

CITY OF EULESS

FLOOD MITIGATION PLAN

2004



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CITY OF EULESS, TEXAS
FLOOD MITIGATION PLAN
2004

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CITY OF EULESS, TEXAS FLOOD MITIGATION PLAN

INTRODUCTION

The City of Euless has initiated preparation of this Flood Mitigation Plan (FMP) as part of its ongoing effort to provide the citizens of Euless with the best possible flood protection. With passage of the National Flood Insurance Reform Act of 1994, Congress authorized the Federal Emergency Management Agency (FEMA) to establish a federal program for providing financial assistance to States and communities for flood mitigation planning and project activities. This program, the Flood Mitigation Assistance Program, is administered by the Texas Water Development Board (TWDB), and includes preparation of a FMP as part of the process of identifying appropriate flood mitigation projects. The plan includes an evaluation of existing flood hazards, review of existing floodplain management activities, and a plan of action for upgrading or improving floodplain management where necessary.

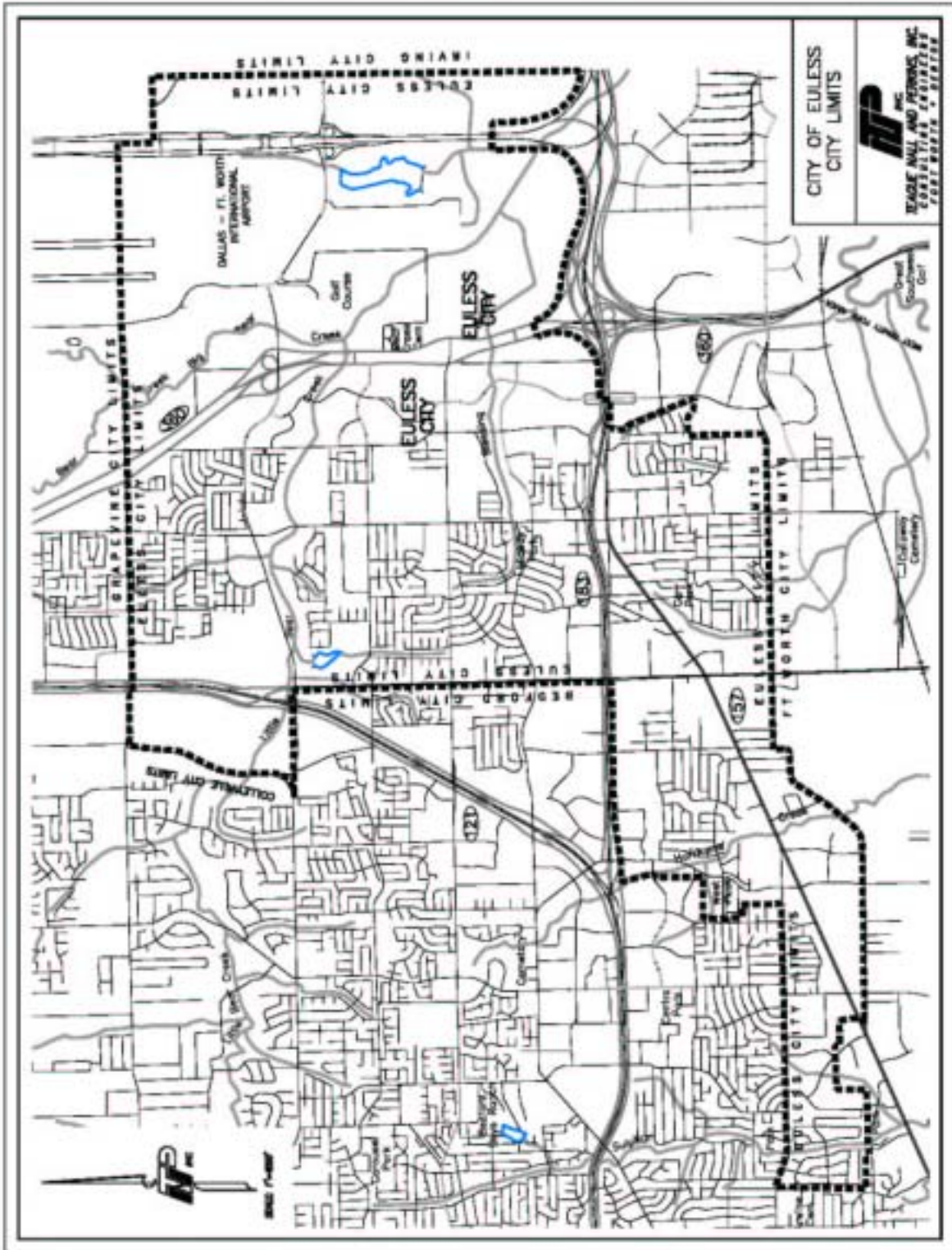
The City of Euless has a population of over 46,000 and is located in the Mid-Cities area of the Dallas-Fort Worth Metroplex. It is bounded by Fort Worth on the south, Bedford and Colleyville on the west, Grapevine on the north, and Irving on the east. The eastern side of Euless is occupied by a portion of the Dallas-Fort Worth International Airport. Euless is depicted on FIRM map panels 48439C0215, 0220, 0309, 0330, and 0335 of the Tarrant County maps. FEMA records indicate that 192 structures in Euless are covered by flood insurance.

The City of Euless is traversed by a number of streams, and in nearly every case, the preponderance of flow in the stream is generated upstream of the City of Euless. Four streams, including Sulphur Branch, Hurricane Creek, Little Bear Creek and Big Bear Creek essentially pass through Euless, with only a small portion of the flow generated in Euless. While a portion of the Boyd Branch watershed is outside the city limits, most of the flow is generated in Euless. The Blessing Branch watershed is located entirely within the City of Euless.

Most of the significant flooding problems in Euless, not surprisingly, are associated with these streams and their tributaries. The City of Euless has taken steps in recent years to address the most significant of these through cooperative efforts with the Corps of Engineers. In 1996, a Corps of Engineers project was completed that included structural improvements to Sulphur Branch to eliminate flooding.

