PEARLAND
TEXAS

COMPREHENSIVE DEVELOPMENT PLAN

PEARLAND, TEXAS

COMPREHENSIVE DEVELOPMENT PLAN

PREPARED FOR

THE CITIZENS OF PEARLAND

BY

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS

W. C. WALSH CONSULTING ENGINEER

COMPREHENSIVE DEVELOPMENT PLAN

FOREWARD - MARCH 1970

A Comprehensive Development Plan for the City of Pearland, Texas is presented in the report which follows. Work on this plan was started June of 1968. As work progressed, the plans and recommendations were reviewed at the monthly meetings of the Planning Commission and at Joint Meetings between the City Council and the Planning Commission. By August 1969, the Plan had been substantially completed.

Houston-Alvin Freeway Dilemma: The location of the Houston-Alvin Freeway Corridor as it affects Pearland:

- Is subject to review and concurrence from several governmental enities including the State Highway Commission and Brazoria County.
- Was under debate in August 1969.

The City Council of Pearland requested that all government enities involved be contacted and an effort be made to reach an agreement on the corridor location. Such considerations were initiated between August 1969 and February 1970.

Minute Order No. 63415 of the Highway Commission, dated February 23, 1970, has placed the alignment West of Pearland and apparently resolved the corridor location. The proposals of the Pearland Plan were formulated on the previously approved East alignment.

The action of the Highway Commission on February 23, 1970 created new planning considerations that should be evaluated as a prelude to the formulation of revisions to the August 1969 Pearland Comprehensive Plan Proposals.

Apportionment of Extraterritoral Jurisdiction:

A second event affecting the Pearland Comprehensive Plan occured on February 11, 1970, the date when the cities of Pearland and Houston entered into a contract appropriating and fixing the extraterritorial jurisdiction of the overlapping zones beyond their corporate boundaries. Under this agreement, Pearland has been given certain acreage bordering on the East side of Clear Creek, in Harris County, not previously considered as a part of the Pearland Planning Area.

The City of Pearland desires its Comprehensive Plan be extended to include the land in Harris County for which Pearland now has jurisdiction.

Action Proposed:

Upon review, it was determined the work authorized in June, 1968 had been substantially accomplished by August, 1969. This effort included the printing of the plan material and presenting it in this report.

Situation 1969: The initial Comprehensive Planning effort has provided a recommendation reflecting the Pearland Development situation through 1969.

Situation 1970: Two major governmental actions have occured during February, 1970 that make it desirable to evaluate the impact of the Houston-Alvin Freeway location on the major street land use and other plan components of the Pearland Plan and to revise the previous plans to incorporate the changes. It is recommended that the needed revisions will be accomplished under a supplemental work program to be initiated during 1970.

Users Guide:

Pearland is entering a decade of dynamic growth unparalled by anything that has been previously experienced. An evaluation of the Freeway Corridor on the West side of Pearland is certain to result in some changes to the plans and recommendations set forth in this report. We cannot be certain that other situations will not develop that will lead to further changes.

The Comprehensive Development Plan set forth herein and in any reports which may follow is a guide to the planning and decision making process that will be employed to help coordinate Pearland's future development. The events occuring between August, 1968 and March, 1970 highlight how abruptly circumstances affecting their City may change.

Goals and Objectives: The goals, objectives and planning principles that are outlined in the following report are fundamental to the planning process and will be recommended as revised plans are formulated.

Plans: As noted, some revision to the plans presented in this report may be anticipated.

THE PLANNING TEAM

CITY COUNCIL

Mayor	D. R. Keller
Councilmen	E. A. Wasek
	Cecil W. Griffin
	Carlton McComb
	Melvin L. Black
	James O.DeShazer
City Administrator	William E. Wolff
City Secretary	Dorothy L. Cook

PLANNING COMMISSION

Chairman	William K. Miller
Vice Chairman	Jack Idoux
	Larry Loessin
	George R. Shepherd
	John Mark

FORMER MEMBERS

City Council	Aubrey G. Ellis
	Gene E. Sanders
	B. J. Courtright
	Charles D. Watson
City Administrator	Buford D. Waldrop
Planning Commission . . .	Al Storrs

PLANNING CONSULTANTS

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William C. Walsh - Pearland, Texas

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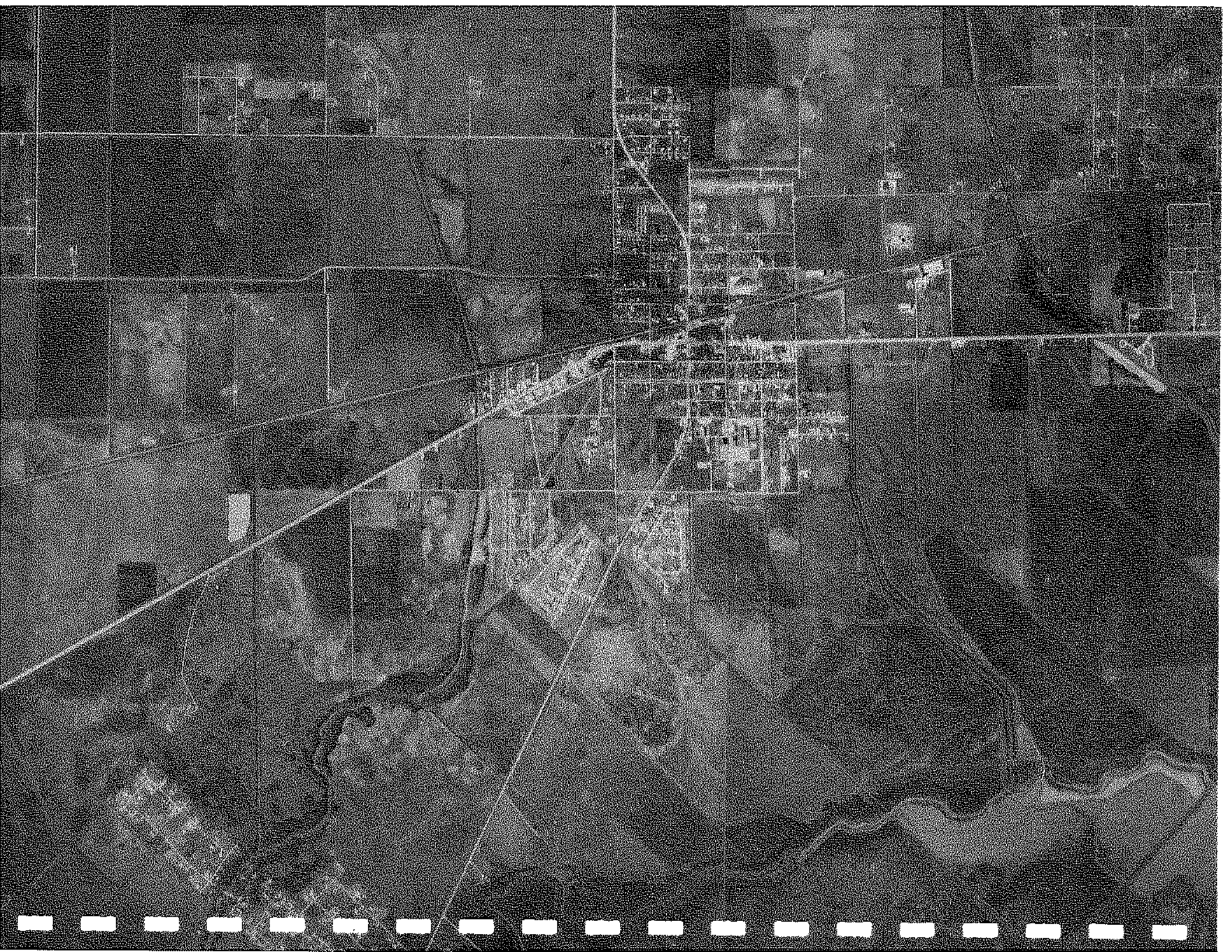
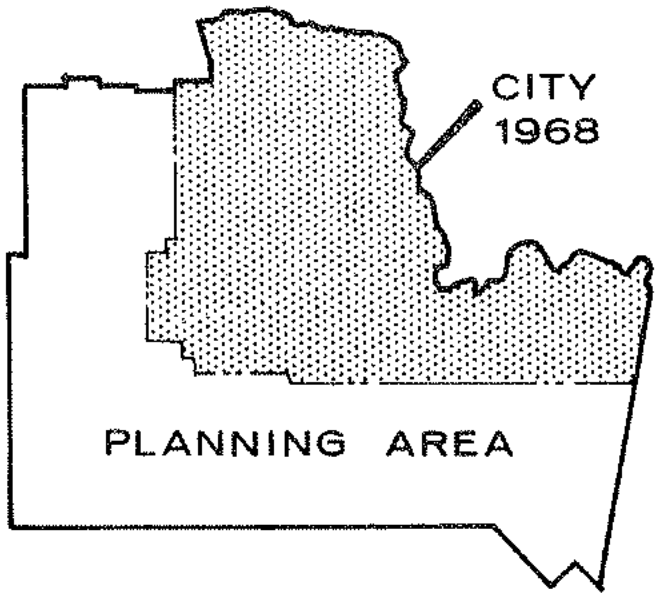
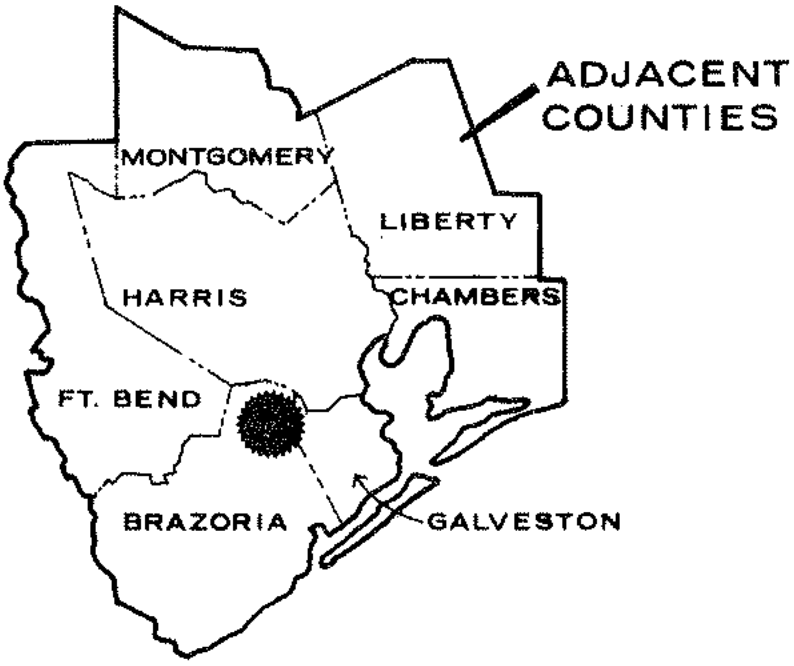
INFLUENCES



PEARLAND, TEXAS
THE PLANNING AREA



THE REGION



The map form created by the city limits of Pearland are repeated many times, both on the preceding and following pages so that it may become the symbol which affords a clearer image of the city and its relationship with the region in the minds of the people reading and using this report.

Pearland's development periods can be related to the availability of land, oil and other raw materials, manufacturing, urbanization of adjacent incorporated cities and transportation improvements within the region.

Legacy

Circumstances has endowed Brazoria, Harris and Galveston Counties with rich land, seaports, railroads and raw materials. These resources have brought people. Most recently, the area has become the headquarters of the nation's space-age activity at the National Aeronautics and Space Administration's Manned Spacecraft Center. The impact of these resources are now reaching Pearland's planning area.

Functionally and geographically, Pearland is more oriented to Houston, NASA and the Houston Ship Channel than to its own Brazoria County, Freeport and the Brazosport urban. Collectively those counties form the southwest United States most dynamic growth zone.

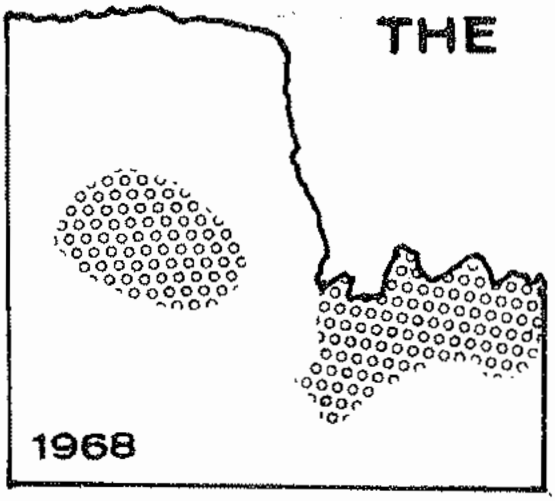
Prophesy

Local citizens and public officials can influence the kind of city Pearland becomes. Facing the period of its most formative growth, planning could be the single most important concern of the city.

The tools for guiding future events are:

- Survey of Influences
- Development of Goals and Objectives
- Formulation of Long-Range Plans and a Decision-Making Process

THE CHALLENGE

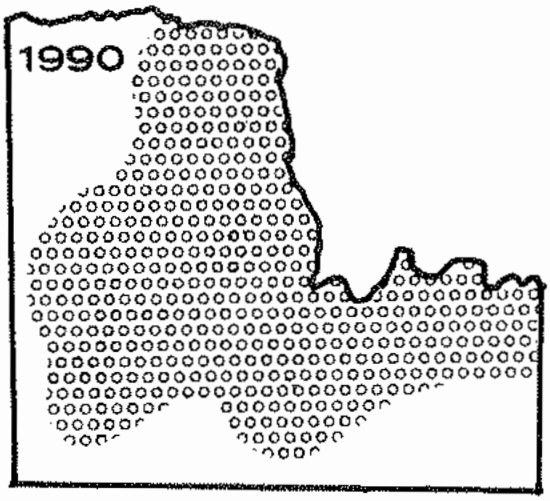


A COMPREHENSIVE DEVELOPMENT PLAN THAT:

- Gives strong direction.
- Corrects existing problems.
- Makes efficient use of available resources.
- Strengthens the city's role in the Gulf Coast regional growth orbit.
- Provides for needed urban amenities and improves the city's image.
- Broadens the city's economic base.
- Programs public services and facilities in keeping with population increases.

SUPPORTED BY:

- A statement of development goals and objectives.
- Inventories of regional characteristics and development influences.
- Beautification programs.
- Community action programs.



Basic relationships exist between formulation and implementation of plans. This relationship must be recognized if planning is to become an effective tool.

The tools for making the best choice and enlightened decisions are:

Survey of Influences

Plans are designs to give order and facilitate selected functions such as moving cars or making play spaces available. As part of the process, the influence of the plan should be identified. These appear in outline form within this report.

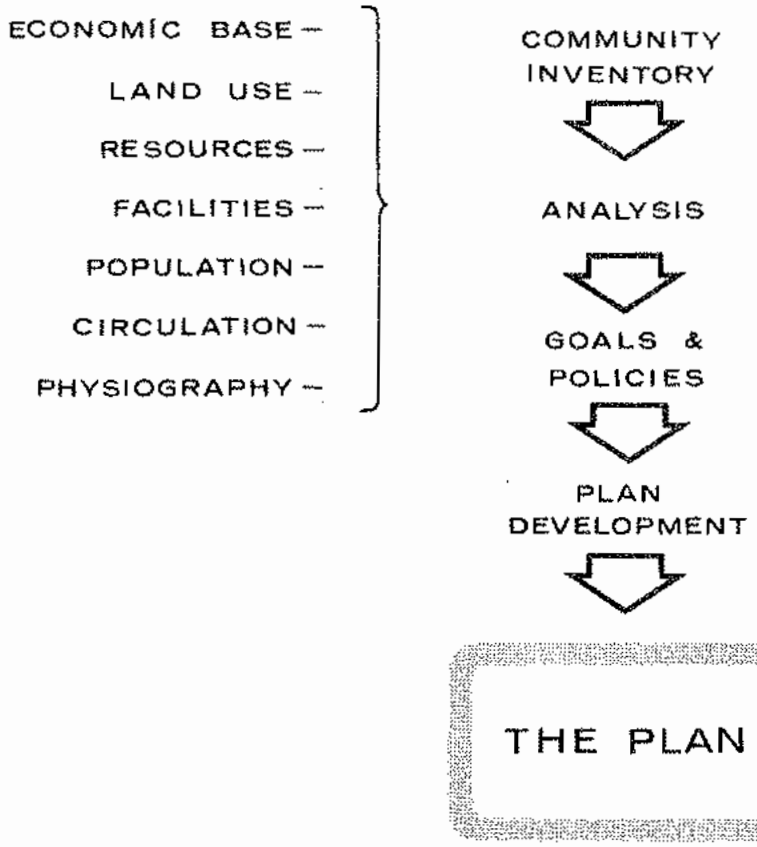
Development of Goals

Plans are designed to give order to the goals and aspirations of men. This is a creative and imaginative process dedicated to finding better solutions. Goals can offer alternatives and should be reasonable and obtainable. Many of the pages that follow are used to encourage the development and testing of goals. Like most parts of the planning process, goals formation should be a continuous effort.

Preparation of Plans

Knowledge of development influences and identification of goals without plans would not bring about community improvements. Plans are an essential ingredient of the planning process.

DEVELOPED BY CONSULTANT
AND CITY STAFF



REVIEWED BY
PLANNING COMMISSION / CITIZENS

THE PROCESS

The diagram above summarizes the process used to co-ordinate the work programs. The first step involves the preparation of a community inventory. Planning begins by gaining a better understanding of the City and its people — their interests and their needs. Provided with given situations and problems, an analysis can be made and goals and policies can be outlined. As the work progresses, preliminary plans are outlined. When the best solutions are formulated, the recommended plan is prepared. Each step in the process is reviewed with local groups.

GEOLOGICAL STRUCTURE

The physical landscape of the Pearland area is characterized by a low, flat plain typical of the Coastal Prairie of Texas. This plain is the most recently emerged portion of the Continental Shelf. During the Pliocene age the coastal plain was well above its present level, but subsidence and erosion have created the coastal lowlands as we know them today. The erosion of the Pliocene formations exposed the Pleistocene formations of Beaumont and Lissie Clays which we know as the surface of the Coastal Plain today.

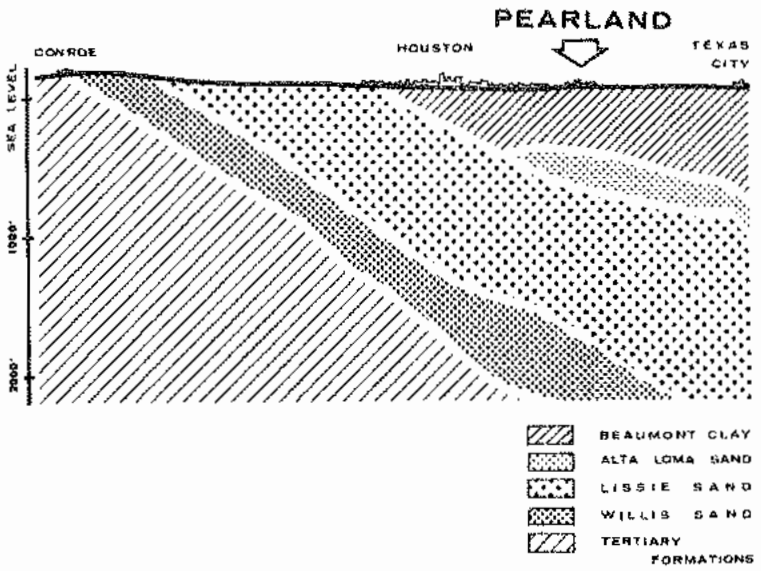
Economic Influences

The most important economic feature of the geological structure of the Pearland area is the porous sedimentary oil and gas bearing rock which underlies the region. The sedimentary rock, in turn, is surrounded by nonporous formations which cause the gas and oil to form pools. Since the entire area around Pearland is sedimentary, it is rich in oil and gas deposits. Of less significance are area deposits of sulphur and salt.

The geology of the Pearland area has produced adverse effects also. The clays which lie on the surface and immediately below the surface are almost impervious to water, thereby creating a serious drainage problem. Any water that falls on the area must be drained off, since only a small portion of it is taken into the soil. Surface drainage is hard to achieve because of the flatness of the land.

Water-Bearing Formations

The water-bearing formations crop out in a belt roughly parallel to the coast. The estimated dip of the older beds is from 50 to 60 feet per mile and of the younger beds, 15 to 20 feet per mile. All the formations thicken downtip so that the older formations dip more steeply than the younger ones. Localized structures, such as faults and salt domes, cause reversals of dip or thickening or thinning of beds. The faults may have several hundred feet of displacement in the older Tertiary formations, but the displacement tends to decrease toward the surface so that faulting generally is not apparent at the surface, and the fresh-water-bearing beds generally are not displaced enough to disrupt hydraulic connections.



GEOLOGICAL PROFILE

Planning Implications

Minerals are one of the most important natural resources of the Gulf Coastal Region and have a pronounced effect on the economy and rate of urbanization. Pearland is located at the geographic and activity center of the region. The scope of these resources is indicated by:

- The crude petroleum reserves of Texas are estimated at roughly 43% of the total United States.
- An estimated 70% of the oil refining of Texas occurs within 100 miles of Pearland.
- Texas accounts for approximately 45 percent of the nation's proven oil reserves. The coastal region accounts for approximately 21% of Texas' reserves.
- Over 90% of the sulphur produced in Texas is produced within 100 miles of Pearland. Texas sulphur production represents approximately 47% of the U. S. total.
- The quality of salt in the region is 98% pure. The quantity is so vast that it is best expressed in quantities of cubic miles.

CLIMATE

The climate of Pearland is influenced by the Gulf of Mexico, a large, warm body of water, and by the citys' location on the southern margin of Texas and the continent. Warm, moist air masses from the Gulf of Mexico and the relatively cooler and drier air masses from the interior United States often meet in the region of Pearland.

Rain

Rains of long duration occur, particularly in the cooler months, when Gulf air rides up and over resident cool air. The area is subject to intense local thunderstorms of short duration, general storms which extend over a period of several days and to torrential rainfall associated with hurricanes and tropical disturbances.

Records show that rains occur evenly through the day in winter, with perhaps more frequent in the afternoon in the summer. The least rain occurs around midnight and there is a pronounced maximum in the late morning and afternoon. The characteristics reflected by the diagram opposite which is based on Houston records from 1885 through 1964 are:

Normal Yearly Total	45.95 inches
Maximum Month	17.64 inches
Maximum Annual	72.86 inches

Humidity

The average relative humidity in Pearland is:

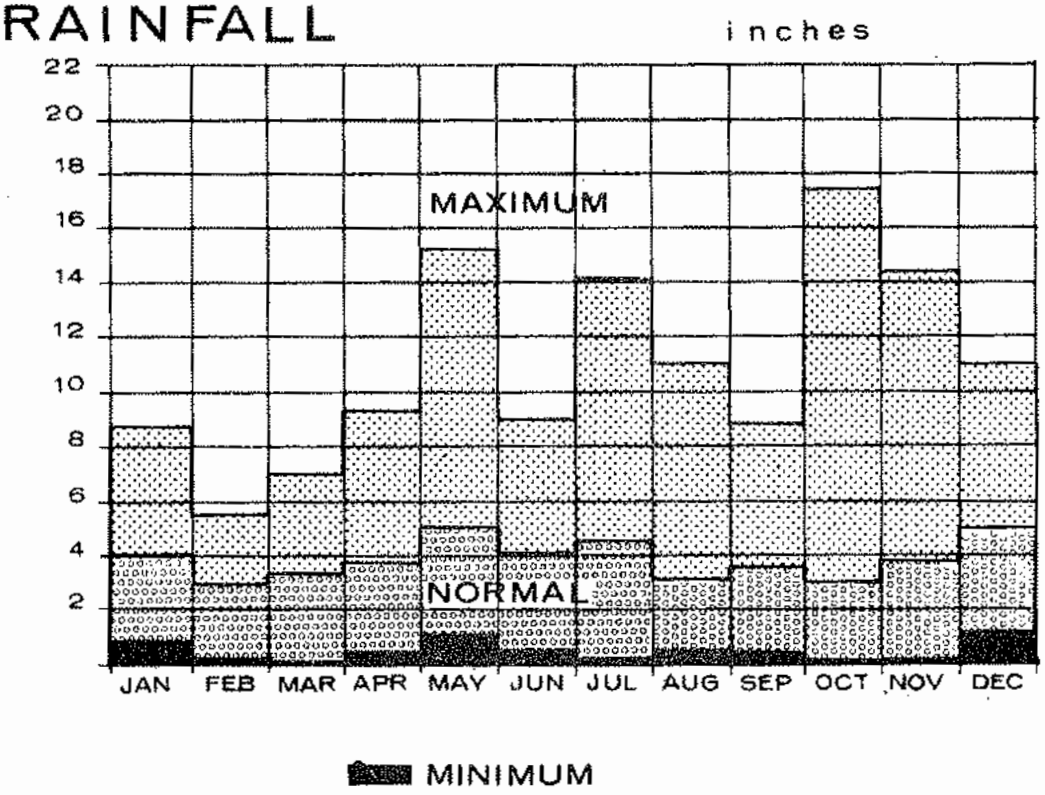
Midnight CST	86%
6:00 a.m. CST	89%
Noon CST	60%
6:00 p.m. CST	68%

Highest monthly average relative humidity is at 6:00 a.m. CST in August. The lowest average occurs during October at Noon CST.

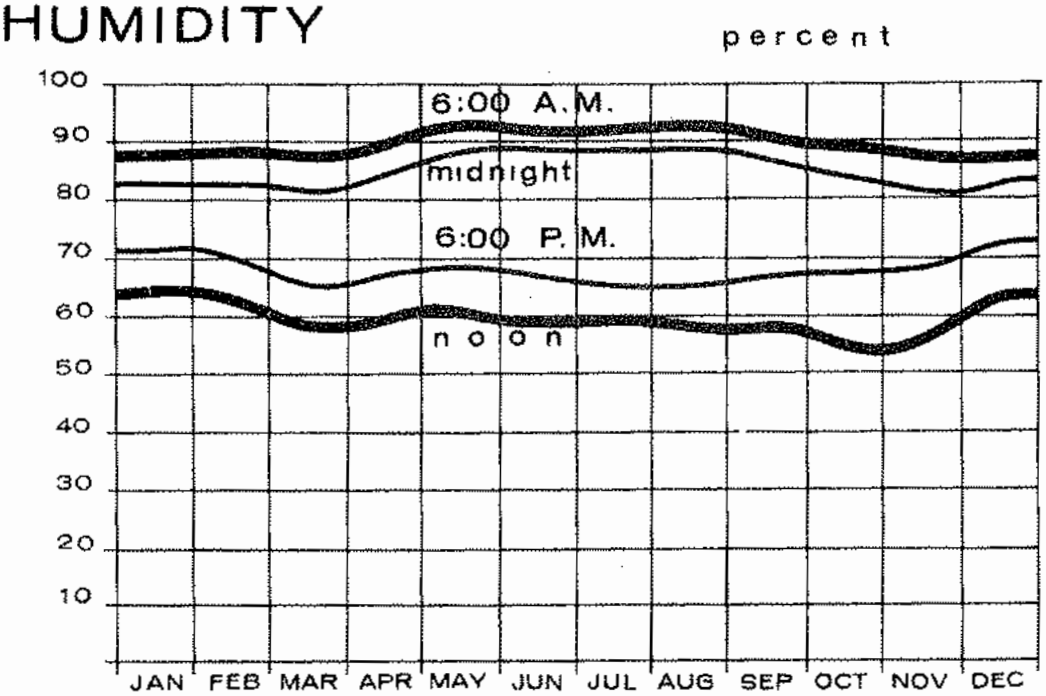
Temperature

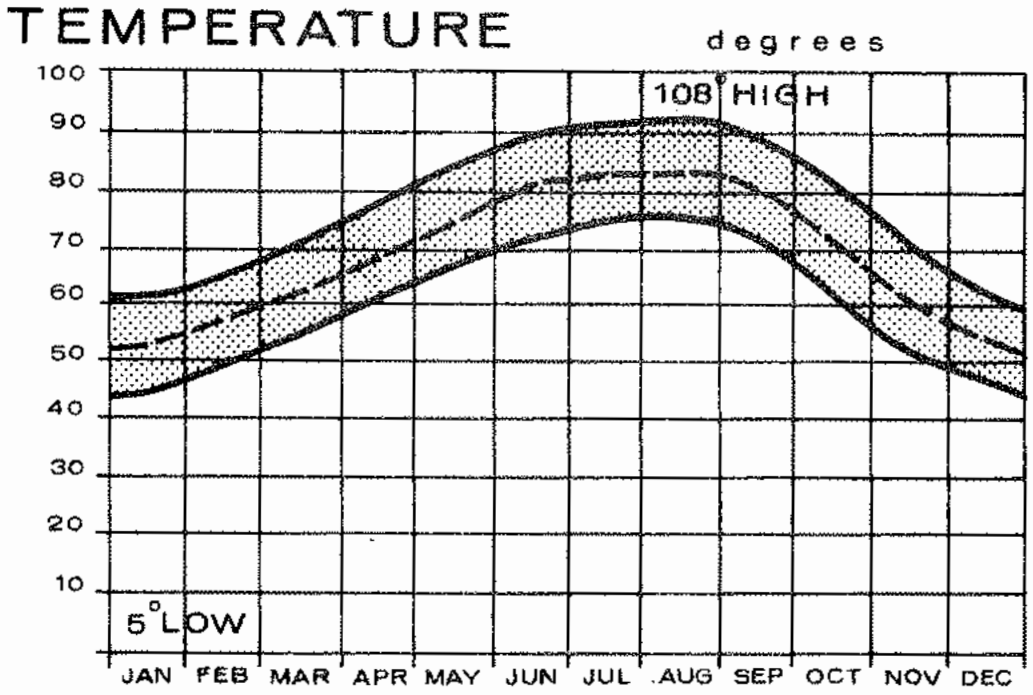
The temperature trends at the U. S. Weather Bureau, Houston Station, about 15 miles north of Pearland, are shown in the diagram opposite.

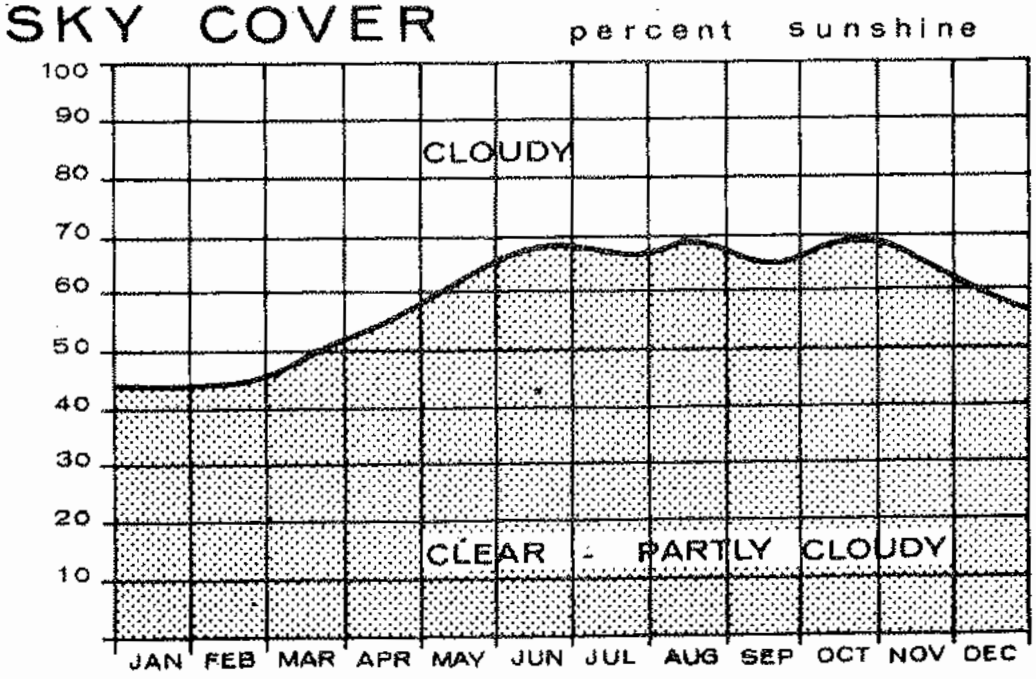
RAINFALL

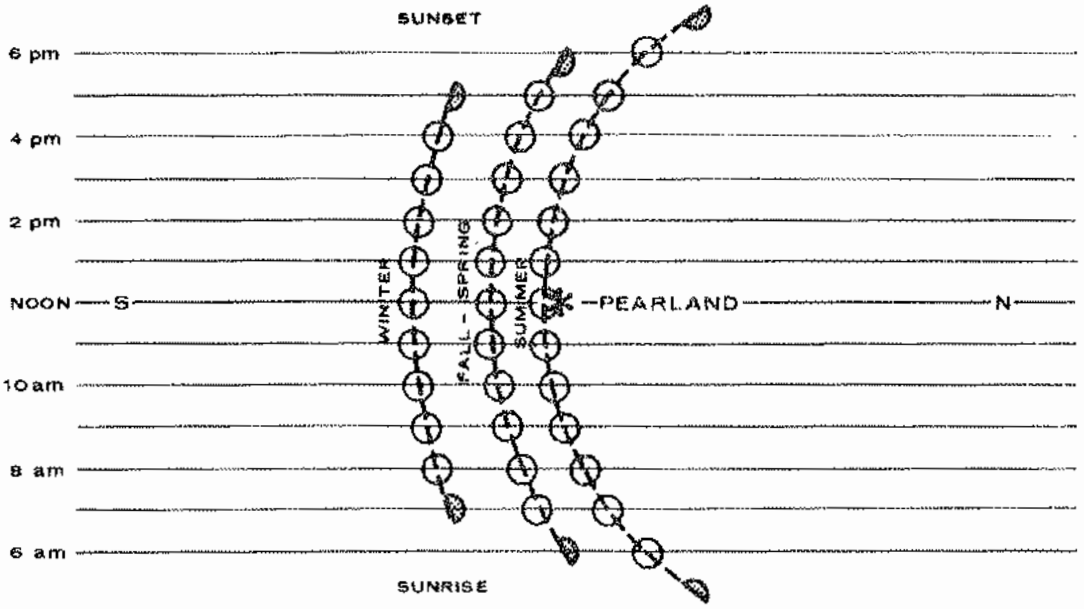


HUMIDITY



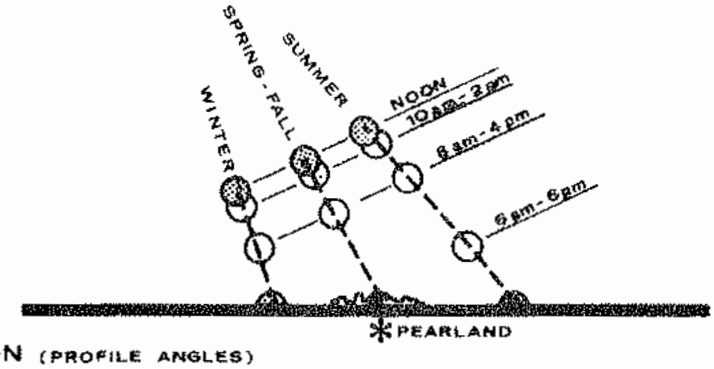

TEMPERATURE
degrees
100
90
80
70
60
50
40
30
20
10
108° HIGH
5° LOW
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC


SKY COVER
percent sunshine
100
90
80
70
60
50
40
30
20
10
CLOUDY
CLEAR - PARTLY CLOUDY
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

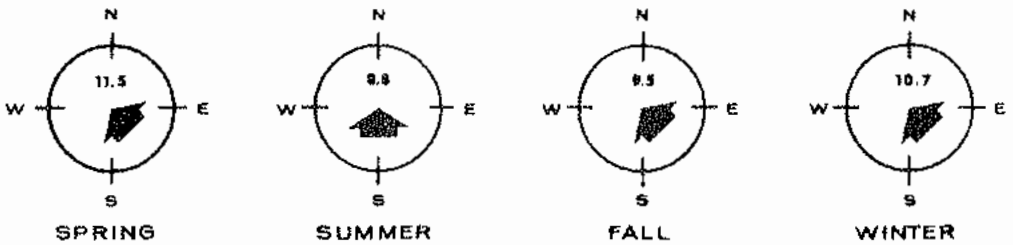


PLAN (AZIMUTH ANGLES)

SUN POSITIONS



SECTION (PROFILE ANGLES)



WIND

The characteristics are:

Average Daily Means:

January	53.8°
August	84.2°
Annual Average	70.0°

Record Maximums

High (August 1909)	108.0°
Low (January 1930)	5.0°

Average Growing Season (February 5 to December 11) 309 days

Sky Cover

Clear-to-partly-cloudy conditions account for from 44% to 69% of the day, depending on the time of year.

Sun Position

The azimuth angles of the sun are south of the city most of the year and high in the sky during the hot part of the day.

Wind

The mean hourly speed and prevailing direction during each season of the year is shown in the diagram on page

Hurricanes

Hurricane force winds of 74 miles per hour or higher affecting the Pearland Area between 1926 and 1964 occurred on:

August 21, 1942
July 27, 1943
August 24, 1947
July 24, 1959
September 17, 1963

Source: Climates of the States; Texas, U. S. Weather Bureau
February 1960.

Rainfall

The agricultural productivity of the area and the water supply are benefited from the abundant rainfall.

The criteria related to the standard project flood will be respectively below the discharge of more intense storms associated with hurricanes. Local planning standards should attempt to keep all residential development above the flood levels of all drainage ways.

Humidity

Humidity, coupled with rainfall and cloudy weather, creates natural conditions conductive to the development of fungus and algae. Urban design measures, can reduce the harmful effects of such weather.

Temperature: Sky Cover, Sun and Wind Characteristics

Air conditioning has reduced the compelling need to gaining maximum advantage of natural climate control. It remains, however, more practical to:

- Orient structure to utilize the prevailing breezes.
- Orient structures to allow light to enter yet minimize solar loads and glare.
- Gain relief from sun exposure by plant material or other forms of man made shade cover.

The physical environment holds the capacity to serve man, partly in its natural state and partly as molded by man for his use. Selected features important to urban development and located on the eight-county region surrounding Pearland have been emphasized on the adjacent map.

River Basins and Water Resources

Pearland is situated in a Coastal Basin consisting of small streams (Clear Creek locally) yet is contiguous with the Brazos and San Jacinto River Basins. The resources of the Colorado and Trinity Basins can also be easily harnessed for domestic and industrial use within the Pearland area. The scope of regional water resources is emphasized in the following table:

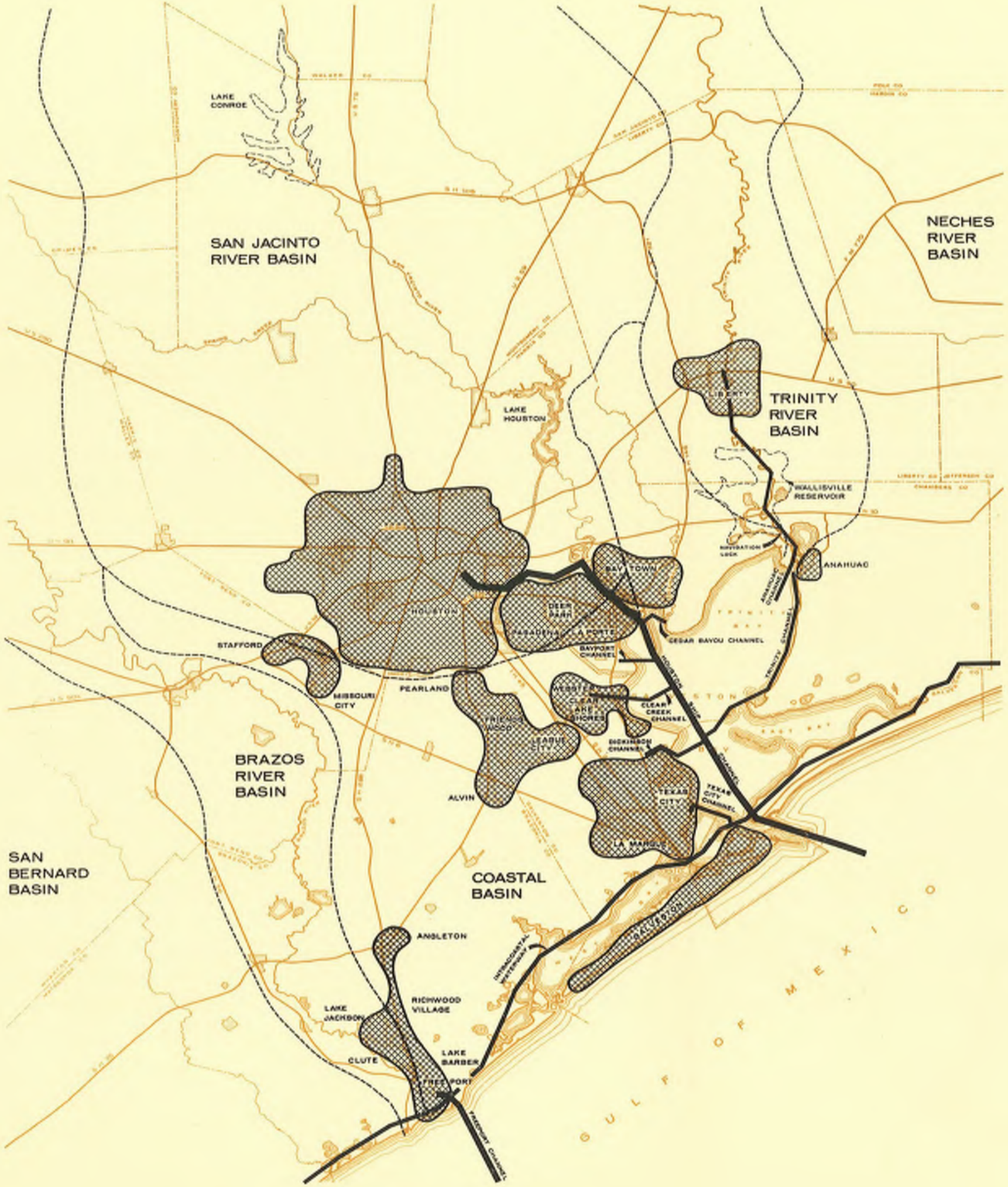
Source	Millions of Gallons Daily 1961	1966	2000
Surface Water:			
Trinity River	193	1007	1200
San Jacinto River	160	232	500
Brazos River	532	792	1400
Colorado River	365	365	535
Coastal Streams	85	95	95
	1335	2491	3730
Ground Water	465	615	620
Total Supply	1800	3492	4350
Demand	1475	1750	3680
Surplus	325	1356	670

Source: Water for Houston, a survey of Water Resources and Potentials. Texas National Bank of Houston, June 1961.

Water from outside the Coastal Basin is transported to the area by systems of canals. Outside the built-up urban compounds the region's water supply is used for the irrigation of rice, cotton and other farm products.

Transportation

The regional transportation improvements which are essential to the economic health and urbanization of the region are:



DEVELOPMENT PLAN FOR PEARLAND, TEXAS

REGIONAL DEVELOPMENT INFLUENCES

LEGEND

- WATERSHED BOUNDARIES
- NAVIGATION CHANNELS
- URBANIZING ZONES

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS
HOUSTON & SAN ANTONIO

NORTH

SCALE IN MILES 0 4 16

1968

WILLIAM C. WALSH · CONSULTING ENGINEER
PEARLAND, TEXAS

PREPARED WITH THE COOPERATION OF THE STATE DEPT OF HEALTH
THE PREPARATION OF THIS MATERIAL WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE URBAN PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

PLAN MAP BASE MAP 1968

Water Facilities:

Routes
Houston Ship Channel
Bayport Ship Channel
Intracoastal Waterway
Lone Star Canal (Chambers County)

Carriers:
118 Steamship Lines
19 Barge Lines

Water routes and carriers give the Gulf Coast region direct access to all the world's deep-water ports, to ports served by the Intracoastal Waterway along the Gulf and Atlantic Coast, and to the extensive inland waterways of the Mississippi and Missouri Rivers.

Air Facilities:

Airports:
Houston International Airport (William P. Hobby)
Houston Intercontinental Airport (opening 1969)

Carriers:
11 airlines, handling national and international passengers and cargo.

Rail Facilities: Railway passenger service is declining, but freight service maintains its importance in the region.

Carriers:
6 Trunkline Railroad Companies

Routes:
15 Rail Lines in all directions, Service to Mexico and Canada

Special Services:
Sea Train
Piggyback

Highway and Motor Freight Facilities:

Carriers:
125 Motor Freight Carriers
8 Bus Lines

An estimated 1,400,000 vehicles to be registered in Harris County by 1990.

Routes:
Regional Freeway System
Local, State and National Network of Major and Minor Roads

Special Freight Systems:
Sea-Land
Piggyback

Political Subdivisions

In 1960, the Standard Metropolitan Statistical Area of which Pearland is a part consisted of Harris and Galveston Counties. Today the SMSA is recognized as a seven-county area consisting of Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty and Montgomery Counties. The SMSA embraces an urban complex housing over 1.5 million people and is made up of several smaller political units which are geographically related.

The map on page 17 provides a reference for establishing regional relationships. The urbanizing political units most affecting Pearland are:

Friendswood-League City-Alvin
Webster-Clear Lake City
Houston

Planning Implications

The impact of regional characteristics on Pearland are:

- Major Impetus to Pearland's Growth: Pearland's growth potential is not found in its own base, but in the region's.

- Competing Centers: The political subdivisions of the region will be competing development centers. They will also provide customers to local business establishments.

- Regional Structure: The success of the region and its urban parts is keyed to efficiency of function between the units. This is accomplished, in part by regional planning.

- Raw Materials: Oil, fresh water and land oriented resources have been important regional development influences. Ocean resources are within the sphere of development influences effecting Pearland.

The area development influences generally cover the same considerations identified on the regional map. The major difference is that a closer examination is made of the natural and man-made features that will have a greater impact on Pearland.

Transportation Facilities

Highways: Pearland is presently served by State Highway 35 and FM Road 518, both major highways. Proposals now under consideration include:

A major north-south freeway through the center of Pearland (Mykawa Road).

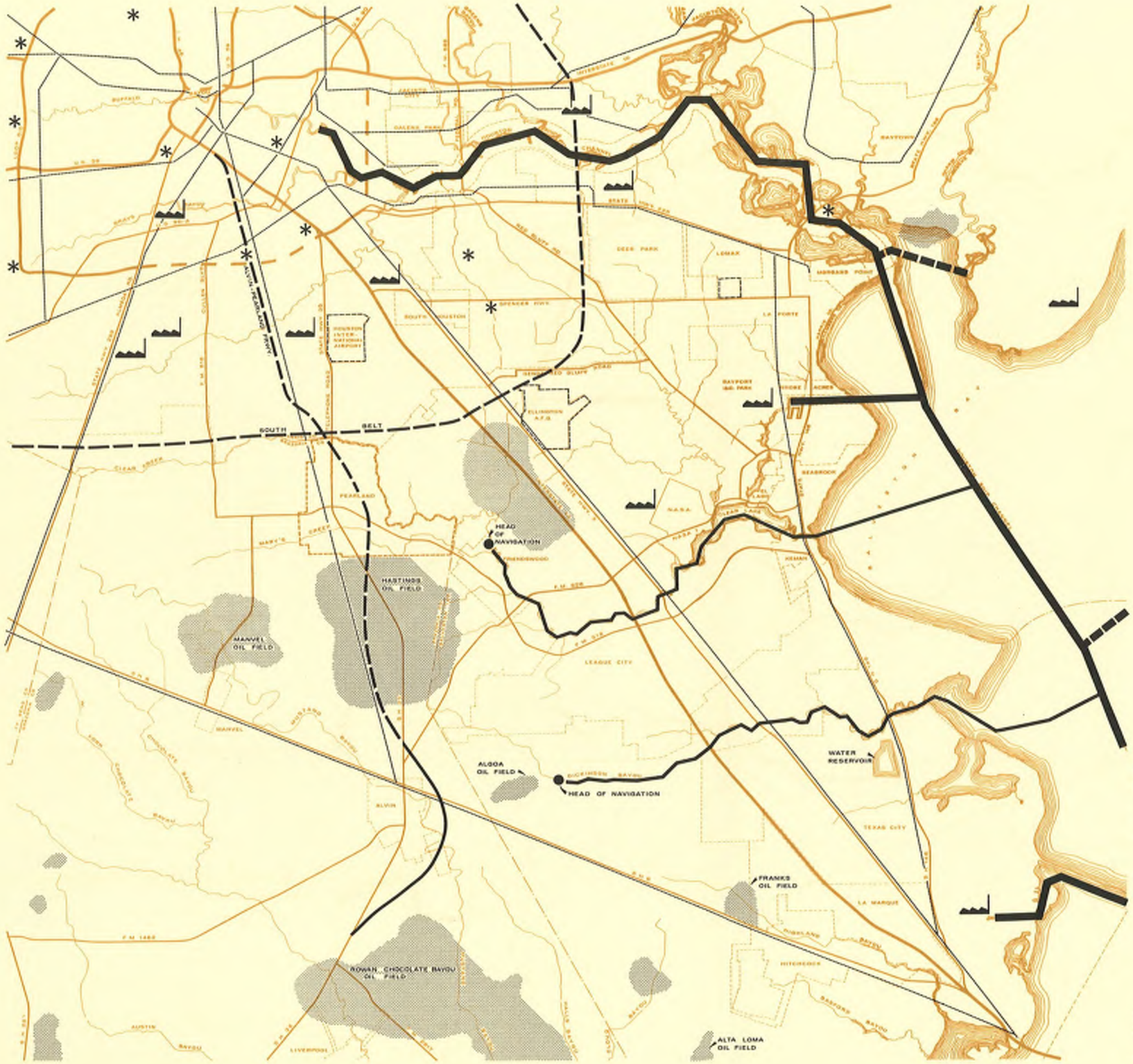
A second east-west freeway (South Belt) contiguous to the north boundary of Pearland.

A major connection via the South Belt with IH 45 (Gulf Freeway) and other interstate and express highways in the region.

Railroads: Pearland's first major link to the region, The Gulf-Colorado and Santa Fe Railroad, remains an important tie with regional and interstate systems. Pearland has a freight depot.

Airports: The William P. Hobby International Airport, the region's major facility is located less than ten miles north of Pearland's central area. In 1969 the Houston Intercontinental Airport, located north of Houston, should become operational and the air carrier services will be relocated there. The Hobby Airport will remain the region's principal general aviation airport. Presently Pearland is also served by the Pearland and Clover Airports.

Navigation: The Houston Ship Channel, with connecting channels to Bayport and Texas City, forms the area's tie with international waterways. Smaller channels which can accommodate barges and pleasure craft connect with several communities located on the west side of Galveston Bay. Limited sized channels suitable for small pleasure craft only extend west from the Bayfront up Clear Creek and Dickinson Bayou. The headwater of navigation in Clear Creek is approximately 1.1 miles east of Pearland's city boundary. There are no near-future plans to improve the water



DEVELOPMENT PLAN FOR PEARLAND, TEXAS

AREA DEVELOPMENT INFLUENCES

LEGEND

- INDUSTRY AND TRADE
- MAJOR INDUSTRIAL COMPLEXES
- OIL FIELDS
- * MAJOR RETAIL AND TRADE CENTERS
- NAVIGATION AND RAIL
- RAILROAD
- INTERNATIONAL CARGO
- BARGES
- RESORT AND PLEASURE CRAFT

MARMON, MOK & GREEN INC.
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NORTH

SCALE IN MILES 1968

WILLIAM C. WALSH - CONSULTING ENGINEER
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PLAN MAP BASE MAP 1968

navigation facilities in Clear Creek beyond their present level. Pearland is closely oriented to the industrial ports of the Houston Ship Channel and Bayport.

Industrial Parks - Trade Centers

The industrial parks and existing trade centers of the area are located on the map - page 1-23. The industrial parks represent tracts of land specifically platted for industrial development. Many industrial plants, not located in planned parks, also exist.

The trade centers located on the map identify the major retail centers as classified by the Census of Business classification. Hundreds of additional trade establishments are located in the area.

Oil Fields

The relationship of oilfields in the area to Pearland may be observed by reference to the map on page 1-23. The Hastings Field immediately south of Pearland is the Railroad Commission's District 3 top producer, yielding:

1967 Production	10,971,955 barrels
Cumulative Total	370,740,689 barrels

The field, although important to the area, has little direct economic influence on Pearland. The field will be a barrier to urban development.

Planning Implications

Pearland has a good orientation with the important transportation systems of the area and should find ways to use the system to its advantage.

The main line of the railroad is not expected to be changed much by time urban development. However, more industrial spurs can be anticipated. Growth of Pearland will also generate greater conflict between train and auto circulation.

Pearland is not expected to have a direct water navigation channel.

Pearland has an advantageous location within the area and should become an increasingly more important trade and industrial center.

ORIGIN AND SETTLEMENT

There is no single chronicle revealing the origin and settlement of Pearland. Bits and pieces of historic information appear in print. Much more exists in the memories of the city's older citizens. The highlights of the past are:

- Identity keyed to the Mark Belt Ranch.
- Construction of the Gulf, Colorado & Sante-Fe Railroad from Houston, south to Alvin.
- Filing of the townsite plat in 1894.
- "The Storm" (Hurricane of 1900).
- Landmark buildings such as the F.H. Livesay Store, the depot, and the city's first hotel.

Reproduced on the opposite page are scenes from Pearland's pioneer days. These photographs were originally made by the families of Mrs. Mildred Collins and Mrs. Ralph Heflin and other unknown persons.

