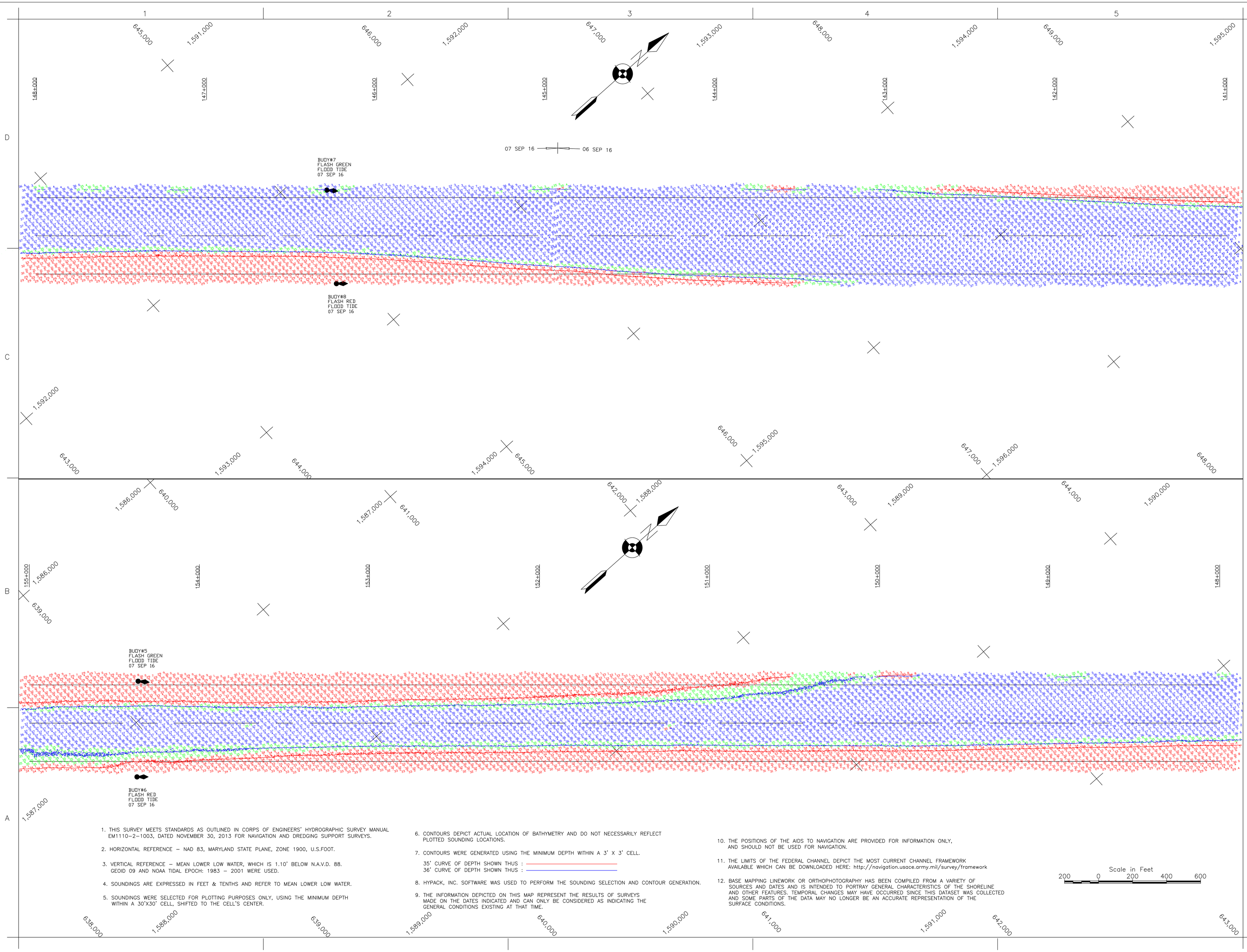


1. THIS SURVEY MEETS STANDARDS AS OUTLINED IN CORPS OF ENGINEERS' HYDROGRAPHIC SURVEY MANUAL EM1110-2-1003, DATED NOVEMBER 30, 2013 FOR NAVIGATION AND DREDGING SUPPORT SURVEYS.
2. HORIZONTAL REFERENCE – NAD 83, MARYLAND STATE PLANE, ZONE 1900, U.S.FOOT.
3. VERTICAL REFERENCE – MEAN LOWER LOW WATER, WHICH IS 1.10' BELOW N.A.V.D. 88. GEOID 09 AND NOAA TIDAL EPOCH: 1983 – 2001 WERE USED.
4. SOUNDINGS ARE EXPRESSED IN FEET & TENTHS AND REFER TO MEAN LOWER LOW WATER.
5. SOUNDINGS WERE SELECTED FOR PLOTTING PURPOSES ONLY, USING THE MINIMUM DEPTH WITHIN A 30'X30' CELL, SHIFTED TO THE CELL'S CENTER.
6. CONTOURS DEPICT ACTUAL LOCATION OF BATHYMETRY AND DO NOT NECESSARILY REFLECT PLOTTED SOUNDING LOCATIONS.
7. CONTOURS WERE GENERATED USING THE MINIMUM DEPTH WITHIN A 3' X 3' CELL.
   35' CURVE OF DEPTH SHOWN THUS : ——————
   36' CURVE OF DEPTH SHOWN THUS : ——————