A Flood Damage Prevention Ordinance, and a comprehensive Unified Development Code are used to guide new development in such a manner as to minimize increased flooding risks due to new development.

Development of the Flood Mitigation Plan is expected to help the City assess their current flood mitigation efforts and identify additional efforts that may enable the City to more effectively serve its citizens.



PLAN PREPARATION PROCESS

Preparation of the FMP was primarily a joint effort between the consultant (Teague Nall and Perkins, Inc.) and the City Engineer. Input and information has been solicited throughout the planning process from a number of sources, including the City of Euless staff, the public, and other agencies involved in floodplain management. The following is an outline of the planning process:

A. Compilation of Existing Data

The City of Euless has already developed several documents that are directly related to the preparation of the FMP. They include a Flood Damage Prevention Ordinance and the Unified Development Code. FIRM maps were obtained and reviewed, along with City topographic maps. The city staff provided input in an interview format, based on their experience in Euless in severe weather conditions. Discussion included known drainage problems as well as regulatory and operational floodplain management measures currently being implemented by the City.

Over a period of several years, the City of Euless has developed drainage studies of four of the major streams through the City. These studies have identified drainage problems related to the streams, and have included recommendations for structural improvements that would eliminate flooding, even under fully developed watershed conditions. These studies were consulted extensively in the evaluation of existing flooding hazards.

B. Notification of Other Floodplain Management Agencies

Early in the planning process, the following agencies have been notified of the intent of the City to develop a Flood Mitigation Plan. They have been offered the opportunity to make any suggestions or provide any input they may have related to floodplain management in Euless.

Tarrant County

Transportation & Public Works Dept.

100 E. Weatherford

Fort Worth, TX 76102

North Central Texas Council of Governments

Mr. Jack Tidwell

Environmental Resources Dept.

616 Six Flags Drive

Arlington, TX 76005

Trinity River Authority

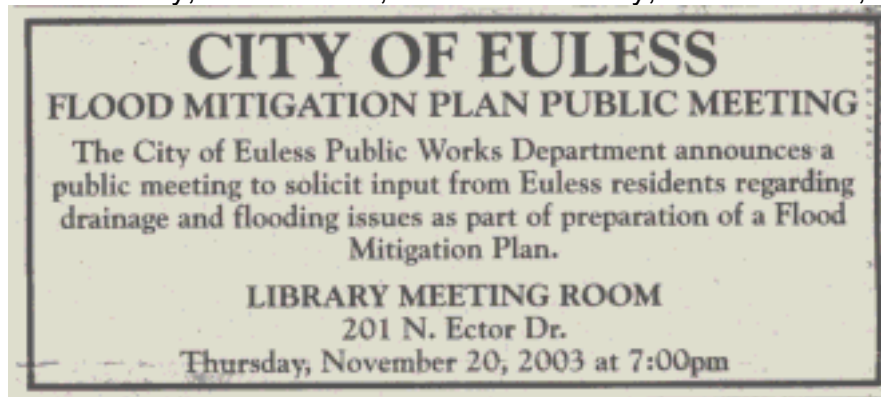
Dr. Richard Browning, Ph.D.

5300 S. Collins

Arlington, TX 76004

C. Public Involvement

On November 20, 2003 a public meeting was held at the Euless Public Library to provide information to citizens and to provide them an opportunity to have input into the planning process. A notice of this public meeting was placed on the City of Euless web site (www.euless.ci.tx.us) in the form of a news release. Several posters were placed at City Hall, at the Library and at the Planning Department to advise citizens of the meeting. In addition, the meeting was advertised in the Northeast Tarrant County edition of the Star-Telegram on Sunday, November 9, 2003 and Sunday, November 16, 2003.



At the public meeting, topographic maps of the City of Euless were displayed. These maps showed streets, buildings and floodplains in addition to the contours, and gave citizens an opportunity to see the relationship between the floodplain and existing structures. Citizens were briefed on the purpose of the Flood Mitigation Plan. Information regarding the National Flood

Insurance Program was presented, along with facts related to Euless flood insurance policies and claims. After a presentation of flood mitigation efforts currently used in Euless and other cities, citizens were given an opportunity to suggest other possible flood mitigation activities. One such suggestion was to use floodplain areas as



community parks, so that a beneficial use can be made of the land without placing structures that are susceptible to flood damage in the floodplain. In fact, the City of Euless has a number of parks in the floodplain, such as

Blessing Branch Park (pictured above), West Park, and Carr Park. Finally, citizens were given an opportunity to identify existing flood hazard areas. Several such areas were identified by the citizens, including surface drainage problems on Evans Drive and stream flooding on Boyd Branch just downstream of the City limits.

After preparation of the draft FMP, a notice was placed on the City of Euless web site in March 2004, along with the draft FMP. The notice provided general information to the public, offered an opportunity for the public to review the draft FMP, and solicited information and feedback, especially related to existing flooding problems. Mr. Robert Barker, P.E., the City Engineer and Floodplain Administrator, was identified as the primary point of contact for interested citizens to call or write with suggestions, existing flooding information, or for further information.

Finally, prior to approval of the plan by the City Council a public meeting was held during the work session preceding the June 8, 2004 regular City Council meeting, during which citizens were afforded an opportunity to provide input and comment. In addition, the draft plan has been made available at the Euless public library and the Engineering Department for review by citizens.

D. Analysis of Existing Problems and Preparation of a Draft FMP

Using input and information from the sources outlined above, an evaluation of existing flooding hazards and problems has been undertaken. These were evaluated to assess their effectiveness, and numerous other possible activities have been considered. From the list of existing and potential mitigation activities a draft action plan has been developed.

E. Review of Draft FMP by City Staff

The draft FMP has been reviewed by the City Staff, including the City Engineer and the Public Works Director. In addition, a copy of the draft plan has been made available for public review and comment.

F. Revisions to Draft Plan

Based on comments by the staff, the public and the City Council, the draft FMP has been revised to its present form.

G. Review and adoption of the FMP by City Council

The FMP was presented to the City Council on June 8, 2004 at the work session preceding the regularly scheduled City Council Meeting. The FMP was approved by the City Council on June 22, 2004.

