



UC2B Policy Board Agenda

Special Joint Meeting with the UC2B Technical Committee

September 28, 2011 – 12:00 noon

Council Chambers, 102 N. Neil Street, Champaign, Illinois

- I. Call to Order
- II. Roll Call (By Roster) – Determine Quorum
- III. Approve Agenda
- IV. Approval of Minutes from Policy Board Meeting on September 7, 2011 (For Policy Board vote only)
- V. Approval of Minutes from Technical Committee Meeting on September 6, 2011 (For Technical Committee Vote only)
- VI. ACTION*/DISCUSSION ITEMS (note in this section we will go to audience for comment prior to discussion by Board of each item, comments are limited to 5 minutes in length per person)
 - a) Marketing Committee Update – Brandon Bowersox/John Kersh
 - b) NTIA/Grant Update – Mike Smeltzer
 - c) General Description of Work for Phase 2 Fiber-to-the-Premise Construction -Mike Smeltzer
- VIII. Tasks to complete for next meeting
- IX. Items for next meeting's agenda
- X. Public Participation
- XI. Adjournment
- XII. **Next Meeting:**
October 19, 2011- 12:00 p.m. to 1:30 p.m.
Council Chambers, 102 N. Neil Street, Champaign, Illinois
- XIII. Items for future Action/Discussion:
 - a) Grant Required Approvals – Mike Smeltzer
 - b) Technical Committee Report and Request for approvals of items forwarded from Technical Committee and its sub-committees – Tracy Smith
 - c) FTTP RFP Decisions – should construction and management be included together as one RFP or not – Tracy Smith
 - d) Discussion of pursuing a change order for ring design in order to include a production class facility – Rough Cost Estimates – Mike Smeltzer
 - e) Consulting Bid results – Teri Legner



UC2B Policy Board Minutes

Policy Board Meeting
September 7, 2011

Location:
City of Champaign Council Chambers
102 N. Neil Street
Champaign, IL 61820

Board Members Present: Abdul Alkalimat, Rev. Zernial Bogan, Brandon Bowersox, Mike DeLorenzo, Deborah Frank Feinen, Pete Resnick, Fred Halenar as proxy for Richard Schnuer, Tracy Smith.

Board Members absent: Minor Jackson

- I. The meeting was called to order at 12:04 p.m. by Chair Feinen.
- II. Roll Call
- III. Bowersox moved and Halenar seconded to approve the Agenda as written. The Board approved by voice vote.
- IV. Bogan moved and Smith seconded to approve the Minutes of the August 17, 2011 meeting as written. The Board approved by voice vote.
- V. Action Items:

Marketing Committee Update: Bowersox updated the Board on events the committee has been planning and hosting lately. The official groundbreaking ceremony was on September 6, 2011 and was well attended by the public and media. Upcoming events include: UC2B Public Showcase on September 15 at the Siebold Center on Mathews and Goodwin and September 17 at DCL on Springfield between Mathews and Wright. Reverend Bogan expressed concern about the groundbreaking event. He received several calls, some with negative comments, specifically regarding the fact there was no representative of the Champaign County Black Chamber of Commerce invited to speak at the event, as well as no one at the podium representing the citizens of the underserved areas. Bogan stated that he is concerned that the residents are not being made to feel as if they are a priority in this plan.

Outreach Management Plan and Canvassing Strategy Update: Dr. Gant presented a brief update regarding this item. Dr. Gant's team is currently working on developing their

work plan with regards to training and the survey. They have ordered the iPad's that will be used in the door to door canvassing, as well as specially tipped gloves for use during colder weather. Dr. Gant stressed that his group is in the stages of finalizing the hiring process with University of Illinois Human Resources for both the Canvassing Coordinator position and the Ambassador positions. Alkalimat questioned if the hiring will be complete by October. Dr. Gant stated that as soon as University of Illinois Human Resources gives him the date to start hiring, he thinks the process will take approximately three weeks. Dr. Gant further explained that all candidates considered for any job through the University have to be cleared by a background check, and that takes some time. Rev. Bogan asked about the Project Manager position and would that person be hired earlier than the Ambassadors. Dr. Gant stated that ideally you would want some lead time, unfortunately, due to some budgetary changes, that position will need to be hired in parallel with the Ambassadors. His team is currently documenting everything they are doing; both to create greater transparency in the project and also to keep all records in a central location so the new person can get up to speed very quickly and that everyone is current and has the ability to be informed. Dr. Gant said that it is very important for everyone on his team to be informed and able to handle all issues as this project unfolds. Everyone on Dr. Gant's team will be comprehensively trained and able to canvass effectively. Dr. Gant also noted that his team will be present at the upcoming Tech Showcase events to provide information about the canvassing and to assist potential Ambassador applicants with the application process.

Audience Comments: Ray Mitchell from Volo Broadband is working on a form for the Tech event. If committee has additional information, please let him know.

NTIA Report – Attached. There were no audience comments. Bogan moved to accept the report as written. Fred Halenar seconded. Committee approved by voice vote. The report was acknowledged and placed on file.

Discussion of Assumptions/Questions for Scope of Services for Business Planning and Consulting Services:

Committee discussed specific items that it felt needed to be addressed:

A-13: Pete Resnick recommended that this be re-written to be more general. As written he thinks this limits the consultant's ability to provide review and recommendations more broadly. Generalizing this item more may result in an opportunity for UC2B to consider alternatives that might not otherwise be identified. He noted that there may other entities that might want IRU's in the future so we shouldn't necessarily try to identify all of those here, but rather acknowledge that there may be additional customers. Smeltzer noted that the current letters of intent have identified dollar amounts and strand counts. The consultants will have access to these as part of the grant documents so will know what they look like currently. There probably isn't a need to go into more of that detail in this document as well.

