



**Broadband Infrastructure Application
Submission to RUS (BIP) and NTIA (BTOP)**

Submitted Date: 8/19/2009 2:15:31 AM	Easygrants ID: 836
Funding Opportunity: Broadband Initiatives Program and Broadband Technology Opportunities Program	Applicant Organization: City of Gustavus
Task: Submit Application - Infrastructure Programs	Applicant Name: Mr. Sean Neilson

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A. General Application Information

1. Applicant Information	
1-A. Name, Address, and Federal ID for Applicant	
i. Legal Name:	City of Gustavus
ii. Employer/Taxpayer Identification Number (EIN/TIN):	270085777
Street 1:	1802 Gustavus Rd.
Street 2:	
City:	Gustavus
County:	n/a
State:	AK
Country	United States
Zip/Postal Code:	99826

1-B. Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
Prefix:	Mr.
First Name:	Sean
Middle Name:	
Last Name:	Neilson
Suffix:	
Telephone Number:	907-697-2810
Fax Number:	206-984-9439
Email:	info@corvid.info
Title:	Gustavus Community Network Administrator



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1-C. Other Required Identification Numbers	
i. Organizational DUNS:	172218104
ii. CCR # (CAGE):	37CS2
iii. Funding Opportunity Number:	1
iv. Catalog of Federal Domestic Assistance Number:	BTOP CFDA Number: 11.557 BIP CFDA Number: 10.787 BTOP CFDA Title: Broadband Technology Opportunities Program BIP CFDA Title: Broadband Initiatives Program

1-D Eligible Entities

Please classify your organization. (Note: If there are multiple organizations involved in the project, designate the lead applicant that would enter into a Loan or Grant agreement with the Agency and assume operational and financial responsibility should an award be made). **Local, State, or Other Government Entity**

1-E. RUS Borrower Status

No

1-F. Applicant Federal Debt Delinquency Explanation

Is the Applicant Delinquent On Any Federal Debt? **No**
Federal debt delinquency Explanation:

2. Project Description & Project Title

2-A. Project Title: Gustavus Community Broadband Network

2-B. Project Description: Bring fast, reliable and affordable internet access to all citizens of Gustavus, Alaska.

3. Application ID for Multiple Submissions for Identified Service Areas:

4. Rural Area Determination



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At least 75 percent of the proposed service area to be funded falls within rural areas that are unserved or underserved.

Yes

5. Applications for Rural Areas: Please choose the funding program(s) to which you are submitting this application.

a) BIP broadband infrastructure category to which you are applying:

BIP - Last Mile Remote Area

b) Would you like this Application for Rural Areas to also be considered for BTOP funding?

Yes

c) BTOP Infrastructure category for which you are applying.

Last Mile

6. Applications for All Other Areas: Per the NOFA, all applications to fund broadband infrastructure projects in areas that are less than 75% rural must be submitted to NTIA for consideration under BTOP.

BTOP broadband infrastructure category to which you are applying: **Last Mile**

B. Eligibility Factors

7. Application Submission

BIP and BTOP Factors Selected By Applicant:

Applicant has submitted a completed application and provided all supporting documentation required for the application.

The Project will be substantially complete within 2nd year from the award date, and the project will be fully complete by the end of the 3rd year from the award date.

For projects seeking more than \$1 million funding, the Applicant agrees to submit a certification, from a Professional Engineer, that attests that a) the system will deliver the stated performance; and b) the projected



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project will be substantially completed within two years, and fully completed within three years.
The Applicant provides two-way data transmission with advertised speeds of at least 768 kbps downstream and 200 kbps upstream.
Applicant understands and agrees to comply with the nondiscrimination and interconnection obligations outlined in the NOFA.
If applying for a last mile Broadband Infrastructure project, applicant understands and agrees to comply with the last mile coverage obligations as outlined in the NOFA.

Additional Factors for BIP Selected By Applicant
At least 75 percent of the proposed funded service area qualifies as unserved and underserved rural areas in accordance with the NOFA.
Applicant understands and agrees that the project will be fully funded in accordance with the requirements of the NOFA.
Applicant understands and agrees that only projects that RUS determines to be financially feasible and/or economically sustainable will be eligible under this NOFA.

Additional BTOP Factors Selected By Applicant
<ul style="list-style-type: none"> • Conformity with Statutory Purposes • Cost Sharing/Matching • Reasonableness of Project Budget
The project advances at least one of the statutory purposes for BTOP



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Applicant has provided documentation that the project would not have been implemented during the grant period without federal grant assistance.
Applicant has provided a budget that is appropriate to the proposed technical solution and only includes eligible costs.

- **Demonstration the Project Could not be Implemented But For Federal Grant Assistance**
Applicant is providing matching funds of at least 20 percent towards the total eligible project costs?
Yes

7-k. Cost Sharing/Matching Fund Explanation
--

C. Executive Summary

Executive Summary of Project for BIP and BTOP:

8. Infrastructure Projects Executive Summary

Gustavus, Alaska, gateway to Glacier Bay National Park, is situated on a large, flat glacial outwash plain. Farmers and ranchers attracted to its apparently arable land settled 160-acre homesteads in the first half of the 20th century. Agriculture plays little part in an economy now based on government, tourism, construction, education, and health services, but our agrarian legacy includes lot sizes of one to five acres and big gardens. As a result the population of our proposed service area (426 in 2000 with 59 active business licenses) is spread thinly over 23 square miles, in marked contrast to the region's more typical fishing settlements crammed into dense if tiny clusters between sea and cliff. Our low population density, combined with our flat and now heavily forested terrain, poses formidable technological and economic challenges to broadband networking.

You cannot drive to Gustavus; like most Southeast Alaska communities we are not connected



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to the road system. Unlike most Southeast Alaska communities we do not have state ferry service, though that is expected to commence after our new dock is completed in late 2010. We do have a big airport built during World War II to support the Aleutian campaign, and we are within 50 straight-line miles of Juneau, the state's capital, but we claim to be as remote as most places 150 road miles from a non-rural area. Please see the essay "Gustavus Is Remote" (attachment Supplemental Information 1) for our justification of that assertion and an explanation of our consequently high transportation, energy, and communication costs.

Local Internet service began in 1995 when Gustavus enthusiastically agreed to be one of six Southeast Alaska communities benefitting from the SEAKNet project, a collaboration of the Alaska State Library, University of Alaska, and the Southeast Regional Resource Center and funded by an NTIA grant. The grant funded installation and one year's operating costs for a 56 Kbps frame relay circuit at the Gustavus school and four analog modems for dial-up access. The University of Alaska was the upstream ISP and the Southeast Regional Resource center provided training and administrative support. After grant funding ran out in 1996 Gustavus SEAKnet continued as a self-supporting function of the Gustavus Community Association. Volunteers administered and operated the network and subscriber fees were husbanded to maintain and expand the network. Over time more modems were added, the network center was moved to the new Gustavus Public Library, the 56K frame relay circuit was replaced by a 1 Mbps business-class satellite connection, the analog modems were replaced with a portmaster integrated access server with 56K digital modems, and an automated billing system was installed. When voters incorporated as the City of Gustavus in 2004 the Gustavus Community Association disbanded and Gustavus SEAKNet was reconstituted as the Gustavus Community Network (GCN), a city-owned Internet Service Provider. Internet service was provided to City Hall by pairing SHDSL modems with a leased two-wire circuit. GCN built a limited wireless network at City Hall to serve the Salmon River meadow area with high-speed (if not quite broadband) Internet access, connecting the Gustavus Community Clinic. In August, 2005 GCN boasted 158 subscribers, which is 76% of the estimated occupied households at the time. We have learned how to fairly and effectively share a limited, expensive resource (upstream Internet bandwidth) by means of usage-based pricing and sophisticated bandwidth control supported by a flexible, scalable AAA, billing, and payment processing system and professional administration and customer service.

We emphasize that no outside financial support was involved during these 13 years of operation and growth; since the original NTIA grant SEAKNet and GCN have been sustained



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and grown entirely by subscriber revenues and volunteers, working in partnership with the Gustavus Public Library and City of Gustavus, amply demonstrating our qualifications and ability to build and operate a community network. But we have reached a point, for the first time since local Internet service became available, where we need a push to get to the next level of sustainable Internet service.

GCN lost momentum in 2006 as dial-up service, the only option offered by GCN to the more than 90% of subscribers living outside the Salmon River meadow wireless coverage area, became ever more inadequate in the face of increasingly media-rich web content. Growth of the wireless network stalled after the limitations of 2.4 GHz technology in our forested flatland became painfully obvious. Customers began installing their own satellite dishes and subscribing to wireless data service newly available from the cellular phone companies. Equipment failure from a botched carrier system replacement by the local telephone company rendered many phone lines unusable for dial-up Internet access in November, causing a mass cancellation of GCN service. By the time the phone lines were repaired over two years later, former GCN subscribers had installed satellite dishes or resigned themselves to having no home Internet access and in any case did not wish to go back to dial-up service, however good. GCN now has 75 subscribers, fewer than half its peak, has lost one key volunteer, and is operating at an unsustainable loss. Meanwhile the best available Internet options for residents outside the very limited Salmon River meadow area are individual satellite dishes and 1xRTT cellular data service, both of which are slow, suffer from high latency and congestion, and are expensive and/or unreliable. "Better than dialup" is the best that can be said of these choices.

Even before it issued a request for proposals for broadband Internet service in 2004, GCN recognized the need for broadband Internet access. Local experiments with 2.4 GHz wireless proved that technology alone would never provide community-wide service so the GCN advisory committee sought outside professional help. A contract with engineering firm Borealis Broadband produced a 900 MHz wireless broadband proposal in March, 2008 (see attachment Supplemental Information 3, Borealis Plan). Additional field testing, further discussions, and new technology resulted in refinements that led to the hybrid terrestrial fixed wireless design proposed herein. GCN proposes to use its remaining reserves as matching funds for a grant, totaling \$145,909 to build a 900 MHz wireless backbone connecting to the Internet various neighborhood 2.4 GHz wireless mesh networks. Five years of research, engineering, experience and field testing have resulted in a design that combines the superior



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range and foliage penetration of 900 MHz wireless technology with the low cost, redundancy, and easy deployment of a self-configuring, standards-based last-mile mesh while leveraging GCN's existing organization, accounting, administration, billing, and payment infrastructure. Connected to an upstream pair of T1 circuits from our partner Ukpik, LLC GCN will stand above any alternative as clearly the fastest, cheapest, and most reliable Internet service. We fully expect, over time, to regain as many customers as we lost since 2005.

We see GCN's current unsustainable operating deficit as both a crisis and an opportunity. No action will result in the loss of affordable \$25/month Internet access for the neediest 10% to 20% of our population, the loss of network openness, dissolution of a successful partnership of the city, library, clinic, volunteers, and contractors, and a lost opportunity for sustainable true public broadband service for the lowest possible investment. And if this opportunity is lost and GCN goes out of business it is unclear when we would ever obtain broadband access in this community, as no one else has offered to serve our remote location (our local phone company having recently declined to partner with us to offer DSL service over their existing infrastructure).

Meanwhile there exists an opportunity to provide to a remote community the fastest, cheapest, most open Internet access possible by leveraging past NTIA grant funding and a partnership of dedicated, experienced, capable local volunteers, community organizations, and contractors with a proven track record and existing systems, services, and customers. We know what needs to be done and we know how to do it; we can be a model community network with a design that can be used in small unserved and underserved communities everywhere. The technology is available, construction of the hydro project has made a communications site available, and ARRA has made the funds available. For the lowest possible investment we can build on the success of the original 1995 NTIA grant and the successful partnership that grew from it to build our economy and add an estimated 33 jobs (see question 10), enhance health care delivery and education (questions 10 and 11), promote network openness (question 22), and provide lifeline service to those who need it most (question 27).

Description of BTOP Project Purpose (BTOP Applicants Only Next Three Questions)

9. BTOP Statutory Purpose:



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Provide access to broadband service to consumers residing in “unserved” areas of the United States.
Provide broadband education, awareness, training, access, equipment, and support to schools, libraries, medical and healthcare providers, community colleges and other institutions of higher education, and other community support organizations by or through these organizations.
Improve access to, and use of, broadband service by public safety agencies.
Stimulate the demand for broadband, economic growth, and job creation.

10. Description of BTOP Project Purpose:

The purpose of the Gustavus Community Broadband project is to strengthen the unserved community of Gustavus, Alaska by providing the fastest, most reliable, most affordable, and most open Internet access possible. Among the biggest beneficiaries of the new broadband access will be the Gustavus Public Library, the Gustavus Community Clinic, K-12 students (especially the numerous home-schooled students), and the Gustavus Volunteer Fire Department. Broadband access will also stimulate economic growth and create jobs.

Gustavus is an unserved service area. The best available Internet access is the high-speed wireless service offered by the applicant (City of Gustavus d.b.a. the Gustavus Community Network, a.k.a. GCN). This service nearly qualifies as broadband but is available to fewer than 10% of households due to very limited coverage by the 2.4 GHz wireless network. The other 90%+ of consumers have to get their own satellite dishes to have something better than dialup. Many have done so but high cost, usage caps, difficult installation, high latency, low reliability, a lack of local service, and low upload speeds mean these satellite systems are no real solution to problems resulting from poor Internet service, including the following:

Many residents have given up on home Internet access, choosing to use the Internet at work, at school, not at all, or at the Gustavus Public Library. This has put a heavy load on the library’s limited, shared public Internet service, making it far slower than broadband.

Approximately 20 of the 70 Gustavus students in grades K-12, receive at least some home schooling. No home in Gustavus has broadband Internet access, so home-schooled students are at a significant disadvantage with regard to the many other online educational resources. Other Gustavus students have broadband Internet access at school but not at home, hampering their



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ability to learn outside the school setting.

Health care is delivered either by the Gustavus Community Clinic or by providers outside Gustavus (incurring high travel costs from our remote location). The clinic's current high-speed GCN wireless Internet service is marginal and inefficient for medical research. The clinic's office manager often has to reenter billings in the remote system at Bartlett Regional Hospital in Juneau, Alaska, because connections time out.

Economic growth and jobs are diminished by the lack of broadband Internet access. Much of the Gustavus economy is based on tourism to Glacier Bay National Park. The former office manager of the Gustavus Visitor's Association noted that simply updating the GVA website with new business information is subject to time-outs. Others who would like to live in Gustavus and telecommute are unable to do so.

For 13 years the applicant has sustained and grown the community network with no outside support, but dial-up service has become inadequate for modern communication needs so we have lost over 50% of our subscribers since 2005 and are now operating with an unsustainable deficit.

Gustavus presents many OPPORTUNITIES as well as problems. Completion this year of a hydroelectric project has resulted in road access and utility power at the communications facility site proposed in our plan, which is at 600' elevation with excellent views of Gustavus.

New wireless mesh radio technology simplifies deployment and greatly reduces cost. In 2008 GCN completed a funding-ready broadband network design.

Already in place are a functioning local organization, system, and customers with a proven track record, presenting an opportunity to deliver broadband service for minimum investment and maximum chance of long-term success and self-sustainability.

Our SOLUTION is a hybrid fixed terrestrial wireless network consisting of a backbone operating at 900 Mhz to penetrate our dense forest, feeding multiple self-configuring, redundant mesh networks of low-cost, standards-based 2.4 GHz radios. The new network will



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be supported by existing staff, procedures, and automated systems for authentication, accounting, billing, provisioning, bandwidth management, payment processing and customer self-service. The proposed new network will provide broadband access to everyone in Gustavus, an area which currently is completely unserved.

Our proposal would significantly reduce use of the Gustavus Public Library's free Internet service as many patrons would install broadband service at home, making the library's service faster.

Students, especially home-schoolers, would gain access to on-line training courses and classes, GED classes, and enhanced access to the world through informational services and media. The proposed project would give otherwise disadvantaged Gustavus students the same access available to the rest of the broadband world.

Gustavus Community Clinic will benefit from improved efficiency and accuracy in its billings and more and better training, reference and research for the medical provider. The enhanced quality of service designed into the proposed infrastructure would support telemedicine for personal patient visits, consultations, and training opportunities for the town's sole full-time practitioner. Telemedicine would enable dermatology, behavioral health, and pulmonology consultations, reducing expensive patient trips to the regional hospital in Juneau by 10-20 trips per year or 5-10%.

Gustavus Emergency Response (GER), our only public safety agency, will also receive broadband access from this project. Broadband service would enhance emergency services by giving access to real time weather mapping, search and rescue mapping tools, and telemedicine. Additionally, the communications tower we propose would greatly enhance emergency communications by re-positioning the current VHF radio base station to a location with much better coverage of the service area.

Broadband Internet access for the community will stimulate broadband demand and create economic growth and jobs. Gustavus' economy has a large entrepreneurial segment as indicated by 59 active business licenses encompassing various tourist accommodations, the service industry, professional services, construction and transport businesses serving visitors and residents. All these businesses will be better able to market their businesses and



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communicate with potential customers and reduce overhead waiting for pages to load. Broadband access would also allow telecommuting by many who would like to live and work in Gustavus but are currently unable to do so because of the limited connectivity. We project broadband access would have a positive impact on all business sectors in Gustavus and would and boost the employment rate from 55% of eligible residents employed to 65%, an addition of 33 jobs.

Gustavus wishes to serve as a model community network. If our design can overcome our challenges of isolation, low population density, and flat, forested terrain it will work just about anywhere. GCN will communicate our success to other unserved and underserved areas, will publish a blueprint for others to follow, and will provide consulting services as needed to spread our success.

In short, the Gustavus Community Broadband project addresses multiple problems, opportunities, and BTOP statutory purposes in the most cost-effective manner possible and delivers a model that can be used for other small unserved and underserved communities everywhere.

11. BTOP Enhanced Services for Health Care Delivery, Education, and Children:

As described in the project purpose (question 10), the Gustavus Community Broadband project will deliver broadband Internet access to the Gustavus Community Clinic, to the Gustavus Public Library, and to students at home, especially including home-schooled students. Basic broadband Internet service alone will have huge benefits for health care, education, and children. However, the proposed project goes beyond basic broadband Internet access in the following ways:

Quality of Service achieved by sophisticated bandwidth management at the local level and in cooperation with our upstream Internet provider makes possible advanced voice and video services that work poorly or not at all over typical shared consumer broadband services regardless of their average speeds. This allows us to prioritize traffic in such a way that applications like telemedicine and distance learning function reliably and without jitter, dropouts, or pixelation even under heavy network loads.

Local systems and content allow advanced collaboration among subscribers, strengthening local awareness, communication, and cooperation. Local file shares on a server at the Gustavus



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Public Library will have much faster access using simpler native protocols (AppleShare, Windows SMB) than Internet-based collaboration systems. The city's content management system is designed for participation by citizens and will work much faster, especially for media-rich content, when used by subscribers on the community network.

Advanced network-based voice services will allow inexpensive, flexible communications for both emergency and routine health care delivery. For example, a network-based voice system can route calls to the clinic phone number automatically to the clinic, to the on-call provider (anywhere in the service area, much of which has no cellular phone service), or to the EMS responders, depending on time of day, the current situation, or callers' responses to voice prompts. Voice services are not part of the proposed project but are envisioned for the future and will be supported by the quality of service features of the proposed community network.

Audio and possibly video of city meetings and other events may be streamed over the local network and archived for access by those unable or unwilling to attend the meetings in person, thus enhancing education and local involvement.

Local "radio" stations transmitted over the community network are an educational opportunity for students.

D. Proposed Funded Service Area

12. Proposed Funded Service Area Maps:

12-A. Service Area Map (Reference Number): **d249-2cd4-4708-9e0c**

12-B. Is the applicant is seeking a waiver for providing less than 100% coverage of a census block. **No**

13. Proposed Funded Service Area (BIP - Last Mile Projects):

Please refer to section M at the end of document.

14. Proposed Funded Service Area (BTOP - Middle Mile Project):

Please refer to section M at the end of document.

15. Non-Funded Service Area(BIP Only):

No part of our service area is outside the proposed funded service area; the service area and proposed funded



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service area are identical so there is no non-funded service area.

16. Coverage Waiver:

Applicant is seeking a waiver for providing less than 100% coverage of a census block.

No

For Response of “Yes” please refer to upload section for additional supporting documentation.

