IOWA HEALTH
SYSTEM

Environmental Assessment (EA)
For
Iowa Health System

Broadband Technology Opportunities Program (BTOP)
&
National Telecommunications &
Information Administration
(NTIA)

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Prepared for:

Frank Monteferrante, PhD
Environmental Compliance Specialist
National Telecommunication and Information Administration
Broadband Technology Opportunities Program
1401 Constitution Avenue NW
Washington, DC 20230

Prepared by:

CHR Solutions, Inc.
1515 N. Sanborn Blvd.
Mitchell, SD 57301

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2.1 Executive Summary

Iowa Health Systems (IHS) has been awarded grant funding from the National Telecommunications and Information Administration (NTIA) through the Broadband Technology Opportunities Program to place new and utilize existing middle mile telecommunication facilities to connect or pass community anchor institutions such as, public safety entities, and critical community organizations. Iowa Health System (IHS) designed a Broadband Infrastructure Middle Mile Project to extend high capacity network access to underserved healthcare providers and create a middle mile foundation for (i) extension of healthcare services directly to patients; and (ii) middle mile, open access, carrier neutral infrastructure available for other broadband-based services throughout the region. A fiber based path was designed from IHS's core network to the Last Mile Provider. This network also offers connection to the existing Iowa Communications Network (ICN) state network access points creating interexchange points for IHS. The number and kind of community anchor institutions, public safety entities, and critical community organizations passed and/or involved with project are:

Healthcare 1,534Community Colleges 15Public Safety Entities 105Other Government 26

This is a Middle Mile application, and IHS does not anticipate offering Last Mile Internet services directly to the general public in this Application, although an indirect Internet connection will be available to end users connected to the Middle Mile network. Based on the RUS/NTIA online mapping tool, the number of households and businesses in the service area are:

i. Households: 102,000
ii. Businesses: 8,000

IHS's plan leverages existing infrastructure already in place that is dedicated to the healthcare community. Combining IHS's existing (private) investment in fiber optic network with BTOP (public) funds will provide cost effective, high bandwidth connectivity in the proposed service areas. The proposed network starts at 30 Gbps of capacity and will grow, by incremental investment, to 480 Gbps, thus providing a stable and long-term Middle Mile platform based on future-proof fiber optic technology. Fiber optic cables have essentially unlimited capacity, controlled by the electronics used to activate the network. By carefully choosing the appropriate technology, in this case, Dense Wavelength Division Multiplexing (DWDM), the network capacity can efficiently scale using incremental investments in electronics.

IHS will construct telecommunications huts in the immediate vicinity of the sites indicated in this document. Site location has been selected based on optical budget for the DWDM backbone coupled with available splicing points in the existing fiber sheath. Final approval of sites selected by appropriate zoning and regulatory organizations will be required before final site selections can be determined.

The site development will include the acquisition of land for the installation of a newly erected 10' X 16' concrete telecommunications hut, supporting foundations for each structure, up to a 60ft X 60ft graded area with gravel substrate, and installation of a generator, propane tank, fencing. These huts will be connected to an existing fiber route via a newly constructed fiber optic cable lateral from existing splice locations by utilizing either aerial or underground construction. When constructing via aerial, cable placement attachments will be made to existing poles.

When underground construction occurs, boring, plowing or trenching in conduit with at least a 72 count fiber optic cable will be installed. At all sites, except Cedar Rapids and Iowa City, a single fiber lateral will be required to connect to the existing backbone. In Cedar Rapids, three fiber laterals will be required, two of the laterals will have 72 count fiber optic cable and the third lateral will have up to a 144 count fiber optic cable installed. In Iowa City two laterals will be engineered, the second lateral may potentially be built if it can be constructed cost effectively.

IHS has contacted interested environmental and governmental agencies, as well as consulted with NTIA's NEPA coordinator and staff archaeologist on overall project guidance. Each agency was provided with a description and maps of the proposed project showing the area that could be affected by the proposed placement of the huts and routing of new and/or replacement fiber optic cable in the state or district. Each agency was given the opportunity to comment on the proposed project and its potential effect on the environment. These agencies are as follows:

- Historical Preservation Office – Federal Governing Body (NTIA), Tribal, and State (Iowa)
- Tribe Consultation Letters
- US Fish and Wildlife Service
- Iowa Department of Environmental and Natural Resources
- Army Corps of Engineers