DEVELOPMENT PERIODS

The decade 1960-70 will probably be recognized as the period when Pearland evolved from a static farm community into a dynamic city. The evolutionary development of the city can be related to three periods:

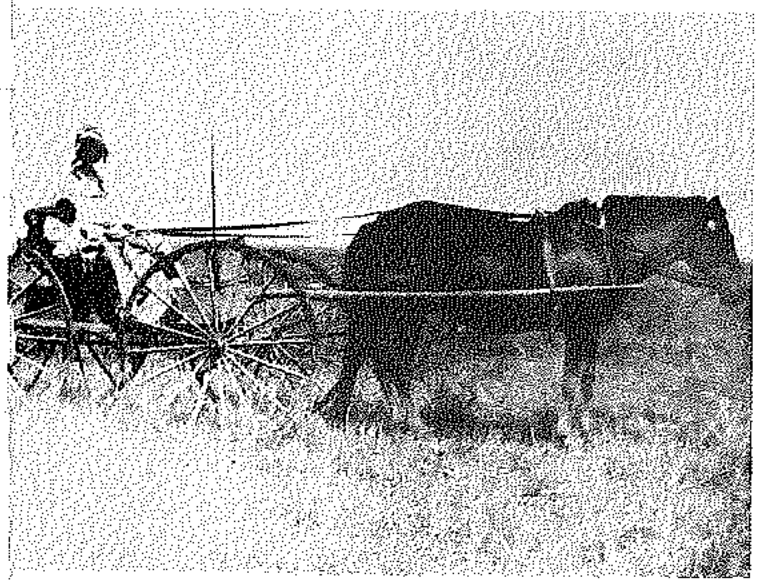
Railroad Construction - prairie shipping point - post 1883

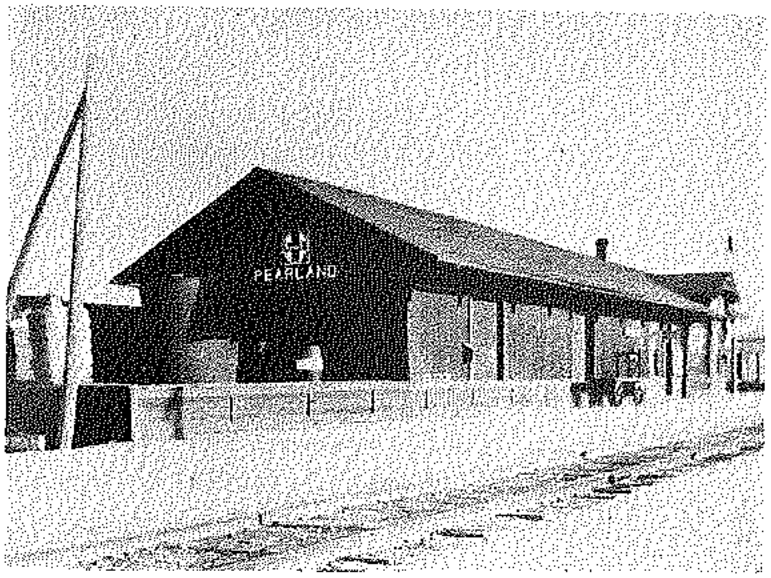
Townsite platting, incorporation and identity as a post office and general store center - 1894 - 1960

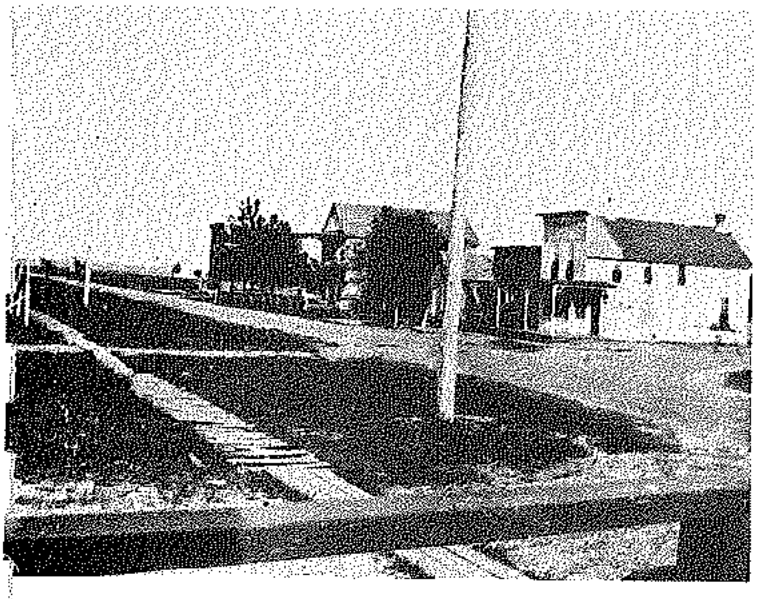
Urbanization:

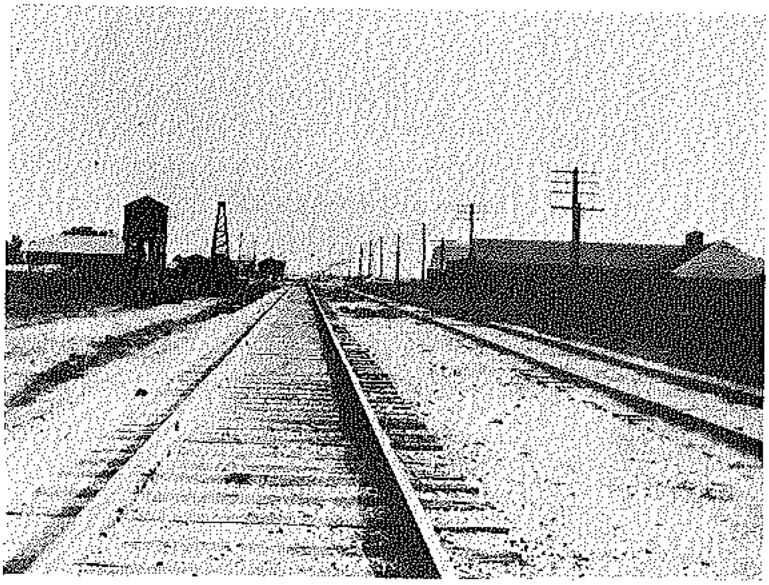
Formative period - 1960-80
Refinement period - 1980 plus

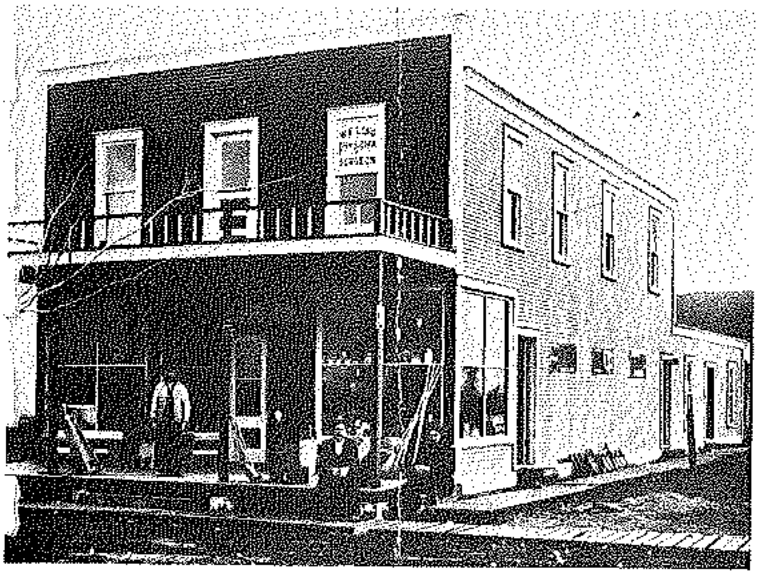
GLIMPSES OF THE PAST

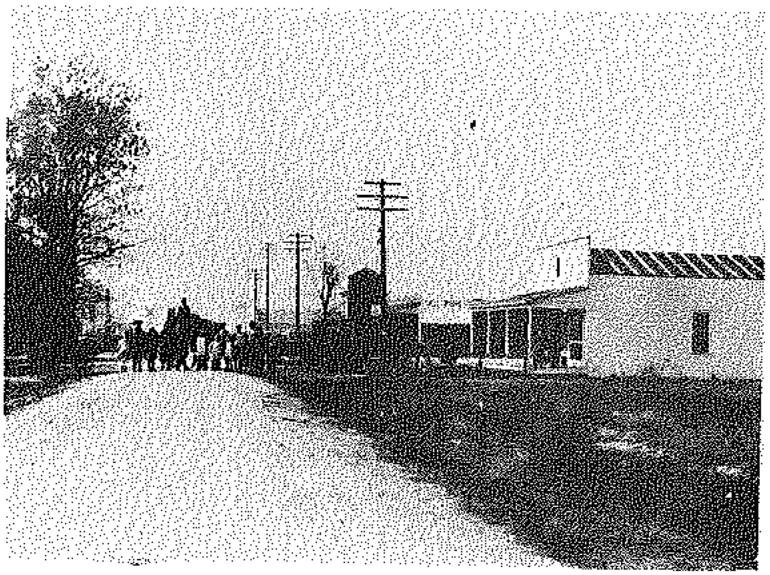












TOPOGRAPHY

The topography of the Pearland Planning Area which appears basically flat has elevations ranging between 36 feet on the extreme east to 60 feet on the west. The relief of the area is most influenced by the south and eastward drainage patterns of Clear Creek and the eastward flow tributaries.

The natural drainage of the Pearland area moves directly into Clear, Hickory, Mary's and Cowart Creeks or one of several other smaller tributaries. Improvements have been made to several of the natural drainage courses for both agricultural and urban purposes. The improvements consist of open swale ditches. The topography of the Planning Area can be analyzed by reference to the map on the opposite page.

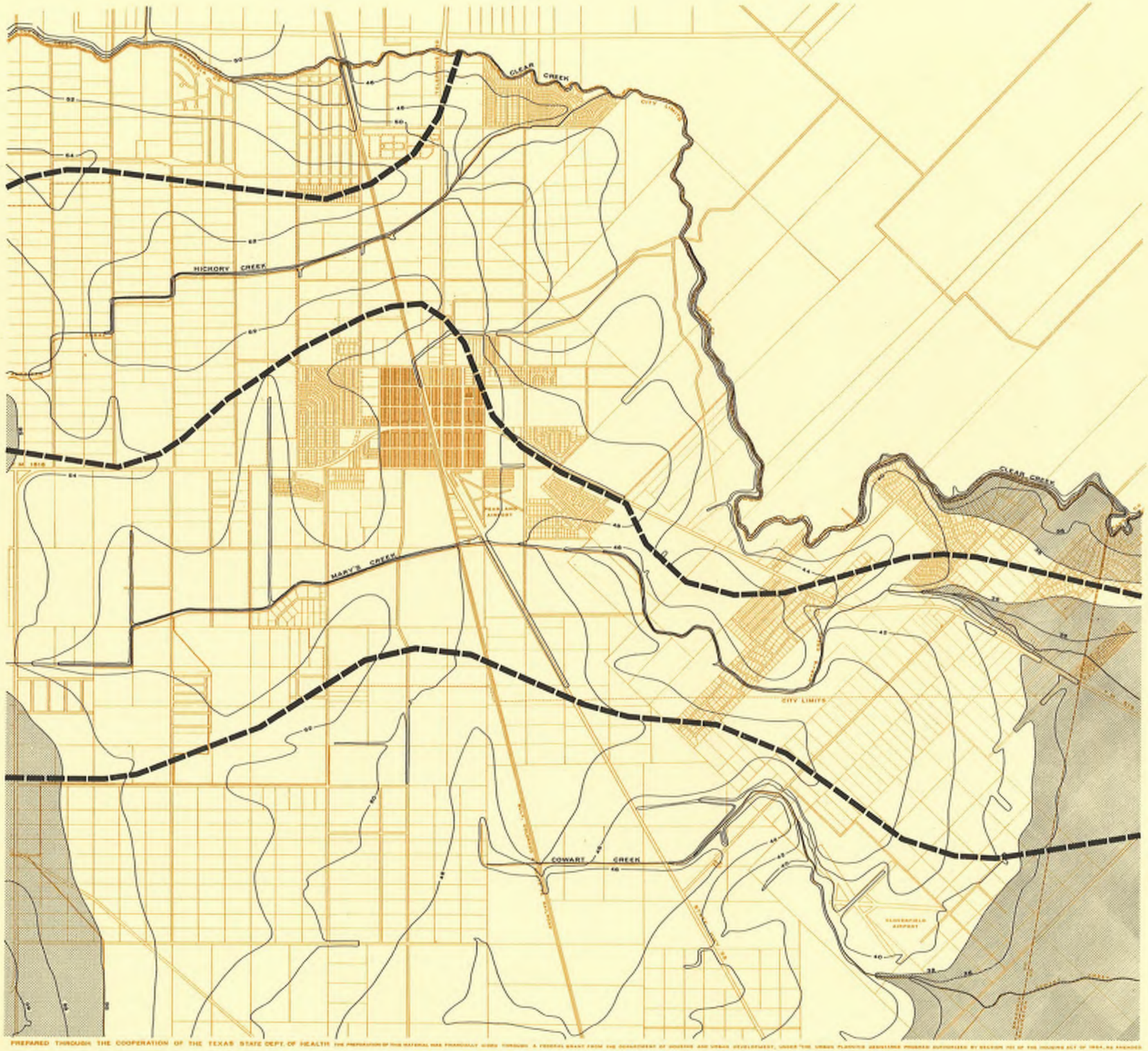
GENERAL FLOOD HISTORY

There have been no major floods reported since more intensive development of the Clear Creek flood plain began following 1962. Until very recently development in the area subject to flooding was sparse and damage from floods was light. Information compiled by the Corps of Engineers, Galveston District from records and local reports indicated above average steam discharges during 1932, 1940, 1942, 1946 and 1959.

Local drainage improvements have been accomplished under the Brazoria County Drainage District No. 4.

Drainage District participation within the Pearland Planning Area is expected to continue as urbanization occurs.

Consideration of storage and detention reservoir for drainage industrial water supply recreational use should not be discarded as impractable.



DEVELOPMENT PLAN FOR PEARLAND, TEXAS

TOPOGRAPHY

LEGEND

- LAND ABOVE 50 FT. CONTOUR
- LAND BELOW 38 FT. CONTOUR
- RIDGE LINE
- CONTOUR

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS
HOUSTON & SAN ANTONIO TEXAS

NORTH

SCALE IN FEET

WILLIAM C. WALSH
CONSULTING ENGINEER
PEARLAND, TEXAS

PREPARED THROUGH THE COOPERATION OF THE TEXAS STATE DEPT. OF HEALTH THE PREPARATION OF THIS MATERIAL WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE URBAN PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED

PLAN MAP

BASE MAP 1956

DRAINAGE

Pearland's proximity to Clear Creek and its dependence on it for drainage of the area has been considered with mixed emotions in the past.

With the proposed enlargement and rectification program of the existing channel, a high degree of protection will be provided to the urban development located in the flood plain of Clear Creek. Damages from floods larger than the design flood will be substantially reduced.

SEWERS

The collection and treatment of sewerage in the planning area has been accomplished by the City of Pearland who has built treatment plants east and south of the city. The easterly flow direction of the tributaries of Clear Creek create the natural gravity flow lines for sewage collection. At a future date, a major interceptor sewer serving the Clear Creek basin could serve several of the points where local tributaries intersect with Clear Creek. In the near future, most of these points will be served by separate plants.

BARRIERS TO DEVELOPMENT

The Pearland planning area is presently agricultural in character. As continued urbanization occurs, the physical appearance of the area will change. Through sound physical planning practices, the City of Pearland will be able to enjoy rapid growth and at the same time maintain a pleasing urban environment. Without planning and controls to implement a comprehensive development plan, the city will very likely become more congested and unsightly. There are natural and man-made barriers which will tend to impede and divide urban developments. These barriers are shown on the map reproduced on page 1-33 and include the the following conditions.

Barriers Which Divide Urban Development

- Drainage Ditches, Bayous and Irrigation Canals are present in Pearland. Many ditches are required to drain the flat relief of the area and some are relatively wide and deep.

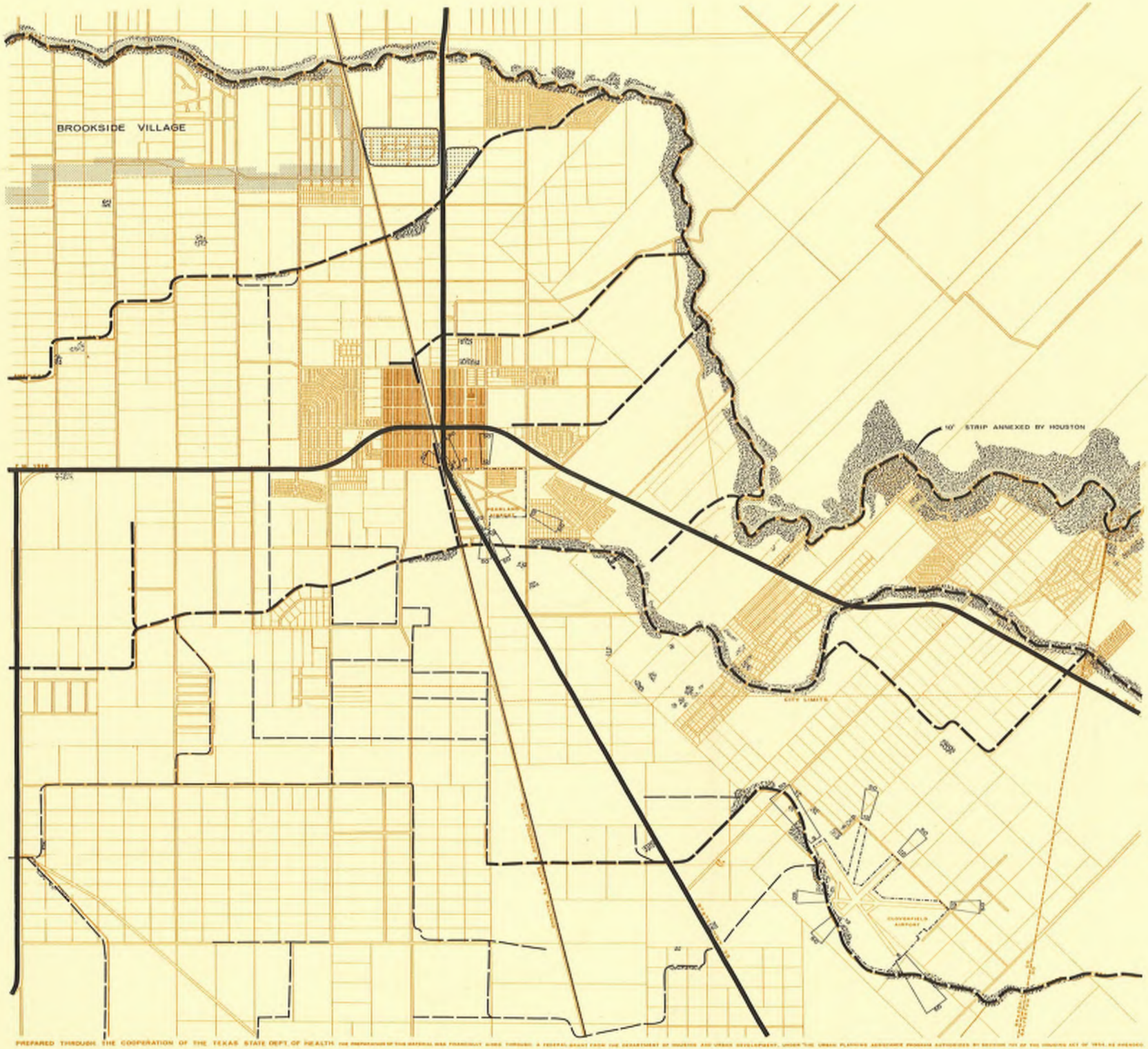
- A Mainline Railroad extends in a southeast direction through the Planning Area. In the future, tracks that branch from the mainline can be expected.

- Major Streets and a Proposed Expressway further divide the functional relationships of the city. The highways of major impart on urban developments are F.M. 518, 1518 and State Highway 35. The Houston-Alvin Freeway will be a major influence to future development.

- Airports are located at the center and in the southeast quadrant of the Planning Area. Aircraft operations tend to blight residential developments because of noise and potential hazard. They can also restrict the height of structures and disrupt the continuity of residential development.

Barriers Which Impede Development

The barriers which impede development are often jurisdictional. In Pearland, these barriers include the boundaries adjacent political subdivisions. Eventually a major local general aviation airport would impede development in its area. Also, a major power transmission lines or underground pipelines would impede development in the immediate vacinity.



DEVELOPMENT PLAN FOR PEARLAND, TEXAS

LOCAL DEVELOPMENT INFLUENCES

LEGEND

- DRAINAGE OR IRRIGATION CANAL
  - MINOR
  - MAJOR
- RAILROAD
- MAJOR VEHICULAR CIRCULATION
- AIRCRAFT APPROACH ZONE
- MAXIMUM BUILDING HEIGHT (FEET)
- CEMETERIES AND LAND UNSUITED FOR DEVELOPMENT
- OTHER POLITICAL SUBDIVISION
- TREE COVER APPROXIMATED FROM AF PHOTOS., DATED 1965

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS
HOUSTON & SAN ANTONIO TEXAS

NORTH

1000 0 1000 2000 3000
SCALE IN FEET

WILLIAM C. WALSH
CONSULTING ENGINEER
PEARLAND, TEXAS

PREPARED THROUGH THE COOPERATION OF THE TEXAS STATE DEPT. OF HEALTH THE PREPARATION OF THIS MATERIAL WAS FINANCED IN PART THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE URBAN PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

PLAN MAP BASE MAP 1958

Voids

In the broad interpretation land in drainage easements, other easements and rights-of-way constitutes a land useage. Land voids represent areas unproductive for general urban purposes. In Pearland, the South Park Cemetery has voided a sizable land area. In the southeast part of Pearland, the Hastings Oil Field has a similar affect. Most of the planning area is however suitable for urban developments.

Strength of Barriers

The strenth of a barrier is in proportion to how difficult and expensive it is to achieve a harmonious relation between it and urban development.

The often adverse influence of barriers can be greatly reduced by good site planning and adequate maintenance management controls.

JURISDICTIONAL INFLUENCES

The size and extent of Pearland's present and future incorporated area will be governed in part by the political boundaries of her immediate neighbors. Presently, most of these boundaries are fixed by ordinance. The general influence of such boundaries are shown in part on the map on page 1-33 and are described as following:

- Pearland share a contiguous boundary with Houston on the north and east. This boundary generally follows Clear Creek.

- Pearland and Friendswood share common boundaries along the southeast side of Pearland.

- The jurisdictional boundaries south and west of Pearland are generally recognized at dividing points between Pearland and Alvin, Pearland and Manvel and Pearland and Brookside. Pearland's growth zone is generally established to the south and west of its present corporate boundaries.

There are several water, road and drainage district boundaries that co-exist with Pearland. Such boundaries are important to the administrative functions involved but will not substantially change the eventual jurisdiction of Pearland.

ENVIRONMENTAL INFLUENCES

The environment of man encompasses all conditions of his surroundings affecting life and development including human behavior. For generations nature largely determined mans environment. This situation has been changed and today the urban society created by man is generating conditions harmful to his physical well-being. The following section of the Pearland Planning Program comments on conditions of the urban environment in and near the city that should be considered as urban development occurs. The analysis is for the purpose of directing attention to selected environmental problems and the existing resources coping with the problems.

AIR POLLUTION

Characteristics and Impact:

Air pollution occurs when particles are suspended or transported on air particles. The most common pollution agents are smoke, odors and particles of waste omitted by the burning of municipal waste or by industrial processes. These products act as abrasives to the respiratory systems of man and can be offensive and harmful.

Existing Situation:

Air pollution in the parts of Houston and Pasadena areas is a severe problem. Pearland's location has kept the city relatively unaffected by pollution from these areas. The prevailing winds seldom blow from the direction of either Houston or Pasadena.

Air pollution is not however caused only by giant industrial complexes; it is caused by automobiles, fires, and anything else that puts smoke, dust, fumes, mists, odors, or gases into the air. Spraying of rice crops with insecticides may create a pollution problem in Brazoria County. Air pollution would occur when the insecticide was carried by the wind into Pearland instead of falling on the field.

Pearland, on the threshold of industrial development, should be aware of the generators of air pollution and should act now to minimize their effect on the city.

Regulations and Management:

Cities, industry and agriculture all contribute to air pollution. Effective control of the agent of air pollution must embrace all aspects of the problem. The present management tools are:

State Legislation - The Clean Air Act of 1967
State, County and City Health Organizations
City Ordinances

These tools must basically be applied regardless of the source of air pollution. To avoid repetition - the following paragraphs look at the environmental conditions caused by agricultural practices and solid waste disposal. This section is followed by comments on the planning implication resulting of air pollutants.

Insecticides, Herbicides and Fungicides:

Air pollutants and certain environmental problems are generated from agriculture practices and intervals when insecticides, herbicides and fungicides are being applied to control crop damaging agents.

Characteristics and Impact:

The agricultural pollutants are so small that they are not usually seen. It is possible for plant materials other than those being controlled to be damaged and that man sustains irritant agents to his eyes and respiratory system from the use of agricultural sprays.

Existing Situation:

Air pollution from an agricultural source do not present a serious problem in Pearland. The potential danger is sufficiently great that regulation and management practices should be known, understood and enforced by local health and governmental officials.

The urban society is the agent which is changing the environment and creating conditions which are polluting water, water supplies and drainage courses. Some of mans by-products contribute to both air and water pollution, for example - the collection and treatment of sewage.

The principal conditions that should be considered and for which more adequate management standards are needed are set forth in the following paragraphs.

Water Pollution:

Characteristics and Impact: The agents of water pollution are human, animal and industrial waste which discharge into natural drainage ways and streams where they are water transported to where they accumulate into harmful proportions. The concentrations are so great that in parts of Harris and Brazoria Counties that public water supplies are contaminated with bacteria dangerous to humans; marine life is destroyed and industrial waste have resulted in fire and loss of the recreational use and enjoyment of natural streams, lakes and salt water bays.

Existing Situations: The relatively low density of the existing urban development in Pearland has kept many potentially dangerous pollution problems from reaching epidemic proportions. The sources of potential pollution problems are:

Sewage: Pearland's sewage is treated in several plants located on Clear Creek or its territories. Most of the city's build-up subdivisions have sanitary sewers; however, housing in the remainder of the planning area are serviced only by septic tanks. Although much has been accomplished, the local situation requires further improvements.

Industrial Waste: Relative to industrial pollutants that are discharged into the Houston Ship Channel and other area waterways, Clear Creek in the vicinity of Pearland has few problems. Some waste products are presently being discharged into open ditches and storm sewers and these cause some build-up of pollutants. The problems will increase proportionally with the continuing build-up of homes and new business and industrial establishments.

Agricultural Waste: Residue from fertilizers, insecticides, herbicides, fungicides and animal waste are suspended by storm runoff and reach the local water courses to increase the concentrations from other sources. It is the build-up from all sources that contribute to the present concentrations of water pollution in the Pearland area.

Storm Runoff: Pearland's topography is relatively flat which means that drainage ditches cannot have much gradient. When water ponds in these ditches, it creates breeding grounds for mosquitoes. Since the marshes and rice fields already create a mosquito problem, controlling mosquitoes in ditches in and near the city is important. Keeping ditches free of litter and sloped for easy maintenance where right-of-ways allow water to flow fast enough to prevent mosquito breeding.

Planning Implications: The problems of clean air and clean water are concurrently receiving the attention of health and legislative groups. The problems have been growing at an alarming rate out of proportion with the response of government and industry to effectuate needed controls. Hopefully, the present concern is to be responsive to the needs. In Texas, the Water Quality Act of 1967 provides a bases for gaining the essential management tools. Related to Pearland's situation, this has the following implications.

1. The city should participate with the:
   Clear Lake Basin Authority,
   Galveston Bay Study,
   Water Quality Board - multi - County Study
and other governmental agencies who are currently engaged in research and management studies seeking a more effective control to water pollution.

2. The city will be charged with meeting recognized standards for municipal waste treatment.

3. It is also a local responsibility to plan, finance and construct sewers in response to local development and to eliminate the septic tanks and other substandard methods of treating sewage.

4. Local authorities must join with the other levels of government as partners with industry and agriculture to gain comprehensive water quality control and management.

Solid Waste Management:

Solid waste management governs the reduction and disposal of garbage, conbustable and non-conbustable rubbish including the waste products of urban dwellers, the building construction industry and other industry.

Characteristics and Impact: The reduction of waste products is largely accomplished by burning either by incineration or in open dumps. The uncontrolled burning of such waste emits both odors and waste particles. Such particles are the harmful agents. Sites where waste products are deposited and treated provide a ready media harboring rats and other rodents and to generating bacteria.

Existing Situation: The site for waste disposal in the Pearland area is sufficiently far away from the center of population that no serious harmful affects to individuals have resulted. However the waste disposal practices and site operations are inadequate and unless improved and corrected, the situation will become more serious.

Planning Implications:

The objectives of pollution control is to protect the natural environment not chance it. This requires regulating devices to keep the harmful agents from entering the atmosphere. The process is one of management more than planning. For example: if a city dump or industry is located where the prevailing winds are away from populated areas, it may make conditions better for some people, but the basic pollution problem has not been solved.

Air pollution has reached a concentration where serious health hazards exist in parts of Harris and Brazoria Counties. The concentrations are increased annually; however, the situation could be changed and steps that Pearland can take to protect and improve this element of its environment. Possible action includes:

1. Become actively involved with the State and Regional agencies that are accomplishing research and formulating management practices to control air pollution.

2. Endeavor to upgrade the city waste disposal operation practices to acceptable standards. Public understanding of the problem and financial support to provide the required equipment can be an important local contribtion.

3. Adopt a local zoning ordinance setting forth proformance standards for industries.

4. Cooperate with county and state enforcement officials to insure that the initial construction of industrial plants make adequate provisions for meeting clean air standards.

SUMMARY OF FINDINGS

The economy of Houston, Galveston and Freeport urban complex has experienced a dynamic growth during the past twenty years. Today the five County Standard Metropolitan Statistical Area which encompasses these cities leads a 15 state region in all eleven classifications of economic growth indexes.

Reference to the maps shown on pages 1-23 identifies Pearland's central location within the region. Prior to 1960, Pearland functioned primarily as a general store and post-office center oriented to agriculture and some oil field service operations. The city now has the opportunity of building its economic base and emerging as an important segiment of a regional economy.

BASE INFLUENCES

The base for growth and development of Pearland's economy is linked with the economic activities of the region. The regional economy is complex and somewhat fluid and not all segiments of this economy are readily adapted to Pearland's transportation and utility structure.

The analysis which follows examine the recent and expected future trends of the regional economy and the planning implication that business and industry should have on local development.

GROWTH INDICATORS

The vigor of the regional economy results from a combination of factors which include:

* Abundant and inexpensive water supply
* Abundant and inexpensive sources of natural gas
* Abundant oil and other mineral resources
* Optimum transportation including

  · International, coastal and inland waterway's
  · Rail systems
  · Highway and motor freight systems

Expansion to the base economy is fed by agriculture and raw materials, whose products are not "end" products, but rather are processed raw materials to be marketed to other industries for further manufacture. As a result, only 3% of tonnage through the Port of Houston is marketed within the region; 90% is destined for other national markets, and 7% for foreign markets.

Agriculture: The 13-county Coastal Prairie region surrounding Harris and Brazoria Counties contains less than 5% of the state's land but generates 7% of the state's farm income. The region produces 86% of the state's and 30% of the nation's rice production. More than 50% of the Port of Houston's export tonnage is agricultural commodities.

Petroleum, Natural Gas and Mineral Resources: Roughly - 43% of the estimated crude petroleum reserves of the United States are in Texas where an estimated 70% of the oil refining occurs within 100 miles of Pearland. Texas refining is equal to approximately 27% of the output in the Unites States.

Over 90% of the sulphur produced in Texas is also produced within 100 miles of Pearland.

Texas accounts for 45% of the nation's proven reserves of natural gas.

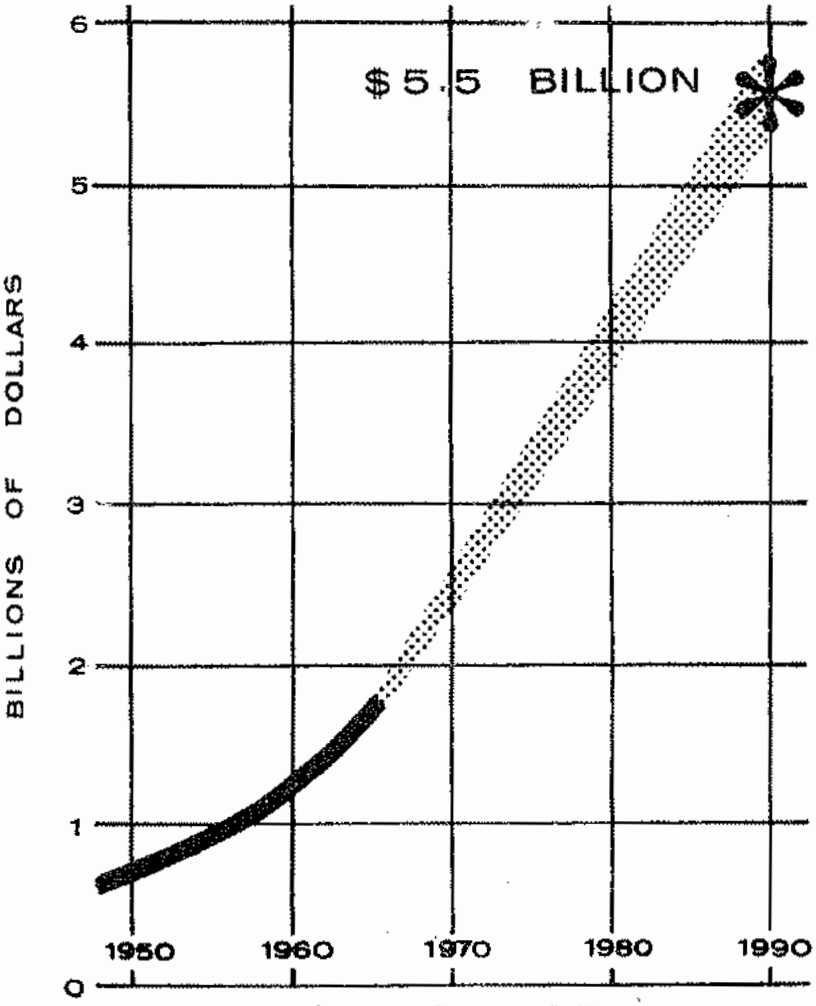
Salt in abundance is mined in Brazoria and adjacent counties.

Manufacturing: The manufacturing economy is growing rapidly and if it continues at the present rate, manufacture by 1990 should add about $5.5 billion to the economy.

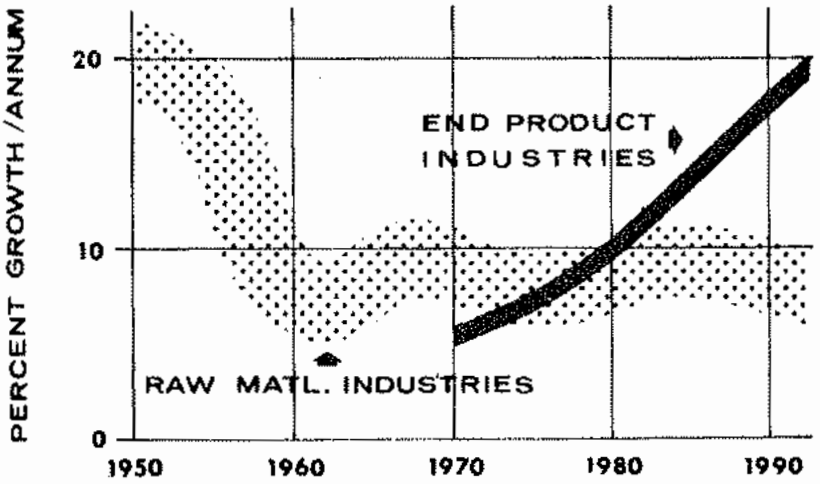
Up to this time, end product manufacturing (manufacturing of consumer items from basic raw materials) has made a negligible contribution to regional economy. By 1970 a significant growth in that field is expected. This type of industry will give diversity and additional strength to an already strong economy.

Regional industries with the fastest growth rate have the following significant characterestics and are less effected by cyclical fluctuations and have a more stable labor force.

* Represent the output and administrative center for the industry.
* Make direct sales of bulk materials to manufacturers of consumers goods.
* Require above-average non-human resources per unit of output.
* Oriented to the source of raw materials supply.



DOLLAR VALUE ADDED BY MANUFACTURING, 1950-1990



ESTIMATED ANNUAL GROWTH IN INDUSTRIES 1950-1990

EMPLOYMENT BY INDUSTRIAL GROUP

The diagram on page 1-47 illustrates the projected distribution of the employed labor force for Harris County in 1970 to 1990. This projection should correspond closely with employment trends in Pearland. It also illustrates the importance and expected changes within the industrial groups.

The following patterns emerge:

1. Work force of 1.3 million by 1990. Average annual increase of 27,000 plus jobs per year.

2. Employment in goods production, excluding agriculture, is expected to expand by 57% and services production, by an estimated 141% between 1960 and 1990.

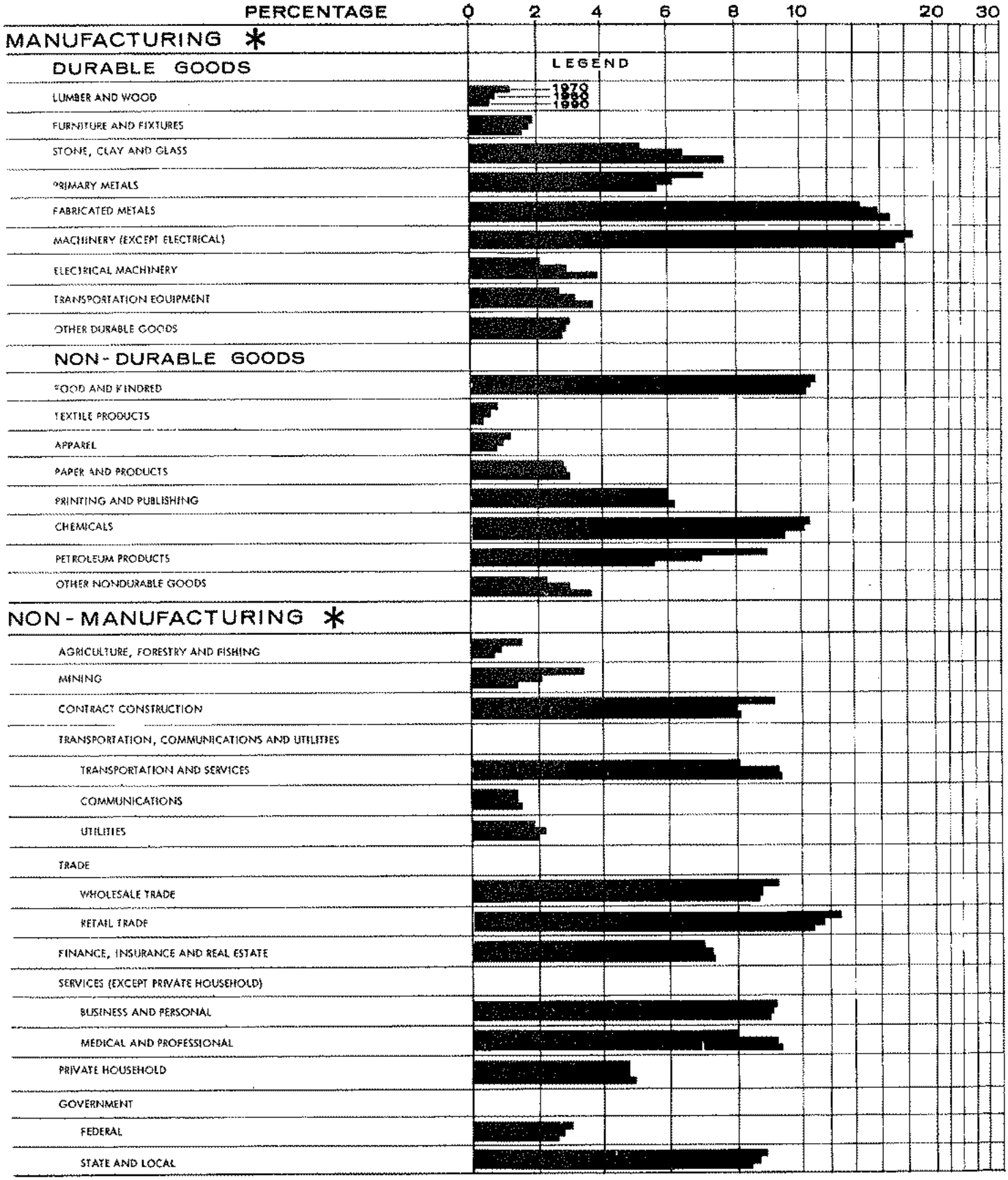
3. Wholesale and retail will remain the largest employer of the work force. Manufacturing will represent a major element of the work force but will decline relatively.

4. Service activities will represent the second largest employment category by 1990 and will have the largest percent increase during this period.

5. Government, transportation, communications and public utilitities, and construction follows manufacturing as employers of the work force.

6. Heavy demands are expected for technical and professional workers. The opportunities for less skillled workers will decline.

DISTRIBUTION OF EMPLOYMENT BY INDUSTRIAL GROUP 1970-90



* TOTAL = 100.0% OF EMPLOYMENT BY GROUP.

ADAPTIBILITY

Two considerations are emerging as very significant to the growth and development of Pearland's economic base structure. These are:

- that a strong regional economy exist, and
- that some of the existing industrial groups are better adapted and offer greater potential as building blocks for Pearland's economy than others.

Goods Producing Industries: The goods producing industries are the economic stimulators which bring money into the city and represents the group that should receive the greatest attention in Pearland. This group include the products of agriculture, mining and manufacturing. The local and regional agriculture and mining activities are expected to remain relatively static; however, major increases can be anticipated in manufacturing groups.

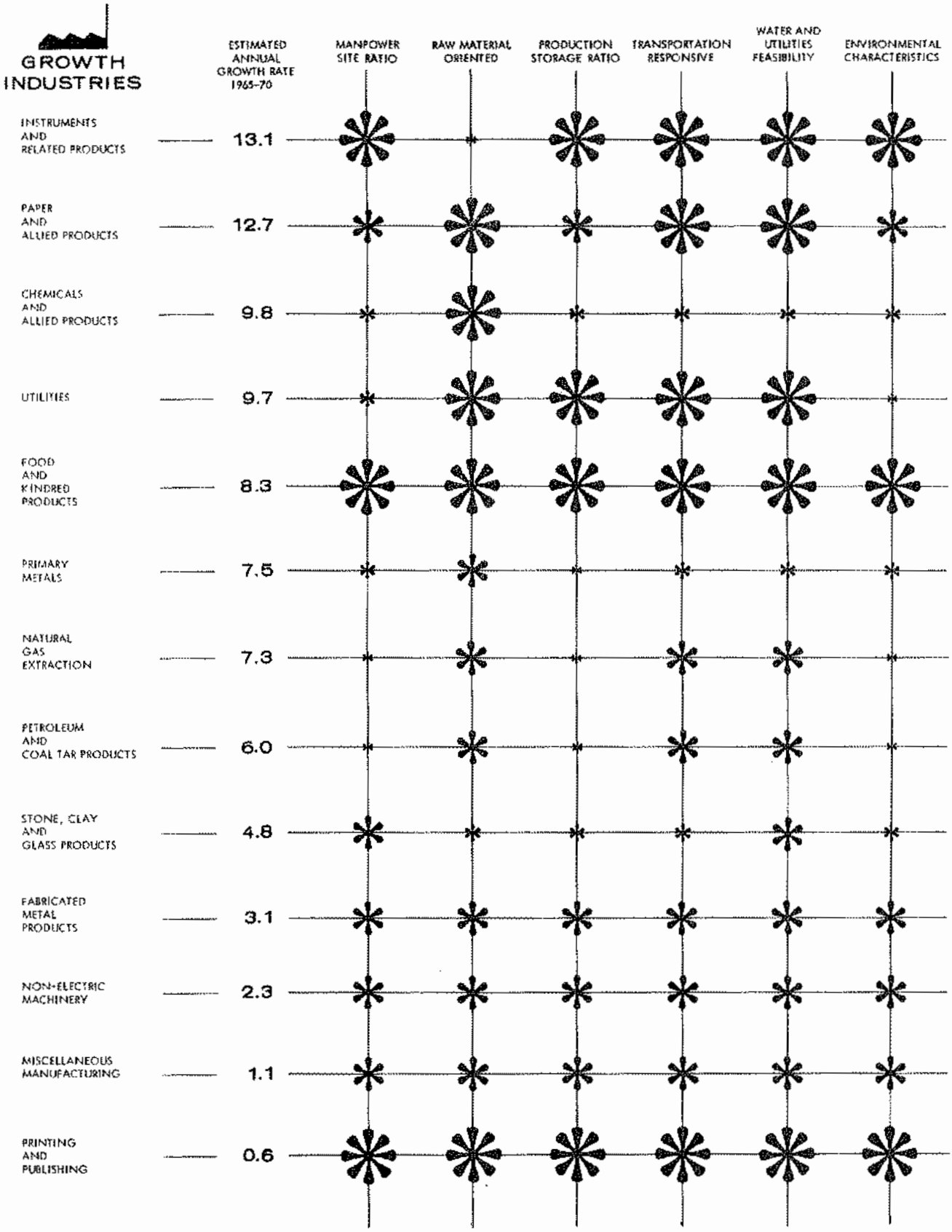
The diagram on page 1-49 identifies the thirteen fastest growing industries in the region based on employment trends as projected by the Economic Department of the Texas National Bank of Commerce. The diagram also identifies six points related to the adaptibility of these groups to the local situation.

Further research regarding local site potentials and a change in the growth rate of selected industrial groups could modify the adaptibility ratings shown. However industrial groups which presently offer the best prospects for Pearland are those engaged in:

- Instruments and Related Products or Activities
- Food and Kindred Products
- Printing and Publishing
- Paper and Allied Products
- Stove, Clay and Glass Products

Service Industries: The service industries will also be important to the city's future economy responding both to the growth in the goods producing industries and influx of people. This group is flexible with respect to site location keyed to supporting population and major street development.

ADAPTIBILITY OF INDUSTRIAL GROUPS



PLANNING IMPLICATIONS

The economic base analysis is supported by a Background and Research data found on pages E-1 to E-37.

The major planning implications concluded from the overall analysis are:

- Pearland is in a most favorable position to attract industries which will provide jobs for people and strengthen the city's tax base.

- The city must act quickly to protect potential industrial sites if it is to capture a maximum of benefits for its economic base.

- An industrial foundation is needed to help assimilate land for industrial development and to promote the city economic potential.

- Attention must be given to developing an industrial water supply and to providing the other transportation and utility support facilities for industry.

- Planning should support the orderly development of industrial sites and the environmental relationships between industrial and non-industrial land uses.

- The city will experience an increasing demand for retail outlet and service establishments.

- Creative and imaginative planning can broaden the city's service base activity. The city should strive to capture a greater portion of the sales made to its people and to people outside the city which find Pearland a convenient and attractive place to shop.

- Education and medical services should be considered as adjuncts to the city's service economy.

- Essential qualities for attracting and promoting the service industries are good vehicular circulation, adequate parking, good functional planning and an attractive and pleasant appearance.

The City of Pearland, which is centrally located to the Urbanizing Center of Harris and Brazoria Counties did not feel the impact of this growth until the past 1960 period. The citys' recent population increases are expected to continue and at an accelerated rate. The population growth forecast change in trend are set forth in table P-1.

TABLE P-1
POPULATION GROWTH TRENDS 1850 - 1990

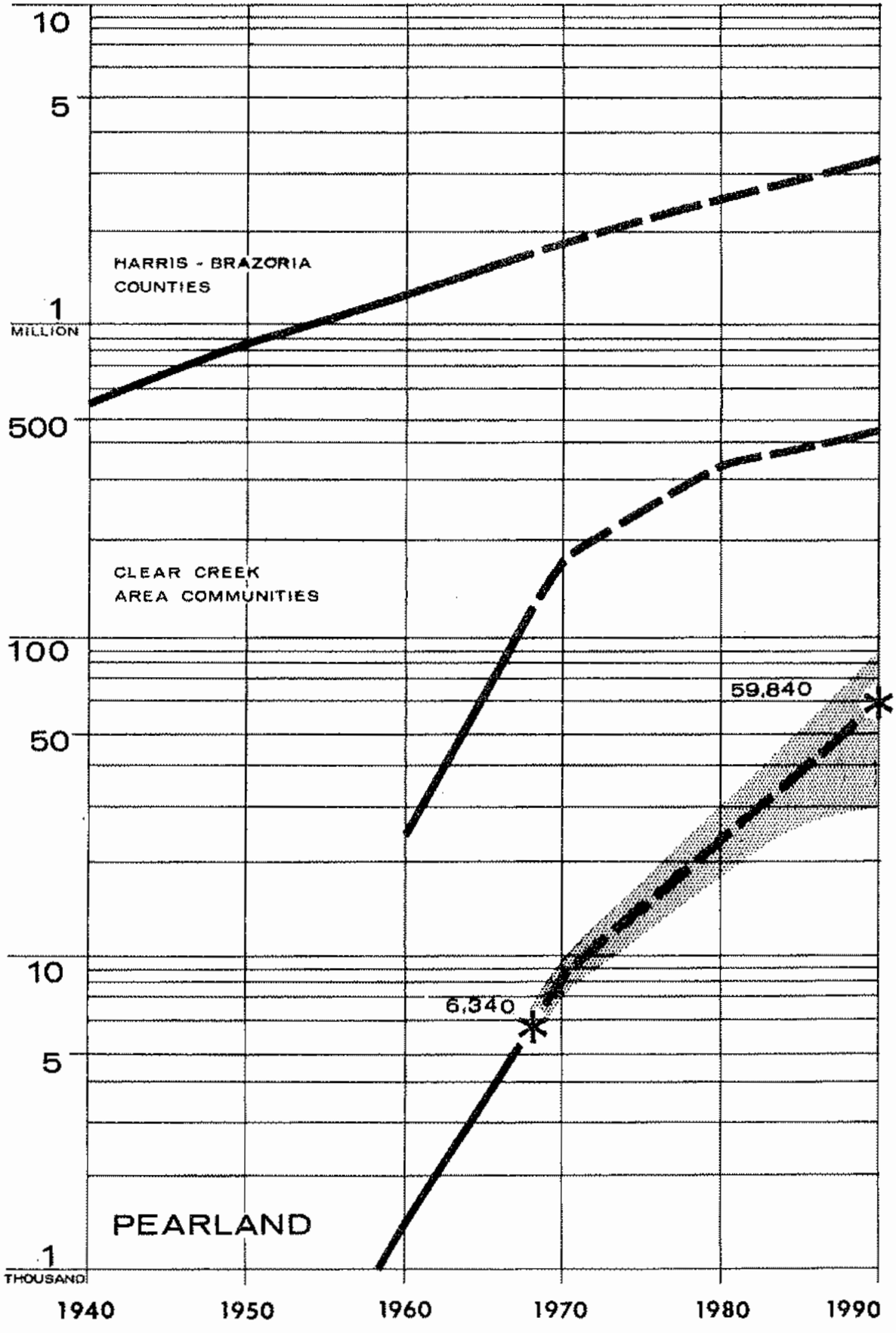
Year	Pearland and Environs	Brazoria County	Harris County	Texas	U.S. (1000's)
1850			4,668	212,592	23,192
1860			9,070	604,215	31,443
1870			17,375	818,579	39,818
1880			27,985	1,591,749	50,156
1890			37,249	2,235,527	62,948
1900			63,786	3,048,710	75,995
1910			115,693	3,896,542	91,972
1920		20,614	186,667	4,663,228	105,711
1930		23,054	359,328	5,824,715	122,755
1940	30	27,069	528,961	6,414,824	131,669
1950	300	46,549	806,701	7,711,194	150,694
1960	1,497	76,204	1,243,158	9,579,679	178,464
1970	8,403	118,000	1,753,529*	11,483,000**	208,996**
1980	23,825	155,000	2,382,749*	13,668,000**	245,313**
1990	59,837	180,000	3,153,813*	16,198,000**	288,219**

*Estimate: City of Houston, Planning Department, 1966
**Estimate: U. S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-25, Nos. 301 and 286, February 25, 1965 and July 1964.

The growth in population is expected to add approximately 7000 more people to Pearland between 1960 - 1970 and 16,000 for the period 1970 - 1980. As this occurs the city's population will represent a large ratio of local population to Harris County population.

POPULATION GROWTH

AND RELATIONSHIPS: 1940 - 1990



INFLUENCES

The influences that support Pearland's small population increases previously and the circumstances that indicate accelerated future growth rates are:

Past

Inability to compete with Houston, Galveston and other outlets in the region as a trade and industrial center.

Comparatively minor transportation and street improvements in relation with the key points in the region.

Orientation to an agriculture economy.

Future

Availability of land for urban development.

New and functional ties with major regional highways and other transportation facilities.

Much expanded local business and industrial economy.

Improved orientation with growth zones such as Bayport and the Manned Spacecraft Center.

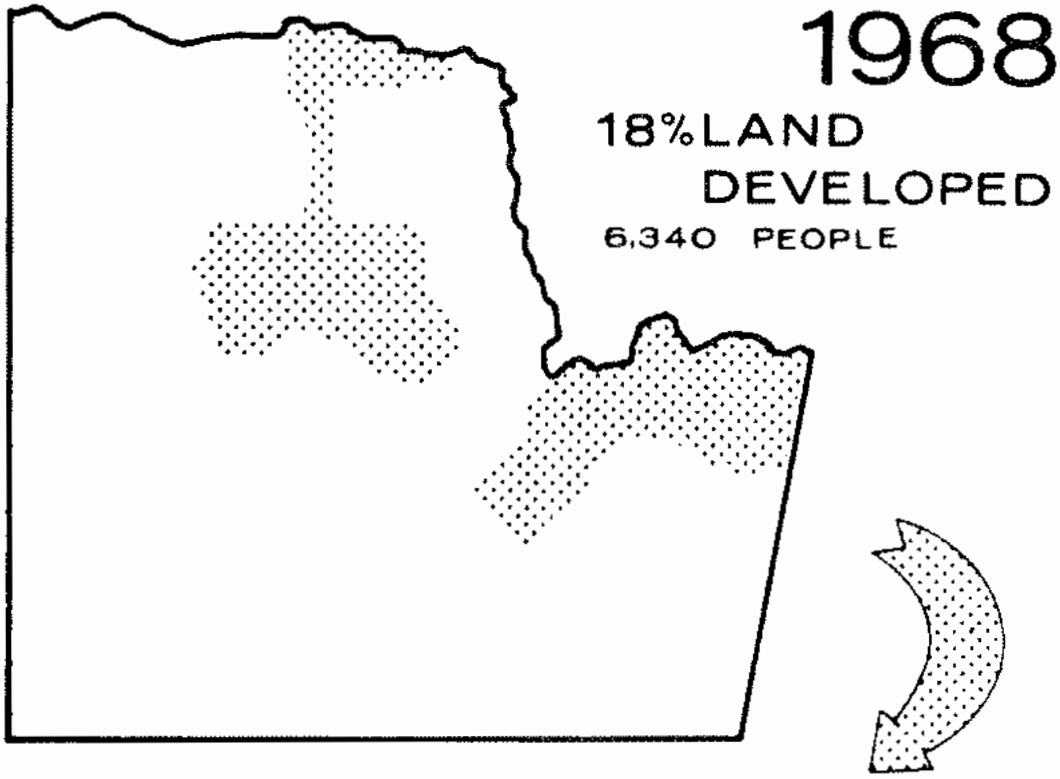
Land Development and Population

The sketch on page 1-54 is used to illustrate the relationship between land development and Pearland's population. The principal findings are:

Presently approximately 18 percent of the city's area is urban.

By 1990 - approximately 41 percent of the Planning Area will be in some stage of urban development. The city should have obtained approximately 35.5 percent of the population that will eventually occupy the planning area.

The planning area of over 18,000 acres of land is expected to ultimately accommodate between 160,000 to 170,000 people.


1968
18% LAND
DEVELOPED
6,340 PEOPLE
1990
41% LAND
DEVELOPED
59,837 PEOPLE

CHARACTERISTICS

An analysis of the past trends and forecasted population indicate a gradual change in all characteristics of the population. The characteristics indicate the following trends:

Age

Projections shown in Table P-2 indicate a decrease in the ratio of school age to the total population due to an anticipated smaller family size and longer life span that are anticipated.

The retired (65 years +) age group will continue to increase in relation to the total population.

In 1940, the median age in Harris County was 28.9 years and in 1965 was 26.7 years. In 1990, the median age is estimated to be 27.9 years. The median age in Pearland should be the same as in Harris County.

TABLE P-2 - TRENDS IN COMPOSITION OF AGE GROUPS

Age Group	1960 Pearland-Alvin Census Division Number	%	Pearland 1960 Number	%	Pearland 1990 Number	%
0-4 Pre-School	1,818	12.48	192	12.84	6,336	10.59
5-19 School	5,385	31.47	446	29.81	16,089	26.89
20-39 Young Work Force	3,840	30.37	460	30.70	18,489	30.90
40-64 Mature Work Force	2,639	20.12	333	22.28	14,498	24.23
65+ Retired	910	5.65	65	4.37	4,428	7.39
	14,592	100.00	1,497	100.00	59,840	100.00

Race

The 1960 Census of population indicate that Negros and other races make up 3.64% of the population in the Pearland Area. As the industrial effort of the area increases, this nonwhite population will increase toward the Harris County average which was 19.8% in 1960.

Sex

Census data indicate that females outnumber the males by a small margin in 1960. It is anticipated that this trend will continue. Widowed and divorced females over 14 years old outnumbered male widowed and divorced.

Marital Status

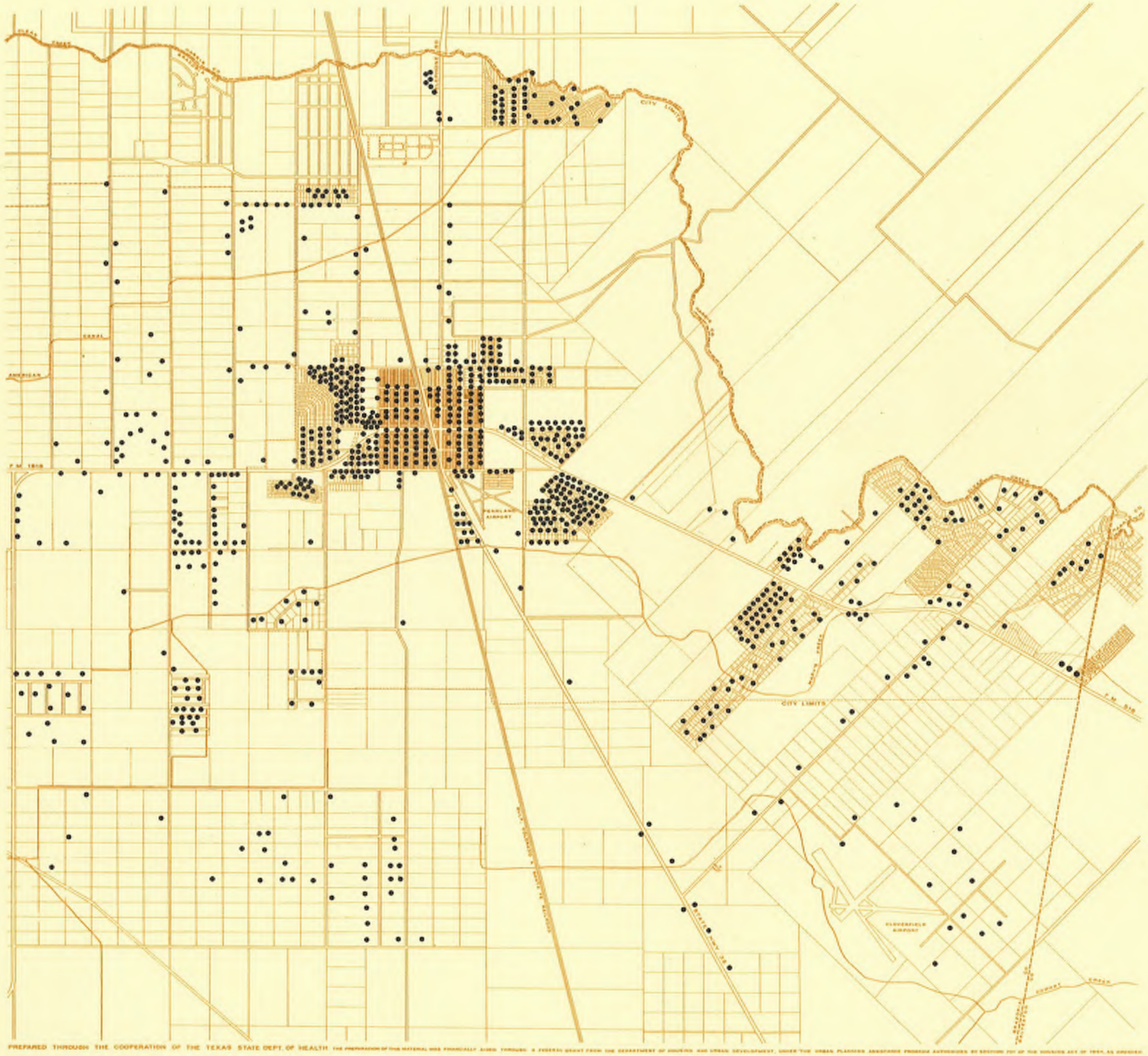
Pearland has a higher percentage of married persons than the average of Brazoria and Harris Counties. As more apartments and townhouses attract single, widowed and divorced persons to Pearland, this proportion will decrease.