H. Implementation of Plan by City Staff

Implementation of the FMP will be primarily the responsibility of the City's Engineering Department and Public Works department.

EVALUATION OF EXISTING HAZARDS

The most significant flooding in Euless occurs primarily along the major streams. The previously completed drainage studies of these streams provided extensive information regarding the areas of flooding hazard, the cause of the flooding, and possible structural remedies. All of these studies addressed existing runoff as well as runoff under fully – developed conditions, all for the 100-year storm event. Stream related issues are described below, based on the referenced drainage studies, field observations and input from citizens and staff.

- **Boyd Branch (study completed in 1998)**

Drainage problems along Boyd Branch include overtopping of Euless Blvd. (SH 10),



Bridgeway Street and inundation of the Twinbridge Apartments, the Brentwood Terrace Apartments, and the office building on the south side of Euless Blvd. The flooding indicated for the Twinbridge Apartments suggests that some of the buildings may experience severe flooding, possibly to a depth of 4' above existing floor elevations. The Brentwood Terrace Apartments appear to experience shallow flooding that does not likely reach finish floor elevations, but spreads generally over grassed areas,

streets and parking lots. Recommendations for structural improvements found in the drainage study along Boyd Branch included channel improvements, a diversion system, and/or detention.

- **Blessing Branch (study completed in 1994)**

Two structures appear to be located within the floodplain along Blessing Branch,

including a residential structure and a park maintenance building. However finish floor elevation data is not available to confirm whether or not the structures are below base flood elevation levels. Under fully developed conditions, roadway overtopping is expected to occur in the 100-year storm at Minters Chapel, Fuller-Wiser, Milam and Aransas. In addition, shallow flooding is expected to occur in the 100-year storm in the area upstream of the park at Midway/Aransas/Bell/Milam.



The existing concrete channel (shown right) is significantly insufficient to prevent

flooding. Channel improvements were identified in the drainage study that would eliminate this flooding.

- **Hurricane Creek (study completed in 1996)**

Hurricane Creek and its tributary Cyclone Branch have a nearly fully developed watershed. The drainage study for this stream indicates that every road crossing (including Mosier Valley, South Pipeline, SH 10, Marlene, Westpark Way and Kynette) would be overtopped under 100-year, fully developed conditions. Overtopping would typically be between 2' and 4', although some of the roads could be overtopped by up to 6' according to the drainage study. In addition to roadway overtopping, as many as 18 residences would be inundated.

- **Little Bear Creek (study completed in 1994)**

Flooding along Little Bear Creek is expected to overtop Bear Creek Parkway, and would flood approaches to Fuller-Wiser, North Main, and the SH 121 west access road. In addition, under fully developed conditions as many as 44 insurable structures are expected to experience flooding, including both single family residences and apartment buildings.

The most recent available list of repetitive loss structures was obtained from FEMA and evaluated. Of sixteen repetitive loss properties identified on the list, eleven are located along Sulphur Branch. All of these are believed to have been removed from the flood hazard area as a result of the channel improvements constructed in 1996. The current effective FIRM map panel, attached, indicates that the improvements contain the 100-year flood.

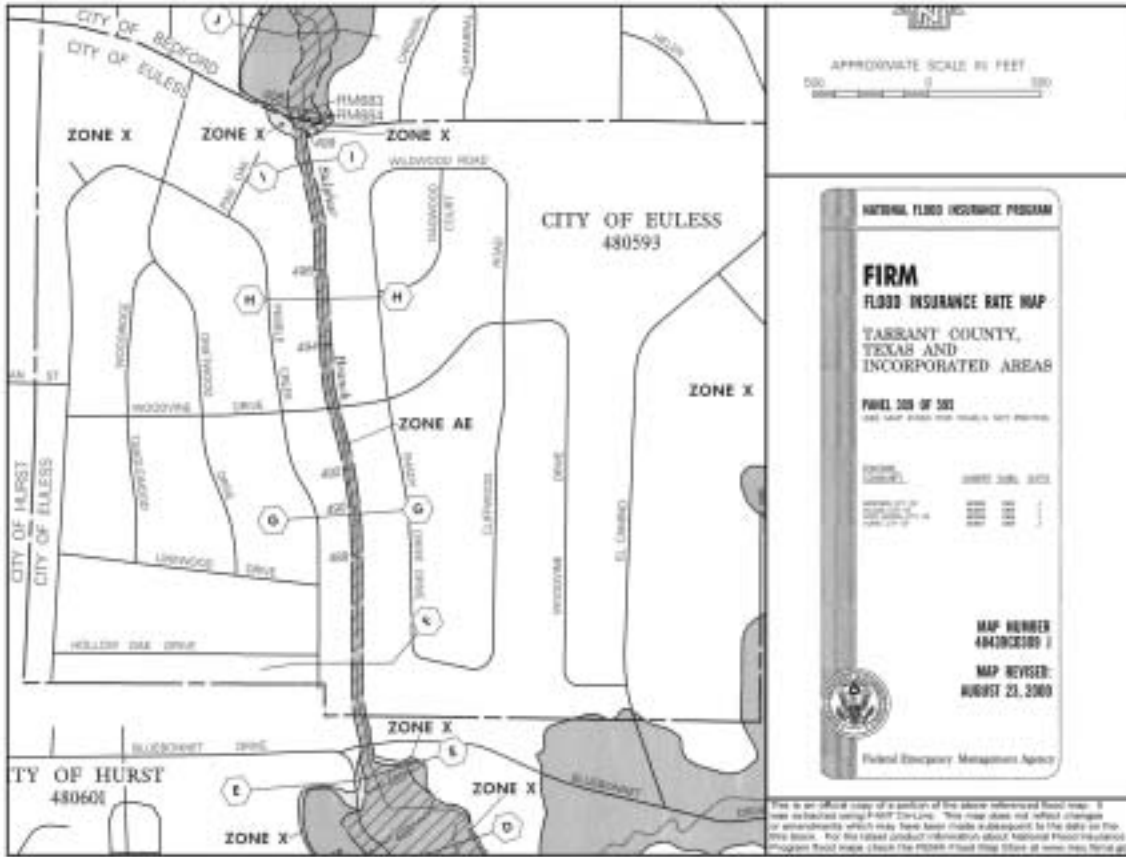


In 1990 a study was conducted for the City of Euless to address nineteen individual drainage projects. The study was based on problem areas identified by a citizen's committee and City staff, and a brief evaluation and recommendations were developed for these areas. A number of the improvements identified in this report have since been constructed. Project costs, estimated in 1990, range from \$22,000 to \$4,400,000 and include bridges, culverts, storm drain systems, and channel improvements.

