The City of Ashland
PROPOSED LEGISLATION
Ordinance
ODOT LPA Municipal Bridge Inspection Services

DATE: September 13, 2016

TO: Honorable Mayor Glen P. Stewart & City Council

FROM: Shane Kremser, PE, City Engineer

LEGISLATION SUMMARY: This Ordinance gives the Mayor authorization to enter into a consent agreement with the Ohio Department of Transportation for the purpose of renewing the State of Ohio Municipal Bridge Inspection Program.

LEGISLATIVE HISTORY: In 2014, the City enacted a similar consent agreement with ODOT for a period of 3 years.

LEGISLATIVE PURPOSE: ODOT previously created a Municipal Bridge Inspection Program, which provided required annual inspection services for all qualifying bridges at no cost to the City. Exhibit A details the proposed Scope of Services that will be administered through ODOT's Central Office. The program is intended to last for an additional 3 years, after which, the City will have to once again take over responsibility for the required annual bridge inspections.

FISCAL IMPACT: None

DIRECTOR'S RECOMMENDATION: After reviewing with the Mayor, it is recommended that this Ordinance be passed so that the City can take advantage of the State funded program.

Ordinance # : 86-16
PID No. : 102554

ORDINANCE NO. 86-16

AN ORDINANCE AUTHORIZING AND DIRECTING THE MAYOR, DIRECTOR OF PUBLIC SERVICE, TO ENTER INTO A CONSENT AGREEMENT WITH THE OHIO DEPARTMENT OF TRANSPORTATION FOR THE MUNICIPAL BRIDGE INSPECTION PROGRAM SERVICES PROJECT WITHIN THE CITY CORPORATION LIMITS; AND DECLARING AN EMERGENCY.

The following is an Ordinance enacted by the City of Ashland, Ashland County, Ohio, hereinafter referred to as the Local Public Agency (LPA).

SECTION I – Project Description

WHEREAS, the (LPA) has determined the need for the described project:

Bridge Inspection Program Services, including, but not limited to bridge load rating calculations, scour assessments, bridge inspections, and fracture critical plan development.

NOW THEREFORE, be it ordained by the Council of the City of Ashland, Ashland County, Ohio, 5 members thereto concurring:

SECTION II – Consent Statement

Being in the public interest, the LPA gives consent to the Director of Transportation to complete the above-described project.

SECTION III – Cooperation Statement

The LPA shall cooperate with the Director of Transportation in the above-described project as follows:

The State shall assume and bear 100% of all of the cost for Bridge Inspection Program Services requested by the City and agreed to by the State. Eligible Bridge Inspection Services are described in the Consultant's Scope of Services Task Order Contract (Exhibit A).

The LPA agrees to pay 100% of the cost of those features that are not included in Exhibit A.

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SECTION IV – Utilities and Right-of-Way Statement

The LPA agrees that all right-of-way required for the described project will be made available in accordance with current State and Federal regulations.

SECTION V – Emergency Measure

That in order to proceed with said project at the earliest possible time, this Ordinance is declared to be an emergency measure immediately necessary for the preservation of the public peace, property, health, safety and welfare of said City of Ashland.

That this Ordinance shall take effect and be in force from and after its passage by Council and approval pursuant to Section 12 of the Charter of the City of Ashland, Ohio.

SECTION VI - Authority to Sign

Glen P. Stewart, Mayor of said City of Ashland is hereby empowered on behalf of the City of Ashland to enter into contracts with the Director of Transportation which are necessary to complete the above-described project.

Passed: September 20, 2016

Ruth G. Detrow, President of Council

Attest: Jody Toms
Jody Toms, Clerk of Council

Approved: Glen P. Stewart
Glen P. Stewart, Mayor

Approved as to form and correctness:

Richard P. Wolfe II
Richard P. Wolfe II, Director of Law

Date: September 20, 2016

PID No.: 102554

CERTIFICATE OF COPY
STATE OF OHIO

City of Ashland of Ashland County, Ohio

I, Jody Toms, as Clerk of the City of Ashland of Ashland County, Ohio, do hereby certify that the foregoing is a true and correct copy of Ordinance No. 86-16 adopted by the legislative Authority of the said City of Ashland on the 20th day of September, 2016.