Households

In 1960 there was an average of 3.56 persons per household in Brazoria County and 3.35 persons per household in Harris County. The two census tracts in Harris County, immediately north of Pearland reported 3.55 and 3.74 persons per household size will move closer to the Harris County average.

Estimated Number of Households, 1968: 1,941
1990: 16,808

Households consists of all classes of separate living quarters.



DEVELOPMENT PLAN FOR PEARLAND, TEXAS

POPULATION DISTRIBUTION

1968

LEGEND

1 DOT = 2 DWELLING UNITS

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PLANNING CONSULTANTS
HOUSTON & SAN ANTONIO TEXAS

NORTH

1000 0 1000 2000 3000
SCALE IN FEET

WILLIAM C. WALSH
CONSULTING ENGINEER
PEARLAND, TEXAS

PREPARED THROUGH THE COOPERATION OF THE TEXAS STATE DEPT. OF HEALTH THE PREPARATION OF THIS MATERIAL WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE URBAN PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

PLAN MAP

BASE MAP 1968

DISTRIBUTION

Population distribution is determined by locating on a city map the occupied household units. The Population Distribution map tells where people are living at a given date. The inventory can be used to study residential development patterns and to identify areas of the city available for future developments.

Population Distribution 1968

The map printed on page 1-57 shows the distribution of the city's population - July 1968. Each dot on the map represents two household units. The characteristics reflected by the map are:

The largest concentration of existing population live within the original township plat. This is at the cross-roads of the present major streets system.

Several platted additions of the city have experienced considerable recent development. The major developing additions are the Willowcrest, Sherwood, Clear Creek Estates, Creek View and Sleepy Hollow subdivisions.

Homes are widely spread throughout the remainder of the city and in the area to the south and west of the existing city boundaries.

Growth Trends and Planning Implications

The population distribution patterns of Pearland will change each year as new homes are constructed. Distribution patterns in a growing city are so fluid that they have only immediate application to the planning process. Because of the fluid nature each years distribution pattern the population analysis gives greater emphasis to the delineation of neighborhood units and the density of household units within the neighborhoods. It is more important to know how many household units will be provided in a given area than how many exist at a given date.

EXISTING POPULATION DENSITY

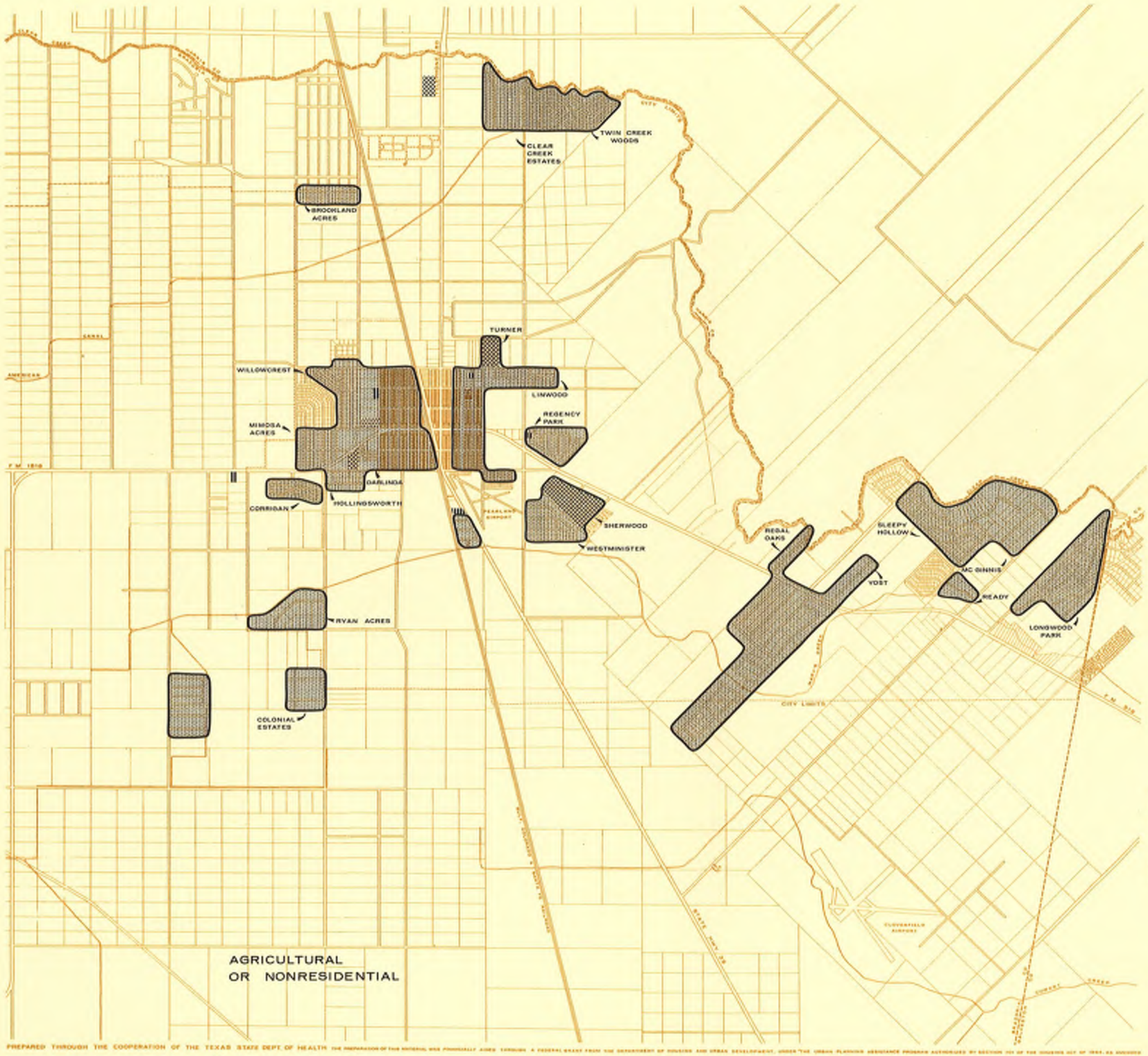
The population density analysis presents a much-used source of information that tell how many people must eventually be served in a given area of the city. This information can be applied to the planning for streets, utilities, schools and all other public services and facilities.

Population Density 1968

The existing population densities in Pearland reflect the single family, median sized lot character of the city. Most existing lots contain 7,000 sq. ft. or more area per dwelling unit. Much of the city and the adjacent unincorporated area is not platted and has a very low density of homes and people.

Neighborhood Density: The maps and plans of the Pearland Report refelect a density of population determined by relating the number of people in a given area (neighborhood) with land that is used for living purposes and the amenities needed by these people. The land area includes streets adjacent to homes, parks, schools, church sites and shopping areas directly related to the people within the neighborhood.

The map on page 1-61 reports the density of people resulting from existing development. If most of the available homesites in the subdivision are built up, future densities will not increase much above the present level. Where much vacant land exist and part of such vacant land is suitable for apartment development, a much increased densities can be anticipated. Most of the developed areas of Pearland have a present population density of under 2.4 household units per acre. This fact represents an existing condition and is not representative of the anticipated future neighbor density of the city.



DEVELOPMENT PLAN FOR PEARLAND, TEXAS

POPULATION DENSITY

1968

LEGEND

- BOUNDARY OF PLATTED OR DEVELOPING AREAS

UNITS PER ACRE

- 0 - 2.4
- 2.5 - 3.9
- 4.0 - 5.9
- 6.0 AND OVER

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1000 0 1000 2000 3000

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PLAN MAP

BASE MAP 1968

POPULATION DENSITY PLAN

The population density plan for Pearland is reproduced on the map which appears on page 1-65. This map is very significant for several reasons, namely:

It is the first plan map that is specifically related to defining Pearland's future patterns.

It provides a preliminary analysis of how land in the Planning Area will be used. Proposed industrial and non-residential oriented business areas have been excluded from the density plan.

It suggests the partitioning of the city into neighborhood units.

It evaluates local residential characteristics and outlines the ranges of household units per acre that can be expected to result from future development.

Households Per Acre

The schedule on page 1-66 is a key illustrating the range of densities represented by the patterns on the map.

Proposals

Many vacant sites in existing subdivisions should be improved for residential purposes in the near future. New developments will be added in all parts of the Planning Area until the land sources are depleted. In both situations the result will increase the people and population density. The general range of densities created by future developments and shown on the plan map are:

Single Family	12 to 15 persons per acre
Townhouse	30 to 40 persons per acre
Multi-Family	35 to 50 persons per acre

Some developments will exceed or fall below this range.

Relationship of Lot Areas and Population Density

1. Single-Family Dwellings

Net Lot Area/Unit	Percentage of Total Area	Percent Community Street & Facilities	Units Per Acre	People Per Acre
9,600	73	27	3.4	12.0
7,200	71	29	4.3	15.0

11. Townhouses

Two-Story

2,500	64	36	11.2	34.0

111. Multi-Family Dwellings

Two-Story

1,460	52	48	15.5	40.0

Three-Story

980	45	55	19.9	52.0

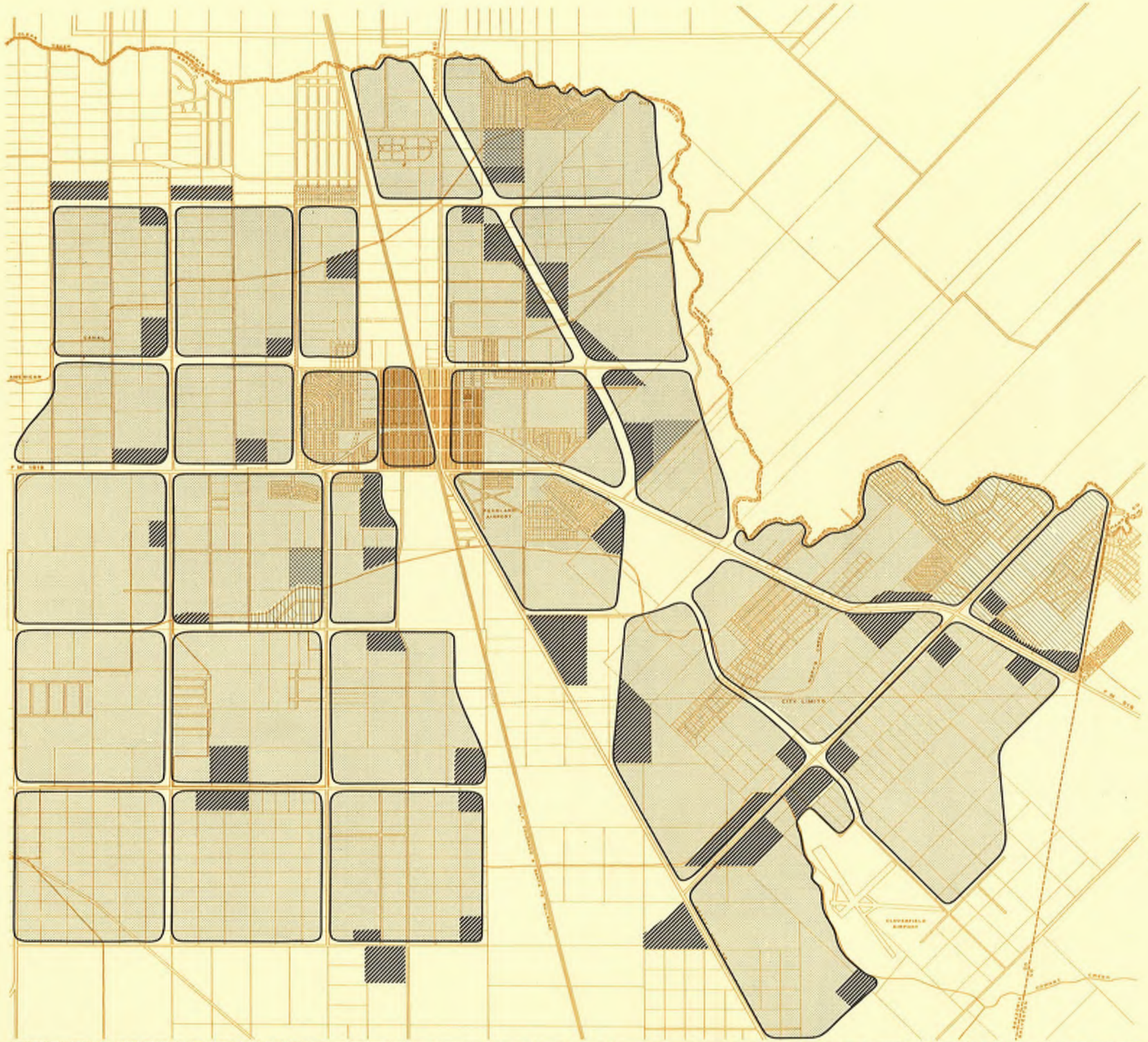
Planning Implications

The stated, objective of the density plan is to identifying how many people must be accommodated by the city's plan. Density should also be considered in relation with:

Preparation of a Land Use and Urban Development Ordinance.

Preparation of amended provisions to the Subdivision Ordinance.

The design of neighborhoods and housing projects. It is essential to retain some openspaces as a more compatible developed city emerges.



DEVELOPMENT PLAN FOR PEARLAND, TEXAS

POPULATION DENSITY PLAN

LEGEND

- NEIGHBORHOOD BOUNDARY

UNITS PER ACRE

- 0 - 2.9
- 3.0 - 6.4
- 6.5 - 11.4
- 11.5 - 20.0

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HOUSTON & SAN ANTONIO TEXAS

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SCALE IN FEET

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PLAN MAP

BASE MAP 1958

GOALS AND STANDARDS

ALTERNATIVES

What kind of city Pearland will be in 1980-1990 and dates beyond will be reflected in decisions made today.

The following section of the Pearland Plan report endeavors to identify the city's good qualities and its weaknesses. It is intended to provide the people of Pearland concepts that will show how the city's resources can be directed towards more productive uses. It is also intended to stimulate thought regarding new goals for improving the quality of urban life and development. These goals should be desired and reasonable for Pearland.

Housekeeping Or U.S. New Goals:

The sketch on the opposite page identifies the characteristics of housekeeping in contrast with new goals as a basic attitude towards Pearland's future. Under the alternative of housekeeping, the city would continue to maintain its streets and other services at their present level and not attempt to improve the quality of its environment.

The alternative to housekeeping is the identification of new goals and the incorporation of these goals into the planning process.

Citizens Role:

Each citizen of Pearland should be aware of how much the development of the city affects his home, working and everyday activities. He should also be aware of why these goals and objectives are important to orderly and efficient development of the city.

THE ALTERNATIVES

HOUSEKEEPING

- STREET MAINTENANCE
- HOUSING UNIFORMITY
- WEAK IMAGE & IDENTITY
- PARTIAL URBAN CULTURE

OR

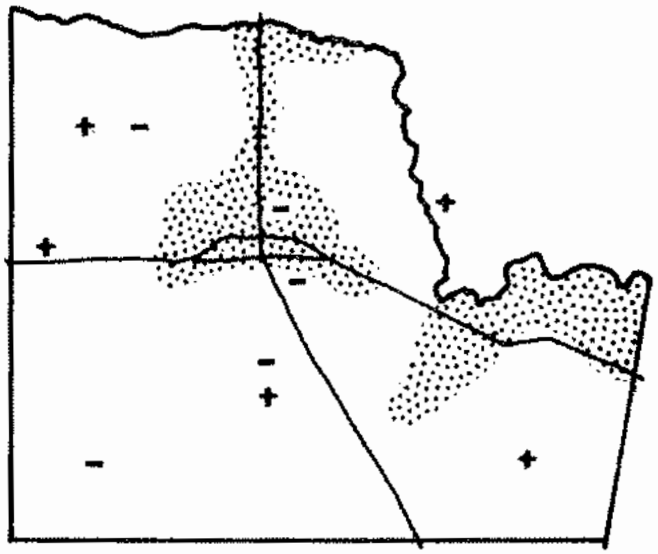
NEW GOALS

- STREETS AS CONNECTING UNITS & DESIGN ELEMENTS
- HOUSING VARIETY
- PEARLAND: A PREFERRED LOCATION
- A TOTAL ENVIRONMENT
- URBAN BEAUTIFICATION

COMMUNITY INVENTORY

ASSETS +

* LAND FOR DEVELOPMENT
* REGIONAL TRANSPORTATION
* OIL AND GAS RESOURCES
* REGIONAL INDUSTRIAL ZONE
* RECREATIONAL POTENTIAL



PROBLEMS −

* LAND USE CONFLICTS
* PARKS AND OPENSPACE NEEDS
* CULTURAL AND COMMUNITY FACILITIES REQUIREMENTS
* STREET SURFACING AND RIGHT OF WAY CONTROLS
* NEED OF MORE EMPLOYMENT PRODUCING INDUSTRY

COMMUNITY INVENTORY

Pearland's geographic position is causing it to be drawn closer to a rapidly expanding industrial and urban complex. Pearland must prepare itself to change from an agriculturally oriented community to become an integral part of a larger urban complex - the Houston metropolitan area. Pearland has in the past been dependent on Brazoria County but now Houston and surrounding areas are a greater influence on local development. Much of Pearland's future growth will result from regionally oriented installations. Some of the plus and minus qualities that exist as building blocks or problems are outlined below.

Desirable Qualities:

Pearland's assets show a great potential for growth and development. These assets include:

- An excellent location in a rapidly expanding area.
- A good basic system of streets and roads.
- Improving access to major highways and freeways.
- Relationship with Clear Lake and Galveston Bay.
- Access to railroad facilities.
- A good potential for industrial development.
- Adequate land for development.
- Oil and gas resources
- Good schools, churches and many new homes.

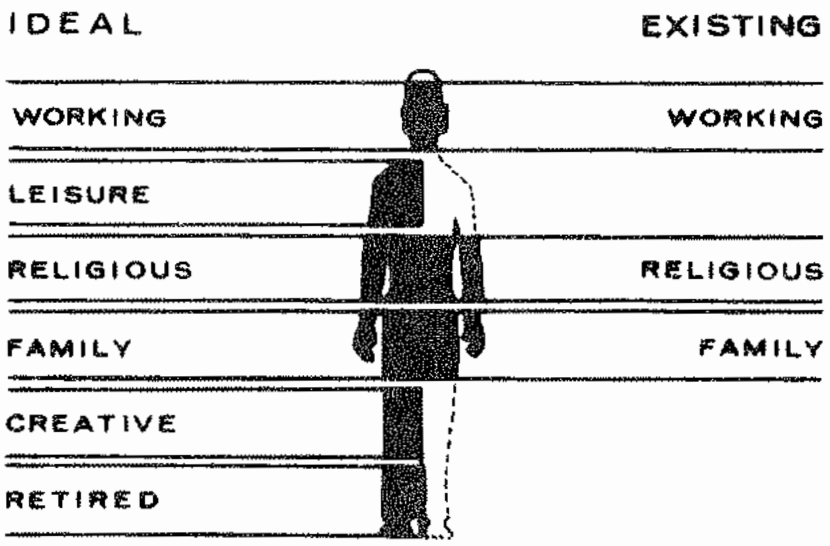
Problems:

Some problems exist. These problems must be recognized and corrected if the city is to build a safe and efficient working and living environment for its people. Typical of the situations that should be improved or corrected are:

- Conflicts caused by business uses in residential neighborhoods.
- Absence of neighborhood parks.
- Unsightly approaches to the city.
- Absence of an overall city beautification effort.
- Poor condition and standard of some street construction.
- Restricting development patterns of the city's core area.
- Limitations to local employment opportunities.

ENVIRONMENT - MAN AS THE MEASURE

Goals can represent both general objectives and proposal for specific improvements. Many general objectives have been identified and are set-forth as the Planning Implication found in the analysis of the Development Influences which are expected to shape Pearland's future. Others will follow as plans for the city take more complete form. In all cases, man is the measure for planning the city.

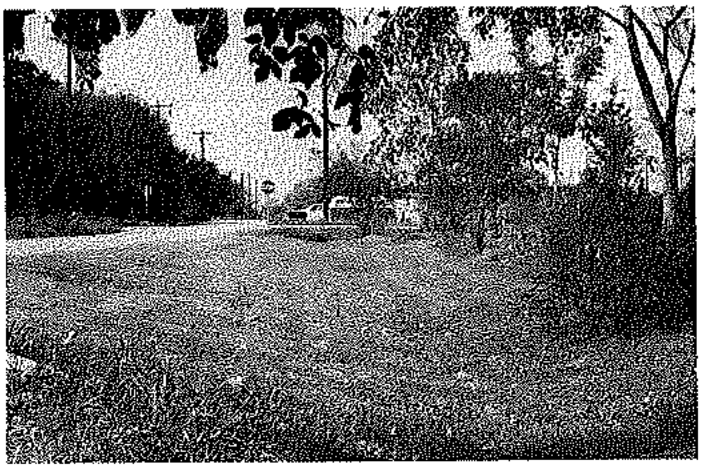


The sketch above illustrates the goals that should be provided if the people of Pearland are to have balanced urban environment. The incompleted parts of the illustration represent the void of Pearland's present development. Helping to correct these situations is the most important goal of Pearland's Plan.

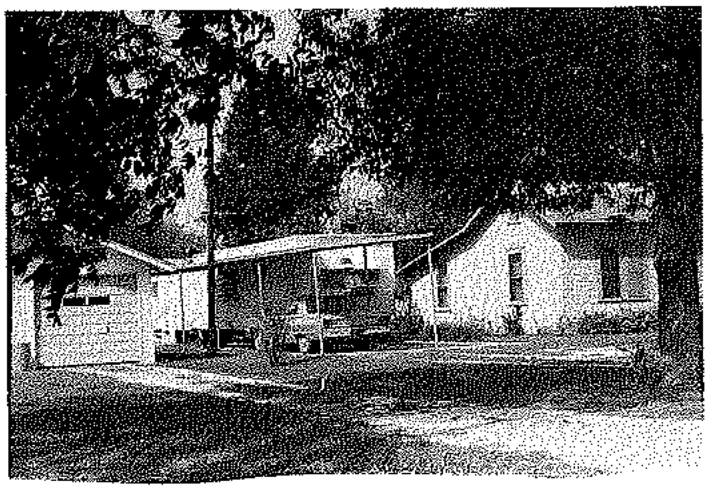
DEVELOPMENT GOALS AND STANDARDS

SPECIFIC GOALS

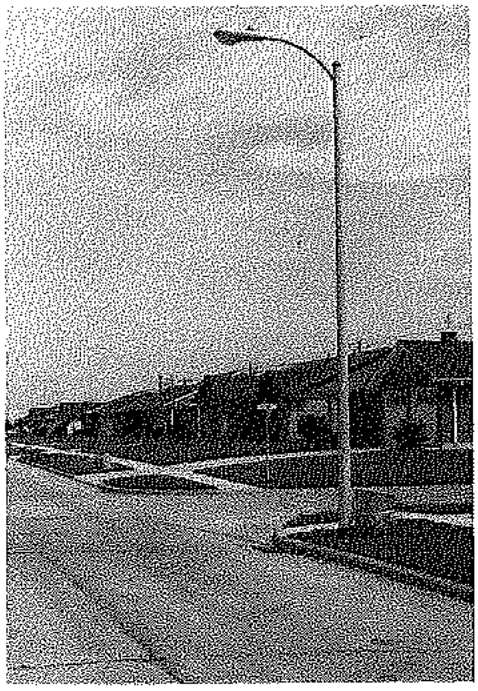
NATURAL BEAUTY



DRAINAGE



ELIMINATE NON-COMPATIBLE LAND USES



LIGHTING, HOUSING, PAVING

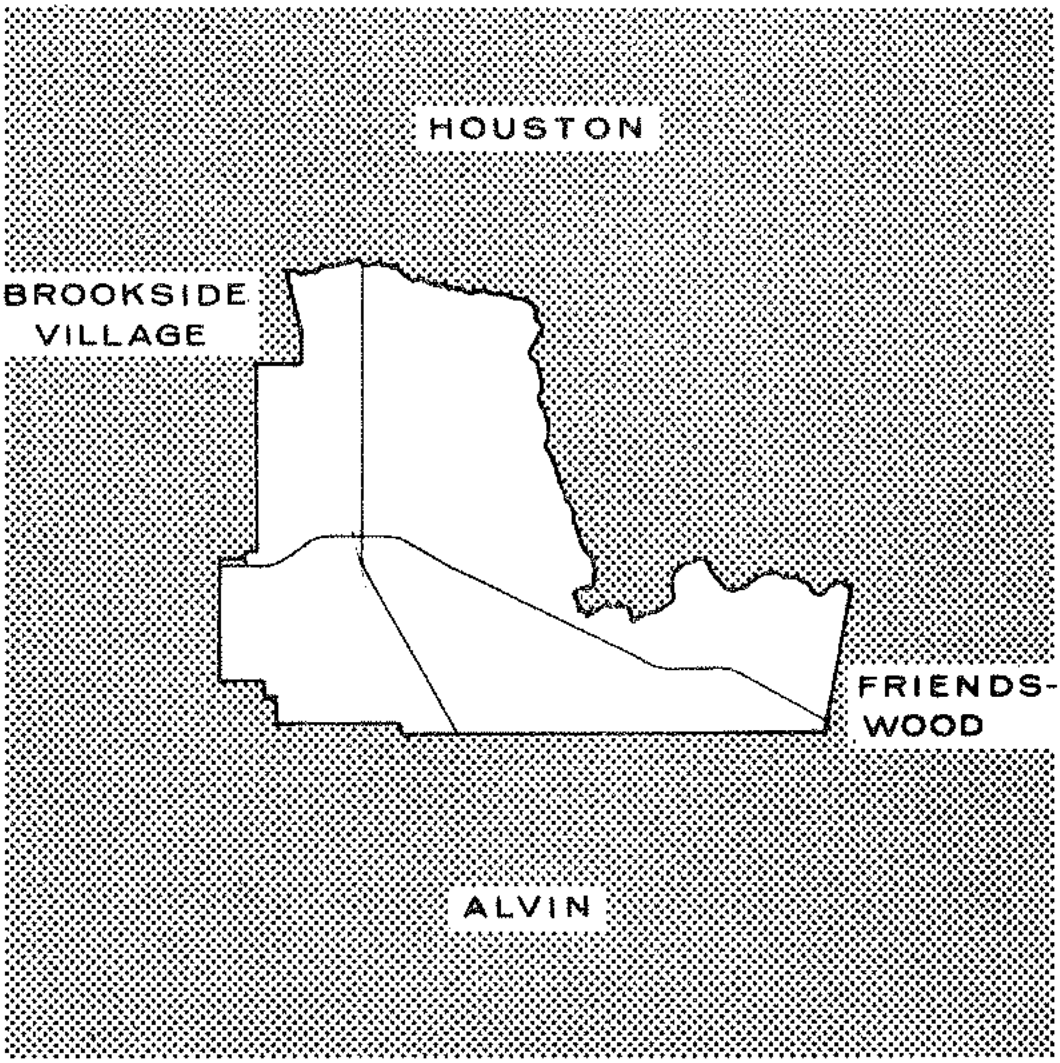
RESPONSIVE URBAN STRUCTURE

Only a small part of Pearland's Planning Area is presently used for urban purposes. The Plan that is now in its formative stages is concerned with providing a structure for the orderly and efficient future development of this area. A broad understanding of the influences of the planning process must be gained if the goal of a functional city is to result. Allowances must be made for places where people will live (neighborhoods), where they will work and how they will spend their leisure time. The development of Pearland should also create a favorable identity of the character and appearance of the city. These objectives are illustrated and discussed in the sketches and text appearing on pages 2-2 to 2-28.

LOCAL IDENTITY - IN A REGIONAL SURROUNGING

Pearland will eventually be encircled with homes and business development identical with its own. Houston, Friendswood, Brookside Village, Webster, League City and other incorporated places will merge with Pearland into a vast urban complex.

The city of Pearland should be more than just a segiment of the whole. It is important that the city have an identity and that its identity is favorable. Such identity can be reflected in the city's visual appearance, the public buildings, its carefully selected industries, its planned industrial parks - each built around the city's inherent good qualities. Pearland should not attempt to compete with the extensive cultural and entertainment developments in Houston or the recreation development of the Gulf Coast. It should do well those things which it has the capacity and resources to accomplish.



LOCAL IDENTITY

COMPLIMENTARY ACTIVITY CENTERS

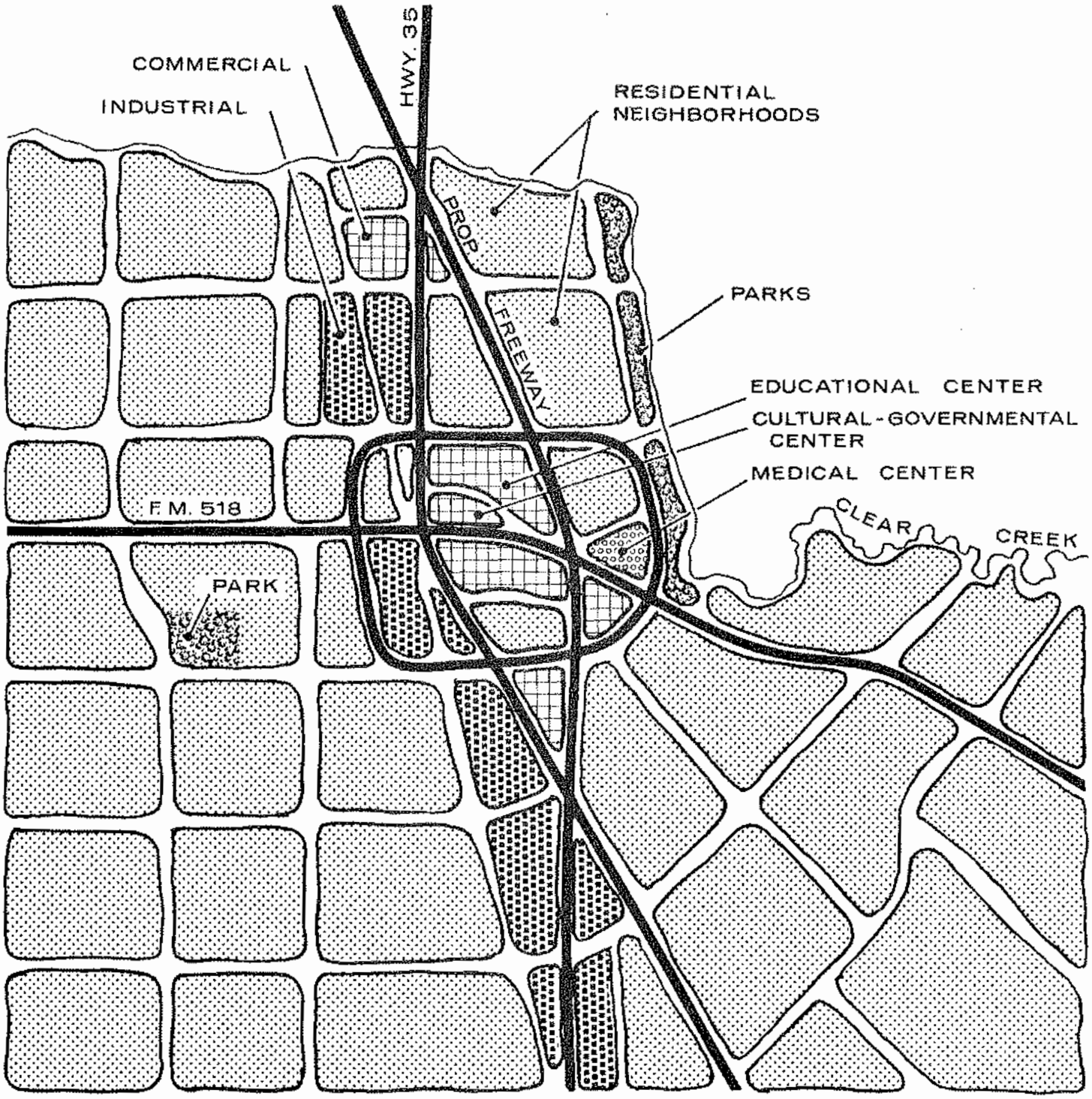
The sketch opposite highlights the urban activities that can be expected to occur as Pearland develops. Eventually the Planning Area may accomodate over 165,000 people. Some of the activities that a city of this size could support and which should be considered in Pearland are:

- Hospital and Medical Center
- Cultural and Governmental Center
- Community College
- Major City Park
- Beautification and Openspace Development on Clear Creek - with Possible Lake
- Expanded Central Business Area
- Industrial Park
- Office and Professional Complexes
- Many Neighborhoods

The activity centers will require complimentary improvement or conditions to function adequately All will need land; some need major streets; parks for example must be related to the natural features of the area. The sketch study plan identifies most activities that should be considered in Pearland's future and shows how these uses can be arranged to compliment each other and function well with other urban centers in the region.

Influence of Street Patterns:

In any city, the major street system establishes the framework for neighborhoods and development. Pearland is fortunate to have an excellent framework of existing roads within the planning area. Establishment of alignments of major streets so that they form boundaries for future neighborhoods will be a prime concern of this plan. The framework will influence the development of the city and the functional success of its urban parts.

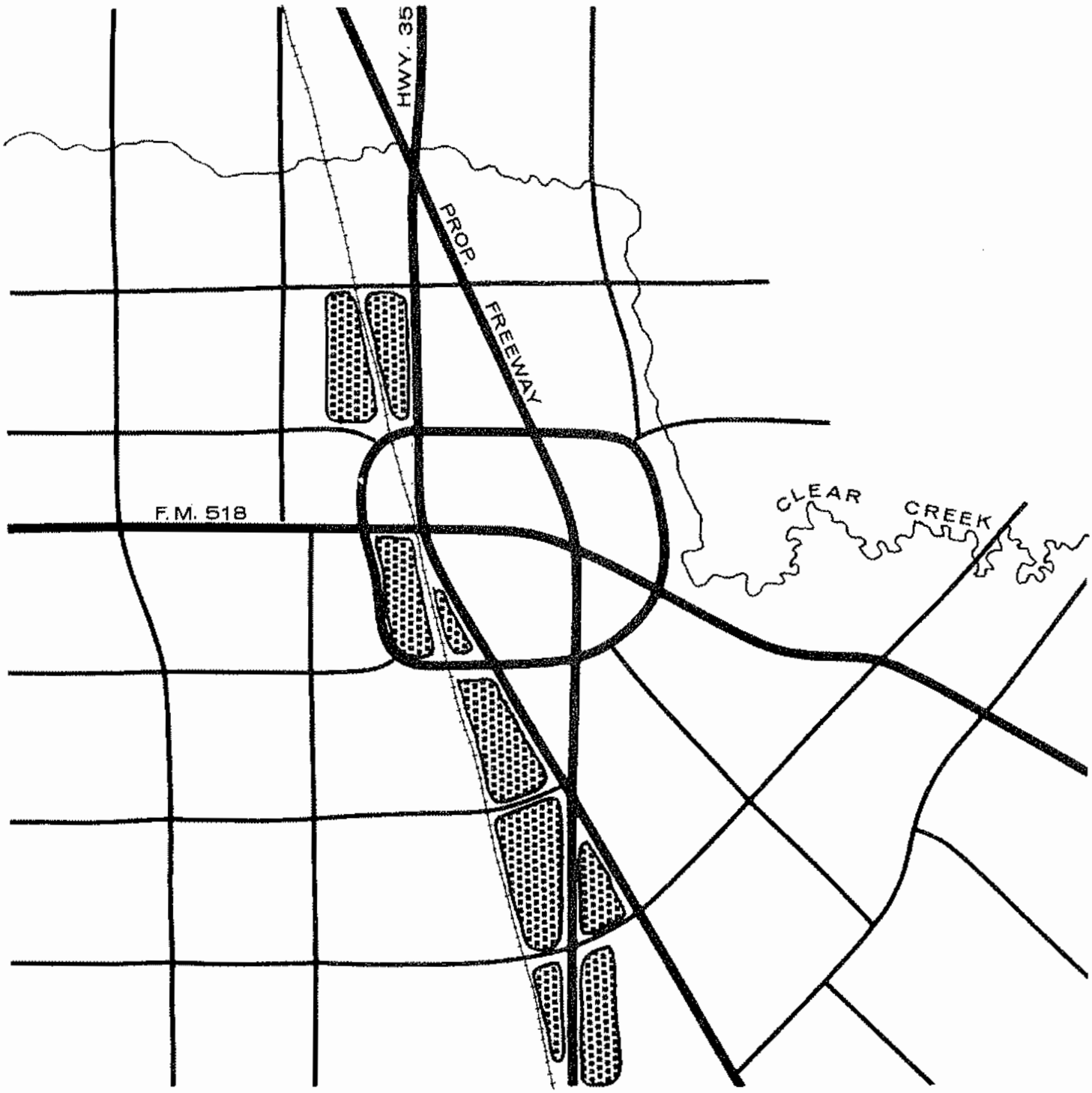


COMPLIMENTARY ACTIVITY CENTERS

DELINEATION OF INDUSTRIAL AREAS

A sketch study setting forth the sites best suited for industrial development appears on the opposite page. The extent of good industrial sites in Pearland is impressive and these sites should be in future demand. It should be noted that to function best, industry will need good highway and railroad access. Not shown but important to industrial development is the needs for an adequate water supply and other support utilities.

Industrial development is important to Pearland to provide employment opportunities for the city's people and a stronger tax dollar base. It is equally important that industry not mar the living environment of the city or contribute to pollution or hazardous conditions. The planning goal is to accomplish equally safe, efficient and functionally sound industrial and residential developments.



DELINEATION OF INDUSTRIAL AREAS

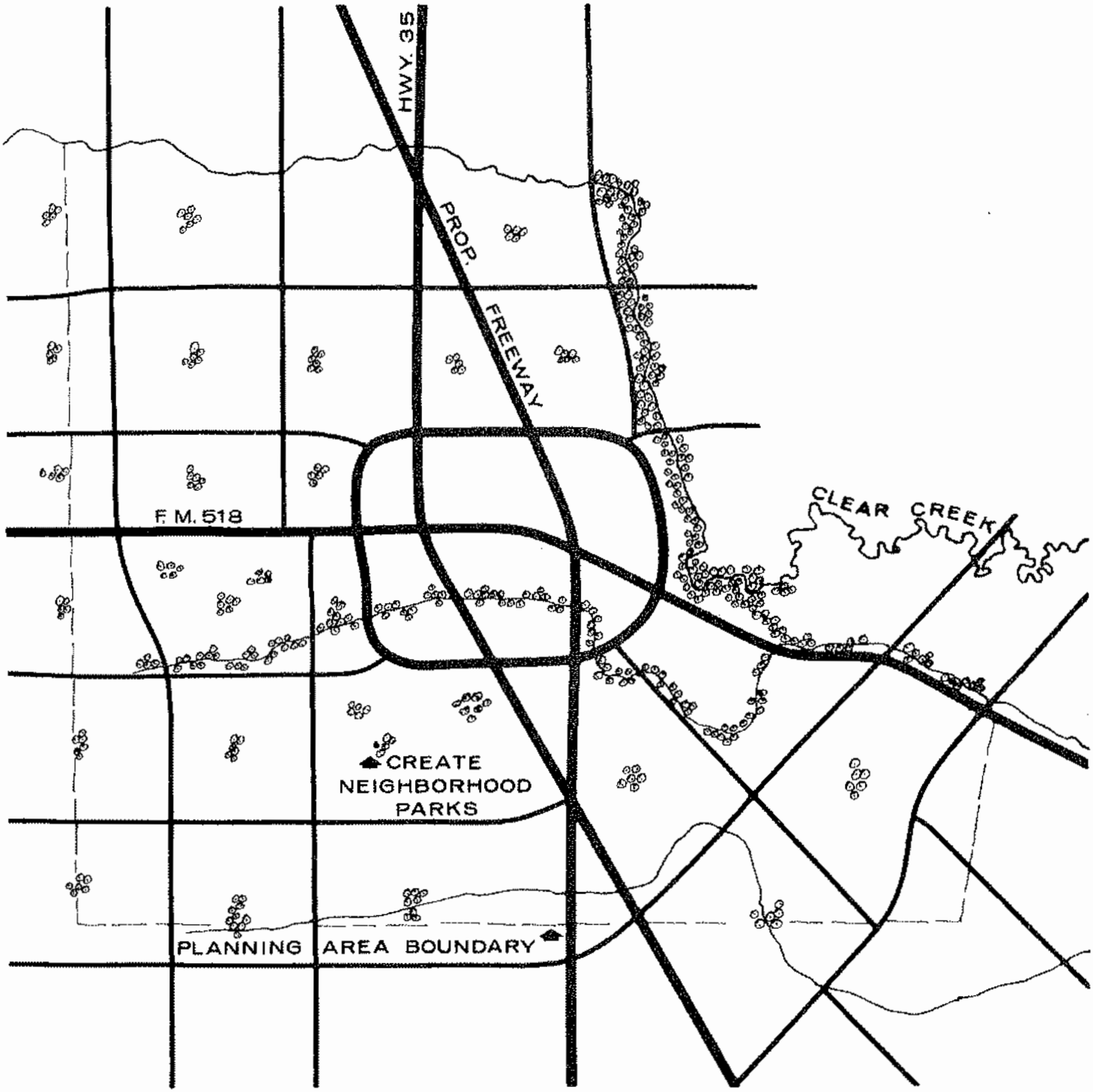
CREATION OF PARK AND OPENSPACES

The vast agricultural openspaces of the Pearland Planning area will diminish as urban development occurs. Even now, very little of the city's open areas are used and enjoyed by the city's people.

The sketch study relating to Parks and Openspaces directs attention to the preservation, planning and further development of the limited natural beauty of the planning area. The sketch emphasizes that parks should be provided in each of the city's neighborhood units and that tree planting and other beautification projects should be a part of each industrial and business site development. The city must consider a broad program of beautification and sign control directed to improving the appearances of the approaches into the city and the urban image.

Historic Preservation

The historic significance of Pearland is such that the city or private foundations should acquire any land or structures of significance and preserve and restore them. The Railroad Station, the Heflen Home, the Tholen Home, the J.F. Hinderer Home and the F.H. Livesay Store form a nucleus for a historical park. A Heritage Society could be formed to be the overall coordinator of this function as has been accomplished in other cities.



CREATION OF PARKS & OPEN SPACE

STANDARDS

The plans in this report are designed to assist the city officials and businessmen and help guide the growth of Pearland.

The growth of Pearland should occur in pattern such that:

The restrictions and ordinances concerning development will guide the city growth in an orderly and coherent manner.

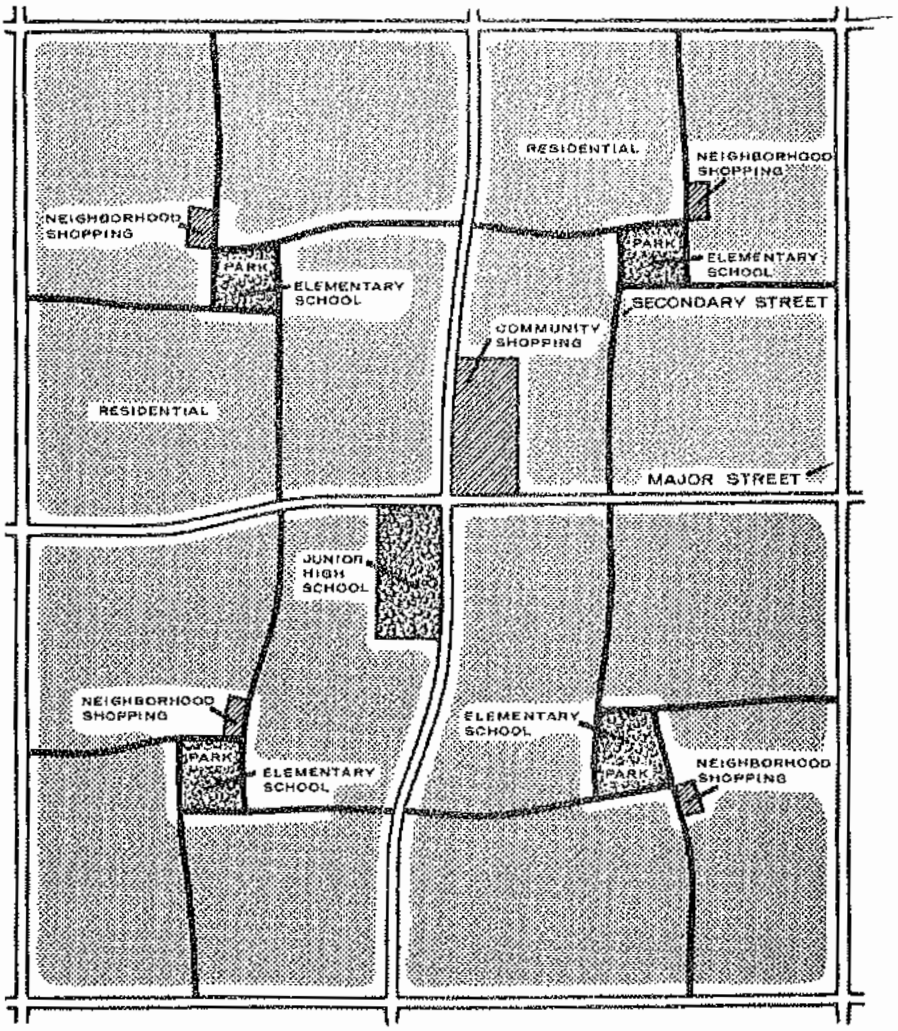
The citizens obtain maximum benefits from the tax dollars spent for city improvements.

There is a balance between urban amenities , beauty and engineering efficiency which provides the total urban complex.

In order to achieve these goals and others, it is necessary to set forth certain basic standards. The material which follows in this section lists these basic standards. Although many of these standards do not apply to Pearland at this time, they should be included in all long range planning for the city. After development has occured in a substandard fashion, it is difficult to correct many of the problems such development creates.

COMMUNITY

The community is a group of neighborhoods sharing common activity centers.

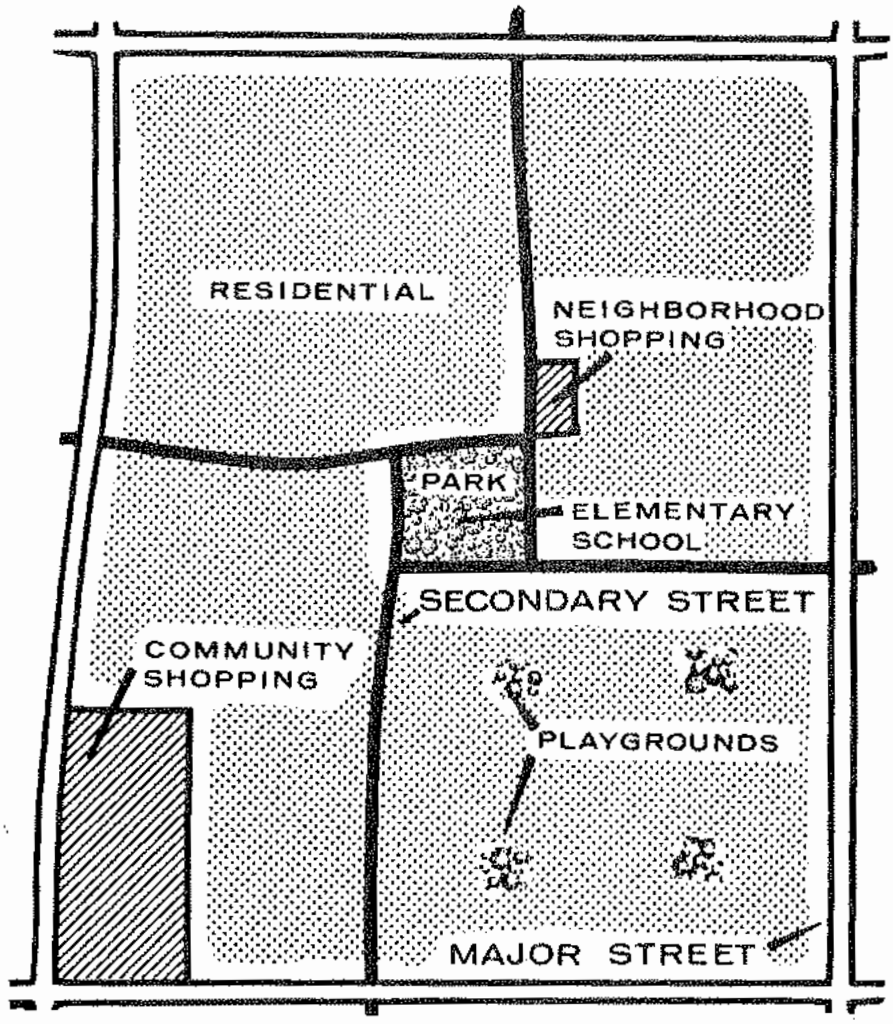


The principal elements of a community are:

1. A center for activities oriented primarily to the community and from which the community draws its identity -- usually a high school, junior high school or park. An ideal community center is a combined junior high school, playfield and park facility.

2. Two or more neighborhoods with a total population of 7,500 to 20,000 people.

NEIGHBORHOODS



The plans in this report are based on a neighborhood concept which is characterized by the following four elements:

1. A centrally located elementary school within walking distance of each home in the neighborhood.

2. A centrally located playground for children of elementary school age, preferably built in conjunction with a school.

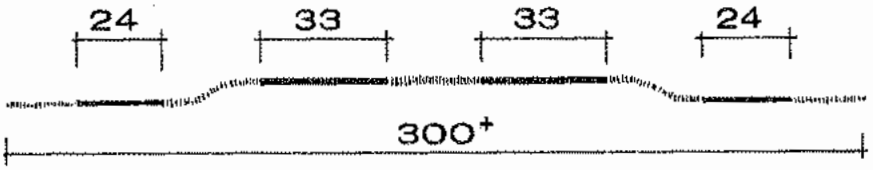
3. An internal system of collector and local streets which discourages through traffic yet provides easy access to schools and shopping areas.

4. Small neighborhood shopping areas which are separated from residences by streets or buffer zones.

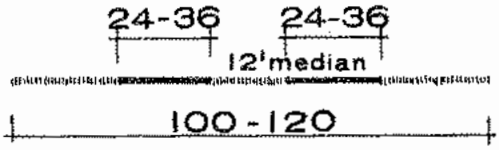
STREETS

The following minimum street standards should be observed in future developments in Pearland.

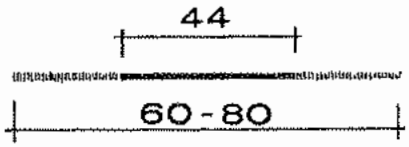
Freeways: Freeways carry regional traffic, have no crossings at grade, and no stops. Right-of-way required is usually 300 feet. Two freeways are anticipated in the Pearland planning area during the twenty-five year planning period.



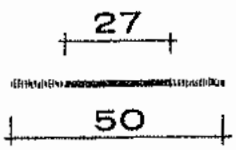
Major Streets: Major streets provide continuous connection throughout an urban area. Major street form boundaries for neighborhoods and should be spaced about one mile apart. Major streets require a right-of-way of 100 to 120 feet.



Secondary Streets: Secondary streets are the main interior streets of the neighborhoods and are found at one-fourth to one-half mile intervals. Secondary streets require from 60 to 80 feet.



Local or Minor Streets: Local streets are the streets found in the neighborhoods. These are the streets that serve single-family dwellings and they have a right-of-way width of 50 feet. Their layout should be such that it discourages through traffic.



BUSINESS AND COMMERCIAL FACILITIES

The classification and general planning standards for business and commercial developments is outlined as follows:

Neighborhood Center

Goods: convenience goods (food, drugs, sundries) and personal services (laundry, barbering)
Principal Tenant: supermarket
Gross Leasable Area: average: 50,000 sq. ft.
range: 30,000 to 100,000 sq. ft.
Site Area: 4 - 10 Acres (1 Acre per 1,000 persons)
Trade Area Population: 6,000 to 40,000 persons
Effective Service Radiur: Six-minute driving time

Community Center

Goods: convenience goods and personal services, plus a wider range of apparel, hardware, and appliances
Principal Tenant: Junior Department store
Gross Leasable Area: average: 150,000 sq. ft.
range: 100,000 to 300,000 sq. ft.
Site Area: 10-30 Acres
Trade Area Population: 40,000 to 150,000 persons

Regional Center

Goods: general merchandise, apparel, furniture, home furnishings in depth and variety
Principal Tenant: one or two full department stores; can include offices and a theater
Gross Leasable Area: average: 400,000 sq. ft.
range: 300,000 to 1,000,000 sq. ft.
Site Area: 30 or more acres
Trade Area Population: 100,000 or more persons
Effective Service Radius: up to 15 miles

It should be noted that these standards apply to the present. Future populations will support more stores because of their higher incomes.

SCHOOLS

Elementary Schools

A school of grades 1 through 6 serving one neighborhood. The elementary school should be built to serve approximately 700-900 students and the site should be 8 to 10 acres. All students should live within one-half mile of the school.

Junior High School

A school of grades 7 through 9 serving three or more neighborhoods. The recommended school capacity is 1200 living within one mile of the school. Junior high schools should be located on major streets and the site should be 20 to 25 acres.

High School

A school of grades 10 to 12 serving a community. The recommended capacity is 2500 students, and the site should contain 30 to 35 acres. All students should live within 2 miles of the school and the school should be on a major street.

Community College

A school to provide education in the technical and vocational aspects and be supplementary to other institutions of higher education in the larger urban area. Location and proximity to other educational facilities would depend largely on:

1. Population density to warrant supplementary colleges.
2. Job availability for vocational and technical training in the area.
3. Number of other universities and colleges in the area.

Size varies with the scope of training provided and provisions must be made for adequate expansion facilities or population increases.

Financing of this institution would require a special taxing capability and the area to be served would transcend local, city and county boundaries.

Vest Pocket Parks and Tot Lots

A small park or play lot located closer to the people in each element of the neighborhood. It can be placed in any block or one or more subdivision lots of a 1/4 to 1/3 acre each.

Neighborhood Park

A neighborhood park should be located adjacent to the elementary school in the center of the neighborhood. The park should provide open space and organized play space. It should contain a minimum of 5 acres with a minimum ratio of 1 acre per 800 persons. Its service radius is one-half mile. Additional scenic area is desirable as a related facility. A playground should be located in conjunction with the elementary school and neighborhood park to provide recreation for all ages.

Community Park

A community park serves residents of two or more neighborhoods - a community. Its minimum size should be 15 to 20 acres, with a minimum ratio of 1 acre per 800 persons. A community park serves a radius of approximately one mile. Related facilities include additional scenic area and a playfield which provides playground facilities; baseball, football, tennis, and other active athletic areas. This park should be the location for a swimming pool, field house or a community building. The community park should be located in conjunction with a junior or senior high school on a major or secondary street.

Major Park and Recreation Area

This area would provide recreation for several communities - an entire urban area. 50-100 acres is the minimum size with a minimum ratio of 5 acres per 1000 persons. A major park and recreation area would serve a radius of three or more miles and 25,000 to 100,000 persons. Facilities would be provided for golf, fishing, boating, water sports, hiking, picnicking, and passive recreation.

Special Areas

Special areas to serve the City of Pearland may be located in conjunction with other parks. Not every city requires all special areas which include museums, greenbelts, amphitheaters and zoos.

PUBLIC AND SEMI PUBLIC BUILDINGS

Libraries

1. Service radius: 1½ to 3 miles.
2. Population Required to Support: 20,000 to 30,000.
3. Minimum Book Stock: 20,000 volumes.
4. Land Requirements: 1 acre minimum.
5. Location: Near community shopping center.

Main Fire Station

1. Service radius: 1 to 2 miles.
2. Equipment: Ladder truck and pumpers.
3. Land Required: 1 acre.
4. Location: Adjacent to central business district.