A-15: Rev. Bogan questioned the redundant connection and asked what would prevent other service providers from using UC2B cable (ex. Comcast, AT&T). After some discussion, Resnick explained that the redundant connection in this Assumption means that there are two different “pipes” connecting a customer, not two different services – this allows for ease of taking down the system for repairs, etc. without affecting customers’ connectivity.

Peter Folk asked about business models with respect to pricing, etc. Bowersox responded that we are not listing dollar amounts or speeds in this Assumption; that is addressed in OSFQ3.

A-18 Alkalimat expressed concern about this item as written. This grant was received in order to narrow the digital divide and so connecting and serving people with lower incomes is exactly what UC2B is to do. Low incomes are commonly one reason people are disconnected. This was acknowledged and clarified that the business consultant needs to help UC2B figure out what the acceptable risk of non-payment will be, especially during the start up phase of operations. Ultimately, if UC2B connects 2700 customers that do not pay their bill, UC2B will be unable to continue. Feinen expressed interest in considering a different rate for business that might be a lower risk and better able to pay to provide some level of subsidy to offset the residential risk. Alkalimat stated that there is 50% unemployment in the young African American community. There is 20% unemployment in adult population and 9% nationally. He suggested that UC2B might need to operate on some level of public subsidy to be able to deliver on the goal of narrowing the digital divide. Feinen stated that UC2B needs to be a self-sustaining model and needs to generate income. The City Councils have already discussed this. Resnick suggested that there be higher charges for more bandwidth, and the upper tiers with the higher prices could also provide some cushion here. Peter Folk suggested UC2B look at another business model that is not fee-for-service based. Feinen commented that perhaps UC2B could have service agreements with building owners/landlords with better ability to pay who could then offer the service in the utility package for their tenants. It was stated that buildings with fiber optic service have a higher property value noting that it there should be high demand for the service especially from commercial/multi-family property owners. Perhaps UC2B could offer a bulk rate to landlords. Alkalimat expressed concern that upgrades/connections may cause landlords to want to attract more of a student population that is willing and able to pay more for rent, etc. Feinen asked how transient the housing stock is in the eligible areas. Peter Folk agreed that gentrification will most certainly happen.

A17 The Policy Board questioned why this Assumption is in here. It was included to make it clear to the consultant that this is work that does not have to be undertaken and so that no time would be spent on it and no costs would be incurred.

OSFQ4 Bogan stated that he didn’t think UC2B was able to charge an initial deposit for grant funded services or equipment. Smeltzer stated that he had a discussion with the NTIA and they did not say deposits were prohibited. Smith concurred that NTIA actually

encouraged UC2B to have an appropriate deposit. Smeltzer will follow up with NTIA to clarify.

Bowersox asked if UC2B needs a demark policy to clarify the public/private ownership and responsibility for maintenance long term. Peter Folk stated that usually any wiring inside premises is the responsibility of the building owner. Mike Vrem also stated that is typically the case. Bowersox also asked what the open access policies should be for private ISP's to connect to the UC2B network particularly in areas outside the yellow zones. UC2B must maintain the integrity of the network so any such a policies will have a direct effect on this open access network. The grant terms may also provide some clarification on this. This will impact how private ISP's want to connect to the UC2B network. Ray Mitchell stated that waiting until 2013 to make a decision on an open access policy related to ownership and ISP connections, when UC2B is considering how to expand, is a bad idea. Those policies should be considered and decided upon sooner rather than later.

Alkalimat asked how long it might be for the consultant to complete this work. It was noted that a couple of the consultants we are considering are very familiar with UC2B but also noted that all four of those under consideration have the expertise and capability to complete this scope of work. Smeltzer thought that this is probably a six-eight week project.

Tasks for next meeting: Feinen asked Legner to fix the text box on the bottom of the agenda for next meeting to reflect that the City of Champaign is the administrative agent, rather than the University.

Meeting adjourned at 1:22 p.m.

Next Meeting: September 21, 2011 at 12:00 noon – City of Champaign Council Chambers, 102 N. Neil Street, Champaign, IL

UC2B

MINUTES

9-6-2011

3:30 P.M.

CHAMPAIGN COUNCIL CHAMBERS

MEETING CALLED BY	Tracy Smith, Chair
TYPE OF MEETING	UC2B Technical Committee
GENERAL ITEMS	<ul style="list-style-type: none"> • Tracy Smith, Chair called the meeting to order. • Quorum was verified – Verbal Roll call was taken (see Roll Call sheet). • Approval of Agenda. Tony Vandeventer made motion. Fred Halenar 2nd. Approved. • Approval of 7/19 Minutes. Connie Dillard Myers made motion. Fred Halenar 2nd. Approved.

#5. & 6A.

POLICY COMMITTEE REPORT UPDATES - DELIVERABLES

TERI LEGNER

DISCUSSION	<ul style="list-style-type: none"> ○ Teri Legner mentioned an item on the Policy Committee Agenda for tomorrow, a list of assumptions & questions to be discussed related to the business consultant that will be hired in the near future. It will help us define our scope of services for a business planning consultant to help us through this process. The intent of hiring a consultant is to help us understand what our options are for forming an entity and delivering service both in the short term and long term.
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#6B.

CONSTRUCTION UPDATE

TRACY SMITH/TERI LEGNER

DISCUSSION	<ul style="list-style-type: none"> ○ Tracy Smith, Chair announced today was the Groundbreaking Ceremony. ○ Teri Legner announced that Urbana has their sub-award agreement, it was hand delivered today at the groundbreaking. They can now execute contracts & start construction. The City of Champaign should be receiving its sub-award today.
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#6C.

