

# Engineering Department 2017 Business Plan



## *Our Values*

**Champion Employees**

**Honest Communication**

**Accountability**

**Multicultural**

**People First**

**Superior Service**



**CITY OF SUGAR LAND**

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## BUSINESS PLANNING

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### The Business Planning Process

Business planning for Fiscal Year 2017 actually began at the start of Fiscal Year 2016. In November Departments create a draft of their business plan. Working with the Budget Office, Departments update the first draft of the plan for submission to the Executive Team in January. Updates are made according to feedback from the Executive Team and business plans are finalized by the end of February.

### What is a Business Plan?

#### **A SERVICE CONTRACT**

*A business plan...*

- Illustrates in detail *what* services the City provides.
- Illustrates *how* the City provides those services.
- Service Commitments allow the City to hold itself accountable for maintaining high levels of service throughout the City.

#### **A PLANNING DOCUMENT**

*A business plan is a comprehensive planning document developed annually by every Office and Department. A business plan...*

- Illustrates the connection between operational services and activities, and long-term goals and objectives.
- Enables each Department to define their role and responsibilities within the greater context of the organization, ensuring cohesive growth across the organization.
- Reviews departmental strengths, weaknesses, opportunities, and threats using the SWOT analysis technique, allowing Departments to consider both internal factors, like succession planning and funding allocations, and external factors, like demographic changes, when planning for the future.

#### **A COMMUNICATION DOCUMENT**

*A business plan is a vehicle to communicate with the public. A business plan...*

- Affords the City the opportunity to be open and transparent.
- Educate residents and the general public on how the City provides day-to-day services.

#### **A WORK PLAN**

*A business plan is an operational document which can be leveraged by Departments for internal process improvement efforts. A business plan...*

- Creates a road map for how service goals are met.
- Makes the connection between front line objective and organizational objectives.

#### **A BUDGETING TOOL**

*A business plan is a tool to be used in the budgeting process. A business plan...*

- Facilitates the submission of Key Issues.
- Allows Departments to submit for cost estimates ahead of the budget cycle
- Provides a space for strategic thinking before the budget process kicks off in the Spring.

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## CITY OF SUGAR LAND MISSION & PRIORITIES

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***To enhance the quality of life in the community by a commitment to excellence in the delivery of public service.***

### Mid-term Priorities

#### ***SAFEST CITY IN AMERICA: FEELING SAFE, RAPID RESPONSE***

- Have a Rapid, Effective and Coordinated Response to an Emergency – Police, Fire, EMS, Public Works
- Maintain People Feeling Safe, Secure and Comfortable throughout the Community
- Maintain a Low Crime Rate in Sugar Land with a High Clearance Rate
- Develop Effective Public Safety Communications with Adequate Staffing and Using Appropriate Technology
- Improved All-Hazards and Disaster Preparedness, Response and Recovery through Better Coordination and Intergovernmental Cooperation
- Utilizing Technology to Contribute to a Safe Community

#### ***STRONG LOCAL ECONOMY: GROWING BUSINESS INVESTMENT***

- Attract Targeted Businesses with Primary Jobs: National and International
- Growing Tax Base: Property Tax and Sales Tax Generators
- Develop Major Business Parks with Class A Office Environment: Tract II and Prison Property / Newland (300 Acres)
- Expand Tourism: Venues, Marketing and Number of Visitors
- Develop Three Destination Activity Centers – Major Community Focal Points and Regional Destinations: Brazos River Park Festival Site, TIRZ #4, Imperial Area
- Protect Strength of Current Economic Generators

#### ***RESPONSIBLE CITY GOVERNMENT: FINANCIALLY SOUND, EXCEPTIONAL SERVICE***

- Maintain a High Level of Citizen Satisfaction and Cost-Effective Delivery of City Services: Value for Tax Dollars
- Continue “Championship” Workforce: Professional, Well-Trained, Appropriately Compensated, Retention / Internal Promotional Opportunities
- Have City Employees Serve as the Primary Contact with Customers
- Maintain Financially Responsible Government Consistent with City’s Mission
- City of Sugar Land – a Leader in Customer Service and Superior Service
- City and Partners Operating Efficiently and as a Service Business

#### ***GREAT PLACE TO LIVE: DEVELOPMENT, REDEVELOPMENT, MOBILITY, ENVIRONMENT***

- Have Predictable, Compatible Development and Land Uses Consistent with Comprehensive Plan
- Maintain Adequate Infrastructure and Services to Support Growth and Sustain the Existing Community
- Revitalize / Redevelop Older Commercial Centers: Appearance and Business Vitality
- Improve Mobility within Sugar Land: Automobiles, Bicycles and Walking
- Strive for Land Uses that Build the Wealth of the City – Balancing Property Tax Value, Sales Tax Revenue & Primary Jobs

