SECTION IX - NAUTICAL CHART UPDATING

INTRODUCTION:

NOS and the Coast Guard rely on mariner notification of any modifications that may be required to keep nautical charts and other related publications current. In 1962 NOS, the Coast Guard and the Auxiliary entered into an agreement for mutual cooperation, wherein the Auxiliary through its ATON/CU Program agreed to report data useful for NAUTICAL CHART UPDATING. Today, in respect to that agreement, NAUTICAL CHART UPDATING has become an important responsibility in the Auxiliary ATON/CU Program efforts.

OBJECTIVE:

1. To acquire a general knowledge of the responsibilities of the Auxiliary in NAUTICAL CHART UPDATING activities.

2. To become familiar with the characteristics of the NAUTICAL CHART UPDATING information to be reported.

3. To become familiar with the method of reporting NAUTICAL CHART UPDATING information on the NOAA 77-5 form with attachments.

INFORMATION:

To maintain the efficiency and effectiveness of the navigation information provide on nautical charts and other related publications, the proponent agencies need input data on observed non-standard conditions. Accordingly, any and all changes, deletions, additions and discrepancies between information published on nautical charts or in nautical publications and that observed on location, should be reported. In this regard, the Auxiliary member on location observer should assume that any finding is a first instance discovery, of a non-standard condition, and should report such a finding as a chart update on the NOAA 77-5 form. The Auxiliary member should understand that there is no retribution for independent redundant reporting. Moreover, for those cases when more that one independent report is submitted, such data may better confirm the prevailing situation for modifications. In this connection it is important to know that, items checked and found to be published correctly should not be reported unless requested by appropriate authority.

Chart updating reports should be as concise, definitive, and complete as possible using a NOAA 77-5 form. Of particular concern are those features on the water, such as buoys, which must be observed close aboard and are the most difficult for charting agencies to verify. Features on land or in the water fixed to the bottom, such as beacons, can be verified more expeditiously from distant observation. Observers should always use the current edition of the largest scale charts available. Such charts should be kept current through application of data

contained in Notices to Mariners. Refer to the Example Chart Update Reports on NOAA 77-5 Forms at the end of this Section.

Auxiliary members and their units submitting NOAA 77-5 reports are awarded credits, refer to Section XII.

Observations at the location of geographical areas where magnetic disturbances affect compass readings and/or electronic disturbances affect electronic equipment readings should be reported in chart updating. Include the extent of area affected, the amount of deflection observed, water and weather conditions. Also note if any similar disturbances were observed during previous surveillance of the area.

Prominent objects/features are charted on nautical charts as distinctive landmarks for ready points-of-reference. Such prominent objects include tall/large/distinctive structures, i.e., smokestacks, spires, towers, flagpoles, lights, buildings, and natural formations of rocks, cliffs, trees, hills, etc., at significant locations. More recently, with the increased use of cellular telephones, many new micro towers have been established which are ideal landmarks in view of their height and lights. These micro towers can be observed during reduced visibility and at night. In an environment of massive new construction and reconstruction, new landmarks emerge and old landmarks are modified, demolished or obscured. As appropriate, such occurrences should be reported as chart updating information.

Positions of landmarks can normally be determined with Sextant measured angles or compass bearings or both taken from known positions. Heights of landmarks can be determined with Sextant measured vertical angles and computations (refer to Section VIII).

Newly dredged waterway channels and the re-dredging/modification of existing channels, as approved, by local authorities, private firms, and individuals, should be indicated on nautical charts. Some waterway channels may be of a purely local nature, but if shown on the chart, would benefit mariners in general. Such new, re-dredged or modified channels should be reported with particular attention to: the width and depth of the channel, date and hour such measurements were taken, position of channel markers (if any), and (if possible) who performed the dredging and for whom it was done. For those situations, when an area in which a dredging operation was recently completed, has not been charted, the particulars should be reported. Included in such a chart updating report should be a copy of the after-dredging survey.

Of all chart updating input, accurate data pertaining to submerged objects, i.e., object type, characteristics, position and depth, are the most critical and difficult to obtain, define, and report.