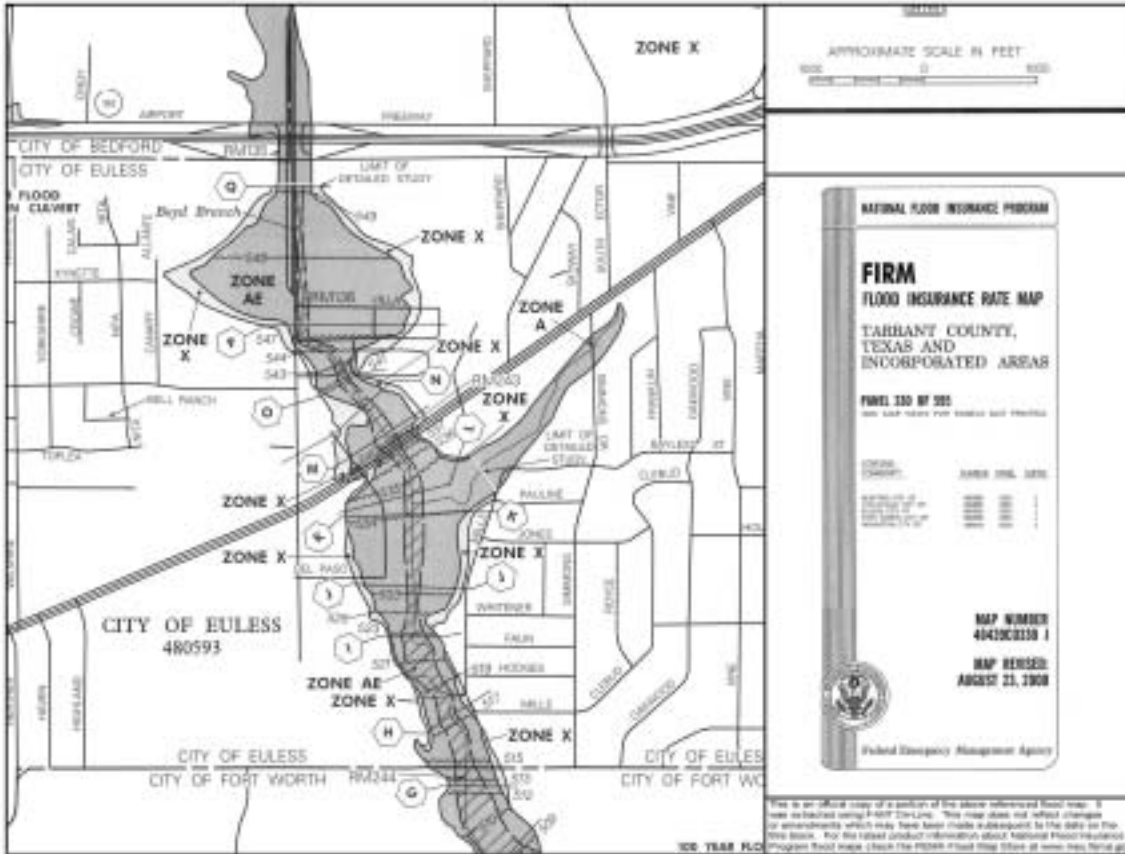
Input received from citizens at the public meeting indicated that there is flooding along Boyd Branch, specifically just downstream of South Pipeline, which technically is outside of the City of Euless. In addition, a citizen described flooding on Evans Drive that is not directly related to any of the streams. In this instance, surface water is

apparently conveyed down a hill, across residential lots and between a house and a retaining wall. Interviews with City staff indicated that particular drainage problems are experienced along Little Bear Creek at Shenandoah and at McCormick Farm, and along Hurricane Creek at US Hwy 10 and at Marlene Drive.