#### ***BUILDING COMMUNITY: DIVERSE CULTURES, LEISURE, ARTS***

- Develop City Facilities and Venues that Support Community Arts, Events and Festivals
- Develop Residents’ Understanding of Civic Processes and Community Infrastructure
- Support Community Events and Festivals of Diverse Ages and Cultures
- Adapt to Sugar Land’s Changing Demographics
- Expand Arts throughout the Community

***Want to know more about the long range vision for the City of Sugar Land? Check out [Vision 2025!](#)***

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## DEPARTMENT OF ENGINEERING 2017 BUSINESS PLAN

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### Departmental Mission Statement

As the engineering authority for the City, the Engineering Department provides expertise and regulatory guidance for all planning, design and construction of CIP and development projects within our jurisdiction and as required through the comprehensive plan. We develop business processes, programs and control mechanisms, including coordination with outside agencies, to ensure projects are on-time and within budget with complete and accurate reporting. The Engineering Department is committed to maintaining a high level of professionalism through open lines of communication and transparency while delivering superior customer service.

### Executive Summary

The Engineering Department is a professional, centralized and technically diverse department that provides internal support to owner and stakeholder departments for development of the capital improvement program and design and construction of capital projects and external services dealing with public infrastructure related to development improvements, floodplain regulations and adherence to City regulations, development code and engineering design standards. The department concentrates primarily on six services that are used to deliver the results anticipated by management and directed by the City Engineer. These services are focused on consistency and efficiency for success and rely on sound communication throughout the department in order to accomplish the large amount of work that is part of these services. Responsibilities include development activity, floodplain management, Capital Improvement Program (CIP) project development, design and construction contracts along with various master plans and ROW/land acquisition services.

The department's responsibilities have been expanded over the last nine years. With the additional responsibilities the department has undertaken, communication and working as a team to address the needs of the City has been paramount for success. The program and services included in this business plan will address all of the issues that the Engineering Department is currently involved in and will lay out the plans for the future on how the continued demand and expectations will be met.

The department provides regulatory authority over outside development activity as well as centralized support for internal programs such as the CIP and some master plans under the City's authority. In conducting these various roles, the Engineering Department uses the City's vision and goals to help guide decisions and prioritize functions of the department. The department focuses on delivering projects at the highest level within the established budgets while addressing the goals of the community as identified in the Comprehensive Master Plan.