REPORTABLE NAUTICAL CHART UPDATING ITEMS

AERONAUTICAL LIGHTS, AERONAUTICAL RADIO BEACONS	NEW OR REMOVED
AIDS TO NAVIGATION	CONFIRM CHARTED LOC~ON
AIRPORTS AND LANDING STRIPS	NEW OR DISCONTINUED
ANCHORAGES	NORMAL AND EMERGENCY
BRIDGES	NEW, REMOVED, UNDER CONSTRUCTION, OR IN RUINS
CABLES	OVER OR UNDER NAVIGABLE WATERS
CHANNELS	NEW OR MODIFIED – INDICATE CENTERLINE, CONTROLLING DEPTH, WIDTH, MARKINGS
COAST GUARD STATION	NEW, DISCONTINUED OR CHANGE IN FACILITY
CRIBS AND WATER INTAKES	VISIBLE OR SUBMERGED, SIZE, TYPE OF CONSTRUCTION AND DEPTH IF SUBMERGED
DAMS	TYPE, POSITION, LIGHTS, OTHER PERTINENT DATA
DIKES AND LEVEES	TYPE, HEIGHT AND EXTENT
DOLPHINS OR OTHER PILINGS	VISIBLE OR SUBMERGED
DRY DOCKS	NEW OR DISCONTINUED
DUCK BLINDS	TEMPORARY OR PERMANENT STRUCTURES
DUMPING GROUNDS AND SPOIL AREAS	EXTENT
FERRIES	TYPE, DOCK FACILITIES, UNDERWATER OR OVERHEAD CABLES
FISH HAVENS	OBSTRUCTION (ARTIFICIAL FISH HAVEN)

REPORTABLE NAUTICAL CHART UPDATING ITEMS (con't)

FISH STAKES	VISIBLE, SUBMERGED (OUTSIDE OF CHARTED TRAP AREA)
FISH TRAP AREA	SHOW LIMITS OF AREA COVERED
GEOGRAPHIC NAMES	CORRECT INCORRECT OR MISSPELLED NAMES - SUBMIT OMITTED LOCAL NAME
GROINS	TYPE, VISIBLE, SUBMERGED, OR RUINS
JETTIES AND BREAKWATERS	TYPE, VISIBLE, SUBMERGED, OR RUINS
LANDMARKS	NEW, REMOVED, DESTROYED, OR SUBMERGED - RECOMMEND NEW ONES THAT CAN BE SEEN FROM SEAWARD
LOG BOOMS	EXTENT AND LOCATION, NAVIGATIONAL HAZARD
MARINAS AND FACILITIES	REPORT NEW, CLOSED, CHANGES
MARINE CONSTRUCTION	BULKHEADS, WHARVES, DOCKS, PIERS, ETC.
MARINE RAILWAYS	NEW OR DISCONTINUED, VESSEL LENGTH, TONNAGE
NEW CHART REQUIREMENTS	RECOMMEND NEW OR ADDITIONAL COVERAGE
OBSTRUCTIONS	TYPE, VISIBLE, SUBMERGED, PERMANENT OR TEMPORARY
PIERS AND DOCKS	NEW, DISCONTINUED, EXTENDED, RUINS, VISIBLE OR SUBMERGED
PILES	VISIBLE OR SUBMERGED, SINGLE OR MULTIPLE - SHOW LOCATION
PIPELINES	OVERHEAD OR SUBMERGED, CLEARANCES, MATERIAL CONTAINED
PLATFORMS (ALL TYPES)	TYPE, MARKINGS, LIGHTS, AND HAZARDS

REPORTABLE NAUTICAL CHART UPDATING ITEMS (con't)

RADIO BROADCASTING TOWERS	NEW, DISCONTINUED, CALL LETTERS, HEIGHTS AND LIGHTS
RAMPS	TYPE, SURFACE, LENGTH, PUBLIC OR PRIVATE
ROCKS	VISIBLE OR SUBMERGED, AT TIDE, LAKE OR RIVER STAGES - GIVE WATER DEPTH, SIGNIFICANT CHANGES OF TWO FEET OR MORE IN CHARTED DEPTHS
RUINS	NOT COVERED IN OTHER CATEGORIES
SEWER OUTLETS	SIZE AND TYPE OF CONSTRUCTION
SHOALS	VISIBLE OR SUBMERGED, AT TIDE, LAKE OR RIVER STAGES - GIVE WATER DEPTH
SNAGS	TYPE, VISIBLE OR SUBMERGED
STACKS AND CHIMNEYS	MARKINGS, HEIGHT, LIGHTS, CONSTRUCTION
WRECKS	VISIBLE OR SUBMERGED AT TIDE, LAKE OR RIVER STAGES WRECKS ABOVE HIGH WATER MARK SHOULD NOT BE REPORTED UNLESS USEFUL AS A LANDMARK