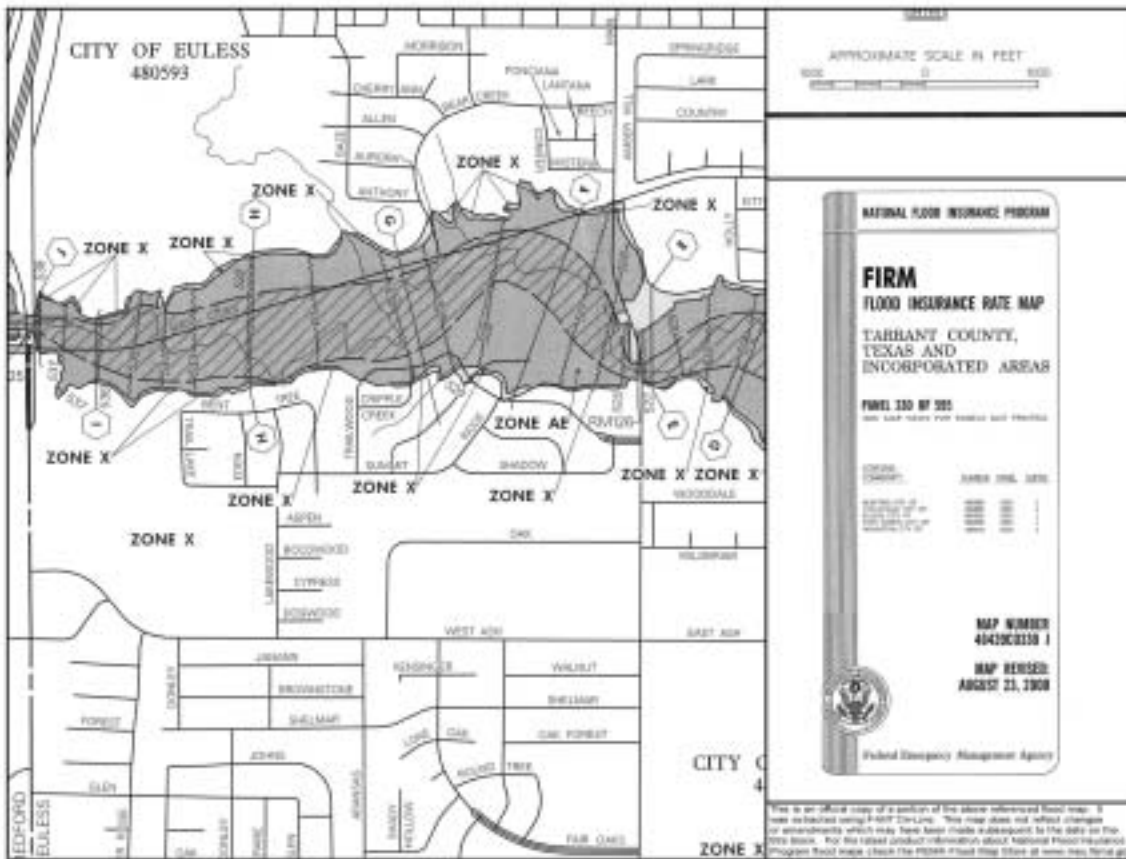
Sulphur Branch FIRM



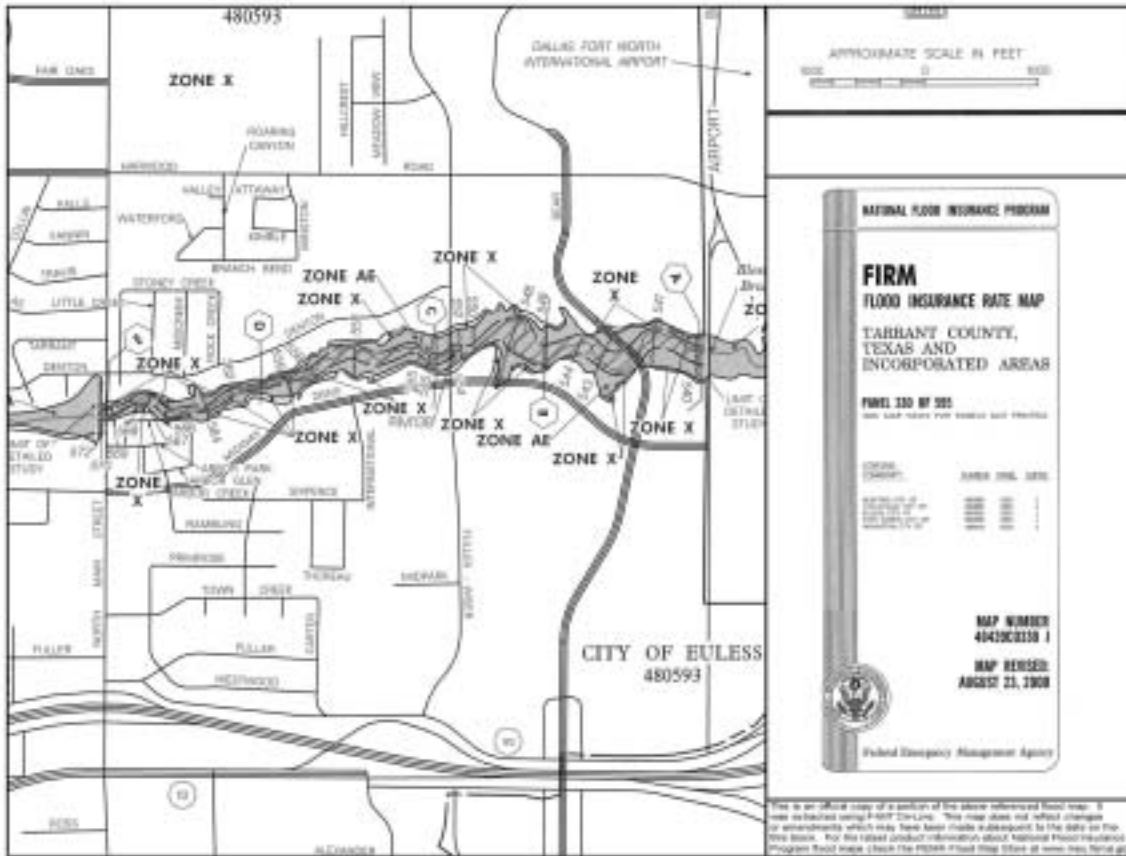
Boyd Branch FIRM



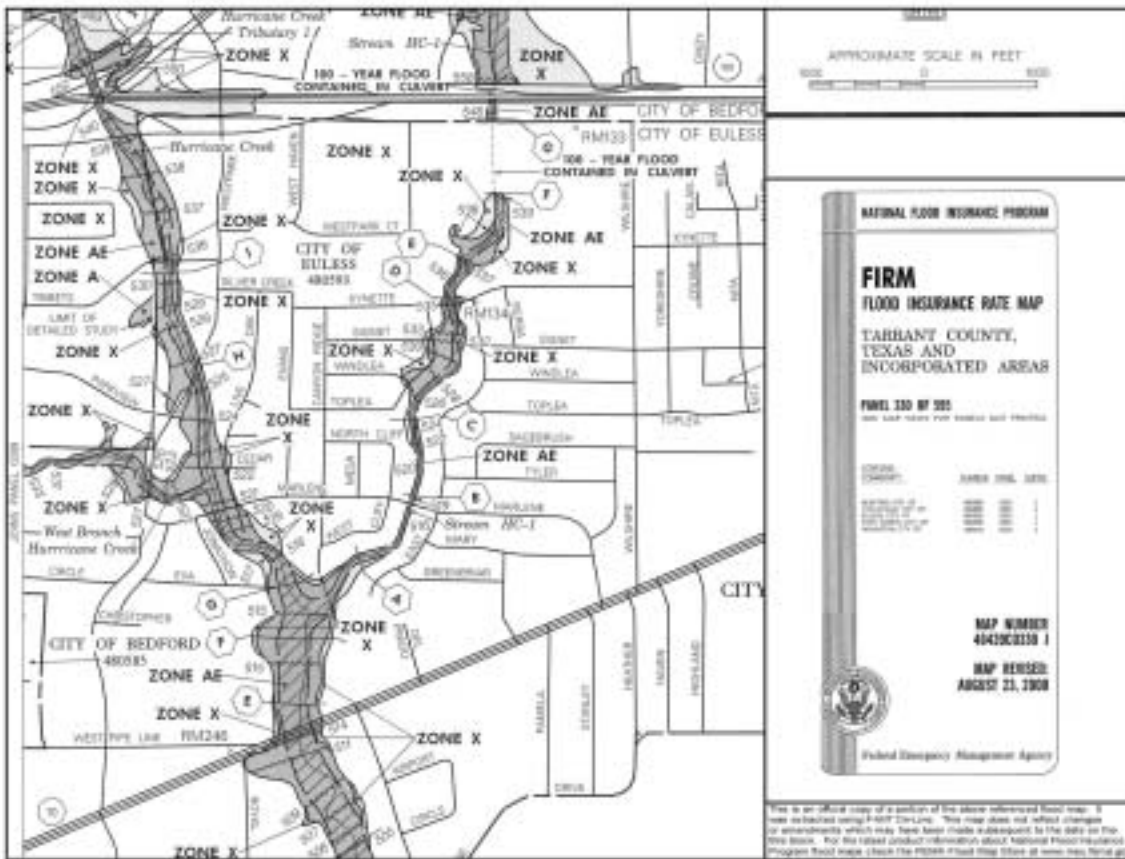
Little Bear Creek FIRM



Blessing Branch FIRM



Hurricane Creek FIRM



PLAN GOALS

It is the intent of the City of Euless to develop a comprehensive floodplain management program, using existing studies and data, and updating procedures where necessary. The following excerpt from the Flood Damage Prevention Ordinance (Sec. 38-2) summarizes well the aim of the City in developing a Flood Mitigation Plan.

- (c) Statement of purpose. It is the purpose of this chapter to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:
- (1) Protect human life and health;
 - (2) Minimize expenditure of public money for costly flood control projects;
 - (3) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
 - (4) Minimize prolonged business interruptions;
 - (5) Minimize damage to public facilities and utilities such as bridges, electric cables, gas mains, sanitary sewer mains/systems, streets, storm sewer structures, telephone cables/lines, television cables, and water mains/systems located in floodplains;
 - (6) Help maintain a stable tax base by providing for the sound use and development of floodprone areas in such a manner as to minimize future flood blight areas; and
 - (7) Insure that potential buyers are notified that property is in a flood area.

These objectives are accomplished by the implementation of the following general standards (Sec. 38/71):

In all areas of special flood hazard the following provisions are required for all new construction and substantial improvements:

- (1) All new construction or substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
- (2) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage.

- (3) All new construction or substantial improvements shall be constructed with materials resistant to flood damage.
- (4) All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
- (6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from the systems into floodwaters
- (7) Onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

EVALUATION OF EXISTING FLOODPLAIN MANAGEMENT PROGRAM

The City of Euless is engaged in a number of floodplain management activities, in keeping with the regulations of the NFIP. The following is a summary of these activities.

NFIP Participation

The City of Euless is a participant in the National Flood Insurance Program. As such, the City has adopted regulations that at least meet the minimum requirements for regulation of the floodplain as described below.

Development Regulation

A Floodplain Development Permit process has been incorporated into the Flood Damage Prevention Ordinance requiring submittal of plans and other information pertinent to evaluation of the impacts of development on the floodplain. These materials are submitted to the Floodplain Administrator for review and approval.