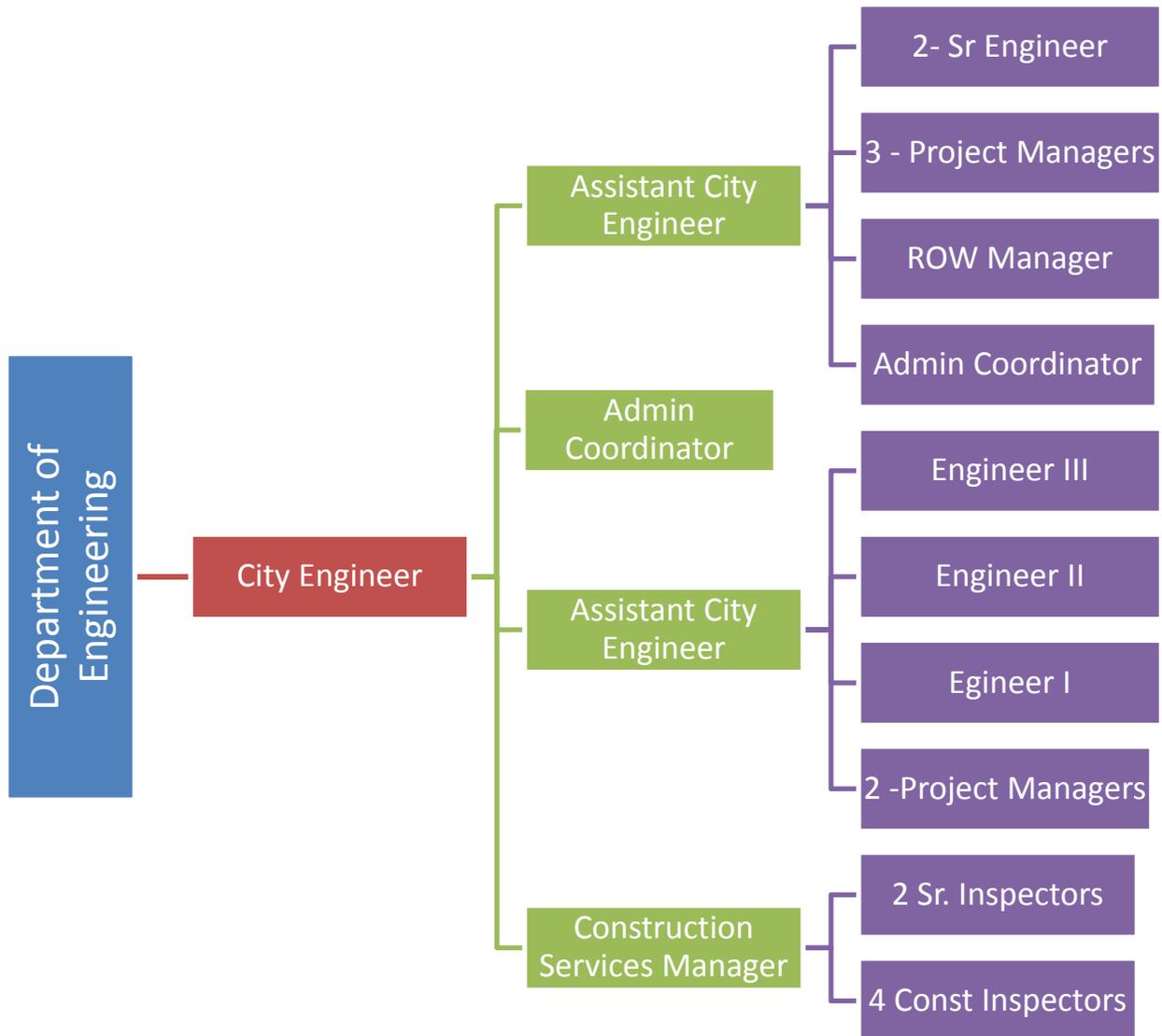
- A Well-Planned Community
- Safest City in America
- Strong Local Economy
- Responsible City Government
- Livable Neighborhoods
- Mobility for People

Utilizing these goals and tools that have been developed by the department related to project delivery and the various methods of delivery, the department strives to stay up with ever changing laws and parameters within engineering and construction. From accountability tools such as RACI (Responsible, Accountable, Consulted and Informed) charting to project charters to communication matrices, the engineering department continues to grow our staff and develop them into the leaders needed to deliver tomorrow's projects on time, within budget and scope.

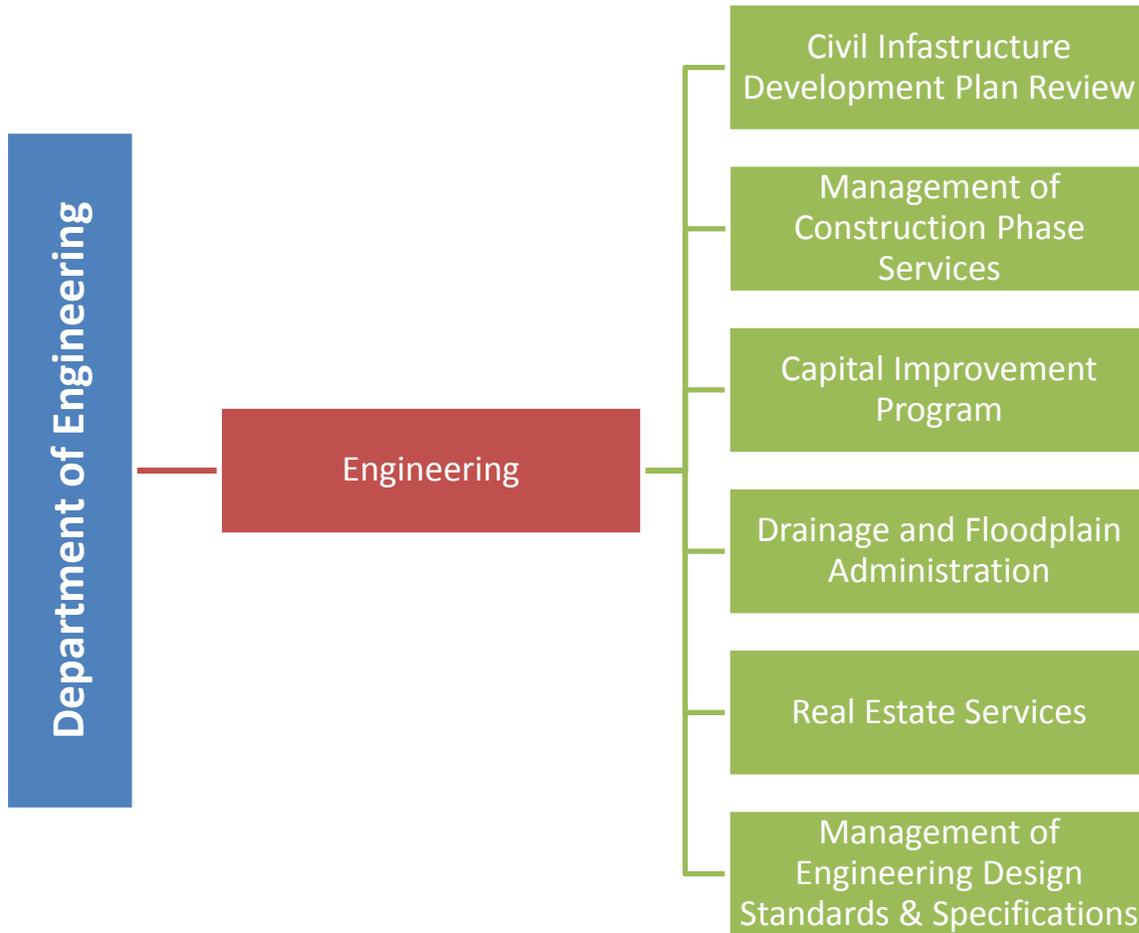
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## ORGANIZATION & STRUCTURE

