



INFORMATIONAL MEMORANDUM

TO: **Transportation and Infrastructure Committee**
 FROM: **Hari Ponnekanti, Public Works Director/ City Engineer**
 BY: **Sherry Edquid, Project Manager**
 CC: **Mayor Allan Ekberg**
 DATE: **September 16, 2022**
 SUBJECT: **2022 GIS Utility Inventory**
Project No. 80241201, 80540202, 81640104
Design Consultant Selection and Agreement

ISSUE

Approve a contract with David Evans and Associates (DEA), Inc. to provide geographic information system (GIS) asset inventory services.

BACKGROUND

The GIS mapping inventory establishes city wide as-built records for the public water, sewer and stormwater assets such as pipes, catch basins, pump stations, hydrants, and valves. City maintenance and operations staff utilize GIS mapping to locate utilities for maintenance and needed repairs. Design staff utilize this information when designing utility projects or other right-of-way projects in the vicinity of these assets. This information is often the subject of public records requests. Assets need to be updated regularly as new public and private projects that affect public systems occur. Additionally, there is a backlog of existing assets that need to be cataloged into the GIS inventory, as the last inventory took place from 2017 to 2018.

ANALYSIS

Public Works staff issued a Request for Proposal (RFP) to six firms with project familiarity in May. Two firms submitted proposals. The proposals were scored according to predefined criteria by a selection committee in late June. DEA was the highest-ranking firm among the committee members and Staff worked with DEA in July and August to negotiate a contract. DEA previously completed the GIS Utility Inventory for the City in 2017 and 2018. Staff continues to be very satisfied with their work.

FISCAL IMPACT

The City’s CIP allocates funding on an annual basis for water and sewer asset inventory and approximately every other year for surface water asset inventory. All three enterprise funding sources will be utilized for this contract. DEA has provided a cost estimate not to exceed \$199,970.00 to preform GIS services. GIS Services will be paid for with enterprise funds from Water, Surface Water, and Sewer GIS Inventory CIP budgets.

<u>GIS Inventory</u>	<u>Cost Estimate</u>	<u>2022-2023 Budget</u>
Water System	\$66,656.00	\$150,000.00
Surface Water System	66,656.00	100,000.00
Sewer System	<u>66,658.00</u>	<u>70,000.00</u>
Total	\$199,970.00	\$320,000.00

RECOMMENDATION

Council is being asked to approve a consultant agreement with DEA in the amount of \$199,970 for the 2022 GIS Utility Inventory and consider this item on the Consent Agenda at the October 3, 2022 Regular Meeting.

ATTACHMENTS: 2021 CIP Pages 61,69, & 92
GIS Inventory Contract

CITY OF TUKWILA CAPITAL PROJECT SUMMARY

2021 to 2026

PROJECT: **GIS Inventory of Water System** Project No. 81640104

DESCRIPTION: The GIS (Geographic Information System) will provide current as-built data for the Tukwila water system. The database will include fire hydrants, valve locations, approximate water line locations, date of installation, and material type.

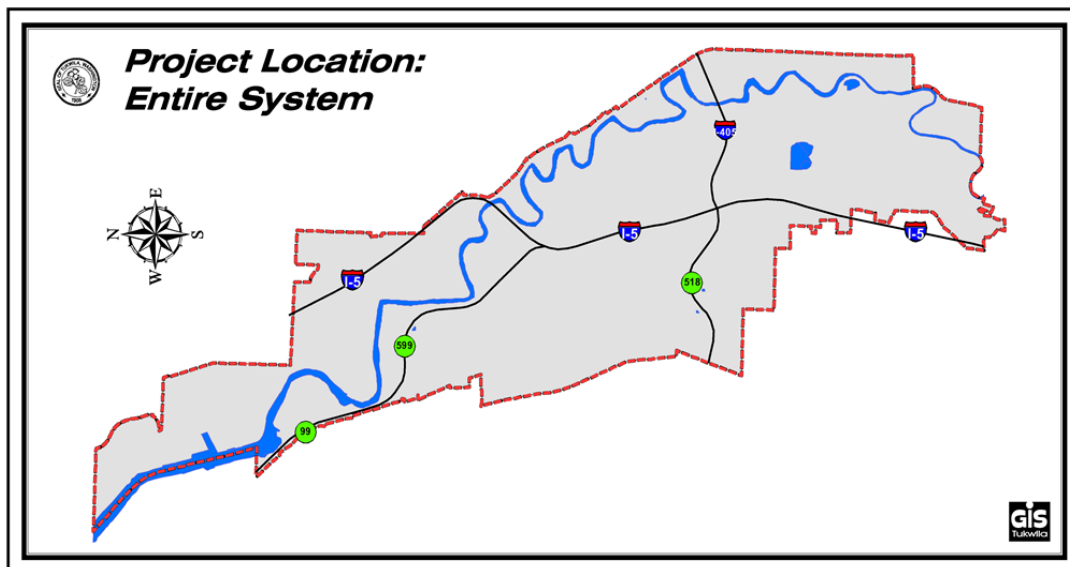
JUSTIFICATION: The GIS mapping will provide information on the water system that is easily accessible by City staff and the public. With GIS data, the City will be able to develop an asset management plan to determine the water assets needed to be upgraded or replaced.

