

**HIGHWAY DESIGN  
DIVISION  
OPERATIONS AND PROCEDURES**

**MANUAL  
PART II  
PRELIMINARY PROJECT PLANNING AND DEVELOPMENT  
B  
ENVIRONMENT & PUBLIC INVOLVEMENT PROCEDURES**



**1978 EDITION**

**STATE DEPARTMENT OF HIGHWAYS  
AND PUBLIC TRANSPORTATION**

RK

ADMINISTRATIVE CIRCULAR NO. 29-80

To: DISTRICT ENGINEERS, ENGINEER-MANAGER, and  
DIVISION HEADS

Date: July 1, 1980

Subject: Highway Design Division Operations and  
Procedures Manual

Expires: Upon Receipt

Reference: File: D-8

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## HIGHWAY DESIGN MANUAL CHANGE LETTER

Manual Change Transmittal No. 39

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Gentlemen:

Parts III and IV of the Highway Design Division Operations and Procedures Manual have been revised.


Table 3-1, page 3-8, has been changed to show revised widths for new bridges for Farm-to-Market Roads. The "obstruction clearance" and "clearance between culvert ends" dimensions for the various traffic brackets have also been revised, and footnotes have been added regarding the selection and use of design values according to sources of project funds. Figure 3-2, page 3-9, has been revised to provide for varying widths of obstruction clearance. Pages 3-8 and 3-9 should be removed and replaced with the attached revised versions.

In Part IV, standards for surface widths and new bridge widths for low volume, two-lane rural highways, have been revised. Standards for these low-volume roads have been deleted from Figure 4-30, page 4-53, and new criteria are shown in new Figure 4-30A, page 4-53A. Figures 4-31, 4-32, and 4-33 on pages 4-54, 4-55, and 4-56, respectively, have also been revised to reflect changes for low volume, two-lane highways. Pages 4-53 through 4-56 should be removed and replaced with the attached revised pages.

Figure 4-43A, page 4-71, should also be removed and replaced with the attached page showing a revised structure width for low volume rural frontage roads.

These revisions should be posted in the Manual immediately upon receipt and the Record of Revisions sheet properly completed.

Sincerely yours,

  
B. L. DeBerry  
Engineer-Director

Attachments

DISTRIBUTION

District Engineers  
Engineer-Manager  
Division Heads



RK

ADMINISTRATIVE CIRCULAR NO. 5-80

To: DISTRICT ENGINEERS, ENGINEER-MANAGER, AND  
DIVISION HEADS

Date: February 29, 1980

Subject: Highway Design Division Operations and  
Procedures Manual

Expires: Upon Receipt

Reference:

File: D-8

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## HIGHWAY DESIGN MANUAL CHANGE LETTER

Manual Change Transmittal No. 38

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Gentlemen:

Parts I and IV and Appendix A of the subject Manual have been revised.

Part I, General Information, has been revised to reflect recent changes in the organization of the Highway Design Division, specifically, the identification of the Cultural Resources Section and the Project Data Section. Pages 1-1 through 1-4 should be removed and replaced with the revised pages.

Part IV, Design, has been revised to show that pedestrian separations should be designed for access by the handicapped unless alternate safe means for crossing is provided or unless it is infeasible for mobility-limited persons to reach the structure because of unusual existing conditions. Revised page 4-108 now shows that ramp gradients for pedestrian separations should not exceed 8.33%. Page 4-108 should be removed and replaced with the revised version.

Several changes have been made in the standard design details included in Appendix A as described in subsequent paragraphs.

Standard sheet GF(TD)-80 replaces GF(TD)-79A and shows revised details for metal beam guard fence. Specifically, the dimensions of the terminal concrete anchor for buried ends have been revised. Additionally, minor revisions have been made in the General Notes, and the designation for the steel anchor post has been changed from W8x17 to W8x18 since the lighter post is no longer fabricated. Page A-4 should be removed and replaced with the revised version.

