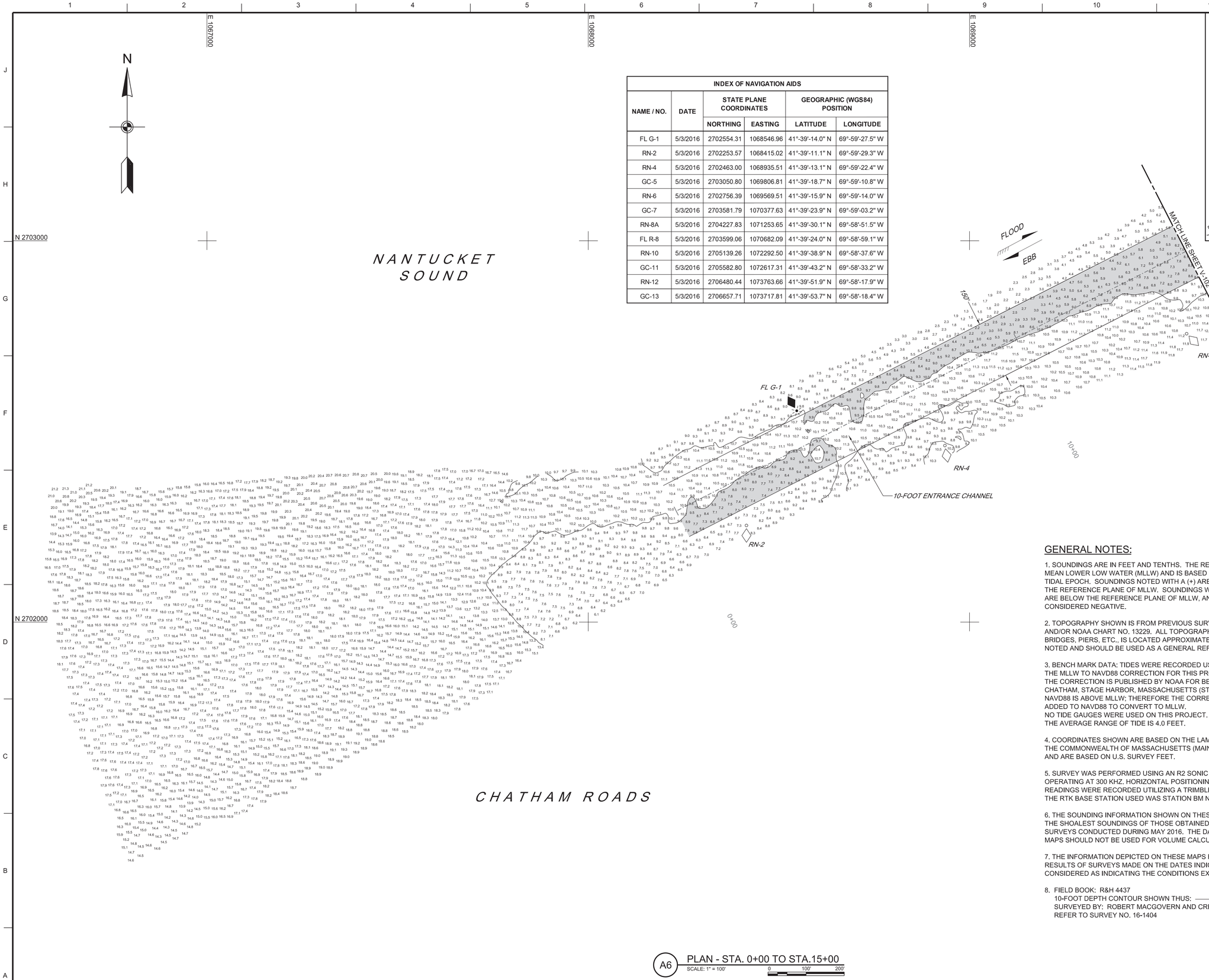
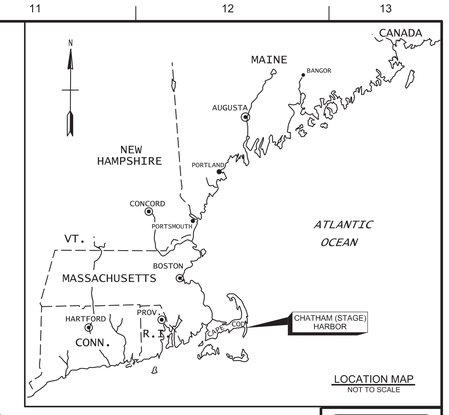
INDEX OF NAVIGATION AIDS					
NAME / NO.	DATE	STATE PLANE COORDINATES		GEOGRAPHIC (WGS84) POSITION	
		NORTHING	EASTING	LATITUDE	LONGITUDE
FL G-1	5/3/2016	2702554.31	1068546.96	41°-39'-14.0" N	69°-59'-27.5" W
RN-2	5/3/2016	2702253.57	1068415.02	41°-39'-11.1" N	69°-59'-29.3" W
RN-4	5/3/2016	2702463.00	1068935.51	41°-39'-13.1" N	69°-59'-22.4" W
GC-5	5/3/2016	2703050.80	1069806.81	41°-39'-18.7" N	69°-59'-10.8" W
RN-6	5/3/2016	2702756.39	1069569.51	41°-39'-15.9" N	69°-59'-14.0" W
GC-7	5/3/2016	2703581.79	1070377.63	41°-39'-23.9" N	69°-59'-03.2" W
RN-8A	5/3/2016	2704227.83	1071253.65	41°-39'-30.1" N	69°-58'-51.5" W
FL R-8	5/3/2016	2703599.06	1070682.09	41°-39'-24.0" N	69°-58'-59.1" W
RN-10	5/3/2016	2705139.26	1072292.50	41°-39'-38.9" N	69°-58'-37.6" W
GC-11	5/3/2016	2705582.80	1072617.31	41°-39'-43.2" N	69°-58'-33.2" W
RN-12	5/3/2016	2706480.44	1073763.66	41°-39'-51.9" N	69°-58'-17.9" W
GC-13	5/3/2016	2706657.71	1073717.81	41°-39'-53.7" N	69°-58'-18.4" W





