Groveland Community Services District

BOARD MEETING AGENDA SUBMITTAL

TO: GCSD Board of Directors

FROM: Peter Kampa, General Manager

DATE: May 10, 2022

SUBJECT: Agenda Item 6B: Adoption of a Resolution Approving a Consulting Services Agreement with Patrick Engineering for Water, Sewer, Treatment Plant, and Parks Asset Data Conflation and Migration to ArcGIS and Cartograph OMS

RECOMMENDED ACTION:

I move to adopt Resolution 18-2022 approving a consulting agreement with Patrick Engineering for water, sewer, treatment plant, and parks asset data conflation and migration to ArcGIS and Cartograph OMS.

BACKGROUND:

This item is brought before the Board at the request of Adam Ahlswede, Operations Supervisor, with support from the GCSD management team. District staff would like the board to consider entering into a Consulting Agreement with Patrick Engineering Inc. to develop an ArcGIS platform and integrate it with Cartograph OMS. Cartograph is the software program that will ultimately house and implement our asset management systems.

The reason for this request is that our current geographic information system (GIS) platform will not integrate with our asset management program (Cartograph), which is necessary for Cartograph to function in its intended capacity. Below are only some of the bullet points that this agreement will provide us.

- An industry-standard GIS platform that gives us control over, and flexibility with the use of our GIS data
    - Our current platform will not integrate with Cartograph
    - We currently have to utilize a third party to manage and make changes to our GIS data
    - Keeping our system up-to-date per the new California Government Code 4216.3(a)(5)
    - Being an industry-standard platform, we will be able to utilize and integrate GIS data from other agencies to make data-driven decisions

- An asset management system that utilizes GIS, giving us the ability to:
    - Develop a system that produces an asset operational condition index (OCI) used for capital improvement, equipment replacement and maintenance planning
    - Streamline fieldwork and assign a cost to recorded assets in the field
    - Better manage Underground Alert Systems (UAS) tickets per the new additions to California Government Code 4216

These are only some of the benefits this agreement will bring to the District. With the continued development and expansion of District property, the need for fuel reduction across District property, and the management of District easements, the end product will be an invaluable tool.

FISCAL IMPACT:

If approved, activities one and two will be completed this Fiscal year for $21,000 and the funds are available in the FY 21/22 budget.

The pricing provided for Patrick's services has been estimated based upon the services being provided on a T&M basis. The required labor hours and other direct cost (if applicable) have been estimated based upon prior experience with work of a similar nature, using Patrick's standard role-based rates (see fee table in Appendix A).

Fee Proposal:

Activity	Budget
Activity 1	$7,500.00
Activity 2	$14,000.00
Activity 3	$14,000.00
Activity 4	$10,500.00
Activity 5	$8,500.00
Activity 6	$7,500.00
Total Budget	**$62,000.00**

ATTACHMENTS:
1. Resolution 18-2022
2. Professional Consulting Agreement
3. Consulting Proposal

RESOLUTION 18-2022

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE GROVELAND COMMUNITY SERVICES DISTRICT APPROVING A CONSULTING SERVICES AGREEMENT WITH PATRICK ENGINEERING FOR WATER, SEWER, TREATMENT PLANT, AND PARKS ASSET DATA CONFLATION AND MIGRATION TO ARCGIS AND CARTOGRAPH OMS

WHEREAS, the Groveland Community Services District (herein referred to as District) is a local government agency formed and operating in accordance with Section §61000 et seq. of the California Government Code; and

WHEREAS, the District issued a Request for a Proposal to Patrick Engineering to develop a ArcGIS platform and integrate it with Cartegraph OMS; and

WHEREAS, the District received the proposal on April 20, 2022; and

WHEREAS, on review staff recommends the approval of a consulting contract to Patrick Engineering Inc for the completion of the activities listed in Exhibit A of said resolution.

NOW, THEREFORE BE IT RESOLVED by the Board of Directors of Groveland Community Services District approves Resolution 18-2022 an Agreement with Patrick Engineering Inc. for water, sewer, treatment plant, and parks asset data conflation and migration to ArcGIS and Cartograph OMS.

WHEREFORE, this Resolution is PASSED, APPROVED, and ADOPTED by the Board of Directors of the Groveland Community Services District on May 10, 2022, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

APPROVE:

_____

Spencer Edwards, Board President

ATTEST:

_____

Rachel Pearlman, Board Secretary

CERTIFICATE OF SECRETARY

I, Rachel Pearlman, the duly appointed and acting Secretary of the Board of Directors of the Groveland Community Services District, do hereby declare that the foregoing Resolution was duly passed and adopted at a Regular Meeting of the Board of Directors of the Groveland Community Services District, duly called and held on May 10, 2022.

DATED: _____

Exhibit A

Activity 1: Stakeholder Use Case Validation & ArcGIS Data Model setup

Patrick will provide GIS and Asset Management staff to perform use case validation and ArcGIS data model
setup tasks.

Patrick Engineering Responsibilities:

- Stakeholder use case review and validation meeting with GCSD staff (will incorporate findings
  already gathered from Patrick's recent onsite meetings with GCSD).
- Review, perform gap analysis btw Cartegraph and ArcGIS Water, Sewer, Treatment Plant, and
  Parks Data Models in support of each of these main asset layer categories.
- Setup and gain acceptance for Cartegraph-enabled ArcGIS Data models.
- Review GCSD Data Repositories and prep data sharing environment.

Activity 2: Data Conflation and Migration to ArcGIS

Patrick will provide GIS and Asset Management staff to perform ArcGIS data conflation and migration
tasks. The specific tasks to be performed are listed below.