All new residential structures must be constructed so that the lowest floor is elevated at least two feet (2') above the base flood elevation. All new commercial, industrial or other non-residential structures must be constructed so that the lowest floor is at least two feet (2') above the base flood elevation or be designed to be floodproofed to at least the base flood elevation. Manufactured homes may not be placed within the regulatory floodplain.

As required by the NFIP, no encroachments in the floodway are permitted that would result in any rise in the base flood elevation unless a Conditional Letter of Map Revision (CLOMR) is applied for and approved by FEMA.

In addition, the Uniform Development Code prohibits an increase in runoff attributable to new development that would exceed the capacity of the downstream drainage system or adversely affect adjoining property.

Drainage Maintenance Program

The City of Euless currently engages in a limited drainage maintenance program. Primarily this program consists of clearing debris from roadway crossings as necessary, and contracting out the work of clearing logs, trimmings and brush as the need arises.

EVALUATION OF POTENTIAL REMEDIES

A number of possible activities could be implemented by the City of Euless to provide to its citizens increased flood protection. Some of these are discussed below. These activities are in addition to those already in place as described above.

Upgrade Regulation of New Development

Detention

Several changes could be made to existing development regulations to provide increased flood protection. Such changes could include a requirement that all new developments provide detention to maintain post-development runoff to pre-development levels. Currently the regulations require that new development not exceed the capacity of downstream drainage facilities. Theoretically, this change would help to prevent potential increases in flood hazards downstream of the development. Practically speaking, in Euless there may be little or no actual difference between the two requirements. While a detention requirement would impose a cost to developers, which would then be passed on to consumers, it would not impose a significant new cost to the City. However, aerial photographs show that Euless is largely built out, the most notable exceptions being along SH 121 north of Mid Cities Blvd., and property within the Dallas-Fort Worth International Airport. Detention would have little or no impact on peak flows on the major streams. It is conceivable that detention could have a positive impact on some existing developments downstream of the undeveloped area but upstream of the major streams, however, this would be somewhat limited. Especially in a highly developed area, detention efforts must be properly evaluated or they could result in an adverse downstream affect if coincident runoff peaks occur.