Branch Fire Station

1. Service Radius: 1½ to 2½ in rural areas.
2. Equipment: Pumper.
3. Land Required: 1 acre.
4. Location: On major street with good access.

Medical and Health Facilities - Hospitals

1. Bed Requirements: 4 beds/1,000 population.
2. Land Requirement: 15-20 acres for 50,000 people.
3. Location: A central location with good access.
4. Ideal Size: 200 beds.

Community Center Building

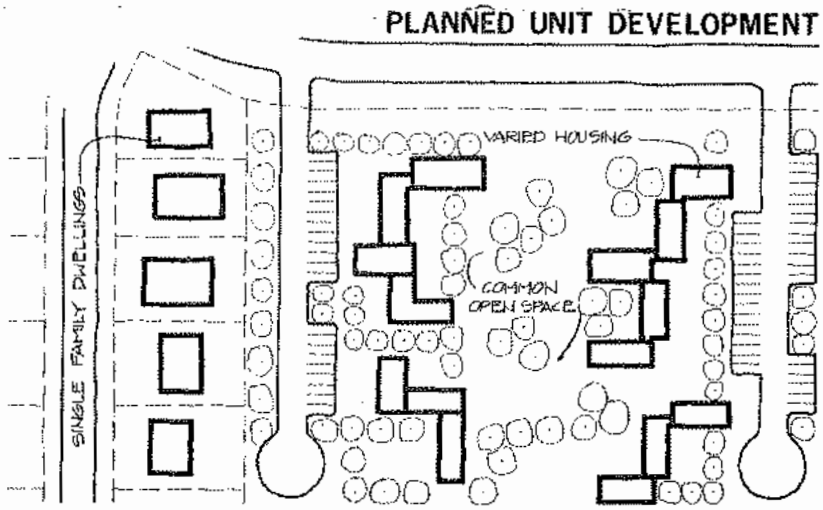
1. Service Radius: 2 to 3 miles.
2. Population Served: 10,000 to 20,000.
3. Land Requirement: 10 acres.
4. Location: In park with good access.
5. Building Requirement: Private office, small meeting rooms (20 people), medium meeting rooms (200-300 people), large meeting space (2500 capacity auditorium), small kitchen facility and rest rooms.

SITE PLANNING GOALS

If Pearland is to achieve a better urban environment, it is imperative that site planning guide its future growth. An essential part of any city's plan is the goals it hopes to attain for specific site development. The site planning goals for application to future development should include the following:

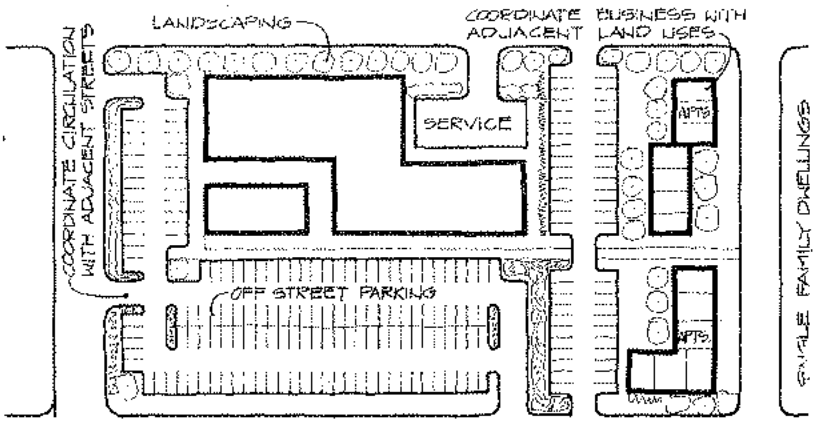
Residential Areas:

- Encourage and maintain quality homes.
- Establish controls for trailer park development.
- Make best use of land to be developed.
- Schedule utilities for underground placement.
- Restrict inferior street paving.
- Provide street lighting.
- Provide street signs.
- Require street tree planting.

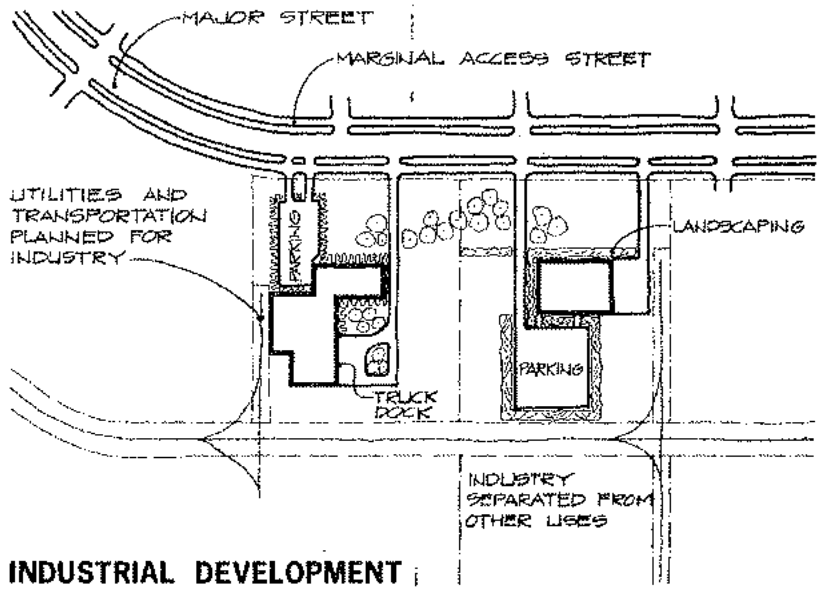


Business and Industry:

- Encourage Planned Unit Development.
- Encourage establishment of Industrial Parks.
- Select industries that have a high ratio of employment to
- land coverage and capital investment.
- Encourage establishment of businesses which include use of highway and railroad access.
- Require adequate parking for all businesses.
- Encourage medical, professional and motel facilities.



BUSINESS DEVELOPMENT



INDUSTRIAL DEVELOPMENT

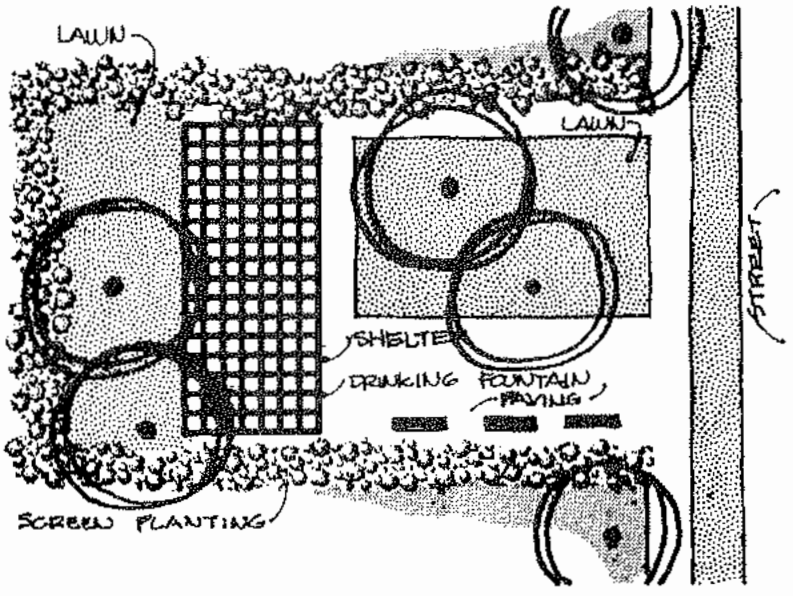
Parks, Openspace & Beautification:

- Provide recreational facilities.
- Provide Openspace to serve Pearland in future.
- Encourage major water oriented recreation.
- Encourage preservation of natural features.
- Plant and encourage planting of trees throughout the community.

Vest Pocket Parks:

Sometimes it may be impossible to find sites for neighborhood size parks in the built-up parts of the City. In other cases, small parks, located closer to the people they are intended to serve, are needed.

The sketch below is a public use area designed to fit a unit of land no larger than a city lot. A parklot could be placed in any normal size city block. Parklots are a select type of public use and should be carefully placed.



Community Facilities:

- Encourage creative neighborhood design.
- Provide enlarged city hall, library, fire station and utility systems as needed.
- Program a street maintenance of ditches.
- Improve drainage structure requirements.

Transportation:

- Expand transportation facilities.
- Encourage Rapid Transit line expansion to city.
- Provide overpasses on railroad.

Schools:

- Provide adequate schools within easy reach of developments.
- Promote a Community College or related facility.
- Provide sidewalks to permit walking to school.


PLANS

LAND USE ANALYSIS AND PLANS

The homes, businesses, shops, service centers, warehouses, schools, churches and all uses to which land and building within Pearland are developed represent the land use of the City. These uses change from month to month. They also create the form and intensity of development within the City and have many planning applications.

Planning Applications:

Urban land uses provides a yardstick for measuring and planning for public services and facilities in keeping with the need. Land use also represents the City's physical plant and its assessable valuation which is a major consideration for determining the City's ability to perform normal service functions and finance new improvements.

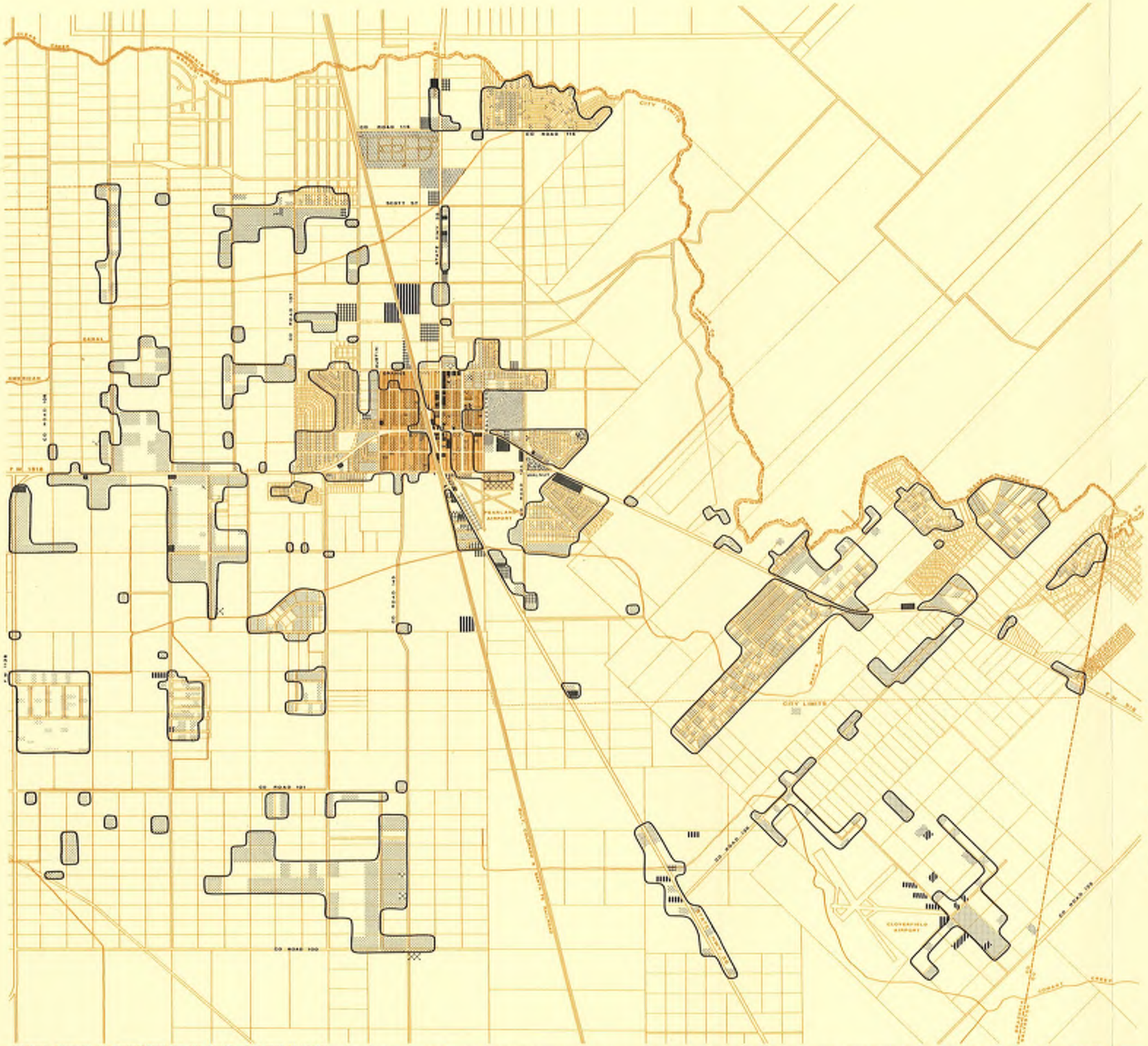
Urban Form: The relationships of land uses cannot be left to chance. Each type of use requires different planning considerations to function properly, for example, a warehouse can generate truck traffic which would be dangerous to a second important land use such as a residential subdivision. Sufficient areas must be designated for all types of land use which will then be arranged to avoid environmental and functional conflicts.

Urban Environment: The patterns that urban development (land uses) create also determine the appearance and quality of urban environment. Planning the land use element of the City should help to implement local goals, community values, the character and appearance of the urban environment and the dollar value of the City's physical plant.

Existing Land Uses:

A bird's-eye view of existing land uses is provided by reference to the Land Use Map reproduced and shown on page 3-3. This map reflects a composite of the development of land in Pearland as recorded from a field inventory conducted during the summer of 1968. An overview of the City reveals that:

- Except for the developments within the original townsite, urban land uses are widely scattered and generally of a low density character.



DEVELOPMENT PLAN FOR PEARLAND, TEXAS

LAND USE

1968

LEGEND

- RESIDENTIAL
  - SINGLE FAMILY
  - MULTI-FAMILY
- PARKS AND OPEN SPACE
- PUBLIC
- SCHOOLS
- OFFICE AND PROFESSIONAL
- RETAIL
- COMMERCIAL
- INDUSTRIAL
  - LIGHT
  - HEAVY

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS
HOUSTON & SAN ANTONIO TEXAS

NORTH

SCALE IN FEET

WILLIAM C. WALSH
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PEARLAND, TEXAS

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PLAN MAP

BASE MAP 1968

- Over 80 percent of the Corporate City and 88 percent of the area adjacent to the City is presently vacant or used for agricultural purposes.

- There is more land currently devoted to streets and roads than for single-family living areas.

- Establishments for retail trade are concentrated on Telephone Road and Broadway at the traditional crossroads of Pearland.

- The school plant and other public and semi-public uses are also concentrated near the center of the City.

- More land in the City is devoted to cemeteries than to parks and openspaces.

- Industrial activities occupy almost 5 percent of the developed area of the City. Little thought has been given to the planning needs for serving industries.

- Much early land platting created excessive area in streets. This situation has contributed to the poor surface condition of many existing streets.

The objectives of the Land Use Development Program are to correct existing problems and change inefficient practices resulting from past development practices and to provide a framework for future growth. The recommended program will outline proposals for improving the environmental and economic base influences which are essential considerations of urban land uses planning.

Area of Existing Land Uses: Table L-1 reports the acreage of each land use class resulting from urban developments within the Corporate City, the unincorporated planning area and the combined areas. The table also reports the area of each land use in relation to each 100 persons of present population. These relationships are significant as a consideration for determining the future land use needs of a much larger population.

TABLE L-1 LAND USE CHARACTERISTICS

PEARLAND AND PLANNING AREAS - 1968

Land Use Classification	Acres	% Developed Area	% Total Area	Acres Per 100 Persons
CITY OF PEARLAND				
Residential				
Single Family	548.0	30.5	6.6	11.39
Multi Family	2.0	0.1	0.0	0.04
Schools	42.0	2.3	0.4	0.87
Parks and Openspace	9.0	0.5	0.1	0.19
Public	97.0	5.5	1.2	2.02
Office and Professional	14.5	.8	0.2	0.30
Retail	22.0	1.2	0.3	0.46
Commercial	197.0	11.0	2.4	4.10
Airport	85.0	4.7	1.0	1.80
Industrial	87.0	4.9	1.0	1.81
Streets and Roads	691.0	38.5	8.3	14.40
Total Developed Land	1,794.5	100.0	21.5	37.38
Vacant and Agriculture	6,573.5		78.5	
Total	8,368.0		100.0	
PLANNING AREA (Not included in city)				
Residential				
Single Family	615.0	42.5	6.2	40.19
Multi Family	0.0	0.0	0.0	0.00
Schools	0.0	0.0	0.0	0.00
Parks and Openspace	0.0	0.0	0.0	0.00
Public	0.0	0.0	0.0	0.00
Office and Professional	1.0	0.1	0.0	0.07
Retail	4.5	0.3	0.1	0.29
Commercial	157.0	10.8	1.6	10.30
Airport	450.0	31.2	4.6	29.40
Industrial	11.0	0.8	0.1	0.72
Streets and Roads	206.0	14.3	2.1	13.46
Total Developed Land	1,444.5	100.0	14.7	94.43
Vacant and Agriculture	8,418.5		85.3	
Total	9,863.0		100.0	
COMPOSITE CITY AND PLANNING AREA				
Residential				
Single Family	1,163.0	35.9	6.2	18.34
Multi Family	2.0	0.1	0.0	0.03
Schools	42.0	1.3	0.2	0.66
Parks and Openspace	9.0	0.3	0.1	0.14
Public	97.0	3.0	0.5	1.53
Office and Professional	15.5	0.5	0.1	0.25
Retail	26.5	0.8	0.1	0.42
Commercial	354.0	10.9	1.9	5.60
Airport	535.0	16.5	2.9	8.40
Industrial	98.0	3.0	0.5	1.55
Streets and Roads	897.0	27.7	4.9	14.15
Total Developed Land	3,239.0	100.0	17.4	51.07
Vacant and Agriculture	15,135.0		82.6	
Total	18,374.0		100.0	

The significant findings related to the existing land use acreages are:

- A relatively small population and proportionality large number of homes on big sites account for the large amount of land used for single-family development.

- The scale of the Planning Area in relation with present population also accounts for the proportionality little area presently used for schools, parks, retail and commercial businesses and industry.

- The land devoted to parks and openspaces is grossly inadequate for the City's present population.

- The land devoted to streets is proportionality high reflecting the character of small City blocks in the original City plat and extent of roads serving agricultural uses in the remaining area.

- That less than 20 percent of the land in the Corporate City is used for urban land uses.

Development Program:

The Land Use Plan reproduced on page 3-9 provides a reference for use by the Planning Commission, local public officials and the people of Pearland for coordinating the development structure of their City. This plan should be recognized as a guide that will be re-evaluated annually and will require additional refinement as future events give rise to new development influences.

Supporting Elements: Virtually all of the research, sketch studies, development concepts and other elements of the Comprehensive Development Plan support or contribute to the Land Use Plan. How Neighborhood and Planning Units Map, the Major Street Plan, the Population Density Map and other plan components should be obvious and is intentional. The need for adequately supporting the land use elements with utilities, a means of vehicular and pedestrian circulation and bringing into existance a quality urban environment must be prominent in the minds of all who will help to implement the plan.

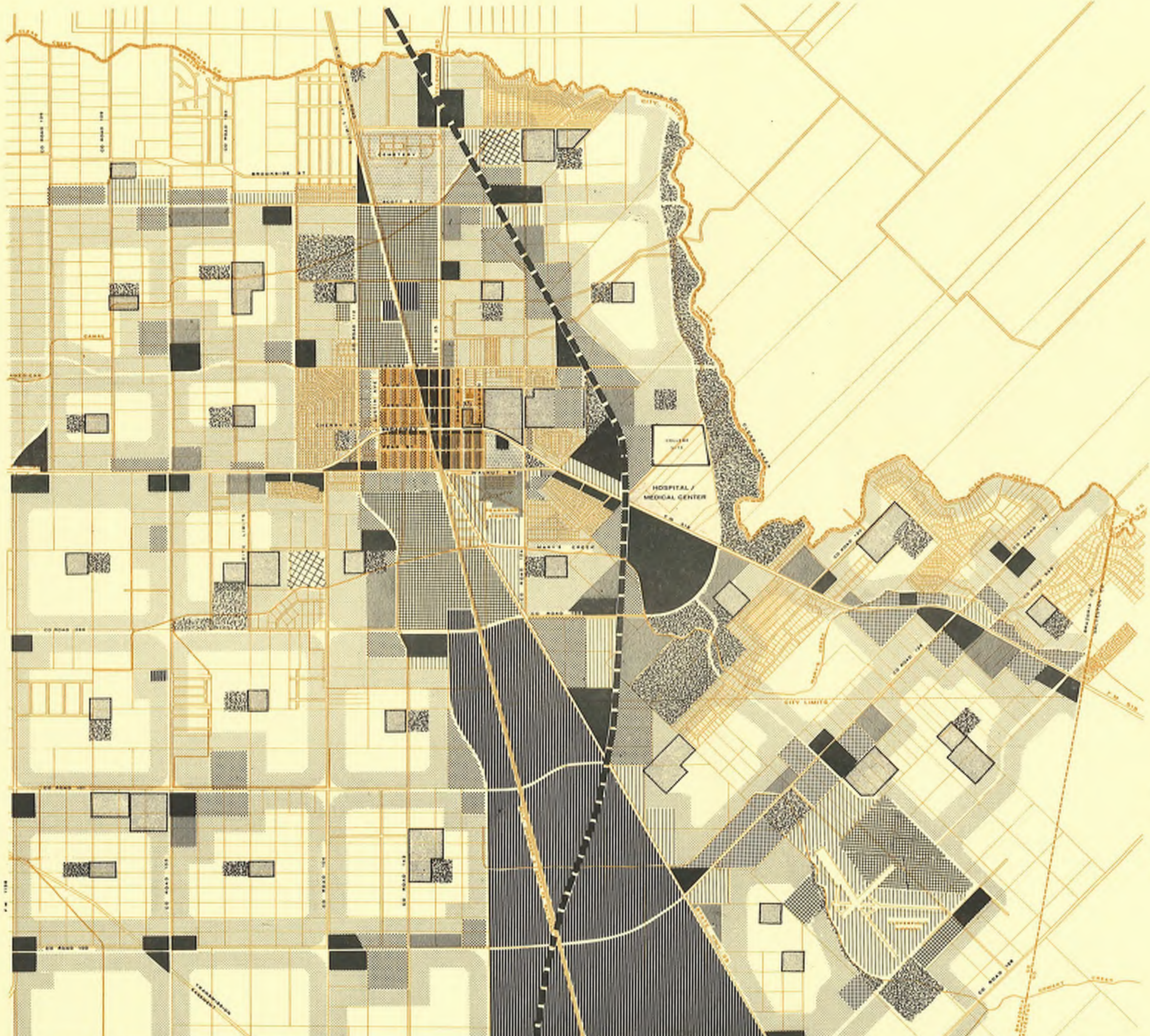
Delineation of Uses:

The Land Use Plan encompasses all of the Planning Area even though part of this area will still be used for agriculture for many years. The plan when view is totaled -

- Proposes several classes of residential development providing sites for single-family and multi-family developments.
- Gives a stronger definition to a Central Area business and service zone.
- Recommends utilization of land adjacent to Clear Creek for park and openspaces.
- Makes allowances for commercial uses and areas for light and heavy industry.
- Establishes a basic structure for neighborhoods and planning units development and the uses supporting these units.

The components of the separate classes of use embrace the following proposals.

Residential Development: New dimensions for planning the neighborhood are strongly recommended. The plan identifies the areas best suited for homes and people. Developments will consist of both single and multi-family dwellings. There must be flexibility for the arrangement of these uses within the bounds of the map areas designated for this purpose. Greater thought must be given to the arrangement of streets and lots within the units. This effort will accomplish a better and more efficient use of land and a better living environment. The City can expect to experience a major increase in apartment and town-house building and new problems related to this development. The density of residential development is certain to increase.



DEVELOPMENT
PLAN FOR
PEARLAND, TEXAS

DIAGRAMMATIC
LAND USE PLAN

LEGEND

RESIDENTIAL
- SINGLE FAMILY
- TOWNHOUSES
- MULTI-FAMILY

PARKS
PUBLIC
SCHOOLS
OFFICE AND PROFESSIONAL
RETAIL
COMMERCIAL

INDUSTRIAL
- LIGHT
- HEAVY

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PLANNING CONSULTANTS
HOUSTON & SAN ANTONIO TEXAS

NORTH

SCALE IN FEET

WILLIAM C. WALSH
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PEARLAND, TEXAS

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PLAN MAP

BASE MAP 1968

Parks, School, Public and Semi-Public Use Areas: Parks and school developments are people oriented land uses and should be planned in relation to their service radius. Reference to the Land Use Plan can determine the best relationship of facilities proposed for the neighborhood unit and other facilities designed for the City at large. This planning consideration applied to churches, libraries, firestations and other public and semi-public uses of land. Except for one large cemetery, most of the public land can be program oriented for further improvement.

Business and Commercial Development: The business and commercial land uses include establishment which range in intensity of use from a professional office to an auto repair garage. These uses are functionally related to activity centers where people assemble in large numbers and which are served with good major street access. In many cases, the business centers are complemented with other activities such as medical facilities, commercial, recreation and schools.

Responding to these considerations, the plan reflects:

- Neighborhood shopping at the intersection of major streets where people will be living.

- Business centers offering a wider variety of activities adjacent to selected sites along the proposed freeway.

- A multi-use business and activity center which includes and expands the present core area of Pearland centered near the intersection of Telephone Road and Broadway.

Industrial Development: The functional requirements for industrial development are railroad, good major street access, adequate utility service and freedom from environmental conflicts (conflicts with residential development). In Pearland, the needed conditions are found adjacent to the Santa Fe Railroad. The extent of suitable areas is relatively large and may require interim development where other uses are permitted until such time the land is needed for industrial purposes. The planning for major streets and a future industrial water supply will further enhance the capabilities of the areas identified for light and heavy industrial use for which they are designated.

Projected Area Relationships: Table L-2 reports the land use relationships that are forecast if future development takes place in conformance with the Land Use Plan. The relationships provide:

- A quantitative analysis of the land area by use classification needed by the estimated future population.
- A check and balance that the future City would have a reasonably balance physical structure.

The findings of an analysis of the Projected Land Use Characteristics are:

- Approximately one-half of the area would be used for residential development.
- Street rights-of-way are the second largest user of land, followed by business and commercial and parks.
- The City has little unuseable land which increases the efficiency of land useage and reduces the acres of land needed for each 100 persons of the City's future population.
- Comparatively - Pearland should achieve a larger percent of its land in residential development and business and a smaller percent in streets.

Plan Implementation: Implementation of the Land Use Plan is a continuous process. It is very important that each new subdivision and development proposal be reviewed for coordination with the plan. It is equally true that the goals and objectives for Land Use Plan and the Comprehensive Plan Map be periodically evaluated and updated to reflect any new development influences.

TABLE L-2 - PROJECTED LAND USE AREA CHARACTERISTICS

Land Use Classification	Acres Planned	Acres 1968	Acres Change	Acres Per 100 Persons	% Of Total Area
Residential					50.18
Single Family	8,102.0	1,163.0	6,854.0	4.8	
Multi Family	1,118.0	2.0	1,116.0	0.7	
Schools	548.0	42.0	506.0	0.3	2.99
Parks and Openspace	842.0	9.0	833.0	0.5	4.58
Public	518.0	97.0	421.0	0.3	2.82
Office and Professional	512.0	15.5	496.5	0.3	2.79
Retail	1,017.0	26.5	990.5	0.6	5.53
Commercial	354.0	354.0	257.0	0.2	1.93
Airport	450.0	535.0	-85.0	0.3	2.45
Industrial	1,704.0	98.0	1,616.0	1.0	9.28
Streets and Roads	3,206.0	897.0	2,309.0	1.9	17.45
Total Developed Land	18,371.0	3,239.0	15,129.0	10.9	100.00
Vacant and Agriculture	0.0	15,135.0			
Total	18,371.0	18,374.0			

NEIGHBORHOOD ANALYSIS AND PLANS

The neighborhood is a unit planned as the place where people will live. It is where children play, go to school and where the home owner's major financial investment is made. It is anticipated that over half of the developed land area of Pearland will ultimately be used for neighborhood living purposes.

There are no neighborhoods in Pearland today - only fragmented subdivisions that must be shaped into definable neighborhood units as further development occurs.

Planning Application:

The guidelines for neighborhood planning are outlined on page 2-18. Each neighborhood should provide sites for a variety of living unit types complimented with the services people need. Population within the units will vary but should be approximately 6,000 persons. The role of the neighborhood in the planning process is:

- To fit together subdivision developments that can be effectively provided with water, sewers, drainage, streets and other people oriented services with the ultimate result being the development of a safe and pleasant living environment.

- Provide a basic structure within which a wide variety of housing types, densities and design for community facilities occur.

- Serve as building blocks for shaping the total form of the City.

The importance of careful and detail planning for each unit assumes greater significance when the neighborhood unit is viewed as occupying a large percent of the developed area of the City and as the place where almost all of the present and future population will live.

Development Program:

The map on page 3-15 is a plan for forming neighborhood and planning units within the broader region of the Planning Area. The plan was structured using the neighborhood design criteria as one yardstick and existing streets, political boundaries, development barriers and land uses as other influences.

DEVELOPMENT PLAN FOR PEARLAND, TEXAS

NEIGHBORHOODS AND PLANNING UNITS

LEGEND

NEIGHBORHOOD BOUNDARY

4 OR C UNIT NUMBERS

PLANNING UNITS

	1968	1990	ULTIMATE
POPULATION	00	000	0000
SCHOOL AGED CHILDREN	0	00	000

COMMUNITY BOUNDARY

VI COMMUNITY REFERENCE NUMBER

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PLAN MAP

BASE MAP 1968

Size of Units: Molding the neighborhood design criteria to fit the actual characteristics of Pearland result in a range of neighborhood sizes and forms. The plan proposes 28 neighborhood units and 8 additional planning units. The neighborhood units have an average size between 400 and 600 acres of land with selected units ranging above and below the average.

Relationship of Units: The neighborhood is a basic planning unit. The unit - for example - can house enough children to support an elementary school; however, this is not true for a junior high school which must draw children from more than one neighborhood. Groups of related neighborhoods are identified on page 2-17 as communities. The arrangement proposed for grouping Pearland's neighborhoods into communities is shown on Neighborhood and Planning Unit Map reproduced on page 3-15.

Implementation Notes: Several steps are important if the desired neighborhood structure is to be realized. This includes:

- Establishment of planning design standards and principals as a guide for coordinating the parts which eventually result in the neighborhood.

- Extensive original design by the many private interest that make up the ownership of the neighborhood.

The land owner and public interest must join forces to implement neighborhood development. The private interest should have the freedom of imaginative design yet must provide for the public welfare and solve some basic problems. Planning situations that should be considered are:

Northeast Pearland: Neighborhood Units 1, 2, 6 and 7

- Integration of drainage courses into development patterns.

- Influence of proposed freeway on adjacent land uses.

- Influence of Clear Creek water course on adjacent land uses.

Central City: Neighborhood Units 11, 12 and 18

- Relationship of residential and non-residential land uses.
- Impact of traffic concentration.
- Impact of the prospective discontinuance of the present Pearland Airport.

Southeast Pearland: Neighborhood Units 13, 14 and 19
Neighborhood Units 20, 24 and 28

- Integration of creek and drainage courses with developments.
- Impact of Cloverfield Airport and Hastings Oil Field on development patterns.
- Relationship of planned industrial land use zones which are adjacent to some neighborhoods.
- Impact of regionally oriented major streets on adjacent land uses.

Northwest Pearland: Neighborhoods 4, 5, 9 and 10
Neighborhoods 3 and 8

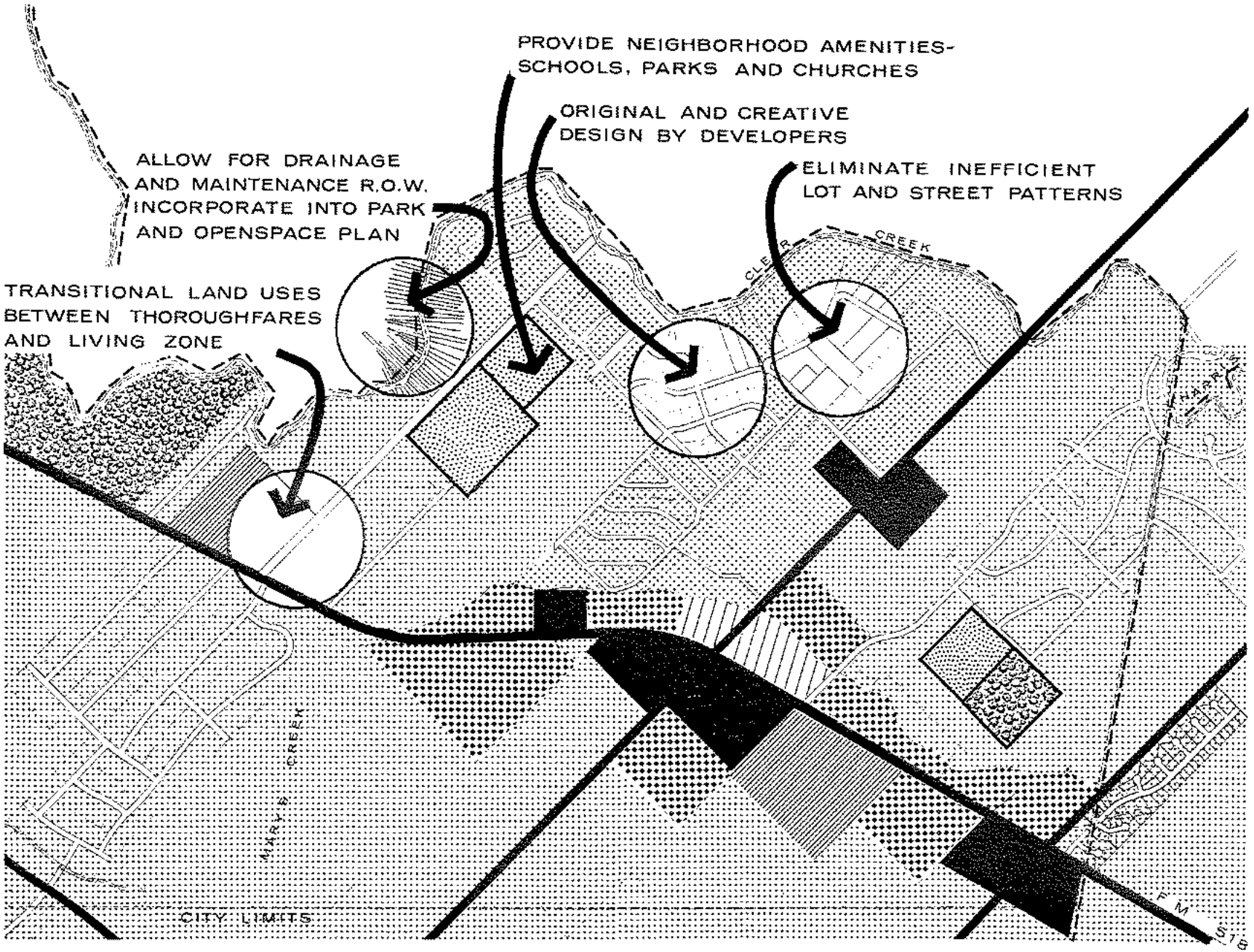
- Impact of major drainage structures, adjacent business and industrial land uses and regional highways.
- Impact of prospective westward expansion of the Planning Area and formulation of possible additional neighborhood units.

Southwest Pearland: Neighborhood Units 16, 17, 22 and 23
Neighborhood Units 15, 21 and 25
Neighborhood Units 26 and 27

- When applicable - same considerations as for related problem when located in other parts of the City.

TABLE NA-1 - FUTURE LAND USE CHARACTERISTICS - BY NEIGHBORHOOD AND PLANNING UNIT

Neighborhood Units	Total Area in Acres	Single-Family Development	Multi-Family Development	Townhouse	Schools	Recreation	Public	Office and Professional	Business	Commercial	Airports	Sts. and Alleys	Industry	Vacant
1	280	97	0	0	0	0	132	0	18	0	0	33	0	0
2	635	331	17	39	32	15	9	0	25	24	0	143	0	0
3	470	300	44	0	10	10	4	0	0	0	0	102	0	0
4	535	300	16	0	35	10	0	46	23	0	0	105	0	0
5	245	133	15	0	10	10	10	0	12	0	0	50	0	0
6	400	179	56	0	10	10	10	23	37	10	0	60	0	0
7	560	322	57	0	10	13	10	20	0	18	0	110	0	0
8	365	215	22	0	10	10	12	0	24	0	0	72	0	0
9	340	195	23	0	10	10	10	18	9	0	0	65	0	0
10	205	136	0	0	8	8	8	0	5	0	0	45	0	0
11	390	97	12	0	124	16	30	18	46	21	0	26	0	0
12	315	47	34	0	10	16	113	15	0	0	0	52	0	0
13	670	379	18	0	10	58	10	30	13	10	0	142	0	0
14	260	116	42	0	10	10	10	0	9	13	0	40	0	0
15	620	402	13	0	35	10	10	0	20	0	0	130	0	0
16	620	372	12	36	10	50	10	20	20	0	0	125	0	0
17	273	87	37	0	35	20	10	39	16	0	0	29	0	0
18	500	211	28	0	10	10	10	80	81	0	0	70	0	0
19	660	377	40	0	29	20	10	35	24	0	0	125	0	0
20	850	493	60	0	10	15	10	52	45	0	0	165	0	0
21	630	441	0	0	10	10	10	0	12	0	0	147	0	0
22	630	421	39	0	10	10	10	0	0	0	0	140	0	0
23	530	312	46	0	10	10	10	0	24	14	0	104	0	0
24	815	262	125	0	10	170	15	55	13	58	0	107	0	0
25	620	383	0	0	35	10	10	0	44	0	0	128	0	0
26	620	385	33	0	10	10	10	20	24	0	0	128	0	0
27	640	378	41	0	35	10	10	20	10	0	0	126	0	0
28	1,090	277	66	0	10	53	0	21	23	75	450	115	0	0
Central Area	398	0	0	0	0	0	0	0	206	0	0	192	0	0
Industrial Dist.	1,837	0	0	0	0	0	0	0	0	0	0	133	1,704	0
A.	148	21	56	0	0	5	5	0	0	46	0	15	0	0
B.	18	0	0	0	0	0	0	0	16	0	0	20	0	0
C.	229	0	0	0	0	229	0	0	0	0	0	0	0	0
D.	120	87	0	0	0	0	0	0	3	0	0	30	0	0
E.	25	0	0	0	0	0	0	0	0	22	0	3	0	0
F.	184	0	0	0	0	0	0	0	166	0	0	18	0	0
G.	152	0	62	0	0	0	0	0	32	43	0	15	0	0
H.	492	341	0	0	0	10	10	0	17	0	0	114	0	0
Total	18,371	8,102	1,016	102	548	842	518	512	1,017	354	450	3,206	1,704	0


PROVIDE NEIGHBORHOOD AMENITIES-
SCHOOLS, PARKS AND CHURCHES
ORIGINAL AND CREATIVE
DESIGN BY DEVELOPERS
ELIMINATE INEFFICIENT
LOT AND STREET PATTERNS
ALLOW FOR DRAINAGE
AND MAINTENANCE R.O.W.
INCORPORATE INTO PARK
AND OPENSPACE PLAN
TRANSITIONAL LAND USES
BETWEEN THOROUGHFARES
AND LIVING ZONE
CLEAR CREEK
HARRY B CREEK
CITY LIMITS
F M 518

Design Principles: In the planning process the opposite of an efficient, safe urban environment is an environment with many problems. The objectives of design principles is to direct attention to situations where greater effort should be extended to solve existing problems. The role of this process is not to dictate a single solution but rather to encourage a great variety of solutions each incorporating the essential qualities of good urban design. The sketch study shown on page 3-20 illustrates several sources of problems related to neighborhood development in Pearland.

The opportunities for a neighborhood design need not be limited by past characteristics which have not offered very good or functional solutions. A better approach is to employ the more adequate design principals incorporating these into new plans and better solutions.

Characteristics by Neighborhood Unit:

Table NA-1 and NA-2 report the following characteristics as they correspond with the map units shown on page 3-15.

NA-1, Future Land Use Characteristics: By Neighborhood and Planning Units reporting the unit's area and land uses by major classifications.

NA-2, Population Characteristics 1968, 1990 and Ultimate: By Neighborhood and Planning Units reporting the estimated number of people and the school age children for the selected future dates.

These tables provide valuable planning information that will have repeated applications as schools, parks and other facilities for the neighborhood and planning units and for the communities are programmed.

TABLE NA-2 - POPULATION CHARACTERISTICS - BY NEIGHBORHOOD AND PLANNING UNITS 1968, 1990 AND ULTIMATE

	1968		1990		ULTIMATE POPULATION				
Neighborhood Unit	Population 1968	School Children	Population 1990	School Children	School Children	Single Family	Multi Family	Townhouse	Total
1	21	6	728	196	364	1,455	0		1,455
2	280	84	4,188	1,125	1,743	4,965	680	1,326	6,971
3	28	8	626	168	1,565	4,500	1,760		6,260
4	98	29	1,028	276	1,285	4,300	640		5,140
5	105	31	1,335	359	668	2,070	600		2,670
6	196	58	2,016	542	1,231	2,685	2,240		4,925
7	0	0	1,458	392	1,823	5,010	2,280		7,290
8	140	42	921	248	1,026	3,225	880		4,105
9	70	21	2,303	619	961	2,925	920		3,845
10	826	246	2,040	549	510	2,040	0		2,040
11	799	238	2,520	678	630	2,040	480		2,520
12	21	6	1,325	356	766	705	1,440	918	3,063
13	434	129	5,765	1,550	1,601	5,685	720		6,405
14	84	25	2,812	756	848	1,710	1,680		3,390
15	91	27	1,310	352	1,638	6,030	520		6,550
16	476	142	3,670	987	1,821	5,580	480	1,224	7,284
17	98	29	1,393	1,375	696	1,305	1,480		2,785
18	672	200	4,285	1,179	1,071	3,165	1,120		4,285
19	385	115	5,600	1,506	1,814	5,655	1,600		7,255
20	91	27	2,059	554	2,449	7,395	2,400		9,795
21	112	33	992	267	1,654	6,615	0		6,615
22	189	56	1,181	318	1,969	6,315	1,560		7,875
23	0	0	974	262	1,623	4,650	1,840		6,490
24	112	33	2,920	785	2,450	4,800	5,000		9,800
25	28	8	575	155	1,436	5,745	0		5,745
26	77	23	710	191	1,774	5,775	1,320		7,095
27	133	40	731	197	1,828	5,670	1,640		7,310
28	42	13	789	212	1,972	5,250	2,640		7,890
A	77	23	523	141	654	375	2,240		2,615
B	42	16	0	0	0	0	0		0
C	0	0	0	0	0	0	0		0
D	427	2	1,305	351	326	1,305	0		1,305
E	73	22	0	0	0	0	0		0
F	0	0	0	0	0	0	0		0
G	7	2	248	67	620	0	2,480		2,480
H	35	10	1,512	407	1,279	5,115	0		5,115
All Industrial	70	21	0	0	0	0	0		0
Total	6,340	1,890	59,831	1,712	42,095	124,260	40,640	3,468	168,368

HOUSING ANALYSIS

The settlement and development of Pearland has been linked with three periods - before 1883, 1884 to 1960 and the present. There is a direct correlation between the age of the City's housing and these periods.

Planning Application:

The scope of the housing analysis is to inventory and evaluate the condition of housing; to consider the factors which are responsible for inadequate housing or are belighting housing and to recommend steps that will better conserve all housing and eliminate the causes of blight.

Housing Characteristics:

The 1940 Census of Population reported 30 persons living in Pearland; 1950 census - 300 persons, 1960 census - 1,497.

The parallel between the Census of Population and age of housing units is made in the schedule which follows.

CONSTRUCTION PERIOD	NUMBER UNITS
Before 1940	10
1940 - 1950	77
1950 - 1960	342
1960 - 1968*	964

* July 1968 - Incorporated City Area only

Characteristics 1960: Table H-1 reviews selected housing characteristics surveyed by the 1960 Census of Housing. At that date:

- 68.8 % of all housing units were sound and had all plumbing facilities
- 17.0 % were deteriorating
- 8.1 % were dilapidated

- 62.6 % were owner occupied
- 37.4 % were renter occupied

TABLE H-1 - CHARACTERISTICS OF HOUSING UNITS 3-24

PEARLAND, TEXAS - 1960

CHARACTERISTICS	NUMBER	%
All Housing Units By Condition And Plumbing		
Total Units	483	100.0
Sound Units		
With All Plumbing Facilities	333	68.9
Lacking Some or All Facilities	17	3.5
Total - Sound Units	350	72.4
Deteriorating Units		
With All Plumbing Facilities	82	17.0
Lacking Some or All Facilities	12	2.5
Total - Deteriorating Units	94	19.5
Dileapidated Units	39	8.1
OCCUPIED HOUSING UNITS		
Population In Household Units	1,497	100.0
Owner Occupied		
Average Value (Dollars)	10,000	
Average Number of Rooms	4.9	
Total - Owner Occupied	274	62.6
Renter Occupied		
Average Gross Rent (Dollars)	N/A	
Average Number of Rooms	3.8	
Total - Renter Occupied	164	37.4
Units With 1.01 or More Persons Per Room	73	
Units Occupied by Non-Whites	9	
Available Vacant Housing Units	25	

Characteristics 1968: A survey of the condition of each housing unit was made from an exterior inspection completed during the summer of 1968.

Classification: The classifications used to report the structural conditions were:

- Sound - no/only slight defects.
- Deteriorating - house needing more repair than would be provided in the course of regular maintenance.
- Dilapidated - houses which do not provide safe or adequate shelter.

The conditions found were:

City of Pearland	Number	%*
Standard	1,560	90.1
Deteriorating	112	6.5
Dilapidated	59	3.4
% of City Units	1,731	100.0
% of All Units		78.2
Planning Area Only		
Standard	377	78.2
Deteriorating	68	14.1
Dilapidated	37	7.7
% of Planning Area Units	482	100.0
% of All Units		21.8
Combined Areas		
Standard	1,937	87.5
Deteriorating	180	8.1
Dilapidated	96	4.4
All Units	2,213	100.0

*Percent of Units Within Designated Areas

Findings:

- The condition of housing in Pearland and its environs is comparatively better now than it was in 1960 or 1950. This fact is due to extensive new construction.

- Ordinances establishing a building, plumbing, electrical and subdivision code have been enacted since 1960 and influence the quality of construction within the City.

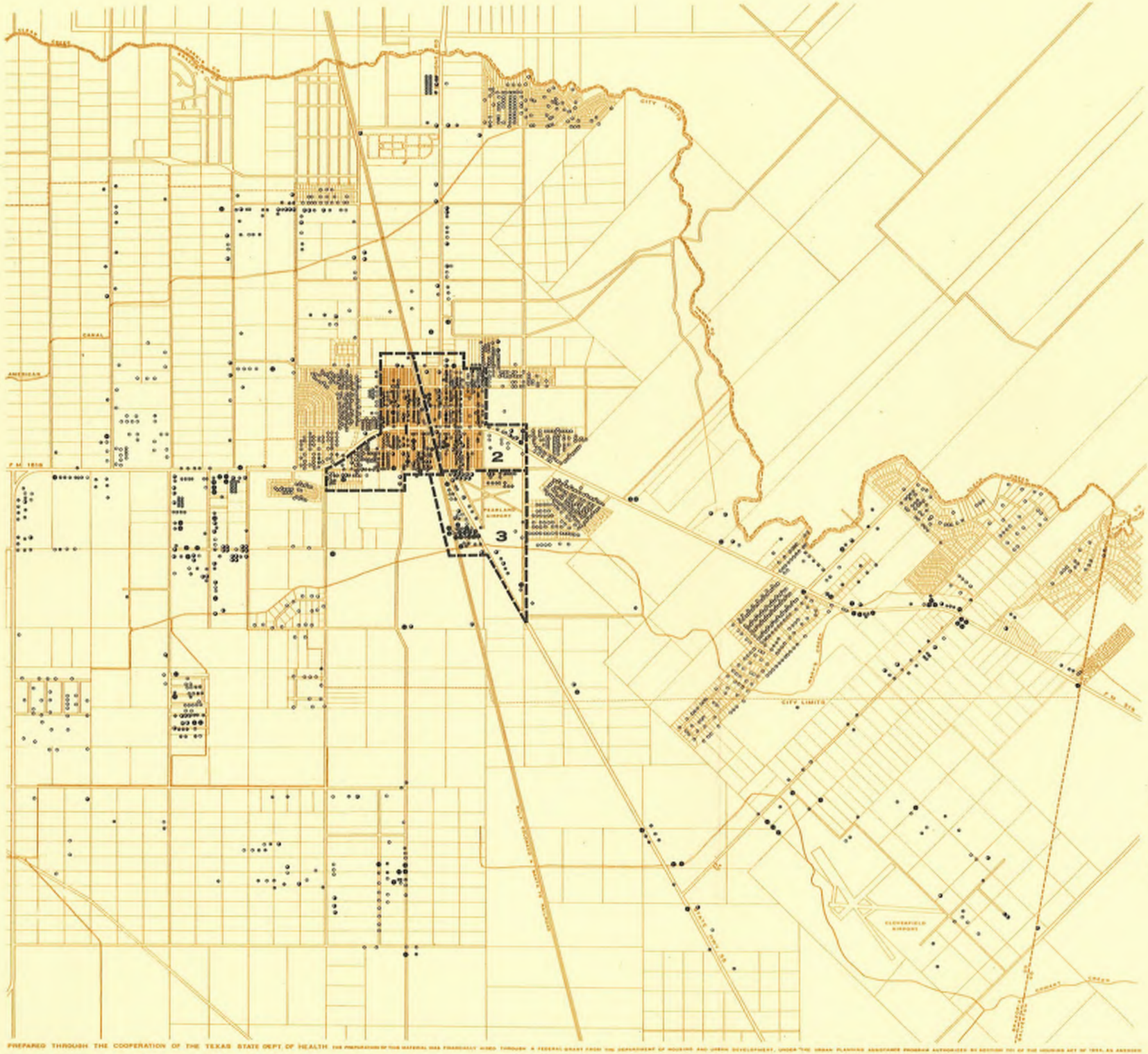
- Similar regulations are not in effect outside of the Corporate Area where there is no building code regulations and very little regulation of subdivision planning, sewage disposal and related health and safety provisions.

- Very little thought has been given to the environmental needs of the home site such as inadequate grading, drainage, planning and other site and City improvements. The quality of the environment contribute to or accelerate the deterioration and blighting of living areas in and adjacent to Pearland.

- The map on the opposite page reflects the findings of the housing conditions survey.

DEVELOPMENT
PLAN FOR
PEARLAND, TEXAS

HOUSING CONDITIONS



LEGEND

CONDITION

- STANDARD
- CONSERVATION
- REHABILITATION
- CLEARANCE

(SOURCE: FIELD SURVEY APRIL, 1958)

ACTION PROGRAM

(CONCENTRATED CODE ENFORCEMENT)

1-3 SEQUENCE OF PROJECTS

PROJECT BOUNDARY

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS
HOUSTON & SAN ANTONIO TEXAS

NORTH

1000 0 1000 2000 3000
SCALE IN FEET

WILLIAM C. WALSH
CONSULTING ENGINEER
PEARLAND, TEXAS

PREPARED THROUGH THE COOPERATION OF THE TEXAS STATE DEPT. OF HEALTH THE PREPARATION OF THIS MATERIAL WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE URBAN PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED

PLAN MAP

BASE MAP 1958

Characteristics of Families Inadequately Housed:

Visits were made with approximately 20 percent of the families living in inadequate housing. The sample included visits to all geographic parts of the Planning Area.

Findings: The characteristics reported from the visits are shown in Table H-2 and are expressed as the percent of all families that are experiencing conditions in keeping with the situation identified. Some of the findings regarding people inadequate housed are:

- Almost 60 percent are over 40 years of age; 20 percent were over 60 years of age.
- 30 percent of the families with children had a total family size of eight or more.
- 70 percent of the families had three or more children residing at home.
- 58 percent of the families were of Spanish or African-American composition.
- For all families surveyed, both parents resided at home.
- A high 78 percent reported home ownership in contrast with renting.
- In 37 percent of the families, the children helped to support the family and the total family income was less than $3,000.00 a year.
- About 23 percent of the families believed their house did not need repairs and only 33 percent believed their homes to be structurally unsound.

The preceding findings identify some characteristics that are not usually associated with inadequately housed families. This situation can be partly explained by the fact that Pearland has many areas still rural in character and oriented to agricultural operations. Local characteristics must be considered in any proposal that seeks to find better solutions for housing in Pearland and its Planning Area.

TABLE H-2 - CHARACTERISTICS OF FAMILIES INADEQUATELY HOUSED- 3-30

PEARLAND, TEXAS

	PERCENT	
	Each Characteristic	Total By Category
Size of Family in Units		
1 or 2 persons - over 60	20.0	
1 or 2 persons - under 60	10.0	
3 to 5 persons	20.0	
6 to 8 persons	20.0	
over 8	30.0	
		100
Children (Under 18) Residing at Home		
2 or less	28.5	
3 or more	71.5	
		100
Residence of Parent		
Father Residing at Home	100.0	
Mother Residing at Home	100.0	
		100
Ownership/Renter Ratio		
Owner Occupied	78.0	
Renter	22.0	
		100
Members of Family Employed		
Mother Employed	28.5	
Father Employed	28.5	
Children Employed	37.5	
None Employed	5.5	
		100
Estimated Income (Family)		
Live on Social Security only	26.0	
Social Security plus some employment	74.0	
		100
Income		
Less than $3,000 annually	62.5	
More than $3,000 annually	37.5	
		100
Condition of Housing Unit (Reported by Family)		
Standard Structure	22.2	
Needs Major Repairs	45.0	
Substandard Structure	32.8	
		100
Race		
Spanish American	46.0	
African American	12.0	
Caucasian	52.0	
		100

Sources of Blight:

The area which forms the Corporate City of Pearland does not presently have definable neighborhood units. Even the existing township site has few of the unifying characteristics that contribute to the conservation and preservation of homes quality. The factors which tend to accelerate deterioration of housing in general can be found in all parts of the City. These conditions were previously identified as minus circumstances under the development influences. Basically these conditions are:

- Areas only recently subject to any building, plumbing or electrical code standards.
- Areas still beyond the influence of building and planning standards.
- Areas without a source of public water or sewers service.
- Areas with poor drainage; areas divided by drainage ditches.
- Widely separated subdivision; development poorly coordinated.
- Absence of a basic Longrange Development Plan with a resulting loss of street planning and inadequate park planning. No community wide development objectives or goals to be implemented.
- Little insight into housing needs.
- Limited base from which to finance public improvements.

Development Program:

Presently, there are approximately 2200 household units in the Pearland Planning Area. A conservative 1990 estimate shows an increase of 14,900 units. Each of these units will come under the influence of the Longrange Development Plan. To accomplish adequate management of housing quality, several components of the plan must be employed. The parts of the program are:

Emphasis on Prevention: The emphasis of the program should be to effect all new construction through improved structural and environmental planning and development standards. This does not imply that no attention should be given to existing housing. Existing housing represents approximately 10 percent of the 1990 requirement. This fact illustrates the great potential of preventative measures as a development policy.

Workable Program for Community Improvement Approach: The Workable Program is a guide used by many cities as a comprehensive approach for improving neighborhoods and housing. This approach has application in Pearland and should include the following provisions.

1. Codes and Ordinances - with provisions for:

   - Minimum housing standards.
   - Revised subdivision ordinance.
   - Enactment of a zoning ordinance.
   - Management provision for air and water pollution.
   - Improved policies for role of developer to offer imaginative design and make essential drainage street and other improvements.

2. Administrative Organization - with provisions for:

- Direct involvement of City Council and Planning Commission in housing regulation.
- Strengthen the capability of the City's Building Inspection Department and Planning Commission to work with private developers.
- Fixed responsibility for administration of codes and ordinances.
- Program inspections and continuous refinement of procedures.

3. Comprehensive Development Plan - with provisions for:

- Gaining insight into development problems and the ability to solve such problems.
- Basic neighborhood unit planning and for the essential, utility, drainage, recreation, street and community facilities required to serve these units.
- Development of goals and objectives for the housing and neighborhood plan components.

4. Neighborhood Analysis - with provisions for:

- More information regarding local problems.
- More information regarding the characteristics, problems and needs of families living in inadequate housing.
- More functional and creative design.
- Formulation of neighborhood improvement associations involving the people who make up the neighborhood in the solution and betterment of their housing and neighborhood environment.

5. Financing - with provisions for:

- Allowances to employ more experienced personnel in the building inspectors department.
- Continue planning and neighborhood analysis activities.
- Reasonable distribution of development cost (utilities, drainage, streets, etc.) between the City and private developers.
- Participation in selected renewal assistance programs. (Possible Concentrated Code Enforcement)

Project Area Map: The map on page 3-27 shows the findings of the housing condition field inventory regarding the existing condition of housing in the Planning Area. The basic provisions of the Workable Program for Community Improvements should be applied uniformally to all parts of the Planning Area. In addition, those areas of the City with deteriorated or dilapidated housing should be programmed for more concentrated effort. The priority of project implementation is shown on the map. The procedures should comply with all relevant parts of the basic management tools. These are:

1. Implementation of a Workable Program for Community Improvements as set forth by the Department of Housing and Urban Development and certification of this program by HUD.