17. Methodology for Area Status:

The Gustavus Community Network (GCN) provides dial-up service to the entire community and provides high-speed wireless service to a small area within the center of the community. (Neither of these services meet the definition of broadband.) This smaller area with access to the line-of sight wireless system is available to 25 households. This number was arrived at by counting households within the coverage perimeter by using aerial photographs of the area. According to the data from the mapping tool in the EasyGrant application program, there are 338 households in our service area. (25 out of 338 households is 7%)

The State of Alaska has not yet taken up a broadband mapping effort. High-Speed Wireless Service speeds are approximately 400-800kbps down and 100-200kbps up.

Currently, there is no affordable broadband service in Gustavus. The only other alternatives include:

1. Consumer satellite service from providers like Hughes and Starband (which are not terrestrial even if it were broadband). These services cost a minimum of \$2000 for an initial investment and \$59/month for service. Again, this service does not provide broadband speeds.
2. The installation of a T1 line from ATT for \$1500/month. This service would provide broadband service, but is obviously cost prohibitive.
3. Data over cellular phone network cost \$80/month for unlimited service with 1xRTT speeds “up to” 120 Kbps but is typically comparable to dial-up speeds due to congestion.

All of these options are much too expensive for Gustavus residents.

To summarize, Gustavus is “unserved“ for two reasons:

There is no broadband service available, as defined in the grant application.

Our fastest available service, referred to as “High Speed Wireless” reaches only 7% of households and furthermore, does not reach broadband speeds as defined in the grant application.



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18. Middle Mile Benefits

E. Proposed Service Offering

19. Broadband Service Offerings for Last Mile Project:

Please refer to upload section at the end of the document.

20. Service Offerings for Middle Mile Project:

Please refer to upload section at the end of the document.

Competing Service Providers

21. Existing Broadband Service Providers and Services Offered:

Please refer to upload section at the end of the document.

Non-Discrimination, Interconnection

22. Description of Network Openness:

The Gustavus Community Network (GCN) is a strong supporter of network neutrality and shall adopt and prominently publish on its web site a "Network Openness" policy with the following provisions, and shall notify its subscribers via e-mail at their billing address of its adoption and any subsequent changes.

Subject to the Acceptable Use Policies (AUPs) of GCN and its upstream Internet provider, legal network management, and the needs of law enforcement...

1) Internet bandwidth purchased by the subscriber and delivered by GCN is the subscriber's to use as he or she chooses. GCN shall neither give preference to nor restrict any lawful content, services, applications, nor providers thereof.

2) The Internet speed delivered to each subscriber shall vary between their pricing plan's published minimum and maximum and/or burst speeds, depending entirely on overall network load and the published speeds and priorities of pricing plans. Available Internet bandwidth shall be allocated between users first by their plan's priority and then, between subscribers to



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plans with equal priority, on an equally divided basis.

3) Consequent Internet rate limitation or reduction for each individual user shall take place using a queuing algorithm giving equal weight to all parts of traffic flow without preference nor limitation based on source or destination IP address or port, nor based on lawful content, application, service, nor provider accessed.

4) Subscribers may connect to GCN any legal devices that do not harm the network, and may share their connection among multiple simultaneous computers and users and, for usage-based plans, locations.

5) GCN offers interconnections to other networks and parties for the exchange of traffic with GCN's facilities and the Internet. Reasonable rates and terms shall be negotiated with the requesting party.

6) Notice of any changes to this policy shall be e-mailed to all active subscribers at their billing e-mail address.

Non-Discrimination and Interconnection (BTOP applicants only for next three questions)

23. Non-Discrimination Obligations (applicable to Last Mile and Middle Mile Applicants):

Adhere to the minimum non-discrimination requirements as set forth in the NOFA.

Display the nondiscrimination practices in a prominent location on the service provider's web page, and provide notice to customers of changes to these policies.



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24. Interconnection Obligations (applicable to Last Mile Applicants):

Adhere to the minimum interconnection requirements as set forth in the NOFA.
Display the interconnection policies in a prominent location on the service provider's web page, and provide notice to customers of changes to these policies.
Commit to offering wholesale access to the project facilities at reasonable rates and terms.
Commit to binding private arbitration of disputes concerning interconnection obligations.

25. Interconnection Obligations Middle Mile Applicants:

--

Cost Effectiveness and Affordability

26. Cost per Household (BTOP only):

Total project cost is \$145,909

Number of "households" in service area is 197 (2000 US census) or 208 (extrapolated from 2004 state demographer's estimate as explained in Attachment H (Q48, Broadband Subscriber Estimates).

Cost per household is therefore either \$741 or \$701. Note businesses and strategic institutions are also served by this project.

The above calculation uses the census definition of "household." We note that the mapping tool shows 338 households in the service area (map reference number d249-2cd4-4708-9e0c), apparently using "housing units" as defined in the census. Using this definition the cost per household is \$432.



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27. Affordability

The Gustavus Community Network seeks to provide the best possible service and to fairly distribute the cost among customers with a wide range of needs and habits. It may help to understand that, especially in rural Alaska with our high telecommunication costs, there are trade-offs between speed, cost, and usage. We would all like our Internet service to be blazingly fast and dirt cheap (or free), no matter how much we use it. However, even "down south" there is no such thing as Internet service that is fast, cheap, AND unlimited. GCN offers a choice of plans so you can...

Pick Any Two

- * Fast: continuous uploads and downloads up to 800 kilobits per second (100 kilobytes per second) or better meet the current FCC definition for broadband, unlike satellite connections with high latency and slow upload speeds.
- * Cheap: Prices from \$44 per month for year-round basic broadband service
- * Unlimited: Truly unlimited service - use as much as you want, 24X7, never any usage caps or "throttling"

Usage-based vs. flat-rate

GCN accommodates a wide range of uses by offering a wide range of usage-based and flat-rate pricing plans. Usage-based plans are fastest and cheapest for most users. Heavy users, such as continuous downloaders or larger businesses, will benefit from the dedicated service provided by flat-rate plans.

Lifeline service

Public funding of our infrastructure has made it possible for GCN to continue offering a \$25/month plan for those with limited needs or means. This usage-based plan includes 500 MB data per month and is limited to 60 Kbps continuous up and down speeds with 120 Kbps bursts. So it is not a broadband service but is faster than the dialup service that GCN has offered at this price since 1995 and may be all that many subscribers want, need, or can afford.



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F. Technology Strategy

28. Technology Type:

Wireless - Terrestrial Fixed

Other:

29. System Design

DESCRIPTION OF CURRENT NETWORK

The Gustavus Community Network (GCN) serves the city of Gustavus, Alaska (2000 census population 429) with dial-up Internet access and near-broadband wireless and wireline Internet access in certain limited locations. GCN does not currently offer voice, video, or other services. As of August 6, 2009 GCN had 75 establishments served. This is down from a high of 158 dial-up customers served in August, 2005, before widespread adoption of consumer satellite and cellular data Internet services.

Dial-up access is provided by a Livingston Portmaster 3 integrated access server at the Gustavus Public Library connected to a channelized T1 circuit from the local telco. The digital modems in the Portmaster allow modem connections up to 53 Kbps.

Wireline service is offered only at the Gustavus Public Library (GCN network operations center and location of the satellite Internet backhaul) and via SHDSL modems over a leased 2-wire local loop at City Hall, about one mile away. The Gustavus Community Network owns no wireline facilities between establishments so the number of wireline establishments passed and covered is zero.

Wireless service is offered from City Hall, using standard Wi-Fi and proprietary 2.4 Ghz Turbocell and 900 MHz Tranzeo access points installed in and near City Hall. Some clients connecting to the Turbocell base station have standard Wi-Fi access points at their premises, extending coverage and making it possible to connect to GCN using standard wireless devices. The number of establishments covered by GCN's Salmon River wireless network is currently 25. Customers generally experience Internet downloads in the 400 to 800 Kbps range and uploads in the 100 to 200 Kbps range depending on overall system load, the bottleneck being



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the upstream satellite connection.

Upstream Internet access is via a business-class satellite service provided by AtContact Communications in Sedalia, Colorado. Our service level is 1 Mbps down, 384 Kbps up. This is a shared platform with no service level guarantees. There are no pre-defined usage limits. The Gustavus satellite dish uplink is located at the Gustavus Public Library.

User management, authentication, authorization, accounting, billing, payment processing, and provisioning of services are handled using the open-source Freeside software package and FreeRADIUS on a pair of servers located at the library. A Mikrotik core router provides captive portal and sophisticated per-user bandwidth management functions.

DESCRIPTION OF PROPOSED NETWORK

GCN has been working since at least 2002 to plan a last-mile network to interconnect all homes and businesses in our service area to deliver broadband Internet access and other services. Designing a cost-efficient network has proven extremely challenging because of our small population spread out over a large, flat, heavily forested glacial outwash plain (426 people in our 23 square mile service area). We investigated broadband over power lines (far too expensive), DSL (local telco declined to partner with us saying they could not make a business case), and various wireless technologies and combinations of the three. We built a wireless network in the Salmon River meadow, an area with relatively few trees and denser population. We hired engineering firm Borealis Broadband from Anchorage to design a community-wide broadband network and our proposal is based on the final plan they delivered in March, 2008 with modifications resulting from field testing and new wireless mesh technology.

Our service area and proposed funded service area is the City of Gustavus minus the westernmost part of the city (Bartlett Cove in Glacier Bay National Park) because the distance, land use restrictions, and intervening topography make it infeasible to economically deliver service there in the timeline of this project. GCN hopes to partner with the National Park Service to deliver service to Bartlett Cove in the future but we could not arrange that in time for this initiative.

The service to be offered by this network is broadband fixed terrestrial wireless Internet access. GCN fully intends to offer voice and possibly other services in the future and has designed the network with the capacity and quality of service to support those applications, but that will be a separate project undertaken after this one is complete.



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The proposed network consists of the following elements:

- * New communications tower to be constructed in a location overlooking Gustavus. The Falls Creek tower location is at about 600 feet elevation and already has power and road access and the site is cleared and ready for the tower installation.
- * New upstream Internet access from AT&T Alascom, initially using two T1 circuits, expandable as needed to maintain broadband performance for subscribers.
- * New point-to-point backhaul radio link between the new Falls Creek tower and the AT&T tower, using proprietary Mikrotik/Ubiquiti radios in the 900 MHz unlicensed spectrum, providing at least 8 Mbps simultaneous up and down bandwidth, expandable by adding radios for a full-duplex symmetric 20 Mbps or better link.
- * New wireless Point-to-Multipoint proprietary 900 MHz backbone with the access point located on the new Falls Creek tower and “backhaul customer” clients located at strategic sites throughout the funded service area.
- * New wireless 2.4 GHz mesh network using standards-based Open-Mesh routers will extend coverage from each 900 MHz backbone uplink and allow access by any 802.11b/g device. Open-Mesh dashboard system hosted on Internet provides web-based configuration and monitoring of mesh network.
- * Existing user management and core router infrastructure will provide authentication, authorization, accounting, billing, payment processing, provisioning, captive portal, and bandwidth management.

The proposed last-mile infrastructure will be capable of delivering at least 8 Mbps of shared bandwidth up and down to each client from the GCN network core. With an estimated growth to 150 customers, that results in an acceptable oversubscription ratio of 14.4:1 given an advertised speed of 768 Kbps down (as specified in the NOFA) and purchase of sufficient upstream Internet access. Additional capacity can be added with additional 900 MHz base stations on the communications tower using different frequency bands and/or antenna polarization to segment traffic to the backhaul customers.

The mesh networks can be extended from the edge to create large “hot zones” to cover every potential customer. 900 MHz backhaul links will be added as needed to provide redundancy, reduce latency, and add more mesh networks to extend coverage.



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30. Network Diagram:

Please refer to upload section at the end of document.

31. Certification by Professional Engineer:

Please refer to upload section at the end of document.

32. Buy American Waiver Request:

Is the applicant seeking an individual waiver of the Buy American provision? **No**

Buy American Waiver Request – Legal Justification

33. Choice of Service Provider:

Does the project’s Infrastructure and the Company’s business plan allow more than one provider to serve end users in the proposed funded service area?

Yes

G. Project Milestones and Completion Factors

Timeline & Milestones

34. Infrastructure Build-out Timeline:

Please refer to upload section at the end of the document.

35. Licenses, Regulatory Approvals and Agreements:

The GCN wireless network operates in the unlicensed spectrum so needs no FCC license. Nor are there any regulatory approvals needed.

GCN must execute an agreement with the Gustavus Electric Company to construct its proposed communications facility in the Gustavus hydroelectric project area licensed to Gustavus



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Electric Company. Gustavus Electric Company, a local private utility, has always been a strong supporter of community networking and has expressed willingness to promptly enter into such an agreement on terms very favorable to GCN.

Gustavus Electric Company must also amend its operating and site plans to accommodate the proposed communication facility. Such amendments must be approved by the Federal Energy Regulatory Commission, which is expected to take 90 days. But since no new ground will be disturbed and the project clearly has a public purpose we do not anticipate any difficulty with the approval. We anticipate submitting the plan amendments as soon as final design and engineering for the proposed communications facility is complete (no later than October, 2009).

36. Construction and Vendor Contracts

Contractors will be hired for erecting the communications tower, wiring of the tower, and installation and networking of the communication devices for the broadband project. Vendors will be used for obtaining the tower, shipping of the tower, and purchasing the broadband communication devices (e.g. radios).

Plans have been drawn up for the tower design by Haight and Associates (see attached). A quote for the communications tower to be erected has been obtained from Frigid North Company in Anchorage, Alaska. They are a Rohn tower dealer and have the tower parts in stock. While a final quote based on the engineering plans has not yet been received, Frigid North is more than willing to sell us whatever type of tower we decide on. Shipping from Anchorage to Gustavus is fairly straightforward via regular barge and landing craft freight services.

Glacier Bay Construction in Gustavus is interested and capable of erecting the communications tower. They could either be awarded the contract for the work or would be interested in submitting a bid to the City of Gustavus (see attached letter).

Salmon River Electric in Gustavus is interested and capable of completing the wiring of the communications tower. They could either be awarded the contract for the work or would be interested in submitting a bid to the City of Gustavus (see attached letter).

Corvid Computing, LLC, in Gustavus is interested and capable of completing the installation



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and networking of the communication devices (e.g. radios) for the broadband project. These devices are available from a wide variety of vendors. Corvid Computing could either be awarded the contract for the work or would be interested in submitting a bid to the City of Gustavus (see attached letter). They could also offer project management services, as needed.

All referenced attached items are included in Supplemental 2 - Vendors and Plans.

Qualification of Management Team and Organizational Readiness

37. Management Team Resumes:

Please refer to upload section at the end of the document.

38. Organizational Readiness:

The Gustavus Community Network (GCN) and parent organization City of Gustavus and contractors are completely ready to begin this project immediately, subject only to funding availability, final communication facility design and engineering, and approval of the communication facility by the Federal Energy Regulatory Commission.

GCN has been in operation as an independent Internet Service Provider since 1996 and has the systems and people to expand and operate its network immediately:

* City of Gustavus will provide grant administrator, purchasing, and accounting. The City of Gustavus and clerk Kapryce Manchester have administered many other grants and in 2008 received a cash performance award from the Economic Development Administration "due to its outstanding management of this investment and for starting and completing construction ahead of schedule."

* Since 2006 Gustavus Community Network has operated an automated system providing authentication, accounting, authorization, billing, provisioning, and customer self-service portal. The system is already used to authenticate and authorize users through a hotspot captive portal system that will serve the proposed network with minimal customization. This system is maintained under contract by authors and developers of the Freeside software it uses.

* Since September, 2008 Corvid Computing, LLC has administered GCN under contract with the City of Gustavus, providing day-to-day operation, customer care, billing, dispatch, and contractor supervision. Corvid Computing is ready to build, operate, maintain, and administer



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the proposed broadband network. The three co-owners provide continuity and coverage that would not be possible with a single city staff person or volunteer.

* Other local contractors are standing by to provide the construction and electrical work to build and outfit the proposed Falls Creek communication facility.

* Since its inception volunteer and Corvid Computing co-owner Nathan Borson has supported, guided, and upgraded the organization first known as SEAKNet, then as the Gustavus Community Network. Nathan provided the network design used in this application and is ready to build the proposed network right now!

Other

39. Organizational Chart:

Please refer to upload section at the end of document.

40. Legal Opinion:

Please refer to upload section at the end of document

41. Government and other Key Partnerships:

Internet service in Gustavus has historically been driven by volunteer efforts. The proposed broadband solution/application seeks to use those volunteers to oversee the grant while leveraging grant funding to utilize a variety private entities. This combination of private and public interests will enhance the organizational readiness by working in specifically defined roles as listed below:

Corvid Computing is a computer and networking consulting business with over 25 years of combined experience. Corvid Computing's role would include administering billing, potentially installing network hardware as well as maintaining and operating the network, technology consultation.

Contact

Phoebe Vanselow

PO Box 281

907 697-2810

info@corvid.info

Gustavus Electric Company will provide access and power to the broadband communications



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tower, and assist with permitting.

Contact

Richard Levitt

PO Box 102

Gustavus, AK 99826

907 697-2299

The Gustavus Community Network (GCN) is the Internet Service Provider owned and operated by the city of Gustavus, AK. GCN will oversee the grant administration with guidance for the Gustavus City Council.

Contact

Paul Berry

Box 143

907 697-2714

paul.berry@gustavus-ak.gov

Gustavus City Council is the city government representing the city and citizens of Gustavus and oversees the operations of GCN. All members of the city council are volunteers. There is a high level of local participation within the city at this local level.

Contact

Bill Unkel, Mayor

PO Box 1

Gustavus, AK 99826

907 697-2451

Ukpik is an Alaska-Native-Owned, SBA 8(a) certified general contractor. They have built a solid reputation through devoting time and attention to delivering quality services and providing effective solutions for their customers. Ukpik is responsible for providing a T1 circuit to the proposed broadband network. Ukpik is an 8(a) disadvantaged business.

Contact

Bryan Arnold

6700 Arctic Spur Rd

Anchorage, AK 99518

907 375-6621

42. Recovery Act and Other Governmental Collaboration.

Internet access as provided in this proposal is synergistic with several federal and state investments in several ways, as described below. While most of these are not active, directed



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collaborations, our proposal nevertheless enhances the value of these substantial and important federal and state investments.

The obsolete 1960's era Gustavus dock is being rebuilt with funding from Recovery Act, Federal Highways, National Park Service and Alaska Department of Transportation (totaling at least \$18 million) to provide access to a wider range of freight providers and to increase access to Gustavus and Glacier Bay National Park. Providing wireless internet access to dock users (including arriving passengers, freight providers and local business owners) would leverage the state and federal investment in the new dock by providing internet access to the traveling public. Internet access at this federally funded facility would allow passengers to verify the arrival times of the Alaska State Ferry, once ferry service begins in Gustavus. Internet access at the dock may be seen as beneficial to the State Ferry administrators such that it increases the likelihood that Gustavus will obtain ferry service, especially in the event that a proposed ferry terminal is constructed there. To the extent that wireless internet service enhances efficient marine transportation, it has the potential to have positive effects on the local and regional economy. As such, the current proposal leverages the federal and state government investments in the new State dock at Gustavus.

In the past 10 years, the Federal Aviation Administration funding for improvements at the Gustavus airport has totaled at least \$3 million. Our proposal leverages these federally funded airport improvements by providing wireless access to air travelers by the day or by the hour, a service that has previously not been available in Gustavus. The vast majority of Gustavus residents and visitors arrive and depart via Gustavus airport and thus provide a substantial clientele for the wireless internet access proposed here. Air travelers could use this service to verify hotel reservations or the status of connecting flights. Travelers these days rely on wireless internet services such as proposed here, and conversely, provide revenue that will support local broadband service into the future. Wireless internet service provided under the current proposal essentially helps bring Gustavus' infrastructure into the 21st century, in such a way that could increase tourism with concomitant positive effects on the local and regional economy.

