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Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood **control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this

The **projection** used in the preparation of this map was Universal Transverse Mercator, Zone 15. The horizontal datum was NAD83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services NOAA, N/NGS12

- National Geodetic Survey
- SSMC-3, #9202

community is located.

1315 East-West Highway Silver Spring, Maryland 20910-3282 (301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit their website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by the Harris Galveston Area Council and was revised and enhanced by Harris County.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

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Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each

For information on available products associated with this FIRM visit the **FEMA** Map Service Center (MSC) website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

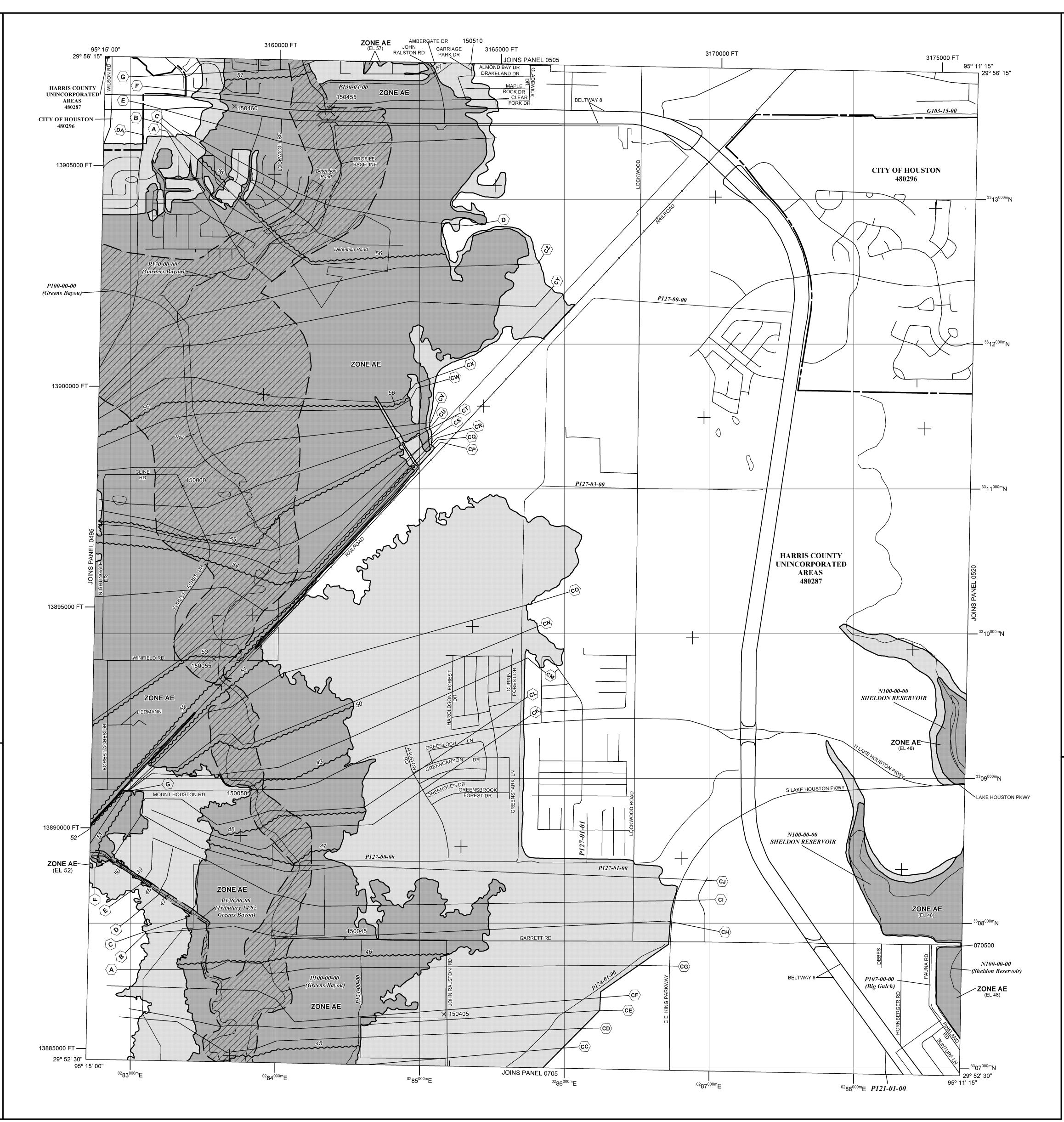
If you have questions about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.

