## A G E N D A WORK SESSION MEETING City of Moberly November 15, 2021 6:00 PM

### **Requests, Ordinances, and Miscellaneous**

- 1. Kenneth And Judy Penton Have Contacted The City Wishing To Quit Claim Deed 1300 Myra Street To The City.
- 2. Discussion Of A Moberly Engagement Letter With Lauber Municipal Law Firm.
- 3. Janet N. Smith and Dorothy Smith Have Contacted The City Wishing To Quit Claim Deed 707 South 5th Street To The City.
- <u>4.</u> Discussion Of MC Power Maintenance Agreement Solar Pavilion.
- 5. A Discussion Regarding A Scope Of Services Agreement With BARR Engineering Company For Professional Services.
- <u>6.</u> Discussion Of Moberly Pavement And Sidewalk Study Presented By Trekk.

# **City of Moberly City Council Agenda Summary**

Agenda Item:Kenneth and Judy Penton has contacted the City wishing to Quit Claim Deed<br/>1300 Myra St. to the City.Summary:The property at 1300 Myra Street was condemned in 2020. After meeting with<br/>the owners, whom do not have the funds to remove the structure, it was<br/>offered to the City of Moberly free and clear of any bills. The City of Moberly<br/>would like to accept this property to demolish and remove the dilapidated<br/>structure and repurpose the lot. Attached is the O&E report on the property.Recommended<br/>Action:Direct staff to bring forward to the December 6, 2021 regular City Council<br/>meeting for final approval.Fund Name:N/AAvailable Budget \$:N/A

ATTACHMENTS:		Roll Call	Aye	Nay
Memo Staff Report Correspondence Bid Tabulation	Council Minutes Proposed Ordinance Proposed Resolution Attorney's Report	Mayor M S Jeffrey Council Member		
<ul> <li>P/C Recommendation</li> <li>P/C Minutes</li> <li>Application</li> <li>Citizen</li> <li>Consultant Report</li> </ul>	Petition Contract Budget Amendment Legal Notice <u>x</u> Other <u>O&amp;E Report</u>	MSBrubaker MSKimmons MSDavis MSKyser	Passed	Failed

# TOWN & COUNTRY ABSTRACT CO., INC.

541 West Coates Suite 101 Moberly, Missouri 65270 Phone 660-263-0425 Fax 660-263-1226 Email brad@townandcountryabstract.com

November 1, 2021

Ms. Carla Beal City of Moberly 101 W. Reed Street Moberly, MO 65270

Dear Carla,

As you requested, we searched the records of Randolph County, Missouri, pertaining to: Lot 1 in Block 1 of W. W. and J. P. Porter's Addition to the City of Moberly, Randolph County, Missouri. Our search covered the period March 14, 2008, through October 25, 2021, and disclosed the following:

**TITLE**: Title was vested in Kenneth Penton and Judy Penton, husband and wife, by Warranty Deed recorded March 14, 2008, in Book 689 at page 208.

MORTGAGES: None of record.

MECHANICS' LIENS: None of record.

JUDGMENTS: None of record against Kenneth Penton or Judy Penton.

TAX LIENS: None of record against Kenneth Penton or Judy Penton.

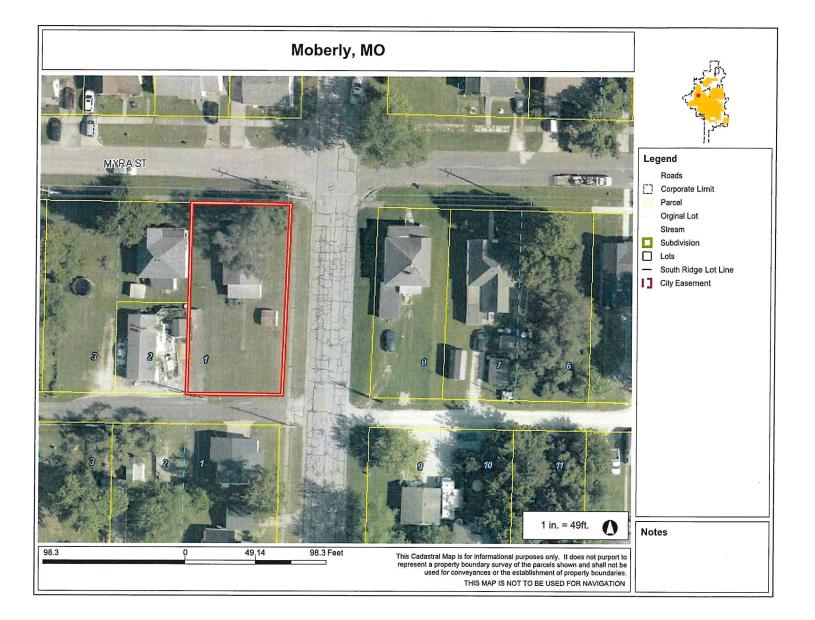
**REQUESTS FOR NOTICE OF SALE**: None of record.

SPECIAL ASSESSMENTS: None of record.

**TAXES**: Taxes were paid for the year 2020 and prior. 2021 taxes are \$81.81. Parcel #07-7.0-35.0-3.0-002-166.000 Liability for this Ownership & Encumbrance Report is limited to the price paid the Company for this Report and that maximum liability is limited to the customer who placed the order with us.

Very truly yours,

Brad Goessling



Agenda Item:	Discussion of a Moberly Engagement Letter With Lauber Municipal Law Firm.
Summary:	The city has multiple properties that need to be acquired for future development of infrastructure and park land. The city has attempted to acquire these properties in the past with no success. Staff is recommending using special council to go through the acquisition process on these properties with due to time constraints and workload. The properties required for acquisition have been previously identified by the council and initial offers have been made to the property owners. The council will review the progress on acquiring these properties through closed sessions in the coming months.
Recommended Action:	Direct staff to bring to the December 6 <sup>th</sup> Council meeting for final approval.
Fund Name:	N/A
Account Number:	N/A
Available Budget \$:	N/A

TTACHMENTS:		Roll Call	Aye	Nay
Memo	Council Minutes	Mayor		
Staff Report	Proposed Ordinance	MSJeffrey		
Correspondence	Proposed Resolution	•		
Bid Tabulation	Attorney's Report	Council Member		
P/C Recommendation	Petition	M S Brubaker		
P/C Minutes	Contract	M S Kimmons		
Application	Budget Amendment	M S Davis		
Citizen	Legal Notice	M S Kyser		
Consultant Report	x Other		Passed	Failed



November 5, 2021

Mr. Brian Crane, City Manager City of Moberly 101 West Reed Street Moberly, MO 65270

Re: Provision of Special Counsel Legal Services for Eminent Domain Matters

Dear Mr. Crane:

You have requested Lauber Municipal Law, LLC (the "Firm") to provide services as special counsel for eminent domain actions and other general municipal law matters as requested from time to time by you or the City Council for the City of Moberly (the "Matters"). I am submitting this letter to you to serve as the written agreement for the Firm's engagement to provide legal services concerning the Matters. We look forward to serving as special counsel for this engagement. I am submitting this letter to you to serve as the written agreement for this Firm's engagement to provide legal services concerning the Matters. We look forward to serving as special counsel for this engagement to provide legal services concerning the Matters. We look forward to serving as special counsel for this engagement to provide legal services concerning the Matters. We look forward to serving as special counsel for this engagement to provide legal services concerning the Matters. We look forward to serving as special counsel for this engagement.

The City will be our client for this engagement. I will be primarily responsible for the engagement on behalf of the Firm. The scope of this engagement will be limited to the provision of legal services for the Matters described above unless otherwise directed by you.

Our fees for this engagement will be based upon and billed at an hourly rate, at one-tenth hour increments, for purposes of this engagement for the time devoted to it. Our hourly rates for this engagement are \$215. Any type of work being done for the City by our paralegal or law clerk (non-attorney) will be billed at \$75 per hour. The Firm reserves the right to charge an hourly rate less than those indicated in this agreement at its sole discretion. If we need to travel to Moberly, we will not charge for the first ½ hour of travel.

If you have any questions concerning the terms of this engagement, or if you ever have a question about our charges or their reasonableness, please contact me at your convenience to

WS #2.

discuss the matter. Our engagement for the City will continue upon our receipt of a signed copy of this agreement (by fax, mail or hand delivery). Thank you for choosing Lauber Municipal Law, LLC, to provide these important legal services to the City. We look forward to a continued good and productive relationship.

Kindest Regards,

LAUBER MUNICIPAL Milalen ,

Nathan M. Nickolaus

Enclosure

#### ACCEPTED AND AGREED:

CITY OF MOBERLY, MISSOURI

By:

Brian Crane, City Manager





## **Additional Terms of Engagement**

Lauber Municipal Law, LLC (the "Firm"), appreciates the opportunity to serve you. Our goal is to provide legal services that address your legal needs effectively and efficiently through our offices in Lee's Summit and Jefferson City. The following information explains the client service practices and billing procedures that apply to our representation of your interests (unless you have reached a different written understanding with me). We encourage you to discuss these practices with us whenever you have questions during the course of this engagement.