STATUS: Combined Asset Management System began in 2017. Ongoing project.

MAINT. IMPACT: The survey will provide staff with-up-date information on the location of water line features.

COMMENT:

FINANCIAL (in \$000's)	Through Estimated									TOTAL
	2019	2020	2021	2022	2023	2024	2025	2026	BEYOND	
EXPENSES										
Design	205		50	100	50	100	50	100	300	955
Land (R/W)										0
Const. Mgmt.							5		5	10
Construction							50		50	100
TOTAL EXPENSES	205	0	50	100	50	100	105	100	355	1,065
FUND SOURCES										
Awarded Grant										0
Proposed Grant										0
Mitigation Actual										0
Mitigation Expected										0
Utility Revenue	205	0	50	100	50	100	105	100	355	1,065
TOTAL SOURCES	205	0	50	100	50	100	105	100	355	1,065



CITY OF TUKWILA CAPITAL PROJECT SUMMARY

2021 to 2026

PROJECT: GIS Inventory of Sewer System

Project No. 80540202

DESCRIPTION: GIS (Geographic Information Systems) provides current as-built data for the sanitary sewer system in the Central Business District. This project will expand the as-built database for Tukwila's entire sewer system.

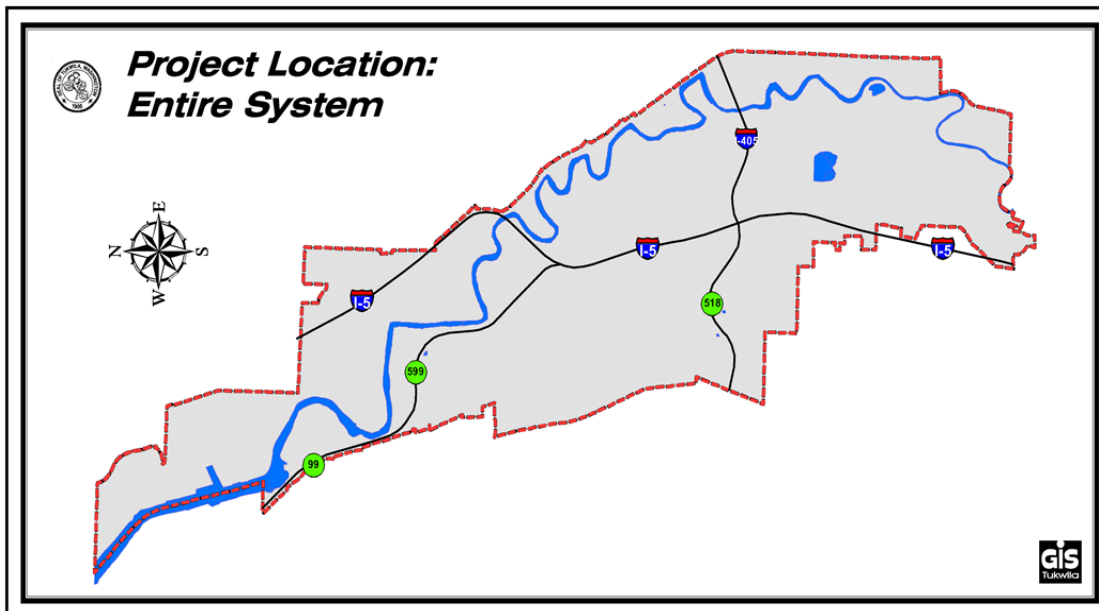
JUSTIFICATION: GIS mapping of the sewers will provide information that is easily addressable by City staff and the public. With the GIS data, the City will be able to develop an asset management plan to determine the sewer assets that need to be upgraded or replaced.

STATUS: The GIS Inventory will be continually updated, mostly in-house, to improve the accuracy of the existing system.

MAINT. IMPACT: The survey will provide staff with up-to-date information on the location of manholes for the sanitary sewers.

COMMENT: Ongoing project.

FINANCIAL (in \$000's)	Through Estimated									TOTAL
	2019	2020	2021	2022	2023	2024	2025	2026	BEYOND	
EXPENSES										
Design	248	75	10	50	20	50	100	50	400	1,003
Land (R/W)										0
Const. Mgmt.										0
Construction										0
TOTAL EXPENSES	248	75	10	50	20	50	100	50	400	1,003
FUND SOURCES										
Awarded Grant										0
Proposed Grant										0
Mitigation Actual										0
Mitigation Expected										0
Utility Revenue	248	75	10	50	20	50	100	50	400	1,003
TOTAL SOURCES	248	75	10	50	20	50	100	50	400	1,003



CITY OF TUKWILA CAPITAL PROJECT SUMMARY

2021 to 2026

PROJECT: Surface Water GIS Inventory

Project No. 90241201
80241201

DESCRIPTION: The GIS (Geographic Information Systems) inventory establishes citywide as-built drawings for the public drainage systems. This is an ongoing project as all CIP and development infrastructure improvements will need to be mapped.

