OSHEAN, Inc.
American Recovery and Reinvestment Act
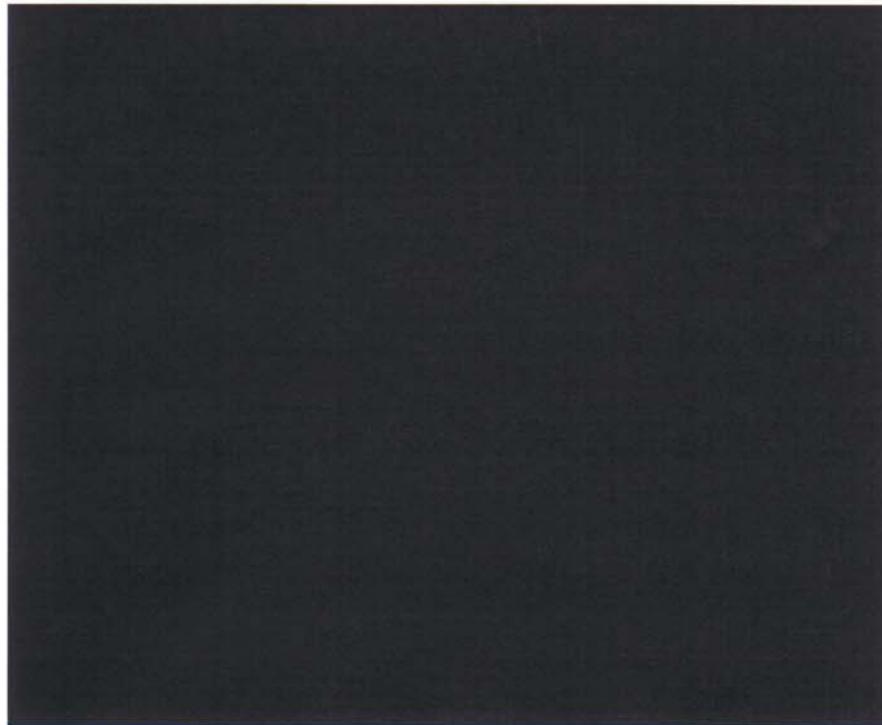**Broadband Technology Opportunities Program**

C. Executive Summary

8. Infrastructure Projects Executive Summary

A) OPPORTUNITY TO ADDRESS
OSHEAN (pronounced as 'ocean') has a mission that is clearly aligned with BTOP's objective to provide broadband education, training, access, and equipment to anchor institutions that benefit the public good. Our program, Beacon 2.0, will directly benefit the majority of Rhode Island's most critically needed anchor institutions; as well as the hundreds of thousands of Rhode Islanders that are served by them. In other words, all of Rhode Island will benefit if we are awarded a BTOP grant for our Beacon 2.0 Middle Mile Program.

As OSHEAN is a non-profit organization, Beacon 2.0 will provide direct broadband service at ███ institutions, including six universities, eight hospitals, two community colleges, two community health center locations, and four government agencies. All of these organizations have signed letters of intent to provide their own funding to connect to the Beacon 2.0 network that will pass by them. They include:

Beacon 2.0 will also provide affordable access to hundreds of other anchor institutions in the state as well as make it more economically feasible for Internet Service Providers to provide last-mile connections to several underserved service areas in the state. For example, please

see our attached letter from the Foster Town Planner (Supplementary Information 2 Upload) illustrating the town's continued frustration over their lack of access.

As a testament to the viability of Beacon 2.0, we have secured over $8 million dollars in cash matches from our corporate partners and members who will lay the fiber, provide network equipment for the project, and pay for lateral connections.

B) GENERAL DESCRIPTION OF THE PROPOSED FUNDED SERVICE AREAS

Beacon 2.0 will consist of a network that meshes together 8 rings in total throughout Rhode Island and parts of southern Massachusetts. The Beacon 2.0 path will go through parts of all Rhode Island's five counties (Washington, Providence, Newport, Bristol, and Kent), including its rural and partially underserved western portions. Additionally, the network will reach into Massachusetts, via OSHEAN's cooperative agreement with the Open Cape Network. Beacon 2.0 will also make possible a connection to the Connecticut Education Network (CEN) in Stonington and Putnam, CT.
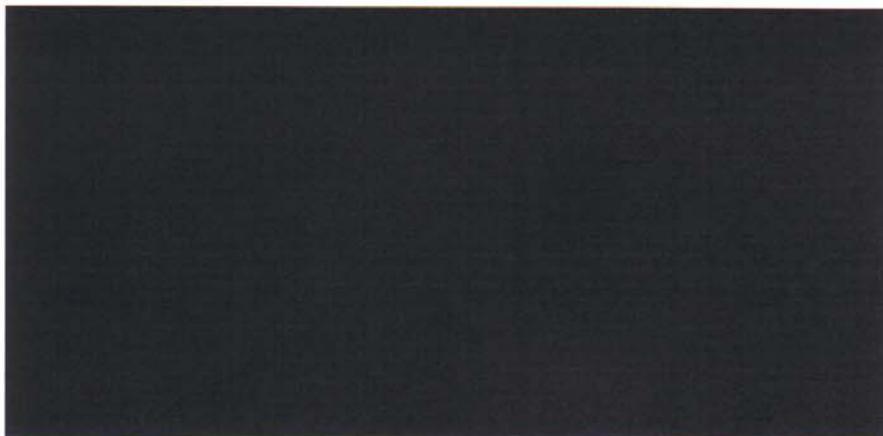
The new physical infrastructure will support interconnection points spread statewide for anchor institutions such as educational institutions, hospitals, and others. The interconnection in West Greenwich, Foster, Chepachet and Slatersville will provide access for last mile providers in these underserved areas. The Alton Jones Campus of the University of Rhode Island is also located in an underserved area.