2. Enactment and enforcement of a Minimum Housing Code.

3. Initiation of Assisted Concentrated Code Enforcement Projects.

Financial Assistance for Local Code Enforcement Programs (Section 117):

1. Conditions

   a. At time of approval, City must have a workable program for community improvement (comprehensive system of codes).

   b. Workload will be programmed so that it can be expected that building in area affected may be brought up to code in three years.

   c. Area must be built up and predominantly residential in character, with residential uses distributed throughout the area.

   d. Census, survey, etc. must indicate that code violations exist in at least twenty percent of buildings in the area and that these violations are distributed throughout the area.

   e. Conditions of the area must be such that the proposed program for concentrated code enforcement and the provision of the proposed public improvements will be adequate to eliminate code violations and arrest the decline of the area.

2. Benefits

   a. Up to two-thirds of cost of program for municipalities with a population of over 50,000 according to the 1960 Census.

   b. Up to three-fourths of the costs of the program for municipalities with a population of 50,000 or less, according to the 1960 Census.

   c. Federal relocation grant to the municipality to cover the entire cost of relocation payments to eligible families, individuals, businesses, and nonprofit organizations that are displaced because of code enforcement program.

d. Three percent loans to eligible property owners or tenants for financing and rehabilitation required to make property conform to applicable code requirements.

e. Federal rehabilitation grants ($1,500 or less) to eligible families and individuals for repairs or improvements required to make property conform to applicable code requirements.

f. FHA mortgage insurance for properties eligible under Section 220 of the National Housing Act, including house improvement loans under Section 220(h).

Nonassisted Conservation:

The Urban Renewal Administration works with the City regarding eligibility planning and approval of nonassisted projects. However, the local program is not assisted by federal grants and loans. Properties affected are eligible for selected FHA mortgage insurance.

MAJOR STREET ANALYSIS AND PLANS

The City of Pearland forms one segment of a much larger region for which the general development influences and boundaries have been mapped and reviewed. (See page 1-17 and 1-23). A vast network of major streets consisting of Interstate and State Highways, freeways and major city streets support the movement of goods and people within the region and to other points. This network plays an important role in the ability of the region and its parts to grow and function properly and to the health, safety and welfare of its people, industry and business.

Planning Applications:

The major street plan must satisfy many purposes and be a continuous reference for use by both public and private development. In the planning process, attention should be given to the following applications and objectives of the plan.

- Present a major street plan which will reduce the financial loss, hazard, and inconvenience caused by traffic congestion.
- Connect the complementary centers and related land use areas to allow their most effective utilization.
- Provide a framework for the logical growth of neighborhoods.
- Reduce long-range street construction costs by obtaining sufficient rights-of-way for future street widening, extensions, proper grades, and drainage.
- Reduce annual street maintenance costs by improving the standard of initial construction, and keep in balance the ratio of streets to total land area served.
- Establish more direct routes from residential neighborhoods to areas of employment, business, and other neighborhoods.
- Provide by-pass routes for through traffic with no destination in the center of the City, and achieve the proper relationship of local and regional circulation.

Inventory of Existing Streets and Traffic Characteristics:

Existing street conditions are significant to the planning process as they help to determine the ability of a given street to move traffic, be expanded and what near future improvements should be considered.

Rights-of-Way: The rights-of-way for existing major streets is shown on the map on page 3-39. The findings related to this map are:

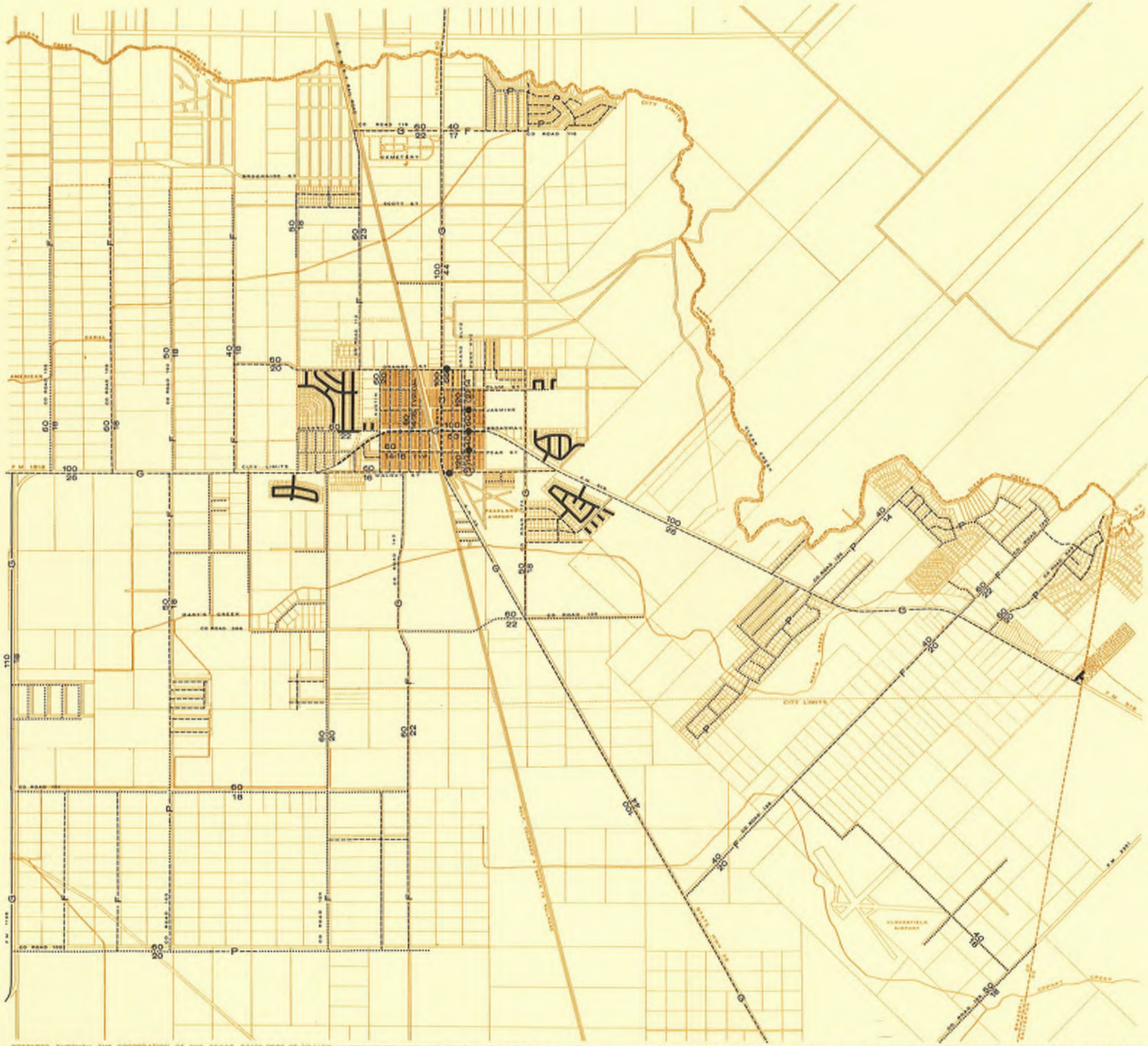
- Local streets designated as part of the Texas State Highway system have the widest present rights-of-way which are uniformly 100 feet.
- County Roads represent a major portion of through streets within the Pearland Area. Roads are mostly 60 feet wide.
- The City's Subdivision Ordinance specifies a right-of-way of 60 feet for streets without curbs and gutters. Most city streets have 60 feet of right-of-way.

Pavement Types and Conditions: The map on page 3-39 is keyed to show the width and condition of existing pavement. Reference to this map shows:

- Most local streets are improved with an asphalt surface without curbs and are in fair condition.
- Some streets and roads have only a shell surface.
- A relatively large number of streets within built-up subdivisions have only shell surfaces.
- The overall condition of many streets in the City is poor.

Street Drainage: Most of the existing streets in Pearland drain into open swale ditches consequently street centerlines are at a higher elevation than would exist if curbs and gutters were used.

Building Lines: Building setback are specified in the City's Subdivision Ordinance; however, no building line provisions allowing for the future widening of streets have been enacted.



DEVELOPMENT PLAN FOR PEARLAND, TEXAS

STREET CONDITIONS

(JANUARY 1969)

LEGEND

PAVEMENT TYPES

- CONCRETE WITH CURB
- CONCRETE WITHOUT CURB
- ASPHALT WITH CURB
- ASPHALT
- SHELL OR GRAVEL
- DIRT
- DEDICATED BUT UNOPENED

CONDITION

- —G— GOOD
- —F— FAIR
- —P— POOR

WIDTHS IN FEET

60 * RIGHT-OF-WAY, CHANGE IN WIDTH
18 CHANGE IN WIDTH ROADWAY

PREPARED THROUGH THE COOPERATION OF THE TEXAS STATE DEPT OF HEALTH THE PREPARATION OF THIS MATERIAL WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE URBAN PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

PLAN MAP

BASE MAP 1968

Traffic Characteristics: Traffic characteristics show how intensely streets are being used, the rate of growth in vehicular trips and are an indicator of the efficiency of the street system.

Existing Flow Patterns: The diagram on page 3-43 shows the 24 hour volume of traffic movements occuring on selected streets in Pearland on an average week day during 1968. These volumes were determined from a composite of counts made by the City, the District Office of the Texas Highway Department and the Consultants. The present use of streets reflects:

- The highest build-up of local traffic occurs on State Highway 35 - between Broadway and Orange Streets where the averaged 24 hour count is approximately 14,000 vehicles.

- Traffic south of Walnut Street on State Highway 35 reduces appreciable to approximately 8000 vehicles during the average 24 hour period.

- A larger volume of traffic goes east on FM Route 518 rather than west. Near the intersection of FM 518 with State Highway 35, approximately 8000 vehicles use the east leg of FM 518 and 6000 the west leg. Traffic volumes reduce more quickly on the west leg of FM 518.

- Traffic volumes exceeding 3000 vehicles in the averaged 24 hour period occur on -

  Mykawa Road - south of Scott Road
  Old Alvin Road - north of FM 518
  Knapp Road - west of Highway 35

- Traffic on most of the remaining City streets and County roads is less than 1000 vehicles during the average 24 hour period.

Variation in Traffic Flow: The hourly, daily and monthly variation in traffic flow patterns is reflected by the following data.

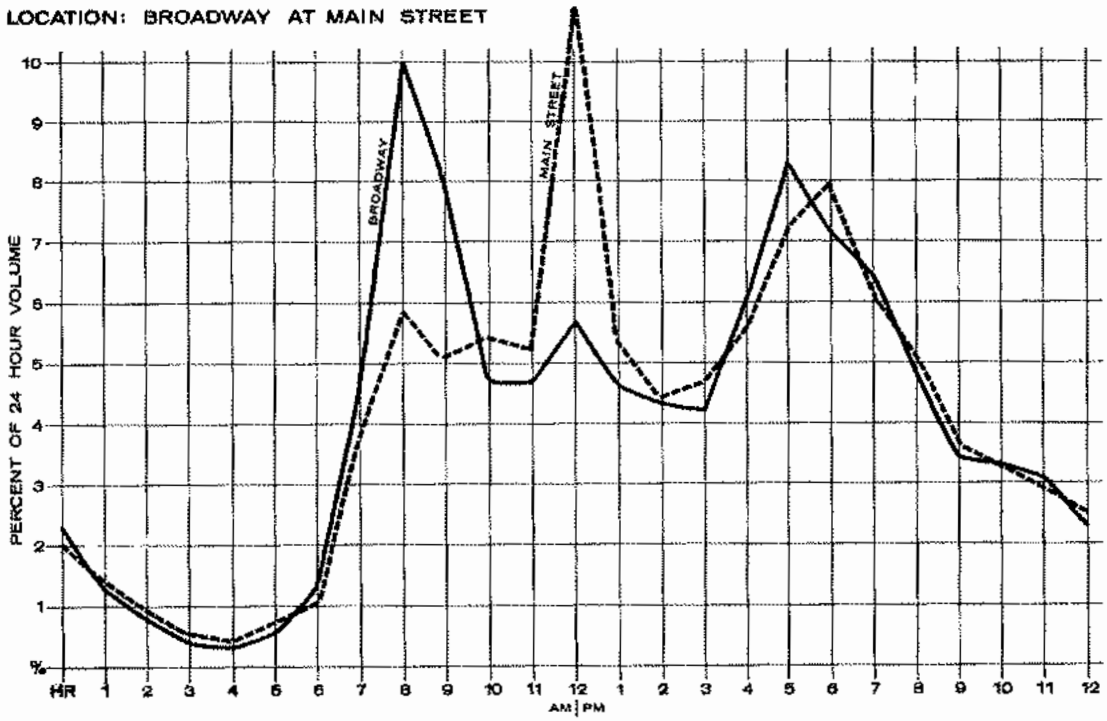
Hourly Variation: The hourly variation in traffic flow at selected stations in Pearland are reported in table T-1 and on the sketch shown on page 3-43 On most local streets traffic peaks between 7 a.m. and 8:00 a.m. and 5:00 p.m. and 6:00 p.m., with the peak hour volume representing eight of ten percent of the 24 hour total. The hourly distribution of traffic is more uniform on local streets than it is on the streets which are part of the regional highway system.

Daily and Monthly Variation: The traffic counts made in Pearland were inadequate to calculate the precise daily and monthly variations in local traffic patterns. Data from count stations located in the region provide the information shown in tables T-2 and T-3. The characteristics reflected are:

- The summer months have the highest monthly volume of total traffic with the peak month accounting for approximately 9.3 percent of the yearly total.

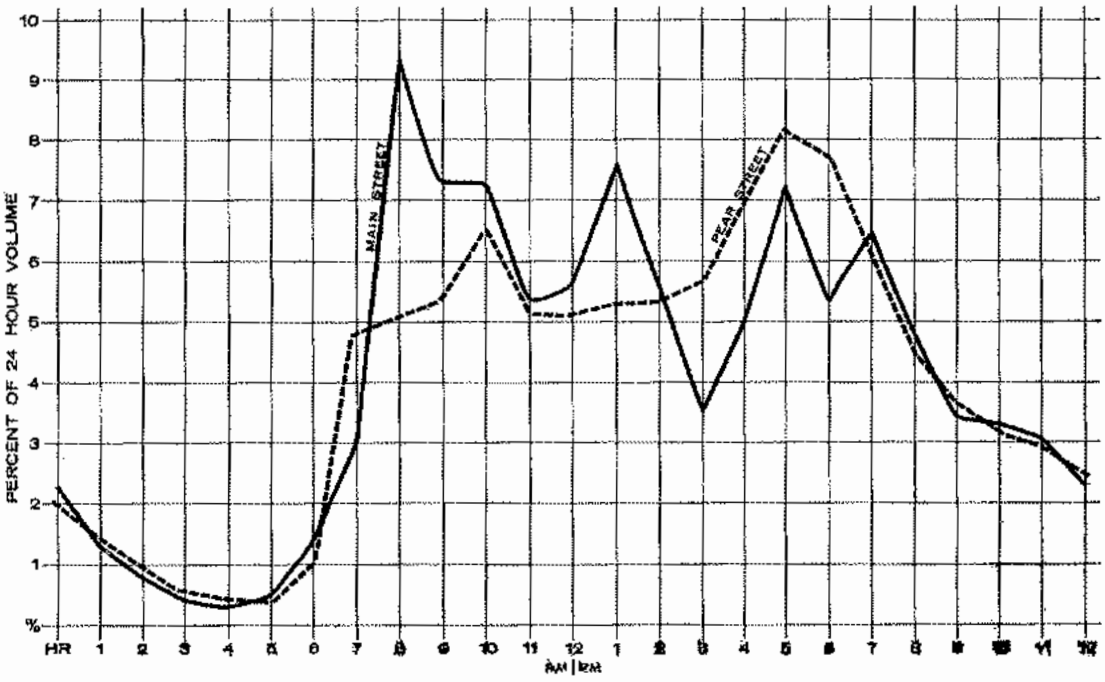
- Thursday has the highest traffic of the week and accounts for about 16.0 percent of the weeks total. Sunday has the least traffic.

LOCATION: BROADWAY AT MAIN STREET



HOURLY TRAFFIC DISTRIBUTION · 1968

LOCATION: PEAR STREET AT MAIN STREET



HOURLY TRAFFIC DISTRIBUTION 1968

TABLE T-1 - HOURLY VARIATION IN TRAFFIC - SELECTED LOCATIONS

PEARLAND, TEXAS - 1968

Hour	Intersection St. Hwy. 35 North-South	%	Intersection FM 518 East-West	%	Intersection St. Hwy. 35 North-South	%	Intersection Pear St. East-West	%	Intersection St. Hwy. 35 North-South	%	Intersection Brookside Ave. East-West	%
12-1 a.m.	137	1.3	98	1.3	138	1.3	14	1.3	76	1.3	4	1.4
1-2	84	.8	60	.8	83	.8	9	.8	47	.8	2	.7
2-3	42	.4	30	.4	42	.4	4	.4	23	.4	1	.3
3-4	32	.3	23	.3	31	.3	3	.3	17	.3	1	.3
4-5	53	.5	38	.5	53	.5	5	.5	29	.5	1	.3
5-6	137	1.3	98	1.3	137	1.3	14	1.3	76	1.3	4	1.4
6-7	404	3.8	345	4.6	509	4.8	32	3.0	309	5.3	24	8.3
7-8	614	5.8	763	10.0	774	7.3	101	9.3	346	6.0	28	9.7
8-9	534	5.1	599	7.9	569	5.4	79	7.3	266	4.6	23	8.0
9-10	568	5.4	353	4.7	692	6.6	79	7.3	271	4.7	23	8.0
10-11	547	5.2	352	4.7	535	5.1	57	5.3	302	5.2	12	4.2
11-12	1,234	11.7	428	5.7	533	5.1	61	5.6	283	4.9	10	3.5
12-1 p.m.	563	5.3	353	4.6	558	5.3	82	7.6	311	5.4	11	3.8
1-2	460	4.4	322	4.3	555	5.3	61	5.6	307	5.3	15	5.2
2-3	500	4.7	314	4.2	583	5.5	38	3.5	367	6.3	19	6.6
3-4	588	5.6	459	6.0	636	6.0	54	5.0	398	6.9	15	5.2
4-5	754	7.2	625	8.3	857	8.1	78	7.2	452	7.8	16	5.5
5-6	837	7.9	535	7.1	809	7.7	57	5.3	581	10.0	12	4.2
6-7	675	6.4	404	6.4	675	6.4	69	6.4	372	6.4	18	6.2
7-8	506	4.8	363	4.8	507	4.8	52	4.8	279	4.8	14	4.8
8-9	359	3.4	257	3.4	359	3.4	37	3.4	198	3.4	10	3.5
9-10	348	3.3	249	3.3	348	3.3	36	3.3	192	3.3	10	3.5
10-11	327	3.1	234	3.1	327	3.1	34	3.1	180	3.1	9	3.1
11-12	243	2.3	174	2.3	243	2.3	25	2.3	134	2.3	7	2.4

TABLE T-2 3-45

DAILY VARIATION IN TRAFFIC VOLUME

	% Of Week	Factor*
Sunday	10.5	1.36
Monday	14.1	1.01
Tuesday	14.6	.98
Wednesday	15.5	.92
Thursday	16.0	.89
Friday	14.6	.98
Saturday	14.5	.99

TABLE T-3

MONTHLY VARIATION IN TRAFFIC VOLUMES

	Factor*
January	1.20
February	1.08
March	1.04
April	1.00
May	.98
June	.90
July	.90
August	.89
September	1.00
October	1.02
November	1.00
December	1.03

*Factor is used to adjust monthly or daily counts to average.

Longrange Planning Considerations:

The longrange planning will become increasingly important to the major street decision making process in Pearland. Presently there are few locations in the City where traffic becomes congested during peak hour flows. Investigations show that traffic is increasing and will in a few years have a serious influence on local streets unless the necessary provisions are made and coordinated with the City's development. The growth characteristics of motor vehicle registration and their use is outlined in the following paragraphs.

Motor Vehicle Registration - Texas: Approximately 1.8 million motor vehicles were registered in Texas in 1940. By 1965 this number had risen to over 5.9 million. The twenty-five year increase in Texas amounted to 231.9 per cent. The rate of increase in vehicular registration for Texas was about 1.6 times that of the United States. The population of Texas between 1940 and 1965 increased 123 percent.

Harris County: Motor vehicle registration in Harris County increased from 170,000 vehicles in 1940 to over 838,000 vehicles in 1965. The increase represents a 393 percent growth above the 1940 level and a rate of increase 2.7 times the percent of increase for the United States during the same period. The population of Harris County increased 174.4 percent during the twenty-five year period 1940 to 1965.

Vehicles Per Person: The relationships of vehicles per person in 1940, 1960, and 1965 are summarized as follows:

	1940	1960	1965
United States	.259	.416	.438
Texas	.280	.509	.575
Harris County	.321	.484	.517

The general trend in the ratio of vehicles to people is that there is currently one car to every two people compared to one car for every four persons in 1940.

Looking to the future, the rate of growth in motor vehicular registration is expected to exceed the rate of population growth but will not increase as rapidly as during the 1940 to 1965 period. The ratio of vehicles to people will continue to increase but at a much slower rate than in the past.

Traffic Counts - Highway 35 - 1964-1968: Traffic counts have been made at comparable stations located in Pearland on Highway 35 for several years. The growth in traffic volume at these stations between 1964 and 1968 is reported as follows:

LOCATION AND DATE	COUNT	NO. INCREASE	PERCENT INCREASE
North Entrance of City on Highway 35			
1964	8,120		
1965	10,830	2,710	33.4
1966	11,710	880	8.1
1967	12,610	900	7.7
1968	13,800	1,190	9.4
South Entrance of City on Highway 35			
1964	6,270		
1965	6,340	70	1.1
1966	6,910	570	8.9
1967	7,400	490	7.1
1968	8,000	600	8.1

Source: Houston - Galveston Area Traffic Map - 1964, 1965 , 1966
Brazoria County Traffic Map - 1965 and 1967

Trip Generation - Origin and Destination: Auto trip generation reflects the use of passenger cars by people. Trip purpose, origin and destination and the influence of land use on trip purpose are all important longrange major street planning considerations. The following information reflects these characteristics within the system of which Pearland is a part as recently developed for the Houston - Harris County Transportation Plan, 1964.

Trip Generation

one car families	5.2 auto trips per day
two car families	8.6 auto trips per day
three car families	11.1 auto trips per day

The average number of trips per car by the number of cars owned.

5.2 per car for one car families
4.3 per car for two car families
3.7 per car for three car families

Mode of Travel: The characteristics of the mode of travel related to trip destination is reflected in the following information.

MODE:	PERCENT OF TRIPS
Internal Person Trips	
Auto Driver Trips	62.5
Passenger Trips	
In Passenger Cars	30.9
In Transit or School Buses	6.3
In Trucks	0.2
In Taxis	0.1
Total Person Trips	100.0
Internal Vehicle Trips	
Passenger Car Trips	58.4
Truck Trips	8.4
Taxi Trips	0.5
Total Internal Trips	67.3

Land Use Influence: The relationship of person trips to land use types is reflected in the following information:

LAND USE TYPE	PERCENT OF PERSON TRIPS
Residential	4.3
Manufacturing	4.6
Transportation-Communication	4.4
Commercial	64.0
Public and Quasi-Public Building	22.6
Public and Quasi-Public Open Space	0.1
Total	100.0

Regional Thoroughfare Plans: Major streets in Pearland must function within the framework of regional plans in addition to their local purpose. The map on page 3-51 shows the current proposals for major streets outside of but effecting Pearland. There has been general continuity in the development of the Regional Plan among the State and Local Governmental Units involved. These regional plans do not reflect the same degree of refinement and public acceptance for all routes. Some routes have been positively established while others are under design study. Also, some will have a greater impact on local development.

The planning implications of the Regional Plan in relationship with Pearland's Plan are:

The proposed - South Belt
Pearland - Alvin Freeway
Houston - Freeport Freeway and
Gulf Freeway
form the basic structure of Pearland's ties with regional highways.

The proposed major streets for Pearland supported by FM - 518, 1128 and 528; State Highway 35 and extension of Cullen Road, South Park Boulevard and other existing regional routes will complete the interchange of local and through traffic.

Pearland's major street plan will continue to be effected by regional major thoroughfare planning and decision making process. Modifications to regional plans must be paralleled by re-evaluation of Pearland's Plans.

Trip Production by Neighborhood: Table T-4 contains a projection of estimated auto trips by Neighborhood Units for future dates in Pearland. This estimate assumes:

1.4 cars per family
62 percent of all trips or by passenger car

DEVELOPMENT PLAN FOR PEARLAND, TEXAS

REGIONAL THOROUGHFARES

LEGEND

EXISTING	PROPOSED	
═══	═══	INTERSTATE HIGHWAYS
───	─ ─ ─	STATE HIGHWAYS
───	─ ─ ─	SECONDARY STREETS

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS
HOUSTON & SAN ANTONIO

NORTH

SCALE IN MILES 1958

WILLIAM C. WALSH - CONSULTING ENGINEER
PEARLAND, TEXAS

PREPARED WITH THE COOPERATION OF THE STATE DEPT OF HEALTH
THE PREPARATION OF THIS MATERIAL WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM
THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE URBAN PLANNING
ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

PLAN MAP BASE MAP 1958

TABLE T-4 - ESTIMATED TRIP PRODUCTION

PEARLAND, TEXAS - 1990

Neighborhood or Planning Unit	1990			ULTIMATE*		
	Population	Households	Estimated Trips	Households	Estimated Trips	Peak Hour Volume @ 10% ADT.
1	728	205	2,090	409	41,704	4,200
2	4,183	1,175	11,977	1,958	19,962	2,000
3	626	176	1,794	1,758	17,923	1,800
4	1,028	289	2,946	1,443	14,727	1,500
5	1,335	375	3,823	750	7,647	800
6	2,016	566	5,770	1,383	14,100	1,400
7	1,458	409	4,169	2,047	20,810	2,000
8	921	259	2,640	1,153	11,755	1,200
9	2,303	647	6,595	1,080	11,011	1,100
10	2,040	573	5,841	573	5,842	600
11	2,520	708	7,217	708	7,218	750
12	1,325	372	3,792	860	8,768	900
13	5,765	1,619	16,503	1,799	18,342	1,850
14	2,812	790	8,053	952	9,707	1,000
15	1,310	368	3,751	1,839	18,750	1,900
16	3,670	1,031	10,509	2,045	20,850	2,000
17	1,393	391	3,986	782	7,973	800
18	4,285	1,203	12,263	1,203	12,267	1,250
19	5,600	1,573	16,034	2,037	20,768	2,000
20	2,059	578	5,892	2,750	28,037	2,800
21	992	279	2,844	1,857	18,933	1,900
22	1,181	332	3,384	2,211	22,541	2,300
23	974	274	2,793	1,822	18,593	1,850
24	2,920	820	8,359	2,752	28,058	2,800
25	575	162	1,651	1,613	16,445	1,600
26	710	199	20,291	1,992	20,310	2,000
27	731	205	2,090	2,053	20,931	2,100
28	789	222	2,263	2,216	22,593	2,300
A	523	147	1,498	734	7,483	750
B	0	0	0	0	0	0
C	0	0	0	0	0	0
D	1,305	366	3,731	366	3,732	400
E	0	0	0	0	0	0
F	0	0	0	0	0	0
G	248	70	714	696	7,096	0
H	1,512	425	4,332	1,436	14,641	0

*With all residential developed.

Future Traffic Flow: The map diagram on page 3-55 reflects the future flow pattern and accumulation of traffic as projected using the population, traffic characteristics and land use information. The planning implications of the diagram are:

- There is expected to be a strong east-west movement of traffic, gravitating to the proposed Pearland - Alvin Freeway, industrial development adjacent to the Gulf, Colorado and Santa Fe Railroad and the central business and activity center of the City.

- Through traffic will gravitate to the major highways of the region.

- Peak hour traffic on some local streets may reach 4000 plus vehicles.

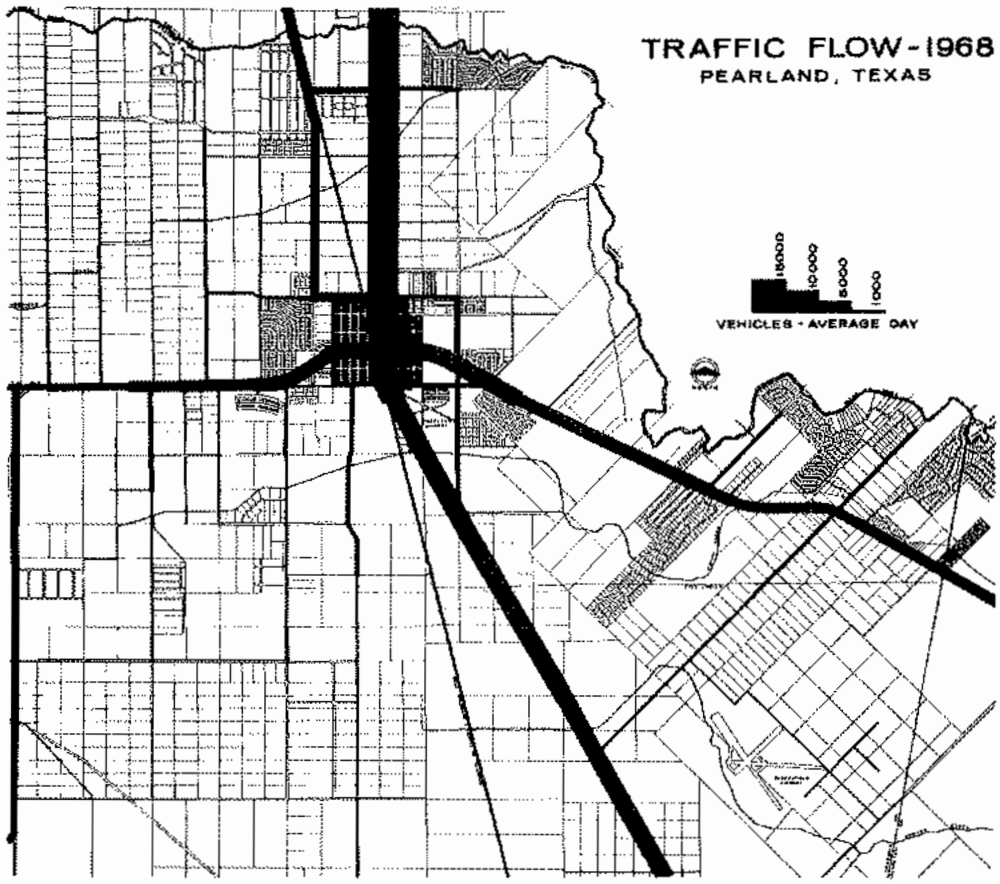
Development Program:

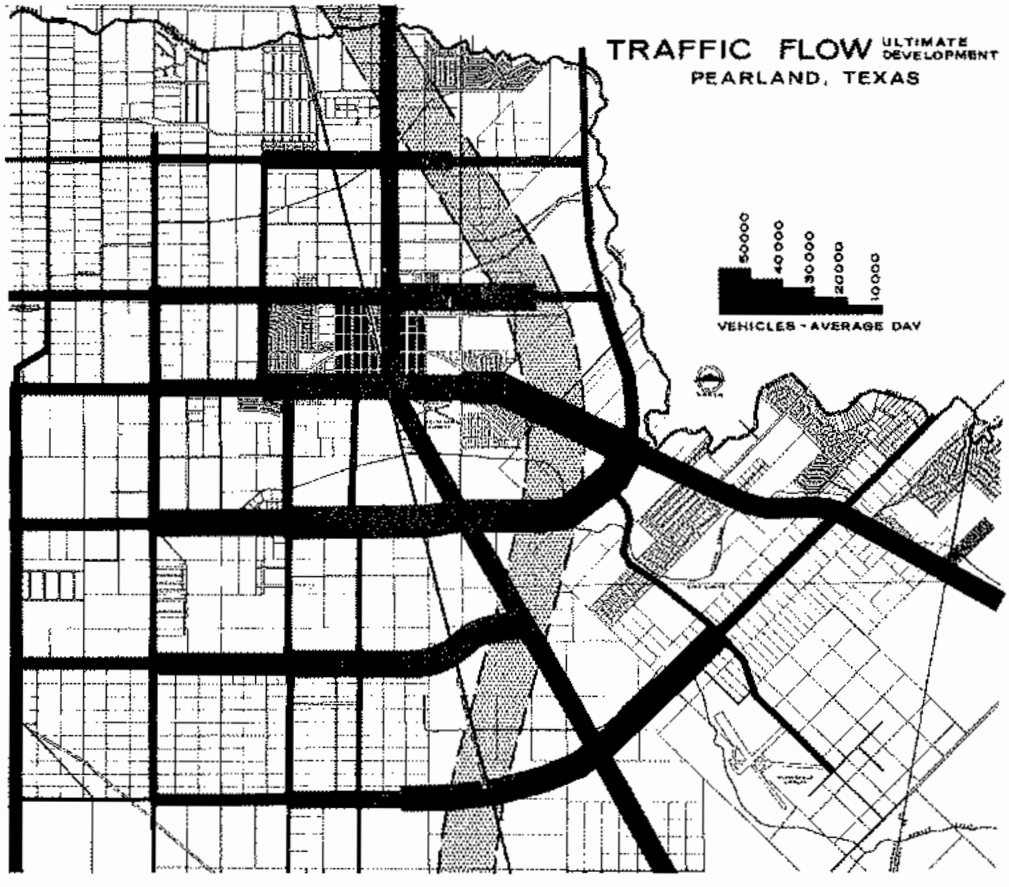
The Major Street Plan, developed in relation with the findings and recommendations of the planning considerations and preceding development influences is shown on page 3-57.

Digest of Proposals: Table T-5 provides a basic schedule for long range street development. Most of the proposal fits both the local and regional development patterns and should not provide any map implementation problems. Two exceptions may be:

- To re-route the extension of FM 1128 to County Road 108 instead of 105 as shown. This would afford a better connection of this route to South Park Boulevard in Houston. It would also excessively increase the size of the adjacent neighborhood units which was the primary reason for selecting County Road 105 as the preferred route.

- The extension of Mykawa Road from Orange Road to FM 518 as an alternate for the use of Austin Street. The preferred solution is to extend Mykawa Road.


TRAFFIC FLOW - 1968
PEARLAND, TEXAS
15000
10000
5000
1000
VEHICLES - AVERAGE DAY


TRAFFIC FLOW ULTIMATE DEVELOPMENT
PEARLAND, TEXAS
50000
40000
30000
20000
10000
VEHICLES - AVERAGE DAY

The transportation study group of which the Texas Highway Department and Regional Governmental Subdivisions are sponsoring agencies have established that a corridor of arterial traffic serving the Pearland - Alvin sector is essential to regional highway systems needed. The Texas Highway Commission has authorized that a location study for a control access highway to serve this corridor be made. Within the Pearland Planning Area, two routes - one east of Telephone Road and the second west of Telephone Road have been evaluated.

Preferred Route: A thorough evaluation of the existing information related to the acquisition of rights-of-way, staging of construction, ability to serve Pearland and the Planning Area, and the Freeway's impact on the growth and development of the City has been made. The conclusion of the evaluation is that the location east of Telephone Road will best serve the Comprehensive Development of Pearland. Some of the findings in support of this conclusion are;

- The east location would have a more beneficial effect to the Central City Development. The Comprehensive Plan will endeavor to unify the existing business which are fragmented and form a strong multi use Central City Activity Center.

- The East Freeway location well affords better access to the Central Activity Center from more locations in Pearland and from other points in the region. This situation would assist the Activity Center in capturing a larger portion of the region's business. The East Freeway location would:

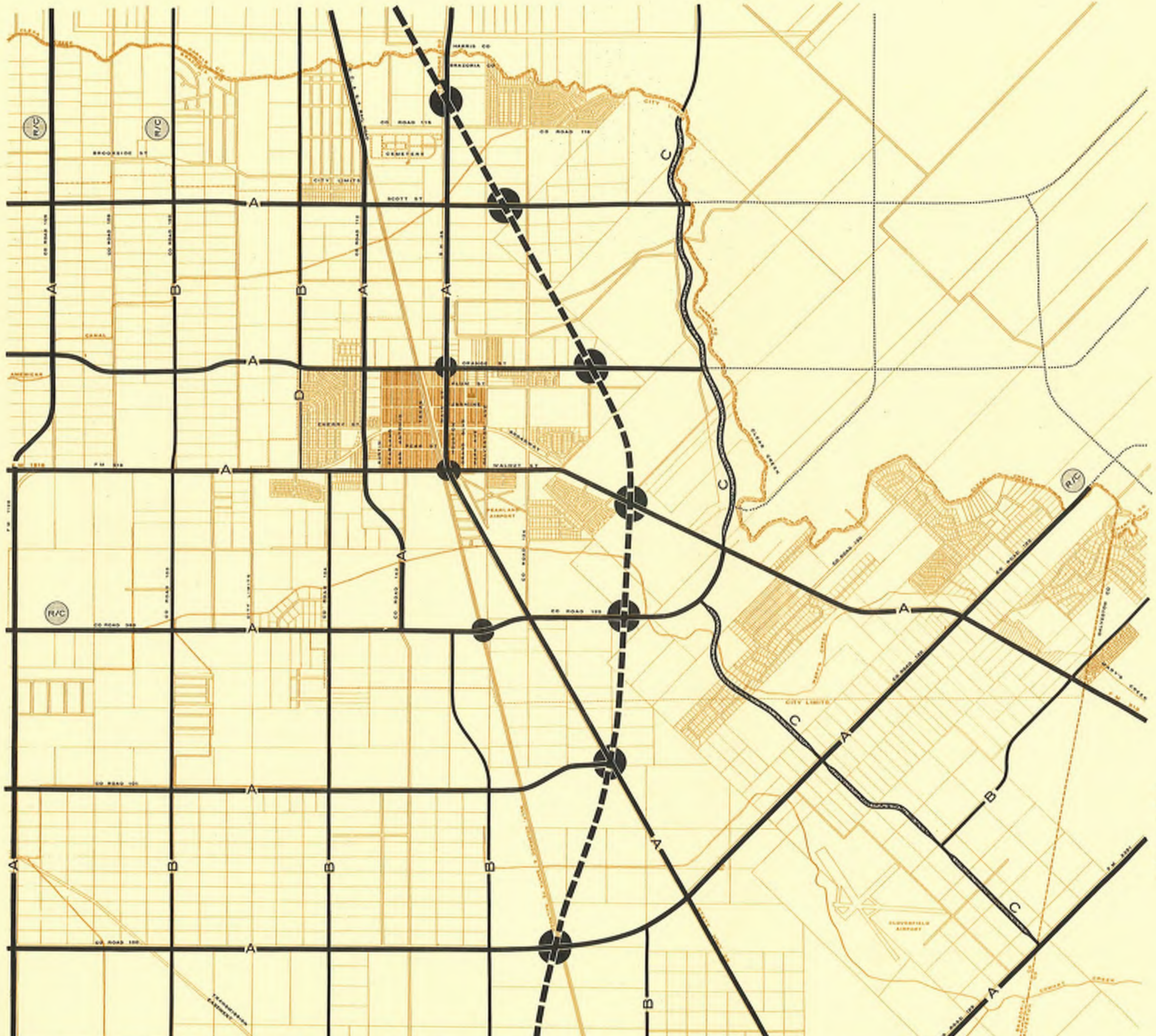
    - Better complement the other elements of the existing and proposed Freeway System.

    - Be better positioned in relation with the areas existing and future population distribution.

    - Permit phase construction.

    - Disturb less family units and require that less parcels be divided.

    - Respond to people circulation needs at an earlier date.



DEVELOPMENT PLAN FOR PEARLAND, TEXAS

MAJOR STREET PLAN

LEGEND

MAJOR STREET

SYMBOLS SECTION

A

B

C

SECONDARY STREET

D

R/C REGIONAL CONNECTOR STREET

INTERCHANGE AND GRADE SEPARATION

GRADE SEPARATION

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS
HOUSTON & SAN ANTONIO TEXAS

NORTH

1000 0 1000 2000 3000
SCALE IN FEET

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PLAN MAP

BASE MAP 1968

TABLE T-5 - DIGEST OF MAJOR STREET PLAN PROPOSALS - PEARLAND, TEXAS

Street	Rights-Of-Way Existing	Rights-Of-Way Proposed	Connector Regional Hwy.	Bldg. Line*	Pavement** Existing	Pavement** Proposed	Section Type	Remarks
East - West Routes								
C.R. 106 - Scott Road	40-50	120		60	16	60-84	A	
C.R. 94 - Orange Road	60	120		60	20-22	60-84	A	
FM 518 - Broadway	100	120		60	24-53	60-84	A	
C.R. 386 & 125 - Magnolia Road	40-50	120	x	60	20	60-84	A	Connector - Dallas Street Road & Winkler Drive
C.R. 101 & Extension	60	120		60	18	60-84	A	
C.R. 100 & 126 - Dixie Farm Road	40	120	x	60	20	60-84	A	Connector - Del Bellord & Choate
C.R 414 & Extension	50	80		40	18	48	B	
C.R. 129 - Pearland-Friendswood Connector	50	120		60	18	60-84	A	
North - South Routes								
FM 1128 - C.R. 105 - Roy Road	60-110	120	x	60	18	60-84	A	Connector - South Park Boulevard - City of Houston
C.R. 103 & Extension - Harkey Road	50	120	x	60	18	60-84	A	Connector - South Wayside - City of Houston
C.R. 104 - McLean Road	60	80		40	20	48	B	
C.R. 107 - Woody Road	50-60	80		40	18	48	B	
C.R. 143 - Pearland Sites Road	60	80		40	22	48	B	
Austin Street	60	60	-	-	20	44	D	Alternate Proposal to Mykawa Road
C.R. 112 - Mykawa Road	60	80		40	23	48	B	
Industrial Blvd. (South)	-	80		40	-	48	B	
State Hwy. 35 - Telephone Road	100	120		60	44-66	72	A	A Section Without Median
Clear Creek Parkway	-	120(+)	x	-	-	48	C	Connector - Dallas Street Road & Winkler Drive
C.R. 127 - Mary's Creek Parkway	40	100(+)		-	18	48	C	

*From the center line of the right-of-way
**First Phase 60 - with median
Second Phase 84 - with median

Implementation Policy: It is recommended that all future streets have curbs and gutters and that the maximum rights-of-way widths be acquired. It is further proposed:

- All traffic lanes be a minimum 12 feet wide.
- A median be provided as an island for traffic desiring to make left turns.
- That building lines be established on all major streets.
- Unless otherwise recommended by the Texas Highway Department, all street intersections designated as points of grade separation have diamond type interchanges.

Intersection Details: There are several locations in Pearland where implementation of the major street plan requires plans for connections between existing and proposed streets or where redesign is necessary to correct a dangerous angle of roadway intersection. These situations occur in or near the location of the original townsite of the City and proposals for improving the flow of traffic will be made on the larger scale Central Area Development Plan Map.

TRANSPORTATION ANALYSIS AND PLANS

People and goods are circulated within Pearland and to points outside of the City by means other than the passenger car. These movements can be generally grouped under one of several systems of transportation, each having its individual function, planning consideration, advantages or disadvantages. These systems include the following considerations and plans.

RAIL TRANSPORTATION

Pearland's railroad facilities form an element of the Santa Fe system locally known as the Gulf,Colorado and Santa Fe Railroad.

Planning Application:

The construction of the railroad in 1883 through the area that has become Pearland was a formative step in the origin and following development of the City. Although today's rail facilities are not extensive, they are expected to be of increasing importance as more industrial development occurs. The objectives of the following analysis is to evaluate the ability of the present railroad facilities to serve the existing and future industrial and business community and to consider the possible conflict of train movements with vehicular circulation.

Existing Situations:

The location and extent of existing rail facilites are diagrammatically shown on the map found on page 3-63 . These improvements include:

- Main Line - consisting of a single track running in a south-east direction through the Planning Area and located near the center of this area.
- Passing Track - with a 105 car capacity located west of the main line and opposite of the freight depot.
- Team Track - with a 10 car capacity situated east of the main line and the freight depot.
- Private Industrial Spurs - serving the American Rice Growers Co-op Associations and the Capital Pipe and Steel Products, Inc. (Warehouse).
- Freight Depot.

The main line is the only facility in the immediate area and accomodates traffic from the Santa Fe, Missouri Pacific, Rock Island and Burlington Lines. The Santa Fe Railroad provides the only freight service in Pearland. The major point of vehicular traffic crossing the railroad is at FM 518. Orange Street has recently been opened over the main line of the railroad and vehicular traffic on this route is increasing. Other small volume highway crossings occur at Knapp and Magnolia Roads. Relatively few highway grade crossings occur considering the fact that the railroad traverses several miles of the Planning Area.

Development Program:

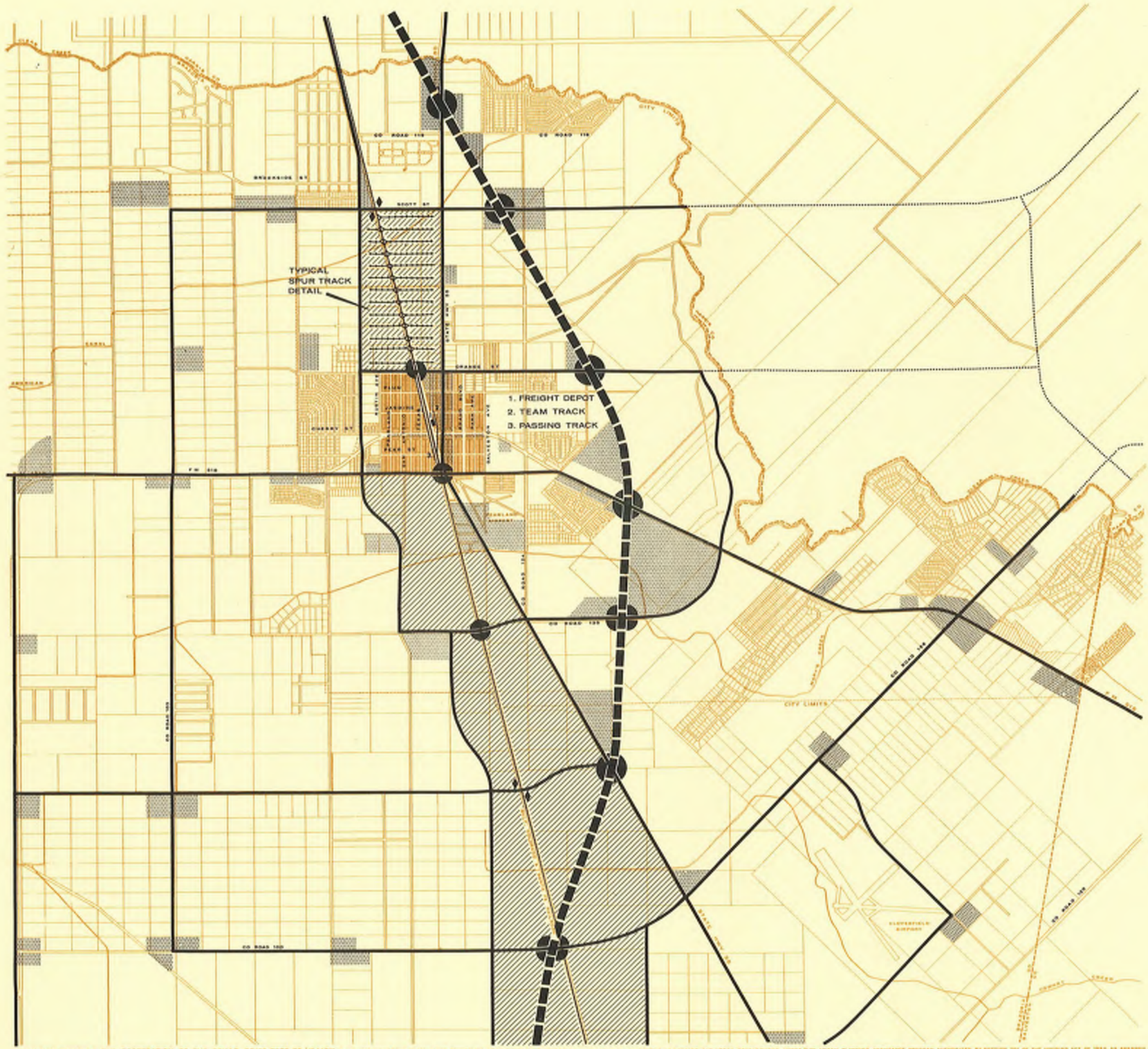
The recommendations for expanding service and achieving a safe and more effective relationship between the railroad operations and future City development are shown on the map on page 3-63. The long-range development program includes the following proposals:

Vehicular and Train Movements: The Major Street Plan developed for the Pearland Planning Area does not substantially increase the number of street and railroad crossings above the present level. This condition works to the advantage of both the City and the railroad as the points of possible vehicular - train conflict are less. The following treatment is proposed at locations where train and vehicular movements intersect.

- Grade Crossings - controlled with automatic gates and lights at the intersection of the railroad with:
  - Knapp Road
  - Scott Road
  - County Road 101
- Grade Separations - structures at the intersection of the railroad with:
  - Orange Street
  - Walnut Street (New location for FM 518)
  - Magnolia Road (County Road 125)

DEVELOPMENT PLAN FOR PEARLAND, TEXAS

TRUCK ROUTES & RAILROADS



LEGEND

- TRUCK ROUTES
- RAILROADS (EXIST. FROM — PROP.)

PROPOSED

- FREEWAY
- INDUSTRIAL PARKS
- INTERCHANGE AND GRADE SEPARATION
- GRADE SEPARATION
- RETAIL CENTERS
- RAILROAD GATES

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS
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NORTH

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PLAN MAP

BASE MAP 1968

Service to Industry: The potential for the railroad to serve a greatly expanded industrial complex in Pearland exists. The principal method by which greater utilization would be realized is for spur tracks to be constructed at right angles to the main line of the railroad. The relationship of the railroad with adjacent properties are such that spurs can be easily constructed at almost any point on the railroad, thus offering great flexibility for industrial site planning.

Other Railroad Facilities: It is anticipated that the existing freight depot, team tracks and passing tracks will continue in operation at their present location for many years. In the event that at some future date they do not have the capacity to meet the needs of the City or changes are desired by the Railroad Company, selected improvements can be made. Expanded team tracks or freight facilities would probably be located south of Walnut Street as it is at this location the greatest future industrial development is anticipated. The location for more extensive freight handling facilities should be selected to best satisfy the rail function it is to perform and achieve good control of vehicular and train movements. Safety is a very important planning consideration regarding railroad and City development.

TRUCK ROUTES AND TRANSPORTATION FACILITIES

An active and growing motor freight industry has been established within the Urban Complex of which Pearland is a part.

Planning Applications:

The use and operation of trucks will effect the design of streets and other facilities necessary to their operation and upon the business and industrial community which they service.

The objectives of the motor freight planning element should accomplish the following:

- Reduction of conflicts between trucks and auto trip movements.
- Reduction of truck movements in residential neighborhoods.
- Plan for truck routes designed with heavier bases for greater weight and larger turning radii.
- More efficient use of freight-handling equipment.
- More efficiency platform operations.
- Improved method for the transfer and handling of freight at terminals and other interchange points.

Existing Situation:

Present truck operations in Pearland are characterized by the following patterns:

- 12 hour traffic volume counts (6 a.m. to 6 p.m.) revealed the following ratios of commercial to total vehicles.

  Highway 35 and Pear Street - October 1968
  North and south on Highway 35 = 14.4%
  East and west on Pear Street = 3.7%
  Highway 35 and FM 518
  East and west on FM 518 = 3.8%

- Comparative counts at an earlier date reflect a smaller percent of commercial vehicles to total vehicles at the Highway 35 count station.

- There are relatively few local businesses requiring extensive truck service which indicates that a high percentage of commercial vehicles are passing through the City. Most of these trucks are using Highway 35.

- The ratio of truck registration with all vehicles for the past ten years in Harris County range between 14.37% to 12.53%. The present ratio exceeds 13.0%.

Development Program:

The major concerns of the long-range trucking facilities plan are route and terminal. The proposals are:

Truck Routes: Commercial vehicles designed for local deliveries and service have much different operating characteristics than do tractor - trucks hauling bulk freight. The design wheel loadings for large trucks can be three times the loading of smaller service trucks. Analysis of the land use patterns for Pearland reveal that it is possible to identify zones where commercial vehicles with wheel loadings under 14,000 pounds are needed (principally shopping centers) and zones where larger trucks will be operating will be required (industrial districts). The map on page 3-63 identifies proposed truck routes. The recommendations are:

Type A. Routes - with designed Wheel Loads - 18,000 to 24,000 pounds.

- Proposed Alvin - Pearland Freeway
- State Highway 35 - (Telephone Road)
- Scott Street - Mykawa Road to the Freeway
- Orange Street - Mykawa Road to the Freeway
- FM 518 (Re-routed on Walnut Road)
- Magnolia Road (County Road) - Pearland Sites Road to the Freeway
- Mykawa Road
- Pearland Sites Road
- County Road 100 - Pearland Sites Road to Telephone Road
- County Road
- All major streets in the Central Business Area and all streets in the industrial districts

Type B. Routes - with design Wheel Loads 14,000 to 20,000 pounds.

- County Road 103 - Scott Street, south to County Road 100
- County Road 100 and 126 - outside of the industrial districts
- Designated parts of Clear Creek Parkway
- Designated parts of Mary's Creek Parkway
- Designated parts of County Road 414

Truck Terminals and Docks: Industrial development in Pearland will be paralleled with the establishment of motor freight docks at selected plant sites, docks and terminals for operating motor freight companies, truck loading and unloading zones at retail and other business establishments. Major terminals and docks development would be permitted in any of the districts designated for industry on the Land Use Plan and loading zones in any business and commercial uses zone.

Implementation Notes: The Development Programs for truck and railroad facilities should be reinforced with:

- Ordinance establishing truck routes
- Ordinance designating that off-street loading and unloading spaces shall be provided
- Approval of standards for Wheel Loads and turning radii designated truck routes

WATER TRANSPORTATION FACILITIES

The Houston Ship Channel provides a corridor for ocean draft vessels to penetrate inland approximately sixty miles and connections with a vast system of lesser navigable waterways.

Planning Application:

The region's existing water transportation system brings Pearland within the sphere of influence of:

- The third largest (cargo handled) seaport in the United States.
- Approximately 120 steamship lines, 90 tanker lines and 28 river barge lines.
- The intercoastal canal, sea-trains and fishy-back water commerce facilities.

The magnitude of these facilities have a pronounced effect on the industrial potential of Pearland and upon freight rates. The objective of the following investigation is to gain insight into the relationships of the region's water navigation facilities with the physical development of the Planning Areas and to local actions that may be employed to capture greater benefits from this resource.

Existing Situations:

The navigation facilities most influencing Pearland are:

Houston Ship Channel: The turning basin and major public wharves of the Houston Ship Channel are located about 8.5 miles due north of Pearland. The turning basin is the head of navigation for ocean draft operations on the channel. There are no plans for changes that would extend the channel or its wharves closer to Pearland. Major street access between Pearland and the basin is good and will be further improved as the South Belt and other major streets are opened or improved.

Bayport: Bayport is a 7250 acre industrial development located on the west side of Galveston Bay and approximately 15 miles east of Pearland. This complex has a port and turning basin which functions as a component of the Houston Ship Channel.

Other Ports and Channels: Major ports in the region are located at Texas City and Galveston. Smaller harbors have been developed at Kemah, Seabrook, Baytown and at other points on Galveston Bay. These points are connected with improved channels that are adequate to accomodate barges and pleasure craft. Still, smaller channels extend westward from the improved sections up Dickinson Bayou, across Clear Lake and up Clear Creek to a head of navigation west of Interstate Highway 45.

Related Investigations:

Clear Creek, through its connection with Clear Lake and the channel from Kemah to the Houston Ship Channel offers one potential connection between a part of Pearland and the region's water navigation systems.

The past investigation of this route for the purpose of developing a basin route into Clear Lake to NASA and Middle Bayou have shown that such improvements are possible yet would be complicated by existing bridges and other improvements that at the date of the investigation were owned by individuals that oppose any further improvement of the channels. A proposal for further study of the Clear Lake area for navigation purposes was contained in the 1970 budget message to the Congress. Such a study can be anticipated.

Findings, Conclusions and Recommendations:

The head of navigation on Clear Creek is shown on Area Development Influence Map found on page 1-23 and on the map shown on page 3-73. Navigation to the head is obtainable only by the smallest pleasure craft. The harbor and channel at Seabrook and Kemah are the practical limit of commercial operations.

Analysis of the available related information and a consideration of the factors necessary to enhance the feasibility of extending water transportation to Pearland provide the bases of the following statements.