- Review and prepare GCSD data sources for conflation to common data model (will incorporate
  findings already gathered from Patrick's recent onsite meetings with GCSD).
- Migrate GCSD sources to ArcGIS GDB utilizing ArcGIS Pro utilizing individual and automated
  Extract, Translate, Load (ETL) tools.
- Perform standard QA/QC to determine feature and attribute gaps for each of the asset layers
  described in Activity 1
  o If available, obtain missing attribute data from GCSD and populate ArcGIS Geodatabase
  (GDB) hosted feature layers.
- Review ArcGIS GDB with GCSD prior to publishing to ArcGIS Online and perform updates as
  required with existing GCSD data sources; i.e., Patrick will not create new data.
- Gain acceptance of ArcGIS GDB prior to publishing to AGOL and layer, map, app configuration

Activity 3: ArcGIS Layer, Map, and App Configuration
Patrick will provide GIS and Asset Management technology staff to configure requisite ArcGIS feature
layers, maps, services, and apps.

- Prioritize top five applications for GCSD stakeholder use (e.g. Explorer, Editor, Operations
  Dashboard, and Field Maps apps)
- ArcGIS Feature Layer and Map Settings and Configurations – Labels, Symbology, Scale
  Dependencies, Filters, Thematic Rendering
- Configure ArcGIS Online Map and Feature Services and Web Maps for use in Explorer, Editor,
  Dashboard, and Mobile Field Maps
  Configure web and mobile application using ArcGIS Online app templates
- Perform user acceptance and testing (UAT) for top five apps to confirm functional use

Activity 4: Perform ArcGIS to Cartegraph Data Migration
Patrick will provide GIS and Asset Management technology staff to perform the requisite migration of
ArcGIS GDB feature classes to Cartegraph asset domains.

- Review final, fully populated ArcGIS file-based Geodatabase with the GCSD via remote
  webcast.
  o Evaluate ArcGIS GDB features classes for migration readiness; make adjustments as
  needed.
- Deliverables will consist of a populated ArcGIS file-based Geodatabase and ArcGIS Pro
  project
  file for viewing the data.
- Geodatabase feature class asset migration and sync (association) with Cartegraph asset
  registry
  based on Cartegraph's most current Facility Assets domain and associated data model
structure
  (see
https://campus.cartegraph.com/learn/Product_Resources/Asset_Specs/Facility_Assets)
  available at time of project kickoff.
- If requested and provided access to GCSD systems, Patrick will migrate the ArcGIS
  Geodatabase
  to the GCSD's Cartegraph test environment.
- Review, verify, confirm successful migration to Cartegraph test environment.
- Upon verification by the GCSD, Patrick will integrate and sync the ArcGIS Geodatabase
  to the
  GCSD's Cartegraph production environment.

Activity 5: Configure Cartegraph Map, Service, App, and Tools
Patrick will provide GIS and Asset Management technology staff to configure ArcGIS and Cartegraph maps,
apps, and tools based on the outcome and acceptance of Activity 4 deliverables.

- Prepare and conduct up to two, 2-hour remote meetings with GCSD staff (primary end-user
  stakeholders) to review Cartegraph supported O&M and capital planning business workflows
  utilizing Cartegraph web and mobile applications.
- Prioritize GCSD feedback and adjust sequence of steps in workflows to conform with GCSD staff
  business requirements.
  o Note: workflow adjustments will be made to the extent that they can be supported by out-of-the-box (OOB; i.e., not custom) Cartegraph web and mobile application capabilities.
- Configurations services will include:
  o ArcGIS Map and Feature service configuration and publication for use with Cartegraph.
  o Recommendations and setup of facility layer symbology and cartographic representation for room space and asset visualization in Cartegraph system.
  o Recommendations, setup, and display of query and filter results of facility space and asset data in Cartegraph.
  o Recommendations and setup of Cartegraph OOB web and mobile applications to include apps for bar code scanning (e.g., the Cartegraph iPad and Cartegraph One apps for tablets and smart phone devices).

Activity 6: Configure OCI, Budget Scenarios, & other Data and System Sustainment Services
Patrick will provide GIS and Asset Management technology staff for up to 65 hours of remote support for
a period of up to six months following the migration and setup of Activity 3, 4, and 5 deliverables.

- Configure Facility Condition Index (FCI) values for facility domain assets utilizing condition
  attributes collected in Activity 2.
- Configure baseline capital budget scenarios using Cartegraph Scenario Builder (covers up to
  three scenarios).
- Ongoing ArcGIS and Cartegraph data and system sustainment services that may include:
  o Assistance with ArcGIS Map and Feature service configuration and publication for use with Cartegraph.
  o Assistance and recommendations for layer symbology and cartographic representation for room space and asset visualization in Cartegraph system.
  o Assistance and recommendations for display of query and filter results of facility space and asset data in Cartegraph.
  o Assistance and recommendations for ongoing setup and configurations of Cartegraph OOB web and mobile applications to include apps for bar code scanning (e.g., the Cartegraph iPad and Cartegraph One apps for tablets and smart phone devices).
  o Ad hoc or as-needed ArcGIS and/or Cartegraph system administration and

management services.

    o Perform ArcGIS and/or Cartegraph system and tools use knowledge transfer (KT) and remote training for GCSD staff upon request. Requires minimum of two weeks lead time to schedule and prepare for KT or training delivery.

Success Criteria

This project will be deemed complete after each Activity deliverable is provided, reviewed, and/or
delivered to the GCSD in format described herein.

Travel Expenses

Unless specified and included in the activity descriptions herein, no additional travel expenses will be
required to complete this project.

Schedule

The project start date will be subject to mutual agreement by GCSD and Patrick and is subject to contract
initiation. Patrick will provide a project schedule following execution of an agreement. Based on previous
projects of this nature, Patrick anticipates that this work will take 12-16 weeks to complete all Activities
(~6-8 weeks for Activities 1-3). Activity 6 may extend beyond 16 weeks based on GCSD's level of
preparedness following Activity 5 delivery.

<u>**CONTRACT FOR PROFESSIONAL SERVICES**</u>

This Contract is made this 10th day of May 2022 by and between Groveland Community Services District, a special district organized under the laws of California (hereinafter called "District") and Patrick Engineering Inc. hereinafter called "Consultant."

1. <u>THE CONTRACT</u>

      This Contract consists of: (1) the general terms and conditions contained herein, and (2) the Exhibits attached hereto, as Exhibits <u>A</u> through <u>B</u> inclusive. The District has furnished the Consultant with the general program and requirements of Consultant's services and the Consultant acknowledges being informed as to the nature and extent of the services required. It is expressly understood between the parties that the District is relying on and looking to the Consultant for performing and establishing the specific and technical requirements of the professional services described below, except where otherwise provided.

