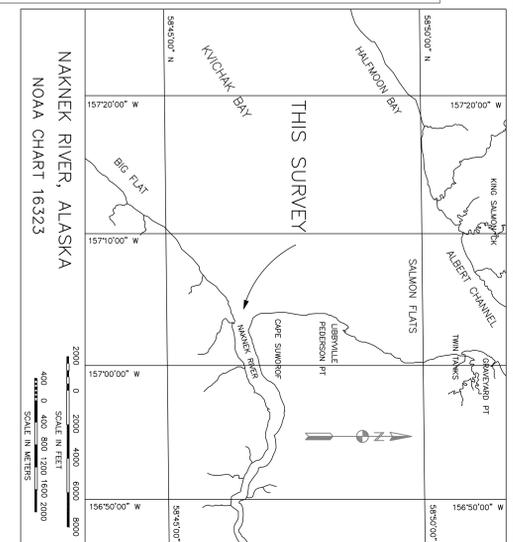


REFER TO NOTES 7 AND 8

FINAL BOULDER COORDINATES							
BOULDER NO.	NORTHING	EASTING	TOP ELEV.	L	W	H	NOTES
1	1724185.3	1841082.4	13.4	3'	3'	3'	WEST OF LEADER CREEK CHANNEL, HAS BIOTY
2	1724020.0	1841016.9	5.9	3'	4'	1'	NEAR LEADER CREEK CONFLUENCE WITH NAKNEK RIVER
3	1727554.0	1813208.2	-1.7	4'	4'	5'	SLINGER EDGE OF NAKNEK R. NAVIGORY
4	1727088.0	1844411.3	-1.0	4'	4'	3'	ALONG N EDGE OF NAKNEK R., MAJORITY SUBMERGED AT LOW WATER
5	1725898.8	1832620.5	3.5	4'	6'	3'	ALONG S. EDGE OF NAKNEK RIVER NEAR
6	1726024.4	1832780.4	3.8	3'	3'	3'	ALONG S. EDGE OF NAKNEK RIVER, NEAR
7	1729099.8	1833459.8	3.4	4'	3'	3'	ALONG N. EDGE OF NAKNEK RIVER, W OF
8	1722828.8	1835897.3	3.2	4'	3'	3'	ALONG N. EDGE OF NAKNEK RIVER, E OF

REFER TO NOTES 7 AND 8

FINAL BOULDER COORDINATES							
BOULDER NO.	NORTHING	EASTING	TOP ELEV.	L	W	H	NOTES
9	1732757.9	1837020.0	2.1	4'	4'	5'	ALONG NORTH EDGE OF NAKNEK RIVER, 1'
10	1732759.2	1837905.8	0.4	5'	5'	6'	NEAR CHANNEL CENTER, 2'-3' BELOW SURFACE, MUCH WATER DISPLACEMENT
11	1733026.9	1838089.3	3.7	4'	4'	3'	ALONG NORTH EDGE OF NAKNEK RIVER
12	173195.9	1838085.5	4.2	3'	3'	3'	ALONG NORTH EDGE OF NAKNEK RIVER
13	1733249.1	1838298.0	3.0	15'	10'	4'	GROUP OF MEDIUM SIZED BOULDERS ALONG NORTH SHORELINE OF NAKNEK RIVER
14	1733255.0	1838307.8	3.9	3'	3'	3'	ALONG NORTH EDGE OF NAKNEK RIVER
15	1733077.4	1838333.4	3.8	7'	7'	5'	ALONG NORTH EDGE OF NAKNEK RIVER
16	1733574.0	1838937.0	5.4	3'	3'	3'	ALONG NORTH EDGE OF NAKNEK RIVER, SITS
17	1732420.3	1835901.8	6.9	5'	5'	4'	ALONG NORTH EDGE OF NAKNEK RIVER, SITS