The main radio tower in our proposal is located at the elevated site of the Falls Creek hydroelectric facility, operated by the Gustavus Electric Company and constructed with approximately \$5.5 million from the U.S. Department of Energy. The internet access provided



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by the current proposal, which would otherwise be infeasible and unaffordable at such a remote location, would allow the Gustavus Electric Company to remotely monitor hydroelectric power production and otherwise make operations safer and more reliable. In this way, our proposal leverages the U.S. Department of Energy's investment and has the potential to decrease energy costs for consumers and foster the use of alternative energy and decrease our town's carbon footprint.

As an added benefit, the broadband radio tower proposed here is in a prime location to facilitate its use by the City's emergency response providers to increase the coverage, availability and effectiveness of emergency response. The tower has the potential to increase Gustavus Emergency Response radio coverage and increase community safety. The proposed radio tower may also be used by private cell phone service providers and thus provide revenue to support broadband services as proposed here.

Community Involvement (BTOP Applicants Only)

43. Partnering with Disadvantaged Businesses

GCN is purchasing its new T1 upstream Internet access from Alaska native owned 8(a) communication provider Ukpik, LLC (<http://www.ukpikllc.com/8aProgram.htm>). Ukpik managed the challenging bidding and contracting process with AT&T on behalf of GCN, provided a network design for linking the AT&T Alascom facility to the proposed new GCN communication facility, and has proposed voice and videoconferencing solutions for GCN's consideration.

H. Project Budget

44. General Overall Budget



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Budget	Loan Request	Grant Request	Equity	Debt	Bond	Other
Network & Access Equipment (switching, routing, transport, access)		11,377				
Outside Plant (cables, conduits, ducts, poles, towers, repeaters, etc.)		7,494	5,173			
Buildings and Land – (new construction, improvements, renovations, lease)		6,420				2,000
Customer Premise Equipment (modems, set-top boxes, inside wiring, etc.)		93,045				
Billing and Operational Support Systems (IT systems, software, etc.)						
Operating Equipment						



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(vehicles, office equipment, other)						
Engineering/ Professional Services (engineering design, project management, consulting, etc.)		14,700				4,400
Testing (network elements, IT system elements, user devices, test generators, lab furnishings, servers/computers, etc.)		800				
Site Preparation			500			
Other						
TOTAL BROADBAND SYSTEM		133,836	5,673			6,400



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Total Budget: \$ 145,909

45. Detailed Budget:

Please refer to upload section at the end of the document.

Sustainability

46. Reasonableness

Industry benchmarks are of little use in judging price reasonableness in our uniquely challenging situation, but using innovative technology and local resources we have done very well to achieve a network design that delivers the best possible value.

As explained elsewhere in the application, Gustavus is a very remote community despite the apparently short distance to the state's capital. With no road to the community and no roll-on/roll-off freight facility we pay a premium for any materials to get here. Energy and communication costs are also extremely high, with electricity at \$0.52/KWh an upstream T1 circuit costing \$1,500/month. Worse yet, our low population density (9 households/square mile) and flat, heavily forested terrain conspire to make wired solutions infeasible and boost the cost and complexity of wireless networking.

The current proposal was 5 years in the making.

* First we considered using existing facilities. But broadband over powerlines would have cost over \$300,000 just for the equipment, counting neither labor nor the backhaul from each node on the powerlines.

* Just this year our local telephone company considered installing equipment capable of DSL service. We offered to partner with them, to provide the backhaul, to provide grant funding, whatever it would reasonably take to put the existing in-ground copper wire to use delivering broadband Internet access. Their response was they "could not make a business case" to support the investment.

* Since the existing wired infrastructure would not work we turned to wireless. We considered a proposal from Vivato. For \$250,000 they would have installed a tall central tower and phased-array antenna that they promised would deliver much better penetration through foliage than standard Wi-Fi systems. But the cost was prohibitive and our experience with 2.4 GHz radio systems caused us to doubt its feasibility.



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* GCN contracted with Borealis Broadband, an Alaska network engineering firm with experience in remote Alaska environments, to deliver a funding-ready community-wide broadband network plan. They based their 900 MHz wireless solution on their functioning community network in McGrath, Alaska. We independently tested their predicted coverage using the proposed equipment, first from the top of a 100' ham radio tower, then from the site of the communications facility we now propose. The range from the tower failed to meet predictions but from the Falls Creek site we were able to get a usable signal in most of the Gustavus populated area. Since then we have deployed a limited production network using 900 MHz radios from Tranzeo. The Borealis plan and our subsequent experience finally led to the current hybrid plan.

We limit the number of expensive 900 MHz backbone links and augment them with a breakthrough 2.4 GHz Open-Mesh network. Units running Open-Mesh firmware (available from several manufacturers) are extremely inexpensive; outdoor units cost less than \$100 each and indoor units cost as little as \$29. They are also easy to configure, install, and manage. The idea is to blanket an area with the units creating a large self-configuring and healing hot zone. Finally, we use local facilities, contractors, and equipment to eliminate travel and mobilization costs.

We believe the proposed sixty 900 MHz backhaul locations are necessary and sufficient to provision a community-wide mesh network. We will use Tranzeo or Mikrotik/Ubiquiti radios as they are faster and cheaper than the Trango units favored by Borealis Broadband. Each backhaul location will also have an Open-Mesh radio, and an additional 90 Open-Mesh radios will expand coverage to the entire service area.

In our professional judgment no design will deliver comparable capacity, reliability, operational efficiency, and quality of service for less.



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47. Historical Financial Statements:

Please refer to upload section at the end of the document.

48. Broadband Subscriber Estimates:

Please refer to upload section at the end of the document.

49. Other Services:

Please refer to upload section at the end of the document.

50. Pro Forma 5-Year Financial Forecast and Assumptions:

Please refer to upload section at the end of the document.

51. Commitment of Capital Funding Support

Funds for this project will come from the following sources (other than BIP or BTOP grants):

- * City of Gustavus, dba Gustavus Community Network
- * \$8,000 (5% of project total)
- * Internal from cash reserves
- * Equity
- * Infrastructure and other (pre-application expenses, engineering, permitting)

- * Corvid Computing, LLC
- * \$3,900 (2% of project)
- * In-kind grant of services
- * No repayment or other obligation
- * Other: 12 hours network engineering and diagrams, 40 hours grant application preparation

- * City of Gustavus, dba Gustavus Community Network
- * \$2,000 (1% of project)
- * In-kind donation of equipment
- * Equity
- * Infrastructure: Used equipment hut for proposed communication facility

- * Volunteer team (2 GCN advisory committee members and 2 other community members)
- * \$1,000 (1% of project)



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Task: Submit Application - Infrastructure Programs	Applicant Name: Mr. Sean Neilson

- * In-kind donation of services
- * No repayment or other obligation
- * Other: 40 hours grant application preparation

===BTOP ONLY===

- * City of Gustavus
- * \$20,000 cash (14% of project)
- * Grant match from city reserves
- * To be returned to reserves from net operating revenue, terms unspecified
- * Infrastructure: network & access equipment, outside plant, site preparation, hut improvements

BTOP Requirements

52. Matching Funds:

- a. Cash: \$ 27,994.00
- b. In-Kind: \$ 6,400.00
- c. Percent of Total Project Cost: 24

53. Demonstration of Financial Need:

The Gustavus Community Network (GCN) is unable to fund this project from its operating reserves. As shown on the financial statements, (Attachment M, Q50, cash flows) GCN has less than \$20,000 in cash.

GCN, as an entity of the City of Gustavus, is forbidden by law from borrowing without a vote of the people, so debt cannot be easily used for funding the project.

GCN applied to the state of Alaska for Capital Improvement Project funding in 2006 to design a broadband network but the request was denied. GCN did subsequently fund design work from its reserves to develop a funding-ready plan.



**Broadband Infrastructure Application
Submission to RUS (BIP) and NTIA (BTOP)**

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GCN submitted its funding-ready plan to the State of Alaska for Capital Improvement Project funding in 2009 but all CIP requests submitted by the city that year were denied.

GCN investigated USDA RUS funding but it appeared that per-capita income limitations made Gustavus ineligible.

GCN applied for BIP funding in August, 2009; if this application has been submitted for BTOP funding it was denied BIP funding.

In short, the project may never be built without federal support and certainly not in the timeframe of this grant cycle.

54. Unjust Enrichment

GCN has applied only to the BIP/BTOP program for federal support for the proposed project, nor is it receiving any federal support.

55. Disclosure of Federal and/or State Funding Sources

The Gustavus Community Network (GCN) is sustained entirely by volunteer labor and revenues from subscribers for Internet service, and has been since SEAKNet NTIA grant funding ran out in 1996. GCN receives no federal or state funding. GCN twice requested capital project funding from the State of Alaska but never received any and has no current requests to state or federal sources other than this grant application.

Strategic customer Gustavus Public Library receives E-Rate support for the Internet service it purchases from the Gustavus Community Network (GCN) so GCN is an indirect beneficiary of the e-rate program but the library is treated as any other customer, paying the same published rates available to any other customer.

I. Self Scoring – BIP Only Self Scoring

56. Self Scoring Sheet



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Criteria	Method	Points	Self Scores
<u>PROJECT PURPOSE</u>			
Proportion of Rural Residents Served in Unserved Areas	1 point for every 10,000 unserved households	Up to 5	0
Rural Area Targeting	1 point for every 5% increase in the rural service area up the minimum 75% rural area requirement	Up to 5	5
Remote Area targeting	1 point for every 50 miles a service area is located from a non-rural area	Up to 5	3
Title II Borrower	If you are or were a Title II borrower	5	0
Recovery Act and other governmental collaboration	1 point will be awarded for each governmental or Recovery program the applicant is partnering with	Up to 5	1
<u>PROJECT BENEFITS</u>			
Performance of the offered services	If a last mile wireline project delivers 20M to household – if a last mile wireless projects delivers 2M to end-user – if a middle mile projects delivers 100M to end points	10	10
Affordable of services offered	Points awarded based on the proposed rate structure and the logistics of the proposed service area	Up to 5	5



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Choice of service provider	If the proposed infrastructure is available to be used by multiple service providers	5	5
Critical Community Facilities	If discounted rate packages at least 25% lower than advertise rates are available to critical facilities	5	5
<u>PROJECT VIABILITY</u>			
Applicant's organizational capability	Points will be awarded on the strengths and accomplishments of key management	Up to 12	12
Community Support	If a letter of support has been received from a designated representative of the community for every community in the proposed service territory	2	2
Ability to promptly start project	If the applicant can demonstrate that all licenses and regulatory approvals have been received, contractors and vendors are ready to enter into contracts, and equity has been deposited into applicant accounts	10	10
Socially and economically disadvantaged small businesses (SDB), as defined by section 8(a) of the Small Business Act, 15 U.S.C. §637.	If the applicant is a Section 8(a) entity	1	0
<u>PROJECT BUDGET AND SUSTAINABILITY</u>			
Reasonableness of the budget	Points will be awarded based the	Up to 5	5



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	adequacy of the proposed budget		
Leverage of outside resources (outside funding/financing requested)	(i) 10 points if this ratio is greater than 100% (ii) 7 points if this ratio is between 100% and 75% (iii) 5 points if this ratio is between 75% and 50% (iv) 3 points if this ratio is between 50% and 25% (v) 1 points if this ratio is lower than 25%	10	1
Extent of grant funding (Grant funds/loan funds)	(i) 0 points if this ratio equals 100% (ii) 1 points if this ratio is between 100% and 75% (iii) 3 points if this ratio is between 75% and 50% (iv) 5 points if this ratio is lower than 50% (v) 10 points if no grant funds are requested	10	0
Total Points		100	64



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J. BTOP Certification Requirements

Certification (Requested for BTOP)

Please refer to upload section at the end of the document regarding following uploads.

1. U.S. Department of Commerce, Broadband Technology Opportunities Program
2. SF-424D Assurances—Construction Programs (Schedule N)
3. CD-511, Certification Regarding Lobbying (Attachment O)
4. SF-LLL, Disclosure of Lobbying Activities (Attachment P)
5. CD-512, Certification Regarding Lobbying—Lower-Tier Covered Transactions (Attachment Q) This certification will not be required until the time of the grant award, because it applies to subcontractors, etc.

K. BIP Certification Requirements

Certification (Requested for BIP)

Please refer to upload section at the end of the document regarding following uploads.

1. Equal Opportunity and Nondiscrimination Certification
2. Certification Regarding Architectural Barriers
3. Uniform Relocation Assistance and Real Property Acquisition - Policies Act of 1970 Certification
4. Certification Regarding Debarment, Suspension, and Other Responsibility Matters – Primary Covered Transactions
5. Certification Regarding Lobbying for Contracts, Grants, Loans, and Cooperative Agreements



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6. Network Design and Implementation Plan Certification (to be complete for projects requesting more than \$1 million in federal assistance)

L. Schedules

Schedule: A-1 Congressional Districts

1. State the Congressional District of the Applicant's headquarters

Alaska - At-Large

2. State the Congressional District for each area covered by the Project.

Alaska - At-Large

M. Proposed Funded Service Area Details (BIP & BTOP)

13. Proposed Funded Service Area (BIP - Last Mile Projects):

Proposed Funded Service Area Name: Gustavus

Census Blocks in Proposed Funded Service Area: Contiguous census blocks 1024-1026 and 1031-1046 in census tract AK02232, Skagway-Hoonah-Angoon:

000300	1	1024
000300	1	1025
000300	1	1026
000300	1	1031
000300	1	1032
000300	1	1033
000300	1	1034
000300	1	1035
000300	1	1036



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000300 1 1037
000300 1 1038
000300 1 1039
000300 1 1040
000300 1 1041
000300 1 1042
000300 1 1043
000300 1 1044
000300 1 1045
000300 1 1046

Community Name: Gustavus
Rural Classification of the Community: Rural
BIP - Service Status: Unserved

BIP - If Service Status is "Underserved" please select at least one applicable option from this list.

BTOP – Service Status: Unserved

BTOP - If Service Status is "Underserved" please select at least one applicable option from this list.

Total Square Miles of Community: 23
Total Population : 426
Total Number of Households: 197
Total Number of Businesses: 59
Total Number of Critical Community Facilities, Anchor Institutions and Public Safety Entities: 5

14. Proposed Service Area (BTOP - Middle Mile Project):

Middle Mile Span Name:
Census Blocks in Middle Mile Span:
Last Mile Service Area Name:



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Task: Submit Application - Infrastructure Programs	Applicant Name: Mr. Sean Neilson

Community Name:
Rural Classification of the Community:
BIP – Service Status:

BIP - If Service Status is "Underserved" please select at least one applicable option from this list.
--

BTOP - Service Status:

BTOP - If Service Status is "Underserved" please select at least one applicable option from this list.

Total Square Miles of Service Area:
Total Population :
Total Number of Households:
Total Number of Businesses:
Total Number of Critical Community Facilities, Anchor Institutions and Public Safety Entities:

N. Uploads

In order to improve system performance and help ensure that all applicants are able to complete their applications by the deadline, we have changed the way your application PDF is created. This PDF contains all of the information you entered throughout the Easygrants data entry screens. PDF copies of all documents that have been uploaded can be viewed and printed separately from the **Main page of the application after you submit**. These will continue to be available to you in read-only format after your application has been submitted.

Attachment A - Proposed Last Mile Service Offerings

Service area: City of Gustavus, census blocks 1024-1026 and 1031-1046 in census tract AK02232, Skagway-Hoonah-Angoon

Name of Tier	Advertised Speeds		Average Speeds		Average Latency (BTOP only)	Pricing Plan \$ per month
	Downstream Mbps	Upstream Mbps	Downstream Mbps	Upstream Mbps	@ End User CPE Milli-seconds	
Usage-based plans						
Lifeline	0.12	0.12	0.05	0.06	170	\$30 plus usage
Basic Broadband	1.2	1.2	800	800	150	\$53 plus usage
Broadband Plus	1.5	1.5	1	1.2	150	\$71 plus usage
Flat-Rate plans						
Flat 60	0.12	0.12	0.05	0.06	170	\$71.00
Flat 240	0.48	0.48	0.2	0.24	150	\$215.00
Flat 960	1.9	1.9	0.8	0.9	150	\$479.00
Flat 1 700	2.8	2.8	1.5	1.6	150	\$839.00

Usage-based plans include 0.5 to 2 GB use per month in the basic rate; additional use is \$.01/MB.

Prices shown include a surcharge for seasonal users. Year-round users pay 16.7% less on the basic rates.

Short-term plans are also available for hourly, daily, or weekly use.

Latency shown is round-trip ping times to sites on Internet. Subtract 100 ms for times to ping our upstream ISP's router in Gustavus.

Network is constructed to deliver 8 Mbps both up and down to the user. However, we anticipate only 3 Mbps initial upstream Internet capacity.

ATTACHMENT C – COMPETITOR TABLE – LAST MILE

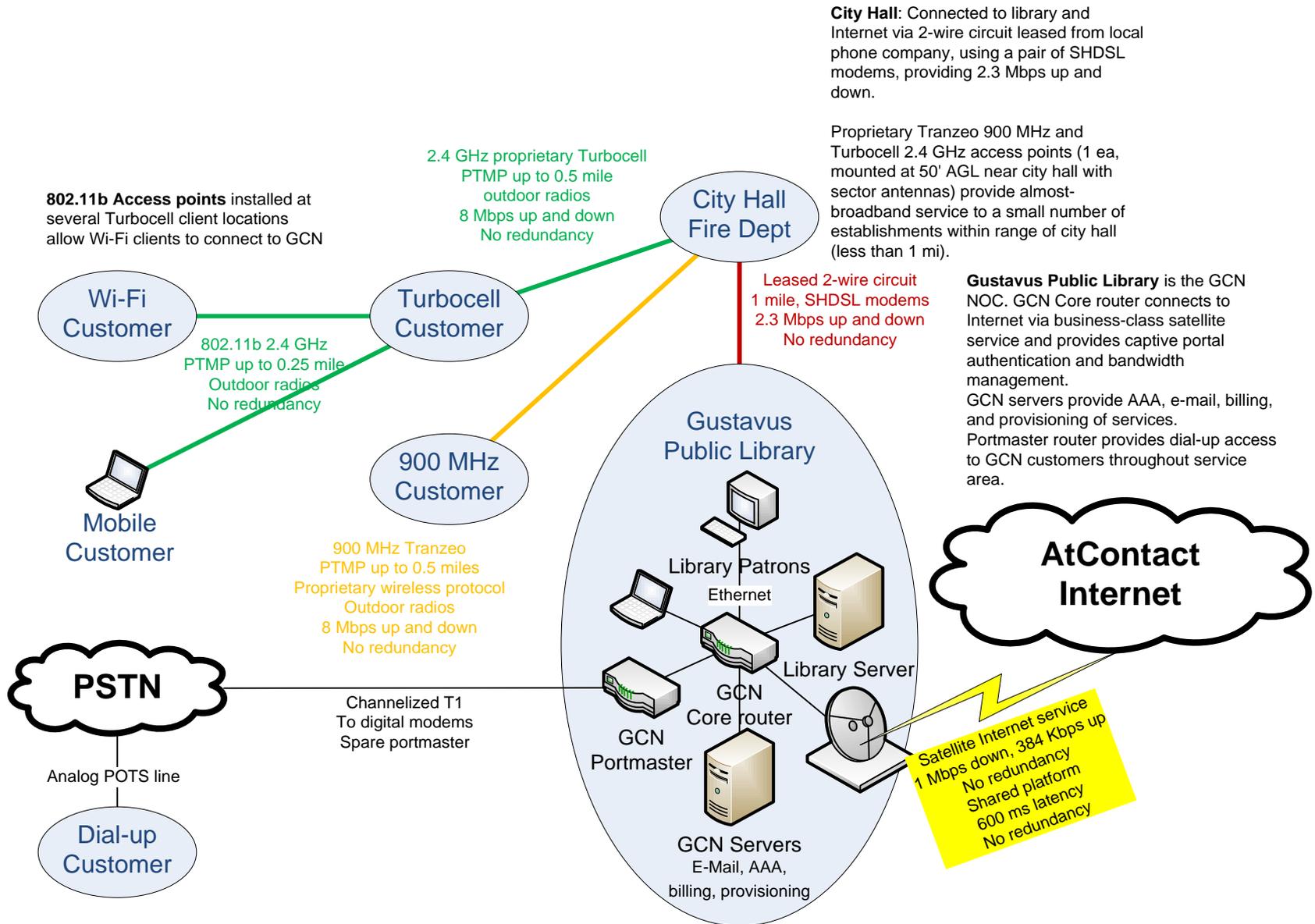
Existing Last Mile Broadband Service Providers and Services Offered: Please complete a table describing the competing last mile providers’ broadband service offerings being advertised in each proposed funded service area (BIP applicants should complete this table for each census designated community within the proposed funded service area) . For each competitor, explain the following: a) technology; b) service tiers; c) advertised speeds for residential and business; d) pricing. Include any other comments to explain your findings, if necessary.