SUBCOMMITTEE REPORTS & ACTIONS

DISCUSSION	<p>OSS/BSS RFP (Fred, Chair) – Approval of 7/7 Minutes</p> <ul style="list-style-type: none"> • Fred Halenar made motion. Ross 2nd. Minutes approved. <p>Marketing & Outreach (John Kersh, Chair)</p> <ul style="list-style-type: none"> • The Public Showcase Events will be held on Sept. 15th & Sept. 17th (email notifications have been sent out with more details). Final preparations are being made. • This past Friday there were several Technical & Policy Committee members and a few staff at the first Friday's event hosted by the Champaign County Black Chamber of Commerce. It was an unplanned event but the upcoming events were discussed as well as the groundbreaking, and it was well received. Senator Mike Frerichs was there and Mayor Gerard, and many people from all over the community. <p>IRU/Transport Contracts & Adoption</p> <ul style="list-style-type: none"> • Teri Legner said The City of Champaign as the lead agency is proposing to hire outside legal counsel to help develop the IRU's. A list of qualified firms has been established that are able to provide us with the service we need to develop the IRU's. The City of Champaign Legal Department is taking the lead on this process/phase. <p>Development of the FTTP Installation RFP specifications</p> <ul style="list-style-type: none"> • Mike Smeltzer is working on the base criteria and specifications. • Teri Legner noted that the sub-award the City of Champaign will be receiving does not include grant funds for this portion of the project so we will have to figure out how to amend the sub-award in order for us to take the lead and do the work.
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#6D.

MEETING SCHEDULE OPTIONS (OPPOSITE WEEK OF
POLICY COMMITTEE MEETINGS)

COMMITTEE

DISCUSSION	<ul style="list-style-type: none">• Ross Veach made motion for meeting the 2nd & 4th Tuesdays at 3:30 p.m. with a preference to cancel the 4th Tuesday meeting if necessary. Fred Halenar 2nd. Motion approved.• The committee agreed upon the 2nd & 4th Tuesdays @ 3:30 p.m.
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7.

DISCUSSION ITEMS

DISCUSSION	<p>Tasks or Items for the next meeting:</p> <ul style="list-style-type: none">○ None <p>Audience Participation:</p> <ul style="list-style-type: none">○ Peter Folk, Volo, stated there used to be a Network Services Subcommittee that merged into the Marketing Subcommittee and suggested that the work which was started, be picked up and continued, or forwarded onto someone to finish and make recommendations.○ John Kersh stated that as a subcommittee, we would be happy to address that issue, but when it was brought up; it was acknowledged that the subcommittee as a whole is not the appropriate body to make recommendations on services and pricing, but it hasn't dropped off the radar screen, and it will be addressed.○ Teri Legner stated that the business planning consultant will address levels of service, service options and pricing. <p>Committee Member Comments or Announcements:</p> <ul style="list-style-type: none">○ None <p>Fred Halenar motioned to adjourn. Tony Vandeventer 2nd. Meeting adjourned.</p> <p>Next Meetings:</p> <ul style="list-style-type: none">○ Canceled - September 13, 2011 City of Champaign Council Chambers, 3:30 PM○ September 27, 2011 City of Champaign Council Chambers, 3:30 PM○ October 11, 2011 City of Champaign Council Chambers, 3:30 PM
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NTIA and Grant Update – 9/22/11

Well the NATOA conference and the campus calendaring system conspired to keep me from the NTIA call. I am working on the calendar problem

It has been a hectic three weeks since my last report. Many of you attended the groundbreaking and one or both of the technology demos. The events weren't perfect, but on the whole they were more positive than not. Between now and Wednesday, I will have attended the Gig.U kick-off event in Chicago, and we will have interviewed the first two business consulting candidates. The final two interviews are on Thursday. I will know more about Gig.U after the meeting and can provide a brief verbal report on Wednesday.

Both sub-award agreements have been executed, which means that both of the cities' construction contracts are signed or are close to being signed. John Burns has started installing conduit, manhole and handholes in Urbana. Western Utilities is planning to start in Champaign the first week in October. The University's contract was still pending with the State's procurement officer the last I heard. Brittney should be able to give us an update on Wednesday.

Next Wednesday – The NATOA conference bore some timely fruit. In a separate document is an outline of a modified version of what the “One Maryland” BTOP project used to enhance minority contractor participation in their project. I will defer to Fred Stavins on the legality of the plan, but I think it could work for us.

Other fruit from NATOA – Once we get the remaining construction contracts awarded, there are some models for application development and adoption from other broadband projects that we may wish to consider. These projects have created parallel organizations to encourage applications development and adoption and they have had encouraging results. I will gather more information and present it at a future meeting.

September 6th Groundbreaking Ceremony - The Partnership for a Connected Illinois created a web page about the UC2B groundbreaking, complete with photos. You can see it at <http://www.broadbandillinois.org/news/55>. Urbana's group has posted video coverage, and I believe Champaign has some video in the works as well. We will eventually get links to all of these on the UC2B web site.

NTIA workshop in Cleveland – Teri, John Kersh and I will be attending a two-day workshop in Cleveland the first week in October. The workshop is for all BTOP grant recipients and will focus on outreach and sustainability. This will be a great opportunity to learn from other projects, so the October 5th Policy Board meeting will be cancelled or moved to the 12th.

Broadband Summit – You should all have received the “save the date” email from PCI.

See you on Wednesday

Mike



Proposed discussion framework for the 9/28/11 Policy Board meeting – 9/23/11

The purpose of this report is to provide the general draft description of work that is to be undertaken for the Fiber-to-the-Premise phase of construction. There are still various details that have to be worked out by the FTTP Specifications Development Team, but this draft provides the level of detail necessary to focus the Policy Board's and Technical Committee's discussion at the September 28, 2011 Joint Meeting of the two. In general, the Team has developed the specifications to date that provide for the following divisions of work:

1. The underground construction of fiber from the handholes at the curbs of a total of 2,700 households, businesses or Community Anchor Institutions into those buildings.
2. The restoration of the landscaping that may have been disturbed by that construction.
3. The installation of "inside wiring" (both copper and fiber cables) in the buildings.
4. The installation and configuration of the Optical Network Terminals (ONT) and Gateways (which provides wired Ethernet ports and and Wi-Fi).
5. The configuration and connection of a limited number of customer-provided wired and wireless devices to the UC2B network.