The chart scale is important in determining whether reported items are chartable. In this connection, it is noted that, to determine if an object is of chartable size "THE OBJECT SHOULD NOT BE LESS THAN 0.03. INCHES (RELATIVE) WHEN ILLUSTRATED ON THE CHART." Using a Pier as an example of a object to be charted; then, for the Pier to be chartable it must be equal to or greater than 0.03 inches relative to the scale of the chart. It is also important to note that, nautical charts are being converted to the METRIC SYSTEM with the **base unit** expressed in **meters**, not in feet. Accordingly, the following examples and graph can be used with the appropriate metric conversion factors, viz., feet-to-meters multiple by 0.30480, meters-to-feet multiple by 3.28083; also, inches-to-meters multiply by 0.02540, meters to inches multiple by 39.36992. As an illustration, let:

Base Unit in FEET	Pier length in feet multiplied by 12 (representing inches per foot) and divided by the Chart Scale

- Base Unit in METERS Pier length in meters multiplied by 39.36992 (representing inches per meter) and divided by the Chart Scale

    - **EXAMPLE #1A** Pier length 90 feet, Chart Scale 1:40,000 (one inch on the chart representing 40,000 inches on the earth's surface) 90 X 12/40,000 = **0.027 inches** (Pier is not chartable as it is less than the specified lower limit of **0.03 inches**)

    - **EXAMPLE #1B** Pier length 27.43200 meters, Chart Scale 1:40,000 27.43200 X 39.36992/40,000 = **0.027 inches** (Pier is not chartable as it is less than the specified lower limit **of 0.03 inches**)

    - **EXAMPLE #2A** Pier length 125 feet, Chart Scale 1:30,000 125 X 12/30,000 = **0.05 inches** (Pier is chartable as it is greater than the specified lower limit of **0.03 inches**)

    - **EXAMPLE #2B** Pier length 38.10000 meters, Chart Scale 1:30,000 38.10000 X 39.36992/30,000 = **0.05 inches** (Pier is chartable as it is greater than the specified lower limit of **0.03 inches**)

The following graph is provided for quick reference in determining pier lengths. The "Length of Pier in Feet" (ordinate/y-axis) presentation can be converted to meters, as say:

10 feet = 3.0480 meters, 130 feet = 39.62400 meters, etc.

