

APPENDIX 10. Specifications for Construction of NEFSC Standard #36 Bottom Survey Trawl

UPDATED ON 8/12/2002

Specifications for Construction of NEFSC Standard #36 Bottom Survey Trawl (601 - 801)

COMMENTS NET ID _____ DATE _____ INSPECTOR _____

Body of the Net

Dimensions of the sections are shown on the attached net plan and cutting diagram. Webbing for wings, square, and bellies is 5" stretched mesh measured knot center to knot center (or 4 3/4" inside measurement). It is single selvedge, stretched, and stabilized. The webbing is woven with white #96 (3 mm), 16-carrier virgin braided nylon twine. Webbing in the codend is 4 1/2" stretched mesh, center-to-center, single selvedge, stretched and stabilized. Twine for the codend webbing is white #180, 16-carrier virgin braided nylon.

Net sections are joined together by sewing a half mesh row of double twine of a contrasting color for easy identification of sections.

The top and bottom sections of the net are joined together at their sides by a gore or laceage. Gathering 6 knots from each of the top and bottom sections makes the gore. These are seized every foot and wrapped in between the Seizings using single #120 thread-braided nylon twine.

Dog-ear meshes are mended onto top and bottom wings with double #120 thread-braided nylon twine.

Gore Lines

Gore lines are 3/4" diameter polypropylene ropes that run from the after end of the codend to the top of the wing end where the rope is tied into the head rope eye splice. The gore line is slightly shorter than the laceage and is seized to the laceage at intervals of about 1'.

Footrope

The footrope is constructed from 120' (20 fathom) total length of 3/4" diameter polydacron (polyplus) rope. This length is used to construct the 100' (16.67 fathom) footrope including eye splices, and the seven-foot up-and down lines. The remainder of the rope at each end is tied into the wing end eye of the head rope, with the excess seized back down the door end line. Lower wings are hung in 45' (7 1/2 fathom) lengths while the lower belly is hung in a 10' (1.67 fathom) length.

Belly Lines

Belly lines are two strengthening lines on the bottom belly made of 3/4" polypropylene. They are seized to the footrope at the corner and run out and back to the gore line on the bar of the belly webbing. They are seized to the webbing and to the gore line.

APPENDIX 10 (CONTINUED).

Headrope

The headrope is made of 7/8" diameter nylon or polypropylene and steel combination rope with a fiber core. It consists of three 20' ($3\frac{1}{3}$ fathom) sections. Each section has eyes spliced at each end without thimbles and sections are joined by 1/2" hammerlock links. The square is hung in 12' (2 fathom) and the wings are hung in 24' (4 fathom) lengths.

Hanging

The dogs on the wings are hung to the headrope and the footrope with hanging meshes of double #182 braided nylon twine. The belly and the square selvedge meshes are evenly hung on the bosom sections of the footrope and the headrope with #132 braided nylon twine. The hanging lengths for the wings and bosom on the headrope and footrope are shown on the attached plan. Each dog is seized to the headrope with bar-tight seizings.

Up-and Down

Door end meshes of the bottom wing are evenly hung on the seven-foot up-and-down line that runs from the footrope to the headrope. The end meshes of the top wing are gathered together and seized into the headrope eye splice.

Floats

There are 36 eight-inch spherical aluminum floats. The floats have a 5/8" polypropylene line threaded through their double beackets. This poly line is then seized to the headrope. Float arrangement: 20 floats evenly spaced on the center 20' ($3\frac{1}{3}$ fathom) section of headrope, and 8 floats evenly spaced on each 20' ($3\frac{1}{3}$ fathom) side section. Float line is seized to backside of the headrope, so floats lie above the webbing and behind the headrope.

Traveler

(Fishing line)

The traveler is made up of five lengths of 5/8" diameter combination rope with eyes spliced in each end without thimbles and joined with 1/2" hammerlocks. These lengths, from wing end to wing end are 23' (3.83 fathom), 9½' (1.58 fathom), 16' (2.67 fathom), 9½' (1.58 fathom), and 23' (3.83 fathom). Measurements are total overall length, including eye splices. Combination rope is a combination of nylon or polypropylene strands and steel wire with a fiber core.

