

# Montana Height Modernization Strategic Plan Meeting Report

October 26, 2007 8:00 AM to 10:15 AM at Montana Department of Transportation (MDT) headquarters, Helena, Montana. \*Phone-out conferencing provided by MDT.

## Participants

- \* Tony Bachman, USFS
- \_\_\_\_ Dave Davis, MDT
- \_\_\_\_ Todd Ferris, Inland GPS
- \* Joe Glassy, Lupine Logic, Inc.
- \_\_\_\_ Stu Kirkpatrick, DOA
- \_\_\_\_ Bryce Larsen, MDT
- \* Steve Niday, Missoula County
- \* Gerald Pavlick, Morrison Maierle, Inc.
- \_\_\_\_ Curt Smith, NGS
- \* Dick Smith, Smith Surveying
- \* Greg Thurston, City of Kalispell
- \_\_\_\_ R.J. Zimmer, DJ&A

## Guest

James Walther, MDT, Supervising Engineer

## General Agenda

1. Committee Direction and Strategy
  - A. NGS National Ht. Mod. Program – previous E-mail attachments – Curt
  - B. MDT Program Support – Bryce
  - C. Where do we go from here? - Everyone
2. Committee Reports – Status and Direction
  - A. Montana Height Modernization Program Plan – Zim
  - B. Montana Height Modernization Pilot Project – Todd
  - C. Montana Height Modernization Marketing Plan – Dick
  - D. MLIAC status/direction - Dave
  - E. MARLS Board of Directors status/direction - Dick
3. MDT Montana Height Modernization Web Site - Dave
4. Upcoming Events and Target Dates
5. Next Meeting

## Reports

Please review the MDT Web site for Montana Height Modernization to refer to executive committee meeting minutes and other information:

<http://www.mdt.mt.gov/mdt/heightmod.shtml>.

The primary call for this meeting of the Executive Committee was to re-energize our commitment to the Montana Height Modernization Program (MTHMP) after a considerable hiatus since our last meeting in April. This was also the first meeting of the committee with Jim Walther, MDT, who had been invited by Bryce Larsen, so considerable rehash of previous business was intentional to inform Jim of our progress and proposals. Jim's understanding and support is essential to helping us present our case for MDT being the lead state agency and providing support of the MTHMP. During the meeting, Jim's invaluable input helped refine our focus and direction to make the next steps towards achieving our goals.

Curt Smith provided an overview of several documents sent to the committee regarding the status of the NGS's efforts to expand the program into a true National Height Modernization Program. Three documents were developed and distributed from an NGS Height Modernization Conference, July 17 – 18, 2007, in Denver, Colorado; NGS Height Modernization Conference Session Results; Action Plan Items; and National Height Modernization Regional Map. A goal of a National Height Modernization Program is to promote a consistent source of funding through a Federal grants process administered regionally. Due to the Continuing Resolution, FY08 funding for Height Modernization activities are unknown at this time but should be reported by NGS sometime in December. Unfortunately, it appears at this time, that former Congressional earmark funds for Height Modernization will remain the norm for the upcoming FY08 funding cycle with emphasis to support those states with existing programs.

NGS has purchased and taken possession of an airborne gravimeter and is beginning development of specifications and procedures for its use to acquire new and consistent gravity data ultimately over the entire United States and its territories with an interest to create a 1 to 2 cm gravimetric geoid in the next 10 years. Initial testing and procedural development will begin shortly over previous data collected in Louisiana. Proof of concept will be developed and a complete program will be compiled over Puerto Rico – new island wide 1<sup>st</sup> Order, Class II leveling coverage, GPS on bench marks every 7 km, absolute gravity at a few strategic locations, island wide airborne gravity, connections to CORS and tidal stations – producing a 2 cm geoid model and new vertical datum.

There were several MDT concerns identified and discussed at the meeting which must be addressed to secure MDT leadership for the MTHMP. Most importantly, we must identify the overall funding picture for MDT and describe their level of involvement. We need to identify proposed startup costs to MDT and the type and amount of FTE (full time employee) effort required as well as involvement of other staff and materials to pursue the Program. If we can address these concerns, Jim was willing to work with us to setup a meeting to present our plans at the MDT Director's level. We discussed querying successful Height Mod states to get a better feel for potential startup effort to help us develop our business plan.