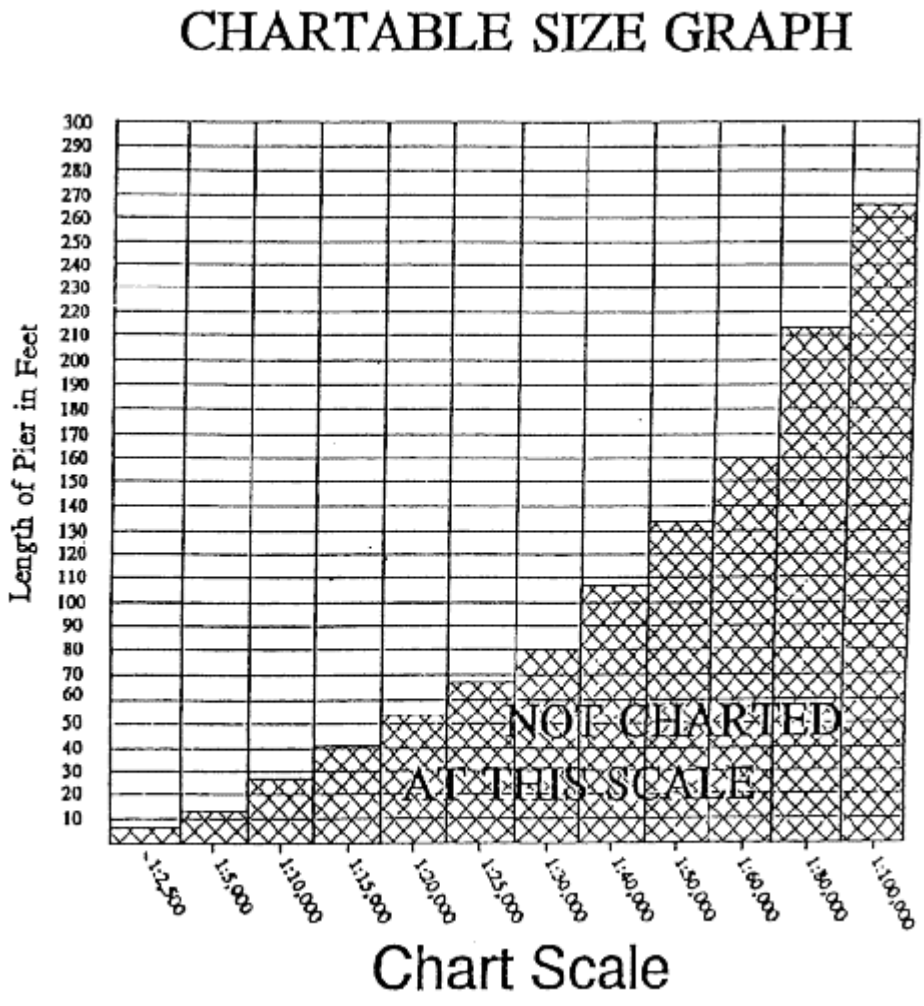
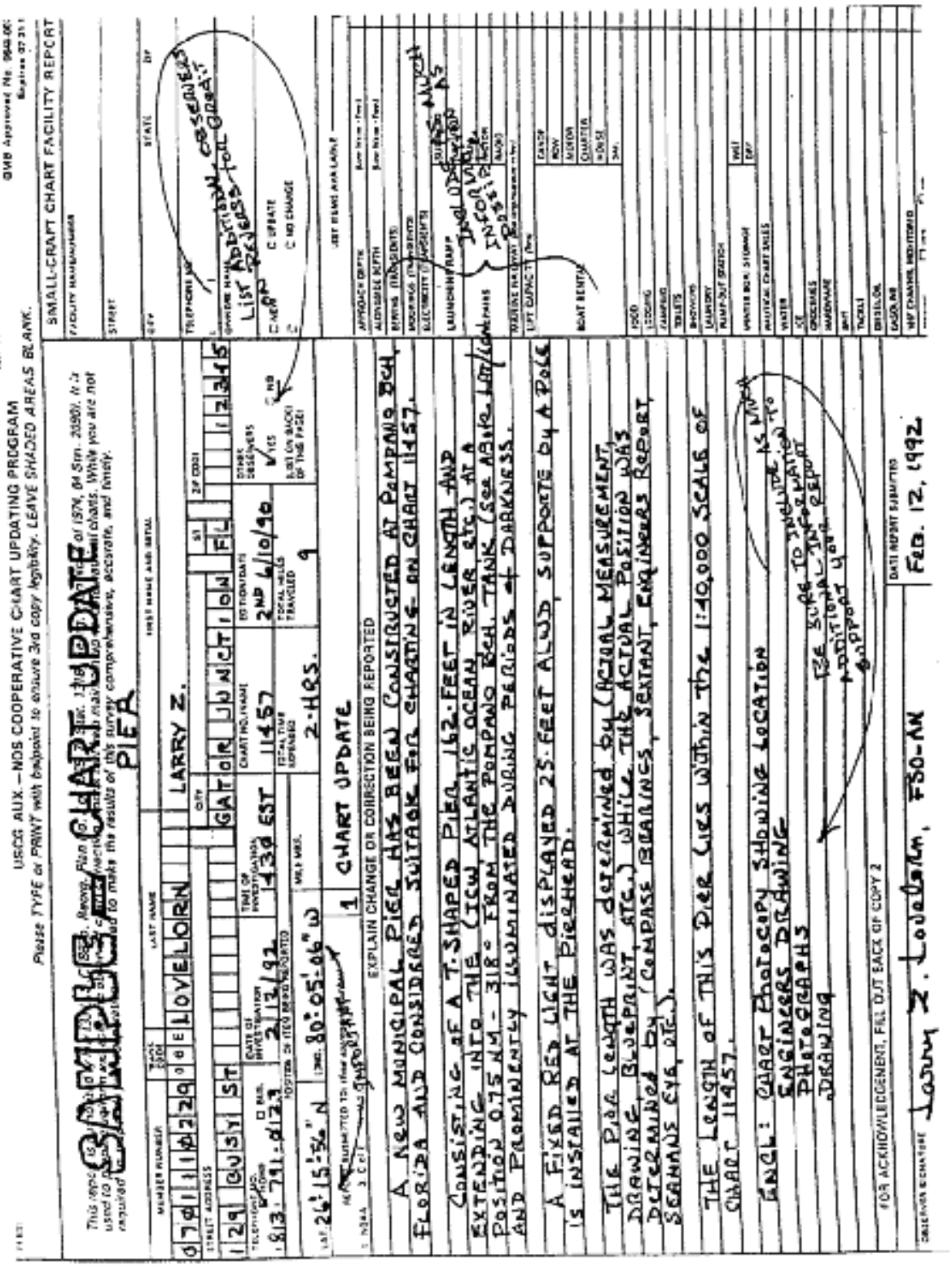