Gustavus, Alaska								
Service Area	Last Mile Services Provider	Technology Platform	Service Tier	Advertised Residential Offering		Advertised Business Offering		Other Comments
				Downstream Speed (Mbps)	Price	Downstream Speed (Mbps)	Price	
Service Area 1/ Census community 1	Provider A		Entry Level Plan					
			Highest Speed Plan					
			Other Plans (e.g., Mid-Tier Plan)					
	Provider B		Entry Level Plan					
			Highest Speed Plan					
			Other Plans (e.g., Mid-Tier Plan)					
Service Area 2/ Census community 2	Provider A	Entry Level Plan						
		Highest Speed Plan						
		Other Plans (e.g., Mid-Tier Plan)						
	Provider B	Entry Level Plan						
		Highest Speed Plan						
		Other Plans (e.g., Mid-Tier Plan)						

THE GUSTAVUS PROPOSED FUNDED SERVICE AREA HAS NO BROADBAND SERVICE PROVIDERS. CURRENT INTERNET ACCESS OPTIONS ARE DIAL-UP, CELLULAR (1XRTT, UP TO 120 KBPS), SATELLITE SERVICE, AND, IN A VERY LIMITED AREA, THE HIGH-SPEED (BUT NOT QUITE BROADBAND) WIRELESS SERVICE OFFERED BY THE APPLICANT.

Gustavus Community Network

Existing Network, August 2009



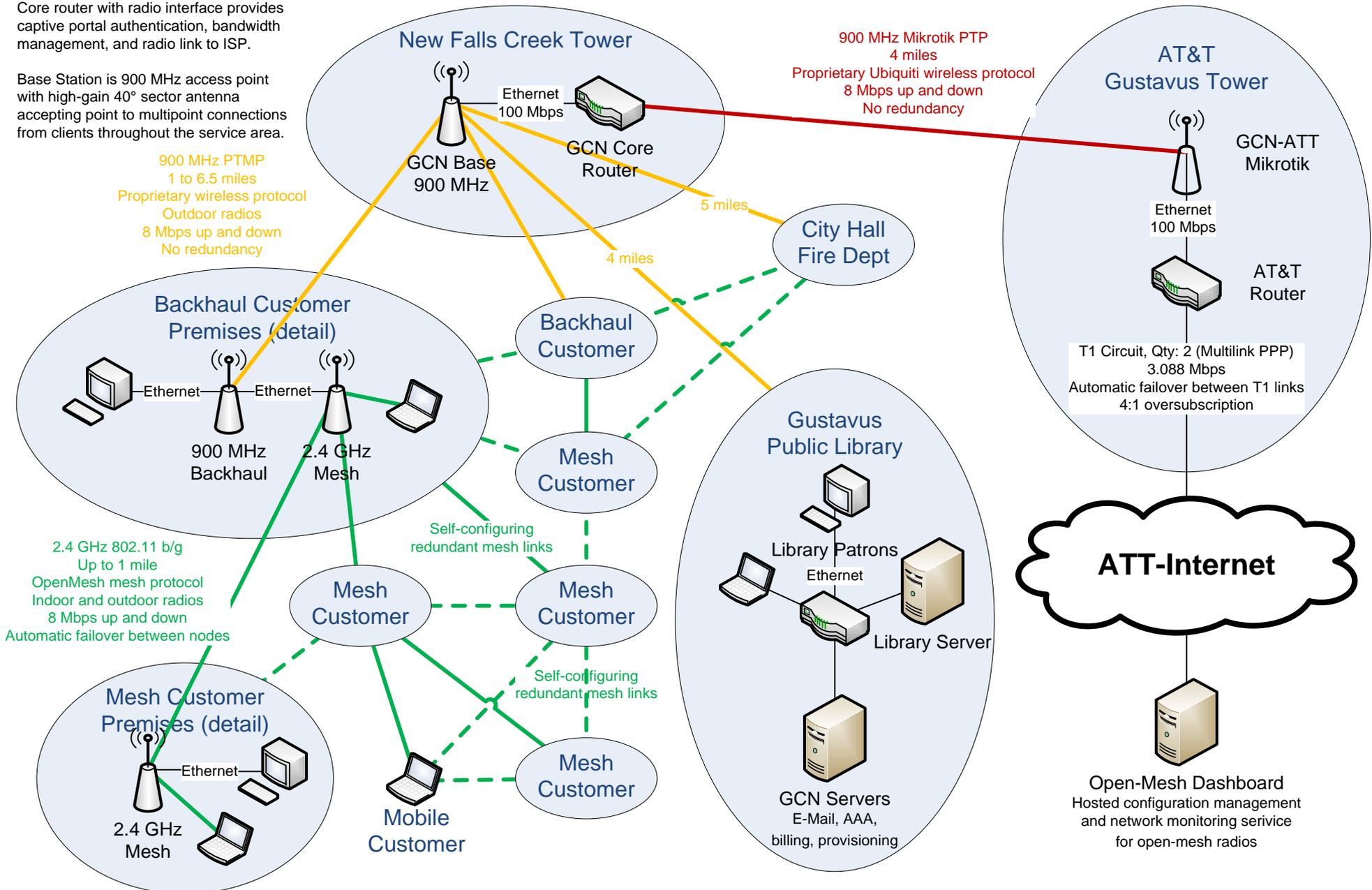
Gustavus Community Network

Design for Proposed Network

Falls Creek Tower: proposed new communications facility with 50' tower located approximately 600' ASL with excellent coverage of entire funded service area.

Core router with radio interface provides captive portal authentication, bandwidth management, and radio link to ISP.

Base Station is 900 MHz access point with high-gain 40° sector antenna accepting point to multipoint connections from clients throughout the service area.



ATTACHMENT E – PROJECT PLAN (KEY PHASES AND MILESTONES TO DEMONSTRATE DEGREE OF COMPLETION)

Time Period	Quarter	List All Relevant Milestones	Support for Reasonableness/Data Points
Year 0	-	<ul style="list-style-type: none"> • <i>network and tower design</i> • <i>permitting</i> • <i>environmental review</i> • <i>site agreement</i> • <i>licenses</i> • <i>site preparation</i> • <i>funding</i> 	<p>GCN has an excellent head start on this project. Additionally, the project is relatively small and well within the capability of local staff and contractors, allowing an early beginning and swift completion.</p> <p>Most, if not all of the milestones listed for Year 0 have already been completed or will be underway before grant funding is awarded.</p> <p>Design of a community-wide broadband network began in earnest by contracting with engineering firm Borealis Broadband in November, 2007 for delivery of a funding-ready plan. That design was completed in March, 2008 (see uploaded Supplemental Information 3 – Borealis Plan). Additional field testing and verification in June, 2008 and new technological developments resulted in the final design completed for this application in August, 2009 by Corvid Computing, LLC.</p> <p>GCN also hired an engineer to provide a final site and tower design for its proposed new communications facility in the Falls Creek hydroelectric project area. That work was completed in August, 2009 (see the tower plans and specifications in upload Supplementary Information 2 – Vendors and plans).</p> <p>Permitting: GCN has been in discussions since August, 2008 with Alaska Department of Natural Resources, owner of the proposed tower site, and Gustavus Electric Company, a local private utility and FERC licensee for the area, regarding permitting for the tower facility. All parties now have an understanding of how to proceed. Revised operating and site plans to incorporate the proposed communications facility will be submitted to FERC by its licensee in October, 2009. The required public comment period will close in January, 2010. FERC incorporates environmental analysis in its review. Coastal zone management compliance has already been done for the hydroelectric project. Since no new ground will be disturbed we expect a finding of no significant impact for the plan revisions. A permitting decision is expected from FERC by the end of March, 2010, or earlier if no additional communication and plan revisions are required. By this time GCN will have entered into an agreement with the licensee regarding use of the tower site. Gustavus Electric Company has been extremely supportive of community network initiatives for many years.</p> <p>No licenses or other regulatory approvals are needed as we</p>

			<p>will be operating in the unlicensed radio spectrum. Site preparation is minimal to none; the proposed tower location is already a cleared gravel pad with road access and utility power.</p> <p>Funding: All work in Year 0 is completed, will be in-kind, or will be paid from matching funds already on hand, budgeted, and available for expenditure, so does not depend on grant funding to begin.</p> <p>GCN applied for state capital improvement project funding in January, 2009. That request, along with all other requests submitted by the city that year, was rejected by the legislature.</p> <p>On August 13, 2009 the Gustavus city council approved \$20,000 to match the BTOP grant application and moved the funds from its reserves to the GCN budget.</p> <p>GCN applied for ARRA broadband funds August 14, 2009.</p>
Year 1	Qtr. 1	<ul style="list-style-type: none"> • <i>Purchase and install tower</i> • <i>Install, equip, wire, and renovate hut</i> • <i>Purchase sample equipment for testing</i> 	<p>By the time funds are awarded the final tower design will be complete and the tower can be ordered immediately. Delivery to our remote location will take 30 to 60 days. By this time we expect permitting to be complete and tower installation can begin immediately. Local contractors will be able to do the site preparation and tower and hut installation in 2 weeks or less.</p> <p>The equipment hut is already on hand and just needs to be transported to the site and installed there. A qualified local electrical contractor is available to do any needed work on the hut. Electrical supplies are on hand. Special items such as patch panels are readily available with minimal delay.</p>
	Qtr. 2	<ul style="list-style-type: none"> • <i>Finish tower and hut installation.</i> • <i>Install and test sample equipment; make final backbone equipment selection.</i> • <i>Order first 25% of CPE</i> • <i>Purchase and install backbone base station.</i> • <i>Connect library and city hall to tower using test equipment.</i> 	<p>Due to inevitable delays with projects of this sort, tower and hut installation and inside and outside plant installation and renovation are likely to slip into this quarter. As soon as the tower is climbable the test equipment can be installed and comparative site surveys can be conducted. It should only take a week to complete the testing, analyze results, make a final equipment selection, and order the backbone equipment and first batch of CPE. The test equipment can then be used to connect the Gustavus Public Library and City Hall to the tower.</p>
	Qtr. 3	<ul style="list-style-type: none"> • <i>Move upstream ISP backhaul wireless PTP link from library to tower.</i> • <i>Order second 25% of CPE</i> • <i>Begin CPE installs, finish first 25%</i> 	<p>Once all the backbone equipment has arrived it will take a few days to move the Gustavus Community Network (GCN) end of the wireless backhaul link from the library to the new tower and change the routing so the library and city hall connect through the tower. At this point the DSL circuit from the library to city hall can be decommissioned and we are ready to begin CPE deployment as soon as the equipment arrives by barge (30-60 days after ordering in the previous quarter).</p>

			<p>We anticipate deploying the CPE equipment on a neighborhood-by-neighborhood basis working East to West. Some installs will be difficult, taking up to two days to complete; others will take less than an hour. On average, contractor Corvid Computing predicts that it is well within the capabilities of its three co-owners to cover 7 new entities per week. By the nature of the wireless mesh. Deployment will be faster in the first quarter because we are working closer to the tower. In the last six weeks of this quarter we predict installation at 19 subscriber locations and coverage of 68 entities.</p>
	Qtr. 4	<ul style="list-style-type: none"> • <i>Order third 25% of CPE</i> • <i>Continue CPE installs, finish second 25%</i> 	Add 23 subscribers and 68 more covered entities.
Year 2	Qtr. 1	<ul style="list-style-type: none"> • <i>Order last 25% of CPE</i> • <i>Continue CPE installs, finish third 25%</i> 	Add 23 subscribers and 68 covered entities.
	Qtr. 2	<ul style="list-style-type: none"> • <i>Continue CPE installs, finish last 25%</i> • <i>Project finished.</i> 	Add 45 subscribers and 68 covered entities (note the predicted surge in new subscribers taking advantage of the last opportunity for grant-funded installation).

ATTACHMENT E (CONTINUED) – BUILD-OUT TIMELINE

Complete the following schedule for each proposed funded service area (or, if a middle mile project, for each last mile service area) to indicate the planned build-out in terms of: 1) the requested infrastructure funds; and 2) the entities passed. Entities passed include households, businesses, and "strategic institutions" comprised of critical community facilities, community anchor institutions, and public safety entities. In addition, please complete a separate schedule that aggregates all projected broadband subscribers within the proposed funded service area (or if a middle mile project, for each last mile service area). For BIP only, please include this information for the non-funded service areas as well.

Service Area A	Gustavus																
	YEAR 0	YEAR 1				YEAR 2				YEAR 3				YEAR 4			
		Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4
Infrastructure Funds	7400	23753	27380	25128	25128	25128	11992										
Infrastructure Funds Advanced (estimate)		19080	27380	25128	25128	25128	11992										
Percentage of Total Funds		14	20	19	19	19	9										
Entities Passed & %	0	0	1	26	51	76	100										
Households	0	0	0	52	104	157	209										
Percentage of Total Households	0	0	0	25	50	75	100										
Businesses	0	0	0	15	30	45	59										
Percentage of Total Businesses	0	0	0	25	50	75	100										
Strategic Institutions (Comm. Anchor, Public Safety, etc)	0	0	4	4	4	4	4										
Percentage of Total Institutions	0	0	100	100	100	100	100										

No separate aggregate schedule is provided as this is the only service area proposed for funding and there is no unfunded service area. *Infrastructure Funds* includes total project funds with local match and in-kind contributions. *Infrastructure Funds Advanced* and *Percentage of Total Funds* are based on requested BIP grant funds only so the total differs from *Infrastructure Funds*.

Key Challenges and Mitigation Plans

- **Winter conditions** may make tower construction infeasible due to site access problems (steep icy access road), snow cover, and frozen ground. Mitigation: it may be necessary to delay construction of the tower facility until the Spring thaw.
- **Weak radio signal** in westernmost part of service area may make backbone connections directly to the tower difficult (i.e. require high antenna placement) or impossible. Mitigation: Use 900 MHz repeaters or mesh to connect to backhaul customers farther East. This is why we plan to start installation in Easternmost neighborhoods and work West.
- **Permitting** for tower site will take an unknown but lengthy time to work its way through the FERC regulatory process. The minimum time for operating plan approval is 90 days including a 60-day comment period. Mitigation: submit the revised plans for approval as soon as possible after tower and site design is complete. Anticipate all objections and address them in advance.

Management Team Résumés

The main team members for the Gustavus Community Broadband Project are Kapryce Manchester, City Clerk for the City of Gustavus, Paul Berry, City of Gustavus Vice-Mayor and board member of Gustavus Community Network (GCN), John Nixon, City of Gustavus Council Member and owner of Salmon River Electric, and Nathan Borson, volunteer system administrator of GCN and co-owner of Corvid Computing, the administrator of GCN. The résumés for these team members follow.

Various of these individuals have been involved in several successful ongoing/recent projects in our community, including the Gustavus Community Network, the Ramp Barge Landing Project, and Gustavus Causeway Replacement Project.

The Gustavus Community Network (GCN) is the City of Gustavus-owned internet service provider. The Gustavus Community Network grew out of SEAKnet, a regional collaborative effort started by an NTIA grant obtained by the Alaska State Library in 1995. After grant funding ran out, Gustavus SEAKnet operated as a committee of the Gustavus Community Association, continuing to obtain its Internet services from the University of Alaska and running on volunteer support and subscriber fees. On January 1, 2001, Gustavus SEAKnet switched service providers and renamed itself the Gustavus Community Network. Gustavus incorporated as a second-class city in April, 2004, and GCN re-constituted itself as a municipal utility owned and operated by the City of Gustavus. In 2005, a limited wireless high-speed network was created in the Salmon River area. Along the way, other major accomplishments included replacing analog modems and phone lines with Portmaster integrated access server and channelized T1 circuit, replacing 56K frame relay circuit with business-class satellite service, connecting City Hall via leased line and SHDSL modems, procuring and managing installation and operation of automated billing, accounting, and provisioning system, and design and installation of core router with captive hotspot and bandwidth management functions. GCN professionalized its support beginning September 1, 2008, through a contract with Corvid Computing, LLC, with system administration still being performed by volunteer effort.

In 2007, the City of Gustavus constructed a new barge ramp and sports boat ramp, and created parking and freight staging areas at the Salmon River Boat Harbor, the main access point for receiving barge/landing craft freight in Gustavus and for launching boats for sport fishing or personal use. This Ramp Barge Landing Project cost more than \$600,000, with funding coming from the State of Alaska Department of Transportation and Public Facilities, State of Alaska Department of Fish & Game – Sports Fisheries, and the Economic Development Administration. The City of Gustavus was awarded an Economic Development Administration Performance Award for the fourth quarter of fiscal year 2008 “due to its outstanding management of this investment and for starting and completing construction ahead of schedule.”

Currently, the City of Gustavus is constructing a \$17 million pier and causeway for the community. The Gustavus Causeway Replacement Project is being funded through economic stimulus funds, the National Park Service, and the State of Alaska Department of Transportation and Public Facilities and is slated to be completed by fall 2010. This pier and causeway will be a roll-on/roll-off marine transfer facility capable of mooring barges, ferries, and smaller vessels.

Kapryce Manchester

PO Box 147, Gustavus, Alaska 99826
clerk@gustavus-ak.gov

Work History

City Clerk/Treasurer City of Gustavus

August 2006 to Present

- Accounts Payable & Accounts Receivable
- Financial reports
- Grant administration & reports
- Advertise, receive and assist in bid openings
- Responsible for conducting general & special municipal elections

Managing Member/Owner

Arizona Wireless LLC

June 2005 to June 2006

- Accounts Payable & Accounts Receivable
- Payroll
- Employee hiring & supervision
- Responsible for purchasing of inventory & management of inventory
- Customer service

Office Manager

Southeast Construction & MFE

January 1991 to May 2005

- Accounts Payable & Accounts Receivable
- Employee payroll & state certified payroll
- General purchasing, job buyout
- Bid preparation & submission to government agencies

Payroll Administrator

Whitestone Logging Inc.

June 1989 to December 1990

- Payroll for 200 employees
- Maintained employee paperwork
- Employee Workman's Compensation paperwork & claims

Knowledge and Skills

- Working knowledge of municipal, state, and federal laws to ensure activities of city government are in compliance.
- Working knowledge of the organization and functions of city government records management and grant requirements.
- Ability to exercise leadership and to maintain effective working relationships with council members, city committees, state government, federal government, and public.
- Ability to set priorities and meet deadlines.

Paul Berry

Current Employer: City of Gustavus

Job title: Gustavus Disposal & Recycling Center Manager/ Operator

Years in position: 15

In managing the Gustavus DRC and its predecessor the Gustavus Landfill, I have developed skills in managing a small municipal waste disposal facility with an annual operating budget of \$81,000 (FY2010). I have overseen, administered or provided direct support in the administration of over \$179,000 in grants money to build new infrastructure, work towards compliance with state waste disposal and operator safety requirements, and to purchase new waste handling equipment.

Grants applied for, awarded and completed include:

- **Federal**
 - Denali Commission Solid Waste Program
 - FY2006 Solid Waste Recycling Equipment Purchase \$15,475
 - FY2005 Solid Waste Equipment Purchase \$31,854
 - FY2004 Solid Waste Equipment Purchase \$39,000
 - USDA
 - FY2005 Solid Waste Management Grant \$12,000
- **State of Alaska**
 - Village Safe Water
 - FY2000 Septage Treatment Report Grant \$10,000
 - Capital Improvement Program
 - Multi year 1994 – 2003 Site construction and equipment purchase \$43,800
- **Private non-profit**
 - Elihu Foundation Charitable Trust
 - Multi year 2003 – 05 Food Waste Compost Program \$22,000
 - Leighty Foundation
 - FY2005 Food Waste Compost Program \$5,000

Other job skills or relevant expertise

- Gustavus Community Network Board member 2005 – present
 - Helping to develop operating and capital budgets for the organization
 - Helping develop contracts for administration support
- Amateur computer programmer and electronic technician
 - Developing and implementing an innovative open-source web (HTTP) protocol based solution to the Gustavus DRC's daily operation. Including customer services: point of sale, customer billing, equipment maintenance logs and statistical information
 - Computer programming experience in Perl, PHP, SQL and HTML & XML programming and scripting languages.