Staff is seeking Board and Committee discussion, input and recommendations around these divisions of work so that they may be incorporated into the final set of specifications for the bidding process.

In addition to this review, staff provides the following context to this scope of work:

- There are regional and national firms that provide this bundle of services as a package. There are local firms that by creating the right partnerships could provide this bundle of services.
- Operationally, practically and economically it may be in UC2B's best interest to contract with one prime contractor for this work for the entire project as there needs to be tight coordination between the outside construction and the landscape restoration. The vendor doing the outside construction needs to be highly motivated to minimize disturbing the landscape.

- There needs to be tight coordination between the outside construction and the inside construction. When the inside construction is complete, that is the best time to install the electronics and configure the customer's devices – while UC2B-related staff are already in the building and can check if the fiber has been installed correctly all the way back to the handhole and correct any issues immediately.
- There are some details in attached description of work that are fixed and simply have to be done. There are some details that the Policy Board has latitude to adjust. Some of the suggested numbers are tempered by the available budget, so we may want to solicit bids in a manner that gives us some flexibility to adjust those numbers once we see what the bids are.

In addition to the description of work, staff is also seeking Policy Board and Technical Committee input to develop a bidding process that reaches out to the minority and female-owned small business community to raise their awareness of the opportunity for participating in this work and facilitates introductions between these smaller businesses and the larger prime/general contractors. The goal of adapting this bidding process to do these things is to better ensure minority and female participation in the work.

One way to encourage participation by small minority and female-owned businesses is described below. It is important to note that the Federal regulations governing the use of these NTIA grant funds do not allow the City or the University to utilize local preference as an evaluation criterium.

A much larger but similar NTIA project, the "One Maryland" project implemented a plan that successfully yielded minority and/or female-owned firms as sub-contractors on the project. What follows is a slight variation of that plan but includes the general concepts that still have to be developed, if supported, to the City of Champaign's purchasing process. This approach assumes that most minority, female and small firms are too small to be prime contractors and may be best utilized as sub-contractors.

- A. Take applications from any firm interested in providing services in one or more of the five areas detailed above. Firms would need to specify which area (or areas) of the work they are qualified to do. Firms would need to provide information about their ownership, structure, and financial history as well as three references for each area of work they wish to perform.
- B. Require three years of experience in each area of work they indicated they were qualified to do. The City of Champaign would verify basic information

provided by the applicant but would not be in a position to conduct reference checks to rate, qualify or select qualified firms. In this process, the City does not rise to the level of acting as a clearinghouse or registration center for these companies, but more like a facilitator providing the introductions between the small companies and those larger firms that may be more capable, at least financially, to complete the work within the deadlines established by the grant terms.

- C. The City provides the applications as a component part of the project bid package acknowledging these companies.
- D. Bidders will then have a list of minority, female and small businesses represented by these applications to help them also reach diversity in their workforce. Bidders will have to provide their list of sub-contractors and demonstrate that good faith efforts or other appropriate measures were utilized to include minority, female and small businesses in their bid.
- E. City will evaluate bids based upon lowest cost; good faith efforts made to incorporate minority or female owned small businesses as sub-contractors; the bidder's workforce diversity demonstrated by its Affirmative Action Plan (see below); and its ability to complete the work within the established project deadlines.
- F. The successful bidder must be a qualified vendor with the City of Champaign by providing an Affirmative Action Plan (or evidence that it is already certified with the City) that demonstrates workforce diversity representative of the community.
- G. City conducts work site inspections to verify employees on site are representative of the workforce breakdown provided in the Affirmative Action Plan.

DRAFT

UC2B Fiber Service Drops, Inside Wiring & Active Ethernet Equipment Installation RFP

1. Description of work:

General Description: UC2B seeks a qualified Vendor to design and install underground fiber-optic cables from handholes at the curbs of approximately 2,700 locations into buildings, restore any disturbed landscaping to its previous condition, install and configure ADTRAN Active Ethernet electronics and gateways, install horizontal copper and fiber cable, and assist UC2B customers in configuring their wired and wireless devices to use UC2B service. There are approximately XXX (~100) identified IRU and UIUC sites where the Vendor will only install multiple strands of fiber-optic drop cable and not any electronics. There are some YYY (~25) IRU and “Future IRU” identified sites where multiple strand drop cables will be installed, and ADTRAN Active Ethernet electronics will also be installed and a single fiber strand will be connected to those electronics. The remaining ~ 2,575 sites will have a single strand fiber drop cable and will have UC2B electronics installed. The variations of the work are detailed below.

Sites with Single-Strand Drop Cables in the Fiber-to-the-Premise (FTTP) Areas:

- A. For almost all of the residential, business, and Community Anchor Institution sites in the FTTP areas (shaded yellow on attached map), Vendor will design and install a pre-connectorized ADC-brand indoor-outdoor single-strand fiber drop cable from the designated Multiple Service Terminal (MST) handhole for each customer to the customer’s building. Customers will always have a UC2B handhole located on the edge of their property in the public right-of-way. The MST will either be in that handhole, or it will be in an upstream handhole that is connected to the handhole on the customer’s property by one or more conduits with pull tapes.

There could be intervening handholes between the MST handhole and the handhole on the customer’s property. The drop cable will be pulled from the MST handhole through any intervening conduits and handholes into the handhole on the customer’s property.