## Vertical Datum Adjustment due to subsidence is the 2001 adjustment.

labeled. See corresponding flood profile for appropriate name.

Benchmarks shown on this map were provided by either Harris County or the National Geodetic Survey. To obtain elevation, description, and location information for benchmarks provided by Harris County, please contact the Permits Office of the Public Infrastructure Department at (713) 956-3000 or visit their website at http://www.eng.hctx.net/permits. For information regarding the benchmarks provided by the National Geodetic Survey, please see note above.

Some bridges and other structures shown on the detailed studied streams are not



#### LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base

No Base Flood Elevations determined.

**ZONE AE** Base Flood Elevations determined. Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood ZONE AH Elevations determined.

Flood Elevation is the water-surface elevation of the 1% annual chance flood.

**ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities **ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual

chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations

Coastal flood zone with velocity hazard (wave action); no Base Flood

Coastal flood zone with velocity hazard (wave action); Base Flood Elevations

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS ZONE X

ZONE D

Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance

OTHER AREAS

Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

Floodplain boundary Floodway boundary ••••• Boundary dividing Special Flood Hazard Area Zones and boundary

Zone D Boundary CBRS and OPA Boundary

dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities. Base Flood Elevation line and value; elevation in feet\* ~~~ 513 ~~~

Base Flood Elevation value where uniform within zone; elevation in feet\* \*Referenced to the North American Vertical Datum of 1988

Cross section line

(23) - - - - - (23) Transect line -----

<sup>42</sup>76<sup>000™</sup>E

600000 FT

Culvert, Flume, Penstock or Aqueduct Road or Railroad Bridge

Geographic coordinates referenced to the North American

97° 07' 30", 32° 22' 30" Datum of 1983 (NAD 83), Western Hemisphere 1000-meter Universal Transverse Mercator grid values, zone 15 5000-foot grid ticks: Texas State Plane coordinate system, zone South Central (FIPSZONE 4204), Lambert

Conformal Conic Projection Bench mark (see explanation in Notes to Users section of this ● M1.5

> MAP REPOSITORIES Refer to Map Repositories list on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP PANEL

SEPTEMBER 28, 1990

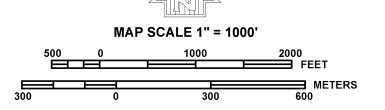
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL SEPTEMBER 30, 1992 NOVEMBER 6, 1996 APRIL 20, 2000 JUNE 18, 2007 OCTOBER 16, 2013

JUNE 9, 2014 For accompanying Reasons for Revision, refer to the Notice to Flood Insurance Study Users page in the Flood Insurance Study report.

For community map revision history prior to countywide mapping, refer to the Community

Map History table located in the Flood Insurance Study report for this jurisdiction. To determine if flood insurance is available in this community, contact your insurance

agent or call the National Flood Insurance Program at 1-800-638-6620.



# **FIRM** FLOOD INSURANCE RATE MAP HARRIS COUNTY, **TEXAS** AND INCORPORATED AREAS

**PANEL 0515M** 

PANEL 515 OF 1150 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

**COMMUNITY** HARRIS COUNTY, 0515 UNINCORPORATED AREAS HOUSTON, CITY OF 480296 0515

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject



MAP NUMBER 48201C0515M

MAP REVISED **JUNE 9, 2014** 

Federal Emergency Management Agency

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NGS Information Services NOAA, N/NGS12 National Geodetic Survey SSMC-3, #9202 1315 East-West Highway Silver Spring, Maryland 20910-3282 (301) 713-3242

