



Chandler - Arizona
Where Values Make The Difference

**PURCHASING ITEM
FOR
COUNCIL AGENDA
Memo No. CP17-056**

1. Agenda Item Number:

32

2. Council Meeting Date:
September 15, 2016

TO: **MAYOR AND COUNCIL**

3. Date Prepared: August 31, 2016

THROUGH: **CITY MANAGER**

4. Requesting Department: Municipal Utilities

5. SUBJECT: Project Agreement with Dibble & Associates Consulting Engineers, Inc., an Arizona corporation dba Dibble Engineering, Inc., for Sewer Assessment Services

6. RECOMMENDATION: Staff recommends City Council award a Project Agreement to Dibble & Associates Consulting Engineers, Inc., an Arizona corporation dba Dibble Engineering, Inc., for Sewer Assessment Services, pursuant to Annual Water and Wastewater Services Contract No. EN1520.101, Project No. WW1611.201, in an amount not to exceed \$455,535.

7. BACKGROUND/DISCUSSION: The 2008 Wastewater Master Plan identified an ongoing need to evaluate, prioritize, and repair sewer lines and manholes within the City's collection system. This project will evaluate the structural condition of the sewer collection system. The findings will help prioritize rehabilitation or replacement of wastewater sewer lines and manholes. Sewer infrastructure will be inspected through closed circuit television, 3D optic scanner, and manned entry. This work will focus on arterial streets and other critical sewer facilities. As a result of this study, wastewater facility rehabilitation projects will be brought forward in the future for City Council consideration.

The project scope of work consists of: project management services, inspection of sewer pipelines and manholes, recommendations for rehabilitation of this infrastructure, preparation of construction documents, and bidding assistance.

8. EVALUATION PROCESS: This project is being performed under the Annual Water and Wastewater Services Contract No. EN1520.101, to Dibble & Associates Consulting Engineers, Inc., an Arizona corporation dba Dibble Engineering, Inc. The costs proposed for this project have been evaluated by staff and are determined to be reasonable. The contract completion time is 240 calendar days following Notice to Proceed.

9. FINANCIAL IMPLICATIONS:

Cost: \$455,535
Savings: N/A
Long Term Costs: N/A

Fund Source:

Account No.:	Fund Name:	Program Name:	CIP Funded:	Amount:
611.3910.6817.6WW266	Wastewater Bond	Sewer Assessment & Rehabilitation	Yes	\$455,535

10. PROPOSED MOTION: Move City Council award a Project Agreement to Dibble & Associates Consulting Engineers, Inc., an Arizona corporation dba Dibble Engineering, Inc., for Sewer Assessment Services, pursuant to Annual Water and Wastewater Services Contract No. EN1520.101, Project No. WW1611.201, in an amount not to exceed \$455,535.

ATTACHMENTS: Agreement

APPROVALS

11. Requesting Department

Gina Ishida-Raybourn, Acting Utilities Engineering Manager

13. Department Head

John Knudson, Municipal Utilities Director

12. Transportation & Development

Bob Fortier, Capital Projects Manager

14. City Manager

Marsha Reed

**PROJECT AGREEMENT
PURSUANT TO ANNUAL CONTRACT NO. EN1520.101**

PROJECT AGREEMENT NO: WW1611.201

This PROJECT AGREEMENT is made this _____ day of _____, 2016, by and between the City of Chandler, a municipal corporation (hereinafter referred to as "CITY") and Dibble & Associates Consulting Engineers, Inc. an Arizona corporation doing business as Dibble Engineering, Inc., (hereinafter referred to as "Annual Consultant") and is a project agreement entered into pursuant to Annual Contract No. EN1520.101.

CITY and Dibble Engineering, in consideration of the mutual covenants herein set forth, agree as follows:

ARTICLE 1 - DESCRIPTION OF WORK:

This project is **SEWER ASSESSMENT**, Project Number **WW1611.201**. The scope of work consists of developing priorities for sewer manhole and pipeline re-inspection and evaluation for rehabilitation and data integration, all as more particularly set forth in Exhibit A attached hereto and incorporated herein by reference.