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## Functional Structure



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## ENGINEERING PROGRAM SERVICES AND SERVICE LEVELS

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### Service: Civil Infrastructure Development Plan Review

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Civil Infrastructure Development Plan Review includes the following:

***Activity: Development Zoning, Plat and Plan Review***

Enter Provides oversight and review of development submittals for compliance with the City's Design Standards and Development Code. Submittals include general plans, zoning requests, plats, site plans, drainage plans, construction plans, variance and specific approval requests, and traffic impact analyses. Facilitates a process for providing comments to development applicants and ensuring comments are addressed. Works with other departments, including Public Works, Parks, and Fire to incorporate their comments as needed and ensure their comments are consistent with established design standards, development code requirements, and format and quality levels.

***Activity: Development Review Committee***

The Assistant City Engineer co-hosts this committee with the City Planner which conducts weekly meetings with potential development applicants to review proposals and City regulations that may impact or be applied to the proposed development activity. Regular attendance at these meetings insures that all of the regulations are being covered and that the applicants are aware of all regulations that need to be accounted for prior to formalizing the submittal to the City. Plans are also reviewed with applicants that may be receiving comments back on previous submittals. This process helps to reduce the number of submittals for developer compliance as well as assisting the applicants in fully understanding the comments and what needs to be addressed.

***Activity: Development Agreements and Master Plans***

Supports the development review process with related activities, including facilitating development agreements, ensuring compliance with City agreements or other requirements, regional infrastructure planning and coordination with developers, coordination with construction phase issues, and working with the Planning and Zoning Commission and City Council. Facilitates the agreements and the relationship of the agreements with outside and third party agencies and provides assurance that all required items and components are included. Also, verify the compliance of all proposed developments with Master Plans.

***Activity: Planning and Zoning Meetings***

Engineering provides staff recommendations to the Planning and Zoning Commission for all cases being heard that have an engineering issue or are regulated by sections of the Development Code or Design Standards through engineering. Information is provided to the Planning Department for reporting purposes and Engineering staff attend the meetings in order to address any concerns that may arise from the Commission members. P&Z meets twice a month and the Engineering Department is represented at each meeting.

***Activity: Asset Management***

Supports the Accounting Department with tracking and accounting of new capital assets constructed as part of development projects. Engineering provides a value and life expectancy with all background documentation to accounting for asset management purposes for all infrastructure related items constructed as part of new development.

***Activity: Annexation Floodplain / Drainage Review***

Supports the Strategic Initiatives Department and the Planning Department with efforts to develop and plan the neighboring areas adjacent to the City boundaries slated to be annexed. Engineering provides evaluation

of any deficient regional drainage issues and provides input on floodplain and FEMA impacts.