That the publication of such Ordinance has been made and certified of record according to Law; that no proceedings looking to a referendum upon such Ordinance has been taken; and that such Ordinance and certificate of publication thereof are of record in _____, Page _____.
(Record No.)

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my official seal, if applicable, this 20th day of September, 2016.

City of Ashland of Ashland County, Ohio

(CITY SEAL)

Jody Toms

Jody Toms, Clerk of Council

The aforegoing is accepted as a basis for proceeding with the project herein described. For the City of Ashland of Ashland County, Ohio.

Attested: _____ _____ Date _____
(Contractual Agent)

For the State of Ohio

Attested: _____ _____ Date _____
(Director, Ohio Department of Transportation)

Scope of Services Meeting Date: **/**/**
Approved Final Scope of Services Minutes Date: **/**/**

GENERAL ENGINEERING SERVICES
Central Office, Office of Structural Engineering
Scope of Services

The CONSULTANT may be required to perform the following services on a task order type basis for bridges designated by regulation or by agreement as City or Village inspection responsibility. Consultants must be prequalified for Level 1 Bridge Inspection services, which may include but are not limited to the following:

Task 1 - Scour Tasks
- Task 1A - Scour Critical Assessment
- Task 1B - Scour Plan-of-Action
- Task 1C – Scour Analysis

Task 2 - Load Rating Tasks
- Task 2A - Field Measurements for Load Rating
- Task 2B - Load Rating Calculations

Task 3 – SMS Structure Inventory and Review

Task 4 – Inspection Procedures
- Task 4A - Fracture Critical Plan
- Task 4B – Underwater Inspection Procedures

Task 5 - Bridge Inspection
- Task 5A – Routine Bridge Inspection
- Task 5B – Fracture Critical Inspection
- Task 5C – Underwater Dive Inspection

Services shall be conducted in accordance with the following:

- ODOT Manual of Bridge Inspection, Latest Version
- Hydraulic Engineering Circulars 18, 20 and 23
- The Manual for Bridge Evaluation, Second Edition 2013 interim with revisions, AASHTO Publication
- Bridge Inspector's Reference Manual, FHWA NHI Publication Number: 12-049, Publication Year: 2012
- Underwater Bridge Inspection, FHWA Publication Number: FHWA NHI-10-027, Publication Year: 2010
- ODOT SMS Bridge and Inventory Coding Guide, Latest Version
- ODOT Bridge Design Manual, Latest Version

All work shall be performed on an actual cost basis. The CONSULTANT shall maintain a project cost accounting system that will segregate costs for individual task orders.

The duration of the agreement will be thirty-six (36) months from the authorization date of the agreement.

The Department will be performing an annual Quality Assurance Review (QAR) for each selected consultant in accordance with Manual of Bridge Inspection to ensure accuracy and consistency of the inspection and documentation in SMS. This typically includes an office and field review.

The project will be divided in to four (4) sub-projects (SP). A CONSULTANT will be selected for each sub-project. Municipalities opted into the previous inspection program will have the option to renew their legislation. The sub-projects have the following general geographic areas, category characteristics, and maximum contract values for the municipalities with with municipal inspection responsibility obtained from SMS data as of July 2016:

Project: SP01 - District (1, 2, &3), Total Structures = 406*

Type	Span =< 20'	20' < Span =< 60'	60' < Span =< 200'	Span > 200'	Total
Single Span	157	149	21	0	**327**
Multi-Span	20	19	27	13	**79**
Culvert	116	33	0	0	**149**
Truss	0	7	14	0	**3**
Underwater Inspection	0	0	0	0	**0**
Fracture Critical Inspection	0	2	2	0	**4**