The Annual Consultant shall not accept any change of scope, or change in contract provisions, unless issued in writing, as a contract amendment and signed by the Contract Administrator.

ARTICLE 2 - CONTRACT PRICE:

CITY shall pay Annual Consultant for completion of the Work in accordance with the Contract Documents a fee not to exceed Four Hundred Fifty Five Thousand Five Hundred Thirty Five Dollars (\$455,535) determined and payable as set forth in Annual Contract EN1520.101 and Exhibit B attached hereto and made a part hereof by reference.

ARTICLE 3 - CONTRACT TIME:

The contract time is Three Hundred Sixty calendar days and Annual Consultant agrees to complete all work within Two Hundred Forty (240) calendar days of the date CITY issues a Notice to Proceed.

ARTICLE 4 - GENERAL:

This Project Agreement is entered into pursuant to Annual Contract No. EN1520.101 and the terms and conditions contained therein are incorporated herein by reference as if set forth in full.

IN WITNESS WHEREOF, the parties hereto have executed this Project Agreement on the day and year first written above.

This Project Agreement will be effective on this _____ day of _____, 2016.

CITY OF CHANDLER

FOR THE ANNUAL:

MAYOR DATE:

By: Steve E. Rex
Title: COO

ADDRESS FOR NOTICE
City of Chandler
P.O. Box 4008, Mail Stop 407
Chandler, AZ 85244-4008
480-782-3307

ADDRESS FOR NOTICE
Mr. Steve Rex
Dibble Engineering, Inc.
7500 N. Dreamy Draw Dr., Ste. 200
Phoenix, AZ 85020

APPROVED AS TO FORM:

Phone: 602-957-1155

City Attorney By: [Signature]

ATTEST:

City Clerk

EXHIBIT A SCOPE OF WORK

ANNUAL CONSULTANT shall provide the following sewer assessment services:

- Assignment 1 – Recessed Manhole Cover Investigation
- Assignment 2 – “One-Off” Manhole: Condition Assessment
- Assignment 3 – Priority Streets: Manhole Condition Assessment
- Assignment 4 – Price Road Interceptor Sewer Investigation

ASSIGNMENT 1 - RECESSED MANHOLE COVER INVESTIGATION

ANNUAL CONSULTANT shall identify manholes contained within City GIS record mapping and perform an on-site investigation to measure the extent of recess of 1,000 manholes and report the findings to the City. ANNUAL CONSULTANT shall prepare a Technical Memorandum with an Appendix outlining the ring and cover elevation relative to the surrounding grade.

The manhole ring and cover repair list generated will be coordinated with the work performed as part of the “One-off” manhole condition assessment and “Priority Street” manhole condition assessment projects. Manholes grade adjustment work will not be proposed for repair at locations where structural insert installation is recommended to eliminate removal of a newly installed ring and cover to install an insert.

ASSIGNMENT 2 - “ONE-OFF” MANHOLE: CONDITION ASSESSMENT

ANNUAL CONSULTANT shall identify manholes contained within City provided GIS record mapping and conduct a remote visual investigation using digital CCTV techniques to review internal manhole conditions. Assessment will be performed on 500 manholes located one manhole away from the sanitary sewers 15-inch through 66-inch in diameter and report findings to the City. ANNUAL CONSULTANT shall coordinate man-entry structural assessment through physical probing to verify visual observations. The repair list will be coordinated with the “Recessed Manhole” investigation” and “Priority Streets” projects.

ANNUAL CONSULTANT shall utilize sub consultant to collect images of the interior of manholes utilizing digital IBAK CCTV manhole camera equipment for interior dimensional measurements, closer engineering scrutiny of defects and documentation of condition for future comparison of “rate” of deterioration determination purposes. Existing manhole condition will be evaluated and observed defects coded according to National Association of Sanitary Service Companies (NASSCO), Manhole Assessment Certification Program (MACP) standard procedures. ANNUAL CONSULTANT shall develop a list of manholes with suspected structural degradation and make a recommendation to the City to perform man entry verification. ANNUAL CONSULTANT shall present list to the City for review and approval prior to proceeding.