2. <u>THE PROFESSIONAL SERVICES</u>

      Consultant shall execute the following professional services specified in Exhibit A (Scope of Work) attached hereto and incorporated herein by reference.

3. <u>COMPENSATION FOR SERVICES</u>

      Consultant shall receive compensation for performance of the professional services in the amount, and at the times specified, in Exhibit B (Compensation) attached hereto and incorporated herein by reference.

4. <u>CONSULTANT'S RESPONSIBILITIES</u>

      A. The Consultant shall perform those services specified in Exhibit A (Scope of Work) and any such additional services as may be authorized in accordance with Article 6 hereof.

      B. Consultant enters into this Contract, and will remain through the term of this Contract, as an independent contractor. Consultant agrees that Consultant is not and will not become an employee of the District while this Contract is in effect. Consultant is not entitled to the rights or benefits afforded to the District's employees, including but not limited to disability or unemployment insurance, worker's compensation, medical insurance, sick leave or other employment benefits. Consultant is responsible for providing at Consultant's own expense disability, unemployment, and other insurance, workers' compensation (as set forth below), training, permits, and licenses for Consultant and for Consultant's employees and subcontractors. The Consultant shall be responsible for methods and means used in performing the Consultant's services under this Contract.

      C. In the event the Consultant's services are related to a particular project, the Consultant's services shall be performed in a manner, sequence and timing so that they will be

coordinated with the needs of the District and other consultants, engineers, architects or contractors for the project. The District shall be the general administrator of the professional services for the project and shall facilitate the exchange of information amongst the consultants, engineers, architects or contractors retained by the District for the project as necessary for the coordination of the project. Except as authorized by the District, all communications between the Consultants and the District or others for the project shall be through the District.

D. The Consultant shall provide progress copies of drawings, reports, specifications and other necessary information to the District and other contracted consultants for coordination and review. All aspects of the project designed by the Consultant shall be coordinated by the Consultant, and the Consultant shall also become familiar with aspects of the project designed by the engineers and/or contracted consultants as necessary for the proper coordination of the project.

E. Consultant may, at Consultant's own expense, use any employees or subconsultants as Consultant deems necessary to perform the services required of Consultant by this Contract. The District shall not control, direct or supervise Consultant's employees or subconsultants in the performance of those services.

F. Consultant agrees that all designs, plans reports, specifications, drawings, inventions, processes and other information or documents produced by Consultant as a product of the performance of Consultant's services under this Contract will be and are hereby assigned to the District as the sole and exclusive property of the District and the District's assigns, nominees and successors, as well as any copyrights, patents, or trademarks obtained by Consultant in connection with the performance of services under this Contract.

G. Any written, printed, graphic, electronically or magnetically recorded information furnished by the District for Consultant's use are the sole property of the District. All such information shall be proprietary, including, but not limited to customer requirements, customer lists, marketing information and information regarding the project, the District's employees, products, services, prices, operations and subsidiaries. Consultant will keep such proprietary information in the strictest confidence, and will not disclose it by any means to any person except with the District's approval or except as required by law. On termination of the Contract, Consultant will return any proprietary information in Consultant's possession to the District.

H. Consultant agrees to indemnify and hold harmless the District, the members of its governing board and its officers, agents and employees from and against all demand, claims, damages, losses, liabilities, expenses and/or costs including reasonable attorney's fees and court costs, arising out of Consultant's willful misconduct, or negligent or reckless acts, errors, or omissions of services contemplated by this Contract, except however, for any such demands, claims, damages, losses liabilities, expenses and/or costs resulting from the willful misconduct, reckless acts, errors or omissions, or negligence of the District and/or its prorata share of negligence.

5. DISTRICT'S RESPONSIBILITIES

A. If the Consultant's services are related to a particular project, the District shall, with reasonable promptness, provide available information regarding the requirements for the project, including any existing or proposed plans and specifications and any requirements of public or quasi-public governmental agencies of which the District is aware.

B. The District may designate a representative authorized to act on the District's behalf with respect to the Consultant's services and, if applicable, the project. The District or such authorized representative shall render decisions in a timely manner pertaining to documents submitted by the consultant in order to avoid unreasonable delay in the orderly and sequential progress of the Consultant's services.

6. TERMINATION, SUSPENSION OR ABANDONMENT

A. Notwithstanding any other provision of this Contract, this Contract may be terminated by either party at any time by giving thirty (30) days written notice to the other party. In the event of such termination, Consultant shall be compensated hereunder for the value of services performed to the date of termination. In the event of such termination without cause, the District shall not be entitled to rely upon, nor shall Consultant have any liability arising out of the District's use of incomplete designs, plans, reports, specifications, drawings, or other uncompleted tasks.

B. This Contract may be terminated by either party upon not less than seven (7) days written notice should the other party fail to substantially perform in accordance with the terms of this Contract through no fault of the party initiating the termination. For purposes of this subparagraph, the failure to substantially perform in accordance with this Contract includes, but is not limited to, the following:

(1) The District's failure to pay Consultant any compensation due within sixty (60) days after written demand for payment.

(2) Consultant's failure to competently complete the services specified under this Contract within the time periods specified herein or as reasonably directed by the District.

(3) Consultant's or the District's material breach of any representation or agreement contained herein.

(4) Failure of consultant to maintain insurance coverage as required in Section 7.

(5) Consultant may also withdraw from this Contract upon seven (7) days written notice in the event of the District's refusal to cooperate with Consultant or to follow Consultant's advice on any material matter, or the occurrence of any fact or circumstance that would render Consultant's services unlawful or unethical.

(6) In the event of any such termination, Consultant shall be compensated hereunder for the value of services performed to the date of termination.

7. <u>INSURANCE COVERAGE</u>

A. Consultant shall maintain insurance covering claims arising out of the performance of professional services under this Contract and caused by the errors, omissions or negligent acts for which the Consultant is liable, in an amount of no less than $1,000,000 per occurrence. Additional coverage or terms may be required for Consultant's services related to a particular project.