8. HYPACK, INC. SOFTWARE WAS USED TO PERFORM THE SOUNDING SELECTION AND CONTOUR GENERATION.
9. THE INFORMATION DEPICTED ON THIS MAP REPRESENT THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
10. THE POSITIONS OF THE AIDS TO NAVIGATION ARE PROVIDED FOR INFORMATION ONLY, AND SHOULD NOT BE USED FOR NAVIGATION.
11. THE LIMITS OF THE FEDERAL CHANNEL DEPICT THE MOST CURRENT CHANNEL FRAMEWORK AVAILABLE WHICH CAN BE DOWNLOADED HERE: http://navigation.usace.army.mil/survey/framework
12. BASE MAPPING LINEWORK OR ORTHOPHOTOGRAPHY HAS BEEN COMPILED FROM A VARIETY OF SOURCES AND DATES AND IS INTENDED TO PORTRAY GENERAL CHARACTERISTICS OF THE SHORELINE AND OTHER FEATURES. TEMPORAL CHANGES MAY HAVE OCCURRED SINCE THIS DATASET WAS COLLECTED AND SOME PARTS OF THE DATA MAY NO LONGER BE AN ACCURATE REPRESENTATION OF THE SURFACE CONDITIONS.

Scale in Feet
200 0 200 400 600

US Army Corps of Engineers
Philadelphia District

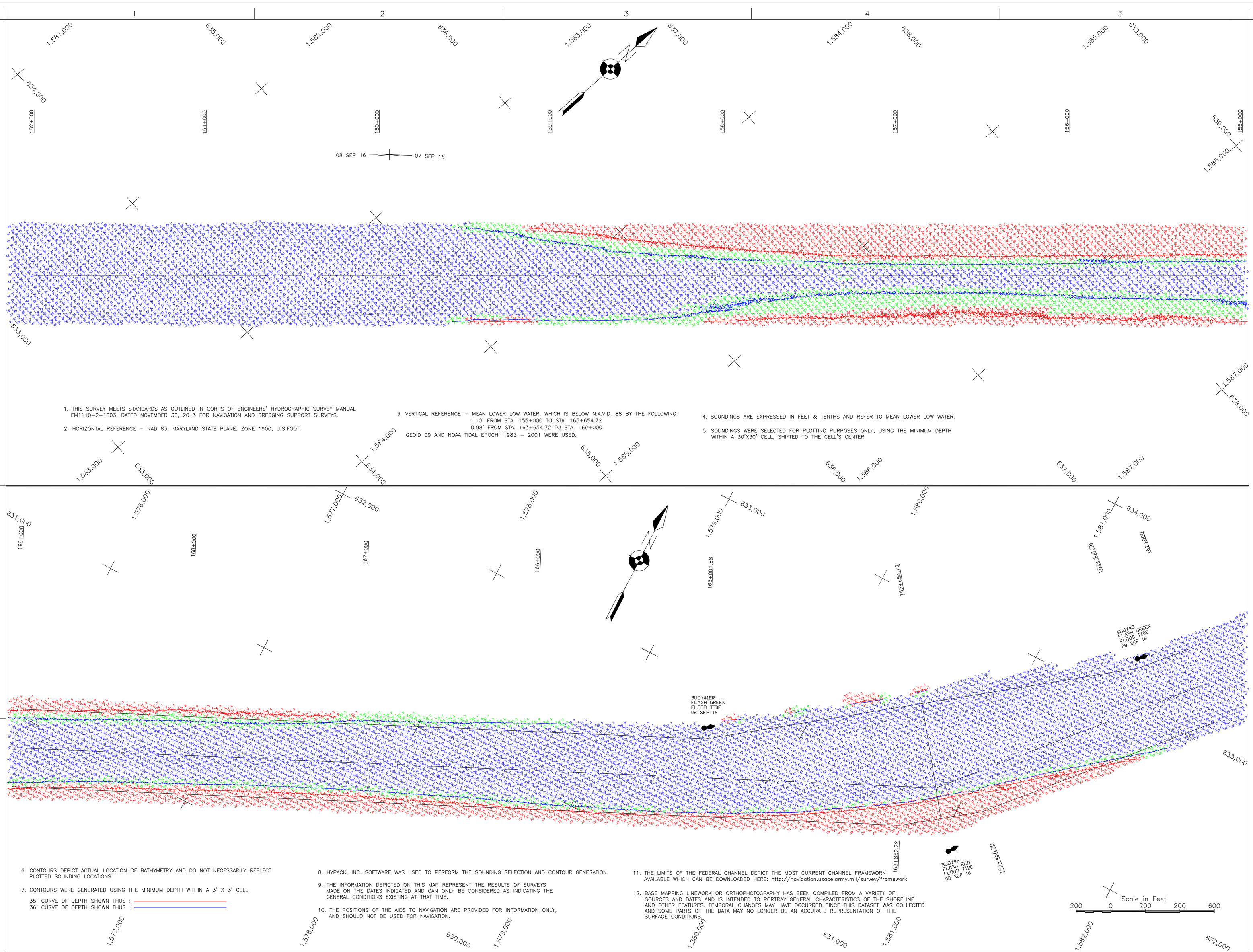
Mark	Description	Date	Appr.