Elevation Based on Full Development

Another regulation gaining widespread acceptance is to require that new construction be elevated above the 100-year water surface elevation based on fully-developed watershed conditions rather than existing conditions as regulated by FEMA. This requirement primarily benefits the users of the new development, in that these users are provided a greater degree of protection from possible increases in water surface due to future upstream development. This regulation would only benefit the users in such new construction, but would come at virtually no cost to the existing residents and/or businesses in the City, and could prevent problems in the future. Euless currently has models that indicate the elevation of fully-developed flows on four of its major streams. Given the existing Euless requirement that new development be elevated at least two feet (2') above the existing base flood elevation, it is not likely that such a regulation change would have a measurable affect in Euless.

Prohibit All Floodplain Development

Still another regulation being enacted in some cities is to prohibit all new development in the 100-year floodplain. A naturally functioning floodplain can have many benefits to a community, including the storage and conveyance of flood waters, the recharging of groundwater, the maintenance of surface water quality, the provision of habitat for

both plant and animal wildlife, as well as providing recreational opportunities and scenic value. New construction or development within any floodplain can be considered to have a negative effect on flood conveyance capacity. In addition, because floodplains frequently provide habitat for both wildlife and plant species, such development decreases the available habitat. Development regulations that completely prohibit new development in the floodplain can serve to provide many of the benefits derived by the community from a naturally functioning floodplain. Floodwater conveyance capacity can be preserved, eliminating the creation of potential new flooding risks. In addition to reducing the loss of life and property, preservation of the floodplain can also protect critical natural and cultural resources, and provide a source of community pride and identity. This approach attempts to change the behavior of people rather than trying to change the behavior of a stream system. Rather than trying to control floodwaters, these communities are encouraging people to avoid development in flood hazard areas. However, because Eules is nearly built out, because it is so urbanized, and because such a restrictive policy has been considered by some to be a “taking” of property by the City, this policy may not be appropriate for Eules. This approach could be considered relatively radical, and introduces some controversial legal issues. In municipalities where this type of policy is being employed, zoning and other concessions are generally offered to developers to make the policy more defensible. While such a policy may be the best approach to development from an environmental and hydrologic perspective, it can be a legally and politically difficult policy to support. Again, because Eules is so nearly built out, the benefit may not warrant the potential difficulties.

Public Education Program

The City of Eules may find that an ongoing public education program could benefit its citizens and make them better prepared for flood related emergencies. Regular articles in the Eules newsletter, *Eules Today*, could be used to provide information regarding flood protection and emergency procedures. These articles would probably be most effective during the Spring and Fall rainy seasons. In addition, these articles could be used to encourage property owners to purchase flood insurance. According to FEMA records, there are currently 192 flood insurance policies in force within Eules. Based on overlaying FIRM maps on a City map, it appears that there are approximately 113 structures within the floodplain as it exists today. However, there is not sufficient information available to determine how many of these structures may be elevated above the base flood elevation. As a side note, it is encouraging to see that there appear to be more flood insurance policies in force than structures in the floodplain. Continued development upstream of the City could be expected to generate increased peak runoff and higher water surface elevations. As a result, it is entirely possible that additional structures will be affected by potential flooding in the future. The official web site of the City of Eules would also be a good place to post floodplain information important to citizens. This activity will require input and effort from the Floodplain Administrator and/or a staff member, but given the amount of material available from FEMA, the Texas Floodplain Management Association, and other sources, it would not need to be extensive. While little direct costs would be

involved (unless a consultant is used to provide the educational materials), it will increase the workload of the existing staff.

Participate in the CRS Program

The Community Rating System (CRS) is a program that was implemented in 1990 as part of the National Flood Insurance Program (NFIP) to recognize and encourage community floodplain management activities that exceed the minimum NFIP standards. The National Flood Insurance Reform Act of 1994 codified the Community Rating System in the NFIP. Under the CRS, flood insurance premium rates are lowered to reflect the reduced flood risk resulting from community activities that meet the three goals of the CRS: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance.

The CRS recognizes 18 creditable activities, organized under four (4) categories numbered 300 through 600: Public Information, Mapping and Regulations, Flood Damage Reduction, and Flood Preparedness. Specific guidelines are used to accumulate credit points, which are then used to classify the entire community. There are ten CRS classes: class 1 requires the most credit points and gives the largest flood insurance premium reduction; class 10 receives no premium reduction.

FEMA provides volumes of guidelines for establishing the CRS in the local community. A quick review of the creditable activities indicates that it may be possible for Euless to qualify for the CRS without making substantial expenditures or changes in existing programs and procedures. For example, any of the possible development regulations listed above would earn credits under the CRS. Some current activities could earn credits as well, with some modification of the activity. For example, a regular program of inspecting and maintaining the drainage system can earn significant credits. The program does require some relatively significant documentation of activities and revisions to the flood damage prevention ordinance, which must be weighed against the benefits of the program. For example, program documentation will occupy additional staff time, as will implementing an outreach program.

Participation in the CRS program is entirely voluntary. While reduced flood insurance premiums for citizens are probably the most tangible reward of the CRS program, the activities required by the program will generally result in a better-educated community that is better prepared to minimize flood damage. In addition to reducing insurance premiums, the result of participation in the program generally is to actually reduce the community's exposure to flood damage.

Structural Improvements

The drainage studies prepared in the 1990's described a number of structural improvements that could be made to eliminate or minimize flooding along the streams in Euless. These studies identified extensive drainage improvements on several of the major streams. Most of the structures located in the floodplain could be removed from the floodplain by the construction of structural improvements. Of course, a cost-

benefit analysis would be necessary to determine if these improvements are actually the most cost effective way to eliminate the flood hazard.

Expand Drainage Maintenance Program

The Public Works Department currently undertakes a limited level of drainage maintenance. As is typical in many municipalities, the drainage maintenance program is limited primarily by financial constraints. An expanded drainage maintenance program, including clearing and removal of trees, downed branches, weeds and other vegetation, as well as dredging and repair of erosion problems, could be developed. Such a program would help maintain the drainage capacity of streams and channels, but would likely require additional funding.