## **Service: Management of Construction Phase Services**

The Engineering Department is responsible for all construction oversight in the City for public infrastructure. The Construction Services Manager (CSM) is responsible for ensuring that all infrastructure is constructed in accordance with design plans and specifications. CSM also ensures that materials and equipment meet the design standards and approved product list. The CSM reports to the City Engineer and works with the Assistant City Engineers to ensure proper coordination between construction activities and the plan review process is occurring. The CSM is assisted by four construction Inspectors and two Senior Construction Inspectors to monitor all field activities. Departmental goals include oversight of every major construction activity (subgrade preparation, paving, utility installation, etc.) and visual inspection of all other related minor construction activities (density test, bacteria test, ditch backfill and compaction, etc.).

### ***Activity: Pre-construction Meeting***

The CSM or representative project inspector, with the PM or project engineer, conduct the preconstruction meeting with the contractor for both development and capital improvements projects. These are held for every project that involves civil infrastructure and are used to provide a consistent communication loop between the contractor and the City and establish chain of command. This activity provides a time for introductions and process explanation for pay applications, materials testing scheduling, and any other issue that may need to be discussed.

### ***Activity: Project Acceptance***

This is what formalizes the project's acceptance by the City and identifies that all major steps have been completed and that all documentation is present and has been submitted for review and conformance with guidelines. This process consists of four (4) phases:

1. Substantial Completion – Acceptance that all pay items of work are complete and the improvements are available for use.
2. Creation of a “punch list” that provides details for the contractor of all deficiencies remaining to reach initial acceptance.
3. Initial Acceptance – acknowledges that all punch list items are complete and that the one-year warranty period can formally commence.
4. Final Acceptance – is achieved with the successful resolution of all deficient work items twelve (12) months from the date of initial acceptance.

Although there are differences in development and capital projects, the department manages the processes in very similar manners. This approach provides consistency which allows easier tracking of every project and similarity with each project acceptance improves efficiencies in managing the process.

### ***Activity: Construction Inspection***

Oversee the construction process for capital Improvement and new development of public infrastructure. Coordinate preconstruction, progress or other meetings with contractors, developers, developer's field representatives and engineers. Provide on-site inspection services overseeing construction of all public infrastructure, including streets, drainage, utilities, parks and traffic. Resolve issues and address concerns with development inspectors, engineers and other City departments, including Public Works, Parks, Facilities, Airport and Utilities. Coordinate with project engineers to ensure compliance with agreements and codes as established through the development review process. The importance of the service provided by the inspection group is realized in the long term reliability of the infrastructure that is constructed. Proper installation, oversight and adherence to our standards ensures longevity from the system which reduces short and long term maintenance costs as well as verifying adherence to contract specifications, design standards and development agreements. Depending on scope and complexity, project inspectors may be

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assigned multiple projects simultaneously, providing daily spot inspection and full-time inspection during critical phases of the project. The Project Inspectors are also responsible for enforcing Traffic Control Plans, Trench Safety Plans and Storm Water Pollution Prevention Plans as they relate to construction activity.

***Activity: Project Documentation***

A Daily Inspection Report for each project is prepared by the project inspector containing information regarding conversations with stakeholders and contractors, working conditions, weather, work progress, deficiencies or defects discovered and changes in work. These are maintained in an electronic database developed in conjunction with the IT department. Change Orders are used for changes in work not anticipated that can be approved in the normal course of business. These documents become part of the organizational assets and can be used to protect the City in litigation if necessary. These documents are used to connect the design of the project to the final constructed result and they document that process. Proper documentation of this process assists problem solving should any issue arise.

***Activity: Coordination of Subcontracts***

Project Subcontracts are for project support services. These services include materials testing, surveying and construction phase services assistance and will provide the City with detailed reports of all tests performed or submittals reviewed and approved. Such reports will specifically identify and provide extensive details regarding any deficiencies in the work as performed by the project contractor. All project related documents will be retained in the project files to enable engineering staff to address premature failures, work methodology issues, possible litigation and budget reference.

***Activity: Pay Request Processing***

Engineering is responsible for pay request processing for all CIP related invoices. On a Monthly basis, the Engineering Department processes pay requests for all ongoing projects. The department's rapid turn-around for pay request benefits the City with improved pricing for work performed by improving contractor cash flows and that relationship.

Prior to approval of a project pay request, the project inspector and project manager will audit all job related payment estimates against the actual measured quantity of work performed.

The Program Coordinator, with assistance from the Project Manager, will perform a line item audit for the pay request, taking into account all previously approved pay requests, field changes, retainage and approved change orders. After a pay request has been approved, the Program Coordinator receipts and logs the approved pay request.

***Activity: Project Reconciliation***

Prior to initial acceptance of a project, the Program Administration Coordinator, with assistance of the Project Manager and Inspector, will audit all job related payments against the actual measured quantity of work performed. This audit will take into account all previously approved field changes and change orders and may result in a final or reconciling change order that will be routed through normal channels for processing.

