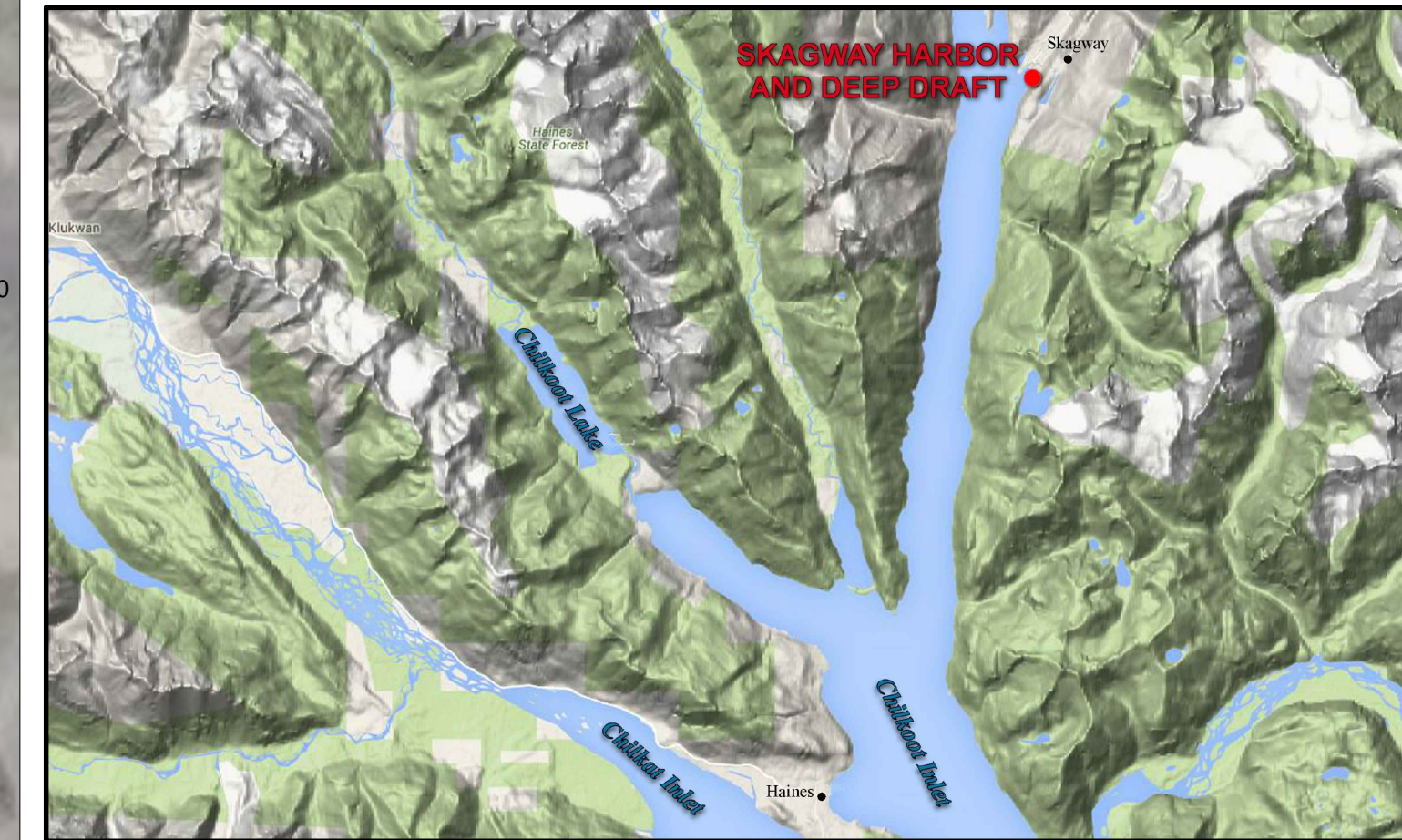


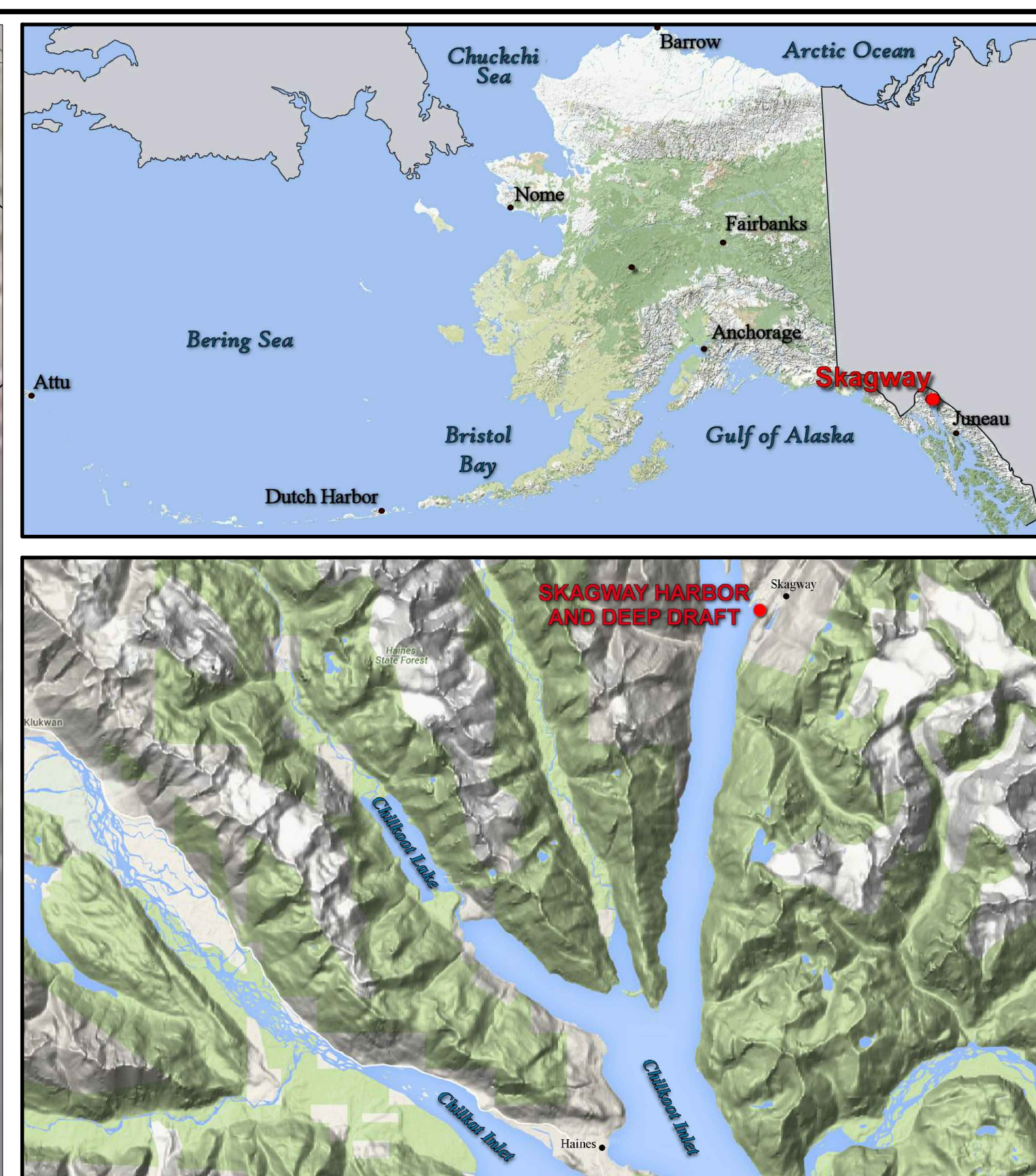
OBSTRUCTION DATA				
ID	NORTHING	EASTING	DEPTH	APPROX SIZE (FEET)
OBST-1	2,785,534.1	2,378,197.3	-11.9	8'x4'x2.5
OBST-2	2,784,842.0	2,377,501.2	-35.0	30'x11'x10



1. PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 1, NAD83 2011 (2010 00, IN US SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE PUBLISHED NAD83 2011 DATUM VALUES AS THE SOURCE OF CONTROL. THE LINEAU WAS 1 CORRS ARP (IDP 43467); "ATLIN CORRS ARP" (IDP D5991); "GUSTAVUS 5 CORRS ARP" (IDP DK6225).
2. LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 1, NAD83(2011), IN US SURVEY FEET HOLDING "445 2400 1 212" WAS 2,875,802.57; E 2,376,414.89 AND "SH-C 2000" WAS 2,875,923.03; E 2,2378,408.25.
3. VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW + 0.0 FT) BASED ON THE NOAA/NOS TIDAL BENCH MARK NO. 1654000 KIDAGAY, "TAYIA INLET, ALASKA", PUBLISHED 05/03/2014. THIS TIDAL DATUM IS BASED ON THE 2007-2011 TIDAL EPOCHS AND IS REFERENCED BY HOLDING NOAA/NOS TIDAL BENCH MARK "NO 11 1969" (VMH102) AS 35.88 FT.
4. VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD83 (GEOID 12B) ELEVATIONS HOLDING NOAA/USACE TIDAL BENCH MARK "345 2400 1 212" (VMH 20535) AS 25.20 FT.
5. SOUNDINGS ARE IN US SURVEY FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
6. BATHYMETRY WAS COLLECTED JUNE 08, 2016. SOUNDINGS WERE COLLECTED USING AN R230NIC22 MULTIBEAM ECHOSOUNDER OPERATING AT 200 KHZ. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH A 3000 M/S SOUND VELOCITY PROFILE. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLINK PLUS POSMV OCEANMASTER VS SYSTEM. DATA WAS COLLECTED AND PROCESSED USING OXYN 61 SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING STATIC GNSS EQUIPMENT AND TECHNIQUES. VERTICAL CONTROL WAS SURVEYED USING DIFFERENTIAL LEVELING TECHNIQUES.
7. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
8. MAP SOUNDINGS ARE BINNED AT 24 FEET AND ARE SHOAL BASED. COUNTOURS ARE BASED ON 12 FEET BINNED SHOAL-BASED SOUNDINGS. VOLUME SOUNDINGS ARE BINNED AT 3 FEET AND ARE MEAN VALUE.

NAVIGATION AIDS			
USCG NO.	NORTHING	EASTING	DESCRIPTION
23932	2,785,290	2,377,313	SKAGWAY HARBOR STEMWALL LIGHT
23933	2,785,120	2,377,428	SKAGWAY BREAKWATER LIGHT
23935	2,785,331	2,377,626	SKAGWAY BREAKWATER LIGHT 2
23936	2,785,198	2,376,895	SKAGWAY FERRY TERMINAL LIGHT
23937	2,785,558	2,376,965	SKAGWAY BROADWAY DOCK LIGHT
23938	2,785,290	2,376,047	SKAGWAY ORE DOCK LIGHT

PROJECT LIMITS		
CORNER#	NORTHING	EASTING
9	2,785,418.70	2,377,691.35
10	2,784,128.76	2,377,104.83
11	2,784,632.08	2,377,591.30
12	2,784,775.89	2,377,730.31
13	2,784,233.01	2,376,996.97
14	2,784,736.33	2,377,483.46
15	2,784,880.13	2,377,622.45



1. PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 1, NAD83 2011 (2010.00), IN SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE PUBLISHED NAD83 2011 (2010.00) VERTICAL DATUM TO NAVD83 2011 (2009.00). THIS MEANS THAT THE VERTICALLY BINNED SOUNDINGS ARE NOT SHAL BIASED. (PID DF5939); "GUSTAVUS S CORRS ARP" (PID D6K229)
2. PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 1, NAD83(2011), IN SURVEY FEET HOLDING "945 400 1201" AT "S 7455.802.S' E 2.376 414.88' AND "SHO C 2000" AT "S 7456.923.N E 2.2378.408.25"
3. VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW = 0.0 FT), BASED ON THE NOAA/NOS TIDAL BENCH MARK "4000000000 SKAGWAY" WAY 1885, RIJET, ASIA. PUBLISHED 05/20/2002. THIS TIDAL DATUM IS BASED ON THE 2007-2011 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA/NOS TIDAL BENCH MARK "NO 11 1969" (VM1202) AS 35.86 FT.
4. VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD83 (GEOD 128) ELEVATIONS HOLDING NOAA/USACE TIDAL BENCHMARK "945 200 L 2012" (VM# 20355) AS 25.20 FT.
5. SOUNDINGS ARE IN SURVEY FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
6. BATHYMETRY WAS COLLECTED JUNE 08, 2016. SOUNDINGS WERE COLLECTED USING AN RZSONIC 202 MULTIBEAM ECHOSOUNDER OPERATING AT 200 kHz, SOUND VELOCITY THROUGH THE WATER COLUMN WAS 1499 M/S WITH A 0.1% ERROR. SOUNDING LOCATION, PROBE POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLINK POSMV OCEANMASTER VS SYSTEM. DATA WAS COLLECTED AND PROCESSED USING QINSY & I SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING STATIC GNSS EQUIPMENT AND TECHNIQUES. VERTICAL CONTROL WAS SURVEYED USING DIFFERENTIAL LEVELING TECHNIQUES.
7. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
8. MAP SOUNDINGS ARE BINNED AT 24 FEET AND ARE SHOAL BIASED. COUNTOURS ARE BASED ON 12 FEET BINNED SHOAL-BIASED SOUNDINGS. VOLUME SOUNDINGS ARE BINNED AT 3 FEET AND ARE MEAN VALUE

SURVEY CONTROL DATA				
STATION	NORTHING	EASTING	MLLW	DESCRIPTION
945 2400 L 2012	2,785,802.57	2,376,414.89	29.41	NOAA TIDAL BENCH MARK 3" BC
BREAKWATER 1959	2,785,305.71	2,377,647.46	26.70	USACE 3" SBC
BREAKWATER RM1 1959	2,785,331	2,377,626	27.91	USACE 3" SB
SH-C 2000	2,785,923.03	2,378,480.25	25.69	USCGS BENCH MARK 3"" BC
SH-D 2000	2,785,514.68	2,377,444.63	27.91	USCGS BENCH MARK 3" BC
SH-E 2008	2,785,480.60	2,378,347.59	28.66	USACE DOMED 3" BC
SH-F 2011	2,785,791.20	2,377,748.02	28.62	USACE DOMED 3" BC

USCG NO.	NORTHING	EASTING	DESCRIPTION
23932	2,785,290	2,377,313	SKAGWAY HARBOR STEMWALL LIGHT
23933	2,785,120	2,377,428	SKAGWAY BREAKWATER LIGHT
23935	2,785,331	2,377,626	SKAGWAY BREAKWATER LIGHT 2
23936	2,785,198	2,376,895	SKAGWAY FERRY TERMINAL LIGHT
23937	2,785,558	2,376,965	SKAGWAY BROADWAY DOCK LIGHT
23938	2,785,290	2,376,047	SKAGWAY ORE DOCK LIGHT