Resume for John Nixon-- August 2009

Owner: Salmon River Electric 1920 Gustavus Road, Gustavus Alaska. (Electrical Contractor)

UCW Electrical Administrator State of Alaska #1067

Alaska Journeyman Electrician #114103

Owner/ Builder - Salmon River Business Center- 1920 Gustavus Road, Gustavus Alaska.

Builder and Previous owner of Open Gate Café and Bear Track Mercantile, Gustavus Alaska.

City Councilman- City of Gustavus- Projects involved with:

- 1) Salmon River Boat Harbor (planning, operating rules and regs)
- 2) New D.O.T. Dock (funding, pipe line planning)
- 3) Responsible for City related energy projects including the planning and construction of the new City owned bulk fuel storage facility currently being constructed in Gustavus.(Denali Grant)
- 4) Planning and construction of the new City owned diesel power plant.(Denali Grant)
- 5) Planning for the GCN tower site, and tower construction with GCN committee members.
- 6) Good working relationship with:
 - A) David Lockard Alaska Energy Authority
 - B) Amy Mcleod State of Alaska D.N.R.
 - C) Dick Levitt of Gustavus Electric Co.(agent for future broadband tower site location)

My main strength is seeing a project thru from conception to completion. This is a result of running my own businesses for over 30 years.

John Nixon

NATHAN BORSON

P.O. Box 211 • Gustavus, AK 99826-0211
(907) 697-2313 • (206) 984-9439 FAX
nate@borson.net • <http://www.borson.net/nate>

Resume

Relevant Experience

2007 to Present: Co-Owner, Corvid Computing LLC. Provide wide range of computer, network, and communications consulting to city and community of Gustavus as well as nearby Hoonah. Professionalized administration of Gustavus Community Network.

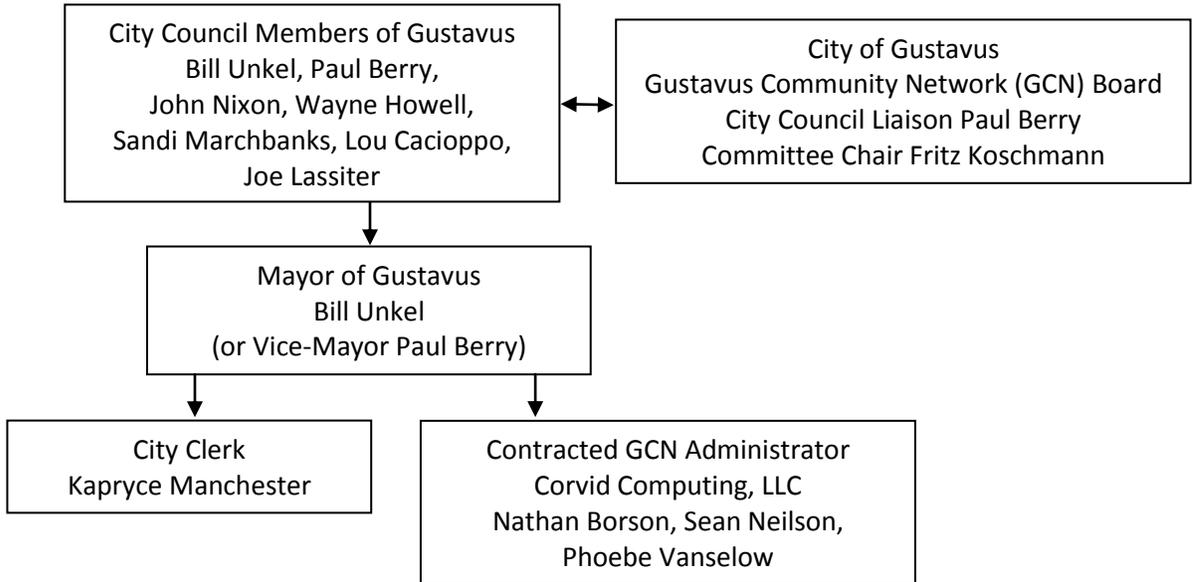
1994 to Present: IT Specialist, Glacier Bay National Park and Preserve. Relevant experience includes design and project management of a \$150,000 campus-wide fiber optic network interconnecting 9 facilities with gigabit Ethernet, and design and project management for a network-based phone system for 100+ users.

1994 to Present: Volunteer System Administrator, SEAKnet and Gustavus Community Network. Served as original Gustavus representative for NTIA-funded SEAKnet project whereby local dial-up Internet access was provided to six Southeast Alaska communities using staff and facilities of the Alaska State Library, University of Alaska, Southeast Regional Resource Center, and members of each community. Subsequently organized and implemented major initiatives including replacing analog modems and phone lines with Portmaster integrated access server and channelized T1 circuit, replacing 56K frame relay circuit with business-class satellite service, connecting City Hall via leased line and SHDSL modems, building wireless near-broadband network in Salmon River area, procuring and managing installation and operation of automated billing, accounting, and provisioning system, design and installation of core router with captive hotspot and bandwidth management functions, and managing organizational transitions from SEAKnet to Gustavus Community Association to City of Gustavus.

Relevant Knowledge and Abilities

- Strong understanding of TCP/IP and Ethernet technologies
- 5 years experience working with 2.4 GHz and 900 MHz wireless networks
- Knowledge of many Internet applications such as web and e-mail servers, DNS, and RADIUS.
- 15 years experience with Windows servers, domains, and networking
- 15 years experience developing and supporting self-sustaining community network in rural Alaska

Organizational Chart



Paul H. Grant Attorney at Law

217 Second Street, Suite 204/Juneau, Alaska 99801
Telephone: (907) 586-2701/Fax: (907) 586-8059
E-Mail: paulgrant@gci.net

August 12, 2009

Administrator
Rural Utilities Service
U. S. Department of Agriculture
Washington, D. C. 20250-1500

Assistant Secretary
National Telecommunications and Information Administration
U.S. Department of Commerce
Washington, D.C. 20230

Re: City of Gustavus

Dear Sir:

I am general counsel for the City of Gustavus , (the "Applicant.") I have acted as counsel to the Applicant in connection with its ability to apply to the Broadband Technology Opportunities Program and in the review of the grant agreement, loan agreement, or loan/grant combination agreement, as referenced in the Notice of Funds Availability.

I am of the opinion that:

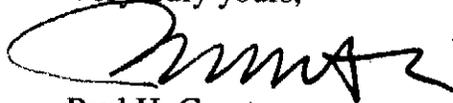
(a) the Applicant is a duly organized and existing municipal corporation under the laws of the State of Alaska.

(b) the Applicant has corporate power: (1) to execute and deliver the [grant agreement, loan agreement, or loan/grant combination agreement; and (2) to perform all acts required to be done by it under said agreement(s).

(c) no legal proceedings have been instituted or are pending against the Applicant, the outcome of which would adversely affect the Applicant's ability to perform the duties under the grant agreement(s), and there are no judgments against the Applicant which would adversely affect the Applicant's ability to perform the duties under the grant agreement(s).

(d) The applicant has the power to own its property and carry out its business as now conducted.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Paul H. Grant', written over a horizontal line.

Paul H. Grant
Gustavus City Attorney

Paul H. Grant Attorney at Law

217 Second Street, Suite 204/Juneau, Alaska 99801
Telephone: (907) 586-2701/Fax: (907) 586-8059
E-Mail: paulgrant@gcl.net

August 12, 2009

Administrator
Rural Utilities Service
U. S. Department of Agriculture
Washington, D. C. 20250-1500

Assistant Secretary
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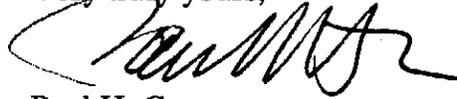
(a) the Applicant is a duly organized and existing municipal corporation under the laws of the State of Alaska.

(b) the Applicant has corporate power: (1) to execute and deliver the[grant agreement, loan agreement, or loan/grant combination agreement; and (2) to perform all acts required to be done by it under said agreement(s).

(c) no legal proceedings have been instituted or are pending against the Applicant, the outcome of which would adversely affect the Applicant's ability to perform the duties under the grant agreement(s), and there are no judgments against the Applicant which would adversely affect the Applicant's ability to perform the duties under the grant agreement(s).

(d) The applicant has the power to own its property and carry out its business as now conducted.

Very truly yours,

A handwritten signature in black ink, appearing to read "Paul H. Grant", written over a horizontal line.

Paul H. Grant
Gustavus City Attorney

General Overall Budget For Joint Applications Only: Please complete the following table only if you are submitting a joint BIP/BTOP Application. Please use the grid on Project Budget Tab in the online system for the BIP budget and then complete the table below for BTOP.

Equipment Category	Grant Request	Equity	Debt	Bonds	Other Funding	Total
Network & Access Equipment (switching, routing, transport, access)		11377				11377
Outside Plant (cables, conduits, ducts, poles, towers, repeaters, etc.)		12667				12667
Buildings and Land – (new construction, improvements, renovations, lease)	5770	650			2000	8420
Customer Premise Equipment (modems, set-top boxes, inside wiring, etc.)	93045					93045
Billing and Operational Support Systems (IT systems, software, etc.)						
Operating Equipment (vehicles, office equipment, other)						
Engineering/ Professional Services (engineering design, project management, consulting, etc.)	11900	2800			4400	19100
Testing (network elements, IT system elements, user devices, test generators, lab furnishings, servers/computers, etc.)	800					800
Site Preparation		500				500
Other						
Total Broadband System	111515	27994			6400	145909

DETAIL OF PROJECT COSTS

PLEASE COMPLETE THE TABLE BELOW FOR THE DIFFERENT CATEGORIES OF EQUIPMENT THAT WILL BE REQUIRED FOR COMPLETING THE PROJECT. EACH CATEGORY SHOULD BE BROKENDOWN TO THE APPROPRIATE LEVEL FOR IDENTIFYING UNIT COST

SERVICE AREA or COMMON NETWORK FACILITIES:		Eligibility (Yes/No)	Unit Cost	No. of Units	Total Cost	Support of Reasonableness
NETWORK & ACCESS EQUIPMENT						
Switching						
Routing						
Transport	900 MHz base station with high-gain sector antenna	Yes	2755	1	2755	Access point for point-multipoint client connections. Most of cost is for 17dBd 33 degree sector antenna to increase range to 6 miles for most distant part of coverage area.
Access	PTP backhaul radio/router with antenna	Yes	1122	1	1122	Point-point wireless link to upstream ISP facility.
Other	Installation, configuration, testing	Yes	100	60	6000	60 hours highly technical work to install and configure backbone network.
	Safety and climbing equipment	Yes	1500	1	1500	Prevent injuries while working on tower.
OUTSIDE PLANT						
Cables	CAT-5 cable, outdoor gel with ship	Yes	500	.0333	167	Connect devices on tower to equipment hut
Conduits						
Ducts						

DETAIL OF PROJECT COSTS

Poles						
Towers	50' tower with shipping to remote location	Yes	7500	1	7500	Minimum structure needed to maximize range and minimize ground interference. Shipping to our remote location very expensive.
	Tower and equipment hut installation including concrete	Yes	5000	1	5000	Materials and labor needed to erect tower and install hut are expensive in our location.
Repeaters						
Other						
SERVICE AREA or COMMON NETWORK FACILITIES:		Eligibility (Yes/No)	Unit Cost	No. of Units	Total Cost	Support of Reasonableness
BUILDINGS						
New Construction						
Pre-Fab Huts	8x8 fiberglass hut, used. Includes some fixtures.	Yes	2000	1	2000	Value of unused hut (in good condition) currently owned by applicant; much cheaper than buying and shipping new unit.
Improvements & Renovation	Electrical and wiring, labor and materials, for power and data, includes utility power connection	Yes	1920	1	1920	Electrical contractor and materials for CAT-5 patch panel wiring, utility power and fixtures, uninterruptible power installation, lighting.
	Miscellaneous materials for hut renovation and improvements	Yes	1500	1	1500	Shelving, equipment rack, miscellaneous supplies needed to put hut in suitable condition
	Uninterruptible power system	Yes	1500	2	3000	Prevent service outages and equipment damage by installing UPS in equipment hut and library.
Other						

DETAIL OF PROJECT COSTS

CUSTOMER PREMISE EQUIPMENT						
Modems						
Set Top Boxes						
Inside Wiring	Configure, install, and wire backhaul customers (2 outdoor radios) including mounting hardware & cables	Yes	438.89	60	26333	Average cost for labor and materials required for site surveys and to install and align two outdoor radios and run cables indoors. Some installs will cost considerably more, involving ladders and possible tree climbing, due to low population density and heavy forest.
	Configure, install, and wire mesh customers (1 outdoor radio) including mounting hardware & cables	Yes	228.22	90	20540	Average cost of installing mesh clients is less, as many of them will be simpler installs; some may not even require outdoor equipment.
	Miscellaneous hardware: cables, fasteners, caulk, drill bits, etc.	Yes	1000	1	1000	Always need miscellaneous parts and supplies.
Other	Backhaul CPE: 2 radios, antennas	Yes	625.22	60	37513	900 MHz backhaul radios with antennas plus 2.4 GHz mesh access points are remarkably economical compared to earlier options considered (i.e. Trango 900 MHz CPE is \$750+)
	Mesh CPE: 1 radio	Yes	85.1	90	7659	Price breakthrough on self-configuring Open-Mesh radios
BILLING SUPPORT AND OPERATIONS SUPPORT SYSTEMS						
Billing Support Systems						
Customer Care Systems						
Other Support						

DETAIL OF PROJECT COSTS

DETAIL OF PROJECT COSTS						
SERVICE AREA or COMMON NETWORK FACILITIES:		Eligibility (Yes/No)	Unit Cost	No. of Units	Total Cost	Support of Reasonableness
OPERATING EQUIPMENT						
Vehicles						
Office Equipment/ Furniture						
Other						
PROFESSIONAL SERVICES						
Engineering Design	Borealis Broadband Study/Plan	No				\$4,000 cost incurred prior to 7/10/09 so not included in this project.
	Corvid Computing network engineering	Yes	100	24	2400	In-kind contribution of network diagrams, system design, and project cost estimates for application
	Tower design/engineering	Yes	2900	1	2900	Searched far and wide for an engineer to design our tower; considered several candidates of which this was the most economical.
Project Management	Project management	Yes	90	100	9000	Estimated cost includes design refinements resulting from site surveys at each customer location, purchasing, contracting, supervision, reporting, etc.
Consulting	Grant application authoring and research	Yes	25	80	2000	Conservative estimate of in-kind contribution of time by team of six volunteers who researched and prepared this application
Other	Grant administration	Yes	35	80	2800	Professional accounting and reporting to granting agency

DETAIL OF PROJECT COSTS

TESTING						
Network Elements	Radios for field testing and site surveys	Yes	400	2	800	Test radios for final decision regarding 900 MHz equipment selection
IT System Elements						
User Devices						
Test Generators						
Lab Furnishings						
Servers/Computers						
OTHER UPFRONT COSTS						
Site Preparation	Clear and level gravel pad for tower and hut	Yes	500	1	500	Minimal site preparation needed as tower location already is cleared and has road access and utility power.
Other						

Note on costs in rural Alaska:

Shipping to our location is very expensive because everything must come either by air or must be shipped by barge to Juneau, then loaded onto a landing craft for final shipping to our location; there is no road to our community. Shipping to Juneau is expensive; shipping to Gustavus doubly so. The prices in this budget are as low as they can realistically be. If not for our years of local logistical knowledge the prices would have to be inflated considerably above those shown.

Historical Financial Statements

City of Gustavus and Gustavus Community Network

Contents

- Certified financial statements, City of Gustavus, fiscal year ending June 30, 2007. Income statement only; no balance sheet included with certified financial statements.
- Certified financial statements, City of Gustavus, fiscal year ending June 30, 2008. Income statement only; no balance sheet included with certified financial statements.
 - Both of the above statements are for the entire city; expenses for the Gustavus Community Network (GCN) are difficult to infer from these alone.
 - The statements do show the City of Gustavus overall operating with a budget surplus.
 - Certified financial statements for the year ending June 30, 2009 will not be available until December.
- City of Gustavus Balance sheet, June 30, 2009
 - This balance sheet is unaudited, uncertified, and does not contain year-end adjustments that have yet to be made.
 - GCN operations are accounted for separately per city ordinance. However, they are not shown separately on the balance sheet. Bank account “Alaska Pacific – GCN” contains other city funds as GCN expenses have been paid from other bank accounts.
 - The GCN cash balance on June 30, 2009 was approximately \$14,495 as shown on Attachment M – Cash Flows.
- GCN Profit and Loss , FY08 and FY09
 - This report shows the actual FY08 and unaudited, uncertified FY09 income and expenses.
 - Attachment Q50 – Financial Assumptions includes a table mapping, with some uncertainty, the categories and amounts from these historical statements to categories and amounts used in the historical columns on Attachment K – Income Statement.

**Resolution of the City of Gustavus, Alaska
Resolution No. 2007-15**

**A Resolution Certifying the Annual Certified Financial Statement of
Revenues and Authorized Expenditures for the Year Ending June 30,
2007**

WHEREAS, The City of Gustavus, is a recognized second class city; and

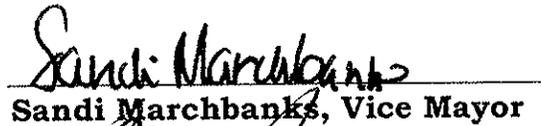
WHEREAS, second class cities are required by AS 29.20.640 (a)(2) to submit a Certified Financial Statement of Income and Expenditures or Audit for the year ending June 30, 2007, to the Department of Commerce, Community, and Economic Development;

AND NOW THEREFORE BE IT RESOLVED that the attached CERTIFIED FINANCIAL STATEMENT (or audit) of Gustavus, Alaska for the year ending June 30, 2007, and prepared by Kapryce Manchester, City Clerk, is true and complete to the best of our knowledge.

PASSED and APPROVED by the Gustavus City Council, this 13th day of December 2007.