**Provision of Legal Services.** This engagement is for provision of professional legal services, and not for the provision of business, personal, accounting, technical, or other advice not constituting legal services. It is agreed that the client is not relying upon counsel in this engagement for advice in areas other than professional legal services, even if such matters should be discussed in connection with the engagement.

**Entire Agreement.** The accompanying engagement letter together with these Additional Terms of Engagement shall constitute the entire agreement between us concerning the engagement, and shall not be modified or supplemented, except in a subsequent writing signed by the parties. These documents are intended to supersede all prior documents related to the same matter.

**Expectations.** Upon hiring the Firm you have put at your disposal the resources of multiple attorneys who practice municipal law exclusively; in essence, you have hired a full law department. In order to serve the needs of all of our municipal clients quickly and efficiently, it is our business practice to attempt to acknowledge all calls and e-mails within one business day of when they were received. We prefer that you contact us via e-mail or calls to our office at (816) 525-7881. Text messages or calls to our cell phones are not as easy to track and should be limited to emergency matters or other matters requiring immediate attention. Text messages or calls to our cell phones should not be used to communicate general requests for work to be completed. Messages received after 5:30 p.m. will be treated as though received on the following business day. We will make every effort to complete assignments communicated to us using appropriate channels within five business days. If a situation exists that requires a more immediate response or completion date, be sure to communicate this at the time you contact us regarding the matter. Please be sure to allow our attorneys adequate time to review documents and provide solutions prior to your meeting packet deadlines.

**Subcontractors.** From time-to-time, it may be necessary for us to engage subcontractors to assist in the provision of services to you. It is agreed that we are not authorized to engage any such subcontractors without the prior approval of the City Council.

**Periodic Billings for Legal Services.** It is our policy to render periodic statements for legal services on a monthly basis. We will base these periodic statements on the hourly rates set forth in the attached Engagement Letter. Statements will be due upon presentation, and are to be paid no later than 30 days following the invoice date. If any statement amount remains unpaid 60 days after the invoice date, the Firm reserves the right at its sole discretion to elect to charge a reasonable late fee or to terminate its services, or both, consistent with applicable Rules of Professional Conduct.

**Annual Rate Adjustment.** All hourly rates for legal services provided by the Firm are subject to annual adjustment, or less frequently at the sole discretion of the Firm, with written notice of at least thirty days.

**Client Disbursements.** Some matters require, from time to time, certain monetary advances to be made on your behalf by the Firm. Some "client disbursements" represent out-of-pocket charges that the Firm advances, while others represent internal costs (including costs such as fees for service of process, court filing fees, deliveries, etc.). It is understood that while acting as your attorney, we have the authority to use our best judgment in making such expenditures on your behalf. Unless we have made prior arrangements with you, we will send you monthly billings for client disbursements incurred during the preceding month. Substantial individual items in excess of \$250, such as expert witness fees, the costs of deposition transcripts, etc., may be billed directly to you by the vendor of such services.

**File Retention.** After Lauber Municipal Law, LLC's services conclude, we will, upon your request, deliver the file for this engagement to you. If you do not request the file, we will retain it for a period of six years after the matter is closed. If you do not request delivery of the file before the end of the six year period the Firm will have no further obligation to retain the file and may, at our discretion, destroy it without further notice to you. At any point during the six year period, you may request delivery of the file.

**Disbursements and Other Charges.** We may charge the City for certain expense items listed below that we provide in connection with the legal services:

<u>Photocopying</u>. We will not charge the City for in-house photocopies which do not exceed 100 copies in a month. If in-house photocopies exceed 100 in a month, then we reserve the right to charge \$0.12 per page (or the Firm's cost, whichever is less) but only for each page over 100 in number. If the need for an outside copying job (e.g., Kinko's) arises, we only bill the actual cost incurred for photocopying without markup.

<u>Computer Research</u>. We do not charge for the Firm's service agreement with Lexis or other electronic provider of legal research resources.

<u>Telecommunications</u>. We do not charge for local or long-distance phone calls or facsimiles.

<u>Mail/Messengers</u>. We do not charge for regular mail; however, bulk mailings, packages and special postal services may be charged at the Firm's actual cost. Messengers are used as appropriate to assure expedited delivery. The actual cost of such messenger services is charged without markup.

<u>Travel</u>. We will not charge the City for travel for the first half-hour from our office to City Hall and back for City business.

Internet Usage. We regularly use the Internet as a means for communicating about matters concerning your representation. Any such communication could be randomly intercepted and otherwise used or disclosed by anyone, including someone specifically interested in your matter or business. This could cause you to lose your confidentiality and attorney/client privilege protections. However, to facilitate your representation, you approve the use of Internet communications during your representation by us unless we are instructed otherwise.

**Termination of Services.** You may terminate the services of Lauber Municipal Law, LLC, at your discretion by giving us 30 days written notice of termination. We retain the right to cease performing legal services and to terminate our legal representation for any reason consistent with ethical rules, including conflicts of interest or the failure to pay legal fees and expenses when due. Termination by us will be effective upon 30 days written notice delivered to you. Our termination or your termination of services does not affect your obligation to pay legal fees and expenses incurred prior to the effective date of such termination.

**Questions.** One of our goals is to ensure that legal services are delivered effectively and efficiently, and that all billings are accurate and understandable. Please direct any questions about services, billing, or payment status of your account to me.

308 E. High St. Jefferson City, MO 65101 • Office (660) 672-4597 Email: nnickolaus@laubermunicipal.com

City of Moberly
<b>City Council Agenda Summary</b>

Agenda Item:	Janet N. Smith and Dorothy Smith Have Contacted The City Wishing To Quit Claim Deed 707 South 5th Street To The City.
Summary:	The property at 707 South 5th Street was condemned in 2020. After meeting with the owners, whom do not have the funds to remove the structure, it was offered to the City of Moberly free and clear of any bills. The City of Moberly would like to accept this property to demolish and remove the dilapidated structure and repurpose the lot. Attached is the O&E report on the property.
Recommended Action:	Direct staff to bring forward to the December 6, 2021 regular City Council meeting for final approval.
Fund Name:	N/A
Account Number:	N/A
Available Budget \$:	N/A

ATTACHMENTS:		Roll Call	Aye	Nay
Memo Staff Report Correspondence Bid Tabulation	Council Minutes Proposed Ordinance Proposed Resolution Attorney's Report	Mayor M S Jeffrey Council Member		
P/C Recommendation P/C Minutes Application Citizen Consultant Report	Petition Contract Budget Amendment Legal Notice <u>x</u> Other <u>O&amp;E Report</u>	MSBrubaker MSKimmons MSDavis MSKyser	Passed	Failed

# TOWN & COUNTRY ABSTRACT CO., INC.

541 West Coates Suite 101 Moberly, Missouri 65270 Phone 660-263-0425 Fax 660-263-1226 Email brad@townandcountryabstract.com

July 21, 2021

707 South 5th St.

Ms. Carla Beal City of Moberly 101 W. Reed Street Moberly, MO 65270

Dear Carla,

As you requested, we searched the records of Randolph County, Missouri, pertaining to: All of Lot Eighteen (18) in Block Five (5) of Christian's Subdivision of Outlots 4 to 16, inclusive, of Hunt and Godfrey's Addition to Moberly, Randolph County, Missouri. Our search covered the period May 14, 1979, through July 12, 2012, and disclosed the following:

**TITLE**: Title was vested in Janet N. Smith and Dorthy B. Smith, as joint tenants by Warranty Deed recorded July 18, 1988, in Book 123-H at page 242.

**MORTGAGES**: Forgivable Deed of Trust executed by Dorothy Smith, to Rob Cater, Trustee for Bank of Cairo and Moberly, dated September 10, 2004, recorded October 6, 2004, in Book 590 at Page 524, to secure a note in the amount of \$3,906.00.

MECHANICS' LIENS: None of record.

JUDGMENTS: None of record against Janet N. Smith, Dorthy B. Smith or Dorothy Smith.

TAX LIENS: None of record against Janet N. Smith, Dorthy B. Smith or Dorothy Smith.

**REQUESTS FOR NOTICE OF SALE:** None of record.

SPECIAL ASSESSMENTS: None of record.

**TAXES**: Taxes were paid for the year 2020 and prior. 2020 taxes were \$61.90. Parcel #10-1.0-01.0-3.0-003-086.000

Liability for this Ownership & Encumbrance Report is limited to the price paid the Company for this Report and that maximum liability is limited to the customer who placed the order with us.

Very truly yours, Brad Goossling

#### Carla Beal

From: Sent: To: Subject: Aaron Decker Thursday, September 30, 2021 2:24 PM Carla Beal FW: Recording with respect to 707 S 5th St

From: Rendi Boyd <rendi.boyd@randolphcounty-mo.gov>
Sent: Thursday, September 30, 2021 2:14 PM
To: Aaron Decker <adecker@cityofmoberly.com>
Subject: RE: Recording with respect to 707 S 5th St

I show no DOT on that property

From: Aaron Decker <<u>adecker@cityofmoberly.com</u>> Sent: Thursday, September 30, 2021 12:30 PM To: Rendi Boyd <<u>rendi.boyd@randolphcounty-mo.gov</u>> Cc: Carla Beal <<u>cbeal@cityofmoberly.com</u>> Subject: Recording with respect to 707 S 5th St

Rendi,

I received a call from the owner of 707 S 5<sup>th</sup> St that is wanting to deed the property to the City of Moberly. A while back, we ran an O&E report and it showed a note against the property with BCM for mortgage. I wanted to ask if you were able to tell me if this was recently corrected and or recorded as no longer on the property? The City of Moberly does not want to incur the note if they were to donate the property to us.