Purchase High-Risk Properties

There are four remaining structures that have suffered repetitive flood losses. Project grants are available under the Flood Mitigation Assistance Program to qualified communities for acquisition of high-risk properties. If they qualify, these properties can be purchased and removed, and the land made available for other uses, such as parks, or other uses not subject to flood damage. The intent of this part of the Flood Mitigation Assistance Program is to remove repetitive loss properties from the flood insurance rolls. Because of intense competition for available grant funds, it is generally necessary that properties to be purchased must carry flood insurance, and must have multiple significant recent flood insurance claims.

Funding Considerations

A number of the possible mitigation activities addressed above will require the City to incur additional costs. It is important to consider funding possibilities if an Action Plan is to actually be implemented. The following items could be considered as possible funding sources.

Property Tax Increase

One obvious means of financing flood mitigation and drainage related activities is through the general budget of the City. This would require either raising tax revenues or cutting other budgets, or both. Generally, citizens are resistant to such measures, and politically raising taxes can be difficult to support.

Drainage Impact Fee

A drainage impact fee is assessed against new developments to recover the cost to upgrade drainage facilities in order to accommodate such new development. Funds generated by this method may only be applied to the cost of additional facilities necessary due to the new development. Existing drainage problems may not be addressed with impact fees. However, a Drainage Impact Fee has not at this time been ruled out as a possible means of funding eligible drainage improvements

Stormwater Utility Fee

A Stormwater Utility Fee is essentially a user fee, and is a means of funding drainage projects that is rapidly gaining in popularity. The stormwater utility fee is based on the premise that all residents and businesses in the City contribute runoff to the public drainage system. Users of the system should contribute to the development and operation of the drainage system to the same degree that they contribute runoff to the system. The City of Euless currently has a Stormwater Utility Fee in place.

ACTION PLAN

Based on the foregoing evaluation, the City of Euless proposes to implement an action plan consisting of the activities summarized below.

Public Education Program

The public education program will consist of the following:

Current FEMA Flood Insurance Rate Map and Flood Insurance Study will be placed in the public library for use by the public. Subsequent revisions to the FIRM, such as Letters of Map Revision (LOMR's) will also be placed in the library. The materials will be obtained from FEMA by the Engineering Department. These materials can be obtained for \$35.00 from FEMA.

At least twice a year an article will be placed in the Euless newsletter or on the City of Euless web site. These articles will provide information for citizens outlining the benefits of flood insurance, what to do in case of flood disaster, and what citizens can do to decrease the risk of flood damage. This material will be provided by the Engineering Department. This effort will require some staff effort, but articles and information can be obtained at little or no cost from a variety of sources, including FEMA.

Structural Improvements

Structural improvements, such as channelization, culvert and bridge replacement, and floodplain reclamation, are highly visible and effective means of reducing or eliminating flood damage. A good example is the channel improvements made to Sulphur Branch in Euless. However, these construction projects are very expensive. The studies done in Euless in the 1990's for Hurricane Creek, Boyd Branch, Blessing Branch, and Little Bear Creek totaled approximately \$30,000,000.

Clearly, consideration of structural improvements must include a determination of how the project can be funded. No timetable has been established for beginning any of the structural improvements outlined in the previously completed studies. One source of funding may be the Corps of Engineers Continuing Authorities Program, also know as the Section 205 program. This program is actually a shared participation program. The minimum non-federal share is 35 percent, and can be as high as 50 percent. The Corps of Engineers works in partnership with the local community on the project, and generally the design is done by the Corps. An analysis of the engineering, economic and environmental feasibility of the project is conducted by the Corps at the expense of the City, upon request by the City.

Enhance Maintenance Program

The drainage maintenance effort will be expanded to include annual inspection of the concrete drainage channels. These channels will be checked for obstructions and debris, which will be removed as necessary either by City forces or contract

agreements. Natural channels, many of which are on private property, will be inspected in response to citizen requests.

Purchase At-Risk Properties

Project grants may be available for purchase of qualifying properties through the Flood Mitigation Assistance Program administered by the Texas Water Development Board. It is not clear at this time if any properties in Euless would qualify for these grants, which generally require multiple recent flood insurance claims. The City Engineer will request the most current repetitive loss list from FEMA. Based on that list, the City Engineer will make recommendations for purchase of properties, if it is determined that there are qualifying properties on the list.

CITY COUNCIL ACTION

PASSED AND APPROVED ON JUNE 22, 2004.

See attached ordinance.

RESOLUTION NO. 04-1183

**A RESOLUTION ADOPTING THE EULESS FLOOD
MITIGATION PLAN**

WHEREAS, the purpose of the Flood Mitigation Plan is to develop a comprehensive evaluation of current standards of flood protection, flood damage prevention and planning; and

WHEREAS, an action plan was identified that will enable the City to more effectively serve its citizens; and

WHEREAS, the action plan includes public education, enhanced maintenance, at risk property purchase and structural improvement components to the plan.


**NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND CITY COUNCIL
OF THE CITY OF EULESS, TEXAS:**

SECTION I

THAT the Flood Mitigation Plan be adopted.

ADOPTED AND APPROVED at the regular meeting of the Euless City Council on the 22nd day of June, 2004, by a vote of 7 ayes, 0 nays, and 0 abstentions.

APPROVED:



Mary Lib Saleh, Mayor

ATTEST:



Susan Crim, CMC, City Secretary

PLAN UPDATES

The FMP will be reviewed annually by the City Engineer and the Public Works Director to ensure that plan objectives are being met and to determine if plan changes are appropriate. Specifically, the Action Items will be reviewed as follows:

Public Education Program - have articles been placed on the web site and newsletter at least twice in the last year? Have sufficient materials been available? Do we need to consider an open house or a presentation to the City Council in the upcoming year?

Structural Improvements - has the need for structural improvements changed in the past year? Are there funding sources we can pursue to make these possible?

Enhance Maintenance Program - have all improved channels been inspected in the past year? How much clearing and debris removal has been done? Have problems surfaced that indicate the need for additional maintenance or increased inspection? Has workload changed to allow more frequent inspection or to require reduced inspection and maintenance?

Purchase At-Risk Properties - the City Engineer will request the most recent Repetitive Loss list from FEMA, and attempt to determine if there are any properties that would qualify for a project grant for acquisition.

Based on the foregoing review, the FMP will be revised as necessary.