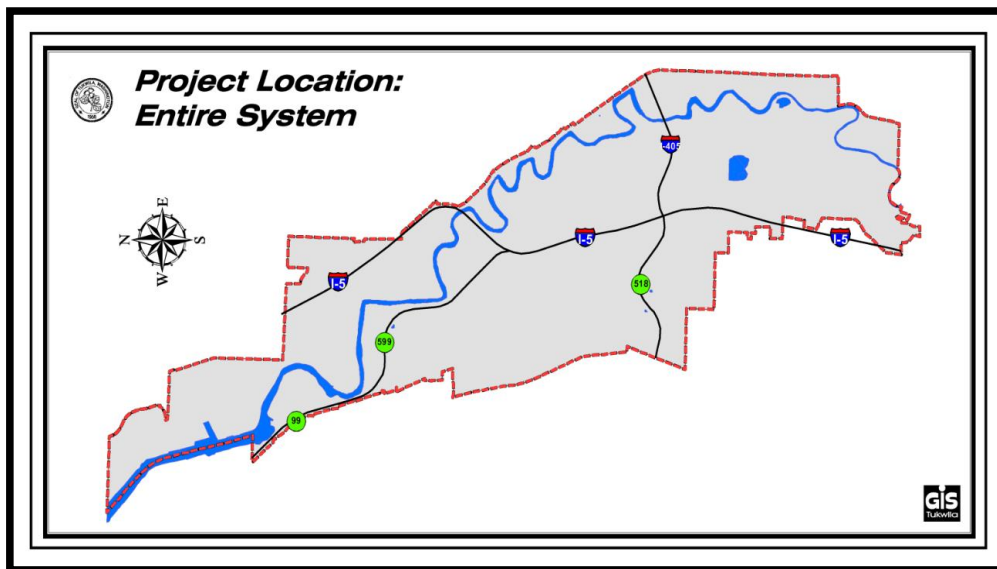
JUSTIFICATION: State NPDES requirements include provisions for permitted jurisdictions to compile accurate drainage system maps for all outfalls 24" or greater.

STATUS: GIS mapping was completed citywide in 2013. Future contracts will keep maps up to date as projects change the existing system. Combined Asset Management System scheduled for 2017.

MAINT. IMPACT: GIS information will allow maintenance to better track storm facility maintenance needs.

COMMENT: National Pollution Discharge Elimination System (NPDES). Department of Ecology grants for NPDES permit.

FINANCIAL (in \$000's)	Through Estimated									TOTAL
	2019	2020	2021	2022	2023	2024	2025	2026	BEYOND	
EXPENSES										
Design	1,673	100		100		150				2,023
Land (R/W)										0
Const. Mgmt.										0
Construction										0
TOTAL EXPENSES	1,673	100	0	100	0	150	0	0	0	2,023
FUND SOURCES										
Awarded Grant	218									218
Proposed Grant										0
Mitigation Actual	100									100
Mitigation Expected										0
Utility Revenue	1,355	100	0	100	0	150	0	0	0	1,705
TOTAL SOURCES	1,673	100	0	100	0	150	0	0	0	2,023





PROFESSIONAL SERVICES AGREEMENT

(Includes consultants, architects, engineers, accountants, and other professional services)

THIS AGREEMENT is entered into between the City of Tukwila, Washington, hereinafter referred to as "the City", and David Evans and Associates Inc., hereinafter referred to as "the Consultant", in consideration of the mutual benefits, terms, and conditions hereinafter specified.

1. **Project Designation.** The Consultant is retained by the City to perform professional services in connection with the project titled Sanitary Sewer, Stormwater and Water Distribution GIS Inventory and Update.
2. **Scope of Services.** The Consultant agrees to perform the services, identified on Exhibit "A" attached hereto, including the provision of all labor, materials, equipment and supplies.
3. **Duration of Agreement; Time for Performance.** This Agreement shall be in full force and effect for a period commencing upon execution and ending December 31, 2023, unless sooner terminated under the provisions hereinafter specified. Work under this Agreement shall commence upon written notice by the City to the Consultant to proceed. The Consultant shall perform all services and provide all work product required pursuant to this Agreement no later than December 31, 2023 unless an extension of such time is granted in writing by the City.
4. **Payment.** The Consultant shall be paid by the City for completed work and for services rendered under this Agreement as follows:
 - A. Payment for the work provided by the Consultant shall be made as provided on Exhibit "B" attached hereto, provided that the total amount of payment to the Consultant shall not exceed \$199,970 without express written modification of the Agreement signed by the City.
 - B. The Consultant may submit vouchers to the City once per month during the progress of the work for partial payment for that portion of the project completed to date. Such vouchers will be checked by the City and, upon approval thereof, payment shall be made to the Consultant in the amount approved.
 - C. Final payment of any balance due the Consultant of the total contract price earned will be made promptly upon its ascertainment and verification by the City after the completion of the work under this Agreement and its acceptance by the City.
 - D. Payment as provided in this section shall be full compensation for work performed, services rendered, and for all materials, supplies, equipment and incidentals necessary to complete the work.
 - E. The Consultant's records and accounts pertaining to this Agreement are to be kept available for inspection by representatives of the City and the state of Washington for a period of three (3) years after final payments. Copies shall be made available upon request.