B. The Consultant shall carry the following additional insurance:

C. General Liability Insurance, which insurance shall have limits of liability not less than the following:

Bodily Injury:	$1,000,000 each occurrence
	$1,000,000 each person
	$2,000,000 aggregate
Property Damage:	$1,000,000 each occurrence
	$2,000,000 aggregate

Consultant shall furnish the District, upon request, with (1) a certificate of insurance countersigned by an authorized agent or representative of the insurance company, that the insurance policies will not be cancelled, altered or reduced without thirty (30) days prior written notice to the District and that the policy or policies do not exclude coverage for contractual liability, and (2) an endorsement to the General Liability Policy, in the form of CG2010, or such other form reasonably acceptable to the District, confirming that the District and/or any of the affiliates and additional entities of the District that the District may designate, are named as additional insured on such policies. In the event of cancellation for non-payment, the District may pay premiums due by Consultant and deduct the paid payment from amounts then or subsequently owing to the Consultant hereunder. Insurance limits called for herein shall be considered to be minimum and the District shall have the absolute discretion to require higher limits should the nature of the work and risks involved therein call for such higher limits.

8. <u>SAFETY</u>

A. Consultant shall strictly observe and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or properties or their protection from damage, injury or loss. Without limiting the foregoing, Consultant shall comply with requirements, regulations, orders and directives promulgated under the Federal Occupational Safety and Health Act, the California Occupational Safety and Health Act, and the California Safe Drinking Water and Toxic Enforcement Act of 1986.

B. Consultant shall be liable to the District for all loss, cost and expense attributable to any acts of commission or omission by the Consultant, or its employees or agents resulting from the failure to use reasonable safety precautions and programs or to comply with safety laws, regulations or ordinances, including but not limited to any fines, penalties or corrective measures.

9. PAYMENT PROVISIONS

A. Unless otherwise specified in Exhibit B, the Consultant shall render monthly invoices in duplicate covering work completed in such month. Invoices received by the tenth (10th) of the month and approved for payment shall be paid within thirty (30) days.

B. Additional services, beyond the services listed in Exhibit A, may be required by the District. Such additional services shall be performed only in accordance with Change Orders, authorized and issued by the District or the District's designated representative. Each Change Order shall list the scope of revisions to be performed, state the time within which the work is to be completed, designate any special conditions, and state the agreed upon compensation for such services.

10. MISCELLANEOUS PROVISIONS

A. This Contract represents the entire and integrated agreement for the services between the District and Consultant and may be amended only by written instrument signed by both the District and Consultant.

B. Any notices required to be given under this Contract by either party to the other may be effected by personal delivery in writing or by mail, registered or certified, postage prepaid with return receipt requested, by facsimile, or by any nationally recognized overnight service. Notices must be addressed to the parties at the addresses indicated on this Contract, but each party may change the address by giving written notice in accordance with this paragraph. Notices personally delivered will be deemed communicated as of actual receipt. Mailed notices will be deemed communicated as of the date of receipt or the fifth day after mailing, whichever occurs first. Notices sent by overnight services or facsimile shall be deemed communicated as of the earlier of the date of receipt or twenty-four (24) hours after mailing.

C. If any provision of this Contract is held by a court of a competent jurisdiction to be invalid, void or unenforceable, the remaining provisions will continue in full force and effect without being impaired or invalidated in any way.

D. This Contract shall be binding upon the executors, administrators, heirs, successors and assigns of the District and the Consultant.

E. If any legal action or arbitration is instituted, including an action for declaratory relief to enforce or interpret the provisions of the Contract, the prevailing party will be entitled to reasonable attorney's and expert fees, which may be set by the court in such action or arbitration,

or in a separate action brought for that purpose, in addition to any other relief to which that party may be awarded.

F. This Contract will be governed by and construed in accordance with the laws of the State of California.

G. In the event that either the District or the Consultant shall at any time waive any breach of this Contract by the other, such waiver shall not constitute a waiver of any other or succeeding breach of this Contract, whether of the same or any other covenant, condition, or obligation.

H. If any term, condition or covenant of this Contract is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of this Contract shall be valid and binding on District and Consultant.

I. If the scope of services includes Consultant's assistance in applying for governmental permits or approvals, Consultant's assistance shall not constitute a representation, warranty, or guarantee that such permits or approvals will be acted upon favorably by any governmental agency.

District Signature: **Consultant Signature:**

By: _____   By: _____
    Groveland Community Services District   Patrick Engineering Inc.

Its: _____   Its: _____
    General Manager, Peter J. Kampa   John Young, Director Sr. Consultant

Groveland Community Services District   Patrick Engineering Inc.
18966 Ferretti Rd.   4970 Varsity Drive
Groveland, CA 95321   Lisle, Illinois 60532
Mailing Address:
P.O. Box 350
Groveland, CA 95321-0350

<center>**EXHIBIT A**</center>

Activity 1: Stakeholder Use Case Validation & ArcGIS Data Model setup
Patrick will provide GIS and Asset Management staff to perform use case validation and ArcGIS data model
setup tasks.

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- Deliverables will consist of a populated ArcGIS file-based Geodatabase and ArcGIS Pro project file for viewing the data.
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  o Recommendations, setup, and display of query and filter results of facility space and asset data in Cartegraph.
  o Recommendations and setup of Cartegraph OOB web and mobile applications to include apps for bar code scanning (e.g., the Cartegraph iPad and Cartegraph One apps for tablets and smart phone devices).

Activity 6: Configure OCI, Budget Scenarios, & other Data and System Sustainment Services

Patrick will provide GIS and Asset Management technology staff for up to 65 hours of remote support for a period of up to six months following the migration and setup of Activity 3, 4, and 5 deliverables.

- Configure Facility Condition Index (FCI) values for facility domain assets utilizing condition attributes collected in Activity 2.
- Configure baseline capital budget scenarios using Cartegraph Scenario Builder (covers up to three scenarios).
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  o Ad hoc or as-needed ArcGIS and/or Cartegraph system administration and management services.
  o Perform ArcGIS and/or Cartegraph system and tools use knowledge transfer (KT) and remote training for GCSD staff upon request. Requires minimum of two weeks lead time to schedule and prepare for KT or training delivery.