Findings:

- Clear Lake and Clear Creek provide the only avenue by which a link could be established between Pearland and the region's water transportation system.

- To accomplish such a tie, an improved channel would need to be constructed from mile zero at Kemah to mile 21 in Pearland. The elevations at these points are:

  Stream mile 0 = elevation 0.0 feet MSL
  Stream mile 21 = elevation 46.0 feet MSL

- Existing bridges across the navigable portions of the creek are identified on the following page.

- Atstream mile 21 in Pearland, the creek is adjacent to residential land uses. Further complications would be experienced in linking the channel with the proposed industrial districts in the City.

- Much of the land adjacent to Clear Creek extending west of Clear Lake is used for residential purposes.

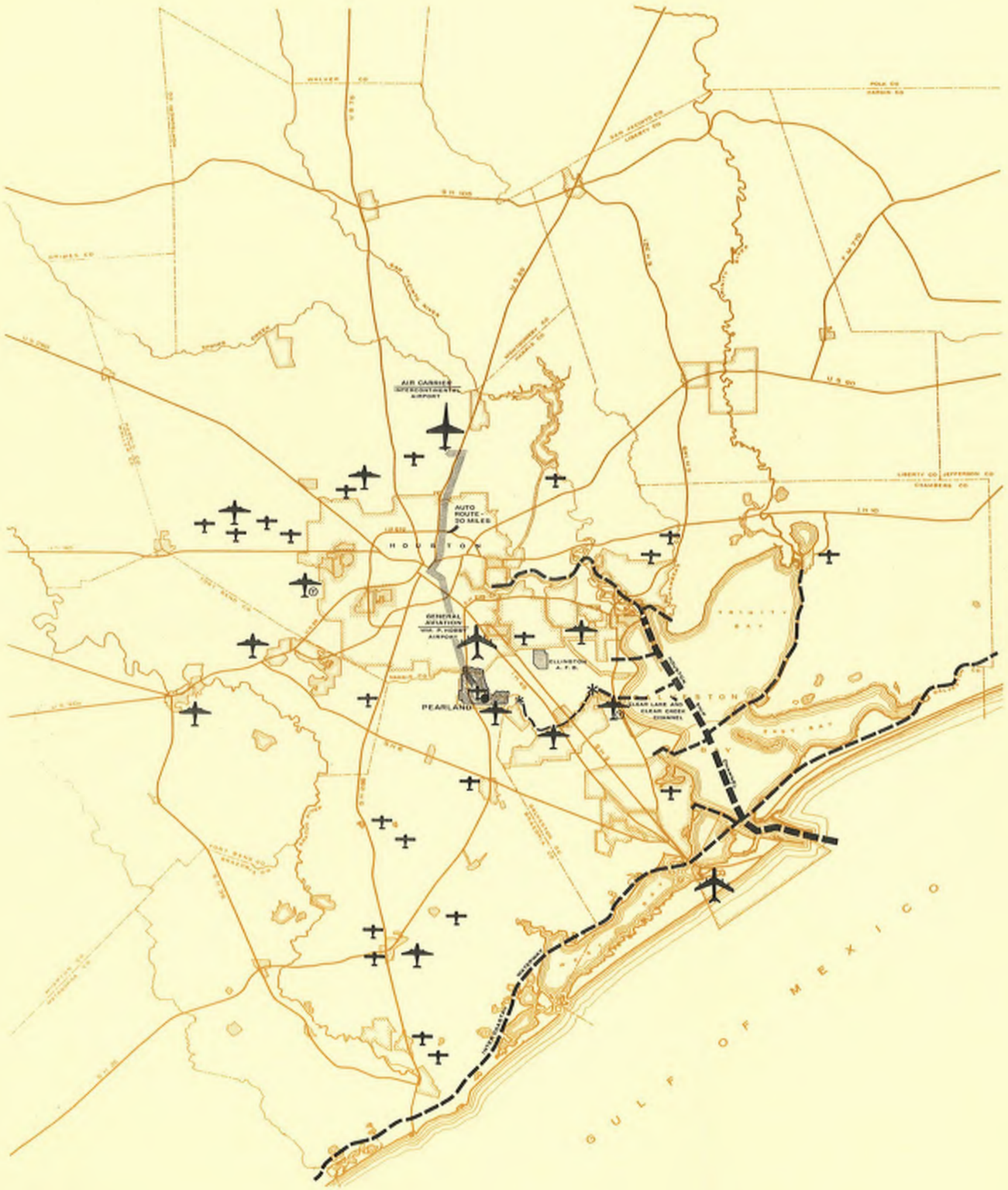
Conclusions:

- There is little evidence to support the construction of a navigation channel having the capacity to move commercial barges west of stream mile 5 to 8 which is in the vicinity of Manned Spacecraft Center and Webster.

Recommendations:

- The City should participate in all hearings related to any public use and improvement of Clear Lake and Clear Creek for navigation purposes.

- No further action appears warranted at this time.



DEVELOPMENT PLAN FOR PEARLAND, TEXAS

AIR AND WATER TRANSPORTATION

LEGEND

BARGE CHANNELS

* HEADWATERS OF 12' CHANNEL

* HEADWATERS OF 6' CHANNEL - PLEASURE CRAFT

AIRPORT FACILITIES

SYMBOL				
SERVICE TYPES	SECONDARY	LOCAL (T) TRUNK	CONTINENTAL	INTERCONTINENTAL
CORRECTED RUNWAY LENGTH	UP TO 3200'	3200' TO 4200' 4200' TO 6000'	6000' TO 7500'	OVER 7500'

● EXISTING FACILITIES TO BE REMOVED

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS
HOUSTON & SAN ANTONIO

NORTH

SCALE IN MILES 0 4 8

1968

WILLIAM C. WALSH - CONSULTING ENGINEER
PEARLAND, TEXAS

PREPARED WITH THE COOPERATION OF THE STATE DEPT OF HEALTH
THE PREPARATION OF THIS MATERIAL WAS FINANCED IN PART THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE URBAN PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

PLAN MAP BASE MAP 1968

EXISTING BRIDGE CHARACTERISTICS - CLEAR CREEK

Name and miles 1/ above mouth	Owner	Type	Clearance (feet) Horizontal	Vertical above MSL: Closed	Open	Year completed
Tex. Hwy. 146 Mile 0.32	Texas Highway Department	Bascule highway	130	40.0	Unlimited	1962
SP RR Mile 0.34	Southern Pacific RR Co.	Swing railroad	60	8.0	Unlimited	About 1908 (Rebuilt)
GH&H RR 2/ Mile 6.80	Galveston Houston & Henderson RR Co.	Fixed railroad	24	12.0	-	About 1951 (Rebuilt)
Tex. Hwy. 3 3/ Mile 6.89	Texas Highway Department	Fixed highway	36.5	14.0	-	1926
Pipeline trestle Mile 7.61	Texas Pipe Line Co.	Converted fixed railroad	30	13.1	-	1926
U. S. Hwy 75 Mile 8.38	Texas Highway Department	Fixed highway (twin)	40	16.0	-	1948
F.M. Rd. 528 Mile 13.38	Texas Highway Department	Fixed highway	20	24.2	-	1957
Friendswood Rd. Mile	Galveston & Harris Counties	Fixed highway	15	18.3	-	1941

1/ Mileage on improved channel.

2/ Will be about 1400' from proposed cutoff channel.

3/ Will be about 1100' from proposed cutoff channel.

AIRPORT DEVELOPMENT

Water transportation has influenced the growth and development of cities and regions for centuries. Railroads have had a similar influence for the past hundred years. Air transportation is a relatively recent mode for moving goods and people yet is having a major impact on today's urban centers. This is true in Harris and Brazoria County and in the Pearland Planning Area.

Planning Applications:

The basic objective of the Airport element of the Pearland Development Plan is to determine the facility needed to serve the existing and anticipated future development of the Planning Area. The evaluation must consider the relationship of the existing and possible future airports in the Planning Area with other airport facilities having a planning impact on local needs. In addition, the evaluation should:

- Consider the impact of aircraft operations on urban development.
- Consider the environmental impact of aircraft operations from airports within or effecting the Planning Area.

Existing Situations:

The people of Pearland live closer and are afforded better service to William P. Hobby Airport - the region's major facility than are most of million plus population of the region. This situation will be changed with the opening (1969) of the new Intercontinental Airport. The airports that are located in the Pearland Planning Area and its environs are:

Continental Airport:

William P. Hobby

Trunk, Secondary and Local Airports:

Pearland Airport
Clover Field Airport
Geneoa Airport
Spaceland Air Park
Andrau Air Park

Airport Facilities Record: The characteristics of the two airports in the Planning Area are:

Pearland Airport - 1968:

1. Elevation: 51' M.S.L.
2. Location: Latitude - 29° 33' 27"
   Longitude - 95° 16' 51"
3. Landing Areas: N-S, 30'x1800, Turf and Asphalt
   NW-SE, 30'x2600, Asphalt
4. Wind Coverage: 91%
5. Buildings: Several operating offices
   31 hanger spaces
6. Based Aircraft: 88
7. Aircraft Operations:

	1965	1968
Annual Local	27,420	30,000
Annual Itinerant	5,000	10,000
Total	32,420	40,000
Peak Month	4,000	4,500
Percent Increase		23.4%

Clover Field Airport - 1968:

1. Elevation: 43' M.S.L.
2. Location: Latitude - 29° 31' 18"
   Longitude - 95° 14' 24"
3. Landing Areas: NW-SE, 40'x4000, Asphalt
   E-W, 100'x3400, Turf
   NE-SW, 100'x2500, Turf and Asphalt
   N-S, 100'x2000, Turf
   NW-SE, 80'x2850, Turf
   NE-SW, 60'x2000, Turf
4. Wind Coverage: 91%
5. Buildings: Administration
   48 hangers
6. Based Aircraft: 78

7. Aircraft Operations:

	1965	1968
Annual Local	52,800	59,000
Annual Itinerant	6,720	11,000
Total	59,520	70,000
Peak Month	6,000	9,000
Percent Increase		17.6%

Increase in Operations: Tables AT-1 and AT-2 report the increase in airport operations and air passengers at the William P. Hobby Airport. Table AT-3 reports the ratio of aircraft owners living in Pearland to the population in 1968 with a projection of ownership through 1990 if the same ratio of ownership to population is maintained and the affects showed the ratio increase 10 percent. Recent trends indicate a 24 and 18 percent increase in operations at the Pearland and Clover Field Airports. Looking to the future, the ratio of airport ownership to population and employment in industry is expected to continue to grow.

Operational and Environmental Planning Considerations: The Pearland Airport borders the Central District of the City and is being encircled with residential and business establishments. Power lines exist at 41 feet from the center line of existing N-S runways and building or trees are within 100 feet of other runways.

The Clover Field Airport is outside of the Corporate City of Pearland but within the Planning Area. It is bordered by County Roads on the south and east, by Cowart Creek on the west and undeveloped land on the north. Wells of the Hastings Oil Field are located within the general area to the south and west. There is a 4 foot fence at the end of runway 32R and trees or obstacles situated from 200 feet to 1400 feet off other runways.

Planning Considerations:

The relationship of airports in Pearland's Planning Area and in the region are shown on the map on page 3-73.

TABLE AT-1 - STATISTICAL SUMMARY - SELECTED AIRPORT OPERATIONS, HOUSTON INTERNATIONAL AIRPORT

Year	Domestic Passengers	All Passengers Domestic and International	(Outbound Only) Expanded Air Freight (Pounds)	Air Express Number of Shipments
1950	493,025	538,399	3,860,800	58,968
1955	1,010,845	1,065,787	3,875,800	60,881
1960	1,359,382	1,409,346	8,512,380	79,434
1961	1,434,238	1,485,039	10,251,840	87,372
1962	1,563,145	1,618,694	11,793,080	101,222
1963	1,833,170	1,896,377	13,357,138	114,883
1964	2,111,185	2,174,008	17,091,500	131,988
1965	2,527,443	2,599,561	20,457,380	155,533
1966	2,900,599	2,982,634	22,657,820	171,277
1967	3,312,537	3,404,721	26,911,080	181,623
1968	3,900,000	4,059,021	33,490,464	197,117

Compiled by: Aviation Department, Houston Chamber of Commerce

TABLE AT-2 - NUMBER OF LANDINGS AND TAKE-OFFS 3-80
HOUSTON INTERNATIONAL AIRPORT

YEAR	MILITARY	COMMERCIAL	GENERAL	TOTAL
1945	16,411	12,977	49,809	79,197
1950	8,596	44,033	64,085	116,714
1955	24,898	53,517	60,318	138,733
1960	11,098	63,316	103,736	178,150
1961	7,646	62,245	115,661	185,552
1962	4,250	60,515	122,256	187,021
1963	3,689	67,811	130,111	201,611
1964	2,486	78,080	150,981	231,547
1965	1,761	81,641	163,749	247,151
1966	1,398	* 90,769	167,335	259,412
1967	1,005	103,976	168,173	273,154
1968	978	121,140	182,489	304,607

* Airline strike July 8-August 19

Source: Department of Aviation
City of Houston and
Houston International Airport

TABLE AT-3 - RATIO OF AIRCRAFT OWNERS WITH POPULATION
PEARLAND, TEXAS - 1968 - 1990

Date	Population	Aircraft Owners	Ratio Owners/Population	Estimated Owners 1968 Rate	Estimated Owners 10% Increase
1968	6,900	44	.0064		48
1970	8,400		.0064	54	60
1975	14,140		.0064	90	100
1980	23,830		.0064	153	168
1985	37,160		.0064	238	262
1990	59,840		.0064	382	440

The considerations with reasonable alternate proposals for planning airport facilities in the Pearland Planning Area are:

Air Carrier Operations:

Scheduled Airlines: All operations to take place from the Houston Intercontinental Airport located approximately 30 vehicular miles from the center of the Planning Area.

Non-Scheduled Airlines: Possible for development within the Planning Area but more likely to generate from the William P. Hobby Airport.

General Aviation Operations: General aviation operations include industrial, agricultural, instructional and a wide variety of flight activities. Flights of this origin become more relevant to the needs of the Pearland Area. When applied to the existing and prospective local program, the recommendations are:

Pearland Airport: Discontinue operations - redevelop the site. This appears to be the only reasonable course of action in view of the high cost of land in the area and serious conflict of aircraft operations with adjacent residential development.

Clover Field Airport: Continue operations, making selected improvements and gaining land use and airport zoning controls for all runways.

Clover Field Alternate Programs: The possibility exists that the owners of Clover Field may wish to discontinue its use. Should this situation materialize, the City after survey and evaluation can:

1. Acquire the site and improvements and manage the airport as public property.

2. Consider joint ownership and development of a new airport with one or more of its adjacent political subdivisions.

3. Purchase a new site and construct a new airport.

Not Part of National Airport Plan: The National Airport Plan published in 1968 does not identify Clover Field as a part of its system. The Plan proposes an airport facility to be situated somewhere between Alvin and Angleton, Texas. It is possible that Clover Field will never become a part of the system. It is equally true that Clover Field may sustain a healthy growth as a private field. Under the Development Program outlined in this report, reasonable provisions have been proposed to enhance the future capability of Clover Field Airport.

Service Type: Under the present Federal Aviation Administration airport service type classification, Clover Field has a General Aviation - General Utility rating. This rating indicates a service capability for single-engine and limited multi-engine propellers driven aircraft operations. The existing airport meets the design criteria of this classification.

Outline Proposal for Clover Field Improvements:

The sketch study on page 3-83 illustrates the improvements proposed to achieve a greater potential use of Clover Field. The study also shows the land use and airport approach zone provisions that should be enacted to accomplish greater safety and environmental controls between the operation of the airport with adjacent urban developments. The proposals are:

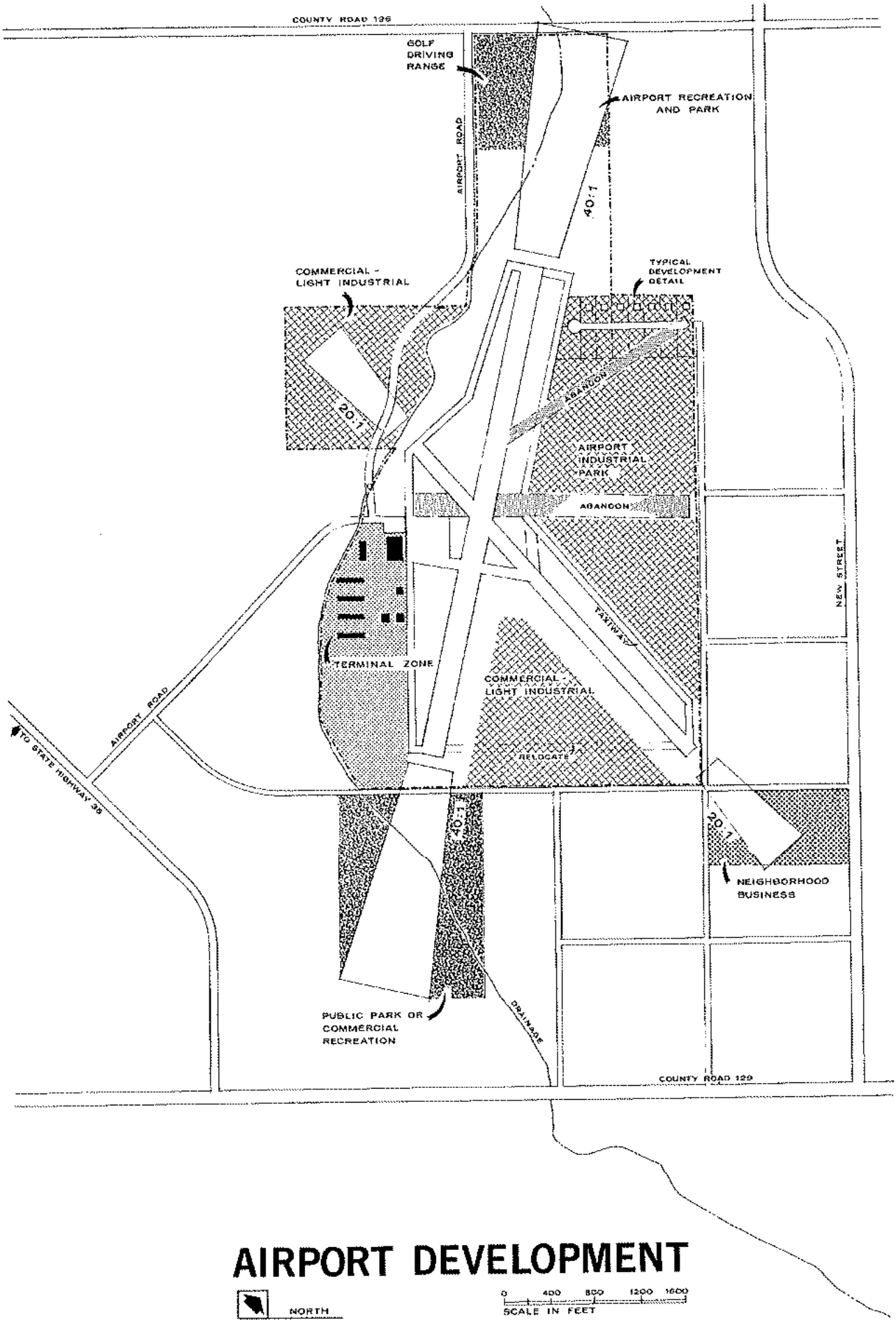
- Acquisition of additional land as identified on the sketch study.

- Abandon runways 14L - 32R, 1 - 19, and 4 - 22. These runways which do not appreciable extend the wind coverage or service capability of the airport increase maintenance costs and the land area that must be controlled within the approach zones.

- Creation of an airport industrial park on the east side of the airport and a commercial recreation use area under the approach to runway R - 14.

- Improve access to the airport and its office, cafe and administrative center.

- Establishment of a light industrial - commercial business zone under approach to runway 6.



AIRPORT DEVELOPMENT

NORTH

0 400 800 1200 1600
SCALE IN FEET

Other improvements that should be considered are:

- Vacation of the present access road to the administrative complex with an expansion of service and utility in this general area.

- Vacation of the taxi-way running parallel with County Road 129 and the eventual expansion of Airport Industrial Park in this area. (Following a build-up of the East Side Industrial Park).

The development of industry on the airport site should be guided by and consistant with FAA publication AC 150/5070 - 3 - Planning the Airport Industrial Park.

Selected additional site improvements can be anticipated as the basic program is implemented. The proposals outlined here are not intended to serve as a master plan for airport development. Their role is to:

1. Outline a potential capability for Clover Field development.

2. Illustrate desired relationships between airport and urban development.

Scheduling:

Implementation of airport objectives will require public action and cooperation from the private airport owner. The recommended scheduling is:

1. Clover Field is located outside of the Corporate City of Pearland and beyond the zone where land use provisions can be established through municipal zoning. It is also beyond the area where city funds may be spent although it is possible for the county to make street improvement and park site acquisition expenditures adjacent to the airport. One course of action would be for city and county to visit with the airport owner and learn to what degree cooperation may be established.

2. The clear zones at the ends of the principal runways appear to be within the boundaries of the airport. If full compliance is not presently achieved, this should be accomplished immediately.

3. The airport owner and the county should resolve a policy for acquisition of needed rights-of-way and construction of an improved access road to the administrative center of the airport and accomplish this improvement within the next two years. At the same time it should be resolved if the park space under the approach zones shall be in public or private ownership. Options should be obtained and the land acquired within the next three years. It is anticipated that part of the land will be purchased and operated by private interests.

4. Discontinuance of runways 1-19, 14-32R and 41-22R could be done immediately.

5. The East Side Airport Industrial Park should be designed, platted and recorded in the county plat records immediately. Plans for possible use of the southside of the airport for similar use should also be established. The basic lease - development provision for the industrial park development should be resolved.

6. Other site and building improvements will be scheduled as the demand arises.

The crossroads that have become the City of Pearland started with a post office and general store located near the intersection of Main Street and Broadway. This point is expected to always be associated with the functional center of Pearland.

Planning Applications:

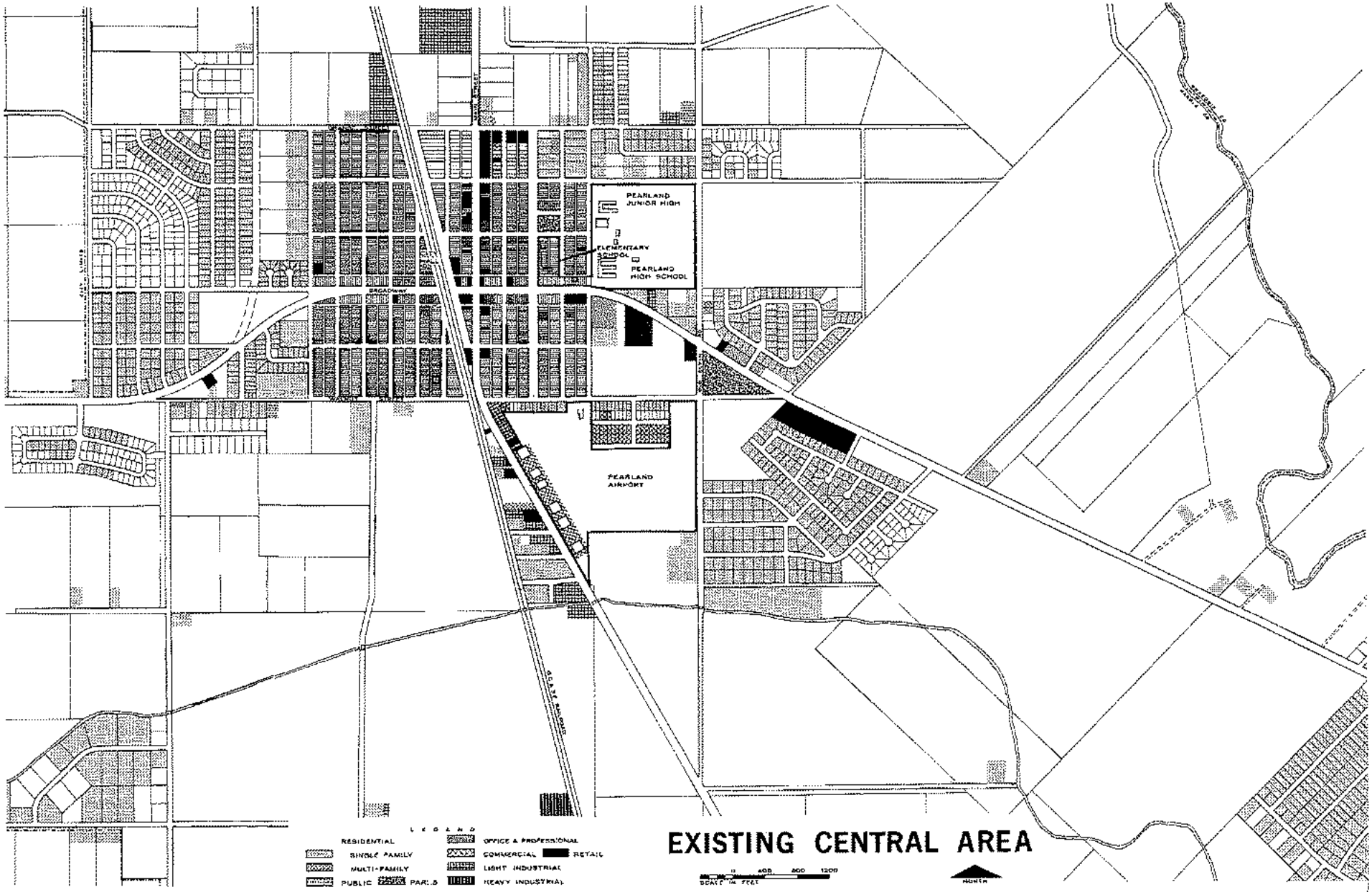
A consideration of the functional needs that can be identified with the Central Area of Pearland will:

- Reduce the conflict that a greater intensity of development will generate.
- Improve the safe and unobstructed movement of cars, service vehicles and people.
- Enhance the character and appearance of the area and provide some openspace and relief in an otherwise compactly developed area.
- Reduce the environmental conflict that new business development is causing to existing non-business uses located in the Central Area.

Characteristics of Existing Development:

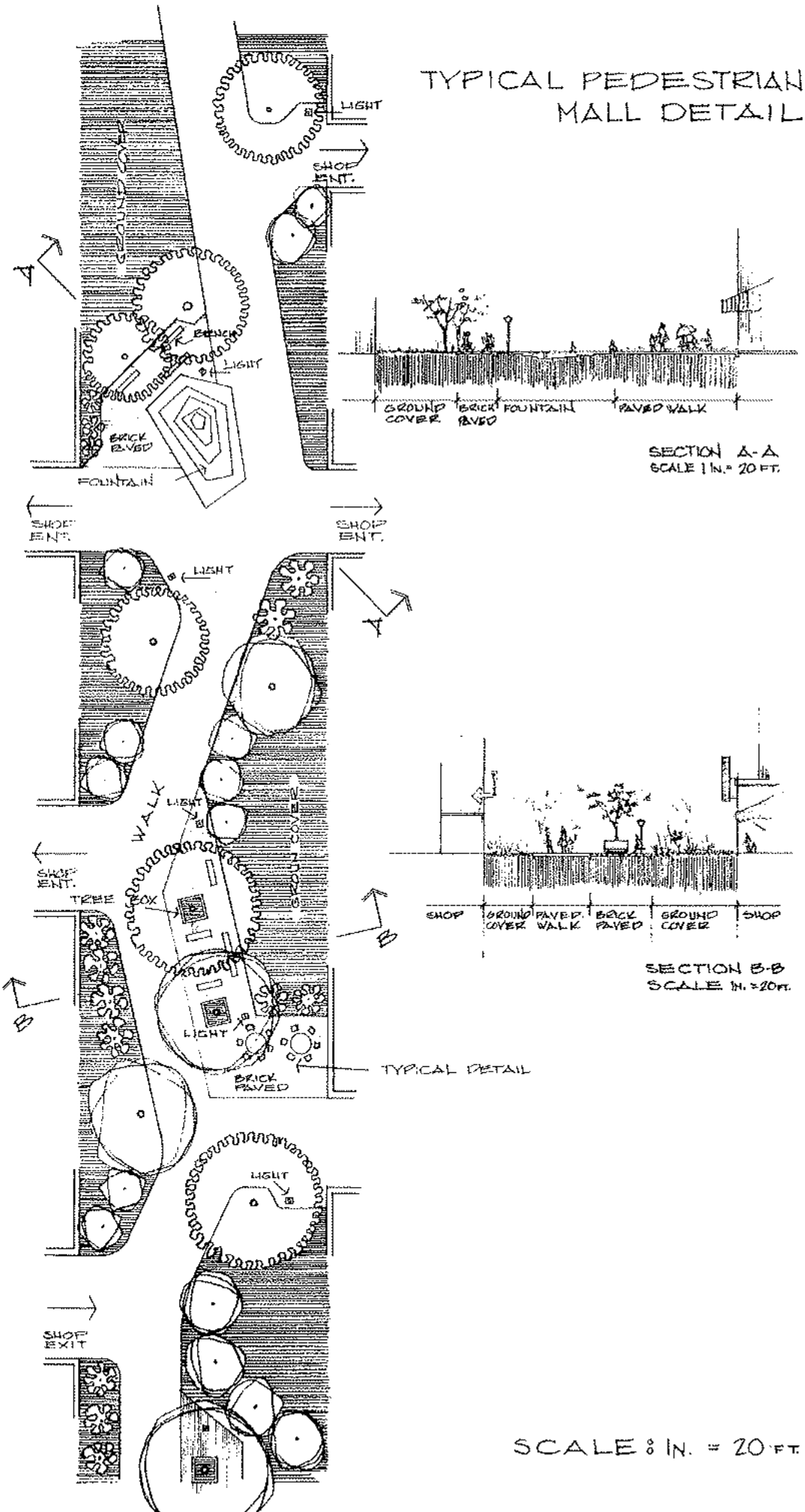
The map on page 3-87 shows the existing street, lot, block and development character of Pearland's Central Area. An overview of existing development reflects:

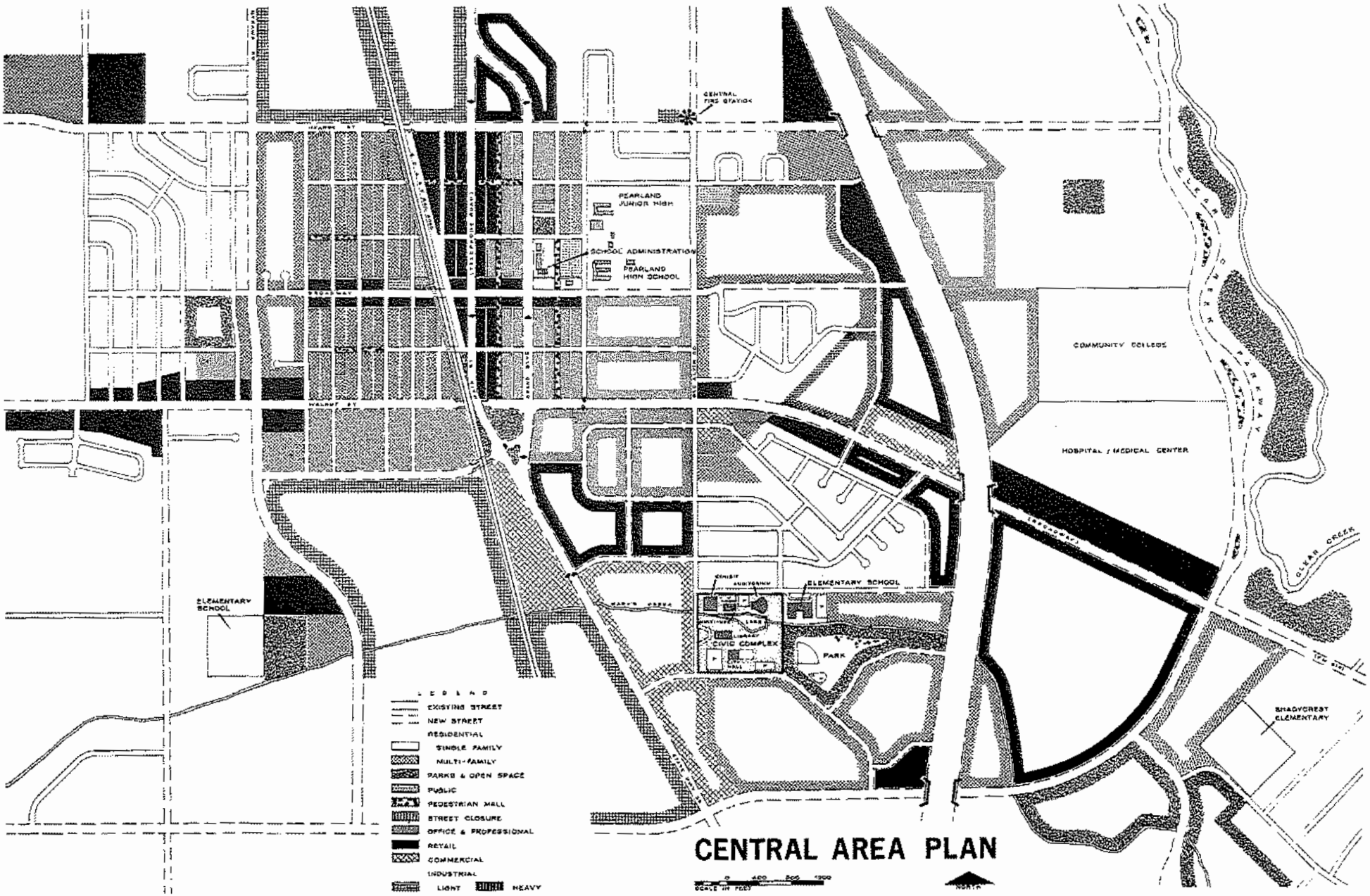
Land Use: Today's business development is mostly restricted to Main Street and Broadway and consists primarily of retail stores, service commercial uses and office and professional development. The Pearland Independent School District has its administrative office and major portion of its school plant in the northeast quadrant of Central Area. Single family residential uses are mixed with and surround the business establishments.



EXISTING CENTRAL AREA

TYPICAL PEDESTRIAN MALL DETAIL





CENTRAL AREA PLAN

Streets and Railroad: The street pattern of the area is rectangular with the short dimension of city blocks on the east-west orientation. The track of the City's only railroad runs on the west side of the business zone.

Character and Appearance: There is no uniform or distinctive character to the Central Area as existing business and residential developments and new and old buildings are located at random. There is not any city park or openspace in the area except for the school grounds and a multi-use area owned by the Lions Club.

Problems:

The review of the existing character of the Central Area identify the sources of its functional problems, namely:

- Mixed and transitional land uses.
- No distinct development patterns.
- No public areas.
- Weak circulation and little off-street parking.

Central Area Plan:

The recommendations set forth on the Central Area Plan are consistent with the land use, street, and other plan components. On the Central Area Plan each proposal is shown in more detail and at a larger scale. The plan endeavors to correct existing problems, incorporate the development goals and standards outlined for this part of the City, and offer a reference to direct efficient and pleasing development. The proposed Central Area Plan is reproduced on page 3-89. The recommendations reflected on the plan are :

Land Use: Continued growth of Pearland will greatly expand the need for office, professional, business, and commercial spaces. This growth is expected to take place at many locations within the City and at the Central Area. Growth in the Central Area is expected to:

- Expand the business and commercial development east and west of Main Street and adjacent to the proposed expressway.

- Generate more office and professional development bordering the retail and comercial businesses and in the vicinity of the Old Alvin Road.

- Cause the redevelopment of the area now occupied by the Pearland Airport for business purposes.

- Cause many of the lots now occupied by older single family homes to be redeveloped for multi-family housing.

- Some of the vacant land in the central area will be developed for multi-family housing.

- A small part of the area will continue to be used for single family dwellings for many years.

Community Facilities: A site on Swenson Road has been designated for a Civic Center Complex. The proposed Center would include the principal city governmental offices and other public buildings. Sites have also been identified for the development of a Community College and a regional hospital medical center complex.
The public school properties are expected to occupy the same area as the present High School. The existing elementary school could possibly be imcorporated into the Junior High Complex. and a new elementary school provided east of the Civic Center Complex nearer where people will be living at a future date.

Streets and Roads: Many street improvements are needed to avoid serious future problems. The proposals are:

- To eliminate the diagonal alignment of Broadway by vacating this street and using Walnut Street as the south side distributor street.

- Use Main Street and Grand Boulevard as a north/south one-way access through the center area.

- Close Houston and Park Streets to traffic and develop these rights-of-way as pedestrian walkways.

- Improve Orange Street as the north side and Mykawa Road and its extension as the west side distributor streets serving the Central Area.

- Provide grade separations with Orange Street, Walnut Road, and a new street south of Walnut Road all going under the railroad.

- Extend Magnolia Road to connect with the proposed Clear Creek Parkway.

- Accomplish miscellaneous extensions to existing streets and better traffic channelization at selected intersections.

The proposed limited access Highway 35 (Pearland Alvin Expressway) will be the most significant traffic artery in Pearland and will have a major impact on the location, size, and functional success of the Central Area. It is the recommendation of the plan that the Expressway route be east of the existing Central Area. This location strengthens the regional shopping prospects for Pearland's Central Area.

Character and Appearance: Future development in general conformance with a plan for the Central Area will improve its character and appearance. Additional steps that should be accomplished are:

- Implementation of the proposed Houston and Park Street malls.

- Development of the Civic Complex.

- Development of a parkway and park on St. Mary's Creek east of the Civic Complex.

- Development of a public plaza at Grand Boulevard and Jasmine Street.

- Selected beautification projects provided in connection with street improvements and by private business establishments.

SCHOOL SITE ANALYSIS AND PLANS

School sites and buildings provide a nucleus for neighborhood life and culture. The process by which school sites are acquired and improved requires a coordinate effort between the City Governmental Officials, Independent School District Officials and Staff and the people within the district.

Planning Application:

Some of the benefits that may be gained from an early consideration of school site location requirements are:

- The coordination of the school site acquisition and development with the plans for other urban developments.
- Availability of sites for use when needed.
- Saving in required land acquisition.
- Safer access to the schools.
- Enhancement of the appearance and function of the school within the neighborhood it serves.

Existing School Plant:

The Pearland Independent School District encompasses the northeastern corner of Brazoria County. It is bounded by the Houston, Manuel, Alvin, Friendswood and Clear Lake Independent School Districts. Approximately 43 square miles are served by this district including Pearland, Brookside Village and rurual areas west of the present Pearland City limits.

Table S-1 reports the site and improvements located within the district. The schools are:

Elementary Schools

- Brookside
- Pearland
- Shadycrest (Under Construction)

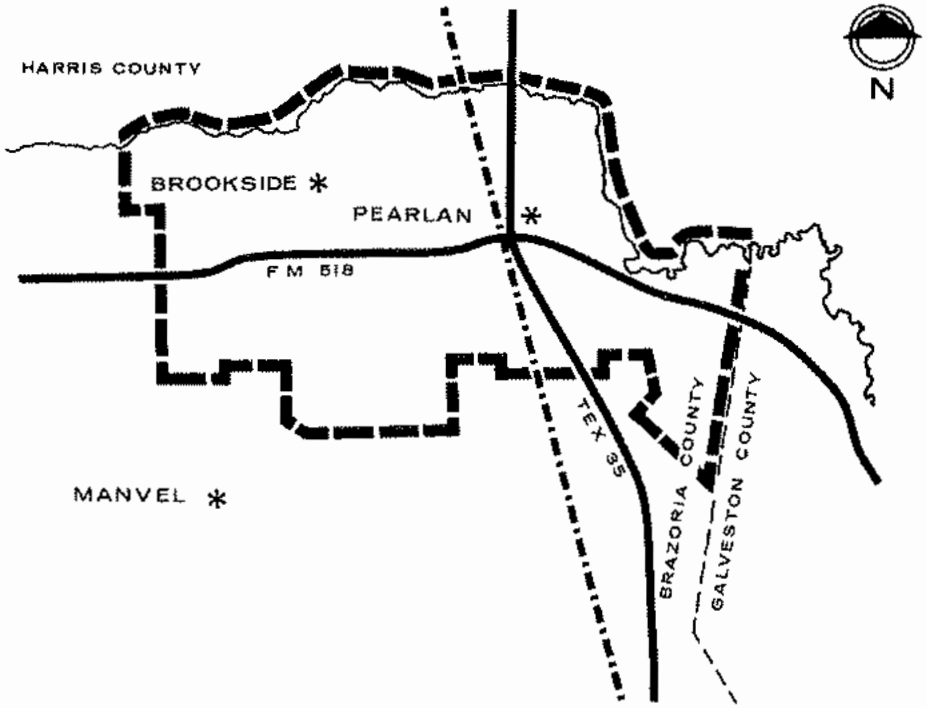
Pearland Junior High School

Pearland Senior High School

TABLE S-1 - INVENTORY OF EXISTING SCHOOLS 3-94

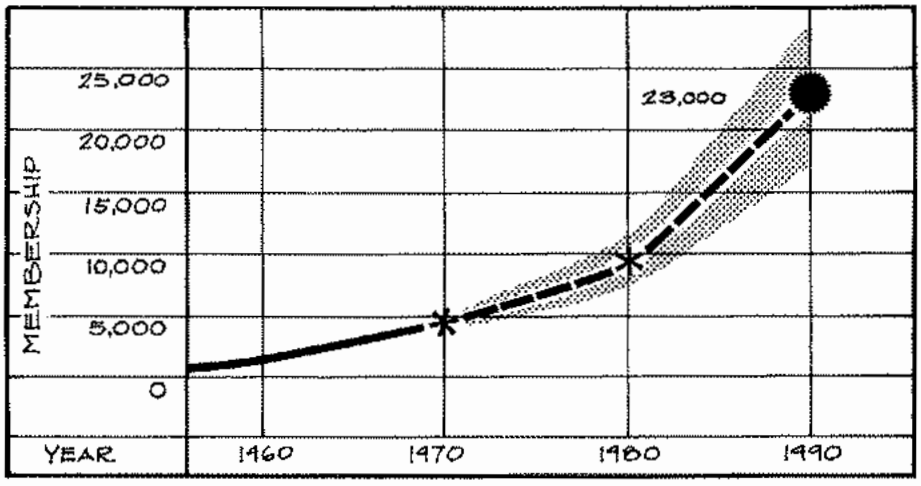
PEARLAND INDEPENDENT SCHOOL DISTRICT

Facility	Age of School Opened	Age of School Revised	Size (Acres)	As Used Capacity	Facilities Gym	Facilities Library	Condition	Class Rooms
1. Elementary								
Brookside		1967	20.00	540	No	Yes	Good	18
Pearland		1966	5.35	1100	No	Yes	Good	37
Shadycrest	1969		20.00	300		Yes	New	10
2. Junior High								
Pearland		1965	20.00	960	Yes	Yes	Good	34
3. Senior High								
Pearland		1966	20.00	1200	Yes	Yes	Good	40



PEARLAND INDEPENDENT SCHOOL DISTRICT

SCHOOL MEMBERSHIP TRENDS



The Pearland Independent School District operates 15 school busses to deliver students to these schools and make approximately 45 runs per day. Total miles traveled per day is approximately 504. During the school year 1968-1969, approximately 65 percent of the school population is transported by bus. Operating costs for transportation of students for year 1968-1969 will be approximately $45,000.00 which includes the purchase of three new busses.

Enrollment Trends (Average Daily Membership):

The trends in pupil enrollment within the Pearland Independent School District may be brought into perspective by contrasting the 1956-1957 enrollment of 700 pupils with a project enrollment of over 7000 forecast for the school year 1976-1977. The past enrollments are shown on the chart reproduced on page 3-95 and reported in Table S-2. These trends are for the district which includes the area shown by the sketch found on page 3-95. The City of Pearland and the designated City Planning Area represent only part of the district.

Looking to the future the growth trends forecast is as follows:

Population and School Membership Trends: Table S-3 provides an overview of the past and projected trend of students and total population growth for the Pearland Planning Area and for the Pearland Independent School District. The trends reflected by this table are:

- An increase in the ratio of students living within the Planning Area as a percent of all students within the district.

  1960 - The Planning Area accounted for 54.6 % of district total.

  1990 - The Planning Area accounted for 85.0 % of district total.

- Growth that would result in pupil enrollment load of over 23,500 for the district and over 16,000 within the Planning Area by 1990.

TABLE S-2 - PAST TRENDS - AVERAGED DAILY MEMBERSHIPS

PEARLAND INDEPENDENT SCHOOL DISTRICT

	Percent of Enrollment			Number			
Year	Elementary	Junior High	Senior High	Elementary	Junior High	Senior High	Total
56-57	52.57	25.56	21.87	370	180	154	704
57-58	52.64	26.09	21.27	393	195	159	747
58-59	54.88	24.69	20.43	451	203	168	822
59-60	52.68	25.47	21.85	465	225	193	883
60-61	54.19	25.15	20.66	543	252	207	1,002
61-62	54.47	23.32	22.21	591	253	241	1,085
62-63	55.60	22.64	21.76	700	285	274	1,259
63-64	53.43	26.36	20.21	859	424	325	1,608
64-65	52.53	26.95	20.52	955	490	373	1,818
65-66	50.56	28.02	21.42	1,088	603	461	2,152
66-67	48.34	27.11	24.55	1,057	593	537	2,187
67-68	48.72	25.39	25.89	1,156	623	627	2,406
68-69	47.03	26.58	26.39	1,496	780	745	3,021

TABLE S-3 - POPULATION AND SCHOOL MEMBERSHIP TRENDS 3-98
PEARLAND INDEPENDENT SCHOOL DISTRICT - 1960-1990

School Year	City & Planning Area Population	City & Planning Area Pupils	Other Population	Other Pupils	District Total
Past Trend					
60-61	1,497	446	3,360	556	1,002
65-66	4,750	1,330	7,680	822	2,152
Projection					
70-71	8,400	2,310	14,939	1,769	4,079
80-81	23,830	6,430	32,200	2,420	8,850
90-91	59,840	16,090	87,200	7,460	23,550

Membership Trends - Pearland Planning Area: Table S-4 is a projection of expected membership trends for that portion of the Pearland Independent School District situated within the Planning Area. This Planning Area is expected to generate 85 percent of the 1990 School District pupil load.

Distribution of Students: In the near future the grade grouping for physical plant useage is expected to continue as:

Elementary - grades 1-5
Junior High - grades 6-8
Senior High - grades 9-12

Based upon the above organization, the past and projected distribution of students by percentage in each group is reported in Table S-5.

Development Program:

The fast rate of urban development anticipated for Pearland will have an impact on the future school site location planning. This impact will be in contrast with the existing situation where all facilities are concentrated on a few sites. Briefly defined, the basic changes that may be anticipated are:

Central Plant Concept: Presently students are bussed to central plant locations which has worked very well but as the student population increases, likely problems that may present themselves are:

- Plant size requirements will become too large to effectively control.
- Transportation of students will become more and more costly.
- Increased traffic generation and problems that are inherent.

TABLE S-4 - SCHOOL MEMBERSHIP TRENDS 3-100

PEARLAND PLANNING AREA - 1970-1990

Year	Elementary	Junior High	Senior High	Total
69-70	1,314	789	776	2,879
70-71	1,459	833	810	3,102
71-72	1,609	876	892	3,377
72-73	1,771	907	1,008	3,686
73-74	1,947	1,021	1,048	4,016
74-75	2,143	1,122	1,132	4,397
75-76	2,359	1,135	1,207	4,701
76-77	2,594	1,358	1,285	5,237
80-81	3,247	1,698	1,589	6,534
85-86	5,033	2,610	2,425	10,068
90-91	8,205	4,063	3,781	16,049

TABLE S-5 - DISTRIBUTION OF ELEMENTARY, JUNIOR AND HIGH SCHOOL STUDENTS

PEARLAND INDEPENDENT SCHOOL DISTRICT

Grades	1-5	6-8	9-12
Year	% Elementary	% Junior High	% Senior High
56-57	52.57	25.56	21.87
60-61	54.19	25.15	20.66
64-65	52.53	26.95	20.52
66-67	48.34	27.11	24.55
70-71	47.04	26.85	26.11
75-76	50.19	24.14	25.67
80-81	49.83	25.92	24.25
85-86	50.17	25.83	24.00
90-91	51.25	25.25	23.50

Neighborhood School Concept: Taking future population growth and neighborhood build-up into consideration, the Development Goals and Standards suggest that the elementary school be kept within walking distance of the children in all neighborhoods - one half mile approximately - and that no major streets should be crossed to get to school. Sites should be acquired as soon as funds permit to reduce acquisition cost. Schools would not be built until the neighborhood population warrants.

Proposed School Site Locations:

The proposed School Site Plan relating to the long-range development of Pearland is shown on page 3-103. The plan is keyed to show development anticipated from now to 1990 and needs following that date until all available land in the Planning Area is utilized. The plan covers only that part of the Pearland Independent School District that is within the study area. Table S-6 provides a tabulation of the scholastics and anticipated classroom requirements and a program for meeting these needs through 1990. Table S-7 provides a program of development for only the land within the Pearland Planning Area. Full utilization of the area is not anticipated until after 1990.

The plant needs in keeping with the estimated population trends and proposed plant utilization is summarized as follows:

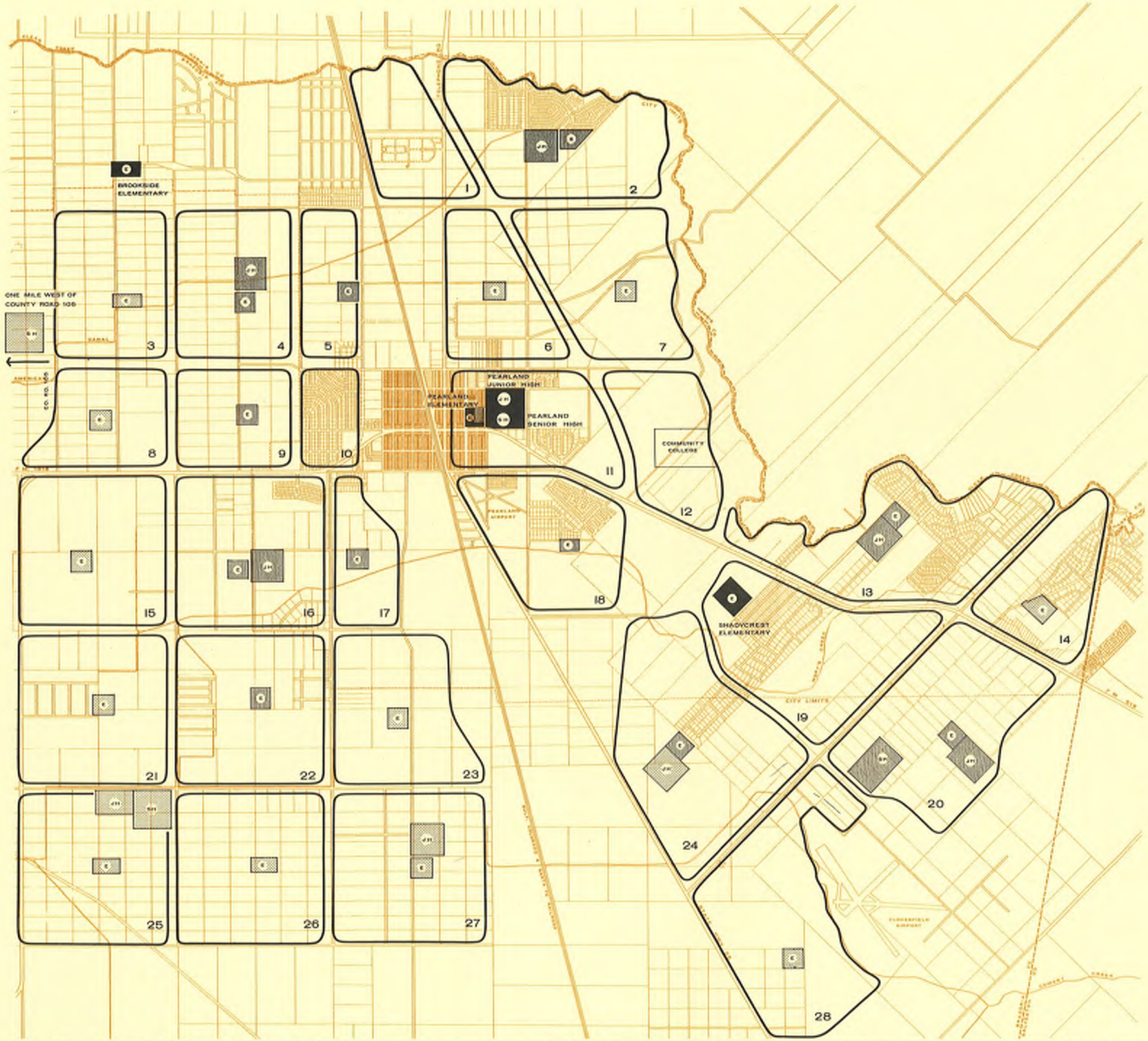
Elementary Schools - By 1990:

Neighborhood Location	Classrooms Needed	Serving Units*
Unit 2	30	1,2,7
Unit 4	17	A,3,4,5
Unit 9	30	D,E,9,10
Unit 11	-	Note 1.
Unit 13	27	13
Unit 16	30	15,16,17
Unit 18	21	Note 2.
Unit 19	26	19
Unit 20	30	H,14
Unit 22	24	21,22,23,25,26,27
Unit 24	19	G,24,28

*Proposed neighborhood or planning units. See following programming notes.

DEVELOPMENT PLAN FOR PEARLAND, TEXAS

SCHOOL SITE LOCATION PLAN



LEGEND

1968	1990	ULTIMATE	CLASSIFICATION
E	E	E	ELEMENTARY
JH	JH	JH	JUNIOR HIGH
SH	SH	SH	SENIOR HIGH

NEIGHBORHOOD BOUNDARY

5 NEIGHBORHOOD UNIT NUMBERS

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS
HOUSTON & SAN ANTONIO TEXAS

NORTH

1000 0 1000 2000 3000
SCALE IN FEET

WILLIAM C. WALSH
CONSULTING ENGINEER
PEARLAND, TEXAS

PREPARED THROUGH THE COOPERATION OF THE TEXAS STATE DEPT. OF HEALTH. THE PREPARATION OF THIS MATERIAL WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE URBAN PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

PLAN MAP

BASE MAP 1969

Programming Notes:

1. The Pearland Elementary School presently accommodates scholastics who live within the District but outside the Pearland Planning Area. Before 1990, much of the land within Neighborhood Unit 11 and adjacent to this school is expected to be used for business purposes. It is proposed that the Pearland Elementary School be phased out of use before 1990 and that scholastics living in Neighborhood Unit 11 be assigned to a school elsewhere. Consideration should be given for the District to retain the existing site and use this for their administrative offices. Acquisition of the City block which separates the existing Pearland Elementary and High School is proposed.

2. Neighborhood Unit 18 is the proposed location for an Elementary School accommodating scholastics living in the Central Area of the City.

3. Elementary School aged scholastics living outside of the Pearland Planning Area will be assigned to existing and new schools in conformance with the best program for school plant utilization at any given date.

4. The proposals for school site location and utilization for Central Pearland may be viewed by reference to the Central Area Plan shown on page 3-89.

TABLE S-6 - SCHOOL SITE LOCATION AND UTILIZATION PROGRAM

FIRST PHASE DEVELOPMENT 1970-1990

Neigh. Unit	SCHOLASTICS Total	Elem.	Jr. High	Sr. High	CLASSROOM* REQUIREMENTS Elem.	Jr. High	Sr. High	Remarks
1	196	100	50	46				To neighborhood unit 2
2	1,125	577	284	264	30	19		
3	168	86	42	40				To neighborhood unit 4
4	276	141	70	65	17	23		Plus A
5	359	184	91	84				To neighborhood unit 4
6	542	278	137	127				To neighborhood unit 11
7	392	201	99	92				To neighborhood unit 2
8	248	127	63	58				To neighborhood unit 9
9	619	317	156	146	30			
10	549	281	139	129				To neighborhood unit 9
11	678	348	171	159	28	20	81	Sr. High - A,S,1-18 & 21,22,23,25,26,27
12	356	182	90	84				To neighborhood unit 11
13	1,550	795	391	364	27	32		
14	756	387	191	178				To neighborhood unit 20
15	352	180	89	83				To neighborhood unit 16
16	987	506	249	232	30	27		
17	1,375	992	195	188				To neighborhood unit 16
18	1,179	604	298	277	21			
19	1,506	772	380	354	26			
20	554	284	140	130	30	17	46	Sr. High - G,H,13,14,19 20,24,28
21	267	137	67	63				To neighborhood unit 22
22	318	164	80	74	24			
23	262	134	66	62				To neighborhood unit 22
24	785	400	198	187	19			Plus G
25	155	80	39	36				To neighborhood unit 22
26	191	98	48	45				To neighborhood unit 22
27	197	101	50	46				To neighborhood unit 22
28	212	108	54	50				To neighborhood unit 24
A	141	72	36	33				To neighborhood unit 4
B								
C								
D	351	179	89	83				To neighborhood unit 9
E								
F								
G	67	34	17	16				To neighborhood unit 24
H	407	208	103	96				To neighborhood unit 20

*The Pearland Independent School Districts prefers not to exceed 30 students per room for normal classroom instruction and less for selected curriculum activities.