5. **Ownership and Use of Documents.** All documents, drawings, specifications and other materials produced by the Consultant in connection with the services rendered under this Agreement shall be the property of the City whether the project for which they are made is executed or not. The Consultant shall be permitted to retain copies, including reproducible copies, of drawings and specifications for information, reference and use in connection with the Consultant's endeavors. The Consultant shall not be responsible for any use of the said documents, drawings, specifications or other materials by the City on any project other than the project specified in this Agreement.
6. **Compliance with Laws.** The Consultant shall, in performing the services contemplated by this Agreement, faithfully observe and comply with all federal, state, and local laws, ordinances and regulations, applicable to the services rendered under this Agreement.
7. **Indemnification.** The Consultant shall defend, indemnify and hold the City, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including attorney fees, arising out of or resulting from the acts, errors or omissions of the Consultant in performance of this Agreement, except for injuries and damages caused by the sole negligence of the City.

Should a court of competent jurisdiction determine that this Agreement is subject to RCW 4.24.115, then, in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Consultant and the City, its officers, officials, employees, and volunteers, the Consultant's liability hereunder shall be only to the extent of the Consultant's negligence. It is further specifically and expressly understood that the indemnification provided herein constitutes the Consultant's waiver of immunity under Industrial Insurance, Title 51 RCW, solely for the purposes of this indemnification. This waiver has been mutually negotiated by the parties. The provisions of this section shall survive the expiration or termination of this Agreement.

8. **Insurance.** The Consultant shall procure and maintain for the duration of the Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Consultant, its agents, representatives, or employees. Consultant's maintenance of insurance as required by the agreement shall not be construed to limit the liability of the Consultant to the coverage provided by such insurance, or otherwise limit the City's recourse to any remedy available at law or in equity.

A. **Minimum Amounts and Scope of Insurance.** Consultant shall obtain insurance of the types and with the limits described below:

1. **Automobile Liability** insurance with a minimum combined single limit for bodily injury and property damage of \$1,000,000 per accident. Automobile Liability insurance shall cover all owned, non-owned, hired and leased vehicles. Coverage shall be written on Insurance Services Office (ISO) form CA 00 01 or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage.
2. **Commercial General Liability** insurance with limits no less than \$2,000,000 each occurrence, \$2,000,000 general aggregate. Commercial General Liability insurance shall be at least as broad as ISO occurrence form CG 00 01 and shall cover liability arising from premises, operations, stop-gap independent contractors and personal injury and advertising injury. The City shall be named as an additional insured under the Consultant's Commercial General Liability insurance policy with respect to the work performed for the City using an additional insured endorsement at least as broad as ISO endorsement form CG 20 26.
3. **Workers' Compensation** coverage as required by the Industrial Insurance laws of the State of Washington.

4. **Professional Liability** with limits no less than \$2,000,000 per claim and \$2,000,000 policy aggregate limit. Professional Liability insurance shall be appropriate to the Consultant's profession.
- B. **Public Entity Full Availability of Contractor Limits.** If the Contractor maintains higher insurance limits than the minimums shown above, the Public Entity shall be insured for the full available limits of Commercial General and Excess or Umbrella liability maintained by the Contractor, irrespective of whether such limits maintained by the Contractor are greater than those required by this Contract or whether any certificate of insurance furnished to the Public Entity evidences limits of liability lower than those maintained by the Contractor.
- C. **Other Insurance Provision.** The Consultant's Automobile Liability and Commercial General Liability insurance policies are to contain, or be endorsed to contain that they shall be primary insurance with respect to the City. Any Insurance, self-insurance, or insurance pool coverage maintained by the City shall be excess of the Consultant's insurance and shall not be contributed or combined with it.
- D. **Acceptability of Insurers.** Insurance is to be placed with insurers with a current A.M. Best rating of not less than A:VII.
- E. **Verification of Coverage.** Consultant shall furnish the City with original certificates and a copy of the amendatory endorsements, including but not necessarily limited to the additional insured endorsement, evidencing the insurance requirements of the Contractor before commencement of the work. Upon request by the City, the Consultant shall furnish certified copies of all required insurance policies, including endorsements, required in this Agreement and evidence of all subcontractors' coverage.
- F. **Notice of Cancellation.** The Consultant shall provide the City with written notice of any policy cancellation, within two business days of their receipt of such notice.
- G. **Failure to Maintain Insurance.** Failure on the part of the Consultant to maintain the insurance as required shall constitute a material breach of contract, upon which the City may, after giving five business days notice to the Consultant to correct the breach, immediately terminate the contract or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the City on demand, or at the sole discretion of the City, offset against funds due the Consultant from the City.
9. **Independent Contractor.** The Consultant and the City agree that the Consultant is an independent contractor with respect to the services provided pursuant to this Agreement. Nothing in this Agreement shall be considered to create the relationship of employer and employee between the parties hereto. Neither the Consultant nor any employee of the Consultant shall be entitled to any benefits accorded City employees by virtue of the services provided under this Agreement. The City shall not be responsible for withholding or otherwise deducting federal income tax or social security or for contributing to the state industrial insurance program, otherwise assuming the duties of an employer with respect to the Consultant, or any employee of the Consultant.
10. **Covenant Against Contingent Fees.** The Consultant warrants that he has not employed or retained any company or person, other than a bonafide employee working solely for the Consultant, to solicit or secure this contract, and that he has not paid or agreed to pay any company or person, other than a bonafide employee working solely for the Consultant, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon or resulting from the award or making of this contract. For breach or violation of this warrant, the City shall have the right to annul this contract without liability, or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