Page A-13 should be removed and replaced by the enclosed standard sheet labeled CLF-80. The revised sheet permits the optional use of thin-wall, high-strength steel posts for six-foot-high chain link fence.

Page A-53 and A-54 should be removed and replaced with enclosed new pages A-53A through A-53E and revised page A-54.

Standard sheet CBR(P&P)-80, page A-53A, is new and shows details for portable and precast barrier rail segments which are connected at the joints by bolting through steel channels near the barrier base. The precast sections may vary in length from

15 to 25 feet at the Contractor's option. This type of barrier is appropriate for use as temporary, rather than permanent, barrier where portability is an important consideration.

New standard sheet TB(BMGF)-80, page A-53B, shows details for W-section rail mounted on 55-gallon steel drums filled with sand. This temporary barrier is appropriate for use where speeds are low or where large deflections are permissible.


Pages A-53C, A-53D and A-53E, labeled PCMB(A)-80, PCMB(B)-80, and PCMB(C)-80, show design details for three types of precast concrete median barrier sections. Each type is 30 feet in length and has a different joint design. The inertia of these longer, heavier precast sections provides for good performance used either as temporary or permanent barrier. The Type A, B, and C designs may all be included in the plans for a particular project permitting the Contractor the option of providing the lowest cost design. When used as a permanent barrier, the Type A, B, or C precast barrier should be keyed in with one inch of asphaltic concrete pavement. It should be noted that the Type B design includes additional steel reinforcement for repeated handling as a temporary barrier but otherwise is very similar to the design shown on standard sheet CMBI-75(3).

Standard sheet GREAT-80, page A-54, revises and replaces GREAT-77. Revised details for the guard rail energy absorbing terminal include a new longitudinal restraining cable for improved performance. Also, General Notes have been added providing information regarding several types of back-up structures. When standard sheet GREAT-80 is used, new Special Specification Item 5352 (informational copy enclosed) should be used with the type of back-up structure specified in the bid item description.

Figure A-13, "Guide for Use of Guard Fences for Embankment Heights and Slopes," has been revised to agree with AASHTO criteria. Page A-63 should be removed and replaced with the revised version.

These revisions should be posted in the binders immediately upon receipt and the record of revisions' sheet properly completed.

Sincerely yours,

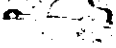
  
B. L. DeBerry  
Engineer-Director

Enclosures

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Division Heads

ADMINISTRATIVE CIRCULAR NO. 36-78

To:  ALL DISTRICT ENGINEERS, ENGINEER-MANAGER, AND DIVISION HEADS Date: July 17, 1978

Subject: Highway Design Division Operations and Procedures Manual Expires: Upon Receipt

Reference: File: D-8

## HIGHWAY DESIGN MANUAL CHANGE LETTER

Manual Change Transmittal No. 34

Gentlemen:

Part IV and Appendix A of the Highway Design Division Operations and Procedures Manual have been revised.

Page 4-2 of Part IV should be replaced with the revised version which includes new paragraph 4-103 regarding pavement design.

New criteria for horizontal clearances to obstructions have been added as shown on revised page 4-31 and new pages 4-31A, 4-31B, and 4-31C. These criteria are applicable to rural highways without access control. For new location and major reconstruction projects, the design criteria shown in Figure 4-15A, page 4-31B, apply. For minor reconstruction projects, i.e., those which basically retain existing horizontal and vertical alignment, design guidelines are shown in Figure 4-15B, page 4-31C. Figures showing cross sectional elements for various highway classes (pages 4-45, 4-53, 4-54 through 4-56, 4-70, and 4-78) have been revised to refer to pages 4-31 through 4-31C for guidance regarding roadside clearance. The minimum thirty-foot-wide clear roadside policy still applies to moderate and high volume rural highways and the main lanes of controlled access facilities regardless of volume.