ANNUAL CONSULTANT shall utilize a subconsultant to perform man-entry investigation into the OSHA regulated confined space to evaluate the manhole interior condition through direct inspection methods. Investigation will utilize physical probing to determine extent of structural concrete deterioration not directly visible in digital images. Defects observed will be verified with the MACP codes produced by CCTV remote visual inspection.

ANNUAL CONSULTANT shall prepare Technical Memorandum containing an Appendix outlining a list of structurally deficient manhole(s). Recommendations will describe repairs using structural manhole insert installation. Documents will describe repair procedures according to City Standards.

Assessment work will be coordinated with City of Chandler Street Transportation Department to verify location and anticipated date of construction of their Mill and Overlay Program project(s). Those manholes physically located within an upcoming mill and overlay project will be prioritized for assessment in an attempt to complete necessary repairs ahead of any street Mill and Overlay and/or Capital Street resurfacing project.

ASSIGNMENT 3 – PRIORITY STREETS: MANHOLE CONDITION ASSESSMENT

ANNUAL CONSULTANT shall identify manholes contained within City GIS record mapping and conduct a remote visual investigation using digital CCTV of the internal manhole conditions along with man-entry verification of interior conditions if necessary. Assessment will be performed on **118 manholes** with results reported to the City. Two (2) additional manholes located within Warner Road, five (5) manholes located within Queen Creek Road, one (1) in Cooper Road, and two (2) in Ocotillo Road will be assess as part of the "One-off Manhole: Condition Assessment" task of work. The City has identified the following streets as "Priority Streets":

Warner Road – McQueen Road to Dobson Road (49 manholes and 2 one-off MH)
Queen Creek Road – McQueen Road to Gilbert Road (22 manholes and 2 one-off MH)
Chandler Heights Road: Arizona Avenue to McQueen Road (10 manholes and 0 one-off MH)
Cooper Road: Chandler Heights Road to Riggs Road (8 manholes and 1 one-off MH)
Ocotillo Road: Cooper Road to Gilbert Road (23 manholes and 2 one-off MH)
Arizona Avenue: Frye Road to Pecos Road (6 manholes and 0 one-off MH)
(Assumed Total = 118 Priority Manholes)

ANNUAL CONSULTANT shall utilize sub consultant to collect images of the interior of manholes utilizing digital IBAK CCTV manhole camera equipment for interior dimensional measurements, closer engineering scrutiny of defects and documentation of condition for future comparison of "rate" of deterioration determination purposes. Existing manhole condition will be evaluated and observed defects coded according to National Association of Sanitary Service Companies (NASSCO), Manhole Assessment Certification Program (MACP) standard procedures. ANNUAL CONSULTANT shall develop a list of manholes with suspected structural degradation and make a recommendation to the City to perform man entry verification. ANNUAL CONSULTANT shall present list to the City for review and approval prior to proceeding.

Those manholes identified as potentially having compromised structural condition will be further evaluated through direct inspection methods. ANNUAL CONSULTANT shall utilize subconsultant to perform man-entry investigation into the OSHA regulated confined space manhole interior to perform physical probing of the concrete integrity to determine extent of structural deterioration that may not be evident or directly visible in digital images.

ANNUAL CONSULTANT shall prepare a Technical Memorandum containing an Appendix outlining a list of structurally deficient manhole(s) as candidates for installation of a structural insert.

Assessment work will be coordinated with City of Chandler Street Transportation Department's upcoming Mill and Overlay and Capital Streets projects. Those manholes physically located within an upcoming projects will be prioritized in the assessment in an attempt to complete the assessment and necessary repairs ahead of street resurfacing projects.

