AMENDMENT TO MEMORANDUM OF UNDERSTANDING
CONCERNING BOULDER RESEARCH AND ADMINISTRATIVE NETWORK

This Amendment is made as of the 9th day of July, 2009, between:

• the University Corporation for Atmospheric Research ("UCAR"), a Colorado non-profit corporation, in its capacity as operating authority for the National Center for Atmospheric Research ("NCAR");

• the Regents of the University of Colorado, a body corporate ("CU"); and

• the City of Boulder, a Colorado home rule city ("City").

RECATALS

A. In May 1999, the City, the University Corporation for Atmospheric Research and the University of Colorado entered into a Memorandum of Understanding ("MOU") concerning the administration of the Boulder Research and Administrative Network (the "BRAN network"). The BRAN Network is a high-speed fiber optic network installed throughout City right-of-way.

B. The MOU governs the responsibilities and obligations of the Parties for the management of the BRAN network and established the City as the Lead Party for the management of the BRAN network. As the Lead Party, the City is responsible for overseeing the design, procurement, construction and maintenance of the BRAN network.

C. On March 5, 2008, the Boulder Valley School District ("District") and the City entered into a Lease Agreement for conduit space and fiber optic cable dated March 5, 2008 ("City/District Lease Agreement"). The City/District Lease Agreement allows the District to construct its fiber optic network ("District Network") within City right-of-way, while providing the City with use of the Dedicated Fibers (those fibers leased to the City under the City/District Lease Agreement). The City/District Lease Agreement provides that the City will retain the right to use or assign the Dedicated Fiber to parties of its choosing. A copy of the City/District Lease Agreement is attached as Exhibit A.

D. On April 29 2009 the District and the City entered into an amendment to the City/District Lease Agreement providing for the lease of additional fiber to the City ("Supplemental Fiber"). This Amendment to the City/District Lease Agreement will allow the City to assign the Supplemental Fiber to BRAN members. A copy of the Amendment to the City/District Lease Agreement is attached as Exhibit B.

E. The City will continue to operate as the Lead Party of the BRAN agreement. For the purposes of this Amendment and the assignment of the Supplemental Fibers to the BRAN members, the City will operate only as a communication liaison between the BRAN members and the District.

F. The MOU (Section V, Paragraph (H)) provides that an extension to the BRAN network may be added when all Parties agree that such an expansion is desirable. The BRAN members
have determined it would be beneficial to the BRAN network for the City to be able to assign the Supplemental Fiber provided to the City from the District. Additionally, the Parties by this Amendment, agree to add two other extensions to the BRAN Network at the George Reynolds Library and the UCAR Foothills Lab. These two additional extensions will connect to the Supplemental Fiber.

G. The Parties here wish to amend the terms of the MOU to clarify the promises and obligations of the Parties.

NOW THEREFORE, in consideration of the promises and obligations set forth below, the Parties agree to amend the MOU as follows:

1. The Parties agree to abide by the terms of the MOU, except as modified by this Amendment.

2. Section V “Responsibilities of the Parties,” Paragraph F, is amended by adding the following language:

The Parties agree to expand the BRAN Network infrastructure as follows:

The City agrees to assign twenty strands of Supplemental Fiber to the BRAN members subject to the terms of the City/District Lease Agreement and the Amendment to the City/District Lease Agreement. The Supplemental Fiber is allocated as follows:

- Twelve strands to UCAR/NCAR and six strands to CU;
- Two “common” strands for UCAR/NCAR and CU.

UCAR/NCAR shall have the right to assign up to six strands of its Supplemental Fiber to NOAA/NIST at any time, pursuant to Section VI D of the BRAN MOU. The Supplemental Fibers may not be sold or leased to an outside third party by NCAR/UCAR, CU or NOAA/NIST.

Additionally, the Parties contemplate constructing extensions to the BRAN Network at the George Reynolds Library and the UCAR Foothills Lab to be spliced to the Supplemental Fiber. The extensions will include 96 fiber strands. The fiber allocation for these extensions is as follows:

- 32 strands to the City;
- 24 strands to UCAR/NCAR;
- Twelve strands to CU;
- Four “common” strands for UCAR/NCAR and CU; and
- 24 strands unused and set aside for future allocation.

UCAR/NCAR shall have the right to assign up to twelve of its strands on these extensions to NOAA/NIST at any time, pursuant to Section VI D of the BRAN MOU.
3. Section VI, “Financial, and Ownership Considerations,” Paragraph C is amended by adding the following language:

Payment of the annual fee will be based on quarterly invoices submitted to the Parties by the Lead Party. Payment should be made in the form of either a check payable to the City, a wire transfer or an ACH (an ACH is an order for an electronic funds transfer placed through the Federal Reserve Bank’s Automated Clearing House). The Parties may contact the City of Boulder Treasury Division at 303-441-4253 for information to set up these electronic payment methods. Credit card payments result in processing fees which increase the costs of the BRAN program for all the Parties. Therefore, the Lead Party will not generally accept credit cards as a standard means of payment for the annual fee. If credit card payments are used the amount of payment shall be increased to cover all costs and fees associated with use of the same.

4. Section VI, “Financial, and Ownership Considerations” is amended by the adding the following to paragraph (D):

The Supplemental Fiber will remain the property of the District. The City has no management responsibility, including no responsibility for installation, maintenance, replacement, documentation and oversight, for the Supplemental Fiber (the fiber is owned by the District and is leased by the City, and shared with the other BRAN partners through this Amendment). Additionally, the use of the Supplemental Fibers by the Parties shall be governed by the provisions of the Lease Agreement between the City and the District, dated March 5, 2008, see Exhibit A. Any splicing of lateral fiber cables to the Supplemental Fibers by the Parties requires communication with, and the approval of, the City.

In the event there are problems associated with the Supplemental Fibers, those concerns shall be directed to the City who will then communicate with the District. If necessary, the City may request that a party communicate directly with the District. For the purposes of this Amendment and the assignment of the Supplemental Fibers to the BRAN members, the City will operate only as a communication liaison between the BRAN members and the District.

The Parties agree to consider the District pursuant to the City/District Lease Agreement or any amendment thereto as a party to this Agreement for the purposes of provisions V.D and V.E., provided however that these provisions apply only to the City/District Lease Agreement and not the underlying BRAN MOU.

5. Section VI, “Financial, and Ownership Considerations” is amended by the adding the following to paragraph (H):

In the event that UCAR/NCAR or CU seeks to withdraw from this Amendment and no longer wishes to make use of the Supplemental Fiber such withdrawing party agrees to continue to make payment to the BRAN maintenance fund for its share of the annual maintenance fee through the end of the term of the Lease Agreement between the City and the District, which date is March 5, 2018.
6. Section VI, “Financial, and Ownership Considerations” is amended by the adding the following paragraphs (I), (J), (K) and (L):

(I) For use of the Supplemental Fibers, the Parties will share an initial cost of $200,000. This cost will be paid from the BRAN maintenance fund, which already contains funds sufficient to pay the initial cost of $200,000. The payment to the District will be made by the City from the BRAN maintenance fund on December 31, 2009. The City’s share of this initial payment is $0. Therefore the Parties agree that the City shall be entitled to a payment of $25,000 from the BRAN maintenance fund in order to complete an equitable apportionment of the initial cost due to the City having made contributions to the BRAN maintenance fund from year to year in the past for which it expected to receive a benefit and the City is not receiving a benefit with regard to use of the Supplemental Fiber.