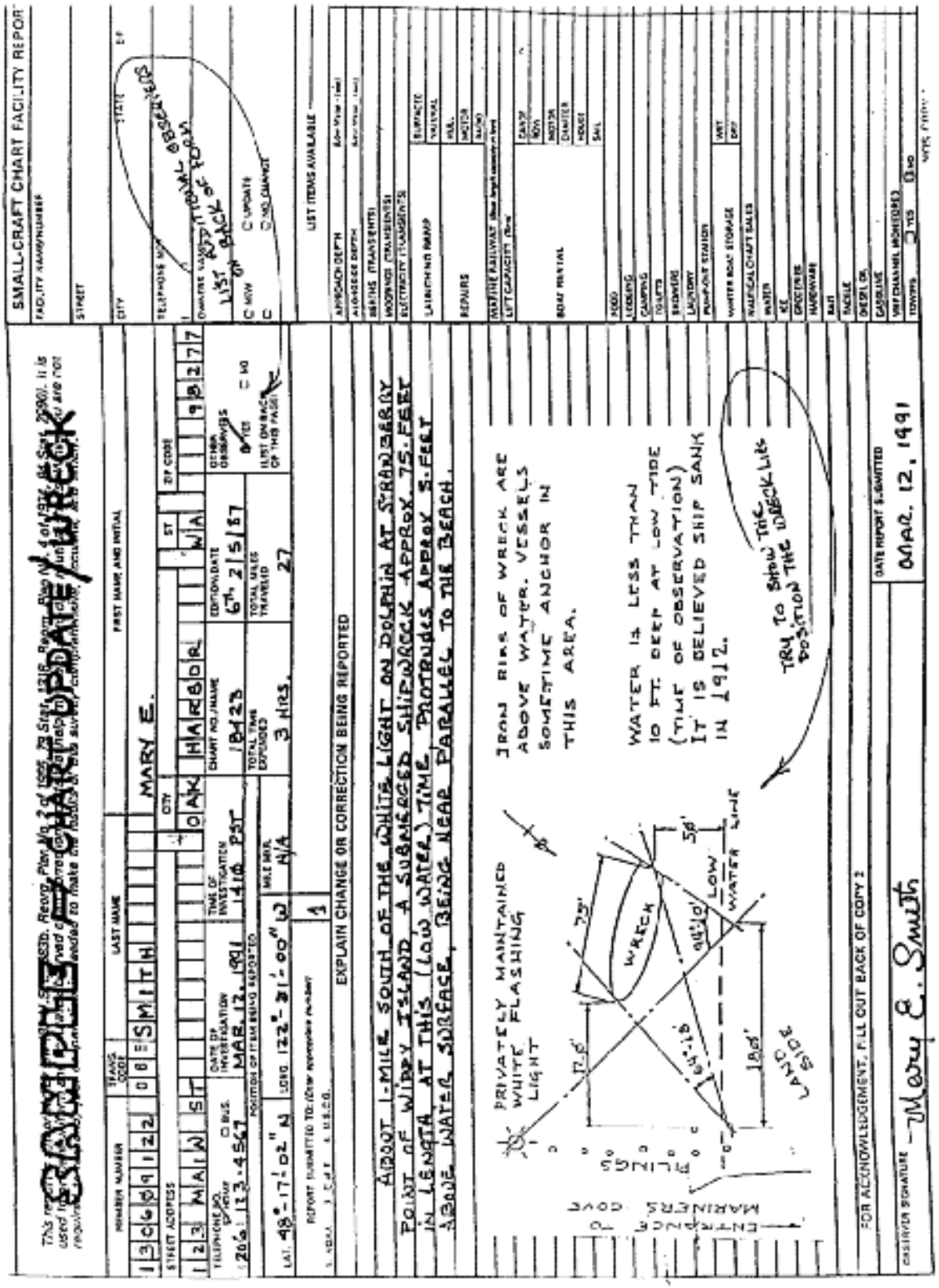