From the handhole on the customer’s property to the building, plowing, directional boring or horizontal boring may be deployed to directly bury the drop cable with its integrated location wire. The drop cable should be installed at a depth of at least XX inches below grade. The location wire will

be grounded at the MST and at the entrance to the building for locating purposes. In a few situations, more than one single strand drop cable may be required for a given building.

Sidewalk and pavement sections damaged during construction either by excavation or otherwise shall be repaired to the satisfaction of the City and pursuant to the attached Specifications, as applicable. Restoration of all landscaping and vegetation damaged during construction shall also be repaired pursuant to the attached Specifications, and as applicable.

- B. For some of the locations in the FTTP areas, more than one strand will be required in the drop cable and it will need to be connected to the designated feeder cable via fusion splicing. The locations requiring drop cables of more than one strand are indicated on the attached list of Community Anchor Institution, IRU and "future IRU" sites. It is possible that some "yet to be identified" businesses will also require multiple-strand drop cables and/or dual diverse entrances. More complete information about the sites in the FTTP areas with multi-strand fiber drop cables is provided in the following section.
- C. Once the fiber drop cable is to the building, the building penetration will depend on the structure itself and the wishes of the customer and property owner. In some instances it may be appropriate to core drill a basement or crawlspace wall below grade. In other instances it may be appropriate to core drill a basement or crawlspace wall above grade. In other instances it may be appropriate to drill a hole into the wall of the structure above the first floor. Whenever the building penetration is above grade, a ¾" PVC conduit and a PVC "LB" box, will be used to protect the cable where it is exposed above grade and to turn the fiber cable 90 degrees into the building. Under no circumstances will the locate wire enter the building.
- D. Once inside the building, the removable outdoor protective sheath will be removed from the ADC drop cable.
- E. The fiber drop cable will be terminated into a small fiber service box, which will be mounted to a baseboard in the building at a location predetermined by the customer during the canvass by UC2B personnel. Panduit makes a series of small surface mount boxes called "Mini-Com surface mount boxes" that would be appropriate, as would something equivalent. Should it not be possible to run the fiber cable to the desired location, Vendor's staff will determine if the predetermined alternate location (designated during the canvass) is suitable.

If neither of the predetermined locations is suitable, Vendor's staff will

work with the customer to determine a suitable location for the fiber service box. For sites that are to receive UC2B electronics, once the fiber service box is installed, the Vendor will use a 3-meter LC-to-LC single strand fiber patch cable to connect the Optical Network Terminal (ONT) to the fiber service box.

- F. Vendor will install one permanent horizontal distribution Category 5e cable for a “remote” wired device if the customer so requests on their installation agreement. The remote location will be no more than 50 feet from the ONT location. The remote location cable will terminate in small surface mount boxes at both the ONT end and at the “remote” end of the cable. Vendor will supply up to three (3) ten-foot Cat 5e Ethernet patch cables for the Customer’s wired devices. At the Customer’s request, (on the installation agreement) a 25-foot Cat 5e patch cable can be substituted for the permanent horizontal distribution cable and two of the 10-foot patch cables. The Customer may purchase additional Ethernet patch cables from Vendor at the time of installation or may supply his or her own if additional patch cables are desired.

All Cat 5e horizontal distribution Ethernet cables will be non-plenum and will need to be installed accordingly. It is anticipated that the fiber service box and the horizontal distribution Ethernet cable will be installed on the first floor or the basement of a structure, and that the cabling will be run through a crawlspace or basement.

Should a customer desire more than one permanently wired remote connection, the Vendor agrees to do such work for the customer at the “Time and Materials” rates that were bid in the RFP response. Prior to the installation day, the Customer will make complete payment for such work to Vendor. Customer will indicate the locations for such additional wired locations to the UC2B staff during the pre-installation interview/canvass. Vendor will then arrange for its own on-site visit to provide a quote for wiring the additional locations.

A customer may choose to install his or her own horizontal distribution Ethernet cabling to connect “remote” locations or contract with some other party to do so. In those scenarios, neither Vendor nor UC2B will be responsible for those customer-installed horizontal cables. Vendor’s responsibility will be to demonstrate that UC2B service works when a wired device is connected directly to the Gateway by Vendor’s provided patch cable or by a Vendor-installed horizontal distribution cable.

- G. UC2B will provide an ONT and a Gateway for each customer. Vendor will supply all other cables and hardware necessary for the installation. An

estimate of the quantities of the various lengths of ADC pre-terminated fiber drops cables needed for the entire FTTP area is included with this RFP.

- H. Vendor will install the ONT and run a series of UC2B–provided tests to confirm that it is working correctly with the core Active Ethernet equipment in the Neighborhood Cabinet. Prior to Vendor arriving to install the fiber drop cable, UC2B personnel will have patched through the MST port for that customer to the ADTRAN Active Ethernet chassis in the Neighborhood Cabinet and will have provisioned the right VLANs for that customer on that MST port.
- I. Vendor will then configure the Gateway for both wired and wireless connections. Each customer will have at least one VLAN for wired and its private Wi-Fi use, as well as the UC2Bnet VLAN for a second Wi-Fi SSID.
- J. Once the Vendor has successfully used the customer’s UC2B network connection through the Gateway with the Vendor’s computer equipment, and all diagnostic tests have been satisfied, Vendor will then connect and configure up to two of the customer’s wired devices to the Gateway.

Wired devices eligible for Vendor-provided configuration include: Windows-based and Macintosh-based computers; X-Box, Play-Station and Wii game consoles; Blu-Ray players with wired network capabilities and television sets or TV set-top boxes (such as Apple TV’s, Roku or Boxee boxes) with wired network capabilities. The configuration of Linux-based computers, “smart” household appliances, medical devices and energy management devices with network connectivity capabilities will be the responsibility of the customer, not the Vendor or UC2B. UC2B will provide on-line and printed instructions to guide customers in configuring various non-supported devices. UC2B will periodically review the list of supported devices, and it will most likely evolve over time.