TABLE S-7 - SCHOOL SITE LOCATION AND UTILIZATION PROGRAM

LONG-RANGE FORECAST - AFTER 1990

Neigh. Unit	SCHOLASTICS Total	Elem.	Jr. High	Sr. High	CLASSROOM REQUIREMENTS Elem.	Jr. High	Sr. High	Elementary Remarks
1	364	186	92	86				To neighborhood unit 2
2	1,743	890	442	411	36	44		
3	1,565	800	396	369	27			
4	1,285	656	325	304	22	60		
5	668	341	169	158	30			Unit A
6	1,231	629	312	290	21			
7	1,823	931	462	430	31			
8	1,026	524	260	242	18			
9	961	491	244	226	31			
10	510	261	129	120				To neighborhood unit 9
11	630	322	159	149	33	24	100	Convert extra classroom to Jr. & Sr. High
12	766	392	194	180				To neighborhood unit 11
13	1,601	818	405	378	28	21		35 classrooms to new N.W. High School after 1990 or over 3,000 students
14	848	434	214	200	15			
15	1,638	837	415	386	28			
16	1,821	930	462	429	31	36		
17	696	356	176	164	12			
18	1,071	547	272	252	29			Unit G
19	1,814	926	460	428	31			Existing Shadycrest Elem.
20	2,449	1,251	621	577	53	49	99	2 schools preferably
21	1,654	845	419	390	29			
22	1,969	1,007	499	463	34			2 schools preferably
23	1,623	829	411	383	28			
24	2,450	1,252	620	578	42	36		
25	1,436	734	364	338	25	48	94	
26	1,774	907	449	418	31			
27	1,828	934	463	431	32	45		
28	1,973	1,008	500	465	45			
A	654	335	165	154				To Brookside Elem. & neighborhood unit 5
B								
C								
D	326	166	83	77				To neighborhood unit 9
E								
F								
G	620	316	158	146				To neighborhood unit 18
H	1,279	653	324	302				327 to neighborhood unit 28

Junior High Schools - By 1990:

Neighborhood Location	Classrooms Needed	Serving Units
Unit 2	19	1,2,6,7
Unit 4	23	A,D,3,4,5,8,9,10
Unit 11	20	G,11,12,18
Unit 13	32	13,14,19
Unit 16	27	15,16,17,21,22,23,25,26,27
Unit 20	17	H,20,24,28

Senior High Schools - By 1990:

Unit 20	46	G,H,13,14,19,20,24,28

The Pearland Independent School District prefers not to exceed 30 students per classroom for general instruction and recommends fewer for selected curriculum activities.

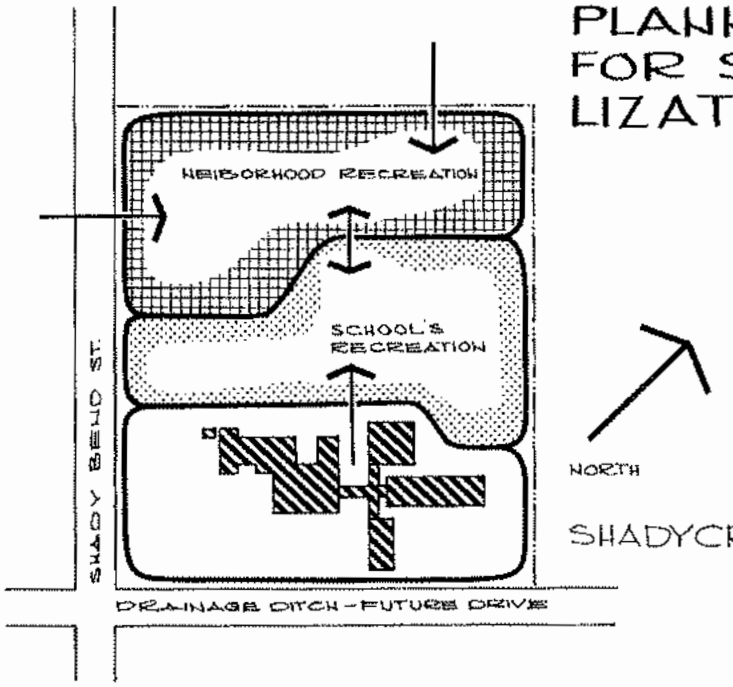
Planning Principles for School Site Utilization:

Each school site will have different topographic,access and general characteristics. Each site will have some unique features. There will, however be many similarities regarding the programs to be provided on the sites. These observations are used to illustrate the point that individual site utilization plans should be accomplished for school site. There are, however several basic principles that should be incorporated with each site plan.

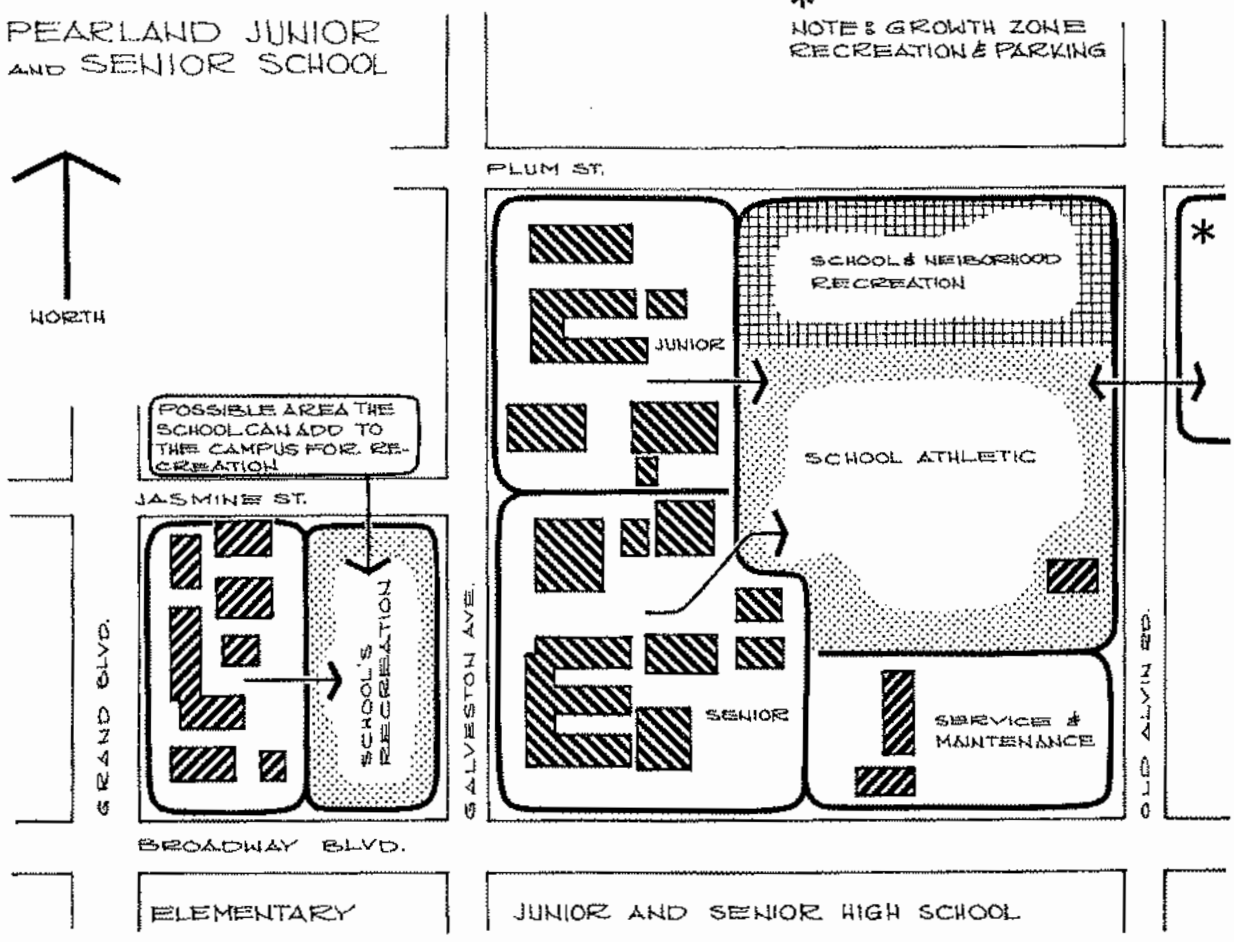
Sketch Studies: The sketch studies shown on page 3-109 examine the school site located within Pearland and identifies the zones where selected planning principles can be applied. The principles that are emphasized are:

- Provisions for classroom expansion.
- Provisions for expansion to the parking and other service zones.
- Provisions for play space oriented to the apparatus and school programs.
- Provisions for a public use area oriented to neighborhood or service area the school supports.
- Provisions for general openspace and landscape architectural features.

PLANNING PRINCIPLES FOR SCHOOL SITE UTILIZATION - PEARLAND



SHADYCREST SCHOOL



Parks and open spaces belong uniformly to all of the people of the City. Parks should provide a pleasant relief and contrast with the land uses whose function is the business and commerce of the City and provide the spaces upon which play and leisure time activity may take place.

Planning Application:

The general objectives mentioned above, supported by the Development Goals and Standards outlined under report elements 2-14, 2-22, and 2-26 are fundamental park planning applications. Implementation of a Park Site Location Plan has the following applications:

- Enhancement of the environment contributing to the quality of urban life.
- Preservation of points of historic significance and natural beauty.
- Make available essential space for leisure time activity which will become increasingly important as the City's population increases.
- Aid the acqusition of land for park purposes before price and other developments make such acqusition impractical.

Existing Situation:

The home owners and citizens of Pearland have not felt the restraints of the urban life. The original townsite plus each of the townsite additions have continued to be surrounded by open fields.

The transition that is taking place, marked by a much accelerated population growth trend, will very quickly change the happy circumstances of the past. Unless action is taken quickly, the City could lose the potential of retaining reasonable parks and open spaces; and, the expanses which characterize the City today will be replaced by over conjestion tomorrow.

Existing Parks and Openspaces:

The City has no land designated and maintained solely for park purposes. The existing recreation program consists primarily of little league summer baseball, sponsored by local service clubs; and, normal school-year interscholistic program and summer program, sponsored by the School District, utilizing school sites and plants. The triangle of land owned by the Lions Club of Pearland, located at the intersection of Walnut Street, Broadway, and Swenson Road, has been a popular little league and community recreation area. This site is not publicly owned.

Available Resources:

The landscape in Pearland is relatively flat, formerly used as crop and grazing land. The tree cover that remains is found in the creek bottoms. Clearing is taking place along the creeks to improve drainage. Little thought has been given to preserving the limited natural landscape resources of the City or attempts made to develop this quality as development takes place.

Land still available for acquisition for parks and open spaces, and the remaining natural tree cover along the creek bottons are two important resources that should be used for park purposes. These resources should be employed to provide:

- Each neighborhood unit with a park.
- Ornamental parks in intensely built-up areas and in the Central Business District.
- A city wide park with special facilities such as a:

  Golf Course
  Children's Zoo
  Recreation Center, Museum, and other cultural and recreational facilities

- Scenic parkways and green belts.

Development Program:

The Parks and Recreation site location proposal map found on page 3-313 identifies the sites recommended for acquisition and development. The plan recommends the development of combination school and park sites, when this approach offers an efficient solution to meeting the needs of the people living within the neighborhood service area.

Table P-1 outlines the proposed park site characteristics by neighborhood and community and suggests the appropriate improvements that would be made to the sites. The acreages reported include allowances for esplanade development and other public openspaces.

Schedule for Community and Neighborhood Park Development:

The function of the community and neighborhood park is basically the same regardless of where in the city they are located. The differences in development would come because of different site characteristics and people interests. The development schedule for Pearland proposes:

- Parks of approximately 15 acres serving both the neighborhood in which they are located and the adjoint community and located in neighborhood unit numbers 4, 7, 8, 13, 16, 21, and 27.

- Parks of approximately 10 acres and usually contiguous to the Elementary School to serve the immediate neighborhood needs of units 2, 3, 5, 6, 9, 10, 14, 15, 17, 20, 22, 23, 25, and 26.

- A vest pocket park of approximately five acres may be substituted for the neighborhood park in units 1, 10, and 17 which are small units.

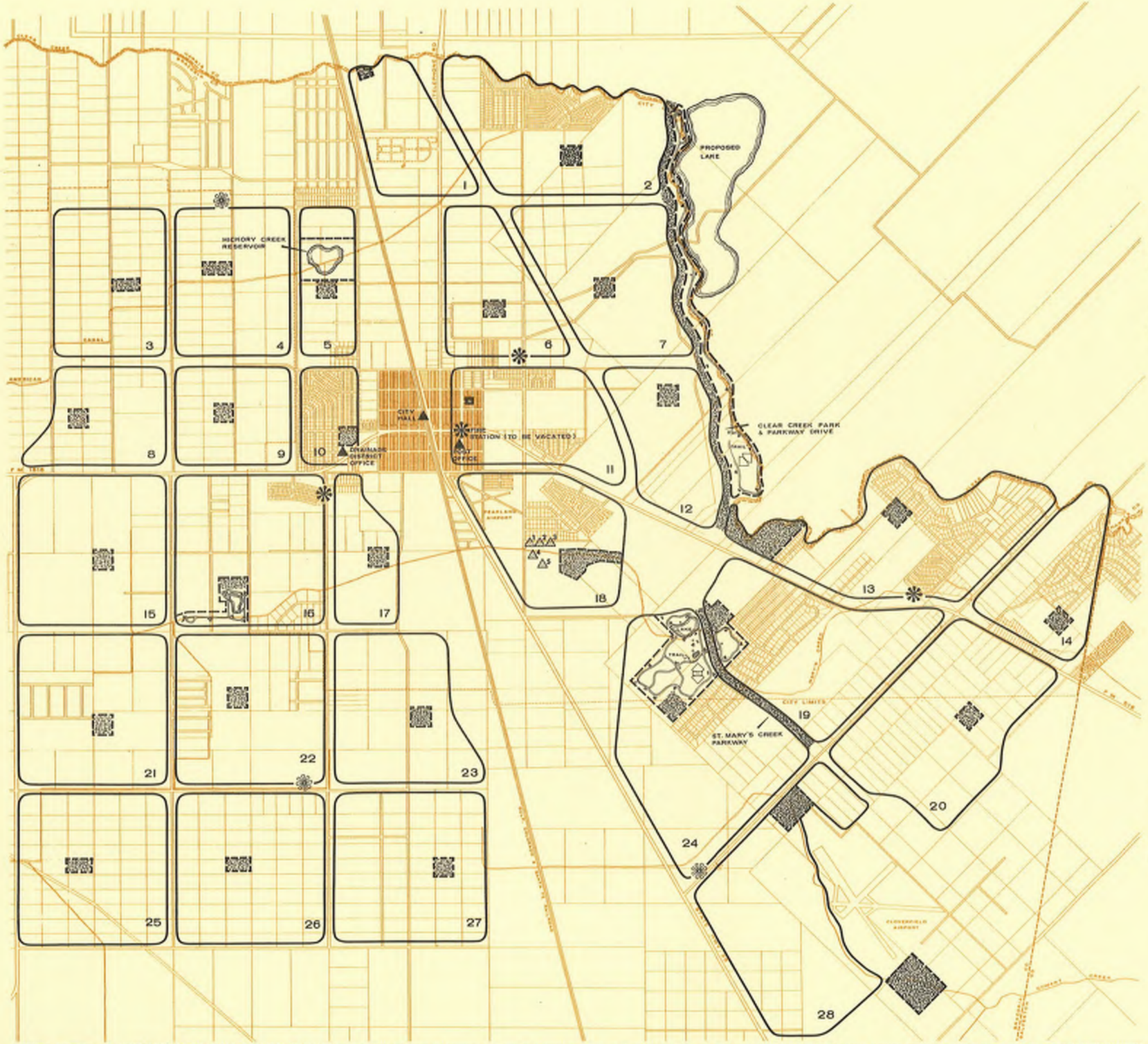
Large Parks, Openspace, and Beautification:

The proposal for major city parks and special use areas are:

- Development of the land west of Clear Creek as a parkway and scenic area.

DEVELOPMENT PLAN FOR PEARLAND, TEXAS

PARKS, RECREATION AND PUBLIC BUILDINGS



LEGEND

EXISTING PROPOSED

- PARKS
- NEIGHBORHOOD PARK
- COMMUNITY AND REGIONAL RECREATIONAL AREA
- PUBLIC BUILDINGS
- 1 EXHIBIT HALL
- 2 MULTI-USE FACILITY
- 3 AUDITORIUM
- 4 LIBRARY
- 5 CITY HALL
- NEIGHBORHOOD BOUNDARY
- 4 NEIGHBORHOOD UNIT NUMBERS
- FIRE STATION

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS
HOUSTON & SAN ANTONIO TEXAS

NORTH

1000 0 1000 2000 3000
SCALE IN FEET

WILLIAM C. WALSH
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PLAN MAP BASE MAP 1968

TABLE P-1 - DIGEST OF PARK FACILITIES

Neighborhood Unit	Identification	Approx. Area	Picnic Area	Play Apparatus	Paved Games Area	Field Sports	Swimming Pool	Rest Rooms	Concession Building	Other
1	Vest Pocket Park	4.0	X	X	X					
2	Neighborhood Park	15.0	X	X	X	X				
3	Neighborhood Park	10.0	X	X	X	X				
4	Community Park	15.0	X	X	X	X	X	X		
5	Neighborhood Park/Water Reservoir	40.0	X	X	X					
6	Neighborhood Park	10.0	X	X	X	X				
7	Community Park	13.0	X	X	X	X	X	X		
8	Community Park	15.0	X	X	X	X	X	X		
9	Neighborhood Park	10.0	X	X	X	X				
10	Neighborhood Park*	8.0		X	X					*Or Vest Pocket Park
11	Central Area Plaza, Etc.									See CBD Plan
12	Medical Center Park									See CBD Plan
13	Community Park	58.0	X	X	X	X	X	X		
14	Neighborhood Park	10.0	X	X	X	X				
15	Neighborhood Park	10.0	X	X	X	X				
16	Community Park	50.0	X	X	X	X	X	X		
17	Neighborhood Park*	5.0		X	X					*Or Vest Pocket Park
18	Civic Center Plaza and Park									See CBD Plan
19	Major City Park (East Part)	20.0	X	X	X	X	X	X	X	Selected Facilities
20	Neighborhood Park	10.0	X	X	X	X				
21	Community Park	15.0	X	X	X	X	X	X		
22	Neighborhood Park	10.0	X	X	X	X				
23	Neighborhood Park	10.0	X	X	X	X				
24	Major City Park (West Part)	170.0	X	X	X	X	X	X	X	Selected Facilities
25	Neighborhood Park	10.0	X	X	X	X				
26	Neighborhood Park	10.0	X	X	X	X				
27	Community Park	15.0	X	X	X	X	X	X		
28	Airport Recreation	53.0	Selected Facilities							Public/Private Operation
	Clear Creek Parkway	230.0	X	X		X				Ponds/Landscape Features

Note: 1. Park and School Sites Adjacent Where Practical
2. Acreage Includes Parks And Other Openspaces

- Development of a parkway following St. Mary's Creek and passing through a major city park situated in neighborhood units 19 and 24.

- Development of parks oriented to the more intense business, educational, and medical development proposed for the Central Pearland Area (Units 11, 12, and 18).

- Possible development of park and recreational uses contiguous with a water supply reservoir suggested for Unit Five.

- Possible development of either public or privately owned park and recreational uses in connection with the approach zones to the runways at Clover Field.

- Provisions for open spaces, either public or private, designed in connection with future urban developments.

Recreation Facilities and Programs:

Table P-1 suggests appropriate types of recreational facilities to be developed on the park sites. The early acquisition of park sites makes possible recreation facilities and programs as needed at future dates. It is recommended that the programming and management of the recreational activities be coordinated under a Park and Recreational Department organized by the City of Pearland.

PUBLIC BUILDINGS

Local, state, and federal governmental units are responsible for the planning, operation, and management of many functions essential to the public welfare and safety. These functions include fire and police protection, street and utility maintenance, hospitals, libraries, and many other services. Each of these services must be located conveniently to the public and programmed in proportion to the population. Most public functions require some land and buildings within which to direct their operations or store equipment.

Planning Application:

A long-range program which considers the need for public buildings will benefit the City by:

- Achieving more adequate and efficient fire protection.
- Locating public buildings more efficiently to perform their intended purpose.
- Expanding the public educational, cultural, and social opportunities.
- Achieving more efficient and less expensive land acquisition and management.

Existing Sites and Buildings:

The location of existing public buildings, excluding school sites and waterworks facilities which appear on the respective plans for these facilities, are shown on the map found on page 3-113.

The characteristics of the public buildings and their sites are:

Description	Location
City Government:	
. City Hall	2335 North Texas Avenue
. City Barn	2234 North Texas Avenue
. Police Department	2337 North Texas Avenue
. Central Fire Station	Grand Boulevard and Broadway
. East Broadway Station (under construction)	Broadway-west of Dixie Farm Road
. McClean Road Station (under construction)	McClean Road-south of Walnut Road
. Orange Street Station (under construction)	Orange Street and Old Alvin Road
Other Facilities:	
. Office and Barn (Brazoria County Drainage District Number 4)	Broadway and Pear Street
. U.S. Post Office	Pear and Grand Boulevard

Currently there are no public libraries, hospitals, or other health, civic, or cultural buildings in Pearland.

Evaluations (City of Pearland Facilities):

. City Hall: The existing structure is in good condition, but inadequate in area to meet the present need.

. City Barn: The size, type of structure, and scope of improvements do not represent a major investment.

. Police Station: The existing structure is of good masonry construction, but small.

. Fire Stations: The Central Station is housed in a small and somewhat inadequate building. A new structure is under construction.

Some thought has recently been given to the need for more space for City functions and the location of any new facilities; however, no long-range public building plan has been formulated.

Development Program:

Development standards for

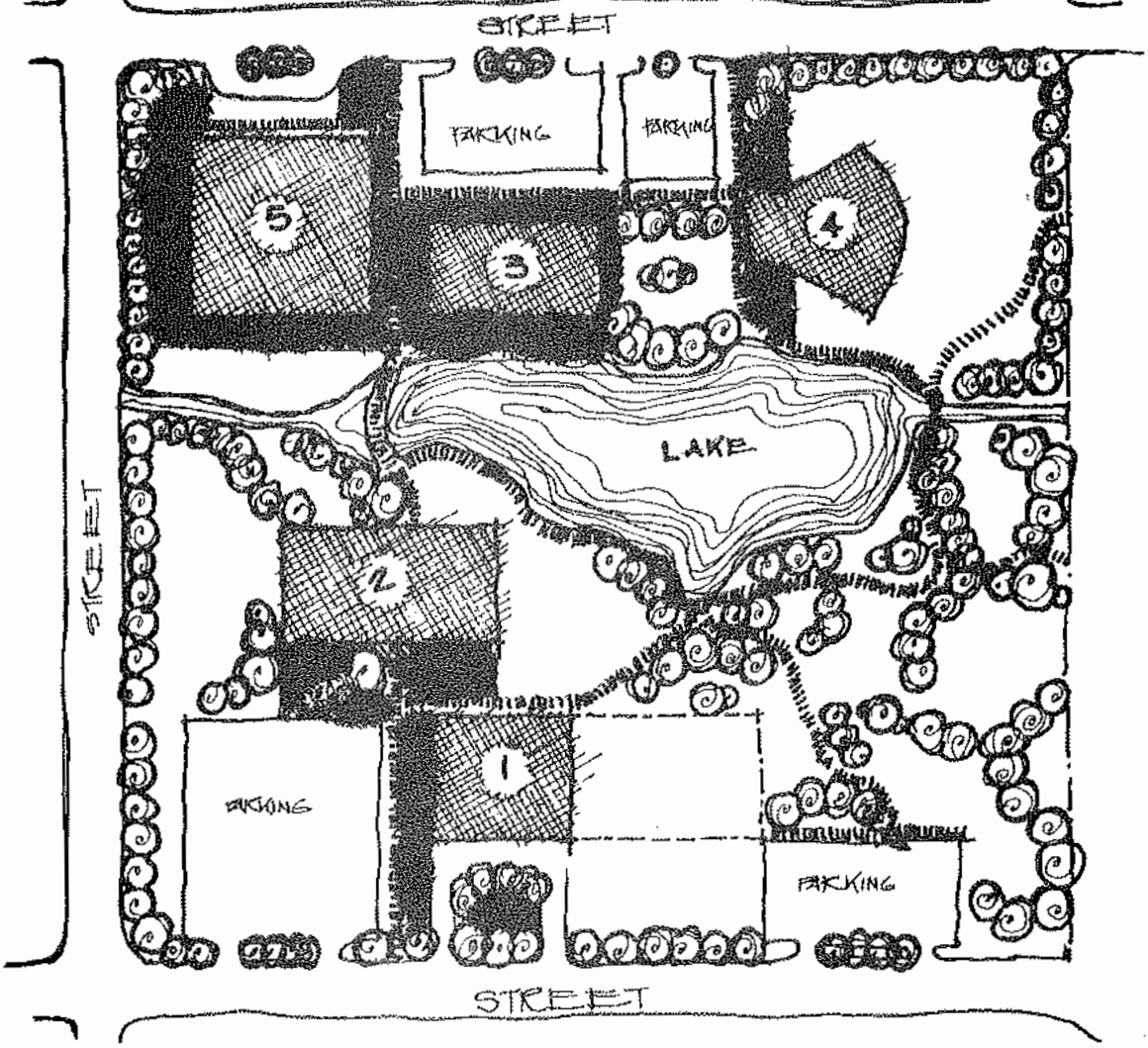
Libraries
Main Fire Station
Branch Fire Station
Medical and Health Facilities
Community Center Building

were outlined previously (see page 2-23). Using the given standards as a guide and giving consideration to local development characteristics, the recommended development program proposes:

Civic Complex: The proposal for planning public building recommends the grouping of certain general governmental functions and the separation of others. The general principles suggested are:

- Group the administrative functions.
- Locate a library, auditorium, multi-use center, and other structures designed for public use separately or with the governmental center.
- Locate the public safety (police and fire stations) separately from the governmental complex.
- Locate the utility plant operations as needed to best provide their respective services.

Plans for expansion of the City Hall at the site of the existing building are being considered. This proposal may prove expedient for the near future; but, due to the limited site area and the present location of the police station and water storage tanks on the same site, the recommended long-range program is to acquire a new site and plan the governmental unit as one component of a Civic Center. The site recommended is located on Swenson Road south of Nottingham Road. This site is shown on the Central Area Plan (Page 3-89).



DESIGN PRINCIPLES

- EFFICIENT AND PROPERLY BALANCED TOTAL SITE INTEGRATION
- STRONG VISUAL CONTACT TO KEY BUILDINGS.
- SMALL, BUT EFFECTIVE, GARDENS AND LANDSCAPE FEATURES —— UNIFYING SITE DEVELOPMENT.
- GOOD VEHICULAR ACCESS AND CIRCULATION

LEGEND

1. CITY HALL
2. CIVIC CENTER
3. MULTI-USE
4. AUDITORIUM
5. EXHIBIT HALL

BLDGS.

GARDENS

PEDESTRIAN

CIVIC & GOVERNMENTAL CENTER

A sketch plan for possible site improvements is shown on page 3-120. Consideration should be given to the acquisition of this site and for making the improvements currently planned here, rather than at the present Texas Avenue site.

Police Station-Corporation Court: The existing Police Station and Corporation Court is located on Texas Avenue adjacent to City Hall. This site can provide a nucleus for expanding these facilities. Future developments would include:

- Preparation of a site utilization plan which gives careful attention to site access and circulation and needs for expansion of the station. The existing City Hall could be incorporated into the plan for expanding the police functions.
- Provisions for a central Communications Center.
- Maintenance and service of police vehicles at the site of the existing City Barn.

Fire Stations: The programming of all fire stations should closely follow the site location recommendations of the State Board of Insurance and the National Board of Fire Underwriters. Their service criteria gives consideration to the time required to reach any given point within the designated service of each station and the equipment that would best respond to the source of possible fires. The categories of proposed services are:

Company	Equipment (minimum)
Single	One combination pumper
Double	One combination pumper and one ladder truck
Headquarters	Two combination pumpers, one ladder truck, emergency equipment, and communication center

The sites of existing and proposed stations are shown on the map found on page 3-113. The branch stations under construction have been well located to serve a long-range program. The additions proposed to complement these facilities are:

- Northwest Pearland--DoubleCompany station in vicinity of Scott Street (extended) and Hatfield Road.

- Southwest Pearland--Single Company Station in vicinity of County Road 101 and Harkey Road.

- Southeast Pearland--Double Company Station in vicinity of State Highway 35 and Dixie Farm Road.

Headquarters Company Station: The existing Main Fire Station site has many limitations. It is small, has little room for expansion, and emergency trucks conflict with the normal central area traffic.

The recommendation is to discontinue this station and make the Orange Road site the location of the Main Station.

The proposed fire station sites have been coordinated with the proposals for major streets. It should be noted that the opening and extension of major streets is essential to the effective function of the proposed fire station.

Other Public Facilities: It may be anticipated that public building under the jurisdiction of the County, State, and Federal governments or special purpose districts will locate in Pearland. The general program with respect to non-city public sites and buildings are:

Medical Center-Hospital: Pearland's future hospital facilities may be publically or privately owned. By 1990 the City should support a 200-bed hospital and a regional medical and professional center. A site east of the Regency Park Subdivision and north of Broadway is proposed area shown on the Central Area Plan.

County, State, and Federal Buildings: The requirements for office space for other governmental units are not expected to be great. The Post Office is new and may prove adequate through 1990. Should expansion be necessary, the present site is well located. Some future relief could be provided by contract post office stations located at the major retail and office centers in the City. The anticipated needs for any other governmental space can be met by space located at the Civic Complex, in the Post Office or at the discretion of the sponsoring agency in a building designed and located to best meet the intended purpose.

CHARACTER AND APPEARANCE

Many references have been made to the character and appearance of Pearland. This title is used to direct attention to the visual (how it looks) image which results as urban development occurs. Character and appearance is not simply the appearance of flowers and trees, it is the total impression created by the natural and man made environment. Some cities are located on rivers or in interesting topography and are endowed with a legacy of natural beauty. Pearland , situated on flat land, does not have a major natural resource and must create its own interest, character, and beauty.

Planning Application:

Attention to the quality of Pearland's appearance will:

- Improve the quality of the City's living environment.
- Enhance the value of land.
- Endow the City for enjoyment by future generations.
- Improve the image of the City.

Existing Situations:

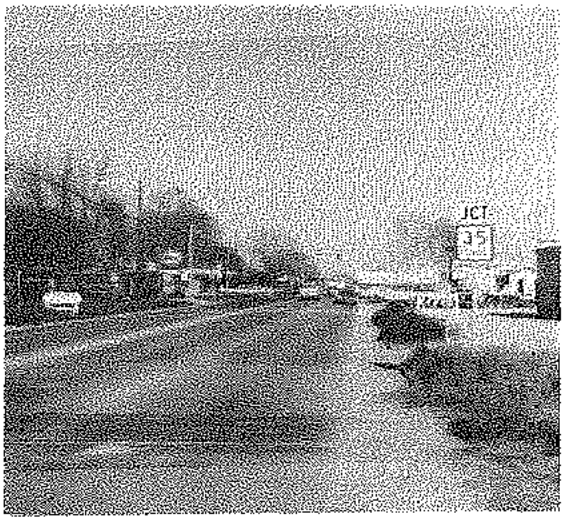
The sketch map and photographs shown on pages 3-124 to 3-128 direct attention to the entrances and certain points in the City which reflect the image of existing development and illustrate the need for more attention to development character and appearance details.

Development Programs:

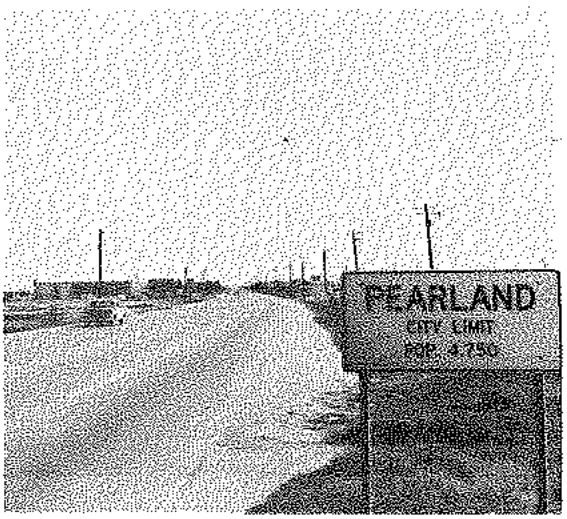
The opportunities for improving the character and appearance of Pearland are as great as the number of separate public and private developments which make up the City. The responsibility to improve the image of the City is shared equally by the public and private sectors of land ownership and management.

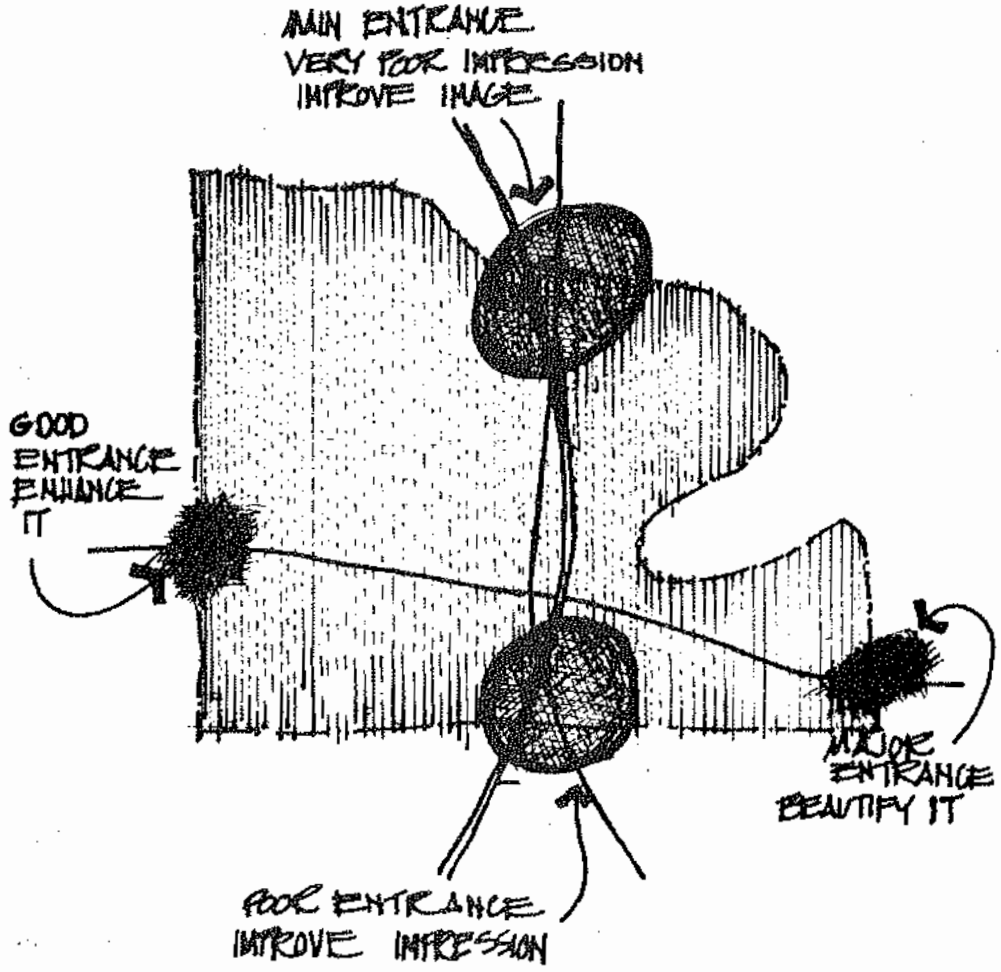
Beautification of Public Properties: The City, other governmental agencies, and the utility companies serving the public should take the initiative to bring about much improved standards of urban beautification. The general steps that should be initiated are:


Pearland


JCT
35


VILLAGE
OPEN

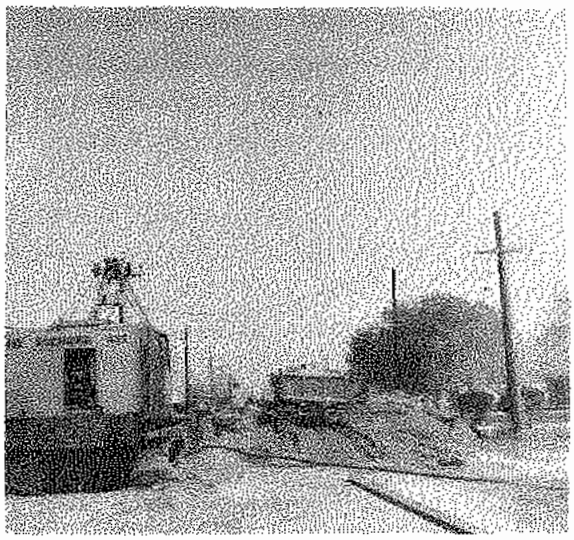

PEARLAND
CITY LIMIT
POP. 4,750

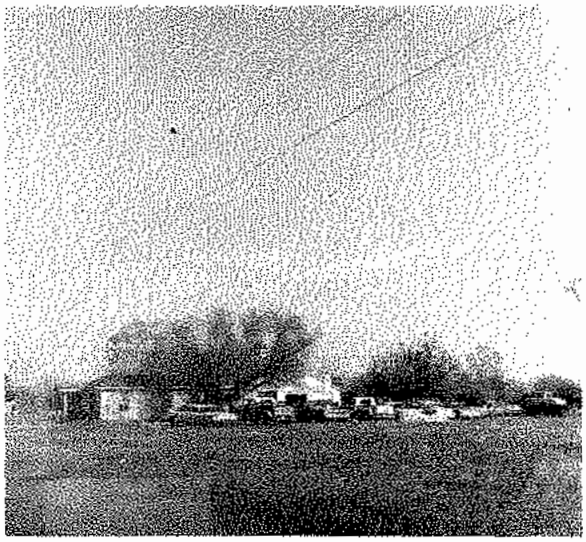


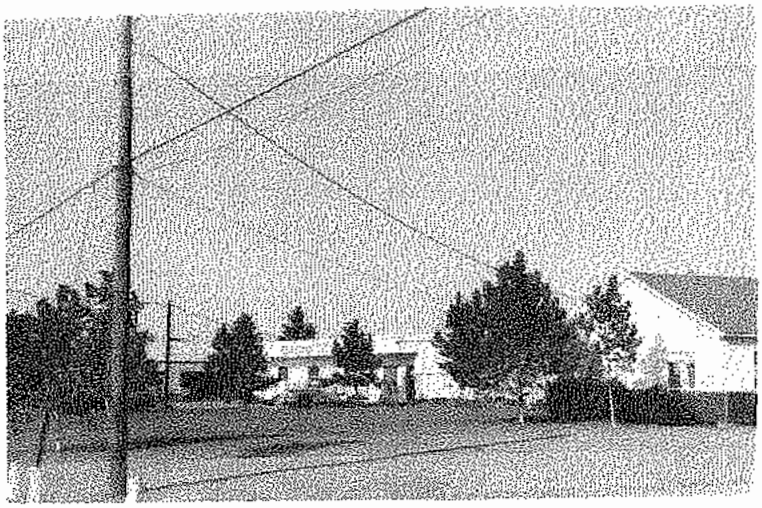
Development Situations Which Need Attention

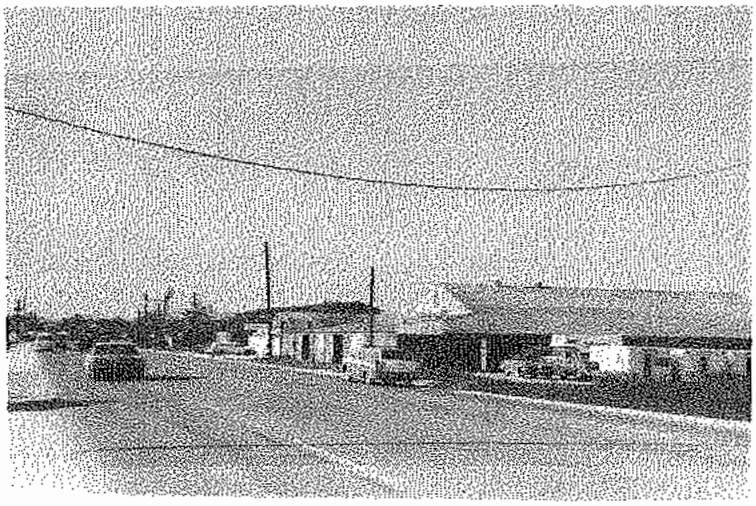
- Unsightly Open Drainage Ditches
- Strip Commercial Development Unproperly Integrated Into Urban Scene
- Mobile Trailer Sites
- Utility Lines
- Billboards
- Parking Lots
- Inadequate Landscape Treatment on Public Property
- Mixed Land Uses

Investigation reveals that the many properties in Pearland need additional landscape treatment; that paving and drainage ditches are a source of serious aesthetic problems and the overall character and appearance program needs serious evaluation and funds allocated to improve the City's image.



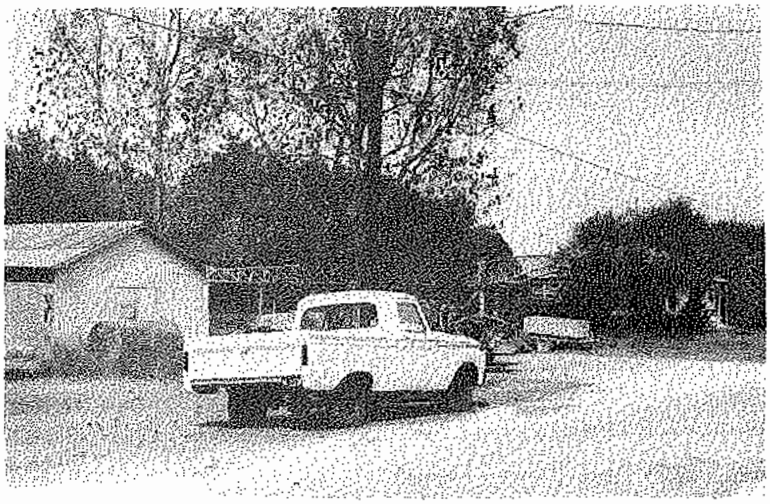






Reduce Overhead Utility Services:

- Subdivision Controls
- Study Combined Easements
- Provide Assistance to Utility Companies

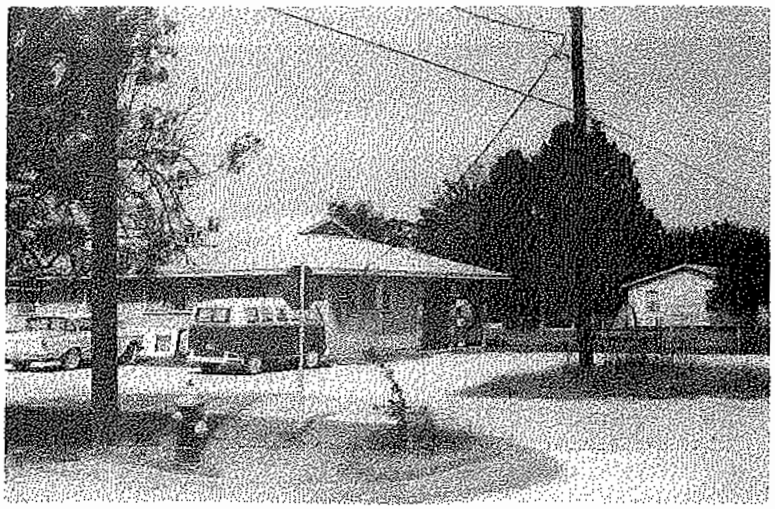


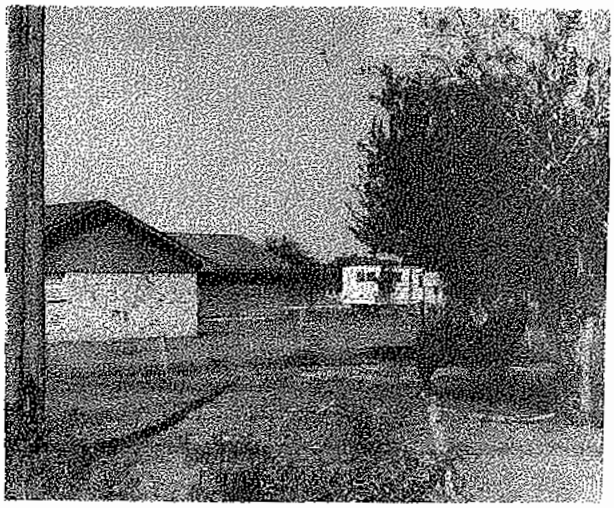
Eliminate Non Compatable Land Uses:

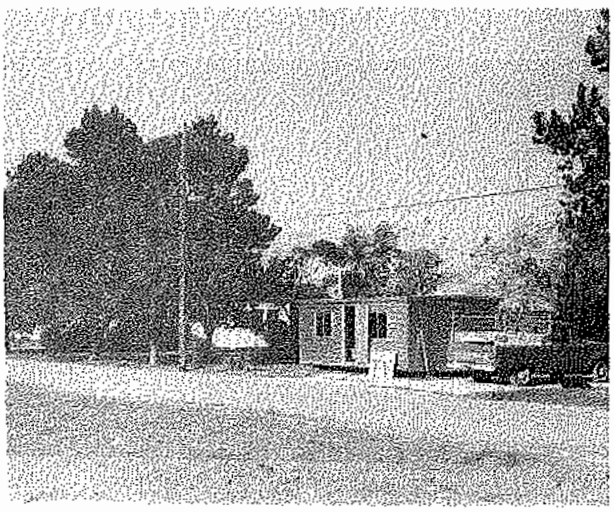
. Control Trailer Encroachment

. Revise Housing Ordinance

. Establish Land Use Controls

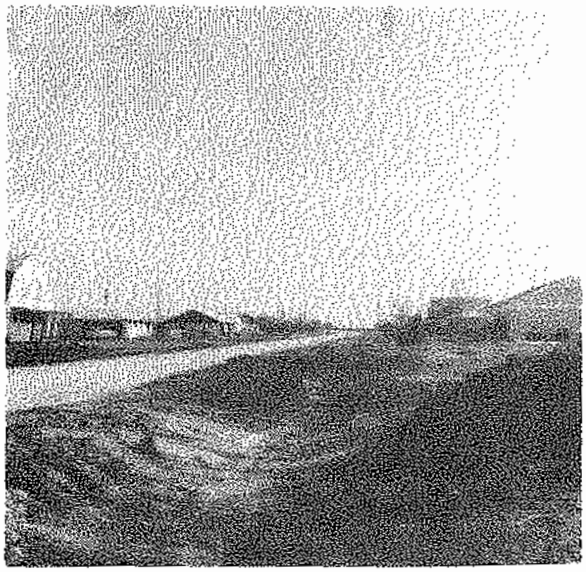






Pearlands flat surface is cut by many open ditches. The bleak appearance of these ditches is one of the greatest challenges to Pearland's appearance. In the past very little thought has been concentrated on their appearance as well as function.

There are several typical ditch scenes reproduced below.



- Stimulation of Public Interest: The formulation of a Beautification Committee that would outline specific projects and goals and meet with service clubs and developers to stimulate public interest in the City's appearance would generate beneficial results.

- Site Plans: Each time the City builds a new building it should give equal attention to beautification of the City. Landscape Architects should be employed to assist with this effort. This practice should be followed by the School District, Drainage District, and by the electric and telephone utilities.

- Programming and Budgeting: Each year specific street tree planting, site beautification, and other projects should be included in the City's budget and implemented during the budget year.

Beautification of Private Properties: The individuals who may be the home ownes, the developer of subdivisions, apartments, businesses or industrial establishments share an equal responsibility for the image of his City. To him beautification is a good business practice as it enhances the value of his property. The steps that will bring results on private property are the same principles recommended for improving the appearance of public property namely:

- Site planning.

- Use of professional Landscape Architects.

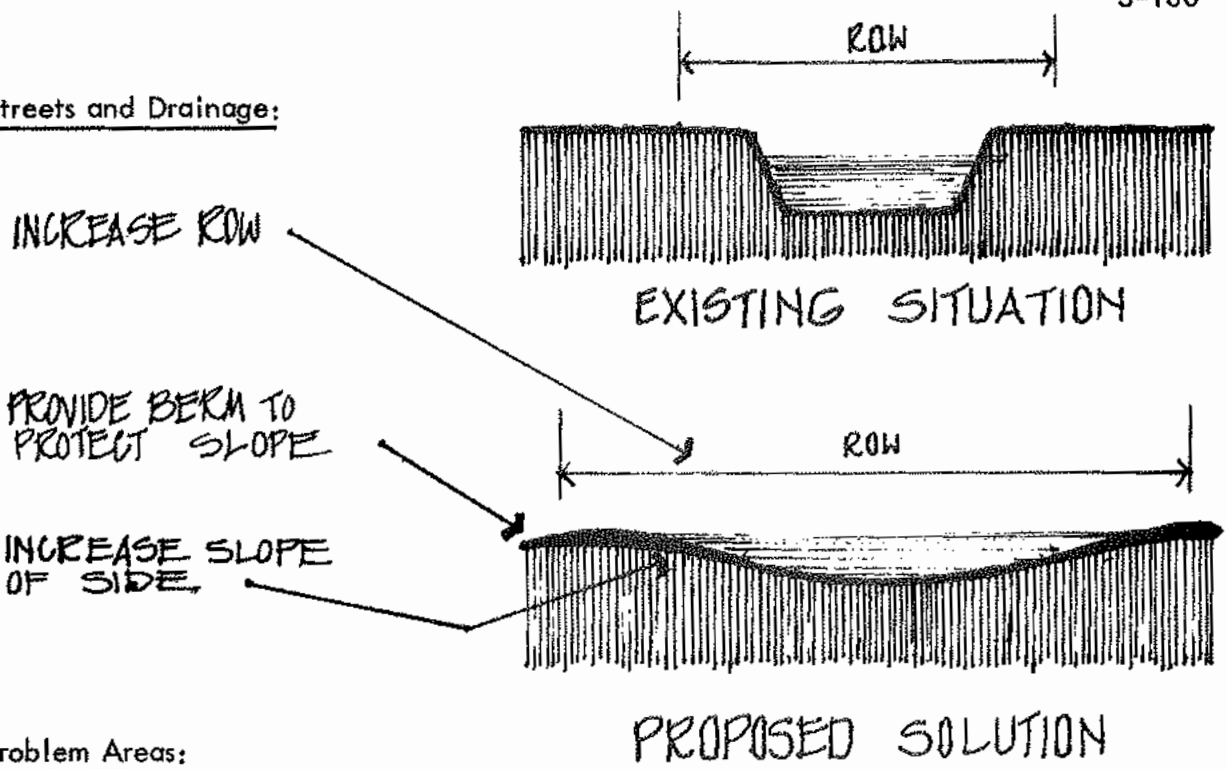
- Budgeting for site improvements.

- Adequate and continuous maintenance.

Typical Situations:

Pages 3-130 to 3-133 illustrate selected examples of actions that may be taken to improve the character and appearance of Pearland. These examples suggest a course of action that could be applied to a much expanded and continuous program.

Streets and Drainage:

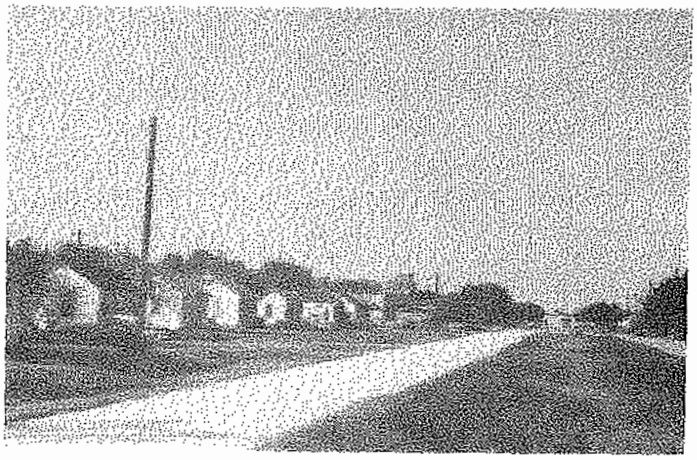


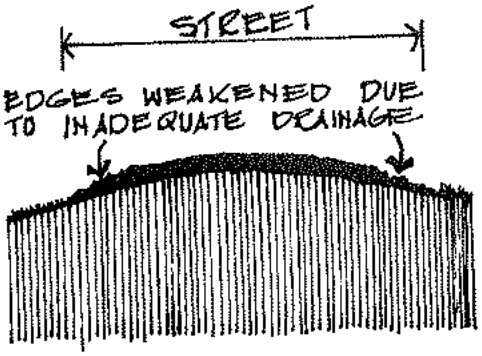
Problem Areas:

- Considerations of drainage artery function.
- Steep side slopes of artery.
- Erosion of drainage artery side slopes.
- Poor maintenance of drainage arteries.

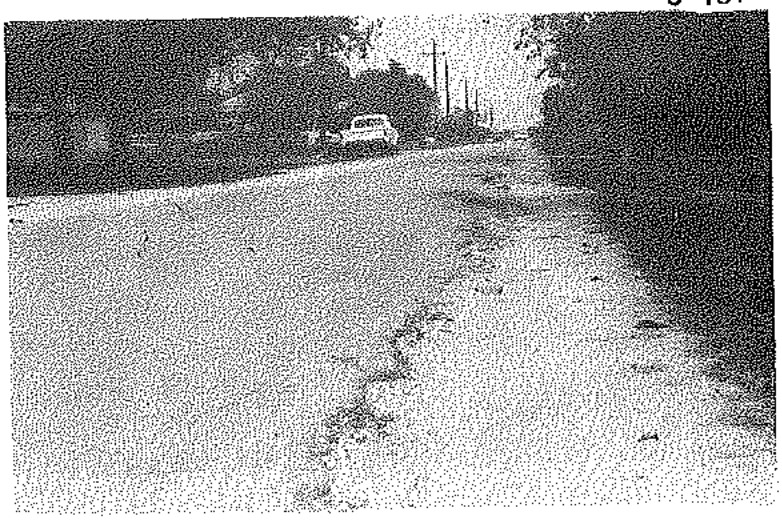
Solutions:

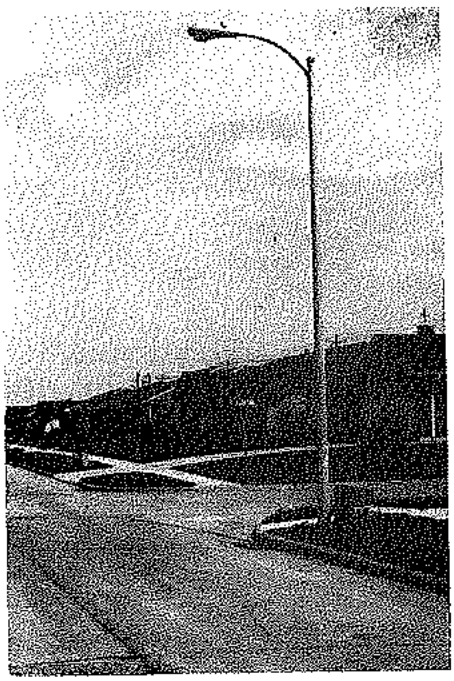
- Increased rights-of-ways.
- Increase side slopes.
- Turf treatment of slopes.
- Surface bottoms of drainage artery.
- Surface sides of narrow right-of-way drainage arteries.
- Beautification and screening with trees and shrubs masses.