### **Current and Proposed Activities in Montana Supporting Height Modernization**

Updated NGS Continuously Operating Reference Stations (CORS) map available at: <http://www.ngs.noaa.gov/CORS/>

Updated Plate Boundary Observatory (PBO) map available at: <http://pboweb.unavco.org/>

Proposed CORS at Lubrecht Experimental Forest; information provided by Michael Sweet, University of Montana

Proposed CORS at Montana State University, Bozeman; information provided by Todd Ferris.

Missoula County Leveling Project; information provided by Steve Niday

Proposed cooperative venture to acquire imagery and possibly elevation data by the USGS, NGA, National Guard, and Corps of Engineers in the Helena Valley for Spring 2008; information provided by Lance Clampitt, USGS.

### **Action Items and Meeting Follow-Up**

**1. Grants** – review the current Federal grant process in support of Height Modernization activities: <http://www.ngs.noaa.gov/heightmod/grants.shtml> listed under Geodesy - Height Modernization.

- 1) Determine necessary requirements for application, is this something we can start now?
  - a) How long is grant good for, 1 yr, 5 yr? The duration of grant impacts planning and potential MDT commitment.
  - b) what information must be in place
- 2) Determine who should apply, MDT grant/contracting department?
- 3) When can we apply, by applying now would this show our state's interest?

**2. Business Plan for MDT** – salient points, not extremely detailed, revisit and revamp Executive Summary from the MTHMP plan.

- 1) Contact states with successful programs
  - a) What were their start up costs?
  - b) What did it take to get over the start-up hump?
  - c) What level of employee(s) time was required to start program?
- 2) Identify potential sister agency(s) in Montana which could share costs.

**3. Address and Improve MTHMP Marketing Strategy** – identify potential beneficiaries and expected benefits to help sell program.

- 1) Revisit/revise and make available generic Letter of Support (LOS)
- 2) Obtain LOS from a diverse list of supporters to encourage MDT leadership role, such as:
  - a) MARLS
  - b) Federal agency support of MTHMP concept – USFS, USGS, BLM
  - c) Counties
    - 1) Flathead
    - 2) Missoula
    - 3) Lewis and Clark
    - 4) Yellowstone
    - 5) Others
  - d) Cities
    - 1) Kalispell

- 2) Helena
- 3) Billings
- 4) Others
- e) State Engineers
- f) MLIAC
- g) Others

**4. Enlist Participation on Executive Committee** – identify and encourage wider range of participation on the Executive Committee.

- 1) DNRC
  - a) Flood Plain Managers
  - b) FEMA contacts
  - c) Department of Lands

**5. Identify and Describe Height Modernization; Beginning to End of Program in Development of Multilayer Finished Product** – revisit MTHMP plan and revise around strategy.

- 1. Densified CORS
- 2. Absolute, Relative, and Airborne Gravity – Improved Geoid
- 3. Modern Leveling – in Support of Gravity/Geoid Development
- 4. Real-Time Positioning – 2 cm Vertical

**6. Develop a Pilot Height Modernization Project** - encompasses the layers of Height Modernization, identified in Action Item 5, providing a tangible point to rally around and can be used when requesting Height Modernization grant monies.

**7. Finalize MTHMP Documents and Post on the MDT Height Modernization Web Page** – provide access to most current versions of our documents that we can then offer to anyone interested in the MTHMP. Currently we just have the original Height Modernization Forum results and our Executive Committee meeting minutes.

### **Next Meeting**

The next meeting of the Montana Height Modernization Executive Committee was tentatively scheduled for early December. I suggest December 6<sup>th</sup> or 7<sup>th</sup> if this suits the Committee and Dave Davis can arrange for a call-out phone conference. E-mail communication will continue to prepare documents and plans.

Respectfully submitted,

Curt Smith  
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