- K. Once the customer’s two wired devices have been configured, Vendor will then assist in the configuration of up to a total of two smartphones, game consoles, portable computers, tablets or TV set-top boxes with Wi-Fi capabilities. UC2B will make available both on-line and printed instructions for various wireless devices, which Vendor can provide to customers for their use in configuring additional Wi-Fi devices.
- L. Before Vendor leaves the customer site, Vendor will confirm that all of the devices that Vendor configured are accessing the network properly and will have the customer sign a UC2B form that lists those various devices and verifies that functionality.

Anchor and IRU Sites with Multi-Strand Drop Cables in the FTTP Areas:

- M. The number of fiber strands that will be spliced to the feeder cable at the curb is specified for each location on the attached list of Anchor and IRU sites. That list also indicates the “owner” of the ring or feeder fiber strands that the drop cables will be spliced to. Only the locations on the attached list that are shown as having more than a single strand fiber drop cable, will get more than a single strand fiber drop cable.
- N. For National Electrical Code purposes, locations with multi-strand armored drop cables will be terminated within 50 feet of entering the building in a small enclosure with fiber connection ports. Armored fiber drop cables will be grounded outside the building for locating purposes, and the armor will be ring cut to leave a six-inch gap in the armor in order to prevent the conduction of electrical energy into the building.
- O. For sites that will receive UC2B electronics, Vendor will install a “permanent” single strand horizontal distribution fiber cable from the small enclosure with fiber connection ports to the fiber service box, which will be located near the ONT and Gateway location.
- P. For sites that will not receive UC2B electronics, the Vendor’s work is done once the fiber has been terminated and tested.
- Q. There are a few locations where several entities are co-located in the same building. In those cases, a single multi-strand drop cable will be used to serve all of the entities in that building. Separate permanent horizontal distribution fiber cables will be run from the small enclosure with fiber connection ports to multiple fiber service boxes, each located within a separate entity.
- R. Other than the differences noted above, sites in the FTTP areas receiving UC2B electronics with multi-strand drop cables should be handled the same as sites with single-strand drop cables. The installation information provided to Vendor by UC2B will specify which fiber strand should be connected to the ONT at each multi-strand fiber drop cable location.

Sites in the Non-FTTP Areas:

- S. The only locations that will be connected under this contract in non-FTTP areas are Community Anchor Institution and IRU sites. In the non-FTTP areas, traditional armored fiber cables requiring fusion splicing will be used for all the drops. All of the IRU sites and a few of the Anchor

Institution sites will require more than one fiber strand in the drop cables. Most locations in the non-FTTP areas will have a single strand fiber drop cable.

Some **ZZZ** sites in total will require dual, diverse connections from the curb to the building. The attached list of Anchor and IRU sites indicates the number of strands in the drop cable, how many are to be spliced to the feeder cable and which sites require dual, diverse building entrances.

If an IRU organization leases four strands of fiber on the UC2B backbone ring closest to a given location, four strands of ring fiber headed “north” on the ring and the same four strands of fiber headed “south” on the ring will be spliced to the drop cable. Multi-strand fiber drop cables will never be smaller than 8 strands and will often have more than 8 strands.

- T. Other than the differences in the splicing of the drop cables, single-strand and multi-strand drop cable sites that are outside the FTTP areas should be handled exactly the same as their single-strand or multi-strand counterparts in the FTTP areas.
- U. There are some 25 IRU sites in Urbana that already have existing fiber drop cables installed and are connected to an existing fiber system shared by the City of Urbana, District 116 Schools and Champaign County. The fiber drop cables at those sites will not be part of the scope of work of this RFP.

2. Scope of the RFP:

- A. Vendor should provide a fixed price for building fiber into the XX buildings housing ZZ Anchor Institutions and the non-UIUC IRU sites on the attached list and setting up the electronics for each of the ZZ organizations that are to receive UC2B electronics. The remaining FF IRU sites will have their fiber strands terminated in the small enclosure with fiber connection ports, and will have no electronics or patch cables supplied or configured by Vendor. The price for building fiber into the 10 UIUC IRU sites and terminating that fiber should be specified as Alternate 1. There will be no equipment or internal wiring needed for the 10 UIUC IRU sites or any of the IRU sites that will not receive UC2B electronics– simply terminate the fiber in the small enclosure with fiber connection ports and test it.
- B. All fusion splicing should be done in a manner that has a loss of no more than XX per splice on any given strand. Splices that have a loss of greater than XX will not be accepted.

- C. Based on the attached drawings for the FTTP services areas, Vendor should provide an average price that will be charged for connecting up to 2,475 additional households, businesses and Anchor Institutions in the FTTP areas with single fiber strand pre-connectorized connections. UC2B will not know exactly which locations will be connected at the time of Vendor responding to this RFP. Vendor should provide two prices – one for when UC2B has been able to group installations of at least 5 locations at a time in a given Fiber-Distribution Hub (FDH) service area, and one for when there are less than 5 locations in a given FDH service area on a given installation order from UC2B.

UC2B believes that in the FTTP areas there are XX businesses, YY single family homes, DD duplexes or zero-lot-line town homes, ZZ apartment units that have no interior hallways, HH apartment units that have interior hallways, ZZ churches and other non-profit organizations (many of whom are considered Community Anchor Institutions) and AA mobile homes in mobile home parks. It is the Vendor's responsibility to verify those numbers and to base Vendor's "price per location" prices on the Vendor's own research, calculations and assumptions.