(J) The annual cost to the Parties for the use of the Supplemental Fiber is $15,000. The $15,000 will be assessed to each Party according to its fiber allocation in accordance with Section VI(C) of the MOU and specifically as follows:

- $10,000/year from UCAR/NCAR;
- $5,000/year from CU; and
- $0/year from the City.

This amount will be added to the annual fee for the BRAN maintenance fund and paid in accordance with the provisions of Section VI(C) of the MOU and this Amendment beginning with the 2010 annual fees. The Lead Party will remit to the City the annual payment for the use of the Supplemental Fiber.

The City will be obligated to pay the District $15,000 annually for the use of the Supplemental Fiber. The City will make the first payment to the District on January 1, 2010 or upon completion of the west ring—the ring that encircles the City of Boulder. The City will pay the District directly for the use of the Supplemental Fiber. The City will only be obligated to pay the District those fees which it collects from the BRAN members and will not be responsible to the District for any funds owed to the District by any BRAN member as described herein for such BRAN member’s use of the Supplemental Fiber.

(K) The Parties agree to pay for the extensions at the George Reynolds Library and the UCAR Foothills Lab based on the division of fiber allocation as follows:

- City of Boulder 44.5 %;
- UCAR/NCAR 37.0%; and
- CU 18.5 %.

The total payment for construction of these extensions will be drawn from the balance of the BRAN maintenance fund. As the Parties have historically contributed to the maintenance fund in proportions that are different from their proportions of strands on these new laterals, the City will make a separate payment to the BRAN maintenance fund. This amount will be calculated once final construction costs are
known, so as to assure that the cost to each party matches that party’s share of strands in the laterals.

(L) As regards contributions from CU, in no event may the amount of money contributed by CU pursuant to this agreement and any amendment exceed $50,000 in any calendar year (the “Limit”) unless an amendment to the MOU is executed raising such Limit before projects that would use any increased contribution from CU are committed to.

7. Section VII “Period of Agreement and Termination” is amended by adding the following language:

The MOU term for the use of the Supplemental Fiber shall expire on March 5, 2018 (the term for the Lease Agreement with the District also expires on this date). The Parties may renew this Amendment for an additional ten year term upon sixty days written notice to the City of its intent to renew and upon the agreement of the District to renew its Lease Agreement with the City. Renewal shall be done in writing and signed by all Parties. The extended term shall be governed by the same terms and conditions as the initial ten year term, unless revisions are mutually agreed to by the Parties in writing. If the District terminates its Lease Agreement with the City, the City will notify the BRAN members of such termination.

8. Section X “Miscellaneous Provisions” is amended by added the following language:

(M). Conflicts. In the event of any inconsistencies or conflicts between the MOU and this Amendment, this Amendment shall take precedence.

(N). Counterparts. This Agreement may be executed in multiple originals or counterparts, each of which shall be an original. When the Parties have each signed, such copies together shall constitute a fully binding and executed Agreement.

(O). Special Provisions. A new Section XI, “Special Provisions” is added which shall apply only between the City and CU and only for payment connected with activities the City begins on or after the date of the last signature to this Amendment. The City and CU agree that the provisions of paragraph 3 of Section XI, “Special Provisions,” below applies to both the City and CU. Further, the City and CU agree that paragraph XI.3 will be interpreted to affect the immunities limitations of liability afforded by the Colorado Governmental Immunity Act, CRS §24-10-101 et seq., or the Federal Tort Claims Act, 28 U.S.C. §§1346(b) and 2671 et seq., as applicable now or hereafter amended to each of the parties and will not be used to remove such protections by the other party.

XI. SPECIAL PROVISIONS.

This agreement shall include the Special Provisions which are required pursuant to the State of Colorado Fiscal Rules. The Special Provisions shall always control over other parts of the agreement. The Special Provisions are set forth below. All references to "Contractor" shall be deemed to apply to City of Boulder.
SPECIAL PROVISIONS

These Special Provisions apply to all contracts except where noted in *italics*.

1. **CONTROLLER'S APPROVAL. CRS §24-30-202(1).** This contract shall not be valid until it has been approved by the Colorado State Controller or designee.

2. **FUND AVAILABILITY. CRS §24-30-202(5.5).** Financial obligations of the State payable after the current fiscal year are contingent upon funds for that purpose being appropriated, budgeted, and otherwise made available.

3. **GOVERNMENTAL IMMUNITY.** No term or condition of this contract shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protections, or other provisions, of the Colorado Governmental Immunity Act, CRS §24-10-101 et seq., or the Federal Tort Claims Act, 28 U.S.C. §§1346(b) and 2671 et seq., as applicable now or hereafter amended.

4. **INDEPENDENT CONTRACTOR.** Contractor shall perform its duties hereunder as an independent contractor and not as an employee. Neither Contractor nor any agent or employee of Contractor shall be deemed to be an agent or employee of the State. Contractor and its employees and agents are not entitled to unemployment insurance or workers compensation benefits through the State and the State shall not pay for or otherwise provide such coverage for Contractor or any of its agents or employees. Unemployment insurance benefits will be available to Contractor and its employees and agents only if such coverage is made available by Contractor or a third party. Contractor shall pay when due all applicable employment taxes and income taxes and local head taxes incurred pursuant to this contract. Contractor shall not have authorization, express or implied, to bind the State to any agreement, liability or understanding, except as expressly set forth herein. Contractor shall (a) provide and keep in force workers' compensation and unemployment compensation insurance in the amounts required by law, (b) provide proof thereof when requested by the State, and (c) be solely responsible for its acts and those of its employees and agents.

5. **COMPLIANCE WITH LAW.** Contractor shall strictly comply with all applicable federal and State laws, rules, and regulations in effect or hereafter established, including, without limitation, laws applicable to discrimination and unfair employment practices.

6. **CHOICE OF LAW.** Colorado law, and rules and regulations issued pursuant thereto, shall be applied in the interpretation, execution, and enforcement of this contract. Any provision included or incorporated herein by reference which conflicts with said laws, rules, and regulations shall be null and void. Any provision incorporated herein by reference which purports to negate this or any other Special Provision in whole or in part.
shall not be valid or enforceable or available in any action at law, whether by way of complaint, defense, or otherwise. Any provision rendered null and void by the operation of this provision shall not invalidate the remainder of this contract, to the extent capable of execution.

7. **BINDING ARBITRATION PROHIBITED.** The State of Colorado does not agree to binding arbitration by any extra-judicial body or person. Any provision to the contrary in this contract or incorporated herein by reference shall be null and void.