* Level 1 bridge inspection structures

Project: SP02 - District (4, 11, &12), Total Structures = 211*

Type	Span =< 20'	20' < Span =< 60'	60' < Span =< 200'	Span > 200'	Total
Single Span	70	71	20	0	**161**
Multi-Span	6	7	22	15	**50**
Culvert	51	23	1	0	**75**
Truss	13	12	38	0	**6**
Underwater Inspection	0	0	0	1	**1**
Fracture Critical Inspection	0	1	4	0	**5**

* Level 1 Bridge Inspection structures

Project: SP03 - District (5, 6, &10), Total Structures = 285*

Type	Span =< 20'	20' < Span =< 60'	60' < Span =< 200'	Span > 200'	Total
Single Span	104	99	24	0	**227**
Multi-Span	4	6	31	17	**58**
Culvert	72	32	4	0	**108**
Truss	0	0	54	0	**7**
Underwater Inspection	0	0	0	1	**1**
Fracture Critical Inspection	0	0	7	0	**7**

* Level 1 bridge inspection structures

Project: SP04 - District (7, 8 &9), Total Structures = 377*

Type	Span =< 20'	20' < Span =< 60'	60' < Span =< 200'	Span > 200'	Total
Single Span	121	118	22	0	**261**
Multi-Span	23	44	37	12	**116**
Culvert	109	86	4	0	**199**
Truss	0	7	21	12	**5**
Underwater Inspection	0	0	1	0	**1**
Fracture Critical Inspection	0	2	3	1	**6**

* Level 1 bridge inspection structures

Please note that the total number of structure types is estimated based on current SMS data and may be adjusted when tasks are assigned. The estimated annual contract price value for each sub-project is as follows:

SP01 $280,000
SP02 $200,000
SP03 $230,000
SP04 $290,000

CONSULTANT shall clearly designate in the letter of intent the SP(s) they wish to be considered for.

Three (3) copies of the letter of intent shall be submitted. The letter of intent shall demonstrate that the CONSULTANT has a clear understanding of the scope of services.

Price Proposal Due Date: **//****

UNDERSTANDING

1. Inspections shall be completed by firms prequalified with ODOT for Level 1 bridge inspection with full time staff according to Manual of Bridge Inspection.

2. All reports and records compiled under this agreement shall become the property of the City or Village and shall be housed in the City or Village. ODOT shall receive an electronic copy of plans, analysis files, reports and other items mentioned below.

a) CONSULTANT shall perform all applicable updates to SMS with new or revised information for structure inventory and appraisal data, inspections, scour, fracture critical members, and load ratings.

b) CONSULTANT shall submit copies of all reports and calculations electronically, or in hard copies when requested, to the City or Village for inclusion in their bridge records.

c) This includes, as applicable, a printed copy of the inspection report, Scour Plan-of-Action, Fracture Critical Plan, load rating report, gusset plate analysis, inspection procedures, and field measurement notes, digital pictures as well as a reproducible digital data file (.pdf, .doc, and .xls formats).

3. Copies of all transmittal letters related to this Task Order shall be submitted to Central Office, Office of Structural Engineering.

a) When required, CONSULTANTS shall locate the original construction plans, as-built, and shop drawings from archive locations specified by the municipality and upload them onto SMS.

Services to be furnished by CONSULTANT may include:

TASK 1 - SCOUR TASKS

Task 1A – Scour Critical Susceptibility NBIS Item 113) - The CONSULTANT shall refer to the most recent ODOT Manual of Bridge Inspection. Deliverables include field notes, a completed Scour Critical Assessment Checklist as per Appendix I of the 2014 Manual of Bridge Inspection, and any other reference material needed for the bridge owner to properly maintain their bridge files.

Task 1B - Scour Plan-of-Action - The CONSULTANT shall refer to the most recent ODOT Manual of Bridge Inspection Appendix H for the scope of this task. Deliverables include a completed Scour Plan-of-Action, field notes, calculations, and any other reference material needed by bridge owner to maintain bridge files.