LOCATION MAP
NOT TO SCALE

GENERAL NOTES:

1. SOUNDINGS ARE IN FEET AND TENTHS. THE REFERENCE PLANE IS MEAN LOWER LOW WATER (MLLW) AND IS BASED ON THE 1983-2001 TIDAL EPOCH. SOUNDINGS NOTED WITH A (+) ARE ABOVE THE REFERENCE PLANE OF MLLW. SOUNDINGS WITHOUT A SIGN ARE BELOW THE REFERENCE PLANE OF MLLW, AND SHOULD BE CONSIDERED NEGATIVE.

2. TOPOGRAPHY SHOWN IS FROM PREVIOUS SURVEYS, AERIAL IMAGERY AND/OR NOAA CHART NO. 13229. ALL TOPOGRAPHY, INCLUDING SHORELINE, BRIDGES, PIERS, ETC., IS LOCATED APPROXIMATE UNLESS OTHERWISE NOTED AND SHOULD BE USED AS A GENERAL REFERENCE ONLY.

3. BENCH MARK DATA: TIDES WERE RECORDED USING RTK GPS. THE MLLW TO NAVD88 CORRECTION FOR THIS PROJECT IS 2.68 FEET. THE CORRECTION IS PUBLISHED BY NOAA FOR BENCH MARKS AT CHATHAM, STAGE HARBOR, MASSACHUSETTS (STATION ID 8447505, 02/05/2004). NAVD88 IS ABOVE MLLW; THEREFORE THE CORRECTION SHOULD BE ADDED TO NAVD88 TO CONVERT TO MLLW. NO TIDE GAUGES WERE USED ON THIS PROJECT. THE AVERAGE RANGE OF TIDE IS 4.0 FEET.

4. COORDINATES SHOWN ARE BASED ON THE LAMBERT GRID SYSTEM FOR THE COMMONWEALTH OF MASSACHUSETTS (MAINLAND ZONE 2001), NAD 1983 AND ARE BASED ON U.S. SURVEY FEET.

5. SURVEY WAS PERFORMED USING AN R2 SONIC 2024 MULTIBEAM SONAR SYSTEM OPERATING AT 300 KHZ. HORIZONTAL POSITIONING AND REAL TIME TIDE READINGS WERE RECORDED UTILIZING A TRIMBLE SPS 855 RTK GPS SYSTEM. THE RTK BASE STATION USED WAS STATION BM NO. 4 (1952).

6. THE SOUNDING INFORMATION SHOWN ON THESE MAPS REPRESENTS THE SHOALEST SOUNDINGS OF THOSE OBTAINED FROM HYDROGRAPHIC SURVEYS CONDUCTED DURING MAY 2016. THE DATA DEPICTED ON THESE MAPS SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

7. THE INFORMATION DEPICTED ON THESE MAPS REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED, AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME.

8. FIELD BOOK: R&H 4437
10-FOOT DEPTH CONTOUR SHOWN THUS: _____
SURVEYED BY: ROBERT MACGOVERN AND CREW
REFER TO SURVEY NO. 16-1404

A6 PLAN - STA. 0+00 TO STA.15+00
SCALE: 1" = 100'
0 100' 200'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

