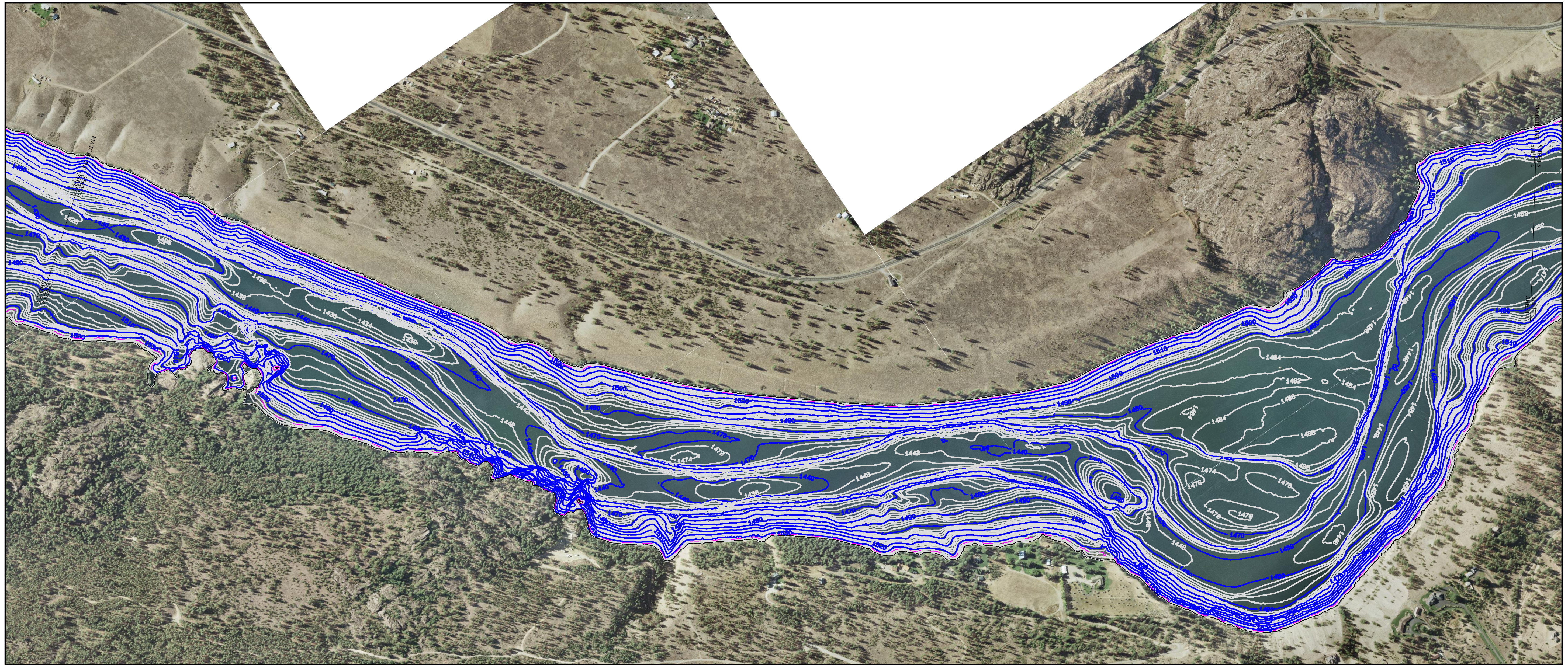


# Avista Corporation Lake Spokane Bathymetric Survey

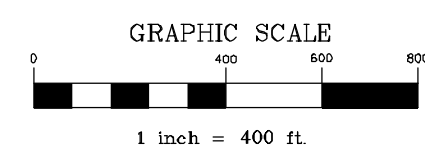
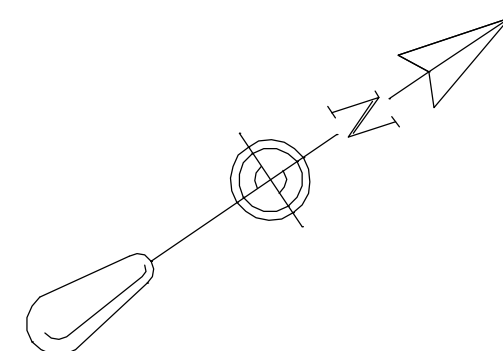
Spokane River  
Sheet 4 of 11