TASK 2 – LOAD RATING TASKS

Task 2A - Field Measurements for Load Rating - Should no plans exist or if additional information is required, each main member shall be field measured for load rating. The condition of the member should be noted on the field documentation. All measurements shall be included in the load rating report.

Task 2B - Load Rating Calculations – A bridge carrying vehicular traffic shall be rated to determine the safe load carrying capacity. The CONSULTANT shall review existing bridge plans and inspection reports and other inspection information such as photographs and estimates of section loss for bridge members and connections. The analysis for existing structures shall be performed for AASHTO HS20-44 [MS 18] (truck, lane, & military) loading for both inventory and operating levels, and for the four Ohio Legal Loads including the special hauling vehicles (2F1, 3F1, 4F1, and 5C1, SU4, SU5, SU6, SU7, and NRL) at operating level. The CONSULTANT shall try to complete the load rating analysis utilizing BrR (Virtis) at first. Hand-calculations or Spreadsheets if BrR is not applicable. The BrR analysis file, other load rating files, and BR100 shall be included with the submittal to OSE.

The inventory and operating ratings shall be coded as per the most recent version of the ODOT Bridge Inventory Coding Guide. Update SMS Inventory with the load rating results and upload BR100 pdf file.

The electronic deliverable shall include if applicable an Excel spreadsheet or other files used for analysis for each bridge which shall include the member areas, member capacities both with and without section loss, influence lines (can be the ordinates or graph of the lines), dead loads and dead load stresses in members, live loads and live

load stresses in members for all truck loadings and the load ratings of the members. Truck loadings to be used for the ratings are specified in BDM Section 900.

The Load Rating Report shall be prepared by a registered or non-registered engineer and it shall be checked, signed, sealed and dated by an Ohio Registered Professional Engineer.

The Load Rating Report shall explain the method used to calculate the load rating of each bridge.

AASHTO Load Factor Rating (LFR) shall be utilized for all bridges not designed by Load and Resistance Factor Design. AASHTO Load and Resistance Factor Rating (LRFR) shall be utilized for all structures designed for HL93 loading.

Load Rating Report Submittal to the City or Village shall include:

a. Two (2) printed copies and one electronic pdf copy of the Load Rating Report for each bridge.

b. Final summary of inventory and operating ratings for each member and the overall ratings of the structure shall be presented for each live load truck. An acceptable format is ODOT form BR-100.

c. Analysis program input files. Both input and output files shall be submitted when programs other than BrR or spreadsheets are used.

d. All calculations related to the load rating.

TASK 3 – SMS STRUCTURE INVENTORY AND REVIEW

The scope of this task includes a limited review of the structure inventory data in the ODOT SMS. In general, the CONSULTANT shall review specific existing ODOT bridge inventory records (as provided by the City and approved by ODOT) of the designated bridge. The CONSULTANT may download the inventory report, which contains inventory data for each bridge on file with ODOT from the ODOT website. The CONSULTANT shall verify this data and determine if the ODOT SMS structure file information needs changing. If no changes are necessary then no SMS inventory needs to be filled out. If changes are necessary, the scope of this task shall also include completing and filing inventory updates (and supplements, as needed) in SMS. The CONSULTANT shall refer to the ODOT Office of Structural Engineering Inventory and Coding Guide of SMS for inventory coding details.

TASK 4 – INSPECTION PROCEDURES

Task 4A – Fracture Critical Plan – A Fracture Critical Member Plan and inspection procedure shall be developed and updated. For more details, refer to Chapter 4: Inspection Types in the Manual of Bridge Inspection. It shall include:

1. Sketches of the superstructure with locations of all fatigue and fracture prone details identified.
   a. Use framing plan or schematic with detail locations labeled and a legend explaining each labeled item on the scheme.
   b. Use an elevation view for trusses.
   c. Classify similar fatigue/fracture prone details as types (e.g. end of partial cover plate).

