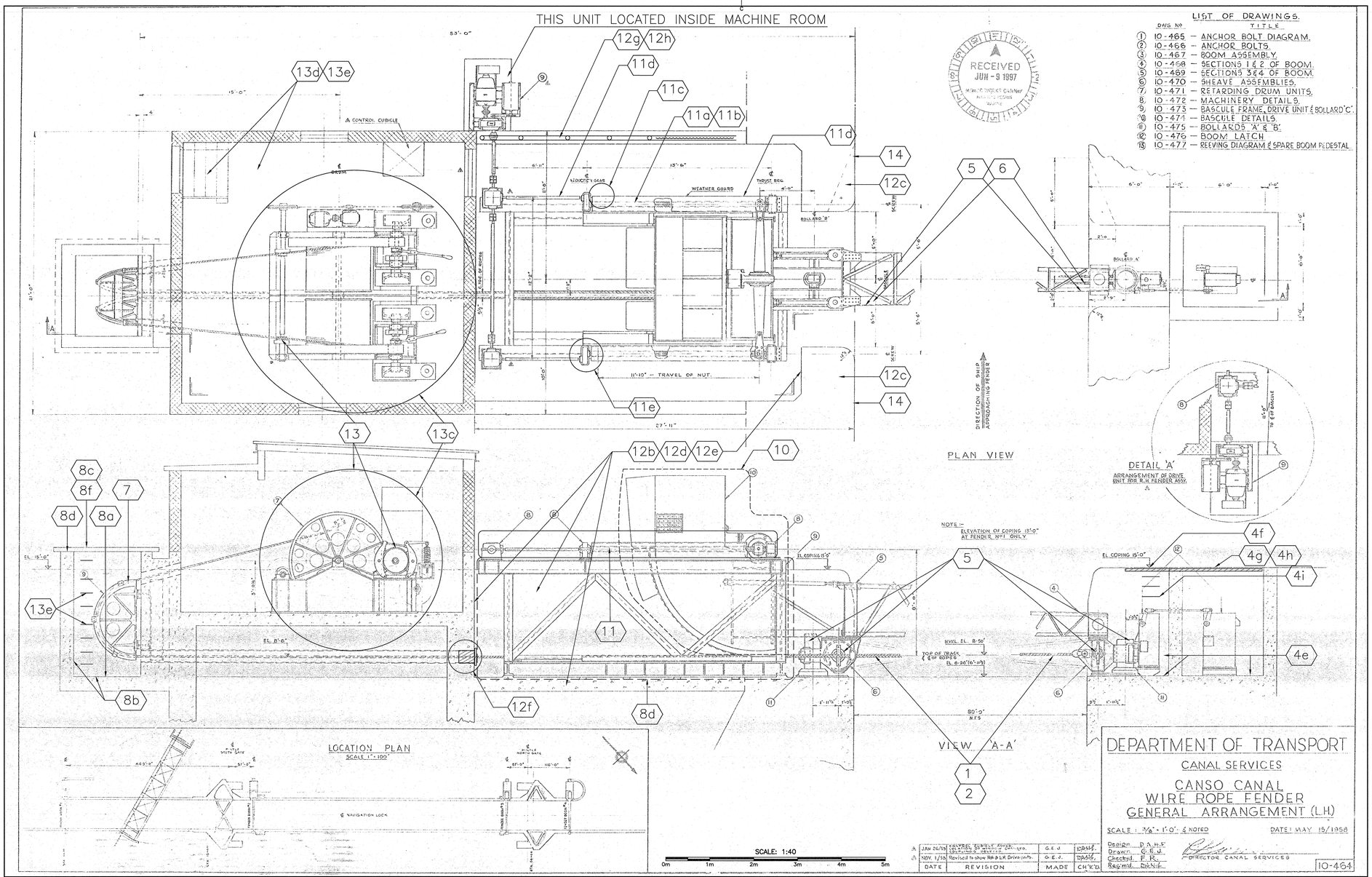
THIS UNIT LOCATED INSIDE MACHINE ROOM



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Ottawa

LIST OF DRAWINGS.