Success Criteria

This project will be deemed complete after each Activity deliverable is provided, reviewed, and/or delivered to the GCSD in format described herein.

Travel Expenses

Unless specified and included in the activity descriptions herein, no additional travel expenses will be required to complete this project.

Schedule

The project start date will be subject to mutual agreement by GCSD and Patrick and is subject to contract initiation. Patrick will provide a project schedule following execution of an agreement. Based on previous
projects of this nature, Patrick anticipates that this work will take 12-16 weeks to complete all Activities (~6-8 weeks for Activities 1-3). Activity 6 may extend beyond 16 weeks based on GCSD's level of preparedness following Activity 5 delivery.

EXHIBIT B
COMPENSATION

Pricing & Invoicing:
The pricing provided for Patrick's services has been estimated based upon the services being provided on a T&M basis. The required labor hours and other direct cost (if applicable) have been estimated based upon prior experience with work of a similar nature, using Patrick's standard role-based rates (see fee table in Appendix A).

The T&M budget for the proposed professional GIS services is **$62,000** for our labor and is based on the use of Patrick's rate table fees provided herein. This budget includes the involvement of normal and customary support staff and project management, even though not detailed in the above scope of services. Patrick will routinely notify GCSD on project status (initially planned on weekly basis) to include
specific task completion, hours worked per task, and remaining budget. An example of our project status dashboard is provided in Figure 3 below. Invoices will be sent monthly with invoice amounts based on actual hours worked.

Activity	Budget
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Activity 2	$14,000.00
Activity 3	$14,000.00
Activity 4	$10,500.00
Activity 5	$8,500.00
Activity 6	$7,500.00
Total Budget	$62,000.00

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This project will be administered under the terms and conditions of the executed Patrick Project Agreement between Patrick and GCSD.
This quote is valid for a period of 45 days from the signed submittal date.

Water, Sewer, Treatment Plant, and Parks Asset Data Conflation & Migration to ArcGIS & Cartegraph OMS

Prepared for:

Peter J. Kampa, General Manager

Groveland Community Services District

18966 Ferretti Road

Groveland, CA 95321

Date: April 20, 2022

Groveland Community Services District

Submitted By:

4970 Varsity Drive

Lisle, Illinois 60532

T 800.799.7050

PATRICK

Patrick Engineering Inc. Company Overview

Patrick Engineering Inc. is a nationwide engineering, design, project management, and geospatial solutions firm with a long history of success on a variety of complex infrastructure projects. Our client list includes government agencies, higher education institutions, private and public utilities, and FORTUNE 500 companies. We focus on providing concept planning, engineering, pre-construction services, procurement of materials, construction management, and enterprise technology solutions for utility + transportation infrastructure and building projects. We accomplish this with technical experts in the fields of civil, structural, hydraulic, environmental, geotechnical, electrical engineering, relay & protection, geology, surveying, construction management, process control, asset & facility management, and GIS.

Our Patrick Engineering GIS & Asset Management team (Patrick) is an exclusive, award winning Cartegraph business partner focused on utility, transportation, and facility (building) asset management solutions integrated with GIS and other digital twin technologies (e.g., BIM and CAD files; aerial, drone, and 360 imagery). Notably, we are also an award winning Esri ArcGIS solutions business partner that has achieved 20+ year Esri Cornerstone Partner status.

Patrick builds true partnerships with our customers to create and implement the best solutions for their needs, providing quality, operational efficiency, reliability, and with focus on future scalability. Whether implementing a new product or enhancing an existing one, our business-led combination of technical expertise, excellent communication, industry insight, and unparalleled dedication delivers outstanding solutions that provide increased value to your organization.

Summary

Patrick is pleased to present its scope of services to Groveland Community Services District (GCSD). We understand the GCSD's need for a qualified GIS and asset management technology vendor to provide data conflation and migration services for its water, sewer, treatment plant, and parks assets for the purpose of utilizing these data with Esri ArcGIS and the Cartegraph OMS asset management system (Cartegraph).

Based on the request for quote and our conversations, this document presents a scope of services for providing 1) use case validation and ArcGIS data model setup, 2) source data conflation and migration to ArcGIS, 3) ArcGIS layer, map, and application (app) configurations, 4) ArcGIS to Cartegraph data migration, 5) Cartegraph map, app, and tool configurations, and 6) the setup of Cartegraph Operational Condition Index (OCI) and maintenance budget scenarios as well as overall solution sustainment activities. A graphic depicting our typical workflow for collecting, integrating, and migrating data to ArcGIS is shown in Figure 1 below. Figure 2 shows our high-level 3-step solution delivery approach to include Cartegraph.

Patrick understands that these services are to be provided for GCSD's assets with the goal of achieving functional planning, operations, maintenance, and capital forecasting analysis and reporting capabilities provided by ArcGIS and Cartegraph technologies.

Water, Sewer, Treatment Plant, and Parks Asset Data Conflation & Migration to ArcGIS & Cartegraph OMS

Figure 1: Example of Patrick's typical Esri ArcGIS platform data collection, integration, and migration solution architecture