8. **SOFTWARE PIRACY PROHIBITION. Governor's Executive Order D 002 00.** State or other public funds payable under this contract shall not be used for the acquisition, operation, or maintenance of computer software in violation of federal copyright laws or applicable licensing restrictions. Contractor hereby certifies and warrants that, during the term of this contract and any extensions, Contractor has and shall maintain in place appropriate systems and controls to prevent such improper use of public funds. If the State determines that Contractor is in violation of this provision, the State may exercise any remedy available at law or in equity or under this contract, including, without limitation, immediate termination of this contract and any remedy consistent with federal copyright laws or applicable licensing restrictions.

9. **EMPLOYEE FINANCIAL INTEREST/CONFLICT OF INTEREST. CRS §§24-18-201 and 24-50-507.** The signatories aver that to their knowledge, no employee of the State has any personal or beneficial interest whatsoever in the service or property described in this contract. Contractor has no interest and shall not acquire any interest, direct or indirect, that would conflict in any manner or degree with the performance of Contractor’s services and Contractor shall not employ any person having such known interests.

10. **VENDOR OFFSET. CRS §§24-30-202 (1) and 24-30-202.4.** [Not Applicable to intergovernmental agreements] Subject to CRS §24-30-202.4 (3.5), the State Controller may withhold payment under the State’s vendor offset intercept system for debts owed to State agencies for: (a) unpaid child support debts or child support arrearages; (b) unpaid balances of tax, accrued interest, or other charges specified in CRS §39-21-101, et seq.; (c) unpaid loans due to the Student Loan Division of the Department of Higher Education; (d) amounts required to be paid to the Unemployment Compensation Fund; and (e) other unpaid debts owing to the State as a result of final agency determination or judicial action.

11. **PUBLIC CONTRACTS FOR SERVICES. CRS §8-17.5-101.** [Not Applicable to agreements relating to the offer, issuance, or sale of securities, investment advisory services or fund management services, sponsored projects, intergovernmental agreements, or information technology services or products and services] Contractor certifies, warrants, and agrees that it does not knowingly employ or contract with an illegal alien who will perform work under this contract and will confirm the employment eligibility of all employees who are newly hired for
employment in the United States to perform work under this contract, through participation in the E-Verify Program or the Department program established pursuant to CRS §8-17.5-102(5)(c), Contractor shall not knowingly employ or contract with an illegal alien to perform work under this contract or enter into a contract with a subcontractor that fails to certify to Contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this contract. Contractor (a) shall not use E-Verify Program or Department program procedures to undertake pre-employment screening of job applicants while this contract is being performed, (b) shall notify the subcontractor and the contracting State agency within three days if Contractor has actual knowledge that a subcontractor is employing or contracting with an illegal alien for work under this contract, (c) shall terminate the subcontract if a subcontractor does not stop employing or contracting with the illegal alien within three days of receiving the notice, and (d) shall comply with reasonable requests made in the course of an investigation, undertaken pursuant to CRS §8-17.5-102(5), by the Colorado Department of Labor and Employment. If Contractor participates in the Department program, Contractor shall deliver to the contracting State agency, Institution of Higher Education or political subdivision a written, notarized affirmation, affirming that Contractor has examined the legal work status of such employee, and shall comply with all of the other requirements of the Department program. If Contractor fails to comply with any requirement of this provision or CRS §8-17.5-101 et seq., the contracting State agency, institution of higher education or political subdivision may terminate this contract for breach and, if so terminated, Contractor shall be liable for damages.

12. **PUBLIC CONTRACTS WITH NATURAL PERSONS. CRS §24-76.5-101.** Contractor, if a natural person eighteen (18) years of age or older, hereby swears and affirms under penalty of perjury that he or she (a) is a citizen or otherwise lawfully present in the United States pursuant to federal law, (b) shall comply with the provisions of CRS §24-76.5-101 et seq., and (c) has produced one form of identification required by CRS §24-76.5-103 prior to the effective date of this contract.

**Effective January 1, 2009**
9. Except as amended herein, the MOU shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties have caused this Amendment to be executed by their duly authorized representatives as of the date indicated.

THE REGENTS OF THE UNIVERSITY
OF COLORADO, a body corporate

By

Printed Name
Diane Tucker
Title
Purchasing Agent
Date
06/09/2009

ALL CONTRACTS MUST BE APPROVED BY THE STATE CONTROLLER

CRS §24-30-202 requires the State Controller to approve all State Contracts. This Contract is not valid until signed and dated below by the State Controller or delegate. Contractor is not authorized to begin performance until such time. If Contractor begins performing prior thereto, the University of Colorado is not obligated to pay Contractor for such performance or for any goods and/or services provided hereunder.

STATE CONTROLLER:
David J. McDermott, CPA

By
Laura Ragin, Director of Accounting
06/11/09

Approved as to Legal Sufficiency
Office of University Counsel
By
Date
06/11/09

UNIVERSITY CORPORATION FOR ATMOSPHERIC RESEARCH

By:

Attest:

Date:
9. Except as amended herein, the MOU shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties have caused this Amendment to be executed by their duly authorized representatives as of the date indicated.

THE REGENTS OF THE UNIVERSITY
OF COLORADO, a body corporate

By __________________________

Printed Name __________________________

Title __________________________

Date __________________________

ALL CONTRACTS MUST BE APPROVED BY THE STATE CONTROLLER

CRS §24-30-202 requires the State Controller to approve all State Contracts. This Contract is not valid until signed and dated below by the State Controller or delegate. Contractor is not authorized to begin performance until such time. If Contractor begins performing prior thereto, the University of Colorado is not obligated to pay Contractor for such performance or for any goods and/or services provided hereunder.

STATE CONTROLLER:
David J. McDermott, CPA

By __________________________

Date __________________________

UNIVERSITY CORPORATION FOR ATMOSPHERIC RESEARCH

By __________________________
Attest: __________________________
Date: 6/18/19

Kathryn S. Schmoll
Vice President
Finance & Administration
THE CITY OF BOULDER, COLORADO

By: [Signature]
City Manager

Attest:
[Signature]
City Clerk on behalf of the Director of Finance and Record

Approved as to form:
[Signature]
City Attorney

Exhibit A: The City/District Lease Agreement
Exhibit B: Amendment to the City/District Lease Agreement
LEASE AGREEMENT
FOR CONDUIT SPACE AND FIBER OPTIC CABLE
BETWEEN

CITY OF BOULDER AND
BOULDER VALLEY SCHOOL DISTRICT NO. RE-2

THIS AGREEMENT ("Agreement") is between the BOULDER VALLEY SCHOOL
DISTRICT No. RE-2, a Colorado school district (the "District"); and the CITY OF BOULDER, a
Colorado home rule city ("City"), and is entered into and effective as of _______________,
2008.

BACKGROUND

The District desires to build a Fiber Optic Telecommunications Network ("District
Network" or "Network") throughout its boundaries. As part of the Network the District will
construct two fiber optic rings. The east ring will provide service to the Louisville/Lafayette area; the
west ring will provide service to the City of Boulder and western Boulder County area.

The District intends to install a 168 strand fiber optic cable throughout the City of Boulder, the
City of Louisville, the City of Lafayette, and unincorporated Boulder County to build its Network.

The City has public right of way, a portion of which the District intends to lease for the purpose
of installing part of the Network.