DWG No	TITLE
(1)	10-465 – ANCHOR BOLT DIAGRAM.
(2)	10-466 – ANCHOR BOLTS.
(3)	10-467 – BOOM ASSEMBLY.
(4)	10-468 – SECTIONS 1 & 2 OF BOOM.
(5)	10-469 – SECTIONS 3 & 4 OF BOOM.
(6)	10-470 – SHEAVE ASSEMBLIES.
(7)	10-471 – RETARDING DRUM UNITS.
(8)	10-472 – MACHINERY DETAILS.
(9)	10-473 – BASCULE FRAME, DRIVE UNIT & BOLLARD 'C'.
(10)	10-474 – BASCULE DETAILS.
(11)	10-475 – BOLLARDS 'A' & 'B'.
(12)	10-476 – BOOM LATCH.
(13)	10-477 – REEVING DIAGRAM & SPARE BOOM PEDESTAL.

DETAILED SCOPE OF WORK

1. REMOVE AND DISPOSE OFF–SITE EXISTING STEEL WIRE ROPES AND ROPE ANCHORS S4 (10–464), S7 (10–467)
2. SUPPLY AND INSTALL NEW FENDER WIRE ROPES AND ROPE ANCHORS S4 (10–464), S5 (10–465), S17 (10–477)
4. BOOM LATCH MECHANISM – (NORTH AND SOUTH) S16 (10–476)
   a. REMOVE AND DISPOSE OFF–SITE ENCLOSURE FOR BOOM LATCH MECHANISM
   b. SUPPLY AND INSTALL NEW STEEL ENCLOSURE OVER BOOM LATCH UNIT
   c. SUPPLY AND INSTALL 25 MM DIA. STEEL LINK PIPE BETWEEN THRUSTER UNIT AND BOOM LATCH
   d. SUPPLY AND APPLY AN EPOXY BASED, TWO COMPONENT MICROBIALLY–INDUCED CORROSION RESISTANT COATING TO BOOM LATCH ENCLOSURE AND 25 MM DIA. STEEL LINK PIPE BETWEEN THRUSTER UNIT AND BOOM LATCH
   e. POWER–WASH WITH FRESH WATER AND CLEAN ALL INTERNAL SURFACES OF BOOM LATCH PITS, FILL CRACKS AND REPAIR CONCRETE SURFACE USING EPOXY BASED COMPOUND
   f. REMOVE AND DISPOSE OFF–SITE EXISTING STEEL PLATE COVER OVER LATCH MECHANISM PITS
   g. REMOVE DETERIORATED CONCRETE UP TO A DEPTH OF 300 MM, INSTALL DOWEL BARS AND CAST NEW CONCRETE.
   h. SUPPLY AND INSTALL NEW GALVANIZED STEEL COVER OVER LATCH MECHANISM PITS WITH ACCESS HATCH OVER EXISTING STEEL LADDER
   i. REPLACE CORRODED STEEL RUNGS WITH GALVANIZED STEEL RUNGS
5. BOOM ASSEMBLY – SOUTH S7 (10–467), S8 (10–468), S9, (10–469)
   a. REMOVE BOOM ASSEMBLY
   b. PRESSURE WASH, SANDBLAST, AND INSPECT BOOM FRAME SEGMENTS INCLUDING ALL JOINTS
   c. PROVIDE INSPECTION REPORT SHOWING LOCATION AND NUMBER OF JOINTS REQUIRING WELD AUGMENTATION OR REPLACEMENT
   d. AUGMENT JOINT WELDS WHERE NEEDED (ESTIMATED 30%)
   e. SUPPLY AND APPLY AN EPOXY BASED, TWO COMPONENT MICROBIALLY–INDUCED CORROSION RESISTANT COATING SYSTEM TO BOOM ASSEMBLY OFF–SITE IN CONTROLLED CONDITIONS
   f. HAND OVER REFURBISHED SOUTH BOOM UNIT, AS NEW SPARE, TO CANSO CANAL AUTHORITY IN KNOCKED–DOWN CONDITION STACKED ON 200x200x1200 PRESSURE TREATED TIMBER BLOCKS AS SHOWN ON DRAWINGS S8 AND S9
   g. SUPPLY ALL NECESSARY FASTENERS IN AN AIRTIGHT CONTAINER
   h. PRESSURE WASH, SANDBLAST, AND INSPECT EXISTING SPARE BOOM FRAME SEGMENTS INCLUDING ALL JOINTS
   i. REPAIR DAMAGED AND DEFORMED MEMBERS OF EXISTING SPARE BOOM
   j. AUGMENT JOINT WELDS WHERE REQUIRED (ESTIMATED 10%)
5. CONTINUED:
   k. SUPPLY AND APPLY AN EPOXY BASED, TWO COMPONENT MICROBIALLY–INDUCED CORROSION RESISTANT COATING SYSTEM OFF–SITE UNDER CONTROLLED CONDITIONS
   l. INSTALL NEW FASTENERS
   m. REMOVE AND DISPOSE OFF–SITE CABLE CLAMP ASSEMBLIES INCLUDING STEEL PLATE HANGERS. RETAIN FIVE ASSEMBLIES REMOVED IN RELATIVELY BETTER CONDITION, CLEAN, SANDBLAST, COAT, AND HAND OVER TO CANSO CANAL STAFF AS SPARE
   n. INSTALL NEW CABLE CLAMP ASSEMBLIES INCLUDING STEEL PLATE HANGERS
6. BOOM ASSEMBLY – NORTH S7 (10–467), S8 (10–468), S9 (10–469)
   a. REMOVE AND DISPOSE OFF–SITE EXISTING BOOM ASSEMBLY
   b. SUPPLY ONE NEW BOOM UNIT
   c. SUPPLY AND APPLY AN EPOXY BASED, TWO COMPONENT MICROBIALLY–INDUCED CORROSION RESISTANT COATING SYSTEM OFF–SITE UNDER CONTROLLED CONDITIONS
   d. INSTALL NEW FASTENERS
   e. INSTALL NEW CABLE CLAMP ASSEMBLIES INCLUDING STEEL PLATE HANGERS