Sweep

The sweep is made up of five sections of 3/4" diameter 6 x 19 fiber core, galvanized wire rope. The sections have eyes without hammerlocks at each end. The sections are joined with 5/8" shackles. The lengths of the sections from wing end to wing end are 22½' ($3\frac{3}{4}$ fathom), 9½' (1.58 fathom), 16' (2.67 fathom), 9½' (1.58 fathom), and 22½' ($3\frac{3}{4}$ fathom). Dimensions are total lengths including splices. The wing end sections 22½ feet each, have 4" diameter rubber tire stampings (cookies) on their entire length with 7 link roller chains (toggles) every 2'. The roller chains consist of a 3" I.D. ring of 3/8" steel rod at each end linked together by 7 links of 5/16" chain. The distance between the end rings is 8". The footrope is passed through the ring at one end of the roller chain. The traveler is

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passed through the ring at the other end of the roller chain, except for the roller chains located at joins of the traveler or the footrope; then the ring is inserted in the split link or the shackle used to join the two sections.

The two 9½' (1.58 fathom) long sections and the center 16' (2.67 fathom) section have 16" diameter by 5" wide "Fenner" or equivalent solid, hard rubber (no spokes) rollers on them. Two rubber spacers, each 7" in length by 5" in diameter, separate these rollers. They have a 2¼" hole through the center. Between each pair of spacers a roller chain is strung on the sweep. The rollers and spacers are arranged on the sweep sections so there is a single spacer at each end of the center 16' (2.67 fathom) sections. On each of the 9½' (1.58 fathom) sections there are two spacers at the outer, wing, end and no spacers at the inner end that is adjacent to the center section. Each outer section has five rollers and ten spacers on it and the center section has 9 rollers with 18 spacers. There is a 4½" diameter steel washer at each end of each of the 5 sections of the sweep.

Seizings

The footrope is seized to the pear shaped rings that are used to attach the droppers to the sweep. The traveler passes through the pear shaped rings that the footrope is seized to. This eliminates the problem of the seizings slipping and bunching of the footrope.

