NOTES:

1. A MULTIBEAM BATHYMETRIC SURVEY OF THE ICE HARBOR CUT NAVIGATION CHANNEL WAS CONDUCTED BY TERRASOND LIMITED ON SEPTEMBER 13-14, 2016
2. HORIZONTAL DATUM IS NAD27, PROJECTION IS WASHINGTON STATE PLANE SOUTH, VERTICAL DATUM IS NGVD29. ALL UNITS ARE IN US SURVEY FEET
3. HORIZONTAL AND VERTICAL POSITIONING WAS PROVIDED BY A REAL-TIME KINEMATIC (RTK) GPS. CORRECTIONS WERE BROADCAST FROM A LOCAL BASE STATION USING A TRIMBLE R8 GPS RECEIVER ON CONTROL POINT IH-11
4. BATHYMETRIC DATA COLLECTION WAS CONDUCTED USING AN RESON 8125-H MULTIBEAM ECHOSOUNDER, CODA OCTOPUS F185+ INERTIAL NAVIGATION SYSTEM, AML MINOS-X SOUND VELOCITY PROFILER, AND QPS QINSY V8.1 ACQUISITION SOFTWARE. DATA WAS PROCESSED USING CARIS HIPS V9.1
5. CONTOURS SHOWN HEREON WERE GENERATED FROM A 5-FOOT HORIZONTAL RESOLUTION DATASET USING INVERSE WEIGHTED MEAN OF ALL SOUNDINGS WITHIN A 5-FOOT X 5-FOOT CELL
6. PLOTTED SOUNDINGS REPRESENT THE SHALLOWEST DETECTED DEPTH IN A 3-FOOT BY 3-FOOT CELL. A SHOAL-BIASED SORT OF THE SOUNDINGS WAS PERFORMED USING A 50-FOOT SORT RADIUS
7. THIS MAP REPRESENTS CONDITIONS AT THE TIME OF THE SURVEY
8. CHANNEL DEPTH IS DESIGNED AT 14 FEET BELOW MINIMUM OPERATING POOL ELEVATION OF 335 FEET. THE DATA REPRESENTED IN RED INDICATES MATERIAL BUILD-UP ABOVE THE DESIGNED CHANNEL DEPTH.