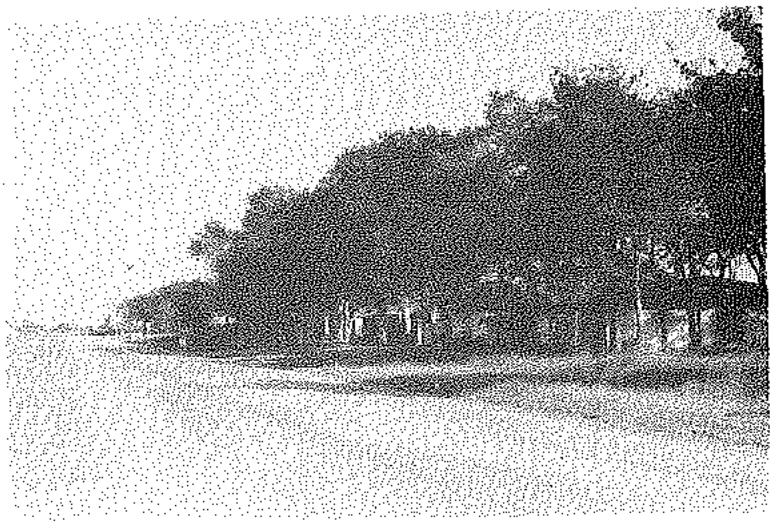


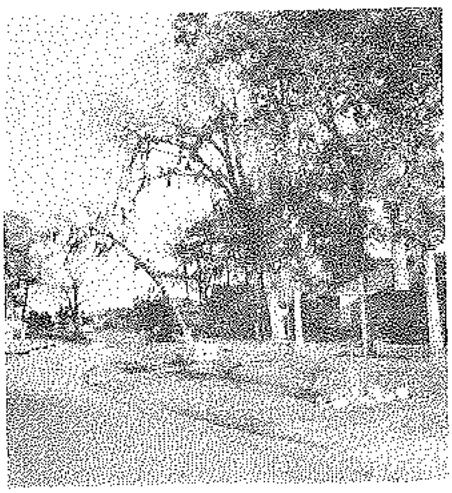


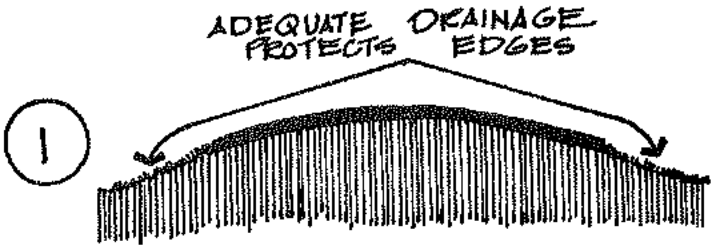
EXISTING SITUATION





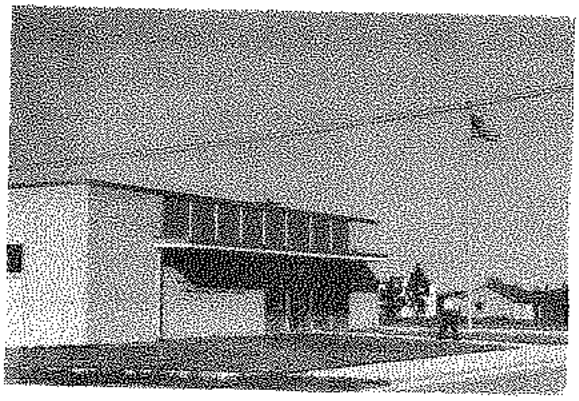


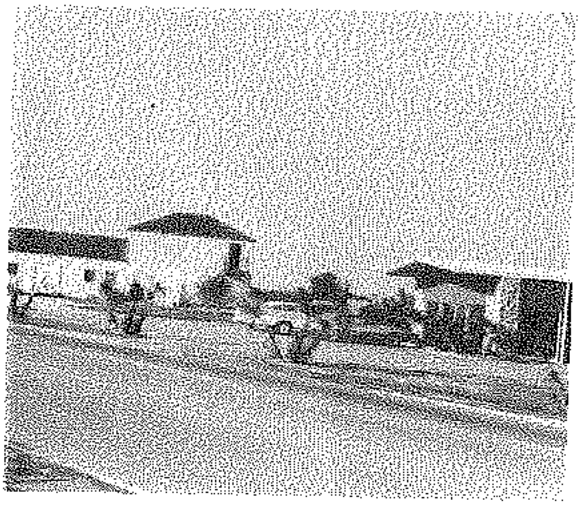


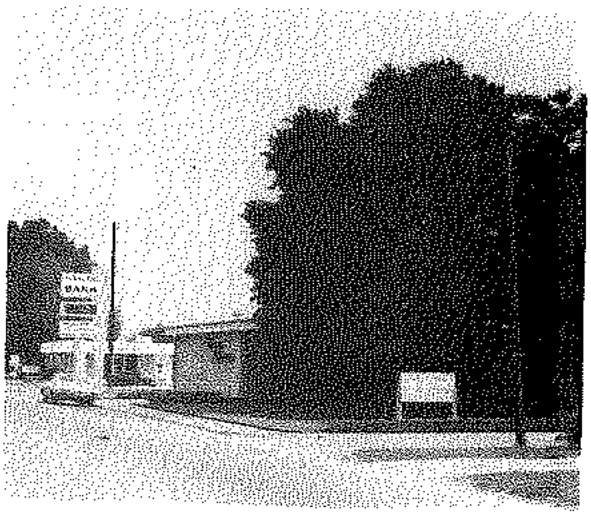


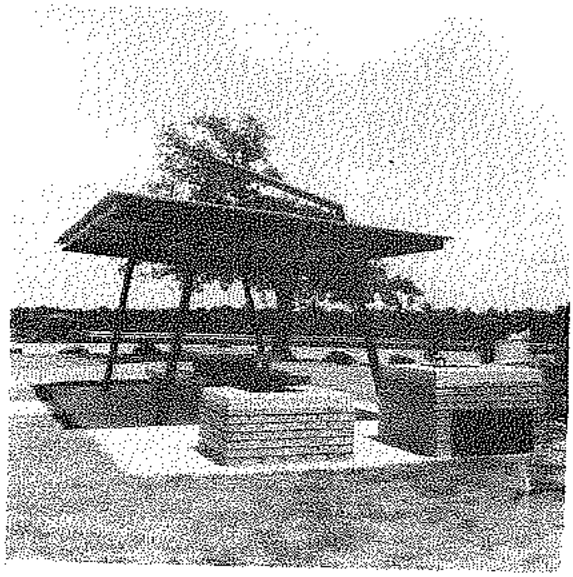
PROPOSED SOLUTIONS

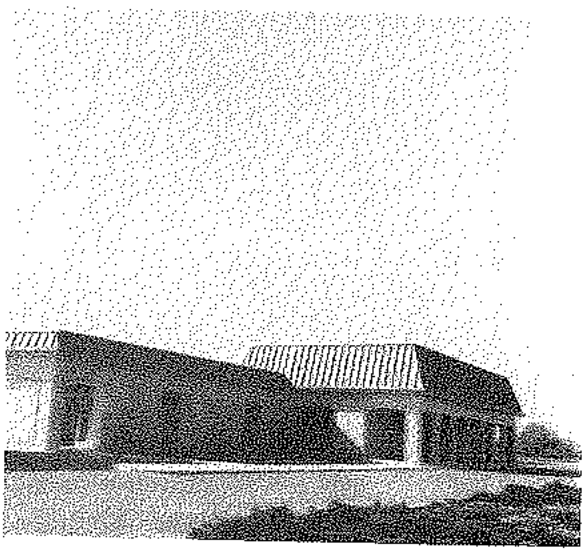
Encourage Attractiveness and Beauty in Architecture and Site Development:





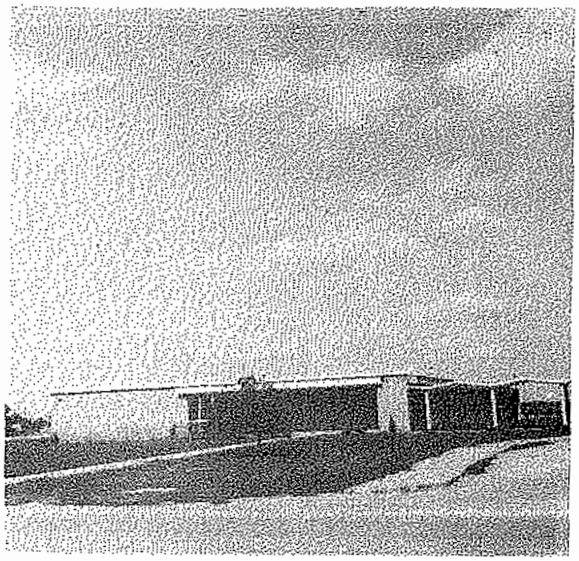


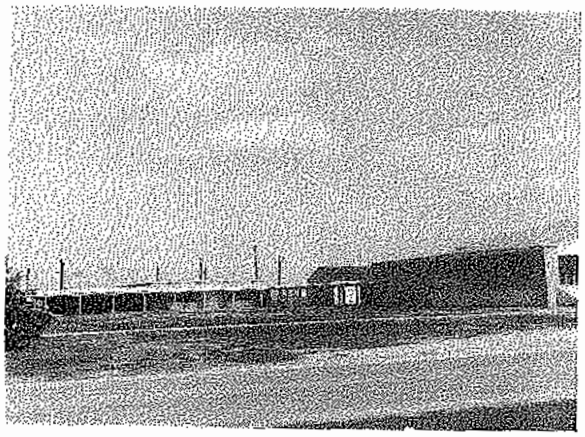


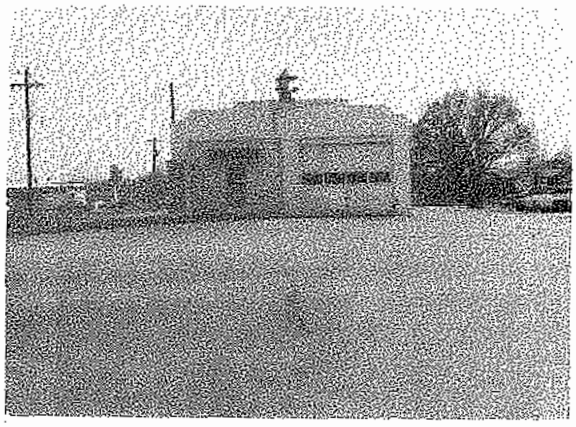


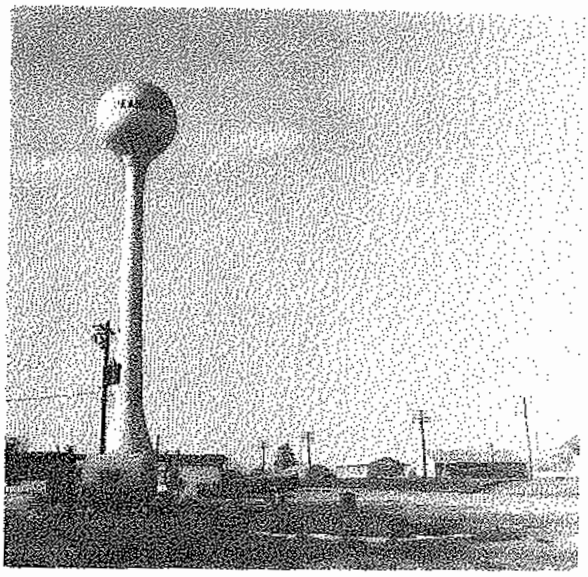
Beautify Public Areas and Properties:

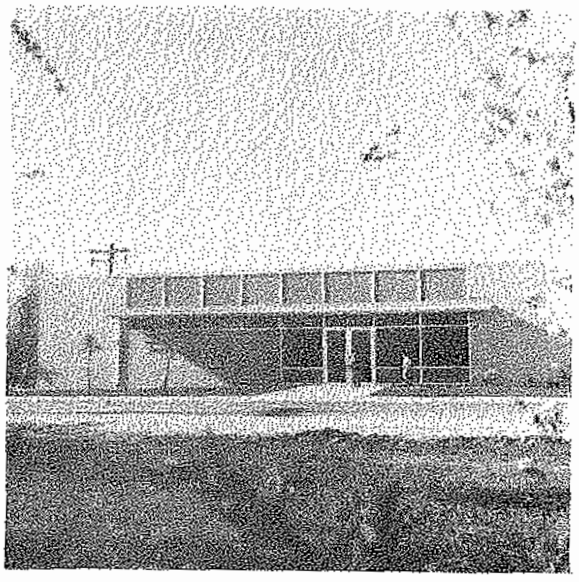
- Establish Budgets for Beauty
- Add Open Spaces
- Encourage Agency Participation
- Enlist Citizen Group Participation









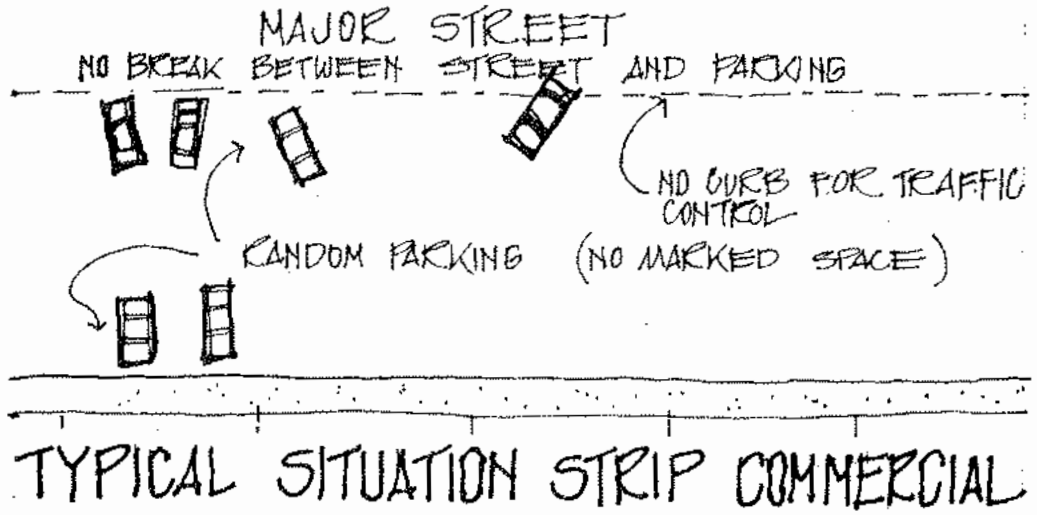


Commercial Development Coordination

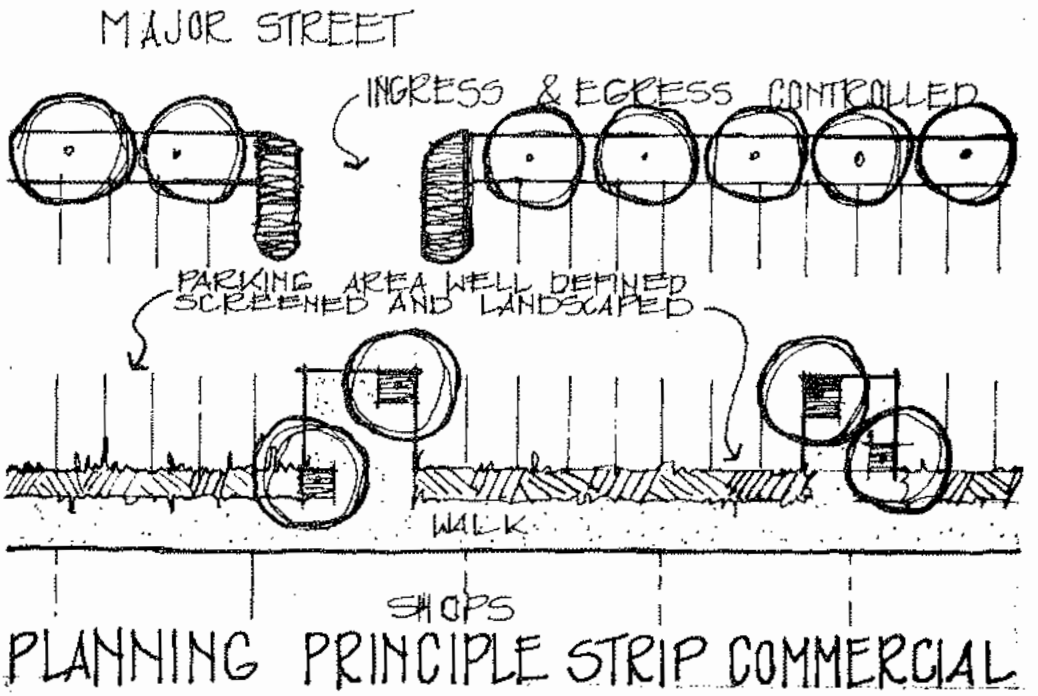
Strip commercial development creates aesthetic and safety problems. The aesthetic problem results from the lack of contrast and definition. Streets, off-street parking, buildings and signs overlap each other in a sea of disorder.

The safety problem results from poorly defined circulation patterns and unlimited points of conflict. Traffic and parking patterns can be improved as is illustrated in the adjoining sketches.

The business community has the primary responsibility for seeing that solutions to these problems are found.



TYPICAL SITUATION STRIP COMMERCIAL



PLANNING PRINCIPLE STRIP COMMERCIAL

SANITARY SEWERAGE FACILITIES

Pearland has planned its present sewerage improvements with a consideration for the future growth of the City. This foresight has benefited the City and will be the source of future dividends, particularly in response to the sewage treatment standards now specified by the Texas Water Quality Board.

Existing Facilities:

The location of the existing sewerage treatment plants, the sewers, and other improvements within the existing system are identified on the map shown on page 3-139. The componets of the system:

- Sewer the central and built-up east sectors of the City.
- Have gravity flow in an easterly direction terminating at two sewage treatment plants located on Clear Creek.

The existing system reaches most points where development is occuring. One major exception to the present scope of service is the Clear Creek and Twin Creek Estates area on Pearland's north side. Sewers are programmed for the area and are expected to be started soon. The recent sewer improvement running in Walnut Street and then northeast to the Number 2 sewage treatment plant has eliminated the need for two lift stations and provided a major trunk to serve Pearland's central area.

Planning Criteria:

The guide lines used to evaluate the adequacy of the existing sewerage facilities and for outlining future needs are:

Sewage Collection:

- Velocity in sewers: Not less than 2 feet/second when flowing full or half-full.
- Maximum contribution to sewer system:

  (1) Areas of less than 700 acres: 6,000 gallons/acre/day
  (2) Areas from 700 acres to 3400 acres: 5,000 gallons/acre/day
  (3) Areas greater than 3400 acres: 4,000 gallons/acre/day

. Lift Stations: Capacity sufficient to pump maximum contributing flows.

Sewage Treatment:

. Organic loads: 0.17 pounds/capita/day

. Suspended solids: 0.20 pounds/capita/day

. Per capita contribution:

(1) Average flow: 75 gallons/capita/day
(2) Peak hour: 187 gallons/capita/day

. Hydraulic loadings:

(1) Trickling filter type plants: 300 percent of average flow.
(2) Aeration type plants: 250 percent of average flow.

. Effluent Characteristics:

(1) Biological oxygen demand: Not more than 20 parts per million.
(2) Suspended solids: Not more than 20 parts per million.
(3) Chlorine residual: 0.1 parts per million, minimum.

Sewer Districts:

The Sewerage Facilities Map shown on page 3-139. identifies the approximate boundries of the gravity flow districts corresponding with the natural topography of the Pearland Planning Area. Each district represents the geographic area that would contribute to its respective trunk sewer. The significant planning characteristics of the districts are:

District A: Only a portion of the full coverage of this district falls in Pearland as their jurisdiction stops at the boundary of Brookside Village. Brookside Village and

Pearland may want to consider a joint venture program for treatment of the sewage generated from the full coverage of the district. The major land use in the district will be residential.

District B: The natural topography of this district can best and most efficiently be served by locating a sewer in the center of this small area which is expected to develop for residential purposes.

District C: Development in District C is expected to consist of a small amount of light industry with the remainder being residential and its supporting uses.

District D: The D District will not be as large as the C or F Districts. Because of its central location, this area is expected to receive more intense urban development uses and these generate more sewage than the other districts.

District E: The characteristics of this district are very similar to District B.

District F: The south part of Pearland forms a separate district which is expected to develop for residential and industrial purposes. The district will cover about the same acreage as District C.

District G: The southeast quadrant of Pearland forms a distinct sewer district and is expected to develop for residential and its supporting uses.

In each of the Districts, with the exception of "A", their boundaries represent the approximate limits to which the sewers may be feasibly extended.

Development Program:

Each of the proposals of the Development Program must be fully analysed and developed with respect to systems operations and detail. The long-range development approach outlined by the plan is:

Treatment Plants:

- Continuation and future expansion of the two existing sewage treatment plants which receive the sewage from Districts B, C, D, E, F, and G.

- A new plant located adjacent to the Twin Creek Addition and serving District "A".

Sewers:

- Extension of the existing trunk sewers in Districts D and G.

- Future construction of trunk sewers for Districts A, C, E, and F.

- Lateral sewers into all unsewered areas.

Lift Stations:

- Based on the preliminary information a minimum of two lift stations located as follows will be needed:

  District C trunk--West Pearland
  District F trunk--Southwest Pearland

Regional Relationships:

Investigations have been made of the sewerage facilities programs for the City of Houston and Friendswood which will be located contiguous with the City of Pearland. No evidence has been found that any major corporate venture would improve service or reduce costs for the respective cities. Should future evidence support a joint venture approach the details can be outlined at that date.

Pearland and parts of its neighboring cities are geographically within the Upper Clear Creek Sub-Basin. A special purpose district under the title of the Clear Creek Authority has been established and has investigated methods for collecting and treating all waste that would normally discharge into the Clear Creek basin. The concept that all sewage be collected in an interceptor sewer located in Clear Creek and centrally treated has been proposed. The cost of the proposed improvements would be prorated to its contributing customers. The merits of a basin management program for waste disposal should be continually reviewed by the City of Pearland. At a future date it is possible that the treatment of all sewage originating in Pearland would be treated under the management of the Clear Creek Authority.

The population of Pearland is growing rapidly and is expected to duplicate the present population several times during the next two decades The City has little present industry, but a great potential for future development. When contrasted with these growth indicators, the City's present source of water supply will remain static or could decline.

An adequate, safe, and portable water supply is an essential requirement to the continued development of Pearland.

Existing Waterworks:

The Pearland waterworks consists of:

Supply: The source of the City's present water supply is three wells located at

- Broadway and Texas Avenue
- McClean Road south of Walnut
- Broadway (F.M. 518) and Dixie Farm Road

The existing wells are approximately 640 feet deep and may be pumped at the rate of approximately 500 gallons per minute. The static water level varies from 170 feet to 220 feet.

Water Pumpage: Four booster pumps are presently used to lift water into storage and to circulate water from the ground storage units. These pumps supported by the central well (Texas Avenue pump) have a combined capacity of 1500 gallons per minute.

Storage: The City presently has one 500,000 gallon and one 250,000 gallon ground storage tank and one 50,000 gallon elevated storage tank.

Distribution: Water is distributed to existing developments through lines provided partly by the City and some installed by other private interests, and then incorporated into the City's system. Lines range in size from two to ten inches with a major portion of the system consisting of lines four inches in size or larger.

Planning Criteria:

The guidelines for evaluating the adequacy of the existing waterworks and for programming future needs are:

Per Capita Water Usage (future system):

- Average Demand: 130 gallons/capita/day
- Peak-Day Demand: 221 gallons/capita/day
- Peak Hour Demand Rate: 390 gallons/capita/day

Fire Flow Water Requirements:

- Residential Areas:

  Single-Family Dwellings: 1,500 gallons/minute
  Multi-Family High Rise: 3,000 gallons/minute

- Mercantile Areas: 3,000 gallons/minute

Water Storage Requirements:*

- Ground Storage: 130 gallons/capita
- Elevated Storage (above 100 feet high): 54.2 gallons/capita

  * State Board of Insurance Requirements

Distribution System Requirements:

- No lines in mercantile area smaller than 8-inch diameter.
- 6-inch looped lines for fire protection in residential areas.
- Fire hydrants spaced so that maximum area served will be approximately:

  40,000 sq. ft. in the principal mercantile area.
  115,000 sq. ft. in the single-family dwellings of the residential area.
  100,000 sq. ft. in the multi-family high-rise residential areas.

- Fire hydrants and mains must be adequate to deliver the required flows with a residual pressure of 20 pounds per square inch, when measured at the hydrant nozzle.

- Maximum Gate Valve spacing:

  500 feet in mercantile area.
  300 feet in residential areas.
  1,300 feet on arterial water mains.

- Arterial water mains (12-inches or larger) should be spaced approximately 3,000 feet apart and looped.

- The gridiron of minor distributors for supplying residential districts should consist of mains at least 6 inches in size arranged so that the service on the long sides of the block (between intersecting mains) does not exceed 600 feet. Where necessary to use longer services of 6-inch pipe, 8 inch or larger intersecting mains should be provided.

- 2-inch lines should be limited to providing domestic water demand to small areas with a limited number of homes and should be looped.

Water Production Facilities:

- Production plus storage must be able to meet maximum system demand with largest unit out of service.

- Supply mains to distribution system should be in duplicate.

- Pumping stations and other important structures shall contain no combustible materials in their construction; otherwise, automatic sprinkler equipment should be provided.

Projected Requirements:

The waterworks system should make available and deliver water in keeping with the estimated requirements at future dates. The forecast requirements are:

Water Useage Trends:

The trends in average daily water usage on an annual and peak month basis for 1962 and 1968 and projections to 1990 are given in the Table W-1. The projection has made allowances for serving commercial establishments, but makes no allowance for supplying industries which would use large amounts of water in the manufacturing processes. The 1990 peak day demand to serve a population of 59,837 persons is estimated at 13.2 MGD. Should the local population grow faster than predicted, water facilities must be reprogrammed accordingly.

TABLE W-1

Water Usage Trend (Gallons)

	Average Daily Demand		Average Daily Peak Month		Peak Day	
Year	Total	Per Capita	Total	Per Capita	Total	Per Capita
1962	146,030		185,516		310,000	
1968	406,250	100	515,510	120	929,000	223
1970	1,092,390	130	1,428,510	170	1,857,063	221
1980	3,097,250	130	4,050,250	170	5,265,325	221
1990	7,778,810	130	10,172,290	170	13,223,977	221

- Evaluate the cost, quality, transportation, storage and other factors for gaining a surface water source to augment the City's ground water resources.
- Enter into long-range agreements for purchase of additional surface water supply.
- Wells will probably supply the City's near future water requirements.

Pumpage and Storage:

The rate at which pump capacity, consistent with the other elements of the proposed system, is needed at future dates is as follows:

Year	Delivery Rate
1970	4,200 GPM
1980	8,000 GPM
1990	16,000 GPM

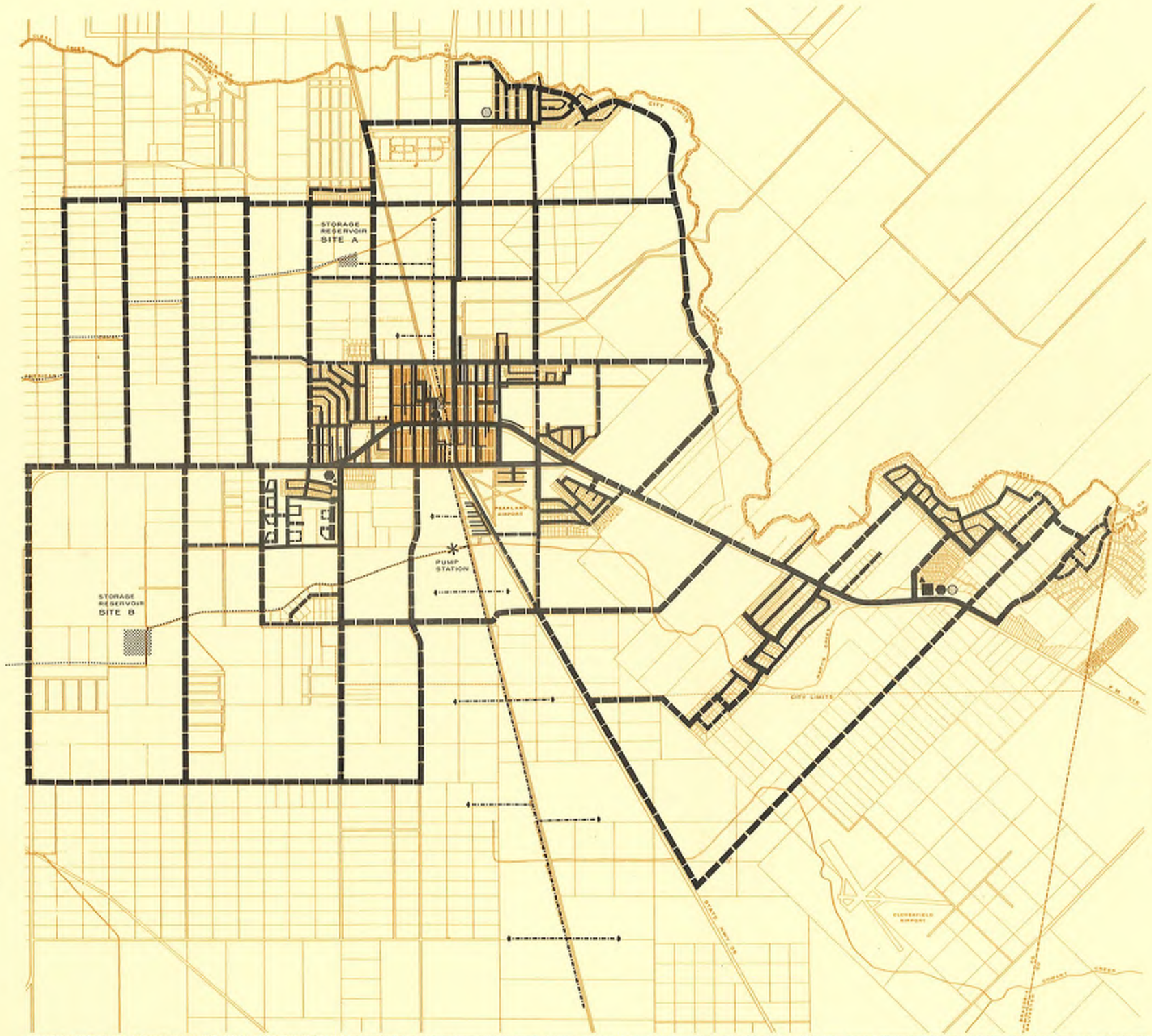
Based upon the projected population, the required storage and deficiency at selected future dates is:

	Ground Storage		Elevated Storage	
Year	Required	Deficiency	Required	Deficiency
1970	1,092,000	342,000	455,000	405,000
1980	3,097,000	2,347,000	1,291,000	1,241,000
1990	7,779,000	7,029,000	3,243,000	3,193,000

It is proposed that a 500,000 ground storage tank and a 1,000,000 elevated tank be provided at the earliest practical date. By 1975, additional ground storage will be needed.

Distribution:

The location of existing water lines and the proposed location for future water distribution mains is shown on the Water Facilities Map found on page 3-149.



DEVELOPMENT PLAN FOR PEARLAND, TEXAS

WATER FACILITIES

LEGEND

EXIST. PROP. MAINS
2" & 3"
4" & 6"
8" & 10"

STORAGE
SURFACE
ELEVATED

WELLS

WATER TREATMENT PLANT

INDUSTRIAL WATER DISTRIBUTION

CONVEYANCE CANAL

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS
HOUSTON & SAN ANTONIO TEXAS

NORTH

1000 0 1000 2000 3000
SCALE IN FEET

WILLIAM C. WALSH
CONSULTING ENGINEER
PEARLAND, TEXAS

PREPARED THROUGH THE COOPERATION OF THE TEXAS STATE DEPT OF HEALTH THE PREPARATION OF THIS MATERIAL WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE URBAN PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED

PLAN MAP

BASE MAP 1958

The other components of the waterworks system are also shown on the map. The proposed location of the trunk mains has been outlined consistent with development plans for the are and the standards for water facilities. The recommended size of the trunks would be resolved through future systems engineering.

Concept for Industrial Water Facilities:

Water for industrial use will be a major influence affecting what use is made of the City's industrial potential. The existing ground water source of supply has limitations and new sources of surface water should be explored. The sources of surface water reasonable accessable to Pearland has been previously identified as the adjacent river basins.

Surface water from the river basins would be transported to the City by pipeline or in open Conveyance Canals.

Concepts for the development of an Industrial Water Supply should be explored by local officials and the business community. In recognition of the need for an industrial water source, one possible surface water supply concept is illustrated on the Water Facilities Map (page 3-149). The concept illustrated proposed:

- Taking water from an existing canal at a point west of Mykawa Road and south of Lane Drive, or
- Development of water conveyance system that would jointly serve Pearland and Alvin with the Pearland component directed to St. Mary's Creek.
- Construction of a holding reservoir at the point near where the water is taken.
- Construction of a trunk system for the delivery of the water to the potential industrial sites which generally parallel the railroad. The industrial water trunk system could be operated independently of the other waterworks or made a part of the basic system.

DRAINAGE FACILITIES

The runoff of water received from the normal rainfall and from the less frequent but more intense storms becomes greater as more urban development takes place. The rate and amount of runoff is increased by urban developments because more surfaces are paved and more land covered by homes.

Existing Characteristics:

The topographic structure of the Pearland Planning Area may be viewed by reference to the Topographic Map shown on page 1-29 . The Planning Area drains into several natural drainage divisions which are identified on the Drainage Facilities Map reproduced on page 3-157 These districts are:

Hickory Creek: The course of Hickory Creek is east and northeast and it is the first drainage course south of Clear Creek. Only a small amount of urban development has occured in the area drained by the creek. Some improvements to the water natural course have been made; however, these are minor.

St. Mary's Creek: The St. Mary's Creek crosses about midway through the Planning Area and is the principal drainage course of the area. Much of the developed portion of Pearland is located within the drainage course. The St. Mary's Creek Channel has received some improvements to the natural flow. These improvements are servicing existing developments and are not long-range in scope.

Cowart Creek: The Cowart Creek drainage tributary does not extend as far west as do the tributaries of the other creeks. It does however drain a major portion of the southeast Pearland Planning Area. Very little urban development has occured within the limits of this tributary. Some minor improvements to the natural flow of the creek have been accomplished.

Clear Creek: Clear Creek forms the north and east boundary of Pearland and the extent to which the City can grow in this direction. Each of the drainage tributaries originating in the Pearland Planning Area terminate at Clear Creek. From Pearland, Clear Creek flows south and east to Clear Lake and into Galveston Bay. The channel is under study for drainage and flood control improvements.

Other Tributaries: Several other small drainage courses in the form of open ditches extend west from Clear Creek. These ditches are found in the vicinity of where the extension of Orange Road would cross Clear Creek and southeast of this location.

Planning Criteria:

The guidelines for achieving more adequate drainage in coordination with urban developments are:

1. Runoff Rates:

(a) Design frequency to vary with the size of the area:

Area in Acres	Design Frequency
50	2-year
100	3-year
250	4-year
500	6-year
1,000	8-year
2,000	10-year
5,000	18-year
10,000	23-year
15,000	25-year

Normal practive is to design the municipal storm sewer systems for a 2 to 3-year frequency.

Primary drainage channels in the urban development portions of Brazoria County should be designed on a 25-year frequency.

Large outfall ditches should be designed on an 8 to 10-year frequency.

(b) Results of design frequencies:

(1) For a 2-year storm, there is no ponding in curb and gutter streets. The small lateral sewers are full, the outfall sewers are below design capacity and the water level in the primary drainage channel is well below the top of the bank.

(2) For a 10-year storm, there is some ponding in the streets (but not above the curbs), the small lateral sewers are somewhat overloaded, the outfall sewer is at design capacity, and the water level in the primary drainage channel is still below the top of the bank.

(3) For a 25-year storm, there is considerable ponding in the streets (but the water level is safely below the foundations of nearby houses), the entire storm sewer system is overloaded, and the water level in the primary drainage channel is nearly at the top of the bank.

2. Other Design Considerations:

(a) Minimum Storm Sewer Sizes:

(1) Residential Areas: 18 inches.

(2) Commercial Areas: 24 inches.

(b) Manning's "N" Values:

(1) Pipe sewers: 0.013

(2) Boxes and lined ditches: 0.015

(3) Unlined ditches: 0.030

(c) Velocities:*

(1) Sewers and boxes: 6.0 fps normal
10.0 fps maximum

(2) Ditches - Unlined: 3.0 fps normal
5.0 fps maximum

(3) Ditches - Lined: 6.0 fps normal
10.0 fps maximum

*foot per second

Planning and Management Jurisdiction:

Several levels of local government are involved with the planning and management of drainage facilities within the Pearland Planning Area. Briefly the existing situation is:

Brazoria County Drainage District No. 4: The planning and management for drainage facilities in the Planning Area are under the jurisdiction of the County Drainage District. This authority has taxing jurisdiction to finance its operations and construction programs.

Clear Creek Authority: The Clear Creek Authority has recently been chartered by the State of Texas. Its jurisdiction includes the watershed of Clear Creek; its purpose is primarily water quality control.

U. S. Army - Corps of Engineers: At the invitation of local political subdivision and the approval of the U. S. Congress, the Corps of Engineers has accomplished a Survey Report on "Clear Creek, Texas Flood Control". This report recommends that a Federal Project for rectification of Clear Creek be authorized. The Pearland Planning Area is within the Clear Creek Watershed.

City of Pearland: At this time, the City of Pearland's jurisdiction over the planning and management of local drainage facilities is somewhat limited. The City is the review agency for subdivision planning. Land platting and other activities which affect drainage must be coordinated with drainage plans and improvement programs. The City is a partner in the implementation of these objectives.

Drainage Facilities Program:

The role of the City of Pearland as the jurisdiction for planning, financing and management of drainage facilities within the Planning Area is expected to increase as more urban development occurs. The City should assume an immediate role that would result in the identification of long-range goals and objectives and the preparation of regulations and plans that would coordinate the implementation of drainage improvements with urban development.

The recommendations of the Drainage Facilities Program are:

Planning and Management Needs:

Preparation of runoff characteristics and basic engineering detail for flood control and watershed management.

Drainage and flood control provisions can be discussed only in general terms until detailed engineering has been provided. Engineering should provide recommendations as to the size and nature of improvements to be made to each drainage course and the flood plain characteristics that can be anticipated after the recommended improvements have been accomplished.

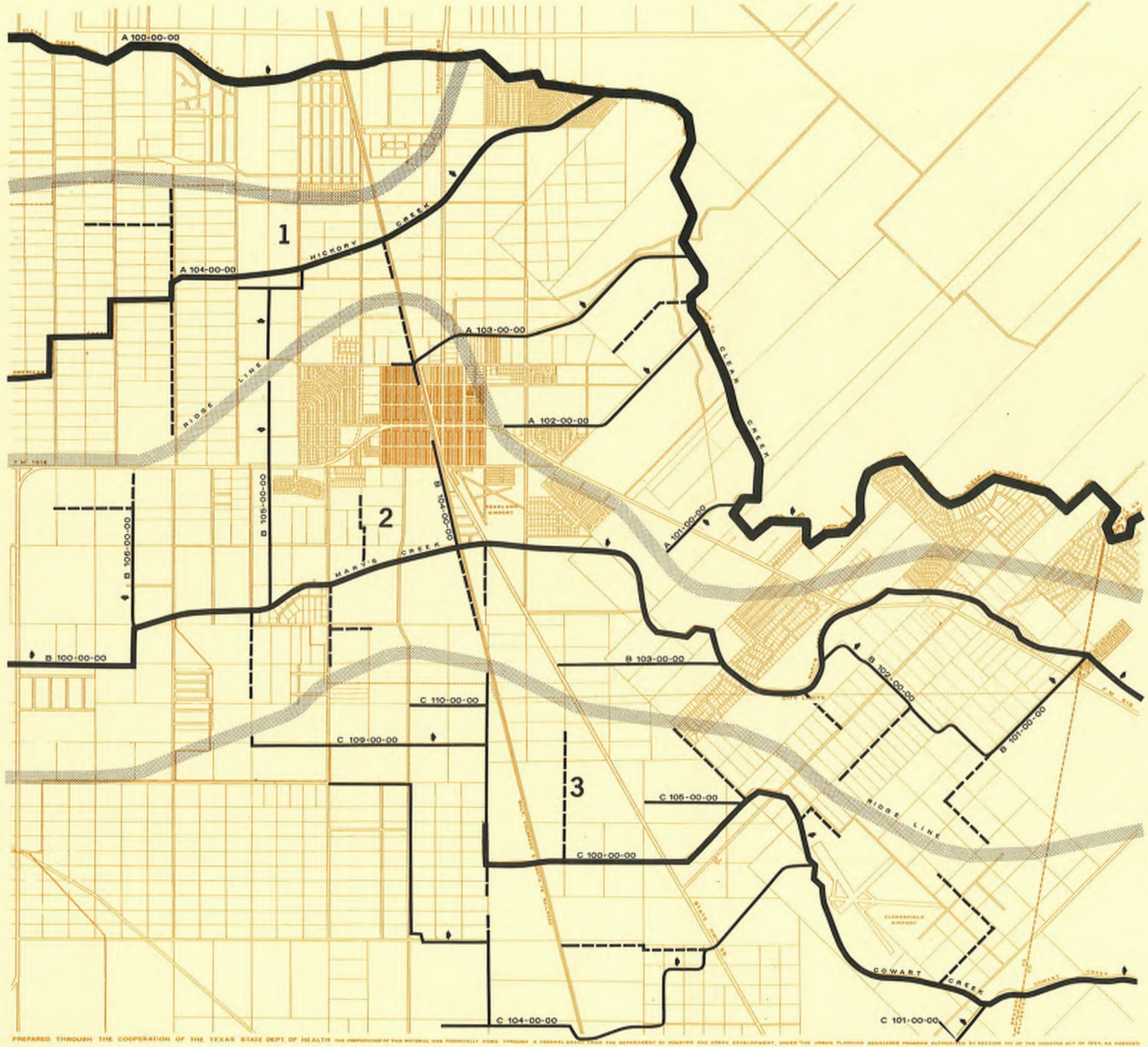
It is proposed that basic engineering be initiated and financed jointly by the City of Pearland and the Brazoria County Drainage District No. 4.

- Acquisition of drainage easements: The City has the responsibility for coordinating the platting of land including the dedication of drainage easements.

- Acquisition and management of the flood plains: In certain locations adjacent to the creeks, water from the major storm will exceed channel capacity and flood the adjacent area (flood plain). When the limits of the flood plain have been calculated, this land should be incorporated into the City's open space land program purchased and managed primarily for park purposes.

- Introduction of flood proofing measures: A local action program for flood proofing should be initiated. Flood proofing consists of preparing and adopting preventative measures designed to control flooding and to reduce the hazard and destruction of personal property resulting from floods.

Legislative Needs: The plans for physical drainage and flood control measures should be supported and strengthened by ordinances which help to correct practices that are certain to contribute to flood problems. The minimum provisions recommended for enactment following the availability of engineering plans for drainage and flood improvements are:



DEVELOPMENT PLAN FOR PEARLAND, TEXAS

DRAINAGE FACILITIES

LEGEND

MAJOR DRAINAGE UNITS

1 HICKORY CREEK WATERSHED
2 MARY'S CREEK WATERSHED
3 COWART CREEK WATERSHED

IMPROVEMENTS

EXIST. PROP.
PRIMARY OUTFALL
LATERALS

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS
HOUSTON & SAN ANTONIO TEXAS

NORTH

SCALE IN FEET

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PLAN MAP

BASE MAP 1958

1. Flood Plain Zoning Regulations.

2. Flood Proofing Regulations.

Both regulations to be adopted by ordinance.

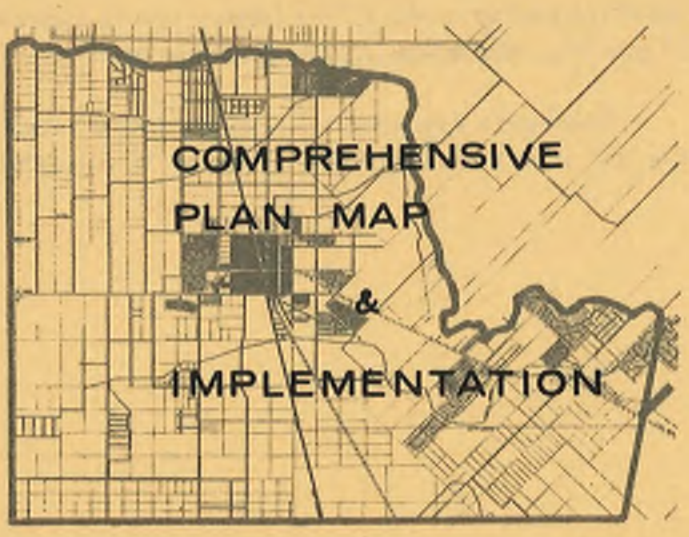
Selected Reference Material:

1. U.S. Army Corps of Engineers, "Guidelines for Reducing Flood Damages," Army-MRC, Vicksburg, Mississippi, May 1967.

2. Lee, Thomas M., P.E., "Is Flood Plain Management Part of Your Community Plan?" Reprinted from Public Works Magazine, July 1968.

3. 89th Congress, 2d Session, "House Document No. 465," U. S. Government Printing Office, August 10, 1966.

4. Sheaffer, John R., "Introduction to Flood Proofing," The University of Chicago, April 1967.


COMPREHENSIVE
PLAN MAP
&
IMPLEMENTATION

The Comprehensive Development Plan - Map - supporting the findings and recommendations set forth in the preceed parts of this report is reproduced on the opposite page.

Composit Plan:

The map is a composit of the plans presented on the individual maps appearing in this report. Reference to the several parts of the report will provide supporting information of the recommendations for achieving Comprehensive Development for the City and for the areas bordering the City.

Implementation of the Plan:

Starting on page 3-165, immediately following the Comprehensive Development Plan Map, is an outline of local action that will assist in the implementation of the plans and recommendations. The outline suggests several action oriented steps the City Council and Planning Commission may initiate. In addition, the City Council may refer projects to the Planning Commission.

Projects may originate with the Planning Commission at anytime the need arises and at work shop sessions held for the purpose of reviewing annual work programs and project priorities.

Pearland's Tomorrow:

Few cities have selected a more appropriate time to initiate a Comprehensive Planning Program than has Pearland. This decade (1970-1980) is a formative period in the City's history and is expected to be unparalleled by all previous and following development periods.

Pearland's tomorrow will offer a better urban environment in which to live and work because of the action by its citizens and government today.

DEVELOPMENT PLAN FOR PEARLAND, TEXAS

COMPREHENSIVE PLAN

LEGEND

LAND USE

RESIDENTIAL
- SINGLE FAMILY
- TOWNHOUSES
- MULTI-FAMILY

PARKS

PUBLIC

SCHOOLS E-ELEMENTARY J-JUNIOR HI S-SENIOR HI

OFFICE AND PROFESSIONAL

RETAIL

COMMERCIAL

INDUSTRIAL
- LIGHT
- HEAVY

GRADE SEPARATION

PUBLIC BUILDINGS
1. EXHIBIT HALL
2. MULTI-USE FACILITY
3. AUDITORIUM
4. LIBRARY
5. CITY HALL
6. POST OFFICE
7. DRAINAGE DIST. OFFICE
8. POLICE STATION

△ FIRE STATION

MARMON, MOK & GREEN INC.
PLANNING CONSULTANTS
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NORTH

1000 0 1000 2000 3000
SCALE IN FEET

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PLAN MAP

BASE MAP 1968

PLAN IMPLEMENTATION

The Comprehensive Development Plan for Pearland differs from the routine construction projects for city development which are a single purpose and executed in a short time. The Comprehensive Plan covers many areas of development activity and involves many public agencies. Its proposals span many years.

Planning is best defined as a process. Many of its products are not an end in themselves, but rather serve to strenghten the policy and decision-making process of local government.

In planning process, the Planning Commission functions as a service organization to the City Council and the public. The Commission's role is:

- To improve the quality efficiency and function of the urban environment through intergovernmental action; and

- To aid the City Council with technical planning and decision-making process applied to urban development.

The value of the Comprehensive Plan will be realized as its proposals are implemented and new goals and methods come into focus through the planning process.

Approach to Implementation:

The effectiveness of the Comprehensive Development Plan and the continuing role of the Planning Commission and City officials in the planning process can be strengthened through a planned implementation program consisting of the following:

- Identification of the service obligations of the Planning Commission to other governmental agencies and to the public.

- Identification of the elements of the plan that can be implemented by review and coordination and do not require large amounts of funding. The organization and operational procedures of the Planning Commission are important to the success of this objective.

- Preparation of an implementation time table, setting forth short- and long-range objectives and identifying projects to be further developed.

Housekeeping vs. Dynamic Planning:

Housekeeping reflects the situation in which little or no thought is given to development planning. If housekeeping is the only goal, future development will do little to improve the character of the City or reduce the high cost of maintaining or replacing public improvements that are too small or inadequately built. The deficiencies of past policies will be overlooked.

The alternative to housekeeping is the use of planning as a dynamic force leading to the establishment of development goals that reflect the desires of local citizens and use the resources of the City as building blocks. The Comprehensive Plan is a tool for implementing dynamic planning. More than anything else, the plan sets forth the process by which development goals may be obtained.

Planning Commission - Service Obligations:

The ordinance which created the Planning Commission assigned to the Commission the basic task of comprehensive planning. In response to this charge, the Commission should take the initiative in all matters that are planning oriented. The service obligation includes the:

1. Continuation and Refinement of Plans:

   a. Initiate additional studies and supplemental projects.
   b. Further develop and refine selected plan proposals.
   c. Refine and improve basic design principles.

2. Formation of Goals and Policies:

   a. Direct periodic community-wide workshops to obtain expressions of community goals.
   b. Help to resolve planning policy incorporating essential goals.
   c. Refine policy relating to required subdivision improvements, the operations and procedures of the Commission and other programs dictated by current needs.

3. Development and Planning Assistance:

   a. Counsel with developers, civic and service groups and interested citizens regarding site development, beautification, community renewal and similar programs.
   b. Provide the business community and other interested parties with land use, socio-economic and other development data. Keep base information reasonably current.

4. Intergovernmental Services:

   a. Provide City Council with annual capital improvement programs.
   b. Assist City Council and City departments with location plans, site plans and the programming of public improvements.
   c. Maintain planning liaison with the School Board, County Commissioners, the Houston-Galveston Area Council and other public agencies involved with regional development.

Implementation Through Review and Coordination:

Particular emphasis is directed to the benefits that can be derived through the review and coordination of development activities. Subdivision plats, most streets and utility plans, for example, will be channeled through the Planning Commission. This procedure affords the Commission the opportunity to reconcile development activities with the Comprehensive Plan. The review and coordinating procedure permits new circumstances to be considered. There are sure to be occasions when new conditions will make it in the best interest of the City to modify and update the initial proposals of the Comprehensive Plan.

Plans Into Action: Routine action by local officials can be instrumental in implementing plan proposals. The Comprehensive Plan incorporates three zones, each significant to the implementation process. These are:

- City Zones: The corporate city where all ordinances are in full force and effect.

- Extraterritorial Zone: Under the provisions of the Municipal Annexation Act, the city may extend all of the provisions of its subdivision ordinance for implementation within the extraterritorial zone (Section 4, H.B. No. 13) and designate Industrial Districts (Section 5).

. Growth Zone: Until the boundaries of the city are extended, this zone is beyond the legislative jurisdiction of the city. The City Council and Planning Commission can, however, work with other public agencies to coordinate urban development within this zone.

Typical situations where Commission action will pay dividends are:

1. Preserve the Clear Creek frontage for open space and recreational development.

2. Enforce off-street parking provisions and implement a central area plan including provisions for sidewalks, service areas and street tree planting.

3. Work with the business community and property owners to improve trade and professional services and industrial development.

4. Coordinate sites for branch fire stations, libraries and other public buildings with subdivision planning and neighborhood development.

5. Coordinate schools and parks with subdivision planning and neighborhood development.

6. Assist developers with subdivision planning and employ the recommended design principles toward achieving a safer and more pleasant living environment.

7. Work to acquire and preserve land for a neighborhood major city park.

8. Preserve and acquire areas of natural beauty; implement watershed planning, where applicable.

9. Acquire rights-of-way for major streets as land is platted for urban development purposes.

10. Establish building lines on existing streets to protect area needed for future widening.

11. Resolve some means to protect or acquire industrial land reserves. It is not unreasonable to reserve sites fifty years into the future. The provisions of the Land Use and Urban Development Ordinance should encourage management and interim use of industrial land as permitted.

12. Designate truck routes and make provisions for constructing heavier roadways and wider turning radii needed for truck traffic.

13. In addition to the twelve situations noted, the review and coordination process should:

- Help to implement basic land use patterns and to program public utilities, streets, needed drainage easements, traffic circulation more consistent with specific needs.
- Develop area resources.
- Preserve good qualities of the region.
- Improve the character and appearance of the city.

Subdivision Ordinance, Land Use and Urban Development Ordinance and The Capital Improvements Program:

Reports supplementing the Comprehensive Plan and designed primarily as tools for implementing the plan have been prepared for land platting, land use regulation, and needed public improvements. The application of these documents can be summarized as follows:

Subdivision Ordinance: The Subdivision Ordinance outlines procedures for processing plats and specifies the minimum required improvements to be put in each new subdivision. At the time this process takes place, the City Planning Commission can work with the developers and other public bodies to implement provisions for needed school sites, parks and other facilities.

The Commission can also verify that:

- Lot dimensions are consistent with the use they are intended to serve.
- Adjacent developments have made similar provisions for street openings and other facilities that serve both additions.
- Good design procedures have been followed and that the safety and living quality of the area are protected.
- Provision has been made for adequate drainage.
- Adequate attention has been given to the natural features of the site being developed.

Land Use and Urban Development Ordinance: The stated purpose of this ordinance is to provide guides and technical assistance to protect the quality of existing development and improve the standard of future development. The ordinance also helps to implement the land use provisions of the Comprehensive Plan. Four objectives of the ordinance are:

- Single-Family Development: Specify minimum standards of development including multiple-family townhouse and mobile home developments.

- Planned Unit Development: Provide for site utilization plans that may be accomplished in phases. Residential buildings of several types and supporting businesses can be coordinated in the unit plan and public open space shared.

- Business Development: Provide space for each type of business use and off-street parking in ratio with the business function. The ordinance should also help to coordinate business with adjacent land uses and streets.

- Industrial Development: Recognize the greater transportation and utility service requirements of industry and assist in managing sites for industrial development.

Capital Improvements, 1969-1975: The report on capital improvements has been designed to accomplish two objectives. First, it anlayzes city operations during the past five years, estimates the amount of money the city is expected to have to finance new improvements for the fiscal years 1969-1975 and identifies projects to be considered during the next five years. The second objective is to set forth a procedure by which the Planning Commission can review and extend the program each year.

More detailed information for each of the programs can be found by reference to the individual reports which are on record with the City of Pearland and the City Planning Commission.

Implementation Time Table:

The proposals of the Comprehensive Development Plan for Pearland will have both immediate and long-range application. The time table for plan implementation could work as follows:

Immediate or As-Needed Projects:

- Assist developers and/or public agencies with site planning and other problems.
- Initiate more detailed studies regarding selected improvements. Conduct work sessions with other public agencies.
- As appropriate, prepare annual reports and capital improvements programs.

Extended Programs:

- Beautification Projects.
- Acquisition of public use sites.
- Elimination of utility poles in residential areas, implementation of drainage improvements and related community improvements.
- Selected project initation and implementation.

Long Range Projects: The long-range work program of the Commission should give consideration to the following development of elements of the Comprehensive Plan.

Land Use:

- Adoption of the Land Use and Urban Development Ordinance.
- Preparation of more detailed neighborhood unit studies and plans.
- Preparation of more detailed plans for business and industrial use areas.
- Conduct, as needed, workshops for gaining a broader understanding of land use planning.

Major Streets:

- Coordinate street development with subdivision planning and annual capital improvements programs.
- Work with County, State and Area Council to coordinate local street planning with regional highway development.
- Initiate improvement projects on selected streets.
- Inititate street tree planting programs.

Off-Street Parking:

- Gain approval and continued enforcement of off-street parking provisions of the Land Use and Urban Development Ordinance.
- Give counsel and technical assistance in the planning of off-street parking facilities.

Transportation Facilities:

- Evaluate, as future circumstances dictate, the extension of railroad facilities.
- Gain approval and enforcement of a Truck Route Ordinance.

Parks, Schools and Public Buildings:

- Prepare jointly with the City Council and School Board, policies for working with land developers respecting acquisition of sites for public use.
- Upon availability of financing, initiate programs for open space land and urban beautification grants.
- Initiate detailed site development studies in connection with park or public building improvement programs.

Utilities: Participate with the City Council in resolving solutions for obtaining a long-range surface water supply and, as directed by Council, assist with selected studies regarding programs for improvements to the utility systems.

Continued Planning:

Currently, there are no professional planners living in Pearland; thus, the City must look elsewhere for technical assistance and professional guidance. It is important that the Council and Planning Commission have access to professional and technical assistance. To this end, the City should recognize and meet its responsibility and be aware of sources of help. The following information is offered for guidance to the City in providing for its planning needs.

- The City should budget from $1,000 to $2,000 annually to engage a planning consultant to make visits and joint meetings with the Planning Commission. The Consultant would assist the Commission with the review and evaluation of subdivision plats; inspect plans for streets, parks and other improvements; and help with other city development problems.

- Budget additional funds for Consultant services should detailed park improvement, traffic control or other plans be desired.

- The Houston-Galveston Area Council is active in regional planning. This Council is aware of the regional and state projects, such as the development of watersheds and transportation facilities, that would affect local long-range development. A representative of the City and the Planning Commission should attend the meetings of the Council and should request their help when they can be of service.

- The State and Federal governments have recognized their responsibility to help with the problems resulting from urban growth. Their programs are comprehensive and too detailed to outline here. Representatives of the agencies providing financial assistance are available to counsel with local officials. The areas in which the City should consider receiving assistance include:

  a. Urban and community renewal.

  b. Open space and urban beautification.

  c. Public works planning.

  d. Water and sewer facilities.