ASSIGNMENT 4 – PRICE ROAD INTERCEPTOR SEWER INVESTIGATION

ANNUAL CONSULTANT shall evaluate the condition of **14,370 linear feet** of T-lock lined sanitary sewer pipe under live flow conditions and associated **twenty-three (23) access manholes** to identify defects in the T-Lock lining that are visible above the water level and report findings to the City. ANNUAL CONSULTANT shall provide an opinion of probably construction cost for rehabilitation using Cured-In-Place-Pipe (CIPP) lining, patch repair of PVC T-lock lining or potentially a combination of both rehabilitation methods.

ANNUAL CONSULTANT shall utilize a subconsultant to collect images of the Price Road Interceptor Sewer pipe interior utilizing analog CCTV camera equipment mounted on a floating platform during live sanitary sewer flow conditions. The existing pipe condition will be evaluated and observed defects coded according to National Association of Sanitary Service Companies (NASSCO), Pipeline Assessment Certification Program (PACP) procedures. Visual CCTV records and reports will be forwarded to the City. Additional internal manhole can be provided as part of the City Allowance funds as directed.

ANNUAL CONSULTANT shall utilize a subconsultant to collect images of the interior of the Price Road Interceptor Sewer access manholes utilizing digital IBAK CCTV manhole camera equipment for interior dimensional measurements, closer engineering scrutiny of defects and documentation of condition for future comparison of "rate" of deterioration determination purposes. Existing manhole condition will be evaluated and observed defects coded according to National Association of Sanitary Service Companies (NASSCO), Manhole Assessment Certification Program (MACP) standard procedures. ANNUAL CONSULTANT shall develop a list of manholes with suspected structural degradation and make a recommendation to the City to perform man entry verification. ANNUAL CONSULTANT shall present list to the City for review and approval prior to proceeding.

ANNUAL CONSULTANT shall prepare a Technical Memorandum containing an Appendix that outlines a list of pipes and manholes observed to have structurally compromised concrete and/or defective protective lining. ANNUAL CONSULTANT shall provide repair recommendations along with corresponding engineer's opinion of probable construction costs for City review.

Phase 1000 – GENERAL PROJECT ADMINISTRATION

TASK 110 **Coordination:** ANNUAL CONSULTANT shall perform coordination with the Project Team during the investigation of recessed manholes to ensure their progress remains on task and budget. ANNUAL CONSULTANT shall deliver progress reports to the City's Project Manager throughout the work.

Information requested from the City includes the following:

- Previous Assessment Reports
- Mill & Overlay Program
- Capital Streets Projects
- GIS Department standardized shape file data / format
- Current GIS geodatabase containing sewer main and manhole shape files.

ANNUAL CONSULTANT shall identify from the list of Recessed Manhole investigation those manholes located within the Mill and Overlay Program provided by the City. It is presumed it is not necessary to assess the elevation grade of manhole rings and covers that will be removed and repaired as part of the Mill and Overlay Program. Mill and Overlay Program locations provided by the City are as follows:

- Warner Road – McQueen Road to Dobson Road
- Queen Creek Road – McQueen Road to Gilbert Road
- Chandler Heights Road: Arizona Avenue to McQueen Road
- Cooper Road: Chandler Heights Road to Riggs Road
- Ocotillo Road: Cooper Road to Gilbert Road
- Arizona Avenue: Frye Road to Pecos Road

ANNUAL CONSULTANT shall select and secure services of those firms providing specialized services for the Project as approved by the City. ANNUAL CONSULTANT shall prepare the scope of services performed by each sub-consultant and monitor their work for timeliness and adherence to project requirements. ANNUAL CONSULTANT shall review sub-consultant's progress payments for accuracy and completeness and make payments as provided in the sub-consultant's Agreement.

TASK 120 **Meetings:** ANNUAL CONSULTANT shall attending up to four (4) project meetings to coordinate the work. CONSULTANT shall prepare and distribute meeting agenda, updated project schedule, and distribute meeting minutes to all attendees. Meetings with City staff and management are anticipated at the following milestones.