Thank you, Aaron Decker City of Moberly

#### I:IR

# Mark Price Randolph County, Missouri - Recorder of Deeds

#### Randolph County Recorder of Deeds 372 Hwy JJ Suite 1-H Huntsville, MO 65259

iRecordWeb REAL Instrument Summary

#### (844) 277 6555 Office (844) 277 6555 Fax

Document recording information

Instrument	RL - RELEASE
Document No.	20213807
Book	931
Page	1901
Recording Date	9/29/2021 2:08:54 PM
Dated date	9/29/2021
Page Count	2

<u>Grantor(s) (1)</u> REGIONAL MISSOURI BANK (FORMERLY KNOWN AS BANK OF CAIRO & MOBERLY AS OF 10-01-

<u>Grantee(s) (1)</u> SMITH, DOROTHY B

<u>Legal Description(s) (1)</u> LT 18 BL 5 CHRISTIAN'S SUBDIVISION HUNT GODFREY ADDITION

<u>Referenced By This Document (1)</u> Book: 590 Page: 524 DOT 10/06/2004

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# **City of Moberly City Council Agenda Summary**

Agenda Item:	MC Power Maintenance Agreement – Solar Pavilion
Summary:	MC Power will provide the maintenance of the solar panels as they have done with Phase 1. The agreement with MC Power for the annual maintenance during the 15 year lease is attached.
Recommended Action:	Approve the Resolution.
Fund Name:	Parks and Recreation Administration – Principal & Interest
Account Number:	115.044.5500
Available Budget \$:	\$22,719.54

TTACHMENTS:		Roll Call	Aye	Nay
Memo Staff Report Correspondence	Council Minutes Proposed Ordinance _X_ Proposed Resolution	<b>Mayor</b> MS <b>Jeffrey</b>		
Bid Tabulation	Attorney's Report	Council Member		
P/C Recommendation	Petition	M S Brubaker		
P/C Minutes	X Contract	M S Kimmons		
Application	Budget Amendment	M S <b>Davis</b>		
Citizen	Legal Notice	M S <b>Kyser</b>		
Consultant Report	_ Other		Passed	Failed



# **Operation and Maintenance Agreement** For City of Moberly MO Lodge/Aquatic Center Solar Arrays

This OPERATION AND MAINTENANCE AGREEMENT ("Agreement") is made and entered into as of this \_\_\_\_\_day of \_\_\_\_\_\_, 2021, by and between **City of Moberly MO** ("Owner"), and **MC Power Companies, Inc.** ("Operator").

## RECITALS

WHEREAS, Owner owns the Solar Arrays installed on the newly constructed metal building located at 100 Rothwell Park Rd, Moberly, MO 65270 (65.24 kW DC) and will be referred to as the (Array). The City of Moberly MO desires to contract for general management, operation and maintenance of the Arrays.

WHEREAS, Operator provides operation, maintenance and management services ("Services") for Solar Arrays and has agreed to provide those services for the Owner's Arrays on the terms and conditions set forth in this Agreement,

NOW THEREFORE, in consideration of the mutual covenants, undertakings and conditions set forth below, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

#### <u>ARTICLE 1</u> AGREEMENT

Section 1.1 - *Agreement*. This Agreement consists of the terms and conditions set forth in this Agreement including its three appendices which are attached hereto and made part hereof and are titled as follows:

Appendix A — Scope of Services Appendix B — Compensation Appendix C — Escalator

This Agreement contains the entire agreement between the parties and supersedes all prior agreements, whether oral or written, between the parties with respect to the Services. Neither party will be bound by or be deemed to have made any representations, warranties, commitments or other undertakings with respect to the Services that are not contained in this Agreement.

Section 1.2 - *Effective Date and Term*. This Agreement shall be effective ("Effective Date") on **TBD**, 2023 and shall govern the rights and obligations of the parties continuously from the Effective Date of this Agreement until the Termination Date (as defined herein) or until otherwise terminated pursuant to this Agreement. The term of this Agreement shall be fifteen (15) years ("Term") and the Termination Date shall be **TBD**, 2038.

#### Section 1.3 - Termination.

a. At Owner's sole discretion, Owner may terminate this Agreement following the occurrence of (i) the bankruptcy of Operator, and/or (ii) Operator's breach or failure to observe or perform, in any material respect, any of Operator's material obligations or responsibilities under this Agreement and such failure or breach continues unremedied for thirty (30) days after written notice from Owner specifying the nature of such breach or failure; provided, however that if such cure cannot be completed within such thirty (30) day period, then Owner shall not have the right to terminate this Agreement as long as Operator commences such cure within such thirty (30) day period and thereafter diligently pursues such cure.

b. Operator may terminate this Agreement by written notice to Owner if Owner has failed to make any payment required to be made to Operator under this Agreement and such failure is not remedied within thirty (30) days after the date on which such payment first becomes due, provided that Owner shall have received prompt notice of such failure to make such payment.

c. In connection with any termination of this Agreement, Operator shall cooperate with Owner to provide for the orderly transition of performance of Services for the Arrays to a replacement operator.

#### ARTICLE 2 SERVICES

Section 2.1 - *Scope of Services*. Operator shall operate and maintain the Project on behalf of the Owner by providing the Services set forth in this Agreement and as detailed in Appendix A.

Section 2.2 — *Standard of Services*. The Services provided by Operator hereunder shall be performed on a best efforts basis and in a timely and professional manner by qualified personnel familiar with the Operator's responsibilities hereunder, and shall conform to the standards observed in the industry for similar services by careful and prudent service providers. Such services shall be provided in compliance with all applicable federal, state and local laws, statutes, rules, regulations or orders.

#### Section 2.3 — Response Time.

a. Operator shall ensure that a qualified Operator representative or agent is at all times reachable and capable of disconnecting and de-energizing the Arrays. Except as provided in Section 2.3(c) below with respect to an emergency, Operator personnel shall be available to visit the Arrays within (i) forty-eight (48) hours of the occurrence of any Material Adverse Event and (ii) five (5) business days of any other outage.

b. Operator shall take commercially reasonable measures to notify Owner of any actual or anticipated Material Adverse Event (but not material injury or harm), in each case within twenty-four (24) hours of the time that Operator first knew or should have known of such likelihood.

c. Upon discovery of a condition or event that Operator believes is both (i) reasonably likely to result in a Material Adverse Event or material injury to third parties and (ii) avoidable or susceptible to mitigation through Operator's commercially reasonable actions, then Operator shall, within a commercially reasonable time period under the circumstances, dispatch personnel and otherwise use commercially reasonable efforts to safely and prudently mitigate such Material Adverse Event or injury to third parties. Operator shall notify Owner as soon as circumstances dictate or reasonably allow.

d. For purposes of this Agreement, "Material Adverse Event" means an event that results or is reasonably expected to result in a reduction by more than twenty percent (20%) of annual aggregate production by the Arrays during the calendar month in which such event occurs.

#### <u>ARTICLE 3</u> OWNERS RESPONSIBILITIES

Section 3.1 - *Information*. Owner shall provide Operator with all vendor manuals, spare parts lists, Project data books and drawings which are in Owner's possession, which were provided to Owner pursuant to the construction of the Project or by any contractor responsible for construction, installation, repair or maintenance of the Project or any part thereof.

#### <u>ARTICLE 4</u> COMPENSATION AND PAYMENT

Section 4.1 - *Payments*. As compensation to Operator for performance of the Services, Owner shall pay Operator the Annual Operating Fee (as defined in Section 4.2) in one lump sum.

Section 4.2 - Annual Operating Fee. Owner shall pay to Operator the sum of Seven Hundred Forty Five dollars (\$745.00) for the first year. The Annual Operating Fee will be adjusted up two percent (2%) every year thereafter. Appendix C lists the Annual Operating Fee for years 1-15. The first Annual Operating payment will be due on xx/xx/21. The annual payment will be due on the same day every year thereafter.

Section 4.3 - *Reimbursable Costs*. In addition to payment of the Annual Operating Fee for the Services, Owner shall reimburse Operator for (i) all costs incurred by Operator related to the Arrays, including those set forth on Appendix B, and (ii) any additional work related to the Arrays outside the scope of the Services as set forth on Appendix A.

Section 4.4 - *Billing and Payment*. On or about the first day of each month during the Term of this Agreement, the Operator will provide an invoice to the Owner for any Reimbursable Costs as defined in Section 4.3 for the preceding month ("Monthly Invoice"). Owner will make payment to the Operator for the full amount of the Monthly Invoice within fifteen (15) days from the date of the Monthly Invoice. If the Operator fails to receive timely payment of the Monthly Invoice during the fifteen (15) day period set forth herein, the Operator may assess a two percent (2%) additional fee for each month beyond the fifteen (15) day payment period full payment of any Monthly Invoice is delinquent.