Within portions of the District’s proposed Network, the City has both conduit that includes
fiber and empty conduit. The City intends to lease portions of the public right of way, empty conduit,
and fiber to the District. Where there is no City conduit available for use by the District, the City will
permit the District to use the public right of way for the installation of conduit and fiber to build its
Network.

In consideration for use of the right of way, fiber, and the conduit space, the District will
provide to the City 16 strands from the 168 strand fiber optic cable throughout its west ring and four
strands throughout its east wing. In addition, the District will provide the City four strands of fiber
optic cable along certain spur routes that are not part of the west wing (together referred to as the
"Dedicated City Fiber").

The City will retain the right to use or assign the Dedicated City Fiber to parties of its choosing.

The City and the District have authority to proceed with the development of the District
Network in accordance with Section 29-1-203, C.R.S. which authorizes the District and the City
to enter into agreements for the common utilization of school and city facilities.
COVENANTS

In consideration for the rents described in this Agreement and the covenants made by each of the parties and for other good and valuable consideration, it is agreed by the parties the following:

I. DEFINITIONS.

The parties agree that the terms listed below will be defined as follows:

A. "City Conduit" means the City owned plastic pipe installed underground typically used for routing wiring or fiber optic cable and as identified in Exhibit A, attached hereto and incorporated herein by reference.

B. "Dedicated City Fiber" means the 16 strands to be provided to the City from the 168 strand fiber optic cable throughout the District’s west ring, the four strands throughout the District’s east ring, and the four strands along the following spur routes that are not part of the west wing:

1. From Jay Road to Boulder Preparatory High School via 63rd Street and Spine Road;

2. From Mapleton Avenue to Casey Middle School via 13th Street;

3. From Iris Avenue to Crestview Elementary School via 19th Street and Sumac Avenue;

4. From Darley Avenue to Fairview High School via Gillaspic Drive;

5. From 20th Street to New Vista High School;

6. From 19th Street to Foothill Elementary School via Grape Avenue and Hawthorne Avenue; and

7. From Table Mesa Drive to Summit Middle School via South 46th Street.

C. "District Network" means the Boulder Valley School District fiber optic cable infrastructure which will consist of a bundle of 168 fiber optic strands installed in the City’s conduit consistent with the City’s Design and Construction Standards and two fiber optic rings, including conduit, as shown in Exhibit B (the east ring) and Exhibit C (the west ring), attached hereto and incorporated herein by this reference.

D. "Fiber" and “fiber optic cable” means a bundle of individual fiber strands. Each fiber strand will be dedicated to providing communications between two or more points along the path of the fiber optic cable.

E. "Fiber optic ring" means the cable path that sequentially routes fiber optic cable from an originating point through one or more intermediate points then back to the originating point.
The District will construct two fiber optic rings as part of its Network, as shown in Exhibits B and C.

F. "Public right of way" means streets, alleys, viaducts, bridges, roads, lanes sidewalks, public easements, public rights of way, and dedicated easements within the City.

II. DESCRIPTION OF LEASED PREMISES

The City has constructed various segments of a conduit system within the City of Boulder. The City system includes fiber and empty conduits which the City has agreed to lease to the District pursuant to the terms of this Agreement.

A. The City hereby leases, demises, and sets off to the District the following:

1. One City Conduit in the segments as shown in Exhibit A, attached hereto and incorporated herein by this reference.

2. Public right of way for the additional conduit necessary for the installation of the west ring of the District Network, as shown in Exhibit C. Exhibit C indicates that the District Network will be routed along specific street corridors; however changes to the alignment may be necessary and will be made upon mutual agreement between the City and the District. The exact location of leased premises built by the District shall be represented on as-built drawings.

3. Eight fiber strands in an existing City 24-strand aerial fiber optic cable from the existing City splice enclosure located in the City manhole near the northeast corner of Baseline Road and 55th Street to the City manhole located on the northeast corner of Laguna Place and Mohawk Drive as shown in Exhibit F, attached hereto and incorporated herein by reference (the "Existing City Fiber").

B. The District hereby leases, demises and sets off to the City, the following:

1. The Dedicated City Fiber.

III. RENT

The rent paid to the City from the District shall be in the form of use of the Dedicated City Fiber that the District shall provide to the City from its fiber network and the other covenants set forth in this Agreement. The District shall make the Dedicated City Fiber operational and available for City use by December 31, 2009. In the event that the District fails to make the Dedicated City Fiber operational and available for City use by December 31, 2009, the District agrees to pay rent for the Lease premises after said date at the rate of $5,930 per month until the earliest of the following occurs:

1. The District makes the Dedicated City Fiber operational and available for City use;

2. The end of the lease term; or
3. The termination of this Agreement.

The parties agree that the monthly lease rate is a reasonable lease rate based upon the market value of the use of the City's right of way.

IV. USE OF FIBER

A. Restriction on District Use of City Conduit. The District agrees not to utilize the District Network including the District fibers installed in the City Conduit for the purpose of providing commercial telecommunications services.

B. Sublease by District. The City understands that the District intends to negotiate a lease of fiber resources to NCAR in return for free or discounted Internet access for the District. The City hereby consents to a sublease to NCAR and will make a good faith effort to not infringe on that project.

V. LEASE TERM

This lease term shall be for a period not to exceed ten years. The term of this lease will begin on the date above first written. The District may renew this lease for an additional ten year term upon sixty days written notice to the City of its intent to renew. Renewal shall be done in writing and signed by both parties. The extended term shall be governed by the same terms and conditions as the initial ten year term, unless revisions are mutually agreed to by the parties in writing.

VI. CONSTRUCTION, FIBER INSTALLATION, TESTING AND MAINTENANCE

A. Responsibilities. The District agrees to be responsible for the installation of the District Network and for the following:

1. Overseeing the design, procurement, and construction of the District Network;

2. Negotiating and entering into separate agreements with contractors to perform all or part of the work associated with the District Network; and

3. Ensuring that the applicable terms and conditions of this Agreement are included in agreements with property owners and contractors.

B. Design and Construction Standards. The District shall comply with all of the construction, restoration, inspection, and maintenance procedures and requirements set forth in the City's Design and Construction Standards and other City laws pertaining to the use of and work in the public right of way. Prior to installing any infrastructure in the public right-of-way, the District agrees to submit an application for a permit and work in the public right-of-way that meets the requirements of Chapter 8-5 "Work in the Public Right-of-Way and Public Easements," B.R.C. 1981.
C. **Installation and Acceptance of Fiber in City Conduit.** The District shall install its fiber optic cable in to the City Conduit in accordance with Exhibit D, Fiber and Splicing Specifications, attached hereto and incorporated herein by reference. Additionally, the District agrees to provide the City with complete test results, including OTDR tests, on all the Dedicated City Fiber. If the test results indicate the fiber strands provided to the City are not acceptable, the District agrees to take required actions to cause all fiber strands to conform to the specifications as set forth in Exhibit D. The District’s failure to bring the fiber into conformance with the specifications set forth in Exhibit D within 30 days of notice from the City will result in the requirement of the District to pay the rental set forth in Section III.