11. **Discrimination Prohibited.** Contractor, with regard to the work performed by it under this Agreement, will not discriminate on the grounds of race, religion, creed, color, national origin, age, veteran status, sex, sexual orientation, gender identity, marital status, political affiliation, the presence of any disability, or any other protected class status under state or federal law, in the selection and retention of employees or procurement of materials or supplies.
12. **Assignment.** The Consultant shall not sublet or assign any of the services covered by this Agreement without the express written consent of the City.
13. **Non-Waiver.** Waiver by the City of any provision of this Agreement or any time limitation provided for in this Agreement shall not constitute a waiver of any other provision.
14. **Termination.**
- A. The City reserves the right to terminate this Agreement at any time by giving ten (10) days written notice to the Consultant.
 - B. In the event of the death of a member, partner or officer of the Consultant, or any of its supervisory personnel assigned to the project, the surviving members of the Consultant hereby agree to complete the work under the terms of this Agreement, if requested to do so by the City. This section shall not be a bar to renegotiations of this Agreement between surviving members of the Consultant and the City, if the City so chooses.
15. **Applicable Law; Venue; Attorney's Fees.** This Agreement shall be subject to, and the Consultant shall at all times comply with, all applicable federal, state and local laws, regulations, and rules, including the provisions of the City of Tukwila Municipal Code and ordinances of the City of Tukwila. In the event any suit, arbitration, or other proceeding is instituted to enforce any term of this Agreement, the parties specifically understand and agree that venue shall be properly laid in King County, Washington. The prevailing party in any such action shall be entitled to its attorney's fees and costs of suit. Venue for any action arising from or related to this Agreement shall be exclusively in King County Superior Court.
16. **Severability and Survival.** If any term, condition or provision of this Agreement is declared void or unenforceable or limited in its application or effect, such event shall not affect any other provisions hereof and all other provisions shall remain fully enforceable. The provisions of this Agreement, which by their sense and context are reasonably intended to survive the completion, expiration or cancellation of this Agreement, shall survive termination of this Agreement.
17. **Notices.** Notices to the City of Tukwila shall be sent to the following address:
- City Clerk
City of Tukwila
6200 Southcenter Boulevard
Tukwila, WA 98188
- Notices to Consultant shall be sent to the following address:
- Adam LaPlant

14432 SE Eastgate Way, Suite 400

Bellevue, WA 98007
18. **Entire Agreement; Modification.** This Agreement, together with attachments or addenda, represents the entire and integrated Agreement between the City and the Consultant and supersedes all prior negotiations, representations, or agreements written or oral. No amendment or modification of this Agreement shall be of any force or effect unless it is in writing and signed by the parties.

DATED this _____ day of _____, 20_____.

CITY OF TUKWILA

CONSULTANT

Allan Ekberg, Mayor

By: *am laPlant*

Printed Name: Adam LaPlant

Title: Associate

Sean Douthett
Sean Douthett, Vice President

Attest/Authenticated:

Approved as to Form:

City Clerk, Christy O'Flaherty

Office of the City Attorney

EXHIBIT A

CITY OF TUKWILA

Sanitary Sewer, Stormwater and Water Distribution GIS Inventory and Update

Scope of Services

Prepared by:

**David Evans and Associates, Inc.
14432 SE Eastgate Way, Suite 400
Bellevue, WA 98007**

August 17, 2022

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TASK 1.0 PROJECT DESCRIPTION, DELIVERABLES AND ASSUMPTIONS

1.1 Project Description

The City of Tukwila (CLIENT) is requesting professional services from David Evans and Associates, Inc. (CONSULTANT) to inventory and update the Sanitary Sewer, Stormwater, and Water System Geographic Information System (GIS).

The major features of the project include:

Sanitary Sewer:

- Sewer Manholes
- Sewer Pipes
- Sewer Pump Stations

Stormwater:

- Catch Basin
- Pipes and Ditches
- Stormwater Pump Stations
- Stormwater Detention Ponds
- Stormwater Vaults
- Drain Points

Water Distribution:

- Water Lines
- Water Valves
- Water Meters
- Fire Hydrants
- Water Vaults
- Water Risers
- Post Indicator Valves
- Fire Department Connections
- Air Release Valves
- Corp Stops

1.2 Project Deliverables Furnished by CONSULTANT

CONSULTANT shall deliver the following documents and products to CLIENT as part of this agreement:

- * Electronic copy of the updated GIS geodatabase.
- * Structure and site photos.
- * Structure data sheets.