- D. At this time, UC2B believes that we will have permission to provide service to all of the mobile homes in all of the mobile home parks in the FTTP areas. Vendor should provide a price per mobile home connected.
- E. At this time, UC2B believes that we will have permission to provide service to all of the apartment units in the FTTP areas – both with interior hallways and without.
- F. For apartment units with interior hallways, Vendor will use 3M's or some equivalent system for placing fiber in the hallway, so that all units can receive service by simply extending the fiber into the subscribing units from the hall. The drop cable feeding such an apartment building should be large enough to serve all of the units with a 20% growth factor. Vendor should quote a price for installing the drop cable and for doing the hallway fiber cabling in all of the apartment units with interior hallways in the FTTP areas and also a per-apartment connection price.
- G. For apartment units without interior hallways, each unit will be treated like a single-family residence and will only be built to if there is a subscription order. The drop cable feeding such an apartment building should be large enough to serve all of the units with a 20% growth factor. Vendor should quote a price for building drop cables to all the apartment buildings without interior hallways in the FTTP areas and also a per-apartment connection price.

- H. Commercial buildings with multiple tenants with interior hallways will be treated like apartment buildings with interior hallways. The drop cable feeding such a commercial building should be large enough to serve all of the units with a 50% growth factor. Vendor should quote a price for building drop cables and installing the interior 3M-style hallway fiber to all the commercial buildings with interior hallways in the FTTP areas and also a per-tenant connection price.
- I. Commercial buildings with multiple tenants without interior hallways will be treated like apartment buildings without interior hallways. The drop cable feeding such a commercial building should be large enough to serve all of the units with a 50% growth factor. Vendor should quote a price for building drop cables to all the commercial buildings without interior hallways in the FTTP areas and also a per-tenant connection price.
- J. UC2B will secure all easements necessary for Vendor to legally install UC2B cable on private property.
- K. Vendor will not install any non-UC2B equipment or install non-UC2B cables in UC2B conduit or into buildings on the behalf of others at the same time as installing cables or equipment for UC2B.
- L. Vendor will provide "Time and Materials" charges for UC2B customers who desire to have additional structured horizontal cabling installed for additional remote wired Ethernet locations. These charges should indicate the hourly rate that will be charged as well as the costs for the cable and associated hardware. The attached form for "Time and Materials" charges provides the costs breakouts and the increments we are looking for.
- M. Based on the drawings and the list marked "Additional Anchor Locations", Vendor should provide as Alternate # 2 a total price for connecting the SS "additional" Anchor Institutions that are outside the FTTP areas. These sites will only be connected if there are sufficient funds to build the necessary laterals and fiber drops in 2012.
- N. Vendor shall supply all materials for the installations except the Optical Network Terminals (ONTs) and the Gateways. It is possible that the ONT and Gateway will be one combined device, but it is also possible that they will be separate devices that connect to each other via a short Cat 5e Ethernet patch cable provided by UC2B. UC2B may not know whether they will be a combined unit or not until November of 2011.
- O. On a weekly basis on Fridays, UC2B will supply vendor with a list of the

locations that are to be connected in the following two weeks. UC2B will also provide vendor with the information gathered during the pre-installation canvass for each site to be connected.

- P. The contract resulting from this RFP will continue through January 31, 2013, which is the end of the UC2B Federal BTOP grant. Vendor will be required to conform with all terms of UC2B's NTIA and DCEO grants and including the David Bacon Act, which includes paying prevailing wages to the staff performing the work for UC2B and regularly certifying their payrolls.

Attachment

3.12 Pavement and Sidewalk Restoration

3.12.1 Description of Work

This work involves the replacement of pavement sections damaged during construction either by excavation or otherwise. Pavement sections damaged during construction are to be repaired to the satisfaction of the OWNER

3.12.2 Construction Requirements

All pavements shall be replaced in accordance with Article 442 of the IDOT Standard Specifications for Road and Bridge Construction in Illinois, Current Edition and in accordance with the following agency guidelines as amended.

1. City of Champaign, Champaign Township, Hensley Township, Tolono Township, and Village of Savoy: "City of Champaign Manual of Practice" and "City of Champaign Class 1 and Class III Erosion Control Permit & Standard Details.
2. City of Urbana, Somer Township, and Urbana Township: "City of Urbana Right-of-Way Permit Standards" and "City of Urbana Class I and Class 3 Erosion Control Permit & Standard Details"

All pavements to be replaced shall be replaced to a depth of not less than its original thickness, material type or types, and grade. If the pavement section being replaced was deficient, it must be replaced to current standards and thicknesses of the governmental agency that has jurisdiction of the pavement.

Concrete Pavement Repair:

- City of Champaign, Champaign Township, Hensley Township, Tolono Township, and Village of Savoy: All concrete patches shall be a

modified IDOT Class C Patch as shown in the City of Champaign Manual of Practice, with the exception of patches on Arterial and Major Collector Streets (defined by the right-of-way inspector). Arterial and Major Collector Streets 8 inches or greater in depth shall be repaired using a modified IDOT Class B patch as shown in the standard details. One inch deformed reinforcing bars shall be substituted for smooth dowels, at any new mid-panel joint. Smooth dowel bars shall be used at any pre-existing contraction joint. Pre-existing contraction joints shall be replaced with an appropriate grooving tool. Concrete patch width shall coincide with the edge of the full panel and shall have a minimum longitudinal distance of 6 feet. In large cuts the full panel shall be removed and replaced.

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- City of Urbana, Sourer Township, and Urbana Township: All concrete patches shall conform to the details shown in the City of Urbana Right-of-Way standards.

Full Depth Bituminous or Composite Pavement Repair:

- City of Champaign, Champaign Township, Hensley Township, Tolono Township, and Village of Savoy: All patches in Bituminous and Composite Pavement Streets shall be a minimum 8 inch thick concrete base course overlaid with a 2 inch hot mix asphalt surface course suitable for the traffic loads present on the roadway.
- City of Urbana, Sourer Township, and Urbana Township: All patches in Bituminous and Composite Pavement Streets shall be a minimum of 8 inches of integrally colored black concrete pavement or a minimum 6 inch thick concrete base course overlaid with a 3 inch hot mix asphalt surface course suitable for the traffic loads present on the roadway.