Inside shoulder widths for ramps and direct connections have been increased to four feet for circumstances where a longitudinal barrier, such as bridge rail, retaining wall, or guard fence, is involved. The resultant minimum offset of four feet to barriers along the inside shoulder of ramps and direct connections will enhance driver comfort and improve sight distance on horizontal curves. Figure 4-45, page 4-75, has been revised to show inside shoulder width requirements and their effect on minimum structure widths for ramps and connections. Where there is no barrier adjacent to ramps and connections, minimum inside shoulder width remains two feet.

Standard sheet GF(TD)-75, Metal Beam Guard Fence, page A-4 of Appendix A-100, should be removed and replaced with revised sheet GF(TD)-78. The dimensions of the steel plate, as shown on the optional terminal anchor post detail, have been revised to facilitate connection to the buried steel beam.

Standard sheet CLF-73, Chain Link Barrier Fence, has been revised to permit C-section line posts and L-section corner posts. Page A-13 should be removed and replaced with standard sheet CLF-78.

New standard sheet VIA(SFPB)-78 combines, updates, and replaces standard sheets VIA(SFPB)(A)-75 and VIA(SFPB)(B)-76. The new sheet shows details for both Types A and B sand-filled plastic barrel attenuators; details for Type A modules have been revised to include a new polystyrene core to support the sand mass at the desired height. Pages A-48 through A-50 should be removed and replaced.

Revised pages should be posted in the Manual immediately upon receipt and the record of revision sheet properly completed.

Sincerely yours,



B. L. DeBerry  
Engineer-Director

Attachments

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ADMINISTRATIVE CIRCULAR NO. 13-78

To: ALL DISTRICT ENGINEERS, DIVISION HEADS, AND  
ENGINEER-MANAGER

Date: March 23, 1978

Subject: Highway Design Operations and Procedures

Expires: Upon Receipt

Reference:

File: D-8

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## HIGHWAY DESIGN MANUAL CHANGE LETTER

Manual Change Transmittal No. 33

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Gentlemen:

Attached are the 1978 edition of Part II-B and revised Part III of the Highway Design Division Operations and Procedures Manual.

Part II-B has been revised to reflect the revisions in the Action Plan's public involvement procedures. There are also some minor revisions regarding noise and air.


The 1978 edition of Part II-B replaces the 1976 edition of Part II-B which should be discarded.

Part III revisions involve the following changes:

1. Delete the existing Part III entitled, "Urban Transportation and Mass Transit Planning".
2. Add the new (attached) Part III entitled, "Construction and Reconstruction of Farm and Ranch to Market Roads". This new Part III contains pertinent project development procedures and design criteria formerly contained in the Secondary Roads Division Manual of Procedures. Only work and date revisions necessary to incorporate this material into the subject manual have been made. The submission of plans, specifications, and estimates for Farm or Ranch to Market Roads should be in accordance with procedures set forth in Administrative Circular 7-77.

These revisions should be posted in the Manual immediately upon receipt and the record of revisions sheet promptly completed.

Sincerely yours,

  
B. L. DeBerry  
Engineer-Director

Attachments

Distribution:

District Engineer  
Engineer-Manager  
Division Heads



PZ

The attachment is to replace pages 31-32 of the 1978 edition of Part II-B of the Highway Design Division Operations and Procedures Manual furnished in accordance with Administrative Circular No. 13-78 dated March 23, 1978. Item (1) at the top of page 31 was inadvertently left out of the manual.

This replacement should be posted in the Manual immediately upon receipt.

**Attachment**

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ADMINISTRATIVE CIRCULAR NO. 31-77

To: ALL DISTRICT ENGINEERS, DIVISION HEADS, AND  
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Date: June 7, 1977

Subject: Highway Design Division Operations and  
Procedure Manual

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File: D-8

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## HIGHWAY DESIGN MANUAL CHANGE LETTER

Manual Change Transmittal No. 31

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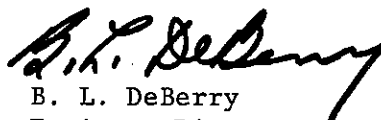
Gentlemen:

Part I, General Information, has been revised. Attached are newly revised pages 1-1 through 1-4.