D. **Laterals.** Subject to this Agreement, either party may engineer and construct a lateral connecting the District Network to any of its facilities at its own cost, at any time. A party seeking to develop a lateral on property outside of the City must obtain the appropriate permit from the property owner for any work in the public right-of-way. If a party damages either the City conduit or the District Network by the addition or operation of a lateral, that party agrees to be responsible for repairing such damage to the infrastructure. The parties agree to cooperate as appropriate in the development of future laterals.

E. **Schedule.** The District agrees to make the Dedicated City Fiber operational and available for City use and complete all work required to be performed under this Agreement by December 31, 2009 except for the segment of the west ring between the intersection of 47th Street and Mitchell Lane and the driveway to the City of Boulder Wastewater Treatment Plant at 4049 North 75th Street which shall be completed by December 31, 2008.

F. **Physical Inspection of Conduit by District.** The City agrees to provide the District the opportunity to perform a physical inspection of the City’s conduit by rodding and reeling or other method acceptable to the District that will not damage the conduit. Within seven days after receiving the test results, the District shall then provide an Acceptance Notice in the form of Exhibit E if the conduit is acceptable. If the conduit is not continuous and capable of the installation of the fiber optic cable, the District shall give notice to City of any problems with the conduit. The City will determine within 60 days if it is cost effective for the City to repair the conduit or allow the District to repair the conduit. The City will have 60 days to perform any repairs. Upon such repair or substitution the District shall have the ability to again test the conduit and have another seven day period to accept or reject the conduit. Issuance of an Acceptance Notice or failure to issue a notice of defective work by the end of the seven day period indicated herein shall constitute acceptance of the conduit. In the event neither party has sufficient resources to repair the conduit, this Agreement shall be terminated.

G. **As-built Drawings.** The District shall provide the City with “As-Built” drawings for the District Network in accordance with the provisions of the Design and Construction Standards. The “As-Built” drawings will be used for determining the leased area provided for in Section II, paragraph A.2.
H. Maintenance and Repair Responsibilities. The City will be responsible for the operations, maintenance and repairs of the City Conduit and Existing City Fiber leased to the District. The District will be responsible for all conduit and fiber optic cable constructed, installed or leased by the District, including the Dedicated City Fiber.

I. Relocation. In the event the City decides to relocate any segment of the City conduit, the City will be responsible for any expenses associated with the relocation. In the event the City decides to relocate any segment of the conduit constructed by the District, the District will be responsible for any expenses associated with the relocation of the fiber optic cable the District installed, including the fiber optic strands leased to the City. In the event of any relocation the parties agree to provide sixty days notice in writing to the other, unless failure to relocate poses a threat to health, safety or welfare of the public or individuals, as determined by the City, in which case the City shall have the right to move the conduit without such notice or with a lesser notice.

J. Repair of Damages. The District agrees to promptly repair all damage caused by the District or its contractors to the City Conduit or to any existing fiber optic cable owned by either the City, Level 3, BRAN, Qwest, Comcast, or any other fiber optic cable owner located within the City Conduit. If such damage poses a threat to the health, safety or welfare of the public or individuals, the City may cause repairs to be made at the District’s expense. The District shall reimburse the City within thirty days of receipt of invoice for the repairs.

K. Notification Provisions. The District agrees to provide 14 days notice of its intent to enter any manhole to the following:

1. Level 3
   Diron Benschop or his successor
   OSP Engineer - Denver - Metro Network Services
   303-414-4006
   diron.benschop@level3.com

2. Comcast
   Bob Pyle or his successor
   Fiber Supervisor
   303-603-5039
   bob_pyle@cable.comcast.com

3. Qwest
   Kathy Dunbar or her successor
   Field Engineer
   303-441-7113

4. BRAN or City of Boulder
   Paul Williams or his successor
   Network Planner
   303-441-1947
L. **Utility Notification Center and Line Location.** The parties agree to maintain membership in, and coordinate its activities with the Utility Notification Center of Colorado, and any successor organization coordinating location of utility lines. The parties agree to respond promptly and appropriately to all line location requests from the public or from other utilities, whether or not such requests are made through the Utility Notification Center.

M. **Additional Conduit.** The District agrees to cooperate with the City in the planning, locating and construction of its conduit system. To the extent available during the time construction commences, the District agrees to install its conduit in joint trenches or common duct banks with other telecommunications providers or the City when so requested by the City. The City agrees to provide advance notice to the District when it or others plan to open a trench and the District agrees to provide notice to the City when it plans to open a trench. The District and the City will offer to make space available to the other, and to other persons who are subject to the same obligations, on reasonable terms, consistent with this Agreement. At the time of the execution of this Agreement, the parties agree that following joint trench projects will occur:

1. The District agrees to construct conduit between Moorehead Avenue and 55th Street along Table Mesa/South Boulder Road in order to complete the west fiber optic ring. The District agrees to extend to the City an offer to construct three additional 1-1/4 inch conduits along Table Mesa/South Boulder Road between Moorehead Avenue and 55th Street.

2. The District agrees to solicit a bid to install these conduits on the basis of the incremental cost difference between constructing a single conduit as part of the District's west fiber optic ring and multiple conduits for the City. The City agrees that it will accept or reject the offer to construct the three additional conduits within 30 days of notice being provided by the District of the cost of such installation. Failure of the City to respond within 30 days may be considered by the District a rejection of such offer.

3. The City agrees to reimburse the District for only the incremental cost difference between the District’s cost and the cost to add the three additional conduits within 30 days after receiving a bill from the District.

N. **Additional Work for the City.** The parties acknowledge that the District’s design and construction agreements for the installation of telecommunications improvements anticipated by this Agreement will provide the City with a cost effective and efficient opportunity to extend telecommunications conduit and fiber optic cable to individual City buildings such as the 75th Street Wastewater Treatment Plant and Fire Stations. The District agrees to extend to the City pricing based on these design and construction agreements to complete work as requested and defined by the
City. All work performed by the District’s contractors on behalf of the City will be at the actual cost charged to the District by its contractors. The City agrees to reimburse the District within 45 days of receipt of invoice from the District for any such work that has been requested by the City.

O. **Removal/Ownership of Facilities.** Upon termination of this lease by the City or the District, the District agrees that upon demand by the City, to either remove all facilities described in this Agreement at the District’s sole cost and expense, or to cease using the facilities and allow the facilities to remain. At the end of the lease term all facilities within the public right-of-way not otherwise owned by the City will become the property of the City.

**VII. MISCELLANEOUS PROVISIONS**

A. **Disagreements.** Both parties agree in good faith to use their best efforts to resolve disputes that may arise under this Agreement by direct consultation, facilitated discussions, or mediation, if possible, before commencement of litigation; provided, however, such procedures shall not be a condition precedent to the filing of litigation in order to protect against the application of any statute of limitations.

B. **Good Faith Negotiations.** In the event that any party feels unreasonably constrained by the terms of this Agreement at any time, the other parties shall bargain in good faith to explore any adjustment of the terms of this Agreement which could relieve such constraint, consistent with the spirit of this Agreement and the public interest.