U.S. ARMY ENGINEER DISTRICT, PHILADELPHIA CORPS OF ENGINEERS PHILADELPHIA, PENNSYLVANIA	Designed by:	Date:	Rev.:
	Dwn by:	Chkd by:	FB DACW61-
	Reviewed by:		Drawing code:
	Submitted by: Chief, Arch. Branch		File name: 10/27/2016 Plot date: Plot scale: 1in to 200 ft
TRACED BY J.A.Grosch	PLOTTED BY M.Gaughan	DRAWING NO. 6579	
SURVEYED BY Shuman	DATE SURVEYED as shown	APPROVED CHIEF, SURVEY BRANCH	

CHESAPEAKE & DELAWARE CANAL
CHESAPEAKE BAY APPROACH CHANNEL
EXAMINATION
GROVE NECK RANGE
STA.141+000 TO STA.155+000

Sheet reference number:

Sheet 5 of 12



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2. HORIZONTAL REFERENCE – NAD 83, MARYLAND STATE PLANE, ZONE 1900, U.S.FOOT.

3. VERTICAL REFERENCE – MEAN LOWER LOW WATER, WHICH IS BELOW N.A.V.D. 88 BY THE FOLLOWING:
1.10' FROM STA. 155+000 TO STA. 163+654.72
0.98' FROM STA. 163+654.72 TO STA. 169+000
GEOID 09 AND NOAA TIDAL EPOCH: 1983 – 2001 WERE USED.

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5. SOUNDINGS WERE SELECTED FOR PLOTTING PURPOSES ONLY, USING THE MINIMUM DEPTH WITHIN A 30'X30' CELL, SHIFTED TO THE CELL'S CENTER.

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35' CURVE OF DEPTH SHOWN THUS :
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U.S. ARMY ENGINEER DISTRICT, PHILADELPHIA
PHILADELPHIA, PENNSYLVANIA

Designed by:		Date:	Rev.
Drawn by:	Ckd by:	FEB DACW61–	
Reviewed by:		Drawing code:	
Submitted by:		File name: 10/27/2016 Plot date: Plot scale: 1in to 200 ft	
Chief, Arch. Branch			
TRACED BY: J.A.Groch	PLOTTED BY: M.Caughan	DRAWING NO. 65798	
SURVEYED BY: Shuman	DATE SURVEYED: as shown	APPROVED	CHIEF, DRAFT BRANCH

CHESAPEAKE & DELAWARE CANAL
CHESAPEAKE BAY APPROACH CHANNEL
EXAMINATION
GROVE NECK AND HOWELL PT. RANGES
STA.155+000 TO STA.169+000

Sheet reference number:

Sheet 6 of 12