2. A table or location of important structural details indicating:
   a. Type of detail (e.g. end of partial cover plate, short web gap, etc.)
   b. Location of each occurrence of detail
   c. AASHTO Fatigue Category of detail
   d. Identify retrofits previously installed

3. Risk Factors Influencing the inspector access.

Photos and sketches shall be properly referenced. The CONSULTANT shall refer to the most recent ODOT Manual of Bridge Inspection for additional details on the scope of this task.

Task 4B – Underwater Inspection Procedures – An underwater inspection procedure shall be developed. For more details, refer to Chapter 4: Underwater Inspections in the Manual of Bridge Inspection.

TASK 5 – BRIDGE INSPECTION

Task 5A – Routine Bridge Inspection (SMS Input) - Perform a routine field inspection of the structure to determine the general condition. The CONSULTANT shall refer to the most recent ODOT Manual of Bridge Inspection for additional details on the scope of this task. Section 1111 of the Moving Ahead for Progress in the 21st Century Act (MAP-21) modified 23 U.S.C.144, requires Ohio to report bridge element level data for NBIS bridges on the National Highway System (NHS) to FHWA. A condition rating or element level inspection will be assigned. This task includes: Condition Rating Inspection for non-NBI structures, Condition Rating Inspection for NBI structures, and Element Level Inspection for NBI classified as NHS.

Task 5B – Fracture Critical Inspection - Perform a fracture critical field inspection of fracture critical items. The CONSULTANT shall update the FCM inspection procedure with current photos and descriptions. The CONSULTANT shall refer to the most recent ODOT Manual of Bridge Inspection for additional details on the scope of this task.

Task 5C – Underwater Dive Inspection – Perform Underwater/ In-Water inspection of substructure units according to the cycle shown in SMS. Emergency underwater inspection may arise for specific structures over the duration of the contract period. Work shall be done in accordance with the reference manuals and inspection procedure. Scour risk shall be evaluated after field and data collection.

Agreement Administration Procedures

I. Type I Task Order Notification and Authorization Procedures for task orders less than $10,000 with a well-defined scope of services

A. Central Office will identify a task order, assign a task order number and develop a detailed scope of services.

B. Central Office will authorize the CONSULTANT to perform the task by standard authorization letter that includes:
   1. A detailed scope of services for the task order.
   2. The completion time from authorization.
   3. The maximum compensation (including net fee).
      a. The net fee shall be calculated as 11% of actual cost (labor + overhead + direct non-salary expenses). Subconsultant net fees shall be calculated in the same manner but the prime CONSULTANT shall not earn net fees on subconsultant costs.

II. Type II Task Order Proposal Request, Review and Authorization Procedures for task orders greater than $10,000

A. Central Office will identify a task order, assign a task order number and develop a detailed scope of services

B. Central Office will prepare a request for a task order proposal in the format included herein and transmit it to the CONSULTANT. Review of the task order request and task order proposal preparation are allowable costs and shall be shown as a separate line item in the proposal.

C. Standard Proposal Format - Each Task Order Proposal shall include the following elements:
   1. Letter of transmittal with reference to include:
      a. Central Office General Engineering Services Agreement
      b. PID No.
      c. Agreement No.
      d. Task Order No.

      The project for which the task order is being performed shall NOT be in the letter of transmittal reference, but shall be referenced in the body of the letter.
   2. All other proposal requirements shall conform to Chapter 6, Price Proposals for Agreements and Modifications, of the current Specifications for Consulting Services.
   3. Appendix A of the CONSULTANT's proposal shall include the task order proposal request transmitted to the CONSULTANT by the District.

D. Central Office will review the CONSULTANT's proposal for:
   1. Adherence to submittal requirements.
   2. Compliance with the scope of services.
   3. Mathematical accuracy.
   4. Labor hours and rates.
   5. Net fee percentage.

E. Central Office will resolve any issues with the CONSULTANT and obtain a revised proposal (if necessary).

F. Central Office will authorize the CONSULTANT to proceed with the task.

III. Task Order Identification and Numbering

A. The task order numbering system shall be a three component series consisting of the Sub-Project (SP) number assigned to each consultant under this PID, second number is for the year, third is for sequential number of task orders.