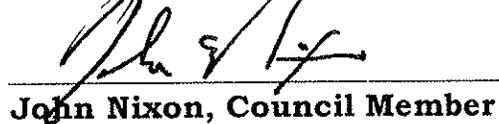


Ken Klawunder, Mayor

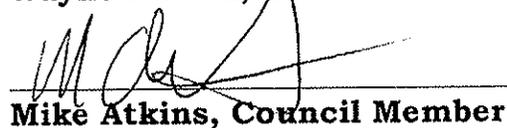


Sandi Marchbanks, Vice Mayor

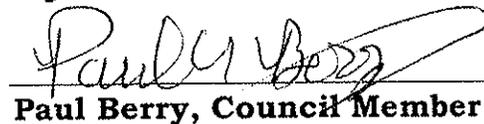
Wayne Howell, Council Member



John Nixon, Council Member



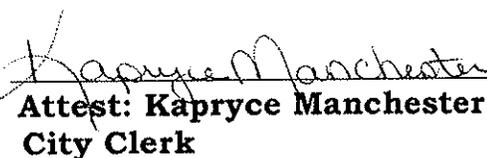
Mike Atkins, Council Member



Paul Berry, Council Member



William Unkel, Council Member



**Attest: Kapryce Manchester
City Clerk**

**City of Gustavus
 Profit & Loss
 July 2006 through June 2007**

Jul '06 - Jun 07

Ordinary Income/Expense	
Income	
Donations	2,201.30
DRC Income	
Community Chest Sales	11,304.75
Landfill Fees/Sales	51,510.46
Total DRC Income	62,815.21
Fisheries Business Tax Payment	5,907.26
Forest Service Receipt Money	113,771.07
Fundraising	8,505.80
GCN Income	38,574.58
Grants	
Legislative Grant	2,781.75
Grants - Other	179,951.34
Total Grants	182,733.09
GVFD- ARFF Income	17,230.00
Interest Income	22,908.74
Library Income	
General Revenue	3,286.48
Total Library Income	3,286.48
Marine Facilities Income	
DOT/Ports & Harbors Grant	92,070.00
EDA Grant	25,667.00
RFQ Bid Packet Fee	550.00
Total Marine Facilities Income	118,287.00
Other Income	2,526.82
Public Records Request Fee	14.92
Sales Tax Income	
Late Return Penalties	1,027.32
Overpayment of Sales Tax	-7,315.63
Retail Tax Income	174,414.48
Room Tax Income	46,196.95
Seller's Compensation	-2,207.31
Total Sales Tax Income	212,115.81
Tax Exempt Cards	210.00
Unrealized Gain/ Endowment Fund	179,877.52
Total Income	970,965.60
Gross Profit	970,965.60
Expense	
Administrative Costs	395.00
Advertising	1,663.40
Bank Charges	454.31
Capital Expense	80,848.83
Card Processing Fees	276.05
Contractual Services	38,915.24
Donations Expense	
Gustavus Community Clinic	13,400.00
Donations Expense - Other	472.20
Total Donations Expense	13,872.20
Dues/Fees	6,297.86
Equipment	
Equipment Fuel	1,039.38
Equipment Maintenance & Repair	4,430.05
Equipment Rental	9,958.02
Equipment - Other	1,073.47
Total Equipment	16,500.92

**FY07 - Annual Certified Financial
 Statement of Revenues and Authorized
 Expenditures for the Year Ending 6/30/2007
 Resolution 2007-15**

3:30 PM

12/06/07

Accrual Basis

City of Gustavus
Profit & Loss
 July 2006 through June 2007

FY07 - Annual Certified Financial
Statement of Revenues and Authorized
Expenditures for the Year Ending 6/30/2007
Resolution 2007-15

	Jul '06 - Jun 07
Fees	
Smith Barney - City Reserves	100.00
Smith Barney - Endowment Fund	3,752.10
Total Fees	3,852.10
Freight	15,266.27
Fundraising Expenses	964.93
GVA	18,781.00
Insurance	
Building	3,371.40
Liability	5,031.32
Vehicle	672.64
Workman's Compensation	7,967.28
Total Insurance	17,042.64
Library Materials	
Books	3,999.32
Periodicals	469.80
Summer Reading	2,804.43
Video's & DVD's	393.15
Total Library Materials	7,666.70
Maintenance & Repairs	4,157.74
Marine Facilities	
ADF&G - Sports Fisheries	
Construction	39,530.48
Construction Engineering Fee	8,184.99
Total ADF&G - Sports Fisheries	47,715.47
DOT/ Ports & Harbors	
Construction	39,712.22
Construction Engineering	5,171.71
Total DOT/ Ports & Harbors	44,883.93
EDA	
Administrative & Legal Expenses	2,213.45
Architectural & Engineering Fee	4,582.51
Construction	17,033.12
Project Inspection Fees	3,272.82
Total EDA	27,101.90
Legislative Grant Expense	
Construction	2,781.75
Project Inspection	312.96
Legislative Grant Expense - Other	2,303.08
Total Legislative Grant Expense	5,397.79
Marine Facilities - Other	851.33
Total Marine Facilities	125,950.42
Miscellaneous	0.00
Payroll Expenses	
Payroll Taxes	11,869.59
Wages	103,582.13
Payroll Expenses - Other	57.60
Total Payroll Expenses	115,509.32
Postage & Shipping	1,446.50
Professional Services	42,803.47
Reconciliation Discrepancies	36.65
Road Maintenance	33,594.75
Snow Plowing	31,546.95
Supplies - EMS	5,719.32
Supplies - General	8,505.06
Supplies - Office	2,217.72

3:30 PM
12/06/07
Accrual Basis

City of Gustavus
Profit & Loss
July 2006 through June 2007

	<u>Jul '06 - Jun 07</u>
Telephone, Internet, Broadband	
FreeConference.com	971.90
Gustavus Community Network	30,522.56
Telephone	5,512.88
Telephone, Internet, Broadband - Other	890.70
Total Telephone, Internet, Broadband	37,898.04
Training	7,677.41
Travel	
Lodging & Meals	5,335.94
Transportation	6,400.12
Travel - Other	-186.61
Total Travel	11,549.45
Utilities	
Electricity	4,972.84
Fuel Oil	8,343.44
Total Utilities	13,316.28
Total Expense	664,726.53
Net Ordinary Income	306,239.07
Net Income	306,239.07

**FY07 - Annual Certified Financial
Statement of Revenues and Authorized
Expenditures for the Year Ending 6/30/2007
Resolution 2007-15**

**City of Gustavus, Alaska
Resolution No. 2009-08**

**A Resolution Certifying the Annual Certified Financial Statement of
Revenues and Authorized Expenditures for the Year Ending June 30,
2008**

WHEREAS, The City of Gustavus, is a recognized second class city; and

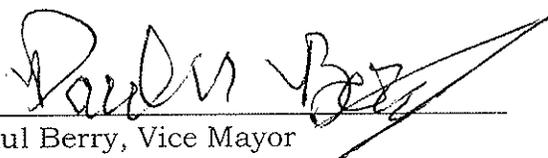
WHEREAS, second class cities are required by AS 29.20.640 (a)(2) to submit a Certified Financial Statement of Income and Expenditures or Audit for the year ending June 30, 2008, to the Department of Commerce, Community, and Economic Development;

AND NOW THEREFORE BE IT RESOLVED that the attached CERTIFIED FINANCIAL STATEMENT (or audit) of Gustavus, Alaska for the year ending June 30, 2008, and prepared by Kapryce Manchester, City Clerk, is true and complete to the best of our knowledge.

PASSED and APPROVED by the Gustavus City Council, this 12th day of March 2009.

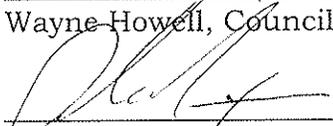


William Unkel, Mayor



Paul Berry, Vice Mayor

Via Teleconference
Wayne Howell, Council Member

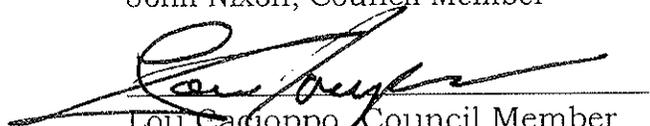


John Nixon, Council Member

Sandi Marchbanks, Council Member



Joe Lassiter, Council Member



Lou Cacioppo, Council Member



Attest: Kapryce Manchester
City Clerk

City of Gustavus
Profit & Loss
 July 2007 through June 2008

Jul '07 - Jun 08

**FY08 - Annual Certified Financial
 Statement of Revenue and Authorized
 Expenditures for the Year Ending**

Ordinary Income/Expense	
Income	
Donations	1,612.75
DRC Income	62,015.21
Fisheries Business Tax Payment	2,732.66
Fixed Asset Sale Income	1,761.00
Forest Service Receipt Money	117,731.81
Forest Service Receipt Reserve	46,537.87
Fundraising	4,005.85
GCN Income	28,928.99
Grants	171,649.59
GVFD- ARFF Income	21,537.50
Interest Income	21,431.63
Lease Income	13,947.40
Library Income	2,880.29
Marine Facilities Income	409,562.90
Municipal Energy Assistance	95,718.00
Payment in Lieu of Taxes	47,306.90
Sales Tax Income	251,591.07
Tax Exempt Cards	70.00
Unrealized Gain/ Endowment Fund	-89,237.81
Total Income	1,211,783.61
Gross Profit	
	1,211,783.61
Expense	
Advertising	1,975.26
Bank Charges	1,357.48
Capital Expense	24,762.47
Contractual Services	29,584.42
Dues/Fees	1,649.09
Equipment	13,966.47
Freight	12,587.69
Fundraising Expenses	1,442.91
Gustavus Community Clinic	50,000.00
GVA	20,000.00
Insurance	17,062.00
Library Materials	9,731.85
Maintenance & Repairs	6,632.22
Marine Facilities	510,383.92
Miscellaneous	0.00
Payroll Expenses	129,342.24
Postage & Shipping	1,829.91
Professional Services	23,910.03
Road Maintenance	34,401.00
Snow Plowing	13,695.60
Supplies - EMS	5,159.57
Supplies - Fire	220.55
Supplies - General	9,212.99
Supplies - Office	3,340.65
Telephone, Internet, Broadband	39,757.10
Training	16,329.97
Travel	8,655.12
Utilities	14,045.86
Total Expense	1,001,036.37
Net Ordinary Income	210,747.24
Net Income	210,747.24

**City of Gustavus
Balance Sheet
As of June 30, 2009**

	Jun 30, 09
ASSETS	
Current Assets	
Checking/Savings	
Alaska Pacific Bank- GCN	40,183.45
AMLIP	
FY-Current Year Money	200,000.00
Reserve	
GCN Encumbered Funds	16,800.00
GVFD Encumbered Funds	40,981.00
Municipal Energy Grant Encumber	105,103.00
Parks & Rec	13,021.26
Road Main Reserve F.S. Money	58,454.98
Reserve - Other	515,639.76
Total Reserve	750,000.00
AMLIP - Other	5,003.78
Total AMLIP	955,003.78
City of Gustavus Gaming Account	319.74
City Reserves- Smith Barney	93,536.45
Endowment Fund - Smith Barney	851,783.74
First National Bank- Checking	100,812.72
FNBA - Savings Account	20,381.39
Landfill Closure Fund	54,900.04
Total Checking/Savings	2,116,921.31
Accounts Receivable	
Accounts Receivable	497.66
Total Accounts Receivable	497.66
Total Current Assets	2,117,418.97
Fixed Assets	
Property & Equipment	
Buildings & Improvement	1,112.22
Furniture/Fixtures	2,649.80
Harbor Management Supplies	873.17
Machinery/Equipment	50,826.49
Road Maintenance Supplies	4,647.95
Total Property & Equipment	60,109.63
Total Fixed Assets	60,109.63
TOTAL ASSETS	2,177,528.60

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08/07/09

Accrual Basis

City of Gustavus
Balance Sheet
As of June 30, 2009

	<u>Jun 30, 09</u>
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Other Current Liabilities	
941 Deposit	1,793.99
Payroll Liabilities	
941 Payable	3,872.20
State Unemployment	1,421.95
Payroll Liabilities - Other	-1,809.68
Total Payroll Liabilities	<u>3,484.47</u>
Total Other Current Liabilities	<u>5,278.46</u>
Total Current Liabilities	<u>5,278.46</u>
Total Liabilities	5,278.46
Equity	
Fund Balance	1,113,815.12
Opening Bal Equity	1,084,743.57
Net Income	-26,308.55
Total Equity	<u>2,172,250.14</u>
TOTAL LIABILITIES & EQUITY	<u><u>2,177,528.60</u></u>

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08/07/09

Accrual Basis

City of Gustavus
Profit & Loss
 July 2007 through June 2009

	Jul '07 - Jun 08	Jul '08 - Jun 09	TOTAL
Ordinary Income/Expense			
Income			
GCN Income			
Refund/Charge Back	0.00	-16.00	-16.00
GCN Income - Other	28,928.99	32,402.65	61,331.64
Total GCN Income	28,928.99	32,386.65	61,315.64
NSF Checks Paid	0.00	53.00	53.00
Total Income	28,928.99	32,439.65	61,368.64
Gross Profit	28,928.99	32,439.65	61,368.64
Expense			
Bank Charges	1,357.48	1,630.25	2,987.73
Capital Expense	1,972.50	0.00	1,972.50
Contractual Services	830.00	4,344.62	5,174.62
Postage & Shipping	11.54	12.14	23.68
Professional Services	0.00	680.00	680.00
Telephone, Internet, Broadband			
Gustavus Community Network	29,495.60	26,262.03	55,757.63
Telephone	1,865.63	1,815.21	3,680.84
Telephone, Internet, Broadband - Other	1,499.00	0.00	1,499.00
Total Telephone, Internet, Broadband	32,860.23	28,077.24	60,937.47
Travel			
Transportation	151.55	0.00	151.55
Total Travel	151.55	0.00	151.55
Total Expense	37,183.30	34,744.25	71,927.55
Net Ordinary Income	-8,254.31	-2,304.60	-10,558.91
Net Income	-8,254.31	-2,304.60	-10,558.91

Methodology for Subscriber Projections:

Basically, we assume that nearly all Gustavus residents will choose the Internet service that is clearly the fastest, cheapest, and most reliable.

The Gustavus Community Network had a high of 158 active dial-up subscribers (plus the Gustavus Public Library) in August, 2005. Since then membership has dropped to only 75 at the time of this application because of phone line quality problems, the availability of consumer satellite Internet service and data over cellular phone systems, and the need for faster Internet speeds to access increasingly media-rich content and applications. However, consumer satellite service, with its high cost and latency and low upload speeds and reliability, is at best an inadequate substitute for broadband service, and the available 1xRTT cellular service is even farther from broadband even when it is not suffering from extreme congestion. Dissatisfaction with the existing Internet options is evident in the results of a 2008 Gustavus community survey conducted by the Alaska Department of Community and Regional Affairs. 84% of respondents identified improvement of Internet connectivity as an important infrastructure project, placing second only to a new dock in a list of 25 infrastructure projects. “Better than dial-up” is a common response when users of the current alternatives are asked about their service.

The proposed project will deliver service far superior to satellite and cellular – a night versus day sort of difference -- at a lower cost and with higher reliability and consistency of performance. Given the dissatisfaction evident with current options we find it reasonable to project that by the summer of year 3 (when all current satellite contracts have run out) we will have regained as many customers as we lost since 2005 and in year 5 we will have gained a few additional customers due to modest population growth since 2004, owing in part to infrastructure projects such as the state ferry service that will begin in late 2010.

Ours is a highly seasonal community. Projected seasonal fluctuations are based on 2002 through 2006 records that show December-February subscribership averages 22% below July-August highs. For purposes of these projections, Year 1 is assumed to begin in January. The actual month in which Year 1 begins depends on when funding is awarded.

We assume a gradually decreasing percentage of households will choose to use the inexpensive but non-broadband “lifeline service” made possible by grants funding the majority of this project's capital investment. Some households are unable or unwilling to pay more than they must, and we expect burst speeds of 120 Kbps and continuous speeds of 60 Kbps will be adequate for some users' basic e-mail and web browsing. We assume that when broadband is first available throughout our coverage area in Q2 of Year 2, 33% of households will opt for lifeline service, diminishing to under 20% by the end of year 5 as demand for broadband grows. We assume that all businesses will opt for broadband service as soon as it is available to them.

Business versus household is a distinction created for this grant application; it has little practical meaning in Gustavus, where most businesses are one- to two-person sole proprietorships run from households. There are undoubtedly cases where an individual person is counted as both a household and a business in the demographics even though they would be at most one Internet subscriber. GCN does not offer separate residential versus business pricing plans. Instead the usage-based pricing fairly accommodates the full range of subscribers including many business customers who make lighter use of the Internet than the heaviest residential customers.

Take Rate:

Take rates are based on demography data and the above subscriber estimates as follows:

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Total Household subscribers	49	50	68	86	92	96
Total households	208	208	210	211	215	218
% households served	24%	24%	32%	41%	43%	44%
Total business subscribers	22	29	40	50	55	57
Total businesses	59	59	59	60	60	61
% businesses served	37%	48%	67%	84%	91%	93%
Strategic Institution subs	4	4	4	4	4	4
Total strategic institutions	5	5	5	5	5	5
% institutions served	80%	80%	80%	80%	80%	80%
Total subscribers	75	83	111	141	150	156
Total entities	272	272	274	276	280	284
% entities served	28%	30%	41%	51%	54%	55%

	Gustavus	Bartlett Cove	Service area	
2000 census population	429	3	426	Service area is City of Gustavus excluding Bartlett Cove
2000 census households	199	2	197	Bartlett Cove households estimate based on local knowledge
2004 population	448	3	445	State demographer's estimate for Gustavus total population, extrapolated for service area
2004 households	208	2	206	Extrapolated from state demographer's estimate, assuming static household size

Year 0 business number is 2009 state business licenses registered in Gustavus. Modest growth is projected after ferry service begins. The number of households is based on the census definition and does not include unoccupied housing units. Many seasonal subscribers are not counted in the census population or household tallies.

As noted in the subscriber projection methodology, there is considerable overlap between households and businesses. The actual number of potential subscribers in Year 0 is probably closer to 225 than the 267 fictitious sum of households and businesses. Therefore the projected take rate approaches a total of 65% (157 of 240 total potential subscribers in year 5). This is comparable to the actual take rate GCN enjoyed in 2005.

Income Statement

	Historical		Forecast Period				
	FY end 6/30/08	FY end 6/30/09	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues							
Network Services Revenues:							
Local Voice Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Broadband Data	\$ 28,929	\$ 32,440	\$ 44,794	\$ 81,906	\$ 105,033	\$ 113,970	\$ 122,012
Video Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Network Access Service Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Universal Service Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Toll Service/Long Distance Voice	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Installation Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Operating Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Revenues	\$ -	\$ -	\$ 70,000	\$ 61,515	\$ -	\$ -	\$ -
Uncollectible Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Revenues	\$ 28,929	\$ 32,440	\$ 114,794	\$ 143,421	\$ 105,033	\$ 113,970	\$ 122,012
Expenses							
Backhaul	\$ 18,000	\$ 18,000	\$ 17,877	\$ 30,662	\$ 43,448	\$ 56,233	\$ 56,233
Network Maintenance/Monitoring	\$ 4,430	\$ 4,383	\$ 7,175	\$ 11,629	\$ 16,204	\$ 17,276	\$ 18,241
Utilities	\$ 4,405	\$ 4,405	\$ 4,405	\$ 2,293	\$ 180	\$ 180	\$ 180
Leasing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sales/Marketing	\$ -	\$ -	\$ 240	\$ 240	\$ 240	\$ 240	\$ 240
Customer Care	\$ -	\$ 1,904	\$ 4,031	\$ 7,372	\$ 9,453	\$ 10,257	\$ 10,981
Billing	\$ 1,357	\$ 1,630	\$ 2,240	\$ 4,095	\$ 5,252	\$ 5,699	\$ 6,101
Corporate G&A	\$ 163	\$ 12	\$ -	\$ -	\$ -	\$ -	\$ -
Other Operating Expense	\$ 6,855	\$ 4,410	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ 35,211	\$ 34,744	\$ 35,968	\$ 56,291	\$ 74,777	\$ 89,885	\$ 91,976
EBITDA	\$ (6,282)	\$ (2,305)	\$ 78,826	\$ 87,130	\$ 30,256	\$ 24,085	\$ 30,036
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Amortization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Earnings Before Interest and Taxes	\$ (6,282)	\$ (2,305)	\$ 78,826	\$ 87,130	\$ 30,256	\$ 24,085	\$ 30,036
Interest Expense - New RUS Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Expense - Existing RUS Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Expense - Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Income Before Taxes	\$ (6,282)	\$ (2,305)	\$ 78,826	\$ 87,130	\$ 30,256	\$ 24,085	\$ 30,036
Property Tax	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Income Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Income	\$ (6,282)	\$ (2,305)	\$ 78,826	\$ 87,130	\$ 30,256	\$ 24,085	\$ 30,036