C) NUMBER OF HOUSEHOLDS AND BUSINESSES PASSED

The Beacon 2.0 Network will pass over 349,000 households and approximately 8,100 businesses.

D) NUMBER OF COMMUNITY ANCHOR INSTITUTIONS

The Beacon 2.0 Network will pass 499 anchor institutions. This includes the institutions identified above that have committed to connecting to Beacon 2.0 plus many others that will now find it more affordable, by a factor of ▮▮▮. In addition to the many firehouses, police stations, paramedics, nursing homes, over 70 K-12 schools, and other critical state anchor institutions, Beacon 2.0 will pass by the following noteworthy institutions:

E) PROPOSED SERVICES

Beacon 2.0 will offer broadband access at the 100Mbps, 1 GigE, and 10 GigE capacities. Our application includes data regarding OSHEAN's proposed Beacon 2.0 pricing and the pricing of other providers in the relevant range. We have determined that Beacon 2.0 will save subscribers between ██████████ at the 100M and 1 GigE levels. Moreover, anchor institutions that require very high capacity will benefit by our 10 GigE capacity offering, a service that is not even available to these institutions now but would surely be priced by vendors at ███████████ OSHEAN's rate if it were available, based on industry trends.

OSHEAN currently provides, and will continue to provide full network management services, 24x7x365 to our subscribers. This includes routine maintenance, network security, backup, troubleshooting, disaster recovery and business continuation services, and modifications, all with industry standard service levels appropriate to the mission critical nature of our subscribers' enterprise systems.

F) APPROACH TO ADDRESSING NON-DISCRIMINATION AND INTERCONNECTION OBLIGATIONS

OSHEAN understands that, as a precondition of award, the proposed project must be consistent with the FCC's non-discrimination and network interconnection obligations, specifically FCC's Broadband Policy Statement 05-151.

To ensure that the OSHEAN network is widely deployed, open, affordable, and accessible to all the people served by OSHEAN members, OSHEAN adopts the following principles. To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, all Beacon 2.0 institutional subscribers will be entitled:

• to access the lawful Internet content of their choice.
• to run applications and use services of their choice, subject to the needs of law enforcement.
• to connect their choice of legal devices that do not harm the network.
• to competition among network providers, application and service providers, and content providers.

G) TYPE OF BROADBAND SYSTEM

The Beacon 2.0 Network will consist of a new physical fiber infrastructure connection to fiber, currently leased by OSHEAN, and fibers on our private business partner's network. The new physical infrastructure fiber cable plant will consist of Single Mode Fiber which will meet or exceed the ITU-T G.652 Standard. The new infrastructure will be comprised of a build that is 90% aerial and 10% underground. The existing portion of the network consists of both ITU-T G.652 and G.655 Fiber.

H) QUALIFICATIONS OF THE APPLICANT

OSHEAN has a track record of success in implementing similar projects as a non-profit broadband service provider, having operated a fiber-based layer 3 ISP network for the last 10 years. Over that time the network has grown to a multi gigabit capacity network. Several years ago OSHEAN started leasing dark fiber from providers to take advantage of favorable pricing from upstream ISPs in Boston. Since then OSHEAN has been steadily connecting our 28 members, and numerous buildings to the network core. We are also responsible for the

maintenance of the Level 3 Rhode Island State Fiber build. The Core network team was also responsible for the network design and maintenance of the NEREN Optical network connecting New England's most prestigious educational institutions.

OSHEAN has contracted a professional project manager (small disadvantaged business) who will oversee the project from beginning to end, and that has already built the project schedule. OSHEAN has impressive vendor partners that lay fiber nationwide and provide turnkey implementation leadership and support. In summary, OSHEAN is particularly well qualified to implement and operate a broadband infrastructure and then to be a sustainable broadband services provider.

I) OVERALL INFRASTRUCTURE COST
Beacon 2.0 will cost $31,448,764. We will receive generous matching funds from our strategic partners and key anchor institutions in the State. Total contributions are $7,948,764.00, representing over 25% of the grant request. We have provided signed letters of intent in the application.

J) OVERALL EXPECTED SUBSCRIBER PROJECTIONS
In addition to the nearly 40 committed new institutional subscribers, that collectively benefit most of the people in Rhode Island, Beacon 2.0 will reach out to hundreds of other institutions, many of which are vulnerable. By offering ██████████ discounts, and a 10GE capacity that currently is not available, we expect to add new subscribers. While we will not be providing last-mile residential service, Beacon 2.0 will go through underserved communities that will now be much closer to having access.

K) NUMBER OF JOBS ESTIMATED TO BE CREATED OR SAVED
Beacon 2.0 will create jobs and will also preserve jobs that are in jeopardy due to the economic recession. Estimates of positions and quantities include:

- Beacon 2.0 Project Team – 03
- Field Operations Manager – 01
- Civil/Survey Engineers – 04
- Site Preparation Team – 04
- Network Mgt staff – 05
- Communications Installers – 50
- Architects/Drafters – 03

As these figures show, we expect to directly create and/or save a total of 70 jobs.