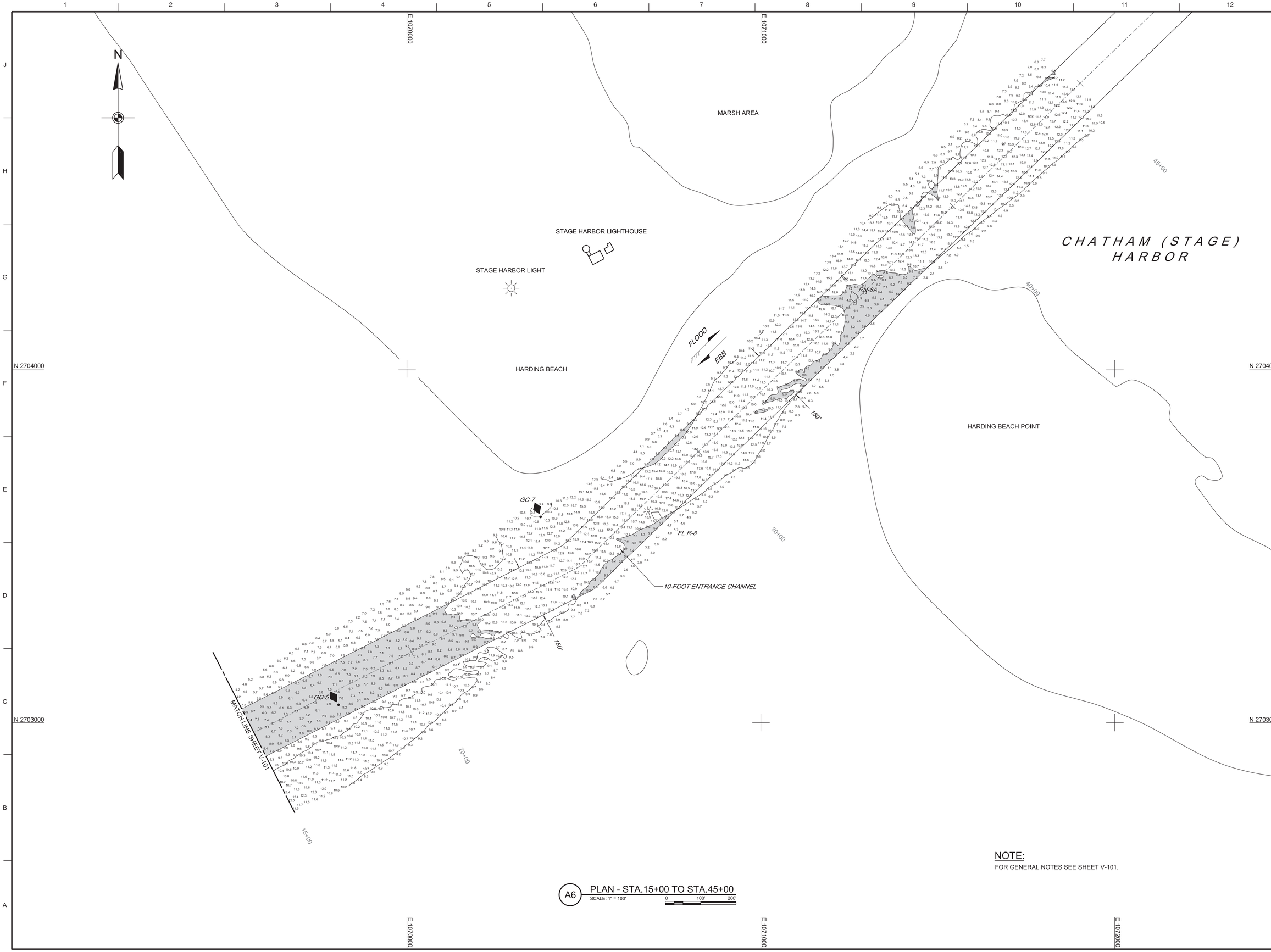
DWN BY: VHW
CKB BY: DJB
REVIEWED BY: JESSE
REVIEWED BY: JESSE
REVIEWED BY: JESSE
ISSUE DATE: AUGUST 4, 2016
DRAWING CODE: CHA-L'30
SHEET 1 OF 2
SCALE: 1:1
Jessie Chief, Survey Section
Jessie Chief, Survey Section
Jessie Chief, Survey Section
ANB F

U.S. ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD, MA 01742-2751

CHATHAM (STAGE) HARBOR
CHATHAM, MASSACHUSETTS
CONDITION SURVEY

10-FOOT ENTRANCE CHANNEL

SHEET ID
V-101



NOTE:
FOR GENERAL NOTES SEE SHEET V-101.

A6 PLAN - STA.15+00 TO STA.45+00
SCALE: 1" = 100'

MARK	DESCRIPTION	DATE

U.S. ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD, MA 01742-2751

DWN BY: WHW
CKB BY: DJB
REVIEWED BY: Asst. Chief, Survey Sec.
REVIEWED BY: For Chief, Survey Section
SIZE: ANSI F
SCALE: 1:1
ISSUE DATE: AUGUST 4, 2016
DRAWING CODE: CHA-139
SHEET 2 OF 2

CHATHAM (STAGE) HARBOR
CHATHAM, MASSACHUSETTS
CONDITION SURVEY

10-FOOT ENTRANCE CHANNEL

SHEET ID
V-102