Section 4.5 — *Failure to make payment*. If payment of any Monthly Invoice is delinquent for a period of thirty-one (31) days or more, Operator may, with prior written notice to the Owner, discontinue the Services until such time that all outstanding payments, including any delinquent payment penalties, have been made in full to the Operator. If payments are delinquent for more than sixty (60) days, this Agreement may be terminated by Operator without further notice.

Section 4.6 — *Failure to provide services*. Except as a result of Force Majeure, in which case Operator shall be afforded reasonable time to perform the Services, if Operator fails to provide the Services, Owner shall notify Operator in writing of such alleged failure and may withhold payment(s) to the Operator of the Monthly Invoice for the current month until Services are provided as required under this Agreement. If the Operator fails to provide Services for a period of thirty (30) days after notice from the Owner of such alleged failure, this Agreement may be terminated by written notice from Owner.

#### ARTICLE 5

### NOTICES; CONTACT INFORMATION

Section 5.1 — *Notices*. All notices, consents, approvals, requests, waivers, objections, or other communications (collectively, the "Notices", and individually, a "Notice") required or permitted under this Agreement shall be in writing and shall be deemed properly given: (a) if delivered personally; (b) if sent by United States certified or registered mail with return receipt requested; (c) if sent by Federal Express or other overnight delivery service; or (d) if sent by facsimile transmission or electronic mail, confirmed by certified or registered mail with return receipt requested; in each such case (except for personal delivery), with postage or charges prepaid or billed to sender.. A party's failure or refusal to accept service of a Notice shall constitute delivery of the Notice. Notices hereunder shall be deemed sufficiently served or given for all purposes hereunder on the earlier of the date of actual receipt, or: (a) if served by certified or registered mail, three days after the time such notice, demand or request shall be deposited for mailing in any Post Office or Branch Post Office regularly maintained by the United States Postal Service; (b) if sent by overnight delivery service, on the day following delivery thereof to such overnight delivery service; or (c) if sent by facsimile transmission or electronic mail, with confirmation by certified or registered mail, on the date such facsimile transmission or electronic mail is received by the party to whom it is sent if confirmation of receipt is received by the sender.

Section 5.2 — *Contact Information*. All notices required or permitted to be given pursuant to this Contract, in order to be effective, shall be in writing and sent to the following:

To Operator:

MC Power Companies, Inc. 4031 NE Lakewood Way Lee's Summit, MO 64064 ATTN: Jeremy Lidberg Email: JLidberg@mcpower.com Tel: 816-251-4700 Fax: 816-251-4701

To Owner: City of Moberly, MO 101 W. Reed St. Moberly MO 65270 ATTN: Email:

#### <u>ARTICLE 6</u> MISCELLANEOUS

Section 6.1 — *Binding Effect; Assignment.* This Agreement shall be binding on the parties hereto, their successors, legal representatives and assigns, neither party shall have the right to assign this Agreement or any interest therein without the prior written consent of the other, which consent shall not be unreasonably withheld.

Section 6.2 — *Entire Agreement; No Waiver.* This document, together with applicable Appendices shall constitute the full, complete and entire agreement between the parties upon the same being duly executed by duly authorized officials of each company. There are no oral agreements or understandings affecting this instrument and any future agreement, understanding or waiver to be binding upon the parties must be confirmed in writing and executed by both parties in the manner indicated above. Failure to strictly enforce any provisions of the Agreement shall not be construed as a waiver thereof but the same shall continue in full force and effect as if no forbearance or waiver had occurred.

Section 6.3 — *Severability*. If any clause or provision contained in this Agreement shall be prohibited by any applicable statute or rule of law, such clause or provisions shall be ineffective to the extent of such prohibition without invalidating the remaining provisions hereof.

Section 6.4 — *Insurance*. From the Effective Date and throughout the Term of this Agreement:

Operator shall maintain insurance covering claims arising out of the negligent a. acts or omissions of Operator under this Agreement with a minimum policy limit of One Million Dollars (\$1,000,000.00) each claim/aggregate. Operator shall maintain Commercial General Liability Insurance ("CGL") with a standard broad-form endorsement which shall protect Operator, Owner, their directors, officers, employees, agents, representatives and vendors against claims in connection with Operator's performance of its obligations under this Agreement. The CGL policy shall be on an occurrence basis and include contractual liability coverage and shall cover Operator's indemnification obligations under this Agreement. Such CGL policy shall have a minimum policy limit of One Million Dollars (\$1,000,000.00) each claim/aggregate. Operator shall maintain automobile insurance coverage for all owned, hired or nonowned vehicles utilized by Operator. Such automobile coverage shall be on an occurrence basis and have minimum limits of coverage of a combined limit of not less than One Million Dollars (\$1,000,000.00). Operator shall maintain workers' compensation insurance as required by law. The CGL policy and automobile policy shall be endorsed to include Owner as an additional insured. Operator shall provide Owner a certificate of insurance evidencing the maintenance of coverages required herein within ten (10) days from the Effective Date and thereafter promptly after demand by Owner. To the extent available from the insurance carrier, the policies required herein shall not be changed or modified until thirty (30) days' notice has been provided to Owner.

b. Owner shall maintain fire and casualty insurance in an amount adequate to cover the full cost of replacement of the Arrays, including all equipment, installations, fixtures thereof in the event of loss or damage by fire and against loss or damage by other risks now or hereafter embraced by so-called "All-Risk Coverage", with protection against weather incidents, vandalism and malicious mischief. To the extent available from the insurance carrier, the policies required herein shall not be changed or modified until thirty (30) days' notice has been provided to Operator.

Section 6.5 — *Waiver of Consequential Damages*. Operator and Owner waive all claims against each other for consequential damages arising out of or relating to this Agreement regardless of whether the other party has been advised of the possibility of such damages in advance or whether such consequential damages are foreseeable.

Section 6.6 — *Amendments and Modifications*. Waivers, alterations, modifications or amendments of a provision of this Agreement shall not be binding unless such waiver, alteration, modification or amendment is in writing and signed by Owner and Operator.

Section 6.7 — *Captions*. The headings and captions of this Agreement are inserted for reference convenience and do not define, limit or describe the scope or intent of this Agreement or any particular section, paragraph, or provision.

Section 6.8 - *Governing Law; Venue*. This Agreement shall be interpreted, construed and governed by the laws of the State of Missouri and the parties hereby consent to the jurisdiction of the courts of the State in and for the county in which the Arrays are located with respect to any action, suit or other legal proceeding commenced by either party and hereby waive any right to transfer any such action to any other court.

Section 6.9 — *Counterparts*. This Agreement may be executed in multiple counterparts, each of which shall be an original, but which together shall constitute one and the same instrument.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties have executed this Agreement through their duly authorized officers as of the date set forth in the preamble to this Agreement.

"Owner"

**City of Moberly MO** 

Name: \_\_\_\_\_

Title: \_\_\_\_\_

"Operator"

MC Power Companies, Inc.

By: \_\_\_\_\_

Name: Jeremy Lidberg

Title: Solar O&M Manager

#### APPENDIX A SCOPE OF SERVICES for combined arrays totaling 65.24 kW DC

### OPERATOR SHALL PERFORM EACH OF THE SERVICES LISTED IN THIS APPENDIX A

#### Management:

- A. Read and confirm continuous functioning of the remote data monitoring
- *B.* Read and monitor each inverter's production to ensure proper functioning and report in writing any corrective actions recommended.
- C. Schedule planned maintenance events for the Project.
- D. Act as the Owner's agent for the following:
  - a. Receipt of notices from City of Moberly, Regional Transmission Authority, and any other entity or agency having jurisdiction over the Project.
  - b. Issuance of all contracts and purchase orders

#### **Reporting:**

- A. Make accurate assessments of the performance of the photovoltaic generation system and compare those assessments with the actual production results to determine if photovoltaic generation system is functioning within 5% of expected performance on an annual basis.
- *B.* Maintenance activity on warrantied equipment and submit to owner electronically at completion of any activities undertaken as part of this scope of work.

#### Maintenance of Solar Farm Equipment:

- *A.* Provide system and equipment checks as required by the manufacturers of the electrical and structural equipment placed in service
- B. Make annual inspections of wiring and connections or other non-warrantied components.
- *C. Identification of system failure(s)*
- D. Reporting of all actions, including warranty maintenance work report and corrective action reports to Owner
- E. Managing corrective action by warrantied or other parties

#### APPENDIX B COMPENSATION

Compensation shall be paid in the amounts and on the schedule described in Section 4.2 of this Agreement. Such compensation is specifically for the Services as described in Appendix A of this Agreement.

In addition to the Annual Operating Fee set forth in Section 4.2 and subject to the warranty provisions, Operator shall also be paid for Reimbursable Costs as set forth in Section 4:3 of this Agreement and such Reimbursable Costs include, but are not limited to, the following examples:

- *A.* The purchase of materials and/or equipment for any reason to repair or make corrective action to the Project.
- *B.* The purchase of materials related to warrantied equipment that is not covered by warranty or insurances purchased by Owner.
- C. Any labor, equipment rental or other services associated with the repair of equipment or materials associated with corrective actions or warrantied items not covered by manufacturer.