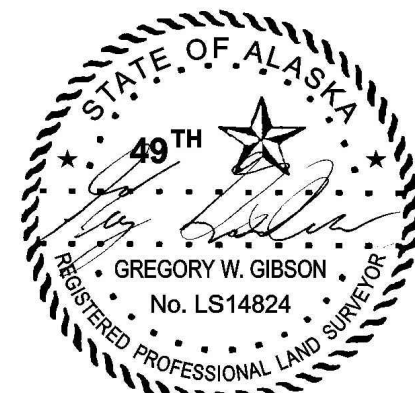
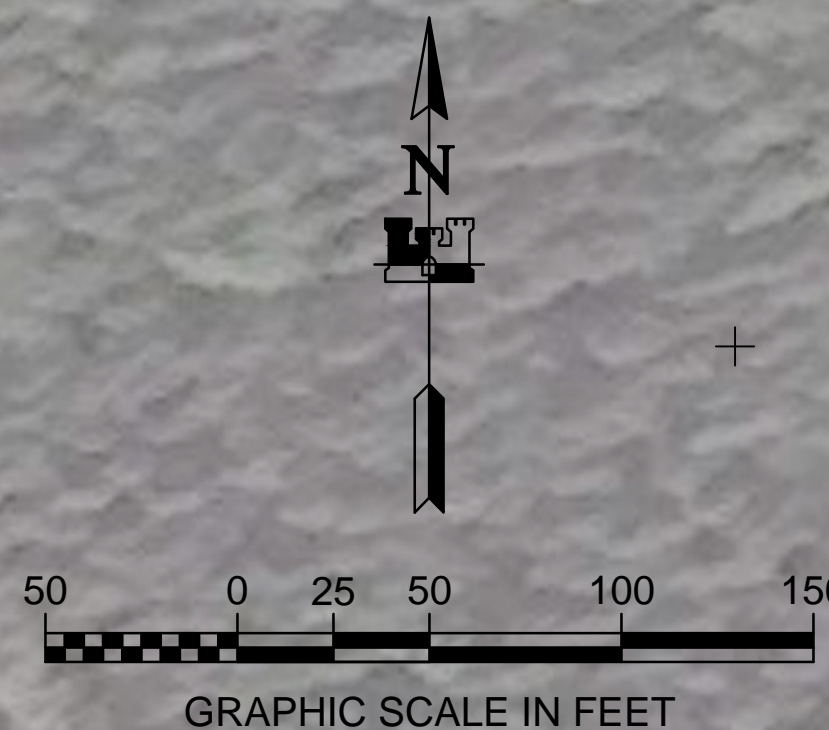
PROJECT LIMITS		
CORNER#	NORTHING	EASTING
1	2,785,329.03	2,377,792.70
2	2,785,498.96	2,377,943.04
3	2,785,635.48	2,377,795.81
4	2,785,610.75	2,377,773.94
5	2,785,514.05	2,377,598.88
6	2,785,334.31	2,377,439.86
7	2,785,301.18	2,377,477.30
8	2,785,406.02	2,377,570.07

PROJECT LIMITS		
CORNER#	NORTHING	EASTING
9	2,785,418.70	2,377,691.35
10	2,784,128.76	2,377,104.83
11	2,784,632.08	2,377,591.30
12	2,784,775.89	2,377,730.31
13	2,784,233.01	2,376,996.97
14	2,784,736.33	2,377,483.46
15	2,784,880.13	2,377,622.45

PROJECT LIMITS

CORNER#	NORTHING	EASTING
1	2,785,329.03	2,377,792.70
2	2,785,498.96	2,377,943.04
3	2,785,635.48	2,377,795.81
4	2,785,610.75	2,377,773.94
5	2,785,514.05	2,377,598.88
6	2,785,334.31	2,377,439.86
7	2,785,301.18	2,377,477.30
8	2,785,406.02	2,377,570.07

CORNER#	NORTHING	EASTING
9	2,785,418.70	2,377,691.35
10	2,784,128.76	2,377,104.83
11	2,784,632.08	2,377,591.30
12	2,784,775.89	2,377,730.31
13	2,784,233.01	2,376,996.97
14	2,784,736.33	2,377,483.46
15	2,784,880.13	2,377,622.45



THIS HYDROGRAPHIC SURVEY WAS COMPLETED
UNDER THE OVERSIGHT OF AN ACSM/THSOA
CERTIFIED HYDROGRAPHER

David R. Neff C.H. (275)