C. **No Indemnity and Hold Harmless.** Neither party is required to indemnify the other in connection with this Agreement, except as set forth in this Agreement. However, each party assumes responsibility for its actions and omissions in the performance or failure to perform work under this Agreement, as well as the actions and omissions of its agents and employees. Neither party waives or intends to waive the limitations on liability which are provided to the parties, their officers, and employees under the Colorado Governmental Immunity Act, Section. 24-10-101 et. seq., C.R.S. The District agrees to be responsible to validate the availability of the City conduit along the District’s intended route, and the District agrees to hold the City harmless in the event there is an error within the City’s conduit documentation.

D. **Permits and Licenses Non-Exclusive.** The leasehold interests granted by the City in this Agreement shall be non-exclusive, and subject to all prior rights, interests, easements, or licenses granted to any person to use any such property, street, right-of-way, easement, right, interest, or license for any purpose whatsoever.

E. **No Claim Upon Revocation.** This Agreement and the rights granted pursuant to this Agreement shall create no vested rights subsequent to its expiration, termination, or revocation. Upon such expiration, termination, or revocation, neither party nor any successor in interest of any party, including without limitation a trustee or creditor in bankruptcy, shall have any right to continue to operate the District Network or to recover any expenditures made hereunder.
F. **Taxes.** The District does not pay local sales and use taxes. The City agrees not to assess for any local taxes in connection with the construction and maintenance of the District Network provided that any contractor constructing or maintaining the District Network may be assessed local sales and use taxes.

G. **Annual Appropriation.** The parties' financial obligations under this Agreement in future fiscal years are subject to annual appropriation in accordance with Colorado law.

H. **Insurance.** The District certifies that it is insured for property and general liability coverages, including errors and omissions to the limits set forth in the Governmental Immunity Act. Excess insurance is purchased above the District's self-insured retention. A Certificate of Insurance shall be provided to the City outlining the insurance policy limits.

I. **Governing Law and Venue.** All agreements among the parties shall be construed and interpreted in accordance with the laws of the United States of America and the State of Colorado. Venue for any action shall be proper in the Twentieth Judicial District of the State of Colorado and in the Federal District Court for the District of Colorado, depending upon the cause of action urged.

J. **Integration Clause.** This Agreement and the attached exhibits and appendix contain the entire agreement between the parties relating to the District Network and may be modified only by an instrument in writing executed by all of the parties.

K. **Effective Date.** The terms of this Agreement will become effective upon the signature of the approving officials of all of the parties.

L. **Notices.** All notices under this Agreement shall be given by registered or certified mail, postage prepaid, directed as follows, or as amended by notice given under this paragraph, and shall be deemed given on the date of mailing:

**Intended for the District:**

Boulder Valley School District No. RE-2  
6500 E. Arapahoe, P.O. Box 9011  
Boulder, CO 80301

**Intended for the City:**

City Manager  
With a copy to the Director Public Works  
and the Director of IT  
Post Office Box 791  
Boulder, Colorado 80306
M. No Third Party Beneficiaries. The covenants and agreements contained in this Agreement are for the benefit of the District and the City only, and do not create any obligations or duties to persons not parties hereto.

N. Reservation of Police Powers. The District’s rights hereunder are subject to the police powers of the City to adopt and enforce ordinances necessary to the safety, health, and welfare of the public, and the District agrees to comply with all applicable laws and ordinances enacted, or hereafter enacted by the City. The City reserves the right to exercise its police powers and nothing in this Agreement shall be construed as a waiver of said police power.

O. Authority. The parties represent that the individuals executing this Agreement on their behalf possess full power and authority from their respective governing boards in compliance with Colorado law.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives as of the date indicated.

[SIGNATURE PAGE FOLLOWS]
THE CITY OF BOULDER, COLORADO

By: [Signature]
City Manager

Attest:
[Signature]
City Clerk on behalf of the Director of Finance and Record

Approved as to form:
[Signature]
City Attorney / 3.5.08

BOULDER VALLEY SCHOOL DISTRICT NO.
RE-2

By: [Signature]
President, Board of Education

Attest:
[Signature]
Secretary

Approved as to form:
[Signature]
School District Attorney
EXHIBITS:

Exhibit A: City Conduit
Exhibit B: East Ring
Exhibit C: West Ring
Exhibit D: Fiber and Splicing Specifications
Exhibit E: Acceptance Notice
Exhibit F: City Fiber Optic Strands Leased to District
<table>
<thead>
<tr>
<th>Route Number</th>
<th>City Conduit Spec Items</th>
<th>City Conduit Description</th>
<th>Diameter</th>
<th>Material</th>
<th>Verif Date</th>
<th>Color Code</th>
<th>Color Code Value</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>18th St to Darby on S. Broadway</td>
<td>from the City hand-hole located on the northeast corner of S. Broadway and Darby Ave. to the City hand-hole located on the southeast corner of S. Broadway and 18th St.</td>
<td>4</td>
<td>1.25&quot; HDPE</td>
<td>06/2007</td>
<td>1</td>
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<td></td>
</tr>
<tr>
<td>2</td>
<td>6th &amp; Broadway on South Dear</td>
<td>from the traffic manhole located on the NW corner of Table Mesa and Broadway to the City hand-hole located in the center median east of the intersection of Table Mesa and 6th St.</td>
<td>3</td>
<td>1.5&quot; HDPE</td>
<td>06/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>6th &amp; Batterman on S. Broadway</td>
<td>from the traffic manhole located on the NE corner of Table Mesa and Broadway to the City hand-hole located in the center median west of the intersection of Table Mesa and 6th St.</td>
<td>3</td>
<td>1.25&quot; HDPE</td>
<td>06/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
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<td>4</td>
<td>27th &amp; Broadway on D. Broadway</td>
<td>from the City hand-hole located on the NE corner of Table Mesa and Broadway to the City hand-hole located on the west side of Broadway in the ROW 100 ft south of Batterman Ave.</td>
<td>6</td>
<td>1.25&quot; HDPE</td>
<td>06/2007</td>
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<tr>
<td>5</td>
<td>University to Canyon on S. Broadway</td>
<td>from the City hand-hole located on the northeast corner of University Ave. and South Broadway to the City traffic manhole located on the intersection of Canyon and S. Broadway.</td>
<td>4</td>
<td>2&quot; PVC</td>
<td>05/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>S. Broadway to 14th on Canyon</td>
<td>from the City traffic manhole located at the intersection of Canyon and S. Broadway to the City traffic manhole located at the intersection of Canyon and 14th.</td>
<td>3</td>
<td>1.5&quot; HDPE</td>
<td>06/2007</td>
<td>1</td>
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<td>BVSD to install 1 inch duct.</td>
</tr>
<tr>
<td>7</td>
<td>14th to 17th on Arapahoe</td>
<td>from the City traffic manhole located at the intersection of Arapahoe and 14th to the intersection located at Arapahoe and 17th.</td>
<td>3</td>
<td>1.5&quot; HDPE</td>
<td>06/2007</td>
<td>1</td>
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<td></td>
</tr>
<tr>
<td>8</td>
<td>14th to 17th on Arapahoe</td>
<td>from the City traffic manhole located at the intersection of Arapahoe and 14th to the intersection located at Arapahoe and 17th.</td>
<td>3</td>
<td>1.5&quot; HDPE</td>
<td>06/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>14th to 17th on Arapahoe</td>
<td>from the City traffic manhole located at the intersection of Arapahoe and 14th to the intersection located at Arapahoe and 17th.</td>
<td>3</td>
<td>1.5&quot; HDPE</td>
<td>06/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Canyon to Lawry on N. Broadway</td>
<td>from the City traffic manhole located at the intersection of Canyon and Broadway to the City traffic manhole located at the intersection of Lawry and N. Broadway.</td>
<td>3</td>
<td>2&quot; PVC</td>
<td>06/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>N. Broadway to 14th on Lawry</td>
<td>from the City traffic manhole located at the intersection of N. Broadway and Lawry to the City traffic manhole located at the intersection of 14th and Lawry.</td>
<td>3</td>
<td>1.25&quot; HDPE</td>
<td>06/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Lawry to Walnut on 14th</td>
<td>from the City traffic manhole located at the intersection of 14th and Lawry to the City traffic manhole located at the intersection of Walnut and 14th.</td>
<td>3</td>
<td>1.25&quot; HDPE</td>
<td>06/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>14th to 17th on Walnut</td>
<td>from the City traffic manhole located at the intersection of Walnut and 14th to the City traffic manhole located at the intersection of 17th and Walnut.</td>
<td>2</td>
<td>1.25&quot; HDPE</td>
<td>06/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Walnut to City alley between 17th and 18th</td>
<td>from the City traffic manhole located at the intersection of 17th and Walnut to the City traffic manhole located at the City alley and 17th.</td>
<td>2</td>
<td>1.25&quot; HDPE</td>
<td>06/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>City alley between 17th and 18th</td>
<td>from the City traffic manhole located at the City alley and 17th to the City traffic manhole located at the intersection of 18th and City alley.</td>
<td>2</td>
<td>1.25&quot; HDPE</td>
<td>06/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>City alley to Spruce on 18th</td>
<td>from the City traffic manhole located at the intersection of City alley and 18th to the City traffic manhole located at the intersection of 18th and Spruce.</td>
<td>3</td>
<td>1.25&quot; HDPE</td>
<td>06/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>18th to 20th on Spruce</td>
<td>from the City traffic manhole located at the intersection of 18th and Spruce to the manhole 200 feet west of the intersection of Spruce and 20th.</td>
<td>3</td>
<td>1.25&quot; HDPE</td>
<td>06/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Lawry to Pine on N. Broadway</td>
<td>from the City traffic manhole located at the intersection of N. Broadway and Lawry to the City traffic manhole located 1 block north of Pine St. to the east side of North Broadway in the driveway of the Fred Collins property.</td>
<td>4</td>
<td>2&quot; PVC</td>
<td>01/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Pike to Greeley on 28th</td>
<td>from the City traffic manhole located on the southeast corner of Broadway and 28th St. to the intersection of 28th St.</td>
<td>0</td>
<td>1.25&quot; HDPE</td>
<td>01/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>28th St to Fruitville Pkwy on West End Rd</td>
<td>from the south side of the intersection of 28th St. and Fruitville Pkwy to the north side of the intersection of 28th St. and West End Rd.</td>
<td>4</td>
<td>1.5&quot; HDPE</td>
<td>01/2007</td>
<td>1</td>
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<td></td>
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<tr>
<td>21</td>
<td>Fruitville to Mitchell on 47th</td>
<td>from the south side of the intersection of 28th St. and Fruitville Pkwy to the north side of the intersection of 47th St. and Mitchell Rd.</td>
<td>3</td>
<td>1.25&quot; HDPE</td>
<td>01/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Mitchell to Jay on Fruitville Pkwy</td>
<td>from the south side of the intersection of 47th St. and Mitchell Rd. to the north side of Fruitville Pkwy and Mitchell Rd.</td>
<td>1</td>
<td>3&quot; PVC</td>
<td>01/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Pennsylvania to Baseline on 5th</td>
<td>from the south side of the intersection of 5th St. and Pennsylvania Ave. to the north side of the intersection of 5th St. and Pennsylvania Ave.</td>
<td>0</td>
<td>1.5&quot; HDPE</td>
<td>01/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Baseline to 55th on Baseline</td>
<td>from the north side of the intersection of 55th St. and Baseline Rd. to the north side of the intersection of 55th St. and Baseline Rd.</td>
<td>0</td>
<td>1.5&quot; HDPE</td>
<td>01/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>55th to 59th on Baseline</td>
<td>from the north side of the intersection of 55th St. and Baseline Rd. to the north side of the intersection of 59th St. and Baseline Rd.</td>
<td>0</td>
<td>1.5&quot; HDPE</td>
<td>01/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Southeast to 41st on Table Mesa Dr</td>
<td>from the south side of the intersection of 41st St. and Table Mesa Dr. to the north side of the intersection of 41st St. and Table Mesa Dr.</td>
<td>4</td>
<td>1.25&quot; PVC</td>
<td>01/2007</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Mesa Dr to 59th on Mitchell</td>
<td>from the north side of the intersection of Mesa Dr. and 59th St. to the north side of the intersection of 59th St. and Mitchell</td>
<td>4</td>
<td>1.25&quot; HDPE</td>
<td>01/2007</td>
<td>1</td>
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</tr>
</tbody>
</table>
Per the IGA, BVSD has allocated 16 fiber strands in the West ring for the use of the City owned duct bank.
Exhibit D: Fiber and Splicing Specifications

SECTION 17130 – BACKBONE CABLING REQUIREMENTS

1.1 – GENERAL

1.2 RELATED DOCUMENTS
A. Drawings, specifications and general provisions of the Contract.

1.3 SCOPE OF WORK
A. Provide all labor, materials, tools, and equipment required for the complete installation, splicing, and termination of new backbone cabling as called for in the specifications and related drawings.
B. This section includes minimum requirements and installation methods for the following:
   1. Fiber Optic Outside Backbone Cabling and Connectors
   2. Fiber Splice

1.4 QUALITY ASSURANCE
A. All backbone cable installation, splicing, and termination shall be performed in a neat and workmanlike manner. All methods of construction that are not specifically described or indicated herein shall be subject to the control of the City of Boulder.
B. Equipment and materials shall meet or exceed the specifications herein and are subject to approval of the City of Boulder based on submittals provided.
C. Materials and work specified herein shall comply with the applicable requirements of:
   1. ANSI/NFPA 70 – National Electrical Code (NEC) including, but not limited to, the following articles: 250, 300, 645, 725, 770, 800 and 820
   4. ANSI/TIA/EIA-568-B.3 – Optical Fiber Cabling Components Standard
   5. ANSI/TIA/EIA-492 Series – Specifications for Optical Waveguide Fibers
   6. ANSI/TIA/EIA-569-B – ANSI/TIA/EIA-598-C – Optical Fiber Cable Color Coding
   7. ANSI/TIA/EIA-604 Series – Fiber Optic Connector Intermateability Standards
   8. ANSI/TIA/EIA-606 – Administration Standard for Telecommunications Infrastructure of Commercial Buildings
   9. ANSI-J-STD-607 – Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications
   10. ANSI/TIA/EIA-758 – Customer Owned Outside Plant Telecommunications Cabling Standard
   11. ANSI/ICEA S-87-640 – Fiber Optic Outside Plant Communications Cable
   12. BICSI Telecommunications Distribution Methods Manual
   13. BICSI Customer-Owned Outside Plant Manual