Exclusions — This Agreement does not cover any costs associated with warranty extensions of existing base warranties by the manufacturer. Any labor costs incurred other than the management of others for corrective actions on warranty items are not included.

# APPENDIX C

Year Ar	Amount Due		Escalator
1	\$ 745.00	\$	14.90
2	\$ 759.90	\$	15.20
3	\$ 775.10	\$	15.50
4	\$ 790.60	\$	15.81
5	\$806.41	\$	16.13
6	\$822.54	\$	16.45
7	\$ 838.99	\$	16.78
8	\$855.77	\$	17.12
9	\$872.89	\$	17.46
10	\$890.34	\$	17.81
11	\$908.15	\$	18.16
12	\$926.31	\$	18.53
13	\$944.84	\$	18.90
14	\$963.74	\$	19.27
15	\$983.01	\$	19.66

Agenda Item:	A Discussion Regarding a Scope of Services Agreement with BARR Engineering Company for Professional Services.
Summary:	The City of Moberly regulates Moberly stormwater management through a series of city ordinances. As part of an effort to partner with citizens during new and proposed additions to existing developments, the Utilities Department strives to provide relevant stormwater information to the public. Barr Engineering is proposing to perform a stormwater review of an area within SE Moberly bordered by the railroad on the west, McKinsey Street on the north, Highway 63 on the east and Urbandale Drive on the south. This area of 800+ acres hold multiple sites with current planned construction and additional properties where future development is likely. To assist with these efforts, the city wishes to hire Barr Engineering to complete a stormwater review according to the attached scope of work. Moberly is nearing the completion of identifying GIS coordinates within the entire city which will beneficially impact not only this survey effort but future efforts as well.
Recommended Action:	Direct staff to develop a resolution for approval at the next regular council meeting.
Fund Name:	Public Utilities Operations—Stormwater Department
Account Number:	301.115.5406

**Available Budget \$:** To be transferred from operating reserve fund.

ATTACHMENTS:		Roll Call	Aye	Nay
Memo Staff Report Correspondence Bid Tabulation	Council Minutes Proposed Ordinance x Proposed Resolution Attorney's Report	Mayor M S Jeffrey Council Member		
P/C Recommendation     P/C Minutes     Application     Citizen     Consultant Report	Petition Contract Budget Amendment Legal Notice Other	MSBrubaker MSKimmons MSDavis MSKyser	Passed	Failed
	28	]		

resourceful. naturally. engineering and environmental consultants



November 5, 2021

Mr. Dana Ulmer Director of Public Utilities City of Moberly 101 West Reed Street Moberly, MO 65270

#### Re: Scope and Budget for Professional Services

Dear Mr. Ulmer:

Thank you for the opportunity to provide this scope and budget for the professional services needed to complete the work identified below for the City of Moberly (city). We are grateful for the opportunity to work with you on this project. We consider our Barr team members to be an extension of your staff and we look forward to serving you.

## **Scope and Budget**

Barr's scope of services is outlined in the following tasks:

## Evaluate Hydrology, Flood Potential, and Develop Conceptual Alternatives, for the Moberly Southeast Development Area Watershed

#### Task 1 – Review Available Data and Information

Barr will review and utilize publicly available data, including LiDAR and other topographic data, storm sewer data (size, location, make, pipe inverts, catch basins, catch-basin inverts of all relevant pipes and surface drainage-ways, etc.), and street GIS overlay. Barr will gather other additional, publicly available field or resource data such as soils data, and precipitation data. If additional pipe or topographic information needs to be obtained, Barr will perform this work (as can be completed in one eight-hour field visit).

#### Task 2 – Watershed and Subwatershed Delineation

Major watershed and subwatershed delineations will be developed electronically, and then will be field verified. This methodology has been found to be very accurate and efficient, with watershed delineation being completed at a significantly lower cost than performing the detailed delineations in the field. Subwatersheds will be delineated to single discharge points into the city's storm sewer system, which is typically isolated catch basins or catch-basin clusters.

Drainage area (subwatershed) delineations will be performed to a high level of detail using Spatial Analyst features of ArcMap or similar ArcMap tools in conjunction with LiDAR data. LiDAR LAS (LAS = "LASer" file, or LiDAR data exchange file) data and building outline data files (if available) will be downloaded and used in conjunction with storm sewer pipe data to develop a hydrologically corrected elevation surface. The hydrologically corrected elevation surface will then be used to develop the "first-cut" subwatershed areas. Please note that some manual delineation efforts are often needed in urban areas where rooftops, curb and gutter, and street crowns are not captured in the LiDAR data. LAS datasets are described by Esri

in more detail here: <u>http://desktop.arcgis.com/en/arcmap/10.3/manage-data/las-dataset/what-is-a-las-dataset-.htm</u>

### Task 3 – Hydrology and Hydraulics Modeling

Barr will create a detailed existing conditions PCSWMM model of the entire watershed to the site. For this project, this step will be completed in two parts: 1) existing conditions model development and 2) future conditions model development, as described below.

#### **Existing Conditions Model Development**

Barr will develop an existing conditions model of the larger watersheds surrounding the area of interest (see Figure 1), including the surrounding subdivisions and drainage area through the public school property. This will include the entire drainage area flowing through the area surrounding the school property that was discussed in our call on October 22. Tasks within existing conditions model development are as follows:

#### **Field Verification**

• Barr will collect field data from one existing stormwater basin as part of this task, to determine the size, depth and volume of the structure, and to determine locations of the inlet and outlet. Barr has included budget for an eight-hour site visit in this task to field review storm sewer inlets and structures within the site.

#### **Downstream Boundary Conditions**

- Barr will model the downstream system to a logical end location, such as the storm sewer outfall at a stream or flowage downstream of the flooding, or where there is a significant drop (15 to 20 feet vertically) to a manhole. The goal will be to choose an end location where it can be reasonably assumed that downstream hydraulics will not impact flows from the upstream system.
- In areas where incoming overland flows may occur from an adjacent watershed outside of the city, modeling beyond the area of interest may be necessary to establish a reasonable estimate of inflows.

#### **Model Resolution**

- One runoff node will be assigned per group of catch basins (catch basin cluster) draining to a single manhole connection to the storm sewer system; we assume that the hydraulic capacity of catch basins does not need to be accounted for in the model.
- Basin storage will be defined using depth/area curves at low points based on LiDAR elevation data and at stormwater storage facilities.

• All pipe segments (except catch basin connections) will be included in the PCSWMM model, recognizing that in some cases, the pipes may need to be manually entered based on survey, record drawings, or plans not reflected in GIS.

#### **Model Elements**

- Overland flow paths will be defined so that high water elevations do not exceed spillcrest elevations for the Atlas 14 100-year event, and so that street/road overflows are reasonably defined.
- Development of infiltration parameters will be based on publicly available land cover data and soils data from the National Resources Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO).
- Stormwater BMPs such as ponds, infiltration basins, filtration basins, and underground storage facilities will be included in the PCSWMM model when they might have an influence on projected water surface elevations for the Atlas 14 design events (if data is available for these). This will be included in the existing and future conditions models.

#### Model Validation

• If possible, we will attempt to calibrate or verify the accuracy of the existing conditions model using information the city may be able provide, such as: surveyed drift lines after a flooding event has subsided, aerial photos or other photos taken during storm events that show extent of flooding at a moment in time, and rainfall information.

#### **Future Conditions Model Development**

Once the existing conditions PCSWMM model has been developed, calibrated, and results reviewed by the city, we will use the model to evaluate several alternatives to address stormwater concerns in the project area.

Barr will work with the city to define anticipated future land use changes, including the currently planned project in this drainage area. The existing conditions PCSWMM model will be updated to reflect the future land use conditions to compare the impact the land use changes have on peak water surface elevations and peak flows through the project area for the Atlas 14 design events.

After creating the existing conditions model with both existing and future land use conditions, Barr will coordinate a meeting with the city to discuss the model elements and results for the 2-, 10-, and 100-year Atlas 14 storm events. The meeting will also be an opportunity for the city to confirm that the model is reflective of the area conditions and to receive feedback from the city on potential flood reduction options to incorporate in the Task 4 evaluation.

## Task 4 – Conceptual Improvement Design and Review of Proposed Project

Using the future conditions land use PCSWMM model, Barr will develop up to three conceptual flood improvement options for the site. These conceptual improvement options will be developed using

modeling results and input from city staff. The conceptual improvement options will be included in the future conditions PCSWMM model to evaluate impacts to flood elevations and peak flows during the Atlas 14 design events. Model results and conceptual design schematics will be summarized in a draft technical memorandum described in Task 5.

Barr will review the engineering plans for one current proposed project in the drainage area, as provided by the city, and use the model results to guide the review, as well as the city's Land Disturbance and Post Construction Manuals. This includes one round of review with written comments regarding the engineering plans. Results of the engineering plans review will be provided as part of the technical memorandum, as described in Task 5.

#### Task 5 – Technical Memorandum

A technical memorandum will be developed to document the modeling results for each conceptual improvement option described in Task 4. A summary of the benefits and considerations for each conceptual improvement option will also be included in this draft technical memorandum. The memorandum will be provided to city staff for their use in determining what further actions to take at the site. The results of Barr's review of the proposed public schools project will also be included in this memorandum.