Figure 2: Example of Patrick's 3-step approach for Cartegraph data collection, integration, and migration solution delivery
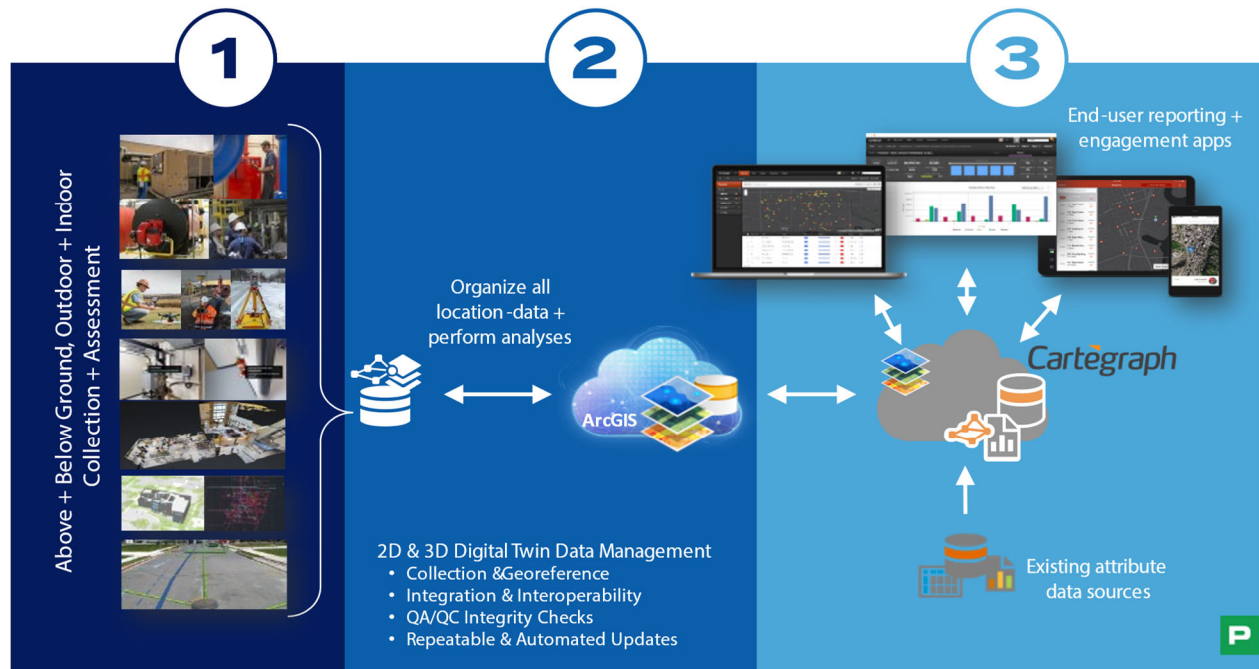
Scope of Services

Our scope of services utilizes the standard approach depicted in Figures 1 and 2. Project delivery for the 3-step approach will be completed via six activities described herein. Responsibilities for Patrick and GCSD are stated for each activity.

Activity 1: Stakeholder Use Case Validation & ArcGIS Data Model setup

Patrick will provide GIS and Asset Management staff to perform use case validation and ArcGIS data model setup tasks.

Patrick Engineering Responsibilities
• Stakeholder use case review and validation meeting with GCSD staff (will incorporate findings already gathered from Patrick's recent onsite meetings with GCSD).   • Review, perform gap analysis btw Cartegraph and ArcGIS Water, Sewer, Treatment Plant, and Parks Data Models in support of each of these main asset layer categories.   • Setup and gain acceptance for Cartegraph-enabled ArcGIS Data models.   • Review GCSD Data Repositories and prep data sharing environment.
GCSD Responsibilities
• Ensure GCSD stakeholders are available for use case review meeting.   • Provide written acceptance via email for Cartegraph-enabled ArcGIS Data Models.   • Provide access and acceptance of data sharing environment(s) to be used for this project.

Activity 2: Data Conflation and Migration to ArcGIS

Patrick will provide GIS and Asset Management staff to perform ArcGIS data conflation and migration tasks. The specific tasks to be performed are listed below.

Patrick Engineering Responsibilities
• Review and prepare GCSD data sources for conflation to common data model (will incorporate findings already gathered from Patrick's recent onsite meetings with GCSD).   • Migrate GCSD sources to ArcGIS GDB utilizing ArcGIS Pro utilizing individual and automated Extract, Translate, Load (ETL) tools.   • Perform standard QA/QC to determine feature and attribute gaps for each of the asset layers described in Activity 1   o If available, obtain missing attribute data from GCSD and populate ArcGIS Geodatabase (GDB) hosted feature layers.   • Review ArcGIS GDB with GCSD prior to publishing to ArcGIS Online and perform updates as required with existing GCSD data sources; i.e., Patrick will not create new data.   • Gain acceptance of ArcGIS GDB prior to publishing to AGOL and layer, map, app configuration
GCSD Responsibilities
• Provide access to data sources   • Assumption: GCSD will be responsible for updating or filling feature and attribute gaps for which no GCSD data are available following the completion of Activity 2 tasks; i.e., GCSD is responsible for creating new data.

- Provide GCSD representatives responsible for migrating Geodatabase, ArcGIS Pro project and/or any related Activity 1 and 2 data to perform migration to GCSD's Cartegraph test environment and/or confirm and verify prior to migration to production environment.
- GCSD will assume responsibility for managing its Activity 1 and 2 facility asset data once migrated to its Cartegraph test and/or production environment.

Activity 5: Configure Cartegraph Map, Service, App, and Tools

Patrick will provide GIS and Asset Management technology staff to configure ArcGIS and Cartegraph maps, apps, and tools based on the outcome and acceptance of Activity 4 deliverables.

Patrick Engineering Responsibilities
- Prepare and conduct up to two, 2-hour remote meetings with GCSD staff (primary end-user stakeholders) to review Cartegraph supported O&M and capital planning business workflows utilizing Cartegraph web and mobile applications.   - Prioritize GCSD feedback and adjust sequence of steps in workflows to conform with GCSD staff business requirements.   - Note: workflow adjustments will be made to the extent that they can be supported by out-of-the-box (OOB; i.e., not custom) Cartegraph web and mobile application capabilities.   - Configurations services will include: - ArcGIS Map and Feature service configuration and publication for use with Cartegraph.   - Recommendations and setup of facility layer symbology and cartographic representation for room space and asset visualization in Cartegraph system.   - Recommendations, setup, and display of query and filter results of facility space and asset data in Cartegraph.   - Recommendations and setup of Cartegraph OOB web and mobile applications to include apps for bar code scanning (e.g., the Cartegraph iPad and Cartegraph One apps for tablets and smart phone devices).
GCSD Responsibilities
- Provide GCSD staff representation of primary end-user stakeholders to participate in meetings and workflow validation.   - Provide written acceptance of workflows to be utilized/setup via email.   - Provide GCSD GIS/IT and Cartegraph staff responsible for managing these systems to support or conduct migration activities depending on GCSD's system access requirements.   - Provide Patrick staff necessary access to GCSD's Cartegraph and ArcGIS systems to complete Activity 5 services.   - Assumption: GCSD GIS/IT and/or Cartegraph staff will be responsible for the successful migration of Activity 3, 4, and 5 deliverables into the Cartegraph production system and its ongoing data maintenance at the completion of Activity 5. Alternatively, GCSD may elect to have Patrick perform these maintenance activities on a regular, scheduled basis via Activity 6 sustainment tasks.