- a. Confirm area of project manholes, confirmation of manhole identification numbering system to be utilized, and consensus of data collection and reporting, (one (1) meeting).
- b. Meeting with Transportation & Development Department for concurrence of Mill and Overlay and Capital Streets resurfacing work prioritization, (one (1) meeting).

- c. Review Preliminary Memorandum including discussion of recommendations of repairs (one (1) meeting).
- d. Discuss Final Assessment Report for concurrence of project delivery approach for the scenario and grouping of manholes into construction projects that are in the best interest of the City (one (1) meeting).

TASK 130 **Monthly Progress Report:** ANNUAL CONSULTANT shall submit a written monthly progress report to the City's Project Manager and update the project schedule. This information will be submitted for the duration of the project.

TASK 140 **Monthly Invoicing:** ANNUAL CONSULTANT shall submit a written monthly invoice to the City's Project Manager along with a monthly progress report outlining the work task status. The invoice will identify the contract number and include the amount of man-hour expended as identified in the approved fee proposal, amounts previously billed, percent complete of each work task and total amount due for the current period.

ANNUAL CONSULTANT shall submit one (1) electronic copy of the invoice, emailed to the City's Project Manager.

SECTION 200 – ASSESSMENT PHASE SERVICES

TASK 210 **Data Research and Collection:** ANNUAL CONSULTANT shall review the current City provided GIS database to extract the manhole identification numbering system assigned to individual manholes within the project area. Manhole numbers will be tabularized into a mobile database for use in the field. Manhole identification numbers will be marked in white paint on each manhole lid within the project as part of Task 230 for coordination of work purposes. A photographic image of the painted manhole lid will be collected for entry into a project geodatabase.

TASK 220 **Streets Department Coordination / Assessment Prioritization:** ANNUAL CONSULTANT shall meet with the City of Chandler Transportation & Development Department to obtain the location(s) of anticipated asphalt Mill and Overlay and Capital Streets resurfacing project locations. Information received will be recorded in the on-line project webshare for coordination of the project team.

TASK 230 **Field Measurement of Manhole Grade / Recess:** ANNUAL CONSULTANT shall perform a site visit to each manhole identified for assessment to paint the unique manhole identification number on the lid and to field measure the distance the manhole cover is recessed when referenced to the adjacent manhole ring or asphalt surface elevation. This task will be accomplished using a five (5) foot straight edge placed across the manhole ring. Dimensional measurement will be documented using a tape measure to record the maximum distance from the carpenter's level to the manhole ring if ring is recessed below the surrounding asphalt level and a second measurement of the distance to the carpenter's level to the center of the manhole cover.

TASK 240 **CCTV Data Coordination w/ Subconsultant (IBAK camera):** ANNUAL CONSULTANT shall coordinate with subconsultant to collect images of the manhole interior using digital IBAK camera equipment. Images will be analyzed to visually identify interior manhole conditions. Observed defects will be coded and reported according to the National Association of Sanitary Services Companies (NASSCO) – Manhole Assessment Certification Program (MACP) standard procedures.

TASK 250 **NASSCO MACP Manhole Condition Review:** ANNUAL CONSULTANT shall review the digital images and defect coding. ANNUAL CONSULTANT shall perform interior dimensional measurements using digital files and software tools, perform closer engineering scrutiny of defects and document the interior condition for future comparison and determination of the "rate" of deterioration determination. ANNUAL CONSULTANT shall formulate an opinion of condition of the manhole and recommend procedures for repair, if necessary. Recommendations will be tabulated in MSExcel format for incorporation into the Appendix of the Technical Memorandum. ANNUAL CONSULTANT shall identify manholes requiring

further condition verification and prepare a list for performing Task 255 – Man Entry Condition Verification.

TASK 252 **CCTV Data Coordination w/ Subconsultant (Analog camera):** ANNUAL CONSULTANT shall coordinate with subconsultant to collect images of the pipe interior using an analog camera transported on a floating platform. Images will be analyzed to visually identify interior pipe conditions that can be observed above the existing water level. Observed defects will be coded according to the National Association of Sanitary Services Companies (NASSCO) – Pipeline Assessment Certification Program (PACP) standards.