Barr will run any agreed-upon model refinements that result from communications regarding the conceptual improvements. The results will be included in the technical memorandum to document the computations and assumptions incorporated into the models for each conceptual improvement option.

#### Task 6 – Update Model and Conceptual Improvements

The city is currently working with a contractor to survey and map the entire city stormwater collection system in GIS. Barr will review the GIS stormwater collection system data to understand if updates to the model and/or proposed conceptual improvements will be needed and useful to improve the accuracy of the deliverables for this project.

## Assumptions

Barr made the following assumptions in this scope of work:

- Publicly available LiDAR is available for the watershed area encompassing the project area of interest, shown in Figure 1.
- Stormwater structure information within the watershed will be provided by the city or obtained from other publicly available sources. We currently do not have any storm sewer structure information for the area on and around the public school property.
- Two site visits of eight hours each are included in the budget to collect supplemental field data from stormwater structures in the area of interest. The site visit(s) will also be used to support watershed delineation for the project area of interest.
- Deliverables and documents used to develop deliverables will be provided to the city in an electronic format; hard copies are not included.

# Figure 1 – Area of Interest



Moberly will be invoiced on a time-and-materials basis for the scope of work described above. The total amount to conduct the work is \$44,945. This total budget amount will not be exceeded, without prior approval from the city.

#### **Budget Table**

Tasks	Estimated Labor and Expenses Subtotal
Task 1 – Review Available Data and Information	\$3,755
Task 2 – Watershed and Subwatershed Delineation	\$4,045
Task 3 – Hydrology and Hydraulics Modeling	\$16,515
Task 4 – Conceptual Improvement Design and Review of Proposed Project	\$6,860
Task 5 – Technical Memorandum	\$9,095
Task 6 – Update Model and Conceptual Improvements	\$4,675
Total	\$44,945

#### Schedule

Barr will complete these review tasks in accordance with the schedule developed with the city.

We appreciate the opportunity to continue to work with you. If you have any questions about this proposal, please contact Andrea Collier at <u>acollier@barr.com</u> or 573-356-4423 (cell).

Sincerely,

By

Andrea D. Collier, P.E. Senior Environmental Engineer

Rob K. Morrison, P.E. Its Vice President

Accepted this \_\_\_ day of \_\_\_\_\_, 2021 Dana Ulmer, City of Moberly, Missouri

Ву \_\_\_\_\_

Dana Ulmer Its Director of Public Utilities Agenda Item: Discussion of Moberly pavement and sidewalk study presented by Trekk.

- **Summary:** The main project engineer from TREKK will give a short 10-15 overview of the proposed work and show how it can be updated every 5 years for a fraction of the initial cost and this will eliminate the guess work and human factor of determining the road needs and get the most out of our Transportation Funding. Tom has met with multiple consultants to discuss possible formats/solutions. The primary goal was to get an electronic rating/comparison of all the streets in the community, determine products we were willing to utilize for their maintenance & renovation, assess available funding sources and put together a 5-year plan that would maximize the available funding with the products available to address the highest need streets. All of the data would be put into our GIS for easy tracking as to what has been addressed and with what so an easy overview of problem areas and overall condition would be at our finger-tips.
- **Recommended** Direct staff to being forward to the December 6, 2021 regular City Council **Action:** meeting for final approval.

Fund Name: N/A

Account Number: N/A

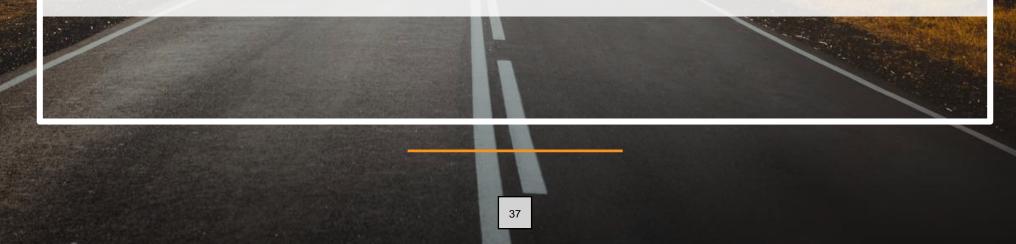
Available Budget \$: N/A

ATTACHMENTS:		Roll Call	Aye	Nay
Memo Staff Report Correspondence	Council Minutes Proposed Ordinance Proposed Resolution	<b>Mayor</b> MS <b>Jeffrey</b>		
Bid Tabulation	Attorney's Report	Council Member		
P/C Recommendation	Petition	M S Brubake	er	
P/C Minutes	Contract	M S Kimmon	is	
Application	Budget Amendment	M S Davis		
Citizen	Legal Notice	M S Kyser		
Consultant Report	x Other Presentation	•	Passed	Failed



### **RoadResource.org**

### A COMPREHENSIVE RESOURCE FOR OPTIMIZING NETWORK MANAGEMENT





tter roads today. Stronger networks tomorrow.

WS #6.

## AGENDA

1

2

### Background

### Website Features

Treatment Toolbox | User Profile | Network Optimization

38

## The Situation:

**Demand** is increasing for asphalt emulsions, preservation and recycling.

However, many city and county agencies are still unaware of benefits and best practices to successfully choose and apply these treatments.



WS #6.

## Three Associations Join Together to Support the Industry at Large



FORMING THE PAVEMENT PRESERVATION & RECYCLING ALLIANCE



## **Two Guiding Questions**

How do we equip road owners & end users with **tools to increase the successful use** of pavement preservation and recycling? How do we better disseminate research, success stories, and learning across all agencies, **making information more accessible**?





### Research & Collaboration

Competitive exploration & Industry affiliations

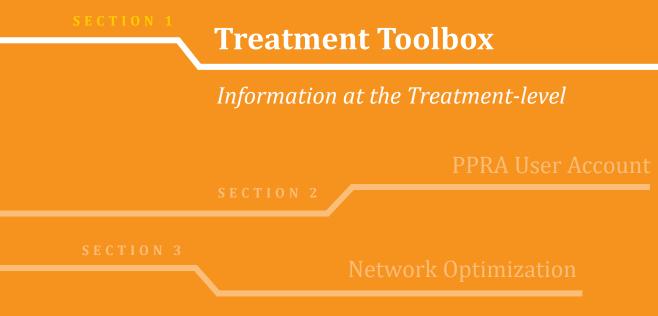
International data survey Retreats with ISSA, AEMA & ARRA leadership

Input from over 45 agency and industry leaders Interviews & beta-testing with agencylevel users, pavement managers, DOTs, & roadway engineers Page by page technical review from multiple committees









44

What treatment is right for my road?

- Pavement Criteria Input
- Photo Example Suggestions

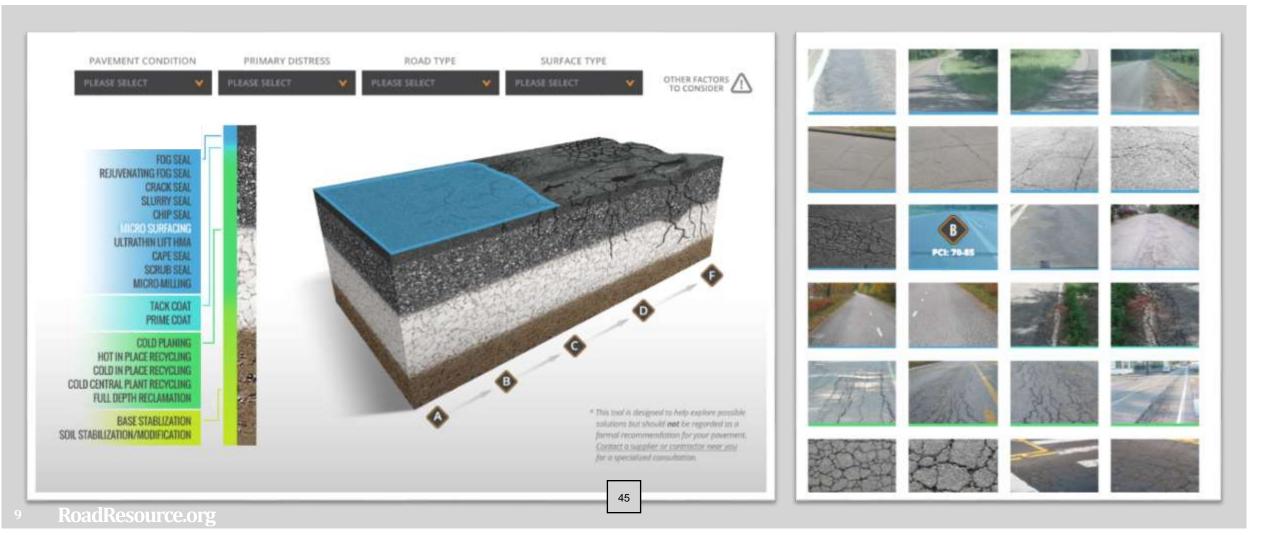
### Treatment Resource Center

- Comprehensive Technical Menu
- Regional Success Stories
- Research and Performance
- Spec Resources

S



### Which treatment is best for my road? Input pavement criteria or select photos for treatment options





## **Treatment Resource Center**

**Ensure treatment success with comprehensive information on 18 treatments** 

#### OVERVIEW

ABOUT PROCESS & VARIATIONS EXPECTATIONS COST HISTORY BEST PRACTICES

PRE-CONSTRUCTION SITE SELECTION MATERIAL SELECTION MIX DESIGN SPECIFICATION REVIEW CONSTRUCTION PHEPARATION WEATHER REQUIREMENTS EQUIPMENT CALIBRATION TRAFFIC CONTRUL

APPLICATION MALITY CONTROL

INSPECTION TESTING PROTOCOL TROUBLESHOOTING

ACCEPTANCE

RESEARCH & PERFORMANCE SUCCESS STORIES FOR PAVEMENT CONDITIONS C-D-F IPCI of less than 70

A cost-effective, long-lasting, greener alternative to conventional maintenance and rehabilitation techniques. Cold inplace recycling (CIR) is a process that cold mills and recycles the top 2-5 inches of asphalt using a continuous train operation. Through the complete reuse of existing material, CIR greatly reduces trucking, time and natural resources to significantly lower project costs. Generally, any road that is a candidate for mill & fill is a candidate for CIR.

