December 20, 2002

MEMORANDUM FOR: Jeff Olsen
NGS Project Coordinator

Alice Welch
State Project Coordinator

FROM: Charles W. Challstrom
Director, National Geodetic Survey

SUBJECT: <u>PROJECT INSTRUCTIONS</u>: Iowa Federal Base Network Survey

The Iowa Department of Transportation's willingness to lead the observation portion of the Iowa Federal Base Network (FBN) survey is gratefully acknowledged. These voluntary contributions of state and local resources allow for the timely completion of the nationwide FBN network, provide opportunities for the transfer of survey technologies, and tailor the network to meet local needs.

To accomplish this task, please proceed in accordance with "Standing Instructions: State-Sponsored FBN Surveys" dated December 21, 2001. Utilize the following project identifiers as appropriate:

> Title: IOWA FBN, 2003
> Accession number: GPS-1752
> Task Numbers: 18K6D20P00 (FBN)
> 18K6D40P00 (CORS Ties)
> 1BK6C04P00 (PACS)

As circumstances permit, complete ancillary observations to selected Continuously Operating Reference Station (CORS) reference marks, Primary Airport Control Stations (PACS), and network bench marks. Observe these stations for at least one each 5.5 hour session, simultaneous with observations at adjacent FBN stations. Observations at CORS reference marks should be divided into two independent sessions of at least two hours each by disturbing and resetting the tripod in mid-session. Observation requirements for PACS are described in "*General Specifications for Aeronautical Surveys Volume I. Establishment of Geodetic Control on Airports*".

A proposed station list, map, observation schedule, and list of project deliverables are attached.

Attachment

N/NGS21:JGEvjen:713-3194:amg:12-20-02
C:\MYFILES\INSTRUCTIONS\IA-GPS1752-2

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STATE DELIVERABLES
STATE PROJECT COORDINATOR = Alice Welch, Photogrammetry Engineer
Iowa Department of Transportation, 800 Lincoln Way, Building #5, Ames, IA 50010
Telephone: 515-239-1041, Email: Alice.Welch@dot.state.ia.us

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FILE TYPE	SOFTWARE	FILE NAME	DESCRIPTION	STATUS
R-files (raw GPS data)	receiver software receiver or TEQC	4444DDDS.XXX 4444DDDS.03n,4444DDDS.03o	Raw GPS observables in receiver-dependent format. Convert files to Receiver-Independent EXchange (RINEX) format.	
Survey Forms	For each station: GPS observation logs, pencil rubbings, description log, visibility diagram.			
Photographs	Photos & formats described in "*Requirements for Digital Photographs of Survey Marks & CORS Antennas*"			
Field Project Report	A sample report format is available.			

Detailed descriptions of project deliverables can be found in the FGCS Bluebook Annex L

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NGS DELIVERABLES
NGS PROJECT COORDINATOR = Jeff Olsen, National Geodetic Survey
N/NGS4, SSMC3-8504, 1315 East-West Highway, Silver Spring, MD 20910-3282
Telephone: 301-713-3215, Fax: 301-713-4327, Email: Jeff.Olsen@noaa.gov

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FILE TYPE	SOFTWARE	FILE NAME	DESCRIPTION	STATUS
GPS precise orbit files	IGS website	igsWWWWD.sp3	Precise ephemerides for GPS satellites in SP3 format.	
A-file (adjust configuration)	QQRECORD v.1.4	IA_FBN.afl	Modify A-file by adding QQ records from G-file.	
B-file (observation metadata)	CR8BB v.5.5.2 GEOID99	IA_FBN.bfl	Input observation data from observation logs. Add modeled geoid heights.	
D-file (station descriptions)	WDDPROC v.4.xx	IA_FBN.dsc	Input station data from description logs.	
G-file (computed baselines)	PAGES v.2002.01.28	IA_FBN.gfl	Compute baselines from RINEX2 GPS data and orbit files.	
Free adjustment Constrained adjustment	ADJUST v.4.26	IA_FBN.free.adjust IA_FBN.cors.adjust	Compute ITRF positions from A-file, B-file, & G-file. Constrain ellipsoidal heights and CORS positions. Include UNIX "plotres_prompt.bsh" plots.	
Various DQA program outputs	includes COMPGB, OBSDES, NEWCHKOB, OBSCHK, WCHKDESC, etc. Explain any error messages encountered.			
Final Project Report	miscellaneous	IA_FBN.wpd	See FGCS Bluebook Annex K for details.	