TASK 253 **NASSCO PACP Pipe Condition Review:** ANNUAL CONSULTANT shall review the images and defect coding of the pipe interior. ANNUAL CONSULTANT shall formulate an opinion of condition of the pipe and propose recommended procedures for repair, if necessary. Recommendations will be tabulated in MSEXcel format for incorporation into the Appendix of the Technical Memorandum.

TASK 255 **Man Entry Manhole Condition Verification Coordination:** ANNUAL CONSULTANT shall coordinate with subconsultant to perform a confined space man entry investigation of the manhole interior. Investigation will be performed using physical probing to determine the integrity of the existing PVC T-Lock lining using direct visual and physical probing test procedures. Analysis will verify the presence of defects that may not be directly observed through remote visual means. Investigation notes will be recorded for each manhole investigated.

TASK 260 **Preliminary Technical Memorandum:** ANNUAL CONSULTANT shall prepare a Preliminary Technical Memorandum for each of the four (4) assignments outlining the procedures undertaken to measure the recessed manholes lids. Memorandum will summarize the findings of measurements for each manhole in tabular form with corresponding manhole number. Manholes will be grouped according to the arterial street they are positioned. East/West Street will take precedence in grouping. Memorandum will identify recommendations for grade adjustment.

MEMORANDUM DELIVERABLES: ANNUAL CONSULTANT shall coordinate and distribute the following deliverables:

Preliminary Technical Memorandum submittal will include the following for each of the four (4) assignments:

- Four (4) bound copies of the Preliminary Technical Memorandum, stamped Draft.
- One (1) electronic copy on DVD of above in .pdf format.

TASK 261 **Finalize Technical Memorandum:** ANNUAL CONSULTANT shall finalize the Technical Memorandum for each of the four (4) assignments by incorporating City comments as directed.

MEMORANDUM DELIVERABLES: ANNUAL CONSULTANT shall coordinate and distribute the following deliverables:

Final Technical Memorandum submittal will include the following for each of the four (4) assignments:

- Four (4) bound copies of the Final Technical Memorandum, sealed by a professional civil engineer employed by ANNUAL CONSULTANT, registered in the State of Arizona.
- One (1) electronic copy on DVD of above in .pdf format.

TASK 265 **Engineer's Opinion of Probable Construction Costs:** ANNUAL CONSULTANT shall prepare an independent opinion of probable construction cost for each of the four (4) assignments at the Preliminary Technical Memorandum submittal that is based on information developed during the field investigation. An updated opinion of probable construction cost that incorporates City comments will be submitted with the Final Technical Memorandum. Appropriate amounts for contingency will be included in the estimated cost to reflect unknown conditions that may be present at the time of construction.

SECTION 300 – DESIGN PHASE SERVICES

TASK 310 **Technical Specifications:** ANNUAL CONSULTANT shall prepare Technical Specifications for the items not specifically addressed in MAG or City of Chandler Supplement to MAG 2016 Standard Specifications. Specialty Technical Specifications are anticipated to be written for the following:

- Alternative Ring and Cover
- Manhole Insert Installation
- Polymer Manhole Base Installation

Below is a list of anticipated standard Technical Specifications to be provided for this project that can be utilized in future projects with minimal revisions:

Section 01010 - Project Summary
Section 01014 - Work Sequence
Section 01015 - Contractors Use of Premises
Section 01025 - Measurement and Payment
Section 01060 - Health and Safety
Section 01062 - Permits and Easements
Section 01064 - Inspection and Testing
Section 01071 - Standard References
Section 01102 - Contractors Hazardous Materials Management Program
Section 01300 - Submittals
Section 01310 - Progress Schedule
Section 01380 - Photography and Video Recording
Section 01400 - Public Awareness
Section 01550 - Contractors Utilities
Section 01560 - Environmental Controls
Section 01700 - Restoration of Improvements
Section 01999 - Reference Forms
Section 02100 - Traffic Control
Section 02760 - Sewer Pipe and Sewer Structure Cleaning
Section 02761 - Remote Imaging Inspections of Existing Sewers and Rehabilitated Sewers
Section 09710 - Concrete and Masonry Coating
Section 13128 - Composite Material Manhole Insert