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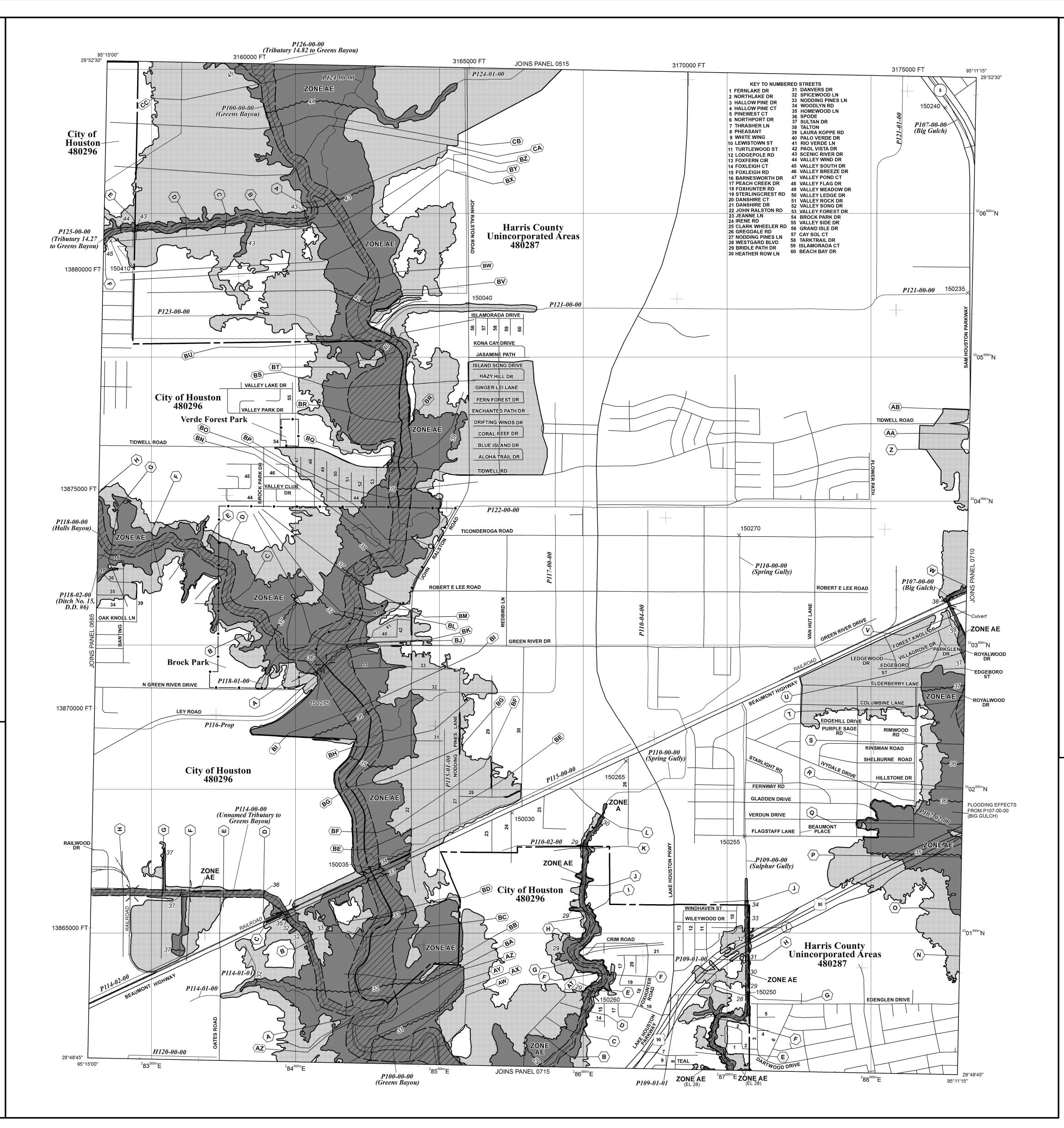
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If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at <a href="http://www.fema.gov/national-flood-insurance-program">http://www.fema.gov/national-flood-insurance-program</a>.

Vertical Datum Adjustment due to subsidence is the 2001 adjustment.