NOTES

- HORIZONTAL CONTROL IS ALASKA STATE PLANE ZONE 8, NAD83. IN U.S. SURVEY FEET HOLDING US2665 (TR-51A, SBC, NAKNEK 1946) AS N 1,732,177.13, E 1,827,920.14 AND US2665 AZIMUTH MARK 59C, NAKNEK AZ MK 1946 AS N 1,729,038.46, E 1,825,816.48. RECORD VALUES FOR THESE N.S.A. MONUMENTS WERE CONVERTED FROM Meters TO FEET IN U.S. SURVEY FEET USING CONVERSION 0.3048.
- VERTICAL CONTROL IS IN U.S. SURVEY FEET AND REFERS TO A LOCALLY ACCEPTED TIDAL DATUM ON PROJECT DESIGN PLANS FOR THE PORTS CONCRETE DOCK SHOWING A SURFACE ELEVATION OF +32.0' MLW.
- PRIMARY HORIZONTAL CONTROL WAS SURVEYED ON AUGUST 14-15, 2001 USING TRIMBLE GPS RECEIVERS AND STATIC GPS SURVEY TECHNIQUES. SECONDARY CONTROL WAS SURVEYED ON POINTS LOCATED USING VERTICAL CONTROL AND SURVEYED USING OPTICAL INSTRUMENTS AND DIFFERENTIAL LEVELING TECHNIQUES. LOWER NAKNEK RIVER BOULDERS AND THE CENTER OF CHANNEL WERE LOCATED USING A LOCAL RIVER GAUGE. RTK GPS EQUIPMENT WAS EMPLOYED FOR POINT STORAGE MODE WHILE NAVIGATING THE LENGTH OF THE PROJECT AT LOW-WATER. POINT STORAGE MODE WHILE NAVIGATING THE LENGTH OF THE PROJECT AT LOW-WATER.
- APPROXIMATE SHORELINE AND OTHER FEATURES SHOWN ON THIS PLAN WERE DETERMINED FROM NOAA NAUTICAL CHART NO. 16323. THE ACTUAL SHORELINE HAS RECORDED CONSIDERABLY DUE TO EROSION.
- ADS TO NAVIGATION SHOWN WERE TAKEN FROM THE USCG LIGHT LIST, VOL. VI, PACIFIC COAST AND PACIFIC ISLANDS 2001, COMDT PUB P16502.8 AND POSITIONAL DATA CONVERTED USING CONVERSION 0.3048.
- THIS SURVEY IS INDICATIVE OF BOULDER LOCATIONS AT THE TIME OF SURVEY. BOULDERS ARE SUBJECT TO MOVEMENT DURING SPRING ICE BREAKUP ACCORDING TO LOCALS.
- DIMENSIONS OF BOULDERS FOUND BENEATH THE LOW-WATER SURFACE WERE VISUALLY APPROXIMATED BASED ON WATER DISPLACEMENT.
- THE NAKNEK RIVER "SHORELINE" AND "EDGE" SEEN IN THE BOULDER COORDINATE LISTING BLOCK, REFER TO LOW-WATER AT THE TIME OF SURVEY.

NAVIGATION AIDS

USCG No.	DESCRIPTION	NORTHING	EASTING
27782	CROWLEY LIGHTED MOORING BUOY (AAR.15 TO SEPT.15)	1724140	1818470
27784	SOUTH NAKNEK CITY DOCK LIGHTS (2) RED PRIVATE	1724310	1830510
27785	NAKNEK ENTRANCE DIVEBEACON 1	1728010	1821290

CONTROL DATA

STATION	NORTHING	EASTING	ELEV.	DESCRIPTION
NAKNEK 1946	1732177.13	1827920.14	---	USCGS SBC
NAKNEK AZ MK 1946	1729099.59	1833489.12	31.71	SET 2" FLAT AL CAP ON REBAR
PORT-2 2001	1730545.17	1833489.12	36.59	SET 2" FLAT AL CAP ON REBAR
BS JOE 2001	1730191.91	1833750.50	32.00	SET 2" FLAT AL CAP GEMARDED IN DOCK

CONTRACT NO. DACW95-01-D-0001

CONTRACTOR: TERESA SURVEYS, LLC STATE: ALASKA

CITY: PALMER

ALASKA DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

NAKNEK, ALASKA
LOWER NAKNEK RIVER, ALASKA
BOULDER LOCATION SURVEY
AUGUST 16, 2001

SCALE: 1" = 1000'

SURVEY NO. 1933-01 SHEET 1 OF 1