7. BOLLARD C – S13 (10–473)
   a. REMOVE BOLLARD COVER CLEATS
   b. CLEAN AND COAT BOLLARDS, CONNECTING MEMBERS, ANCHOR PLATES AND COVER CLEATS
   c. REINSTALL BOLLARD COVER CLEATS USING NEW FASTENERS
8. BOLLARD C , PIT – S4 (10–464), S5 (10–465)
   a. REMOVE ACCUMULATED DEBRIS AND POWER WASH PIT
   b. REPAIR CRACKS IN WALLS, BASE AND APPLY EPOXY/POLYMER BASED COMPOUND
   c. REMOVE AND DISPOSE OFF–SITE EXISTING STEEL PLATE COVER OVER PIT
   d. LEVEL AND FINISH TOP SURFACE OF PIT WALL
   e. CLEAN AND COAT LADDER RUNGS
   f. FABRICATE, SUPPLY AND INSTALL NEW GALVANIZED STEEL COVER WITH ACCESS HATCH OVER PIT (S3)
10. BASCULE UNIT – S14 (10–474).
    a. REMOVE AND DISPOSE OFF–SITE COVERS OVER BALANCING ROD RECESS HATCH
    b. SUPPLY AND INSTALL NEW HATCH COVERS OVER BALANCING ROD ACCESS HATCH
    c. REPLACE THROUGH BOLTS ATTACHING STEEL COUNTERWEIGHTS TO BASCULE UNITS (25EA. NORTH UNIT, 25 EA. SOUTH UNIT)
    d. REPLACE TRUNION BEARING HOUSING COVER PLATE AND ATTACHING BOLTS (2 EA. NORTH UNIT, 1 EA. SOUTH UNIT)
    e. REPLACE NUTS, JAM NUTS, AND WASHERS OF BOOM ANCHOR BOLTS
    f. REPLACE ALL OTHER CORRODED FASTENERS
    g. GRIND AND WELD CRACK IN PIPE SLEEVE FOR BOOM ANCHOR IN SOUTH ARRESTOR (NORTH SLEEVE)
    h. SAND BLAST BASCULE UNITS AND APPLY AN EPOXY BASED, TWO–COMPONENT COATING SYSTEM AS PER NOTE 16 ON DRAWING S1
11. WORMGEAR ASSEMBLY – S4 (10–464), S12 (10–472)
    a. REMOVE EXISTING SHEET METAL COVERS OVER WORM GEAR ASSEMBLY
    b. SUPPLY AND INSTALL NEW SHEET METAL COVERS OVER WORM GEAR ASSEMBLY
    c. REMOVE EXISTING BUTTON–HEAD GREASE NIPPLES UNDER SHEET METAL COVER OVER WORM GEARS SYSTEM. SUPPLY AND INSTALL NEW 90 DEGREE GREASING ELBOW AT EACH POINT AND REINSTALL EXISTING BUTTON–HEAD GREASE NIPPLES TO FACILITATE EASY ACCESS FOR GREASE GUN
    d. SUPPLY AND APPLY AN EPOXY BASED, TWO–COMPONENT COATING SYSTEM AS PER NOTE 16 ON DRAWING S1 TO ALL EQUIPMENT EXTERIOR EXCEPT RUNNING/MOVING SEGMENTS
    e. REPLACE OIL SEALS IN ALL REDUCTION GEARBOXES AT NORTH AND SOUTH ARRESTORS
    f. REPAIR CLADDING AND SEAL AROUND WORM GEAR SHAFT ENTRY INTO MACHINE ROOM AT NORTH ARRESTOR
12. BASCULE UNIT RECESS – S4 (10–464)
    a. REMOVE AND DISPOSE OFF–SITE EXISTING STEEL RUNGS COVERED BY GRATING WALKWAY
    b. POWER–WASH AND CLEAN PIT WALLS AND FLOOR
    c. INSTALL CONCRETE ANCHOR BOLTS TO STABILIZE SEPARATED SEGMENT OF CONCRETE WALL
    d. REPAIR MINOR CRACKS AND INJECT MAJOR CRACKS WITH SUITABLE EPOXY/POLYMER BASED COMPOUND
    e. APPLY CEMENT/POLYMER BASED COATING
    f. SEAL STEEL ROPE ENTRY DUCT BY INJECTING POLYURETHANE FOAM TO A DEPTH OF 300 MM AND SACRIFICIAL PLASTIC CAP OVER THE DUCT AFTER SATISFACTORY COMPLETION OF TESTING OF ARRESTOR (S3)
    g. REMOVE AND DISPOSE OFF–SITE EXISTING GUARDRAIL.
    h. SUPPLY AND INSTALL NEW GALVANIZED STEEL GUARDRAIL TO MATCH EXISTING
13. MACHINE ROOM – S11 (10–471)
    a. REMOVE PAINT FROM TRANSFER GEAR SHAFT AT SOUTH ARRESTOR
    b. CLEAN, SANDBLAST, PAINT AND INSTALL TWO PAIRS OF RETARDING BRAKE SHOES THAT WERE PREVIOUSLY REMOVED AND REMAIN UNINSTALLED AT SOUTH ARRESTOR (AVAILABLE IN MACHINE ROOM)
    c. DEMONSTRATE SATISFACTORY FUNCTIONING OF TRANSFER GEARS AT NORTH AND SOUTH ARRESTORS.
    d. CLEAN MACHINE ROOM INTERIOR AND PRESSURE WASH FLOOR AND STEPS AFTER COMPLETION OF ALL OTHER WORK
    e. PAINT FLOOR AND STEPS TO MATCH EXISTING
14. CANAL WALL CONCRETE REPAIR – S4 (10–464), S5
    a. REMOVE DETERIORATED CONCRETE FROM CAVITY IN CANAL WALL NEAR WATER LINE
    b. FILL CLEANED RECESS WITH APPROVED HIGH STRENGTH PATCHING MORTAR
    c. FINISH SO FLUSH WITH CANAL WALL SURFACE