***Activity: Fixed Asset Updates***

The Construction Services Division supports the Project Manager/Engineer in providing the Accounting Department with a fixed asset inventory categorized by type and subtype of asset with associated asset values for all completed projects. There is a life expectancy established with each asset constructed or improved and these are tracked as part of that system.

## Service: Capital Improvement Program

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The Engineering Department is responsible for managing all phases of the Capital Improvement Program. The CIP is the single largest funding demand of the City and typically makes up well over 50% of the City's annual budget. Maintaining sound management and financial responsibility of the CIP is of the utmost importance to the department. There are a number of areas related to the CIP and they are identified below.

### ***Activity: CIP Development***

The Engineering Department manages and oversees the development of the 5 - year Capital Improvement Program and works closely with the Budget Department in preparing this document. The development starts with the creation of the calendar which identifies a time allotment for each step of the process and requires certain products be developed at each step. The product begins as a preliminary list of proposed projects and culminates as a complete list of verified, scheduled and fully deliverable and funded CIP projects that comprise the 5 - year CIP program. The department, through this annual process, works with Owner departments and Stakeholders to assure accuracy and completeness of requests for capital projects. The department reviews requests and verifies that a clear and accurate scope, schedule and budget have been established, as well as a complete description and justification for each project requested. The department manages the ranking and prioritization of the projects and establishes schedules based on funding and staffing availability. The department delivers a list of projects, schedules and estimates to the Budget Office for funding sources to be identified and financial modeling to be established. The department recommends the projects to the Executive Team for their consideration and input and presents the 5 - year CIP with emphasis on year one to the City Council and the P&Z Commission as required by City Charter.

### ***Activity: Professional Services Selection and Evaluation***

The Engineering Department is responsible for managing the selection and performance evaluation of consultants for professional services contracts for CIP Projects. Adherence to state and city policies is critical to consistency and transparency. A critical part of this program includes conducting bi-monthly presentations for consultants interested in doing business with the City. This process is managed by the Executive Secretary to the City Engineer and multiple staff members attend in order to learn more about the consultants. The department maintains a library of qualification statements for consultants that have either done work for the City or are on the list of acceptable consultants that can be used. SOQ's are kept on file for companies that provide services along the lines of: architectural, geotechnical testing, surveying, engineering, property appraisals, landscape architecture, etc. These SOQ's are maintained for a two year period and then are revised and updated through requests from the consultants at that time. This is done to maintain a level of knowledge and comfort with current staffing levels by our professional service providers and City staff. After the completion of each engineering services contract, the project team conducts an evaluation of the consultant and provides feed backs to the consultant. This process not only documents the performances of selected engineering firms but also improve service levels from the consultants.

### ***Activity: Professional Services Contracts Development and Management***

The department is responsible for developing the clear scopes for each project with the owners and stakeholders. Measures used to clarify the scopes include the use of project charters for each project that are developed by the project team led by the Engineering project manager. These scopes are used to generate level of efforts by the consultants that are used to develop fees for the services to be provided. The Project Engineers and Managers are responsible for developing the project parameters with the owner and stakeholder groups and managing the development of the scope, schedule and budgets for each project that will be managed. Negotiation of these contracts is the first step in establishing a strong relationship with the professionals conducting this work for the City.

The project manager must control the scope, schedule, and budget for the design phase and assure that the final design can be constructed within the approved budget. Currently all of the Preliminary Engineering Report (PER) and design contracts within the CIP are outsourced to professional consultants within the particular fields required for each project. The Engineering Department manages the contracts and oversees each project in the role of Project Manager (PM).

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An added part to the charter process last year was the development and inclusion of responsibility/accountability charting for each project. This process better determines task managers for steps required in each project and provides the direction for communicating certain steps of the project with the internal and external participants. Building on this we also created a communication matrix that is used for three different project levels that have been defined as: Local, Sub-regional and Regional level projects. This tool assists the project managers and engineers in defining and how to utilize the resources available and to think through the project and when and what to communicate.

Another important QA/QC step was added in the project management process this year. The QA/QC team consists of senior staff within the Department, who provide reviews at critical stages on CIP projects. The QA/QC will be conducted on design plan and specification, cost estimates, bid tabs, and other contract documents. This step will help reduce engineer's error and omissions and to improve overall accuracy of the construction documents.