- (§) 20%-50% less expensive than conventional maintenance and reconstruction methods.
- (d) Reduce Greenhouse emissions by Up to 90%
- Reuses 100% of existing materials
- 20%-40% faster construction times
- Adds 15-20 years (combined with appropriate wearing course)
- Most agencies use SLCs between 0.30–0.38 (<u>Recent research</u> indicates values from 0.36–0.44 may be more appropriate)

#### ISSUES ADDRESSED

COMMON COMBINATIONS

Frequent, severe, non-load distresses in top lift of hot mix All distresses within the recycling depth (2-5 inches) Reflective cracking from below CIR layer See all

#### ATTRIBUTES

Eliminates defects within the recycling depth Blocks or slows reflective cracking Reuses existing material in place Replaces 1 or 2 lifts of hot mix Allows for road widening where desired

CIR	Optimum Performance	Average Performance	Stop-Gap Performance
Types of Distress	Transverse, longitudinal, multiple cracking     Ravelling     Oxidation	<ul> <li>Wheelpath cracking</li> <li>Rutting (asphalt or subgrade)</li> </ul>	Alligator cracking from base failure     Distortion
Depth of Distress	Within treatment depth (2"-5")	1"-3" below treatment depth	More than 4"-6" below treatment depth
Life Extension	20-25 years	10-20 years	5-10 years

#### EXAMPLES OF ROADS THAT HAVE BEEN TREATED WITH COLD IN-PLACE RECYCLING OVER VARIOUS STAGES IN SERVICE LIFE:







CIR 3 years later. Prescolt-Russel County Road, Ontario

er: Prescolt- CIR 5 years later nty Road. Bloomington Road. Onterio

CIR 7 years later. Hwy 6, Iterio Ontario

If a CIR mix ravels excessively due to rain, the mat can be re-processed with or without adding cement to facilitate drying

<sup>10</sup> RoadResource.org

46



Antantia, and increased purpose

adings in the retire contacting with

### Success Stories & Research Use, performance & best practices in your region



#### Success Stories

Micro surfacing catching on in Sylvania Sylvania. OH is using micro surfacing to sav resurfacing streets. They expect 8 - 12 year with micro surfacing, costing 35 cents on th to asphalt mill and repair.

VIEW STORY

#### Micro Surfacing on High Volume Ro Micro surfacing was successfully placed on and most congested roads in the Greater C working with the Ohio DOT, the contractor minimize traffic disruption while placing a h material.

VIEW STORY

The Town of Fairfield Saves Big with Surfacing The Town of Fairfield saves their network us surfacing as the primary backbone of a robi

#### APRN Journal of Earth Sciences

#### AUTHORS

Onyelowe Ken C1 and Okoafor F. O.2.

#### SUMMARY

This study was centered on elucidating the chemical reactions that bring about soil stabilization and modification. It has been established that the chemical compounds found in soil; guartz, feldspar, dolomite, calcite, montmonitionite, kaolinite etc. react with the chemical constituents found in different identified chemical stabilizers. This research work will better place designers, constructors and researcher on the choice of soil chemical stabilizer and techniques and the extent of chemical reactions that take place during soil chemical stabilization.

#### CITATIONS

Onyelowe Ken C 1 and Okoafor F. 0.2 1Department of Civil Engineering. College of Engineering and Engineering Technology. Umuahia. Nigeria Michael Okpara University of Agriculture. Umudike. Umuahia. Abia State. Nigeria 2Faculty of Engineering. University of Nigeria. Nsukka. Nigeria

47

#### VIEW FULL REPORT

PPRA MICRO SURFACING SUCCESS STORY MnDOT Experiments with micro-We improved that  $166.7^{\circ}$  per order to  $0.4^{\circ}$  per order of the models willing and micros surfacing milling and micro surfacing to improve ride guality and treatment Reflective cracking and plaw damage reduced to using action bare septrate, higher emotyles performance

#### INNOVATION SUMMARY:

Progressive agencies are constantly seeking the most cost effective methods to improve ride quality and decrease cracking as part of their overall pavement

management strategy. More and more agencies like MnDOT are finding the use of micro-milling and high performance micro surfacing mixes to be worthwhile investments of their limited funding.

#### BACKGROUND:

MnDOT has had a long history of successes using micro surfacing. With its harsh wet-break climate and frequent snow plowing, the Minnesota agency needed new ways to further improve the crack resistance and plow abrasion durability of their micro surfacing mixes.

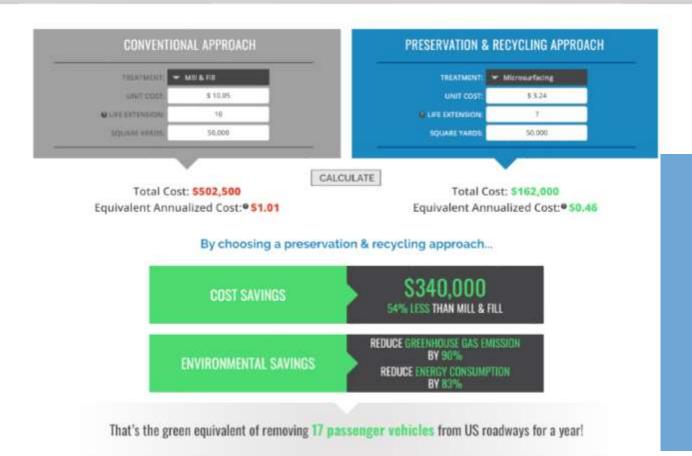
<sup>44</sup> (Future) monitoring will determine how cost effective this process is for ride improvement and preservation of the pavements, but initial results are promising <sup>33</sup> — my max max<sup>31</sup>

#### APPROACH:

Beginning in 2005, MnDOT began experimenting with some softer base asphalts (PG48-34) and higher emultion contains (from 13% up to as high as 16.5%) in some micro surfacing mixes, And then in 2012, the agency started tested a higher polymer loading on selected micro surfacing projects, increasing the polymer from 3% to as high as 6.5%.



### Compare Treatments **Project Cost & Environmental Benefits**



NOTE ON COST:

48

Every calculator gives users the ability to use average life extension numbers and cost data from an internationally aggregated cost survey (US & CA) or input their own costs and life extension relevant to their region.

<sup>12</sup> RoadResource.org



### SECTION 1 Treatment Toolbox PPRA User Account SECTION 2 SECTION 2 SECTION 3 Network Optimization

49

### User Account Capabilities

- Enter unit cost, life extension, and structural numbers from your area
- Update units of measure for US or Canada

S



### My PPRA Account Input costs and life extension in your area to make the most of the site & tools

	a & Preferen	ces			
Units of Measure					
Select the display units !	for site-wide calculators				
-83-00LOH9 CH	INADON DICLARS				
US STANDARD	(TRK2				
Ny Stored Data					
input data relevant to yo comparisons and tools.		gged in, this data will auto-popula	te within calculators acro	ss the website for more	accurate
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Change aggregate data into costs, life extension, and structural numbers relevant to you. Tools throughout the site automatically re-populate with your data every time you log in.