Appendix B, Illumination, has also been revised. The material presently occupying Appendix B should be entirely removed from the Manual and replaced with the new material, pages B1 through B-11.

These revisions should be posted in the Manual immediately upon receipt and the record of revisions sheet properly completed.

Sincerely yours,

  
B. L. DeBerry  
Engineer-Director

Attachments - 9

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PK

ADMINISTRATIVE CIRCULAR NO. 75-76

To: ALL DISTRICT ENGINEERS, DIVISION HEADS, AND  
ENGINEER-MANAGER

Date: November 9, 1976

Subject: Highway Design Division Operations and  
Procedure Manual

Expires: Upon Receipt

Reference:

File: D-8

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## HIGHWAY DESIGN MANUAL CHANGE LETTER

Manual Change Transmittal No. 30

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Gentlemen:

Part IV, "Design," of the Highway Design Division Operations and Procedures Manual has been revised. Included in these minor revisions are the following:

1. Page 4-13: Text revised to show that for compound curves the radius of the flatter curve should not be more than 50 percent greater than the radius of the sharper curve for both urban and rural conditions.
2. Page 4-18, Figure 4-7: The "Min. and Des. V = 30" and "Min. V = 50" curves have been revised to correct previous plotting errors.
3. Page 4-34, Figure 4-17, and page 4-37, Figure 4-20: Footnote information regarding parallel parking lane width has been added. Also, in Figure 4-17, the minimum design speed for collector and local streets has been changed to 30 mph to agree with regulatory material for Federal-Aid projects.
4. Page 4-39: Minor revisions have been made in paragraph (e) to show that the entire width of urban streets, including parking lanes or shoulders, should be carried across or under grade separation structures.
5. Page 4-41, Figure 4-22: The footnotes have been referenced to the diagram.
6. Page 4-53, Figure 4-30, and Page 4-71, Figure 4-43A: The footnote regarding width and slope of usable shoulders has been rewritten for clarification.
7. Page 4-56, Figure 4-33: Width of two-lane structure sections has been changed to width of approach roadway including "usable," rather than "surfaced," shoulder width.

Although specific Manual revisions are not attached, the following information is intended to clarify further the appropriate application of certain design criteria.


1. Since energy conservation considerations are a factor in operating continuous lighting systems, headlight sight distance should be generally used in the design of sag vertical curves. The comfort control criteria shown in Figure 4-12 should be reserved for special use. Instances where the comfort control

criteria may be appropriately used include ramp profiles (where safety lighting will not be extinguished during energy shortages) and in cases where, for economical reasons, an existing element such as a structure not ready for replacement controls the vertical profile.

2. The width criteria for continuous two-way left turn lanes is shown in Figure 4-21. In applying this criteria, the median lane width should not be less than twelve feet, and preferably the "usual" value shown in Figure 4-21, on new location projects or on reconstruction projects where widening necessitates the removal of exterior curbs. "Minimum" values as shown in Figure 4-21 are appropriate for restrictive right-of-way projects and improvement projects where attaining "usual" median lane width would necessitate removing and replacing exterior curbing to gain only a few feet of roadway width.
3. With regard to turnaround roadways (Page 4-92) to accommodate U-turn traffic at diamond interchanges, the Federal Highway Administration has agreed to eliminate their requirement for benefit-cost documentation for turnarounds (or provision of space for future installation) which underpass the main lanes in urbanized areas. U-turn structures which overpass the main lanes are generally not warranted due to their high construction costs; therefore, benefit-cost data will be required for those unusual instances where elevated turnarounds are proposed.

The three items listed above are furnished for your further guidance in applying material in the Manual. Revised pages should be posted to the Manual immediately upon receipt and the record of revision sheet properly completed.