***Activity: Project Delivery Methods***

The City Engineer and staff provide the expertise in identifying the different approaches to project delivery. This is done by staying abreast with legislative changes and providing the expertise to deliver technically difficult projects or projects with expedited schedules. The Engineering Department provides the insight and technical knowledge to provide these services and deliver projects utilizing all acceptable delivery methods. The department maintains an educational level on alternative delivery and their applications to assist and direct the City for various project types with varying technical difficulties. Understanding the details of each method of delivery and the varying differences between each is necessary to identifying the best approach and to understand the necessary level of staff effort and time that each will take to complete the project.

***Activity: Construction Oversight***

The department, through each Project Manager/Engineer, provides construction oversight for each project managed by the department. This role supports the Construction Inspector and is responsible for managing issues related to the design side of projects and maintaining relationships developed through the design process. Maintaining schedule and budgetary compliance are roles conducted by the PM for the projects they manage.

***Activity: CIP Quarterly Update***

The department is responsible for providing the quarterly update to the City Manager and City Council for all active projects ongoing in the CIP. This update consists of a web application database that tracks progress on all aspects of the project phases and provides an executive summary that addresses the overall progress of the program as a whole indicating percent of projects on schedule, major project updates, and update on projects that are behind schedule as requested by City Council.

***Activity: CIP Story Map***

Develop and maintains in coordination with IT Department of an interactive GIS based online map of all active CIP projects. The map provides the residents real time updates to project activities and construction notifications to facilitate transparency and information. This map is also linked through "My Neighborhood" on the City website.

***Activity: Asset Management***

Supports the Accounting Department with tracking and accounting of new capital assets constructed as part of development projects. Engineering provides a value and life expectancy with all background documentation to Accounting for asset management purposes for all infrastructure related items.

## Service: Drainage and Floodplain Administration

The Drainage and Floodplain Administration service includes three components: Floodplain Administration, Maintenance and documentation for Community Rating System (CRS), coordination and monitoring of riverine conditions and performance of major drainage structures during major rainfall events, through use of tools such as Integrated Storm Water Management modeling (ISWMM). These are outlined below.

### ***Activity: Floodplain Administration***

Administer the regulations as adopted in the City's Flood Damage Prevention Regulations of the Development Code and as a participant in the National Flood Insurance Program (NFIP). The Engineering Department will enforce the adopted Flood Damage Prevention regulations through the issuance of development permits for floodplain related activities and the associated FEMA requirements. This is done as part of the development review process working in close conjunction with the planning department and the building official in permitting and regulating development in Special Flood Hazard Areas (SFHA). All services are provided in-house by the City Engineer and assigned Certified Floodplain Managers and other supporting staff.

The department will update and maintain the most current (Effective) Flood Insurance Rate Maps (FIRMs) and subsequent map revisions. Staff will provide current (best available) floodplain related data to the development community, engineer, and other stakeholders as well as work with FEMA and other agencies in updating and adopting new Flood Insurance Rate Maps (FIRMs).

Performing these functions has facilitated the City to receive entry into the Community Rating System (CRS) Program, which rewards communities that excel in floodplain management programs. This has allowed flood insurance customers (residents) to receive a lower premium, especially if their property is located within a special flood hazard area. The City's initial rating into the system was at a No.7 and these duties will need to be performed and maintained to uphold, if not improve, the City's ranking in the CRS Program. All of this information is required through an annual audit that is conducted by the Texas Water Development Board and submitted to them in October of every year.

### ***Activity: Flood Event Monitoring***

Provide constant monitoring of the Brazos River and our major channels and drainage networks during major rainfall or high riverine stage situations. The Brazos River and Oyster Creek cover both large and small drainage watersheds that stretch beyond the City's limits and have distinctively different impacts to our residents. Impacts within the watersheds of each can have a negative impact on the City in varying ways and these are monitored through tools that have been developed over the years. These include the integrated storm water management model (ISWMM); Master Drainage Plan, and the flood insurance rate maps. Data provided from these models is made available to the City's Emergency Operations Center (EOC) and Public Works staff to coordinate operations in the event of an emergency/impending flood situation as well as ongoing maintenance needs identified through the use of the ISWMM model. This data is also being made available to engineers/consultants and other entities to aid in evaluating the performance of the City's drainage system and in the design of drainage infrastructure projects.

### ***Activity: ISWMM***

Integrated Storm Water Management Model (ISWMM) is a compilation of all Hydrologic and Hydraulic Models within the City and its ETJ in a GIS Based platform. ISWMM is a tool that enables combining layers of information (such as floodplains, land parcels, streets, key facilities, etc.), that would aid in decision making in situations such as intense rainfall, riverine flooding, and/or hurricane preparedness. ISWMM also serves as a tool for evaluating drainage system performance at a macro level (City-wide), and also help in identifying and prioritizing drainage projects City-wide.