CLIENT will have the opportunity to review each of the deliverables. CLIENT review documents will be returned with subsequent revision, illustrating that each review comment has been addressed as stated, or how/why it was not addressed.

1.3 Responsibilities and Services Provided by CLIENT

CLIENT will:

- * Provide electronic copy of the existing GIS geodatabase that is to be updated.
- * Provide existing as-built plans, GIS maps and data, and other available mapping information.

- * Review all submittals made to the CLIENT within 15 working days, or as agreed, and return them to the CONSULTANT with consolidated written comments regarding changes or revisions needed.

1.4 Project Assumptions

- * For any new assets collected the CONSULTANT will defer to the City regarding naming/numbering. No assets numbers will be changed, nor will assets be deleted from database.
- * Mapping accuracy requirement for object locations is “mapping grade” (+/- 3 feet). Objects will be mapped to “survey grade” accuracy (+/- 0.10 feet) throughout the project unless dense vegetation or forested areas prevent the use of survey grade GPS equipment.
- * Horizontal datum will be NAD 83/91.
- * Vertical datum will be NAVD 88.
- * The project duration is assumed to be six (6) months.

TASK 2.0 PROJECT MANAGEMENT AND QUALITY CONTROL

2.1 Project Management

CONSULTANT will provide direction for staff and review of their work over the course of the project. This work element includes preparing monthly progress reports to accompany monthly invoicing, that will include the status of individual work elements, number of meetings attended, outstanding information required, and work items planned for the following month.

CONSULTANT will monitor the project budget weekly throughout the course of the project. This work element is intended to help monitor costs and budgets, and to propose corrective actions, if needed. These actions may include formal requests for increases, modifications, or reductions in scope.

Drawings and documents received and generated over the course of the project require review, coordination, and file management. The status of requested information will also be maintained.

2.2 Monthly Invoices/Progress Reports

Monthly invoices will be prepared by CONSULTANT per CLIENT requirements for work activities for the prior month. These invoices will include SUBCONSULTANT work and will be accompanied by monthly progress reports, back-up materials for expenses, and show approved budget and amount expended to date.

Deliverables: Monthly invoices and progress reports (six (6) total).

2.3 Project Kick-off Meeting and Progress Meetings

After receiving notice to proceed, CONSULTANT will conduct a project team kick-off meeting with staff expected to be involved in the project and key CLIENT staff. The meeting will be used to discuss critical elements of the Scope of Work, the project schedule, document control, and Quality Assurance/Quality Control (QA/QC) procedures; and to clearly define the roles and responsibilities of the project team members.

This work element provides for the preparation, attendance, follow-up, and documentation of meetings during the length of the project. These meetings will be the forums for CLIENT to provide input and guidance for the direction of the project. They will also be used to discuss project issues, approve submittals, and develop potential solutions.

CONSULTANT will prepare for, attend, and document up to six (6) meetings with CLIENT staff. The CONSULTANT will attend one meeting every month with the CLIENT's project manager for the duration of the project. The meetings will be held in a location acceptable to CLIENT and CONSULTANT.

Deliverables: Meeting Minutes (six (6) total).

2.4 Quality Assurance/Quality Control Review

This work element is for the QA/QC review of CONSULTANT deliverables by a designated QA/QC staff member of the CONSULTANT team. CONSULTANT will assign a Quality Manager to the project that will be responsible for ensuring that quality reviews are performed at stages throughout the project and on all deliverables. The review will cover field and office work on an on-going basis. QA/QC documentation will be maintained and filed with project records.

2.5 Change Management

Project Managers from CLIENT and CONSULTANT are responsible for managing changes to the scope and schedule. CLIENT is responsible for the authorization of any changes to the scope, budget, and/or schedule. Team members must ensure that work within their areas remains within the defined project scope, schedule, and budget. When issues, actions, or circumstances occur that could cause a change in scope, personnel, cost, or schedule, team members must communicate potential changes to the Project Manager as early as possible. Project manager will determine whether the potential change issue will lead to a change in scope, cost, or schedule.

CONSULTANT shall obtain written authorization from CLIENT before implementing any change to this Scope of Services, schedule, or budget. All changes will be documented using the Project Change Form.

TASK 3.0 SANITARY SEWER GIS INVENTORY

3.1 Field Review

CONSULTANT will conduct an existing as-built/GIS review at the outset of the project to identify key field conditions that may impact the field mapping including safety, traffic, and access issues. The procedures required to complete the field survey will be determined and safety risks will be analyzed. Structures requiring CLIENT assistance for traffic control to survey will be identified and will be scheduled to be completed with other structures requiring traffic control.

3.2 Data Collection

CONSULTANT will field survey the location and collect attributes for sanitary sewer manholes and there accompanying pipes. Photographs and supplemental measurement data sheets will be collected to support project deliverables. Structure sizes and depths, pipe sizes, and invert elevations, etc. will be measured in the field so that necessary database attribute information can be completed.