Balance Sheet

Assets	Historical		Year 1	Year 2	Year 3	Year 4	Year 5
	End 6/30/08	End 6/30/09					
<i>Current Assets</i>							
Cash	\$ 16,800	\$ 14,495	\$ 15,327	\$ 40,942	\$ 71,199	\$ 45,283	\$ 25,319
Marketable Securities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Accounts Receivable	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Notes Receivable	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Inventory	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Prepayments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Current Assets	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Current Assets	\$ 16,800	\$ 14,495	\$ 15,327	\$ 40,942	\$ 71,199	\$ 45,283	\$ 25,319
<i>Non-Current Assets</i>							
Long-Term Investments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Amortizable Asset (Net of Amortization)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plant in Service	\$ 10,000	\$ 10,000	\$ 87,994	\$ 149,509	\$ 149,509	\$ 199,509	\$ 249,509
Less: Accumulated Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Plant	\$ 10,000	\$ 10,000	\$ 87,994	\$ 149,509	\$ 149,509	\$ 199,509	\$ 249,509
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Non-Current Assets	\$ 10,000	\$ 10,000	\$ 87,994	\$ 149,509	\$ 149,509	\$ 199,509	\$ 249,509
Total Assets	\$ 26,800	\$ 24,495	\$ 103,321	\$ 190,451	\$ 220,708	\$ 244,792	\$ 274,828
Liabilities and Owners' Equity							
Liabilities							
<i>Current Liabilities</i>							
Accounts Payable	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Notes Payable	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Current Portion - Total RUS Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Current Portion - Other Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Current Liabilities	\$ 1,425	\$ 1,425	\$ 1,425	\$ 1,425	\$ 1,425	\$ 1,425	\$ 1,425
Total Current Liabilities	\$ 1,425	\$ 1,425	\$ 1,425	\$ 1,425	\$ 1,425	\$ 1,425	\$ 1,425
<i>Long-Term Liabilities</i>							
Existing RUS Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Proposed RUS Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Existing non-RUS Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Long-Term Liabilities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Liabilities	\$ 1,425	\$ 1,425	\$ 1,425	\$ 1,425	\$ 1,425	\$ 1,425	\$ 1,425
Owner's Equity							
Equity	\$ 31,657	\$ 25,375	\$ 23,070	\$ 101,896	\$ 189,026	\$ 219,283	\$ 243,367
Additional Paid-In Capital	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Patronage Capital Credits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retained Earnings	\$ (6,282)	\$ (2,305)	\$ 78,826	\$ 87,130	\$ 30,256	\$ 24,085	\$ 30,036
Total Equity	\$ 25,375	\$ 23,070	\$ 101,896	\$ 189,026	\$ 219,283	\$ 243,367	\$ 273,403
Total Liabilities and Owner's Equity	\$ 26,800	\$ 24,495	\$ 103,321	\$ 190,451	\$ 220,708	\$ 244,792	\$ 274,828

Statement of Cash Flows

	Historical		Year 1	Year 2	Year 3	Year 4	Year 5
	End 6/30/08	End 6/30/09					
Beginning Cash	\$ 25,054	\$ 16,800	\$ 14,495	\$ 15,327	\$ 40,942	\$ 71,199	\$ 45,283
CASH FLOWS FROM OPERATING ACTIVITIES:							
Net Income	(6,282)	(2,305)	78,826	87,130	30,256	24,085	30,036
<i>Adjustments to Reconcile Net Income to Net Cash Provided by Operating Activities</i>							
Add: Depreciation	-	-	-	-	-	-	-
Add: Amortization	-	-	-	-	-	-	-
<i>Changes in Current Assets and Liabilities:</i>							
Marketable Securities	-	-	-	-	-	-	-
Accounts Receivable	-	-	-	-	-	-	-
Inventory	-	-	-	-	-	-	-
Prepayments	-	-	-	-	-	-	-
Other Current Assets	-	-	-	-	-	-	-
Accounts Payable	-	-	-	-	-	-	-
Other Current Liabilities	-	-	-	-	-	-	-
Net Cash Provided (Used) by Operations	\$ (6,282)	\$ (2,305)	\$ 78,826	\$ 87,130	\$ 30,256	\$ 24,085	\$ 30,036
CASH FLOWS FROM FINANCING ACTIVITIES:							
Notes Receivable	-	-	-	-	-	-	-
Notes Payable	-	-	-	-	-	-	-
Principal Payments	-	-	-	-	-	-	-
New Borrowing	-	-	-	-	-	-	-
Additional Paid-in Capital	-	-	-	-	-	-	-
Additions to Patronage Capital Credits	-	-	-	-	-	-	-
Payment of Dividends	-	-	-	-	-	-	-
Net Cash Provided by Financing Activities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CASH FLOWS FROM INVESTING ACTIVITIES:							
Capital Expenditures	1,973	-	77,994	61,515	-	50,000	50,000
Amortizable Asset (Net of Amortization)	-	-	-	-	-	-	-
Long-Term Investments	-	-	-	-	-	-	-
Net Cash Used by Investing Activities	\$ 1,973	\$ -	\$ 77,994	\$ 61,515	\$ -	\$ 50,000	\$ 50,000
Net Increase (Decrease) in Cash	\$ (8,254)	\$ (2,305)	\$ 832	\$ 25,615	\$ 30,256	\$ (25,915)	\$ (19,964)
Ending Cash	\$ 16,800	\$ 14,495	\$ 15,327	\$ 40,942	\$ 71,199	\$ 45,283	\$ 25,319

Question 50.

Financial Assumptions

General

The projections include only Gustavus Community Network (GCN) operations, not the rest of the City of Gustavus finances.

By ordinance (Gustavus municipal code 6.05) GCN finances are to be kept separate from the rest of the city.

"...GCN shall generally not be subsidized by Gustavus taxpayers, and that GCN revenues be payment for services rendered, not a form of taxation supporting other City services. Therefore, GCN and City finances shall be separate and transfers between GCN and City accounts shall generally not be used for either entity to subsidize the other."

However, the city shall provide one-time matching funds for the BTOP application from its unappropriated reserves.

Historical information on the projections is derived from city certified financial statements (through 6/30/08) and unaudited preliminary financial statements (through 6/30/09); see attachment Q-47. Categories are different in the city's accounting system; amounts were converted to the categories in the sample income statement with some difficulty.

Revenue

Broadband Data

[Please see the Broadband Data Rev worksheet for details on the derivation of this revenue forecast.](#)

Subscriber estimates are based on Attachment H. Basically, we predict regaining by Year 4 all the customers we lost since 2005 as they fled our dialup service for satellite or cellular phone Internet access.

Basic charges are based on Lifeline and Basic Broadband plans in Attachment A, broadband service offerings, and the actual amount being charged our one flat-rate customer.

Usage surcharges for usage-based plans are based on an analysis of June, 2009 actual per-user surcharges.

This is a conservative income statement intended to demonstrate the feasibility and sustainability of the project and its operation on sales of data alone. Other revenues are speculative but would only improve the business case.

Not included: short-term sales (hourly, daily, weekly), premium sales (broadband plus, flat-rate accounts), other services such as voice and video that may be added in Year 3 or beyond, lease revenue from tower space and power.

Revenue Forecast	Rate (Att. A)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Flat-rate revenue	\$399.00	\$399	\$399	\$399	\$399	\$399	\$399
Lifeline basic charge	\$25.00	\$1,175	\$1,225	\$594	\$656	\$619	\$475
Lifeline usage fees	\$0.76	\$36	\$37	\$18	\$20	\$19	\$14
High-Speed basic charge	\$44.00	\$1,056	\$1,309	\$3,674	\$4,851	\$5,346	\$5,863
High-Speed usage fees	\$25.64	\$615	\$763	\$2,141	\$2,827	\$3,115	\$3,416

Average monthly Internet sales	\$3,281	\$3,733	\$6,826	\$8,753	\$9,498	\$10,168
Total Yearly Internet sales	\$39,371	\$44,794	\$81,906	\$105,033	\$113,970	\$122,012

[Please see the Broadband Data Rev worksheet for details on the derivation of this revenue forecast.](#)

Other Revenues

	Yr 1 BIP	Yr 2 BIP	Total
Grant funding for the Gustavus broadband project			
If we are awarded the BIP grant...			
BIP Grant	\$70,000	\$61,515	\$131,515
If we are awarded the BTOP grant...			
Cash match from city of Gustavus	\$20,000		\$20,000
BTOP grant	\$50,000	\$61,515	\$111,515
Either way...			
Total other revenue	\$70,000	\$61,515	\$131,515
Reconciliation with total project funding			
Project expenses paid from GCN cash	\$7,994	\$0	\$7,994
In kind project expenses	\$6,400	\$0	\$6,400 Non-cash
Project total	\$84,394	\$61,515	\$145,909
Project expenditures shown on Schedule M	\$77,994	\$61,515	\$139,509

(non-cash in kind match not shown as expense or asset)

Expenses

Backhaul

Our backhaul provider will soon be AT&T Alascom. We are in the process of installing our first T1 circuit to replace our business-class satellite service.

The first T1 costs \$1,489.76/month including managed router and space and power for our radio link on their tower, eliminating the need for a local loop. Discounts are probably available for the basic IP service and IOC on multiple T1 circuits but are unknown so are not shown here.

Backhaul cost monthly	1 X T1	2 X T1	3 X T1	4 X T1
T1 basic IP service	\$355.52	\$711.04	\$1,066.56	\$1,422.08
IOC Juneau to Gustavus	\$709.92	\$1,419.84	\$2,129.76	\$2,839.68
Space & Power	\$309.32	\$309.32	\$309.32	\$309.32

Managed AT&T router	\$115.00	\$115.00	\$115.00	\$115.00
Total	\$1,489.76	\$2,555.20	\$3,620.64	\$4,686.08

Backhaul required

In June, 2009 we had 24 broadband customers, 53 dial-up users, and 1 flat-rate customer

Usage analysis shows the following statistics from June, 2009

15% Estimated per-user annual increase in data consumed

Average monthly MB transferred, projections based on number of clients in Attachment H

	Actual 2009	Year 1	Year 2	Year 3	Year 4	Year 5
Dial-up/lifeline per user	288	331	381	438	504	579
Broadband per user	1,732	1,992	2,291	2,634	3,029	3,484
Flat-rate per user	24,000	27,600	31,740	36,501	41,976	48,273
Dial-up/lifeline users	53	49	24	26	25	19
Broadband users	24	30	84	110	122	133
Flat-rate users	1	1	1	1	1	1
Dial-up/lifeline MB total	15,264	16,229	9,046	11,498	12,467	11,006
Broadband MB total	41,568	59,256	191,263	290,416	368,057	464,199
Flat-rate MB total	24,000	27,600	31,740	36,501	41,976	48,273
Total MB/Month	80,832	103,085	232,048	338,414	422,500	523,478
T1 required	1	1	2	3	4	4
MB/Month per T1	80,832	103,085	116,024	112,805	105,625	130,869
Backhaul cost monthly	\$1,500	\$1,490	\$2,555	\$3,621	\$4,686	\$4,686
Backhaul cost annually	\$18,000	\$17,877	\$30,662	\$43,448	\$56,233	\$56,233

Reasoning for "T1 required": Our 1 Mbps satellite downlink was adequate in June, 2009, with the full link used an acceptable 5% or so of the time. Therefore a T1 circuit is adequate for at least 50% more than June 2009 MB/month.

Acceptable usage per T1: 121,248 MB/month

Network maintenance/monitoring

Since its inception in 1995, GCN system administration, maintenance, and monitoring have been performed by dedicated volunteers. GCN now seeks to professionalize this function to improve accountability, reliability, responsiveness, and sustainability. Contractor Corvid Computing has offered to perform these services for 12% of gross revenues so that is included in the Income Statement. In addition, GCN retains contractor Freeside Internet Services for basic maintenance of our Freeside servers providing AAA, e-mail,

automated billing, and customer self-service. Current bronze contract costs \$150/month. Upgrade to silver contract for \$300/month in year 3.

Utilities

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Electricity at tower site	\$0	\$180	\$180	\$180	\$180	\$180
Dial-up lines, annually	\$4,225	\$4,225	\$2,113	\$0	\$0	\$0
Total		\$4,405	\$2,293	\$180	\$180	\$180

Dial-up lines are 2009 cost. Eliminate dial-up upon project completion in Y2 Q2.

Sales/Marketing

\$40 ad in Fairweather reporter 6 times/year

Customer Care

GCN administration, including accounts receivable, user account management, first-tier technical support, provisioning, dispatch, and other contractor supervision is performed under contract by Corvid Computing. GCN assumes the current contracted 9% of gross revenues for these services will continue in effect.

Billing

Our automated billing system and administration contract (under customer care) cover most billing expenses. Included in this category is credit card processing fees and other bank charges. These have historically been 5.0% of revenue so we are projecting that to continue.

Corporate G&A

GCN provides a free basic broadband account to the City of Gustavus in exchange for certain administrative services.

Depreciation and Amortization

The City of Gustavus lists no depreciation nor amortization on its certified financial statements.

Statement of Cash Flow (attachment M)

General

This statement demonstrates the liquidity needed to complete and operate the proposed project. In practice, the large cash balances shown would not be allowed to accumulate; they would be reduced by additional capital expenditures and/or rate reductions.

Net Income

Net income from Attachment K, Income Statement.

Includes grant funding for proposed project; see notes for "Other Revenues" on Income Statement.

Other Cash Flows from Operating Activities

Year-to-year changes in accounts receivable, prepayments, and other current assets and liabilities are negligible.

Capital Expenditures

Year 1 and Year 2 capital expenditures are the proposed project, exclusive of non-cash in-kind matches. For derivation see Income Statement notes for Other Revenues.

Year 4 capital expenditure is a hypothetical voice application.

Year 5 capital expenditure is a hypothetical network upgrade to add capacity for more bandwidth.

Balance Sheet (attachment L)

Plant in Service

City of Gustavus generally shows capital expenditures as an expense and tracks few fixed assets on its books. Therefore this \$10,000 rough estimate of GCN equipment value cannot be reconciled with city books.

GCN plant consists mainly of two servers, one monitor, one core router, one integrated access server, two SHDSL modems, one Ethernet switch, a 2.4m satellite dish with iDirect modem, and 13 outdoor radios of various descriptions and ages.

The City of Gustavus does not depreciate its assets.

Other current liabilities

Amount shown is pre-payments by clients (credit balances on their accounts). A number of clients still pay in advance by check, sometimes for up to 6 months.

\$1,425 was customer credit balance 8/7/09. Amount does not vary significantly over time.

Broadband Data Revenue Forecast

Subscriber estimates from Attachment H

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Avg biz & household subs	71	79	107	137	146	152
Flat rate subscriber (library)	1	1	1	1	1	1
Non-broadband subscribers	71	49	24	26	25	19
Broadband subscribers	0	30	84	110	122	133

Non-broadband includes our current "high-speed" wireless service as well as "Lifeline" and dial-up service.

Usage surcharges estimate

Assumption: Data usage surcharges per subscriber shall remain constant.

Reasoning: Per-subscriber data use will increase over time due to changing Internet content and use habits. However, upstream bandwidth becomes cheaper the more we purchase. As our use grows we will pass on the reduced upstream cost in the form of larger data allowances for usage-based plans and lower rates for data usage surcharges, keeping the per-user average data surcharge for future broadband customers about the same as for our present high-speed (not quite broadband) wireless service.

Analysis of June, 2009 Internet revenue and usage surcharges

	Subscribers	Basic	Equipment Usage	Setup	Total	Usage charge per customer
Short-term	7	\$35			\$35	
Dial	52	\$1,300		\$39	\$1,489	\$0.76
High-Speed	24	\$768	\$70	\$615	\$1,653	\$25.64
City	1			\$19	\$19	
Flat rate	1	\$399			\$399	
Total	85	\$2,502	\$70	\$674	\$3,596	

Note: Since June, 2009 the wireless rate has risen from \$32/month to \$44. Setup and equipment fees have been eliminated.

Revenue Forecast

	Rate (Att. A)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Flat-rate revenue	\$399.00	\$399	\$399	\$399	\$399	\$399	\$399
Lifeline basic charge	\$25.00	\$1,175	\$1,225	\$594	\$656	\$619	\$475
Lifeline usage fees	\$0.76	\$36	\$37	\$18	\$20	\$19	\$14
High-Speed basic charge	\$44.00	\$1,056	\$1,309	\$3,674	\$4,851	\$5,346	\$5,863
High-Speed usage fees	\$25.64	\$615	\$763	\$2,141	\$2,827	\$3,115	\$3,416
Average monthly Internet sales		\$3,281	\$3,733	\$6,826	\$8,753	\$9,498	\$10,168

Broadband Internet Service	YEAR 0	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2
Net add-ons		4	0	0	0	0	0	0	0	0	0
Cumulative subscribers	0	4	4	4	4	4	4	4	4	4	4
Non-broadband Internet Service											
Net add-ons		-4	0	0	0	0	0	0	0	0	0
Cumulative subscribers	4	0	0	0	0	0	0	0	0	0	0

Total Subscribers	YEAR 0	YEAR 1				YEAR 2				YEAR 3	
Broadband Internet Service		Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2
Net add-ons	0	4	20	24	11	10	20	6	2	5	17
Cumulative subscribers	0	4	24	48	59	69	89	95	97	102	119
Non-broadband Internet service											
Net add-ons	0	0	0	0	0	0	0	0	0	0	0
Net add-ons	0	-14	-4	-12	-12	-9	2	-2	-3	-2	5
Cumulative subscribers	75	61	57	45	33	24	26	24	21	19	24

Take Rates

	Year 0	YEAR 1				YEAR 2				YEAR 3	
		Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2
Total Households	49	39	45	59	58	57	66	74	73	72	84
Total households served	208	208	208	208	209	209	209	210	210	210	211
% households served	24%	19%	22%	28%	28%	27%	32%	35%	35%	34%	40%

Total business s	22	22	32	30	30	32	45	41	41	45	55
Total businesses	59	59	59	59	59	59	59	59	59	59	59
% businesses ser	37%	37%	54%	51%	51%	54%	76%	69%	69%	76%	93%
Strategic Institu	4	4	4	4	4	4	4	4	4	4	4
Total strategic ir	5	5	5	5	5	5	5	5	5	5	5
% institutions se	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
Total subscriber	75	65	81	93	92	93	115	119	118	121	143
Total entities	272	272	272	272	273	273	273	274	274	274	275
% entities serve	28%	24%	30%	34%	34%	34%	42%	43%	43%	44%	52%
Entities covered				68	137	205	273				
% Entities covered				25%	50%	75%	100%				
Subscribers covered			4	23	46	70	115				
Net add-on subscribers				19	23	24	45				
Net add-on covered entities				68	68	68	68				
Net add-on subscribers/week				2	2	2	4				
Net add-on covered entities/week				7	7	7	7				

Year 0 (2009) total households extrapolated from 2004 state demographer's population estimate, not from 2000 census. Modest growth projected after ferry service

	Gustavus	Bartlett Cove	Service area
2000 census population	429	3	426 Service area is City of Gustavus excluding Bartlett Cove
2000 census households	199	2	197 Bartlett Cove households estimate based on local knowle
2004 population	448	3	445 State demographer's estimate for Gustavus total populati
2004 households	208	2	206 Extrapolated from state demographer's estimate, assumi

Year 0 business number is 2009 state business licenses registered in Gustavus. Modest growth projected after ferry service begins.

Take rates summarized (annual averages) for Attachment H

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Total Househo	49	50	68	86	92	96

Historical Income Statement

See attachment Q-47 for historical financial statements.

This note shows how the expenses from the historical GCN FY08-09 P&L statement were mapped to the Income Statement.