DATE	REVISION	MADE	CH'K'D
JAN 26/96	REVISED SURVEY ADDED SOUTH ARRESTOR & GENERAL	G.E.J.	DAS&F
NOV. 1/55	Revised to show RH & LH Drive units.	G.E.J.	DAS&F

DEPARTMENT OF TRANSPORT
CANAL SERVICES
CANSO CANAL
WIRE ROPE FENDER
GENERAL ARRANGEMENT (L.H)

SCALE : 3/16" = 1'-0" & NOTED — DATE: MAY 15/1956

Design D.A.M.F.
Drawn G.E.J.
Checked F.R.
Recmd D.A.M.F.

DIRECTOR CANAL SERVICES

10-464

Public Works and Government Services Canada / Travaux Publics et Services gouvernementaux Canada

REGISTERED PROFESSIONAL ENGINEER — PROVINCE OF NOVA SCOTIA — DATE NOV 06 2015 — V. LAMB — 7437

SHM CANADA
INNOVATIVE ENGINEERING AND DESIGN

0	ISSUED FOR TENDER	11/06/2015
revisions		date

project / projet
BUILDING ENVELOPE IMPROVEMENT PROJECT
CANSO CANAL
PORT HASTINGS
INVERNESS COUNTY, N.S.

drawing / dessin
WIRE ROPE FENDER GENERAL ARRANGEMENT (L.H.) AND REPAIR LOCATION IDENTIFICATION

designed V.L. / conçu
date SEP. 2015
drawn M.Z. / dessiné
date NOV. 6, 2015
approved / approuvé
date
Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC

project number / no. du projet
R.076938.001

drawing no. / no. du dessin
S4

PWGSC B1 (2004)

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