Field measurement data will be collected electronically in the field. Additionally, hard-copy structure cards will be completed in the field with the same measurements so that a quality control check of the information collected electronically in the field can be performed.

CONSULTANT will use CLIENT provided GIS database structure.

3.3 Sanitary Sewer As-Built Research

CONSULTANT will review research on existing utility information, provided by CLIENT, for inclusion in the mapping. Where possible, CONSULTANT will use provided as-built records to prepare and pre-enter attribute information to be field verified. This will make the field effort more efficient.

3.4 Geodatabase Update

CONSULTANT will use its field surveyed information, and the as-built research to update the CLIENT's existing Geodatabase GIS files.

CONSULTANT will include metadata for the Geodatabase updates.

Deliverables: Electronic copy of the updated Geodatabase.

TASK 4.0 STORMWATER GIS INVENTORY

4.1 Field Review

CONSULTANT will conduct an existing as-built/GIS review at the outset of the project to identify key field conditions that may impact the field mapping including safety, traffic and access issues. The procedures required to complete the field survey will be determined and safety risks will be analyzed. Structures requiring city assistance for traffic control to survey will be identified and will be scheduled to be completed with other structures requiring traffic control.

4.2 Data Collection

CONSULTANT will field survey the location and collect attributes for storm drain features and their accompanying pipes. Structure sizes and depths, pipe sizes and invert elevations, etc. will be measured in the field so that necessary database attribute information can be completed.

Field measurement data will be collected electronically in the field. Additionally, hard copy structure cards will be completed in the field with the same measurements so that a quality control check of the information collected electronically in the field can be performed.

The CONSULTANT will use CLIENT provided GIS database structure.

4.3 Stormwater As-Built Research

CONSULTANT will review research on existing utility information, provided by CLIENT, for inclusion in the mapping. Where possible CONSULTANT will use provided as-built records to prepare and pre-enter attribute information to be field verified. This will make the field effort more efficient.

4.4 Geodatabase Preparation

CONSULTANT will use its field surveyed information, and the as-built research to update the CLIENT's existing Geodatabase GIS files.

The CONSULTANT will include metadata for the Geodatabase updates.

Deliverables: Electronic copy of the updated Geodatabase.

TASK 5.0 WATER DISTRIBUTION GIS INVENTORY

5.1 Field Review

CONSULTANT will conduct an existing as-built/GIS review at the outset of the project to identify key field conditions that may impact the field mapping including safety, traffic, and access issues. The procedures required to complete the field survey will be determined and safety risks will be analyzed. Structures requiring CLIENT assistance for traffic control to survey will be identified and will be scheduled to be completed with other structures requiring traffic control.

5.2 Data Collection

CONSULTANT will field survey the location and collect attributes for water distribution features and their accompanying pipes. Photographs and supplemental measurement data sheets will be collected to support project deliverables. Structure sizes and depths, pipe sizes and invert elevations, etc., will be measured in the field so that necessary database attribute information can be completed.

Field measurement data will be collected electronically in the field. Additionally, hard-copy structure cards will be completed in the field with the same measurements so that a quality control check of the information collected electronically in the field can be performed.

CONSULTANT will use CLIENT provided GIS database structure.

5.3 Water Distribution As-Built Research

CONSULTANT will review research on existing utility information, provided by CLIENT, for inclusion in the mapping. Where possible CONSULTANT will use provided as-built records to prepare and pre-enter attribute information to be field verified. This will make the field effort more efficient.

5.4 Geodatabase Update

CONSULTANT will use its field surveyed information, and the as-built research to update the CLIENT's existing Geodatabase GIS files.

CONSULTANT will include metadata for the Geodatabase updates.

Deliverables: Electronic copy of the updated Geodatabase.

TASK 6.0 ADDITIONAL PROJECT WORK

6.1 Contingency Budget

This task provides contingency funds to support additional work. New projects will follow the scoped guidelines stated above. This additional proposed work will require approval in writing from CLIENT prior to charging to it.

Exhibit B

**City of Tukwila
Sanitary Sewer, Stormwater, and Water Distribution GIS Inventory**

David Evans and Associates, Inc.

Classification		Hrs.	x	Negotiated Rate	=	Cost
1	Project Manager (PMGR/PLSU)	182		\$ 184.80		\$33,634
2	Quality Control Manager (PICH)	22		\$ 274.12		\$6,031
3	GIS Manager (GISM)	62		\$ 147.84		\$9,166
4	Survey Manager (SVYM)	15		\$ 200.20		\$3,003
5	GIS Technician (GIST)	361		\$ 129.36		\$46,699
6	Survey Technician (SVTE)	416		\$ 98.56		\$41,001
7	Party Chief (PCHF)	416		\$ 123.20		\$51,251
8	Administrative Assistant (ADMA)	28		\$ 98.56		\$2,760
9	Project Administrator (PADM)	28		\$ 120.12		\$3,363
		Total Hrs.	1530			
Salary Cost						\$ 196,907
Direct Expenses						
		No.	Unit	Each		Cost
			days @	\$1,350	\$	-
			days @	\$1,350	\$	-
Mileage		4,900	miles @	\$0.625 /mil	\$	3,063
			miles @	\$0.625 /mil	\$	-
Subtotal						\$ 3,063
Total Costs						\$ 199,970

Exhibit B

**City of Tukwila
Sanitary Sewer, Stormwater, and Water Distribution GIS Inventory**

David Evans and Associates, Inc.

