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MEMORANDUM

TO: PAUL BERLANT
EXECUTIVE OFFICER, MARIN GENERAL SERVICES AUTHORITY

FROM: TOM ROBINSON, EXECUTIVE VICE PRESIDENT
CBG COMMUNICATIONS, INC.

SUBJECT: PLANS TO INITIATE TASK TWO – PILOT DESIGN, IMPLEMENTATION AND EVALUATION, OF THE CBG COMMUNICATIONS, INC. CONTRACT WITH THE MARIN GENERAL SERVICES AUTHORITY

DATE: MARCH 13, 2008

CC: DICK NIELSEN, SR. ENGINEER

Per our discussion, with the meeting held on January 16, 2008 with the Golden Gate Bridge District (District) and the subsequent meeting on that same day with the Wireless Marin Advisory Committee (Committee), CBG Communications, Inc. (CBG) has completed Task One (Assistance in the Identification of Specific Commitments for Funding and Utilization of a Wireless Broadband System Pilot Project) of its contract with the Marin General Services Authority (MGSA) and is ready to begin Task Two (Pilot Design, Implementation and Evaluation). Concerning Task One, on November 2, 2007, a memorandum was sent to the MGSA Board detailing the activities being performed. As a synopsis of that memorandum and an update concerning Task One's completion, work included:

- Identification of Agencies Committed to Utilization of Wireless Broadband Applications – Our review of a variety of potential initiatives ultimately focused on wireless broadband applications for Mill Valley, Novato, the Marin Free Library system and the Golden Gate Bridge District (District). Specifically:
 - Mill Valley's deployment of wireless broadband has begun with the activation of one hotspot that is currently utilized by the Police Department. Access for other users (public agencies and the general public) is planned but has not been made available at this time.
 - Novato desires to deploy wireless devices for public safety use to allow for "drive-by" downloading and uploading of data, including live and archived video.

Procurement of end-user equipment for patrol vehicles as well as hardware for implementation of a primary Access Point (AP) at Police Headquarters has occurred to-date. Ultimately, additional APs will also allow public and other public agency access, similar to plans in Mill Valley. Novato has delayed further implementation, though, due in part to manpower issues and other priorities currently affecting the City.

- The Marin County Free Library system currently offers wireless broadband at most of its locations for access to the Internet from within and adjacent to its facilities. Discussion has indicated that the Library hot spots could be leveraged as part of a larger deployment of a wireless network within Marin for both public agency and public utilization, once funding is identified for placement of APs on adjacent streetlight infrastructure or other vertical assets and backhaul connections are enabled to the adjacent Library or another pertinent MIDAS site.
- The Golden Gate Bridge District is committed to moving forward with a cost effective pilot that will utilize technologies available today to enable wireless broadband availability for an initial group of transit passengers. Since the District also has committed certain funding for the initial pilot implementation, it was determined that working with the District, as further described below, would be the best way to proceed under Task Two of the Project.
- Identification of Funding Commitments and Potential Funding Sources - In addition to manpower issues and the presence of more pressing priorities, lack of available additional funding has hampered the above projects from going forward further. For example, once the first AP is implemented in Novato, additional grant or City budgetary funding would be needed to expand the coverage of the wireless system beyond the Police HQ.

Research of potential funding has found a number grants available for applications made and allocated during 2007. Grants similar to these will become available in 2008, and subsequent years, depending on the applications made possible via the network. Examples of these grants are: Homeland Security, DOJ and USDA (for Distance Learning and Telemedicine). The MGSA, through and together with its partner agencies, can apply for such grants based on the proposed and intended utilization of the network.

Overall then, since the proposed Golden Gate Bridge District Pilot has commitments for both utilization and funding, it is our belief that it is the most viable project to focus on in Task Two. Regarding the transition from Task One to Task Two, at the January 16, 2008 meeting with the District, we discussed the elements of a pilot project related to wireless broadband access for transit commuters along the 101 corridor and the participation of CBG, the MGSA, the Marin Telecommunications Agency (MTA) and other interested parties in fully developing and implementing the pilot. Also, we discussed designing it in such a way that it would have significant criteria that could be fully evaluated and assessed for the possibility of broader implementation in other transit corridors and for other purposes. When we met with the Committee, we discussed the Identification work that had already taken place (i.e., Novato, Mill Valley, the Libraries, the District, etc.) and that the District's pursuit of wireless broadband was the most viable at this point based on funding availability for the pilot, technologies that could be

leveraged and the potential for more extensive implementation. The Committee agreed and indicated that they believed that working with the District to implement the pilot project was the prudent next step forward that would have potentially broad-based benefits for the Marin community.

Accordingly, we are ready to initiate Task Two if the MGSA concurs with CBG and the other interested parties that have already indicated concurrence.

To provide an idea of the types of work that will be done with the District and other interested parties under Task Two, the initial pilot design work is anticipated to consider such elements as the following, which once determined will then lead to commensurate implementation and evaluation activities:

- Backhaul from the buses to the provider. If cellular-based, should a pretest be performed to determine the level of coverage for chosen routes? Should WiMax, WiFi or other technologies be utilized if available?
- Access to the network in the bus by participants is anticipated to be WiFi.
- Determine the bus route(s) that will be included in the Pilot.
 - Longer routes can be chosen to increase the potential value of broadband access to new and existing riders.
- Determine the number of participants and the length of the pilot (6 months has been discussed thus far).
- Determine the demographic data to be gathered and the level of utilization per demographic group. Potential demographic data to be gathered and analyzed may include, for example:
 - Age of participants
 - Gender
 - Ethnicity
 - Socioeconomic status
- Will the pilot reach outside of mass transit riders (to car pool commuters and those at bus-stop areas, for example)?
- Help refine the final cost to implement the pilot and where future funding will come from for the potential expansion of the pilot implementation.
- When should expansion of the pilot project be explored?
- Develop a log for participants to accurately track utilization information, speed and quality of the network and other parameters.

- Is the speed or throughput adequate for most participants? If not, what applications are not working properly on the pilot network? What solutions might remedy these problems?

CBG will then assist in implementing the pilot as well as follow the progress throughout. CBG will compile the statistics gained from the pilot project and work with the MGSA and the Golden Gate Bridge District to determine the value realized by the riders utilizing the pilot network. Evaluation of the pilot will occur throughout the process with final compilation of statistics at the end of the pilot project. Discussions will be held throughout to overcome obstacles and fine-tune the implementation on an as-need basis. An assessment will be made at the end to determine whether and how broader implementation can be achieved.

Note that the issues related to vendor selection discussed in the Contract's Task Two description may not arise, since the District will ultimately be the Agency procuring a particular vendor's wireless broadband equipment. We, however, will provide our thoughts to the District on pertinent technologies and associated vendors for the project.

Based on all of the above, CBG is ready to move forward on Task Two with your concurrence. Please do not hesitate to contact me if you have any questions concerning any of the above.