1.5 – PRODUCTS
1.6 FIBER OPTIC BACKBONE CABLINGS AND CONNECTORS
A. Backbone Singlemode Fiber Optic Strands
   1. Class IVa dispersion-unshifted, Singlemode optical fiber waveguide that meets or exceeds ANSI/EIA-492BAAA
   2. Typical Core diameter: 8.3 μm nominal
   3. Clad diameter: 125 ± 1.0 μm
   4. Clad non-circularity: λ ~ 1.0μm
   5. Core/clad concentricity error: λ ~ 0.8 μm
   6. Coated Diameter: 245 ± 10 μm
   7. Color Coated Diameter: 254 ± 7 μm
   8. Attenuation Uniformity: There shall be no point discontinuities greater than 0.1 dB at either 1310 nm or 1550 nm
   9. Proof test: ≥ 100 ksi
   10. Zero dispersion wavelength: 1302 nm to 1322 nm
   11. Zero dispersion slope λ ~ 0.090 ps/nm²-km
   12. Maximum Attenuation Loose Tube: 0.35 dB/km @ 1310 nm and 0.25 dB/km @ 1550 nm (measured at 23°C ± 5°C in accordance with ANSI/EIA/TIA-455-78A, or -61)

Outside Fiber Optic Cable
EXHIBIT E

ACCEPTANCE NOTICE

Pursuant to section VI(f) the Agreement between the City and the District dated __________, the District hereby accepts the City conduit.

Signed:

BOULDER VALLEY SCHOOL DISTRICT NO. RE-2

By: ___________________________

Its: ___________________________

Date: _________________________

By: ___________________________

Its: Director City of Boulder IT Department

Date: _________________________
FIRST AMENDMENT TO LEASE AGREEMENT FOR CONDUIT SPACE 
AND FIBER OPTIC CABLE
DATED MARCH 5, 2008

This Amendment is made as of the 20th day of April, 2008 by and 
between the BOULDER VALLEY SCHOOL DISTRICT No. RE-2, a Colorado school district (the 
"District"); and the CITY OF BOULDER, a Colorado home rule city ("City").

A. On March 5, 2008, the District and the City entered into a Lease Agreement 
("Lease Agreement") for conduit space and fiber optic cable dated March 5, 2008. The Lease 
Agreement allows BVSD to construct its fiber optic network ("District Network") within City 
right-of-way, while providing the City with use of the Dedicated Fibers (those fibers leased to 
the City under the Agreement).

B. In May 1999, the City, the University Corporation for Atmospheric Research and 
the University of Colorado entered into a Memorandum of Understanding (MOU”) concerning 
the administration of the Boulder Research and Administrative Network (the “BRAN network”). 
The BRAN Network is a high-speed fiber optic network installed throughout City right-of-way. 
The MOU governs the responsibilities and obligations of the parties for the management of the 
BRAN network.

C. The BRAN members have determined it would be beneficial to the BRAN 
network to be able to lease fiber from the District.

D. The Lease Agreement provides that the City will retain the right to use or assign the 
Dedicated City Fiber to parties of its choosing. The District has agreed to lease additional strands to 
the City for use by all members of BRAN.

E. This First Amendment to the Lease Agreement was considered by the Boulder 
City Council at a regularly scheduled meeting. At that meeting the Boulder City Council 
approved the First Amendment and authorized the City Manager to approve and sign any future 
amendments to the Lease Agreement for the remaining term of the Lease Agreement.

F. The parties here wish to amend the terms of the Lease Agreement between the 
City and the District to clarify the promises and obligations of the parties.

NOW THEREFORE, in consideration of the promises and obligations set forth below, 
the parties agree to amend the Agreement as follows:

1. The parties agree to abide by the terms of the Lease Agreement, except as 
modified by this Amendment.

2. Section I, “Definitions” Paragraph B is amended as follows:
B. "Dedicated City Fiber" means the 16 strands to be provided to the City from the 168 strand fiber optic cable throughout the District’s west ring, the four strands throughout the District’s east ring, and strands along the following spur routes that are not part of the west wing as follows:

1. Eight strands from Jay Road to Boulder Preparatory High School via 63rd Street and Spine Road;
2. Four strands from Mapleton Avenue to Casey Middle School via 13th Street;
3. Four strands from Iris Avenue to Crestview Elementary School via 19th Street and Sumac Avenue;
4. Four strands from Darley Avenue to Fairview High School via Gillaspie Drive;
5. Four strands from 20th Street to New Vista High School;
6. Four strands from 19th Street to Foothill Elementary School via Grape Avenue and Hawthorne Avenue; and
7. Four strands from Table Mesa Drive to Summit Middle School via South 46th Street.

3. Section I, “Definitions” is amended by adding the following language:

G. “Supplemental Fiber” means the additional twenty strands of Fiber provided to the City throughout the District’s west ring. The Supplemental Fiber is included as part of the Dedicated City Fiber.

4. Section II, “Description of Leased Premises” Paragraph A.3 is amended as follows:

3. Twelve fiber strands in an existing City 24-strand aerial fiber optic cable from the existing City splice enclosure located in the City manhole near the southeast corner of Baseline Road and 55th Street to the City manhole located on the northeast corner of Laguna Place and Mohawk Drive as shown in Exhibit F, attached hereto and incorporated herein by reference (the “Existing City Fiber”).

5. Section II, “Description of Leased Premises” Paragraph B is amended by the adding the following language:

2. The Supplemental Fiber.

6. Section III, “Rent” is amended by adding the following language:
For the use of the Supplemental Fiber, the City will pay a one time fee of $200,000 to the District on December 31, 2009. Thereafter, the City will pay $15,000 annually for the use of the Supplemental Fiber. This annual payment will commence on January 1, 2010, or upon the completion of the west ring.

The District acknowledges here that the City will collect the money from the BRAN members to pay for the use of the Supplemental Fibers. The District agrees that the City will only be obligated to pay the District those fees which it collects from the BRAN members and will not be responsible to the District for any funds owed to the City by any BRAN member.

7. The callout on Exhibit F "Fiber Strands Leased to District" is amended as follows:

"Twelve fiber strands leased by the District from the City"

8. Except as amended herein, the Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties have set their hands to this Agreement on the day and year above first written.

THIS AMENDMENT is entered into as of the _____ day of ______, 2009.

THE CITY OF BOULDER, COLORADO

By:  

City Manager

Attest:

City Clerk on behalf of the Director of Finance and Record

Approved as to form:

City Attorney 4-28-09
BOULDER VALLEY SCHOOL DISTRICT NO. RE-2

By: 

President, Board of Education

Attest:

Sandra M. Eicher
Secretary

Approved as to form:

Melissa Mungen
School District Attorney