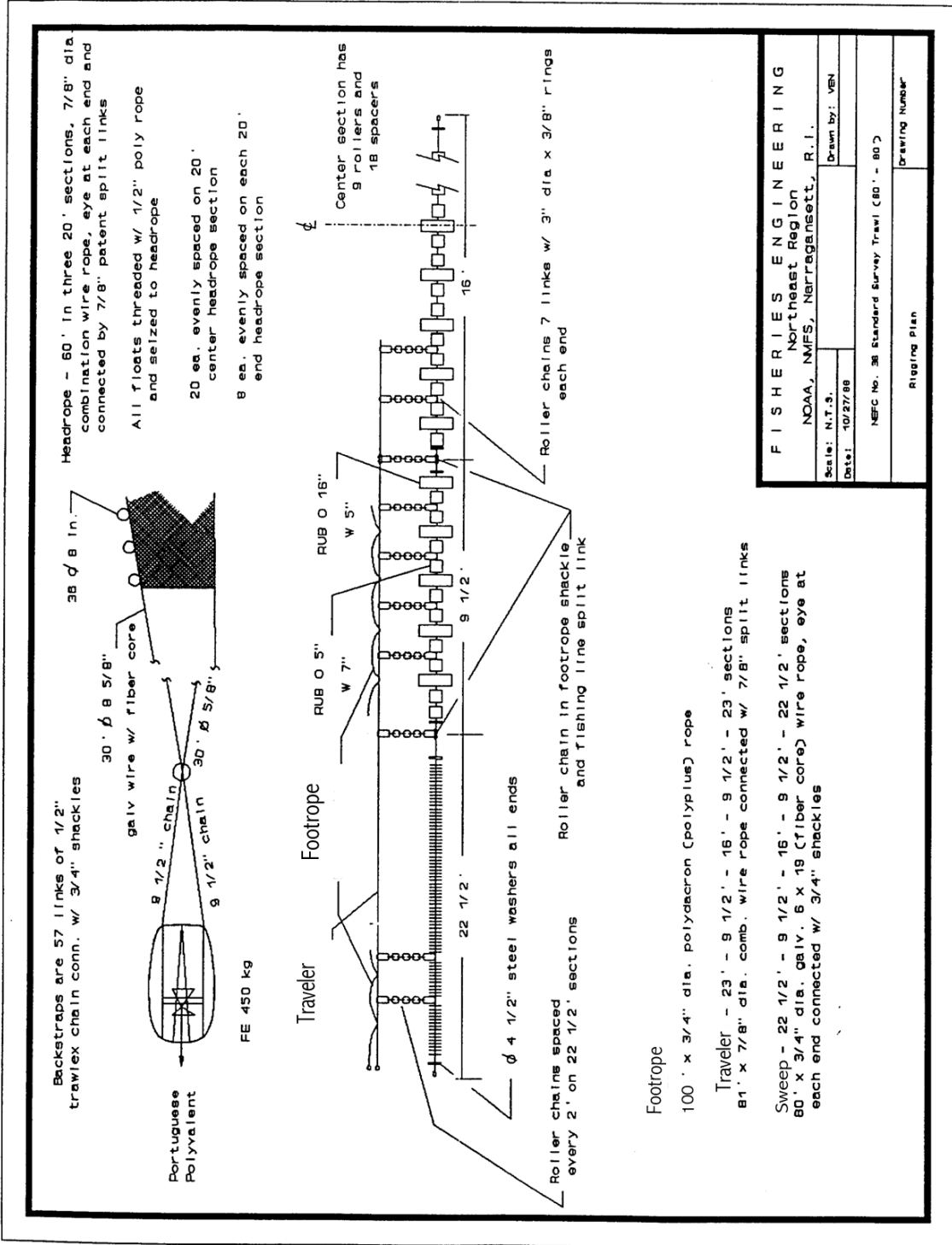
Liners

The after part of the upper belly is lined with ½" mesh liner material, as is the entire codend. Both liners are made of ½" mesh #147 knotless white nylon webbing, Nylon Net Co. or equivalent. The belly liner is 30' (5 fathoms) across the leading edge, 21' (3½ fathoms) down each side, and 18' (3 fathoms) across the after edge. The codend liner is 30' (5 fathoms) around by 24' (4 fathoms) long. These measurements are made with the meshes open but without stretching the webbing tightly. The belly liner is reinforced along the leading edge and down each side by gathering and seizing a 1/2' diameter roll of liner material. This roll of material is then seized to 54-thread strengthener that is knotted with an overhand knot every 8" along its length. The top belly liner is attached to the inside of the top belly 35 meshes up from the after end of the belly. It is also seized down the sides off the belly, 1 mesh in from the gore. The after end of the belly liner is not seized.

The codend liner is also reinforced along the forward edge by gathering and seizing a 1/2" roll of the material and then seizing a knotted 54-thread strengthener to it. This same technique is used down the gore of the liner where the two edges are joined, and down a false gore opposite the join. The after end is not reinforced. The codend liner is attached inside the codend to every mesh around the codend. This is done one and one-half mesh back from the codend - belly join.

Codend

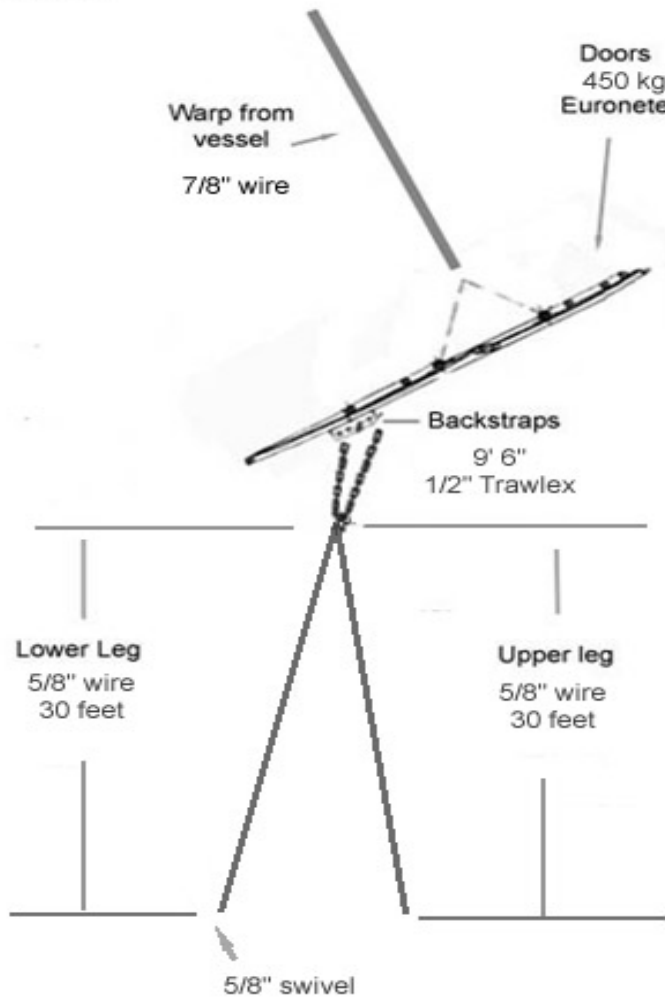
Rings are hung to the codend with codend twine at a ratio of one ring for each 3 meshes. Rings are 2" diameter galvanized steel made from 5/16" rod stock. The codend measures 50 meshes deep by 80 meshes in circumference. Chaffing mat is constructed from 4½" nylon and is 30Wx35D.