Activity 6: Configure OCI, Budget Scenarios, & other Data and System Sustainment Services

Patrick will provide GIS and Asset Management technology staff for up to 65 hours of remote support for a period of up to six months following the migration and setup of Activity 3, 4, and 5 deliverables.

Patrick Engineering Responsibilities

• Configure Facility Condition Index (FCI) values for facility domain assets utilizing condition attributes collected in Activity 2.
 • Configure baseline capital budget scenarios using Cartegraph Scenario Builder (covers up to three scenarios).
 • Ongoing ArcGIS and Cartegraph data and system sustainment services that may include:
     o Assistance with ArcGIS Map and Feature service configuration and publication for use with Cartegraph.
     o Assistance and recommendations for layer symbology and cartographic representation for room space and asset visualization in Cartegraph system.
     o Assistance and recommendations for display of query and filter results of facility space and asset data in Cartegraph.
     o Assistance and recommendations for ongoing setup and configurations of Cartegraph OOB web and mobile applications to include apps for bar code scanning (e.g., the Cartegraph iPad and Cartegraph One apps for tablets and smart phone devices).
     o Ad hoc or as-needed ArcGIS and/or Cartegraph system administration and management services.
     o Perform ArcGIS and/or Cartegraph system and tools use knowledge transfer (KT) and remote training for GCSD staff upon request. Requires minimum of two weeks lead time to schedule and prepare for KT or training delivery.

GCSD Responsibilities
• Provide GCSD GIS/IT and Cartegraph staff responsible for managing these systems to conduct migration activities   • Provide Patrick staff necessary access to GCSD's Cartegraph and ArcGIS systems to complete Activity 6 services   • Assumption: GCSD GIS/IT and/or Cartegraph staff will be responsible for the successful migration of Activity 3, 4, and 5 deliverables into the Cartegraph production system and its ongoing data maintenance at the completion of Activity 5. Alternatively, GCSD may elect to have Patrick perform these maintenance activities on a regular, scheduled basis.

Success Criteria

This project will be deemed complete after each Activity deliverable is provided, reviewed, and/or delivered to the GCSD in format described herein.

Travel Expense

Unless specified and included in the activity descriptions herein, no additional travel expenses will be required to complete this project.

Schedule

The project start date will be subject to mutual agreement by GCSD and Patrick and is subject to contract initiation. Patrick will provide a project schedule following execution of an agreement. Based on previous projects of this nature, Patrick anticipates that this work will take 12-16 weeks to complete all Activities (~6-8 weeks for Activities 1-3). Activity 6 may extend beyond 16 weeks based on GCSD's level of preparedness following Activity 5 delivery.

Pricing & Invoicing

The pricing provided for Patrick's services has been estimated based upon the services being provided on a T&M basis. The required labor hours and other direct cost (if applicable) have been estimated based upon prior experience with work of a similar nature, using Patrick's standard role-based rates (see fee table in Appendix A).
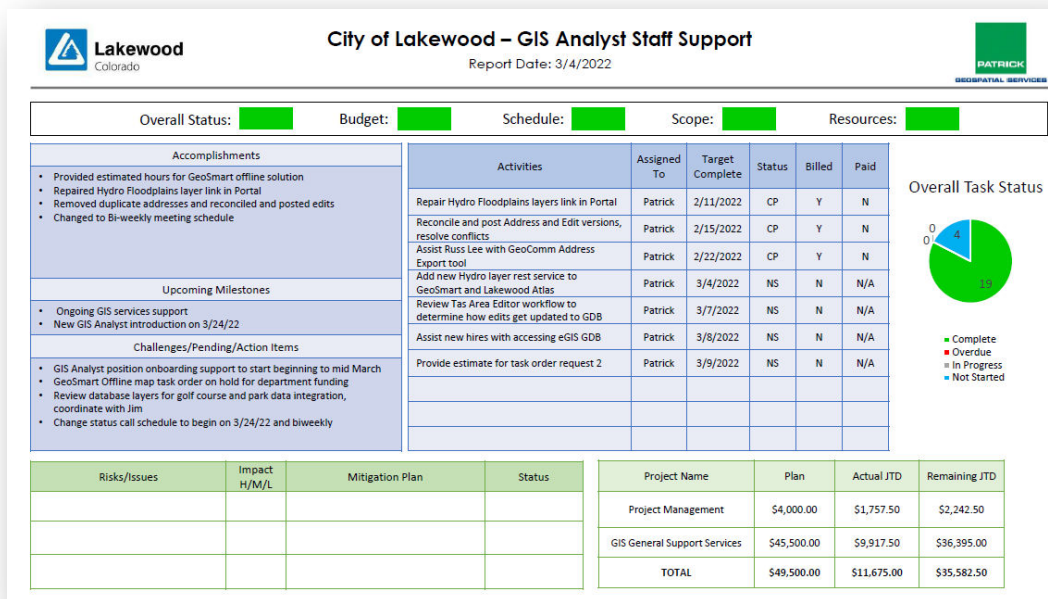
The T&M budget for the proposed professional GIS services is **$62,000** for our labor and is based on the use of Patrick's rate table fees provided herein. This budget includes the involvement of normal and customary support staff and project management, even though not detailed in the above scope of services. Patrick will routinely notify GCSD on project status (initially planned on weekly basis) to include specific task completion, hours worked per task, and remaining budget. An example of our project status dashboard is provided in Figure 3 below. Invoices will be sent monthly with invoice amounts based on actual hours worked.