Benchmarks shown on this map were provided by either Harris County or the National Geodetic Survey. To obtain elevation, description, and location information for benchmarks provided by Harris County, please contact the Permits Office of the Engineering Department at 713-274-3900 or visit their website at http://www.eng.hctx.net/permits. For information regarding the benchmarks provided by National Geodetic Survey, please see note above.

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#### **LEGEND**

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Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface

elevation of the 1% annual chance flood. No Base Flood Elevations determined.

**ZONE AE** Base Flood Elevations determined.

Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also

Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide

protection from the 1% annual chance or greater flood. **ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations

> Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined

Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases

OTHER FLOOD AREAS

Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

ZONE X

ZONE X

\*\*\*\*\*\*\*\*\*\*\*

~~~ 513 ~~~

<sup>24</sup>76<sup>000m</sup>N

• M1.5

OTHER AREAS Areas determined to be outside the 0.2% annual chance floodplain.

Areas in which flood hazards are undetermined, but possible.

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Floodway boundary

Zone D boundary CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and - boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities. Base Flood Elevation line and value; elevation in feet\* Base Flood Elevation value where uniform within zone; elevation

\* Referenced to the North American Vertical Datum of 1988 Cross section Line

(23)----(23) Geographic coordinates referenced to the North American 87°07'45", 32°22'30"

Datum of 1983 (NAD 83), Western Hemisphere 1000-meter Universal Transverse Mercator grid values, zone 15N

600000 FT 5000-foot grid values: Texas State Plane coordinate system, South Central zone (FIPSZONE 4204), Lambert Conformal Conic

Bench mark (see explanation in Notes to Users section of this

MAP REPOSITORY Refer to listing of Map Repositories on Map Index EFFECTIVE DATE OF COUNTYWIDE

FLOOD INSURANCE RATE MAP September 28, 1990 EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL September 30, 1992 November 6, 1996

April 20, 2000 January 6, 2017 FOR REASON OF REVISION

SEE NOTICE TO FLOOD INSURANCE STUDY USERS IN THE FIS REPORT

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# PANEL 0705M

# **FIRM**

FLOOD INSURANCE RATE MAP

HARRIS COUNTY, TEXAS AND INCORPORATED AREAS

PANEL 705 OF 1150 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

**CONTAINS** 

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COMMUNITY HARRIS COUNTY

0705 0705

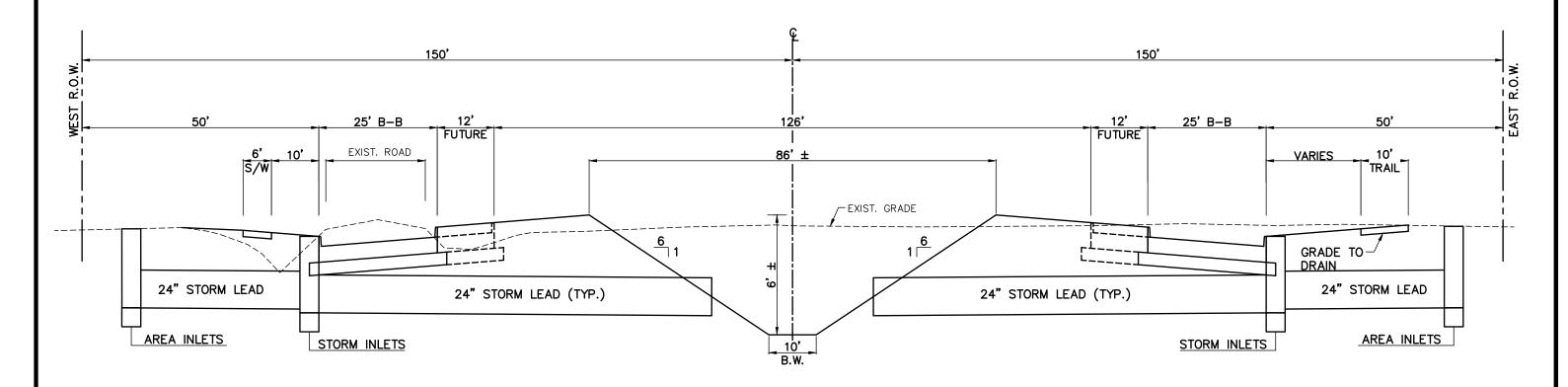
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER 48201C0705M

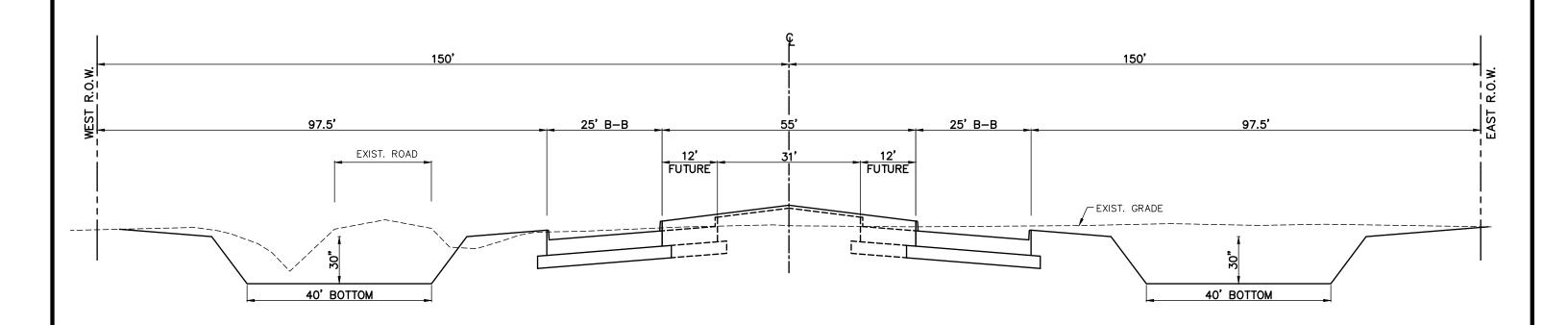
**MAP REVISED JANUARY 6, 2017** 

Federal Emergency Management Agency



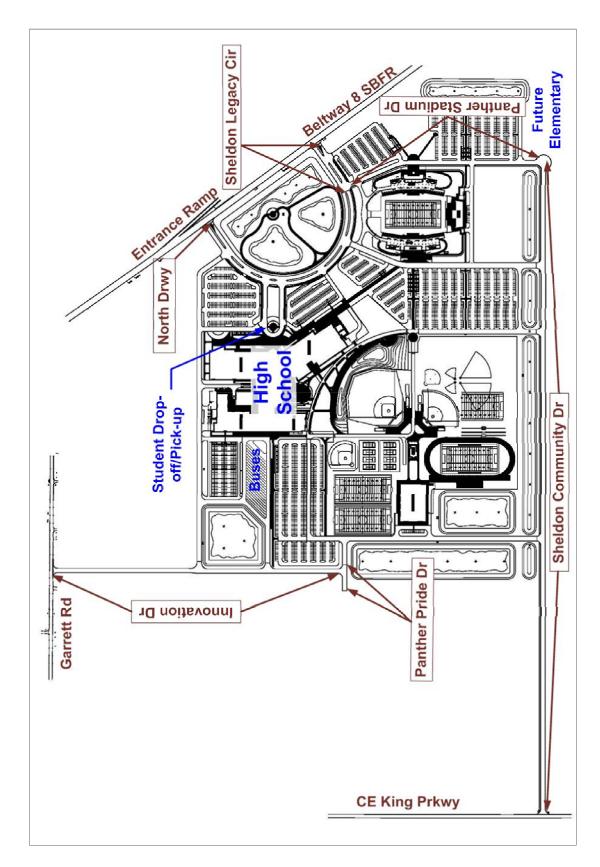
### TYPICAL SECTION - ALTERNATE 1

1" = 20' HORZ. 1" = 4' VERT



# TYPICAL SECTION - ALTERNATE 2

1" = 20' HORZ. 1" = 4' VERT



**FIGURE 1 TOTAL TRACT SITE PLAN**