ISWMM would further aid in: (1) Predicting maximum ponding levels in City Streets during the occurrence of extreme rainfall events. This would aid in staging emergency response and operational staff in critical areas where ponding is likely to occur. This would also help staff in responding to potential road closures and

rescue efforts. (2) Predicting “what-if” scenarios in anticipation of a tropical storm or hurricane. ISWMM can help us predict what parts of the City or Subdivision would “flood” should we have a major rain event (say 5 to 10 inches of rainfall). Also, if we have a local (minor) rain event, combined with extreme rainfall in upstream areas (called a coincidental rainfall event); it would help us in predicting the impact of backwater from the Brazos River on the City’s drainage system.

## Service: Real Estate Services

Real Estate Services manages all land, easement and right-of-way acquisition needs related to the CIP as well as assisting with other acquisitions as needed. This service utilizes outside consultants to assist in property background research (title, deeds, appraisals and survey) and property ownership verification. This service also handles all abandonments of easements and rights-of-way as identified through development and other activities.

Coordination of this service with the CIP process and projects is critical to the maintenance of schedules. Land acquisition can be a large budgetary constraint to projects and if not handled appropriately, can lead to serious delays to the schedule that cannot be overcome. The service is critical to be identified early when related to CIP projects.

Additional real estate services include the review and approval/denial of consent to encroach request within the City’s ROW or easements. This process is coordinated with Permits and Inspections and other departments to make sure that proposed improvements meet the requirements and do not provide a future burden on the City. These are commonly related to monument signs, landscape (hardscape) improvements, fences, and other structural components that are not maintained by the City but by private owner.

Additional real estate services include the review and processing of development related land rights conveyances in accordance with City design standards or development related agreements. This process is coordinated with Public Works, Planning and other departments to make sure that proposed conveyances or abandonments/encroachments meet the requirements and do not provide a future burden on the City. These are commonly related to utilities and other structural components that are proposed by commercial property owners.

## Service: Management of Engineering Design Standards & Approved Products/Specifications

The constant maintenance of design standards and approved products lists are critical to the City maintaining consistency and improvements in creating a better infrastructure system. These are used for planning, designing, and constructing public infrastructures. The Engineering Department maintains and updates these important documents that are referenced and utilized by many of our outside development groups and design consultants. Having the latest and best available information and technical standards maintains Sugar Land’s status as a leader in the Houston area as well as nationally.

### *Activity: City Design Standards*

The City’s Design Standards are a critical element to ensuring that all planned civil infrastructure improvements are constructed within acceptable practices. They provide the development and consultant community with the established standard requirements adopted by the City and the Engineering Department for infrastructure requirements and design elements. The Design Standards identify general guidelines and standards for infrastructure improvements and design elements for all engineering related principles including roads, drainage, traffic, water, wastewater and other related civil infrastructure within the City. The Engineering Department maintains the standards and has continual collaboration with internal departments about these standards and necessary updates. Since the adoption of the 2007 version by City Council, the Engineering Department has conducted at least 2 major additions and a number of smaller

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corrections to the design standards every year. This is done in coordination with the engineering and construction community and our internal departments to solidify our standards and keep them up to date with the ever changing environment.

***Activity: Approved Products/Specifications***

The second part of this objective is to manage the City's approved products list and specifications. The product list provides to all development and CIP projects the approved products that have been identified for use in the infrastructure system. The Engineering Department works closely with Public Works and various other internal departments as needed, along with our outside vendors, to keep the list up-to-date. The specifications provide and identify product and construction requirements to be followed and adhered to by the contractor community. The document includes construction methodology, acceptable unit for payment, description, installation criteria, etc. The document is reviewed on an annual basis for update and accuracy.

*Performance Measures*

<b>Service Area</b>	<b>Commitments</b>
<b>Development Review Services</b>	Provide timely and accurate regulatory authority over outside development activity.
<b>Engineering and Construction Expertise</b>	Provide oversight over major construction activity, visual inspection of minor construction activity, and modeling technical expertise.
<b>Capital Improvement Plan (CIP)</b>	Maintain sound management, financial responsibility, communication to customers, and delivery of projects in the CIP.
<b>Drainage and Floodplain Administration</b>	Administer, monitor, and plan drainage infrastructure to maximize flood protection and assist in emergency preparedness.
<b>Row, Easement, and Real Property</b>	Coordinate with other departments to manage land acquisitions involving the City.