Fee Proposal:

Activity	Budget
Activity 1	$7,500.00
Activity 2	$14,000.00
Activity 3	$14,000.00
Activity 4	$10,500.00
Activity 5	$8,500.00
Activity 6	$7,500.00
Total Budget	**$62,000.00**

Figure 3: Example of a Patrick 's project status dashboard

In the event Patrick reaches the total budget before the project is completed, GCSD will have the option to either (a) increase the contract funding via a change order to the current project to allow the work to continue or (b) instruct Patrick to stop work. Unused budget from previous tasks/activities will be rolled over into subsequent tasks/activities as mutually agreed upon by GCSD and Patrick. Patrick may not invoice for amounts more than the total budget without GCSD's prior written approval.

Invoicing will be performed monthly with the fee for services determined based on actual hours worked and direct expenses incurred on this project. Payment terms are net thirty (30) days from the receipt of invoice, which will be submitted monthly. Invoice shall include itemization detail by resource and staff role.

This project will be administered under the terms and conditions of the executed Patrick Project Agreement between Patrick and GCSD.

This quote is valid for a period of 45 days from the signed submittal date.

Project Assumptions

General
- ArcGIS deliverable(s) will be provided in an electronic file-based Geodatabase format and/or ArcGIS Pro Packages.
- GCSD stakeholders will be available throughout the project for interaction and verification.
- GCSD will provide an overview of how it currently uses (or plans to use) the Cartegraph asset management software and any additional data sources it may utilize in managing planned or unplanned maintenance.

Technical
- Patrick is not responsible for changes to functionality of the OOB enterprise solution applications hosted by GCSD / ArcGIS/ Cartegraph.
- Patrick is not responsible for the performance of the enterprise solution applications hosted by GCSD / ArcGIS/ Cartegraph.
- Access and Licensing
  - All necessary software licensing is in place, supported, and adequate for this project, the target version, and number of expected users.
  - GCSD will provide adequate and timely access to necessary systems, which may include servers, database, platform, and/or applications.
- Environments
  - Environments in scope for this project include: GCSD internal and/or GCSD cloud hosted environments.   Specific software vendor platforms may include Cartegraph and ArcGIS on-premises or cloud-hosted environments.
  - All applicable environments are available and accessible to Patrick.
  - No modification will be required for any environments in order to achieve above Scope of Services.
  - Memory in the target environment(s) is adequate for the project.
  - If backups are needed for servers, databases, or other systems, GCSD is responsible for utilizing those backups and restoring if a contingency plan is enacted.
- Other Technical Assumptions
  - Any web client utilized will be a browser with version n-1; where n is the latest browser version at date of release. Supported browsers are: Chrome, Edge, IE, Firefox, and Safari.

Testing
- GCSD will be responsible for final testing and for testing approval for changes made in each applicable environment.
- GCSD resources will be available to test and validate the changes in each implemented environment per the agreed-upon schedule.

Other
- Any changes to Scope of Services must be agreed upon by both GCSD and Patrick.
- Any changes to Scope of Services that impact budget, schedule, and/or resources will require a signed Change Order.

- All GCSD-provided data related to this project is adequate, available, and ready for use without conversion, cleansing, or other modification. This includes any development/test environments that may be used.
- Data, datasets, requirements specifications, source files, and any other document or file required to complete the Scope of Services will be finalized and delivered to Patrick per the agreed-upon schedule. Failure to provide these on time may result in budget and scheduling impacts.
- Requirements will be locked after first week of project execution. Changes to the approved requirements after the first week of project execution may require a signed Change Order.
- Work will be performed remotely by Patrick unless otherwise designated in Scope of Services section above.
- GCSD's Subject Matter Experts (SMEs) will be available to address questions or issues encountered during the project; SME's will respond in a timely manner as to not impact schedule.
- If any of the above assumptions are found to be not true, there may be impacts to scope, schedule, budget, and/or resource availability; a signed Change Order may be required.

Agreement & Authorization

If you would like these services performed, please sign the signature page and issue a Purchase Order referencing this proposal and the attached Client Project Agreement.

We appreciate this opportunity to work with GCSD on this project. Should you have any questions, please do not hesitate to contact me.

Sincerely,

PATRICK ENGINEERING INC.

John Young
Director | Sr. Consultant
Patrick GIS & Asset Management
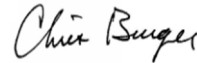SIGNATURE PAGE FOLLOWS

Signature Page

The person signing below represents that he or she has full legal authority to bind the parties to the terms and conditions contained in this document and the referenced Agreement. The party agrees to the above terms and conditions and that PATRICK is authorized to begin work on the "Water, Sewer, Treatment Plant, and Parks Asset Data Conflation & Migration to ArcGIS & Cartegraph OMS" project.

GROVELAND COMMUNITY SERVICES DISTRICT   PATRICK ENGINEERING INC.

_____   _____

Signature   Signature

_____   Chris Burger_____

Printed Name   Printed Name

_____   Vice President_____

Title   Title

_____   ___04-20-2022_____

Date   Date

Appendix A – Patrick's Fee Table

The table below lists Patrick's rate table by professional GIS staff role. Staff to be used for this project will include a combination of Geospatial Analyst Senior, Geospatial Analyst, Geospatial Analyst Junior, and Geospatial Consultant. Cartegraph-specific activities are performed at the Geospatial Analyst rate.

Geospatial Architect	$235.00/hr.
Geospatial Senior Consultant	$230.00/hr.
Geospatial Consultant	$215.00/hr.
Geospatial Senior Project Manager	$210.00/hr.
Geospatial Project Manager	$181.00/hr.
Geospatial Business Analyst	$154.00/hr.
Geospatial Analyst Senior	$155.00/hr.
Geospatial Analyst	$115.00/hr.
Geospatial Analyst Junior	$ 87.00/hr.
Geospatial Software Developer Senior	$215.00/hr.
Geospatial Software Developer	$155.00/hr.
Geospatial Software Developer Junior	$115.00/hr.

* Additional Specialty GIS and other personnel to be quoted on a project-by-project basis.