APPENDIX "A" – LIST OF MANHOLES RECOMMENDED FOR REPAIR
APPENDIX "B" – STANDARD REPAIR DETAILS

ANNUAL CONSULTANT shall develop recommendation for modifications to City of Chandler Supplement to MAG, January 2016 Section 625.3 CONSTRUCTION METHODS, per City requests to replace the requirement for reinforced concrete adjusting rings to an alternative material.

Technical Specifications will be included as specified under Deliverables below. Technical Specifications preparation will be in accordance with the following standards and guidelines:

- City of Chandler Supplement to MAG Uniform Standard Specifications and Details for Public Works Construction, January 2016.
- Maricopa Association of Governments, Uniform Standard Specifications for Public Works Construction, Revisions through 2015.
- Maricopa Association of Governments, Uniform Standard Details for Public Works Construction, Revisions through 2015.

DELIVERABLES: ANNUAL CONSULTANT shall assemble and distribute the following deliverables for each of the four (4) assignments:

- a. 60% Submittal: Submittal will include cover, plan view depicting the approximate location of the work.
 - One (1) copy 60% Engineer's Opinion of Probable Construction Cost

- One (1) copy of the 60% Technical Specifications
 - One (1) electronic (PDF) copy of all documents on DVD
- b. 90% Submittal: Submittal will include complete manhole repair recommendations incorporating 60% review comments. Technical Specifications will be marked "Agency Review- Not for Construction".
- One (1) copy of the 90% Technical Specification
 - One (1) copy 90% Engineer's Opinion of Probable Construction Cost Electronic (PDF)
 - One (1) electronic (PDF) copy of all documents on DVD
- c. 100% Bid Document Submittal: Submittal will include complete Technical Specifications, sealed by a registered Professional Engineer, suitable for bidding incorporating City comments as necessary.
- One (1) copy of 100% Technical Specifications
 - One (1) copy, Engineer's Opinion of Probable Construction Cost
 - One Bid Form
 - One (1) electronic (PDF) copy of all documents on DVD

TASK 320 **Standardized Repair Details:** ANNUAL CONSULTANT shall develop standardized Design Details not contained with City of Chandler Supplement to MAG, January 2016. Standardized details will be incorporated into the Technical Specifications as an Appendix "B". Details that are anticipated to be developed include the following:

- Manhole Insert Installation
- Manhole Bench Repair: Minor
- Manhole Bench Repair: Major

TASK 330 **Review Previously Completed / Shelved Design Projects:** ANNUAL CONSULTANT shall meet with the City's Project Manager to review projects that were previously designed by others within the project area (if any) but not constructed. ANNUAL CONSULTANT shall coordinate recommendations presented in previous design work as appropriate with work being presented in this contract.

SUBCONSULTANT ALLOWANCES:

Task 950.01 **CCTV (IBAK Manhole Camera) w/ Traffic Control:** Subconsultant will collect images of the manhole interior utilizing IBAK digital CCTV manhole camera equipment for 641 manholes. Existing condition will be visually evaluated. Defects observed will be identified and code(s) assigned according to National Association of Sanitary Service Companies (NASSCO), Manhole Assessment Certification Program (MACP) standard procedures. Traffic control measures will be utilized only as necessary and billed as an Allowance Item.

Task 950.02 **CCTV (Analog Camera) w/ Traffic Control:** Subconsultant will collection visual images for 14,370 lineal feet of the 60-inch and 66-inch diameter Price Road Interceptor Pipe interior utilizing traditional analog CCTV camera equipment mounted on a float system to collect images of the pipe interior during live flow conditions. Existing pipe condition will be evaluated with observed defects identified and coded according to National Association of Sanitary Service Companies (NASSCO), Pipeline Assessment Certification Program (PACP) procedures. Traffic control measures will be utilized only as necessary will be utilized only as necessary and billed as an Allowance Item.