## SECTION 1 Treatment Toolbox PPRA User A SECTION 2 SECTION 3 Network Optimization

Information at the Network Level

51

Calculators & Concepts

- Network How-To
- Equivalent Annualized Cost
- Life Cycle Cost
- Remaining Service Life
- Cost-Benefit Value

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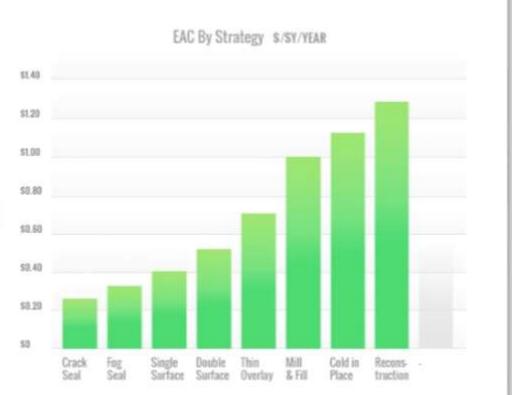
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WEBSITE



### Equivalent Annualized Cost Compare treatment cost based on Life Extension

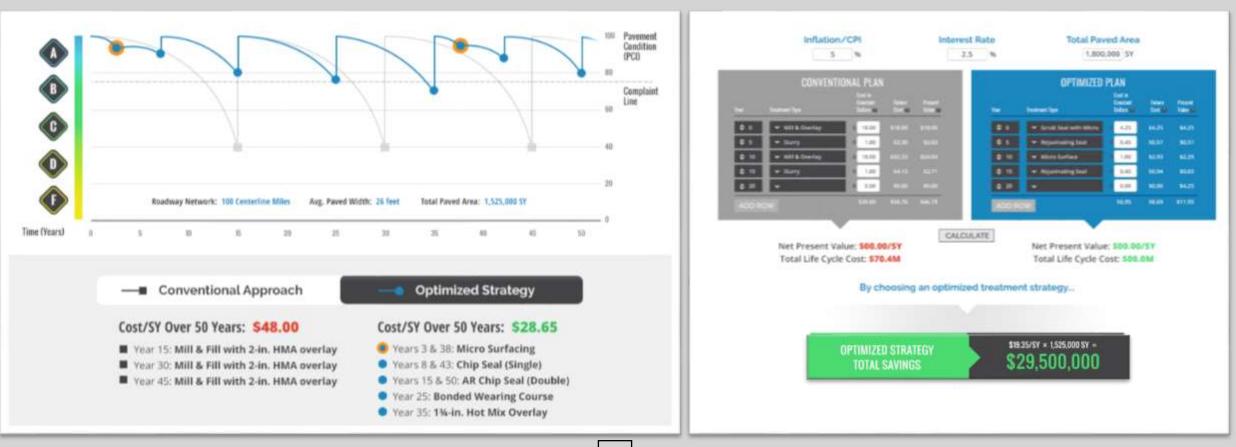






## Life Cycle Cost Calculator

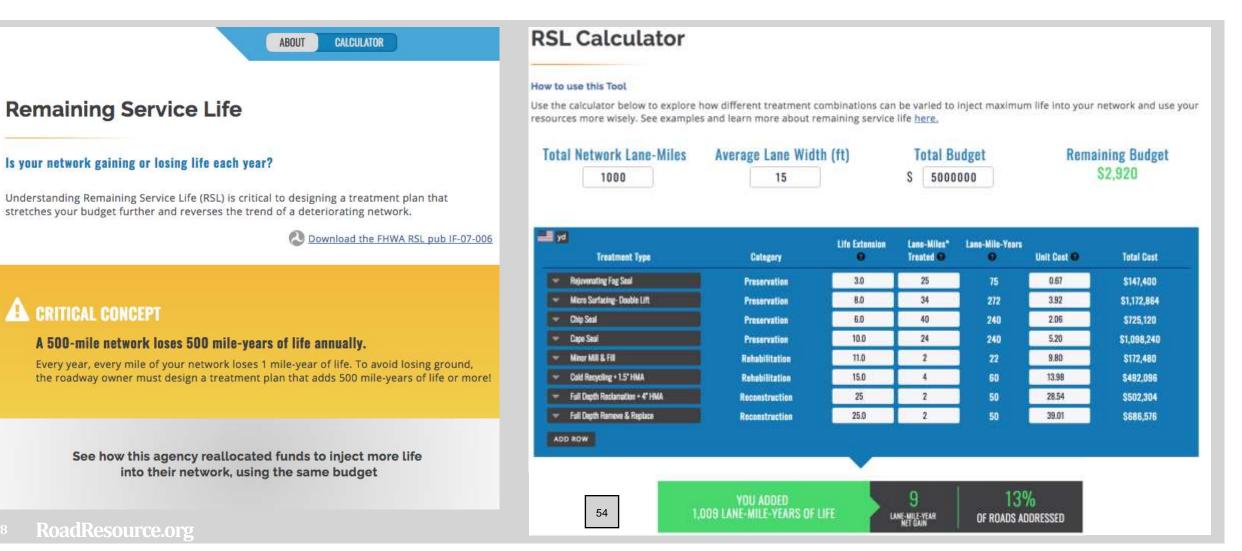
### Save big over the life of your pavement with progressive maintenance



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### Remaining Service Life How much life is your network gaining or losing each year?



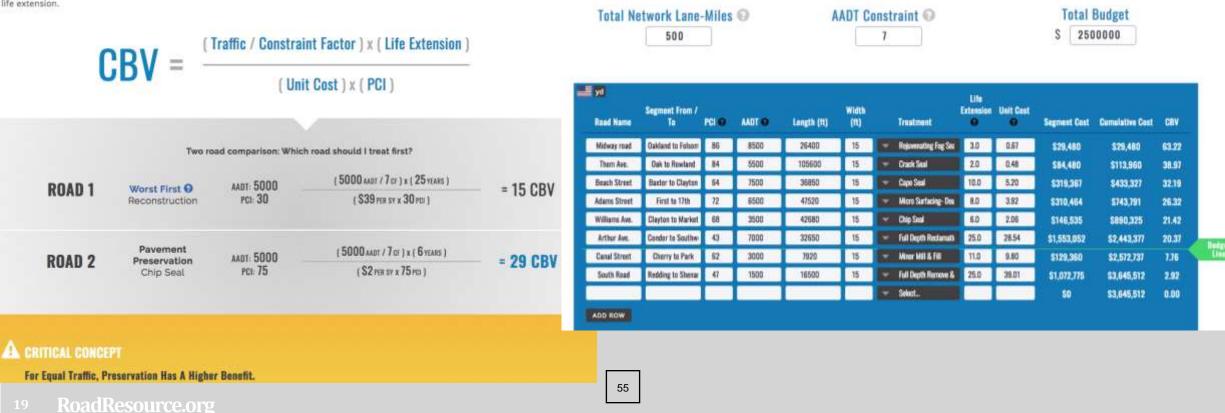


### Cost-Benefit Value Which projects will give the "biggest bang for the buck?"

#### **Cost-Benefit Value**

#### With limited funding, how do I prioritize my projects?

CBV offers roadway managers a way to prioritize projects while accounting for the variables relevant to you and the realities of traffic, cost and life extension.

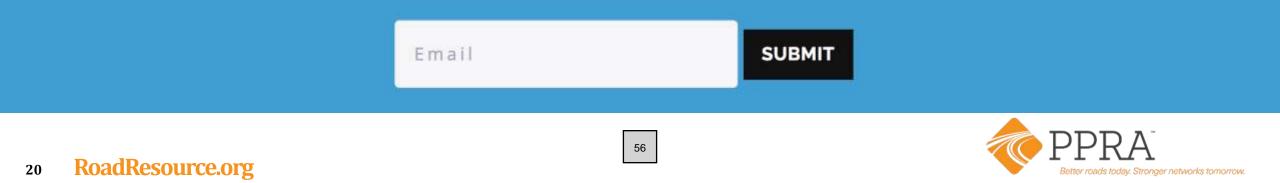


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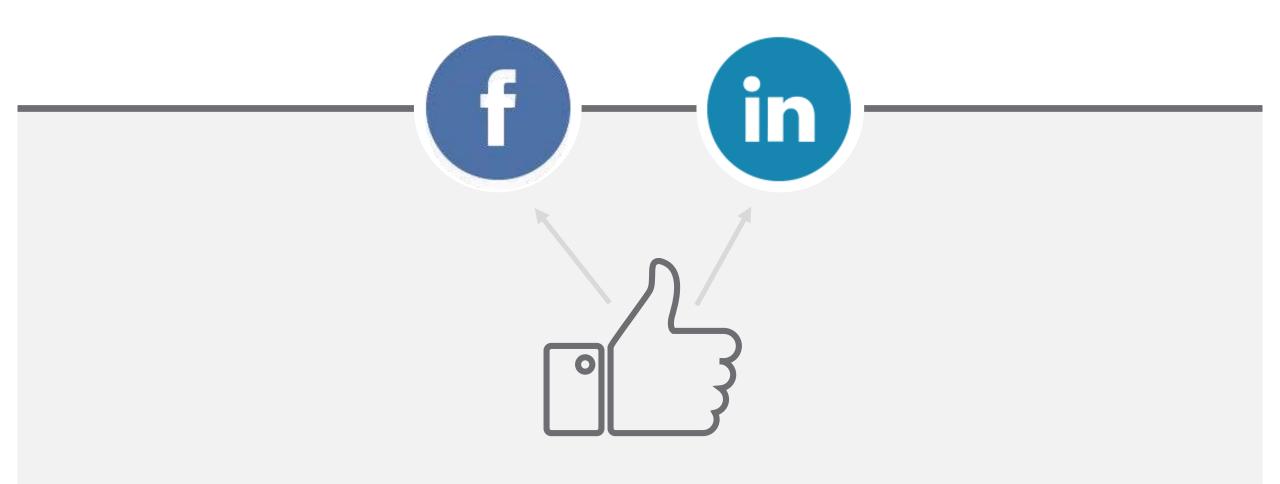
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