1. For example, the first task order issued in in 2017 for SP01 is SP01-2017(1).

   a. Continuing task orders on that project would be numbered SP01-2017(2).

2. A new task order number shall be assigned rather than increase the fee of an existing task order.

IV. Invoice and Project Schedule Requirements

A. The CONSULTANT shall provide monthly invoices and project schedules in the format transmitted with the executed agreement. Each invoice shall include all task orders authorized, a summary of the total amount authorized, the total amount invoiced and appropriate project schedules.

Authorization to Proceed - Type I Task Order

Consultant Name and Address

Re: Central Office, Office of Structural Engineering
General Engineering Services Agreement
PID No.
Agreement No.
Task Order Number (FIPS Code) - (Number)

Dear Consultant:

Effective this date you are hereby authorized to proceed with the subject task order.

Project Identification

a. Bridge List
b. Tasks required on each bridge

Services Requested

(Detailed description of services required.)

Documents Furnished by the Agency (attached)

Additional Scope of Services Notes

Task Order Completion Time

___ days from Notice to Proceed.

Prime Compensation

The State agrees to compensate the CONSULTANT for the performance of the task order specified in accordance with Agreement No. _____, as follows:

Actual costs plus a net fee. The Maximum Prime Compensation shall not exceed _____ ($). The net fee shall be calculated as 11% of actual cost (labor + overhead + direct non-salary expenses). Subconsultant net fees shall be calculated in the same manner but the prime CONSULTANT shall not earn net fees on subconsultant costs.

Please address your written acknowledgment of this communication to:

Omar Abu-Hajar

Omar.Abu-Hajar@dot.ohio.gov

Office of Structural Engineering
Ohio Department of Transportation
1980 West Broad Street
3rd Floor - Mail Stop 5180
Columbus, OH 43223-1102

Respectfully,

cc: Tim Keller, file

Request for Task Order Proposal - Type II Task Order

Consultant Name and Address

Re: Central Office, Office of Structural Engineering
General Engineering Services Agreement
PID No.
Agreement No.
Task Order Number SP0X - (Number)

Dear Consultant:

Please provide a cost proposal for the subject task order as follows:

Project Identification

a. Bridge List
b. Tasks required on each bridge

Services Requested

(Detailed description of services required.)

Documents Furnished by the State (attached)

Additional Scope of Services Notes

Task Order Completion Time

___ days from Notice to Proceed.

Due date for Cost Proposal:

Please submit your proposal to:

Omar Abu-Hajar

Omar.Abu-Hajar@dot.ohio.gov

Office of Structural Engineering
Ohio Department of Transportation
1980 West Broad Street
3rd Floor - Mail Stop 5180
Columbus, OH 43223-1102

Respectfully,

cc: Tim Keller, file

If you have any questions or comments regarding this request, please contact this office prior to submitting your proposal.

Respectfully,

Attachments:

cc: file

Authorization to Proceed - Type II Task Order

Consultant Name and Address

Re: Central Office, Office of Structural Engineering
General Engineering Services Agreement
PID No.
Agreement No.
Task Order Number SP0X-(Number)

Dear Consultant:

Reference is made to your task order proposal dated _____, requesting compensation for the identified task.

Effective this date you are hereby authorized to proceed with the subject task order.

Prime Compensation

The State agrees to compensate the CONSULTANT for the performance of the task order specified in accordance with Agreement No. _____, as follows:

Actual costs plus a net fee of _____ ($). The maximum prime compensation shall not exceed _____ ($).

Please address your written acknowledgment of this communication to:

Omar Abu-Hajar

Omar.Abu-Hajar@dot.ohio.gov

Office of Structural Engineering
Ohio Department of Transportation
1980 West Broad Street
3rd Floor - Mail Stop 5180
Columbus, OH 43223-1102

Respectfully,

cc: Tim Keller, file