Task 950.03 **Manhole Confined Space Entry & Condition Verification with Safety Equipment (Complete):** Subconsultant will perform man-entry investigation into the interior of 60 manholes to utilize physical probing to determine extent of structural concrete deterioration not directly visible in digital images. Defects observed will be verified with the MACP codes produced by CCTV remote inspection.

DIRECT EXPENSES (ALLOWANCES)

- Task 940.01** **Direct Costs:** Reimbursements will be made by the City for direct costs incurred for printing, document reproduction, plotting, as-builts, and fees charged for obtaining facility mapping etc.
- Task 940.02** **Allowance: Traffic Safety Shadow Truck:** ANNUAL CONSULTANT shall provide through a qualified company, vehicular safety vehicle with arrow boards to shadow ANNUAL CONSULTANT shall during identification and painting of unique identification number on the manhole cover and during Assignment 1 - Recessed Manhole Cover Investigation, as necessary to maintaining the safety of staff and the general public while working within heavily traveled corridors of the City. Shadow truck will be utilized only as necessary with time billed as an Allowance Item.
- Task 940.03** **Allowance: Off Duty Police Officer:** ANNUAL CONSULTANT shall employ the services of an off-duty police officer while work occurs within signalized intersections per City of Chandler requirements. Off duty police officer will be utilized only as necessary with time billed as an Allowance Item.
- Task 940.05** **City's Allowance:** An allowance is included to be applied towards additional engineering, construction management and/or coordination not included in this scope or other items as directed by the City. This item will only be used with written authorization from the City.

**EXHIBIT B
FEE SCHEDULE**

DIRECT LABOR			
Classification	Manhours	Direct Labor Rate	Labor Costs
1 Sr. Project Manager	172	\$175.00	\$30,100.00
2 QA/QC Manager	56	\$155.00	\$8,680.00
3 Project Engineer (PE)	650	\$140.00	\$91,000.00
4 Assistant Engineer (EIT)	700	\$110.00	\$77,000.00
5 Technician	540	\$90.00	\$48,600.00
6 Construction Manager	0	\$150.00	\$0.00
6 Construction Inspector	0	\$105.00	\$0.00
7 Administrative Asst.	166	\$60.00	\$9,960.00
8 Survey Manager (RLS)	0	\$160.00	\$0.00
9 Survey Crew (2-Man)	0	\$155.00	\$0.00
10 Assistant Surveyor (LSIT)	0	\$95.00	\$0.00
9 Survey Technician	0	\$95.00	\$0.00
TOTAL =	2,284		\$ 265,340.00
a. Total Project Labor:			\$ 265,340.00
SUB-CONSULTANTS			
(Listed by Firm or Name (NO MARK-UP))			
Firm		No. of Units	Cost
Task 950.01 - CCTV (IBAK Manhole Camera) with Traffic Allowance		641	\$ 86,010.00
Task 950.02 - CCTV (Analog Camera) with Traffic Allowance		14370	\$ 18,681.00
Task 950.03 - Manhole Confined Space Entry & Condition Verification with Safety Equipment (Complete)		60	\$ 33,000.00
d. Sub-Total Consultants			\$ 137,691.00
REIMBURSABLE EXPENSES AND ALLOWANCES			
(List by Item (Cost + 10%))			
			Cost
Task 940.01 - Direct Costs			1,000.00
Task 940.02 - Allowance: Traffic Safety Shadow Truck			22,792.00
Task 940.03 - Allowance: Off Duty Police Officer			2,178.00
Task 940.04 - City's Allowance (Use by City Authorization Only) (10% of labor cost)			26,534.00
e. Sub-Total Reimbursable Expenses and Allowances			\$ 52,504.00
h. TOTAL PROJECT FEE:			455,535.00