Work Element #	Work Element	1	2	3	4	5	6	7	8	9	DEA Total hrs	DEA Total \$	% of Total Hours
		Project Manager (PMGR/PLSU)	Quality Control Manager (PICH)	GIS Manager (GISM)	Survey Manager (SVYM)	GIS Technician (GIST)	Survey Technician (SVTE)	Party Chief (PCHF)	Administrative Assistant (ADMA)	Project Administrator (PADM)			
		Total hrs	Total hrs	Total hrs	Total hrs	Total hrs	Total hrs	Total hrs	Total hrs	Total hrs	Total hrs	Total \$	Total %
2.0	Project Management & Quality Control												
2.1	Project Management												
2.1a	Sanitary Sewer Inventory	8								6	14	\$2,199	0.92%
2.1b	Stormwater GIS Inventory	8								5	13	\$2,079	0.85%
2.1c	Water Distribution GIS Inventory	8								5	13	\$2,079	0.85%
2.2	Monthly Invoices/Progress Reports												
2.2a	Sanitary Sewer Inventory	6	2							4	12	\$2,138	0.78%
2.2b	Stormwater GIS Inventory	6	2							4	12	\$2,138	0.78%
2.2c	Water Distribution GIS Inventory	6	2							4	12	\$2,138	0.78%
2.3	Project Kick-off Meeting and Progress Meetings												
2.3a	Sanitary Sewer Inventory	8	2	2		8					20	\$3,357	1.31%
2.3b	Stormwater GIS Inventory	8	2	2		8					20	\$3,357	1.31%
2.3c	Water Distribution GIS Inventory	8	2	2		8					20	\$3,357	1.31%
2.4	Quality Control/Quality Assurance Review												
2.4a	Sanitary Sewer Inventory	8	2	4					4		18	\$3,012	1.18%
2.4b	Stormwater GIS Inventory	8	2	4					4		18	\$3,012	1.18%
2.4c	Water Distribution GIS Inventory	8	2	4							14	\$2,618	0.92%
2.5	Change Management												
2.5a	Sanitary Sewer Inventory												
2.5b	Stormwater GIS Inventory												
2.5c	Water Distribution GIS Inventory												
	Work Element Total	90	18	18		24			8	28	186	\$31,484	12.16%
3.0	Sanitary Sewer GIS Inventory												
3.1	Field Review	4			2	4	8	8			26	\$3,431	1.70%
3.2	Data Collection	10		8	2	40	60	60	8		188	\$22,700	12.29%
3.3	Utilities As-Built Research	4				4					8	\$1,257	0.52%
3.4	Geodatabase Preparation	4		8	2	8					22	\$3,357	1.44%
	Work Element Total	22		16	6	56	68	68	8		244	\$30,745	15.95%
4.0	Stormwater GIS Inventory												
4.1	Field Review	4			2	8	8	8			30	\$3,949	1.96%
4.2	Data Collection	16		8	2	100	180	180	8		494	\$58,181	32.29%
4.3	Utilities As-Built Research	4				20					24	\$3,326	1.57%
4.4	Geodatabase Preparation	4		8	2	22					36	\$5,168	2.35%
	Work Element Total	28		16	6	150	188	188	8		584	\$70,624	38.17%
5.0	Water Distribution GIS Inventory												
5.1	Field Review	2			1	4	8	8			23	\$2,861	1.50%
5.2	Data Collection	2		4		20	32	32	4		94	\$11,039	6.14%
5.3	Utilities As-Built Research	2				4					6	\$887	0.39%
5.4	Geodatabase Preparation	2		4	1	12					19	\$2,713	1.24%
	Work Element Total	8		8	2	40	40	40	4		142	\$17,501	9.28%
6.0	Additional Project Work												
6.1	Contingency Budget	34	4	4	1	91	120	120			374	\$46,554	24.44%
	Work Element Total	34	4	4	1	91	120	120			374	\$46,554	24.44%
	EXPENSES -											\$3,063	
	SALARY ESCALATION												
PROJECT WORK ELEMENTS TOTALS		182	22	62	15	361	416	416	28	28	1530	\$199,970	100.00%
Sanitary Sewer GIS Inventory Totals		52	6	22	6	64	68	68	12	10	308	\$41,451	20.13%
Stormwater GIS Inventory Totals		58	6	22	6	158	188	188	12	9	647	\$81,210	42.29%
Water Distribution GIS Inventory Totals		38	6	14	2	48	40	40	4	9	201	\$27,692	13.14%
Additional Project Work		34	4	4	1	91	120	120			374	\$46,554	24.44%