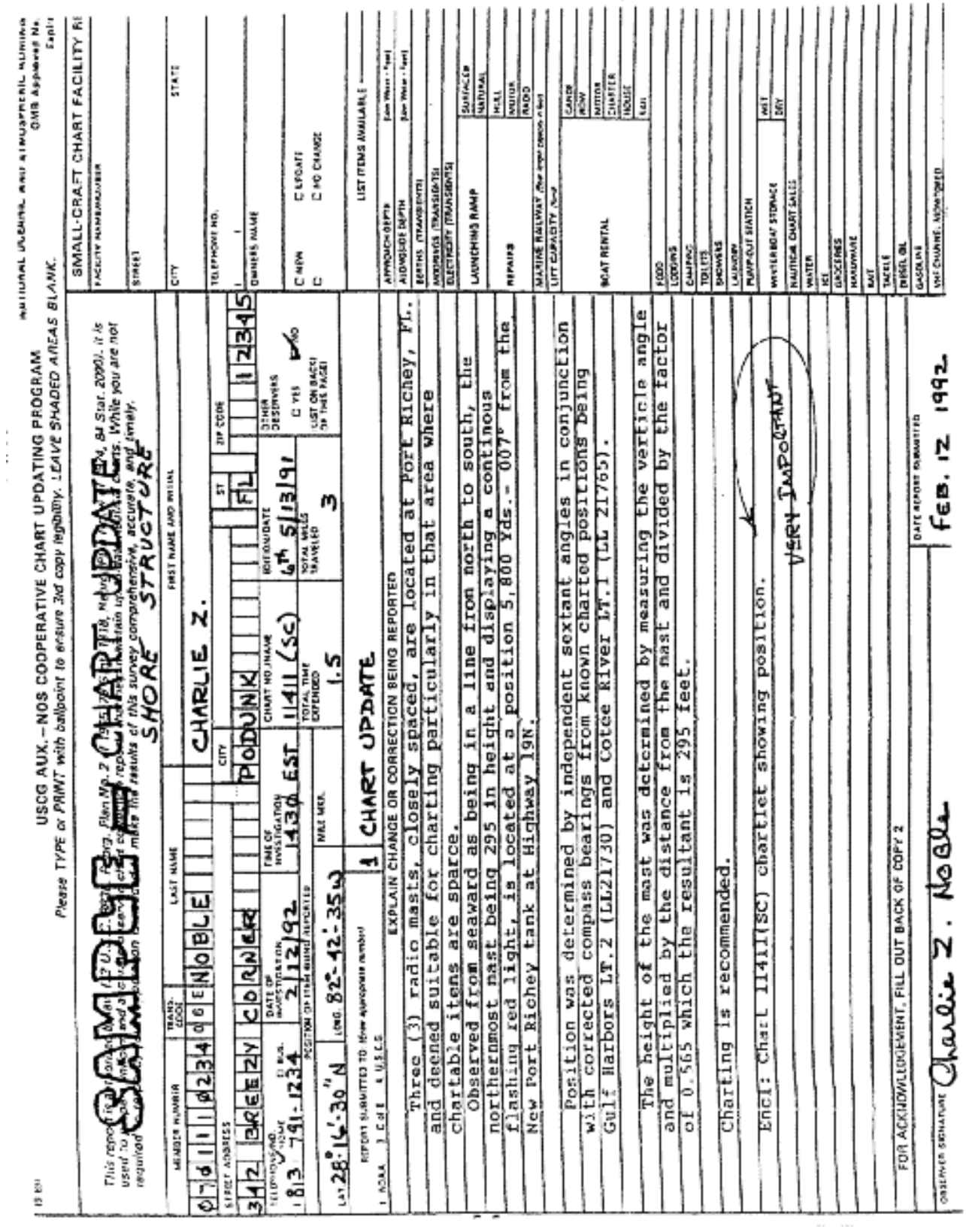
FIGURE 9-1 CHART SCALE RATIO GRAPH



EXAMPLE – CHART UPDATE REPORT (NOAA 77-5) - PIER



EXAMPLE – CHART UPDATE REPORT (NOAA 77-5) - WRECKS



EXAMPLE – CHART UPDATE REPORT (NOAA 77-5) – SHORE STRUCTURE