FY08 (year ending 6/30/08)	Pro-Forma expense category							Total
	Backhaul	Network M/M	Utilities	Customer	Billing	G&A	Other	
City category								
Bank charges	\$1,357				\$1,357			\$1,357
Capital Expense	\$1,973	Shown on Attachment M, statement of cash flows, not on income statement.						\$0
Contractual services	\$830		\$830					\$830
Postage & Shipping	\$12						\$12	\$12
Professional services	\$0							\$0
Telephone, Internet, Broadband								\$0
Gustavus Community Network	\$29,496	\$18,000	\$2,101	\$2,539			\$6,856	\$29,496
Telephone	\$1,866			\$1,866				\$1,866
Other	\$1,499		\$1,499					\$1,499
Travel	\$152						\$152	\$152
Total	\$37,183	\$18,000	\$4,430	\$4,405	\$0	\$1,357	\$163	\$35,211
FY09 (year ending 6/30/09)	Backhaul	Network M/M	Utilities	Customer	Billing	G&A	Other	Total
City category								
Bank charges	\$1,630				\$1,630			\$1,630
Capital Expense	\$0							\$0
Contractual services	\$4,345			\$1,904			\$2,441	\$4,345
Postage & Shipping	\$12						\$12	\$12
Professional services	\$680		\$680					\$680
Telephone, Internet, Broadband								\$0
Gustavus Community Network	\$26,262	\$18,000	\$3,703	\$2,590			\$1,969	\$26,262
Telephone	\$1,815			\$1,815				\$1,815
Other								\$0
Travel								\$0
Total	\$34,744	\$18,000	\$4,383	\$4,405	\$1,904	\$1,630	\$12	\$34,744

Gustavus Is Remote

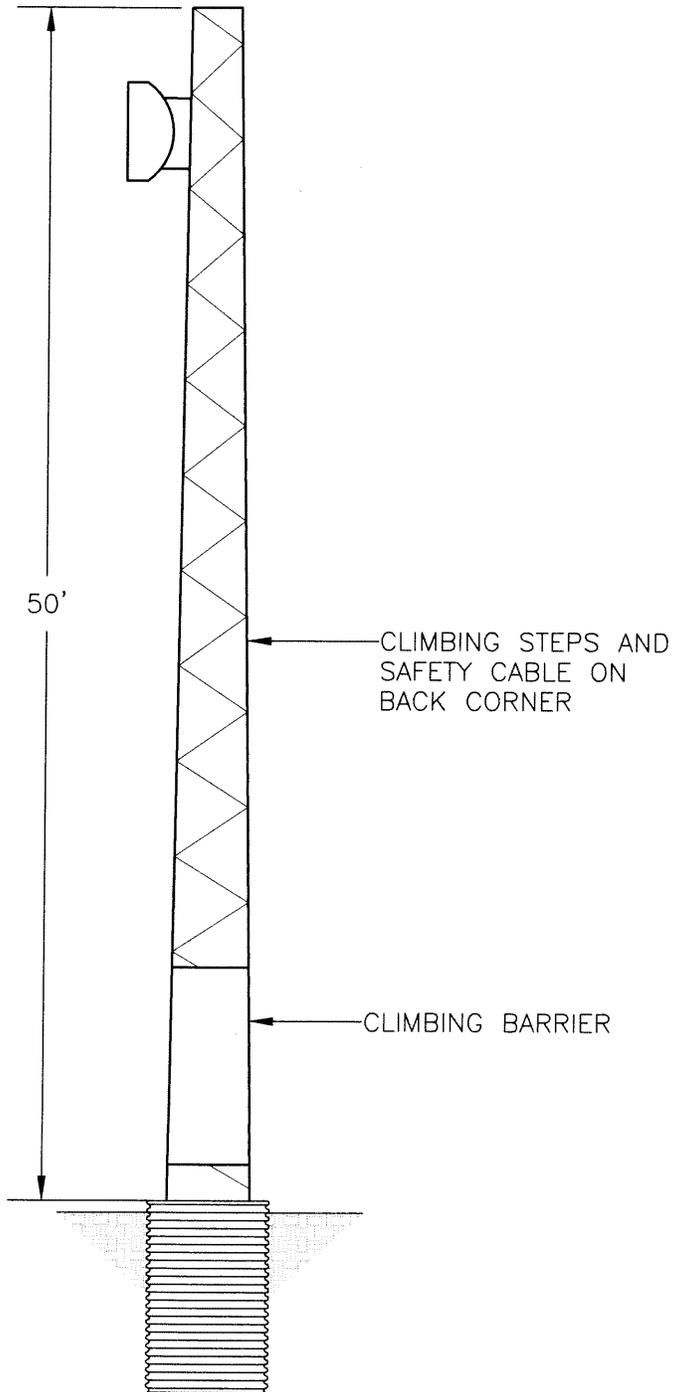
Because there is no road to Gustavus, we claim it is a “remote” community even though it is fewer than 50 straight-line miles from non-rural Juneau.

On a good day Juneau is only 25 minutes away via air taxi service, which doesn’t sound remote at all. But consider that the round-trip seat fare is \$190 per person, including 70 pounds of luggage. Shopping for a month or more of groceries will likely add another \$100 in excess baggage to the bill. Earning \$20/hour, it will typically take 12 or more hours of labor to pay for one person’s flight and freight, so travel to Juneau can be said to take 13 hours **on a good day**. By comparison, a person living 150 road miles from a non-rural center can load up his or her SUV and make the drive in six hours round trip and pay for the fuel with fewer than 5 hours labor ($300 \text{ miles} / 10 \text{ mpg} = 30 \text{ gal} \times \$3/\text{gal} = \$90 \div \$20/\text{hr} = 4.5 \text{ hr}$) so the trip can be said to take just 11 hours. Families and friends can carpool, sharing the fuel cost. By contrast, everyone in a Gustavus family must pay their own seat fare and luggage; a typical family can hardly make a trip to Juneau for less than \$1,000.

At night or **on a bad day** (which lasts at most six hours in December anyway) there is no flying to Juneau, no matter how much you are able to pay. Everyone in Gustavus can relate tales of waiting up to four days for weather to clear so they can get to Juneau or, once there, get back. One author of this application, when he was an Emergency Medical Technician, twice spent the night with patients with broken bones, waiting for daylight so they could fly to the hospital in Juneau. Even though the weather was flyable both of the following days, Gustavus seemed pretty “remote” those nights. In a more serious medical emergency a low-latency broadband network supporting telemedicine could make a profound difference here.

On the **worst days** friends and neighbors tragically died trying to get from Gustavus to Juneau or back. Let’s not dwell on that.

We are not complaining; many of us choose to live in Gustavus for its very remoteness and all the consequential qualities of life and would not have it any other way. But we do assert that by any *practical* measure (versus an arbitrary straight-line distance) Gustavus is as remote as most communities that are 150 miles or more by road from a non-rural area.



① ELEVATION-TOWER



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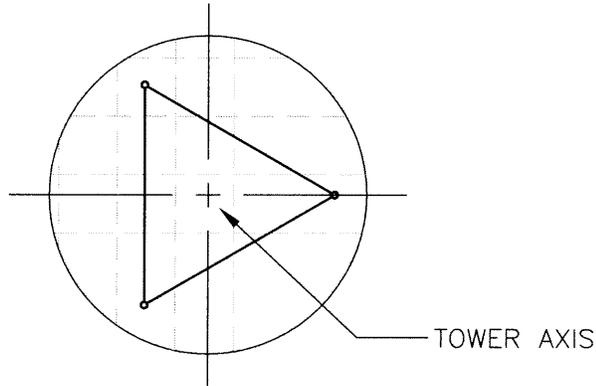
526 MAIN STREET
Juneau, Alaska 99801
(907) 586-9788
Fax (907) 586-5774

GCN TOWER
GUSTAVUS, ALASKA

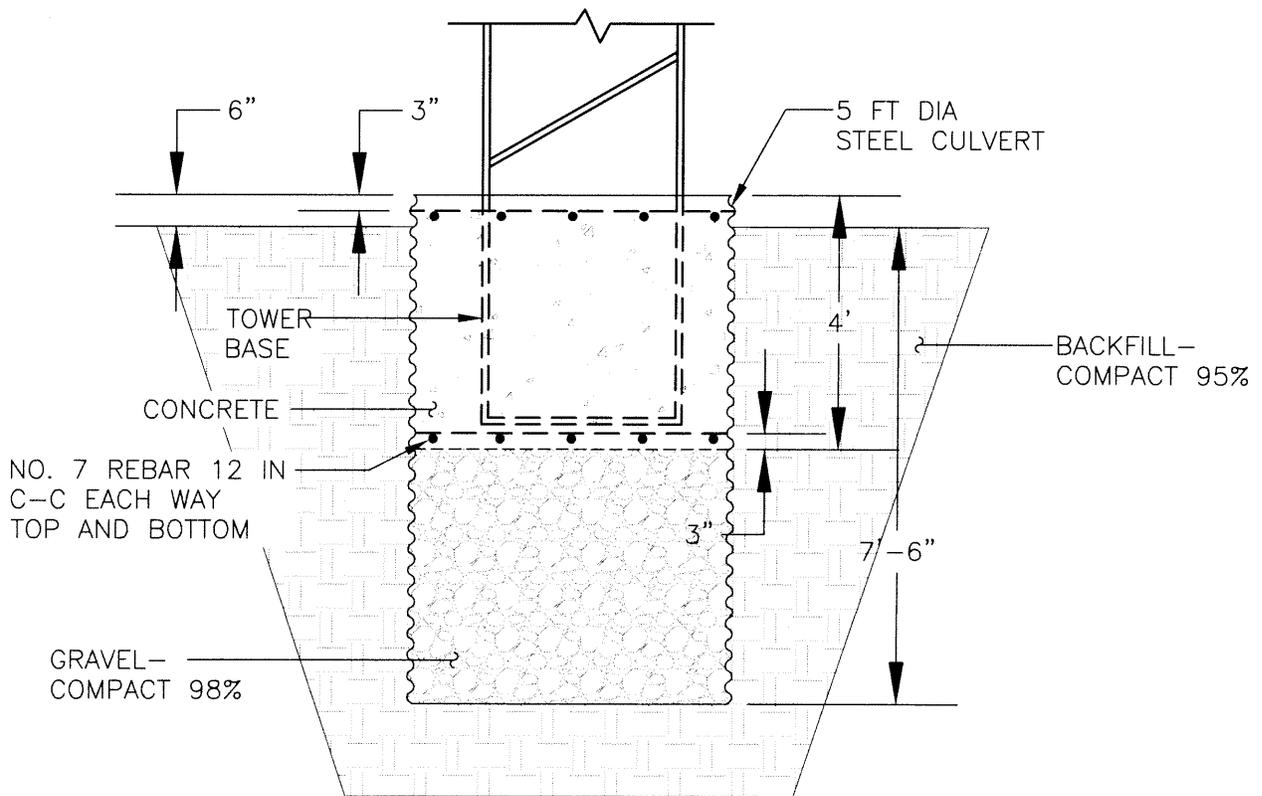


DATE: **AUGUST 2009**
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CHECKED: **BCH**
PROJ NO: **275-17**
SCALE: **NONE**

SHEET NO: **E1**

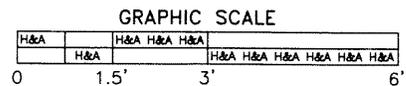


② PLAN VIEW



① ELEVATION

DETAIL - FOUNDATION



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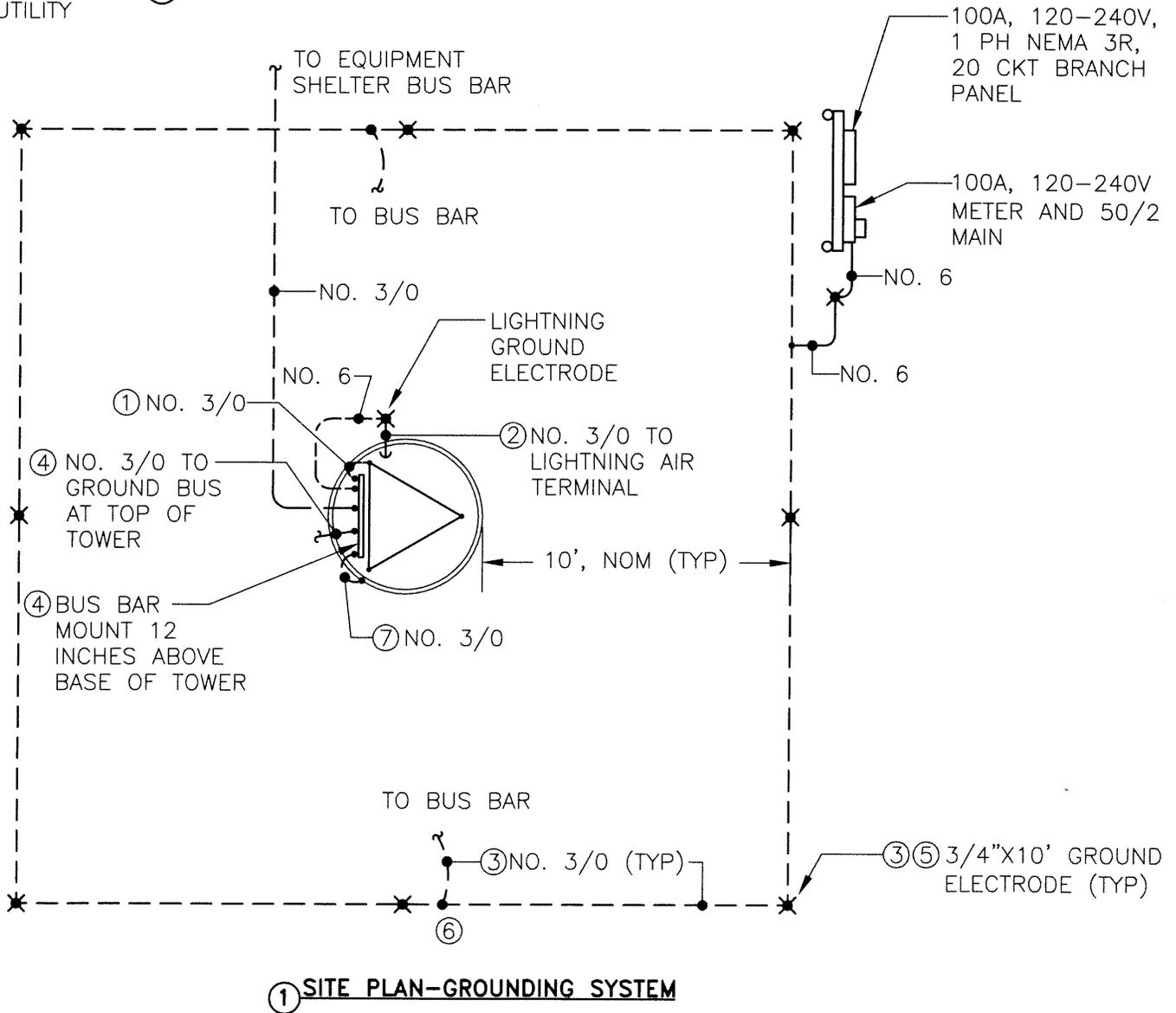
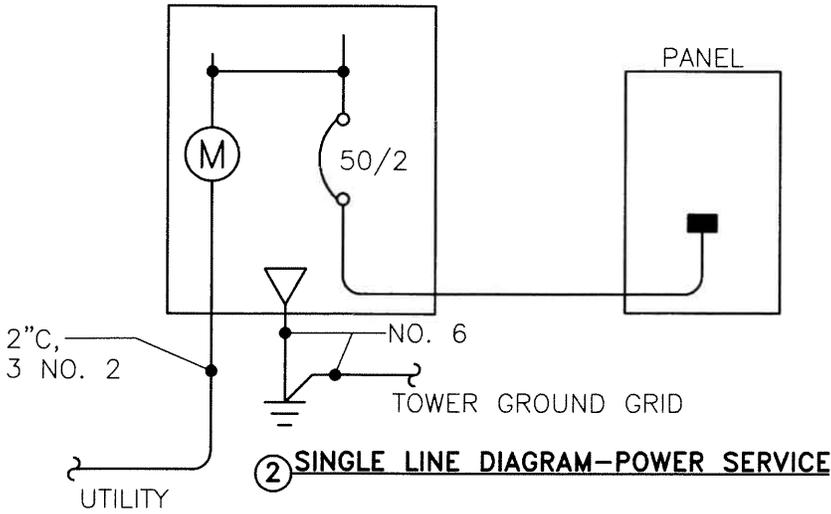
526 MAIN STREET
Juneau, Alaska 99801
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Fax (907) 586-5774

GCN TOWER
GUSTAVUS, ALASKA



DATE: AUGUST 2009
DRAWN: KPS
CHECKED: BCH
PROJ NO: 275-17
SCALE: GRAPHICAL

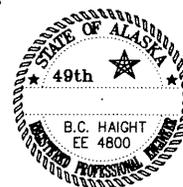
SHEET NO: E2



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GCN TOWER
GUSTAVUS, ALASKA



DATE: **AUGUST 2009**
DRAWN: **KPS**
CHECKED: **BCH**
PROJ NO: **275-17**
SCALE: **NONE**

SHEET NO: **E3**

NOTES

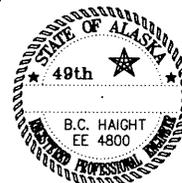
- ① BOND TOWER TO GROUND BUS. UTILIZE EXOTHERMIC WELDS OR HIGH COMPRESSION FITTINGS.
- ② BARE CONDUCTOR ON STANDOFFS PLACED 3-4FT APART. CONDUCTOR AS STRAIGHT AS POSSIBLE FROM LIGHTNING AIR TERMINAL TO ELECTRODE. NECESSARY BENDS WITH 24IN. RADIUS, MINIMUM. BOND CONDUCTOR TO ENDS OF AIR TERMINAL AND ELECTRODE. UTILIZE EXOTHERMIC WELDS OR HIGH COMPRESSION FITTINGS.
- ③ BURY ELECTRODES WITH TOPS 3-9 INCHES BELOW GRADE. BURY GRID CONDUCTOR 12 INCHES BELOW GRADE.
- ④ BUS BAR: MOUNT ONE AT LOWER PART OF TOWER AND ONE AT THE TOP OF THE TOWER. TERMINATE CONDUCTORS TO BUS BAR WITH HIGH COMPRESSION LUGS AND BOLTS.
- ⑤ BOND GRID CONDUCTORS TO ELECTRODES WITH EXOTHERMIC WELDS OR HIGH COMPRESSION FITTING APPROPRIATELY RATED FOR THIS APPLICATION.
- ⑥ TAP CONDUCTORS TO MAIN CONDUCTOR WITH EXOTHERMIC WELDS OR HIGH COMPRESSION FITTINGS.
- ⑦ TAP AND CONNECT FOUNDATION CULVERT TO GROUNDING SYSTEM.



CONSULTING
ELECTRICAL
ENGINEERS

526 MAIN STREET
Juneau, Alaska 99801
(907) 586-9788
Fax (907) 586-5774

GCN TOWER
GUSTAVUS, ALASKA



DATE: AUGUST 2009
DRAWN: KPS
CHECKED: BCH
PROJ NO: 275-17
SCALE: NONE

SHEET NO: E4



P.O. Box 389
Gustavus, AK 99826
907-723-9219
907-209-0514
907-697-2740 (fax)

August 5, 2009

To Whom It May Concern:

This is a letter to confirm Glacier Bay Construction's capability and readiness to perform any necessary site preparation and erect a communications tower for the Gustavus Community Broadband Project. This tower project would be put out to bid by the City of Gustavus. Glacier Bay Construction, Inc. is a HUB Zone approved Alaska General Contractor that is licensed, bonded, and insured, and would be interested in submitting a bid. We have worked for the City of Gustavus before, including the annual Road Maintenance Contract from 2005 to the present, the Snow Plowing Contract for winter 2007-2008, and gravel pit clearing in 2007. We have the equipment on hand and personnel available for this tower erection project and have worked on both commercial and residential projects in Gustavus for years.

Sincerely,

Davita J. Marchbanks
President

Salmon River Electric

PO Box 119
Gustavus, Alaska 99826

Alaska UCW Administrator #1067. Contractor License #21851

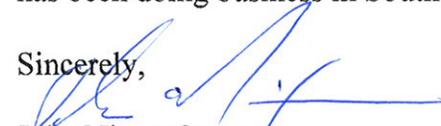
Cell: 907-209-2606 Office: 697-2808 Fax: 697-2808

8/9/09

To Whom It May Concern:

This letter is to confirm Salmon River Electric's capability and readiness to complete the wiring of the communications tower (once erected) and equipment hut for the Gustavus Community Broadband Project. This wiring project would be put out to bid by the City of Gustavus. Salmon River Electric is a licensed, bonded, insured electrical contractor that has been doing business in Southeast Alaska for approximately 20 years.

Sincerely,



John Nixon Owner,
Salmon River Electric



August 6, 2009

To Whom It May Concern:

This is a letter to confirm Corvid Computing's capability and readiness to perform the installation and networking of the communication devices for the Gustavus Community Broadband Project. This project would be put out to bid by the City of Gustavus, and we are interested in applying. We can complete the installation of the equipment on the communications tower once it is erected. We can install the radios on the customer premises and perform the necessary configuration and testing to get the broadband system up and running. We can also offer our services for project management, as necessary.

We have been in business since 2007 and have been closely involved with the planning for a community-wide broadband system. We have been contracted by the City of Gustavus for almost a year as the administrators of the City of Gustavus's internet service provider, Gustavus Community Network. We maintain the current limited wireless high-speed network.

Sincerely,

A handwritten signature in cursive script that reads "Phoebe Vanselow".

Phoebe Vanselow
Co-owner