HORIZONTAL AND VERTICAL CONTROL

93-01-01
1-1/2" ALUMINUM CAP STAMPED "93-01-01"
N 337956.43
E 2404704.10
ELEVATION 403.87

SR-6R
3-1/2" BRASS CAP USACE
STAMPED "SR-6R 1977"
N 334906.47
E 2391562.51
ELEVATION 352.44

IH-11
REBAR WITH 2-½" ALUMINUM CAP
N 335595.01
E 2394914.57
ELEVATION 368.96

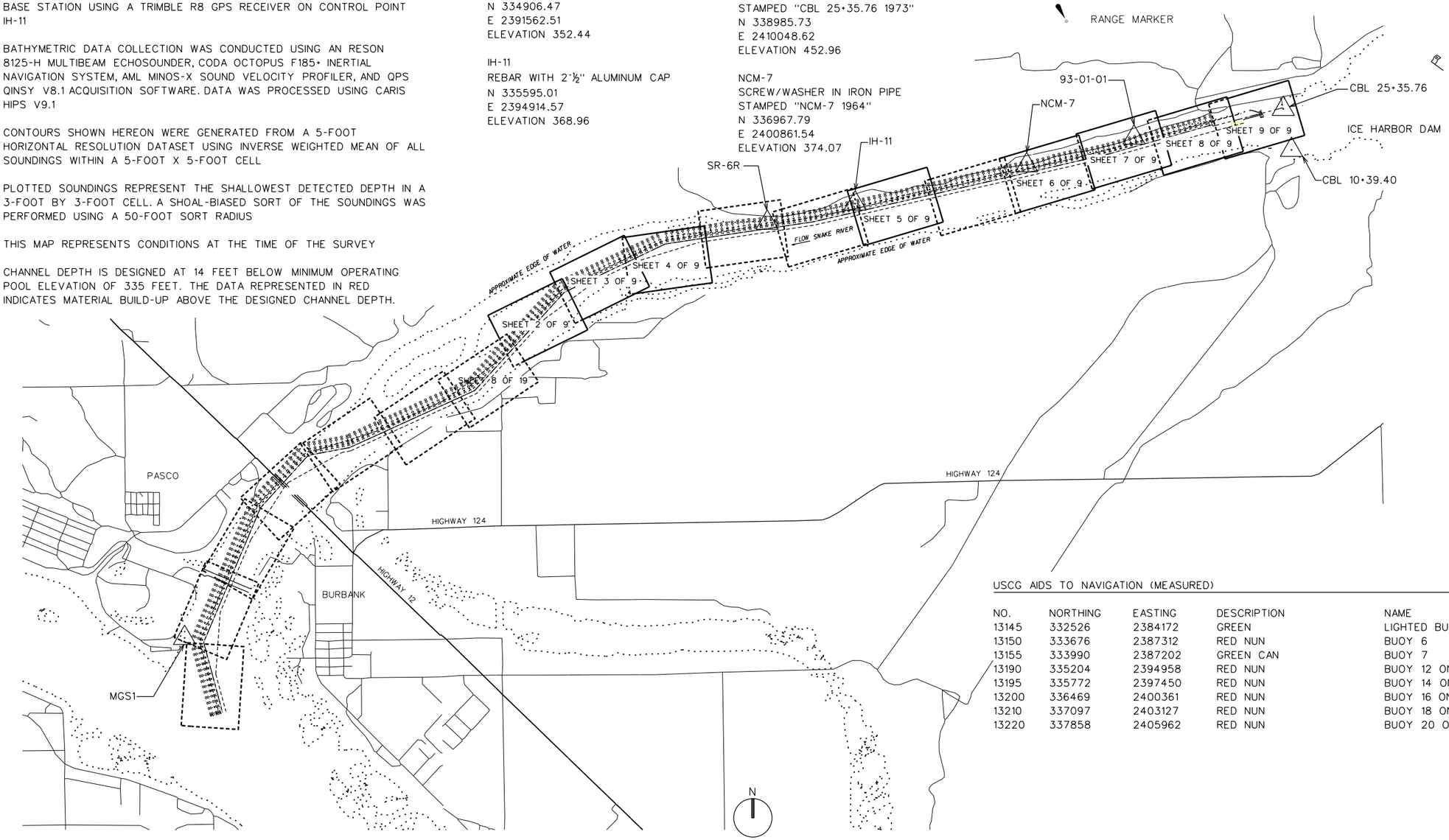
CBL 10+39.40
3-1/2" BRASS DISK USACE
STAMPED "CBL 10+39.40 1973"
N 337519.01
E 2410344.45
ELEVATION 453.00

CBL 25+35.76
3-1/2" BRASS CAP USACE
STAMPED "CBL 25+35.76 1973"
N 338985.73
E 2410048.62
ELEVATION 452.96

NCM-7
SCREW/WASHER IN IRON PIPE
STAMPED "NCM-7 1964"
N 336967.79
E 2400861.54
ELEVATION 374.07

LEGEND

- SURVEY CONTROL
- RIVER MILE
- C BUOY, CAN
- N BUOY, NUN
- BEACON
- RANGE MARKER



USCG AIDS TO NAVIGATION (MEASURED)

NO.	NORTHING	EASTING	DESCRIPTION	NAME
13145	332526	2384172	GREEN	LIGHTED BUOY 5
13150	333676	2387312	RED NUN	BUOY 6
13155	333990	2387202	GREEN CAN	BUOY 7
13190	335204	2394958	RED NUN	BUOY 12 ON ROCK LEDGE
13195	335772	2397450	RED NUN	BUOY 14 ON ROCK LEDGE
13200	336469	2400361	RED NUN	BUOY 16 ON ROCK LEDGE
13210	337097	2403127	RED NUN	BUOY 18 ON ROCK LEDGE
13220	337858	2405962	RED NUN	BUOY 20 ON ROCK LEDGE

ICE HARBOR CUT GENERAL SITE PLAN

2000 1000 0 2000 3000 4000
SCALE IN FEET

US Army Corps of Engineers
Walla Walla District

Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

DESIGNED BY: MEYER
DWN BY: L. LINDBLAD
CHKED BY: K. MILDON
SUBMITTED BY:
DATE: 21 OCTOBER 2016
TASK ORDER NO. 02
CONTRACT NO. W912EF-16-D-0004
FILE NO.:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
WALLA WALLA, WASHINGTON

TERRASOND
PHONE: 1-206-545-7110 FAX: 1-206-545-7115
801 NW ALBAN STREET SUITE 215, SEATTLE, WA 98107
WWW.TERRASOND.COM (CORPORATE)

MCNARY LOCK AND DAM
SNAKE RIVER, WASHINGTON
W912EF-16-D-0004, T.O. NO. 02
ICE HARBOR CUT
NAVIGATION CHANNEL
MULTIBEAM BATHYMETRIC SURVEY

Plate number:
V-001

Sheet 1 of 9

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BORDER SIZE IS ANSI D

DATE AND TIME PLOTTED:11/15/2016

DESIGN FILE:L:\Z_SURVEYS\00HYDRO_CONDITION\2016 HYDRO CONTION\MNA_ICE_HARBOR_CUT\OPERATIONS\HLD_CUT-V-001.DGN