Oil and Chip pavements shall be repaired by constructing a base with 8 inches of compacted crushed stoned meeting IDOT Gradation CA-6 overlaid with 3" of hot mix asphalt surface course.

Brick Streets shall be re-laid with the original brick pavers placed on a one inch sand cushion over a new 6 inch concrete base course. Sand shall be deposited over and between laid pavers and vibrated into place with a vibrating plate compactor. Damaged pavers shall be replaced with matching pavers.

All pavements to be removed shall be removed by a full depth saw cut on all sides of the pavement to be removed. A minimum 2' bench of undisturbed material shall be maintained between the open excavation and the face of existing pavement in all directions. Controlled Low Strength Material (CLSM) shall be required for backfilling all street pavement, driveway pavement, and curb and gutter cuts. CLSM Backfill mix design shall be approved by the owner prior to placement.

All materials used shall conform to the current [DOT Standard Specifications for the type of pavement being placed. Any pavement materials found to be non-conforming shall be removed and replaced with suitable conforming materials at no additional cost to the owner.

Sidewalk Replacement: Sidewalks damaged, removed, or altered during the construction shall be removed by saw cutting the walk at the next construction joint and constructing a new sidewalk with a thickness of not less than 6" and a width to match the section of sidewalk that was removed or damaged. New sidewalk shall meet the requirements of Article 424

Backfill Requirements for Sidewalks: Sand or aggregate backfill in accordance with Section 208 of the Standard Specifications will be allowed as an acceptable alternate to Controlled Low Strength Material (CLSM) at sidewalk locations. CLSM Backfill shall be in accordance with Section 20 of the Standard Specifications for Water & Sewer Construction in Illinois, latest edition.

3.13 Restoration Of Landscaping And Vegetation

3.13.1 Description of Work

This work involves the restoration of lawns, pasture, and other vegetation damaged during construction.

3.13.2 Construction Requirements

For grassed areas restoration shall be accomplished as follows Fertilizer: Commercial Grade 6-24-24 spread at a rate of 400 lbs/acre.

Seed

1. Pasture Areas

- a. Seed mixture shall consist of 45% brome grass, 30% tall fescue, and 25% nurse crop (oats for spring seeding, ryegrass for fall seeding).

2. Roadway embankments, ditches, and open grassed areas not including pasture or lawn areas.

- a. Seed mixture shall consist of 200 lb/acre Kentucky blue grass, 80 lb/acre creeping red fescue, and 120 lb/acre perennial ryegrass.
- b. Spring nurse crop shall be oats; fall nurse crop shall be ryegrass. Nurse crop seeding quantity shall be in addition to the seed mixture specified above.

3. Lawn Areas

- a. Seed mixture shall consist of 200 lb/acre Kentucky blue grass, 80 lb/acre creeping red fescue, and 120 lb/acre perennial ryegrass.
- b. Spring nurse crop shall be oats; fall nurse crop shall be ryegrass. Nurse crop seeding quantity shall be in addition to the seed mixture specified above.
- c. Perennial ryegrass and creeping red fescue shall be fine-leaved types.

4. Sod Areas (Only those areas shown on Plans)

- a. Minimum 3/4-in. (19mm) thick Kentucky blue grass sod.
- b. Sod shall be free of roots, trees, brush stones, and other objectionable materials.

- c. Sod shall be free from all noxious weeds and reasonably free from other weeds.

EROSION CONTROL: Mulch shall consist of hay, straw, wood excelsior, biodegradable extruded plastic mesh netting, wood cellulose, or other Architect/Engineer approved material. Other erosion control materials which may be required such as jute mesh blankets, glass fiber blankets, silt screens, etc., shall be suitable for erosion control applications and shall be subject to the Architect/Engineer approval.

GRASSED AREAS: All surface areas disturbed by construction related activities shall be restored to provide as a minimum, a surface equivalent to the type removed. Erosion control measures shall be used where erosion may occur. Replace existing topsoil. Provide 6-in. minimum or match adjacent ground. Rake smooth ready for application of fertilizer and seed. Fine grade and uniformly spread topsoil over disturbed areas. Firm all topsoil to prevent excessive settlement and grade to provide positive drainage. In event sufficient topsoil is not available to cover all exposed subsoil, exposed subsoil shall be conditioned with ground limestone (70% passing No. 200 (75mm) sieve) with not less than 35% calcium. Provide a minimum of one ton per acre in these areas.

Seed all areas to be seeded with the grass seed mixtures specified. Sow evenly with an approved mechanical broadcast type seeder. In areas inaccessible to equipment, seed shall be spread and lightly raked to incorporate into soil.

Seed application rates shall be as follows:

- Pasture areas: 400 pounds per acre.
- Roadway Embankments, Ditches, and Open Grassed Areas: 400 pounds per acre plus 80 pounds of nurse crop per acre .
- Lawn Areas: 5 pounds per 1,000 sq. ft. plus 0.5 pounds of nurse crop per 1,000 sq. ft.

Hydroseeding may be used in lieu of conventional seeding, subject to approval of Architect/Engineer. Spring seeding shall be completed between April 15 and May 15; fall seeding shall be completed between August 15 and September 15. The Contractor will be required to maintain and water all lawn areas which are seeded for a minimum of seven consecutive days following the seed application. The seedbed shall be watered daily to provide the equivalent of 1/8-in. (3mm) of water per day.

Sodding: Provide equivalent or better quality sod turf to match adjacent lawn. Lay sod over a minimum of 6 in. (150mm) of topsoil; cut and place in areas designated on Plans or Specifications or as directed by Architect/Engineer. All sodding shall be done in accordance with the Illinois DOT Specifications, Section 252.