Data Collected: June - July, 2009  
Drawing Date: May 2011



- NOTES:
- HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983-91, STATE PLANE COORDINATES, WASHINGTON NORTH ZONE.
  - UNITS: U.S SURVEY FEET
  - VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). SOUNDINGS ARE IN FEET AND INDICATE ELEVATIONS IN REFERENCE TO NAVD88. NAVD88 VERTICAL DATUM WAS ESTABLISHED FROM WSDOT SURVEY MONUMENTS PRN33-1, PRN32-24, GP33291-17 AND GP33291-16.
  - CONTOUR INTERVAL: 2 FOOT.
  - ALL HORIZONTAL POSITIONING AND VESSEL ATTITUDE WAS PROVIDED IN REAL TIME USING A CODA OCTOPUS F-185+ GPS AIDED INERTIAL SENSOR.
  - SOUNDINGS WERE COLLECTED USING A KONGSBERG EM3002 MULTIBEAM SONAR WITH A 300 KHZ, 130-DEGREE SWATH AND A KNUDSEN 320M SINGLEBEAM SONAR. DATA PROCESSING WAS COMPLETED USING HYPACK HYWEAP SOFTWARE.
  - THIS BATHYMETRIC SURVEY IS REPRESENTATIVE OF THE GENERAL CONDITION OF THE RIVERBED AT THE TIME OF THE SURVEY. THE CONDITION OF THE BOTTOM MAY CHANGE AT ANY TIME AFTER THE DATE OF THIS SURVEY.
  - ALL BATHYMETRIC DATA WAS COLLECTED IN ACCORDANCE WITH THE U.S ARMY CORPS OF ENGINEERS HYDROGRAPHIC SURVEY MANUAL EM-112-02-1003 (JANUARY 2002). SURVEY CLASSIFICATION: NAVIGATION AND DREDGING SUPPORT SURVEYS, BOTTOM CLASSIFICATION OF SOFT.
  - AVERAGE WATER SURFACE ELEVATION AT TIME OF SURVEY: 1538.0' (NAVD88). PLEASE NOTE THIS CORRELATES WITH AN ELEVATION OF 1535.85' IN THE WASHINGTON WATER POWER (WWP) VERTICAL DATUM. IN ADDITION, 1533.15' NAVD88 (DASHED MAGENTA LINE) CORRELATES TO 1531' IN THE WWP VERTICAL DATUM.
  - ALL UPLAND LIDAR DATA DISPLAYED WAS PROVIDED BY AVISTA CORPORATION. LIDAR FLOWN SEPTEMBER 11-16, 2009, DURING WHICH THE AVERAGE WATER SURFACE ELEVATION WAS 1538 FT. (NAVD88)

LEGEND:  
 INDICATES 1538 FT. SHORELINE CONTOUR  
 INDICATES 1533.15 FT. CONTOUR



THIS HYDROGRAPHIC SURVEY WAS COMPLETED BY AN AMERICAN CONGRESS ON SURVEYING AND MAPPING CERTIFIED HYDROGRAPHER.  
  
 JAMES W. GLAESER DATE 6-23-2011  
 AMERICAN CONGRESS ON SURVEYING AND MAPPING  
 CERTIFIED HYDROGRAPHER #222

VERTICAL DATUM = NAVD 88  
(SEE NOTES 3 AND 9)

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AVISTA CORPORATION SPOKANE, WASHINGTON			
AS-NOTED	05-30-11	APPROVED 	
SCALE	DATE	6-28-2011 DATE	
DESIGN <u>JWG</u>	CHECKED <u>SW</u>		
DRAWN <u>JWG</u>	NOTED <u>MS</u>		
CHECKED <u>JWG</u>	NOTED <u>CL</u>	MFG. DWG. NO.:	
<b>DWG. NO.: 203E-40-405-04-04</b>			