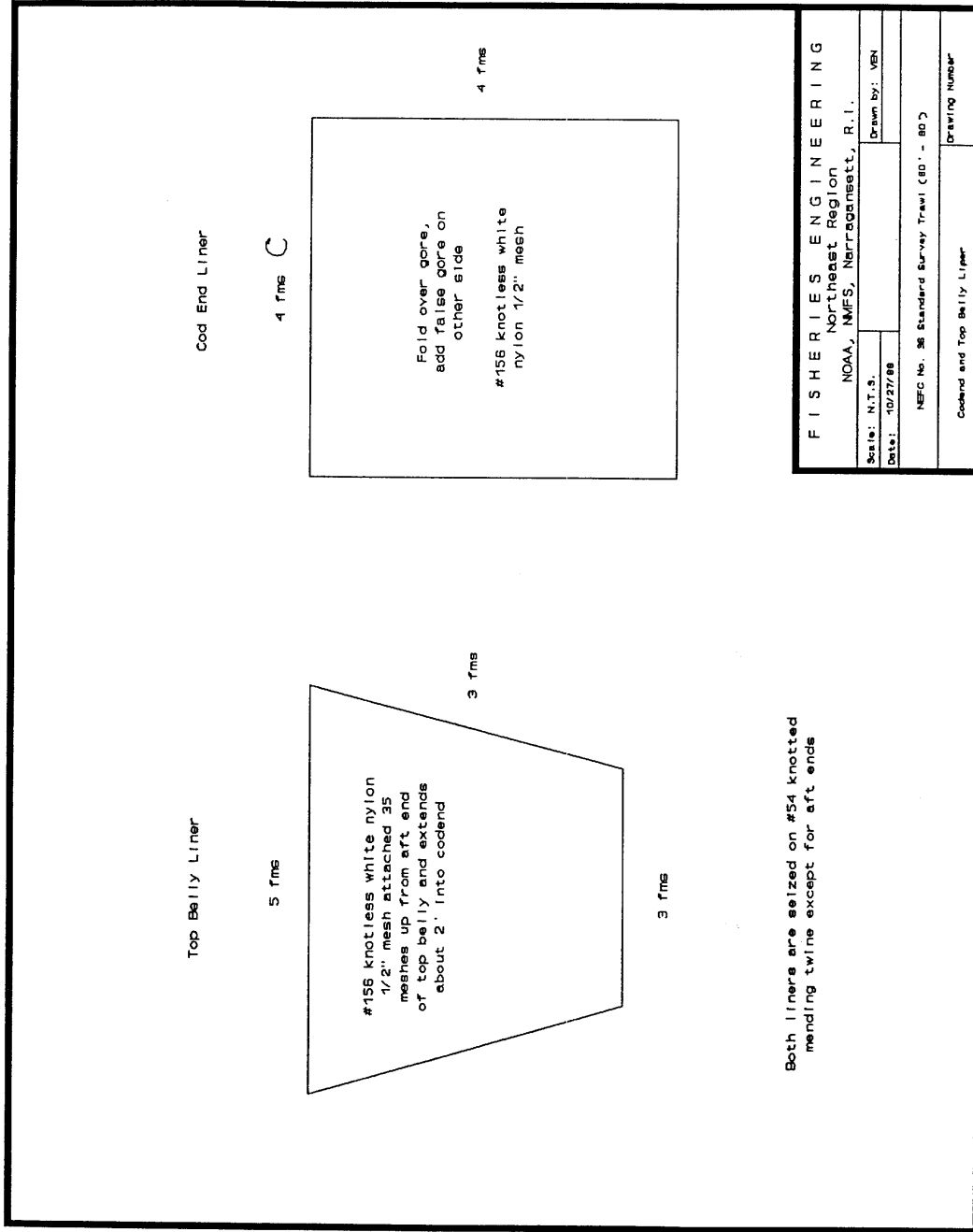
F I S H E R I E S E N G I N E E R I N G
 Northeast Region
 NOAA, NMFS, Narragansett, R.I.
 Scale: N.T.S.
 Date: 10/27/88
 Drawn by: VBN
 NEFC No. 36 Standard Survey Trawl (80' - 80')
 Rigging Plan
 Drawing Number

APPENDIX 10 (CONTINUED).

Roller net - Albatross IV



APPENDIX 10 (CONTINUED).



F I S H E R I E S E N G I N E E R I N G	
Northeast Region	
NOAA, NMFS, Narragansett, R.I.	
Scale: N.T.S.	Drawn by: VEN
Date: 10/27/88	
NEFC No. 56 Standard Survey Trawl (80' - 80')	
Codend and Top Belly Liner	
Drawing Number	

APPENDIX 10 (CONTINUED).