Sincerely yours,

  
B. L. DeBerry  
Engineer-Director

DISTRIBUTION:  
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Engineer-Manager  
Division Heads

ADMINISTRATIVE CIRCULAR NO. 52-76

To: ALL DISTRICT ENGINEERS, DIVISION HEADS AND  
ENGINEER-MANAGER

Date: July 28, 1976

Subject: Highway Design Division Operations  
and Procedures Manual

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Reference:

File: D-8

HIGHWAY DESIGN MANUAL CHANGE LETTER

Manual Change Transmittal No. 29

Gentlemen:

Part II, Preliminary Project Planning and Development, of the Highway Design Division Operations and Procedures Manual has been partially revised. Attached is Part II-B covering Environmental and Public Involvement Procedures. Programming and Project Authority Procedures will be covered by Part II-A, to be issued in the near future.

Part II-B has been prepared to conform with the Action Plan as revised, 1976, and FHPM 7-7-2 covering environmental impact and related statements.

Part II-B replaces Section 2-502 and Sections 2-600 through 2-713. Those sections should be discarded along with Figures 2-8 through 2-28.

The remainder of Part II should be retained until such time as the program and project authorization procedures are revised as Part II-A.

This revision should be posted in the Manual immediately upon receipt and the record of revisions sheet properly completed.

Sincerely yours

*B. L. DeBerry*  
B. L. DeBerry  
Engineer-Director

Attachments

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Bob

ADMINISTRATIVE CIRCULAR NO. 44-76

To: ALL DISTRICT ENGINEERS, DIVISION HEADS, AND  
ENGINEER-MANAGER

Date: June 25, 1976

Subject: Highway Design Division Operations and  
Procedures

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Reference:

File: D-8D

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## HIGHWAY DESIGN MANUAL CHANGE LETTER

Manual Change Transmittal No. 27

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Gentlemen:

Part IV, "Design," of the Highway Design Division Operations and Procedures Manual, has been revised.


Design widths of ramps and direct connections have been revised to the following minimum values:

<u>Type of Roadway</u>	<u>Inside Shoulder Width</u>	<u>Outside Shoulder Width</u>	<u>Travel Lane Width</u>	<u>Total Roadway &amp; Structure Width</u>
Ramp	2'	6'	14'	22'
One Lane Direct Conn.	2'	8'	14'	24'
Two Lane Direct Conn.	2'	8'	24'	34'

These minimum values are applicable for both roadway and bridge class structure widths and are appropriate for immediate use where feasible. Attached pages 4-75 and 4-83 through 4-90 of the Manual have been revised to show these widths.

These revisions should be posted in the Manual immediately upon receipt and the record of revision sheet properly completed.

Sincerely yours

  
B. L. DeBerry  
Engineer-Director

Enclosures: Pages 4-75, 4-83 thru 4-90

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Engineer-Manager  
Division Heads

# THE HISTORY OF THE UNITED STATES

The history of the United States is a story of growth and change. It begins with the first settlers who came to the Americas in search of a new life. They found a land of opportunity, but also a land of challenge. The early years were marked by conflict and struggle, but the spirit of the American people was one of resilience and determination. Over time, the United States grew from a small colony into a powerful nation, and its history continues to shape the world today.

The American Revolution was a turning point in the nation's history. It was a time of great change and upheaval, as the colonies fought for their independence from Britain. The revolution was not without its challenges, but it ultimately led to the birth of a new nation. The American people were determined to create a government that was based on the principles of liberty and justice for all.

The American Civil War was another major event in the nation's history. It was a conflict that lasted for four years and resulted in the death of over six million people. The war was fought over the issue of slavery, and it ultimately led to the abolition of the institution.

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Kov

ADMINISTRATIVE CIRCULAR NO. 10-76

To: ALL DISTRICT ENGINEERS, DIVISION HEADS, AND  
ENGINEER-MANAGER

Date: January 23, 1976

Subject: Highway Design Division Operations and  
Procedures Manual

Expires: Upon Receipt

Reference:

File: D-8

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## HIGHWAY DESIGN MANUAL CHANGE LETTER

Manual Change Transmittal No. 25

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Gentlemen:

Part IV of the Highway Design Division Operations and Procedures Manual has been revised. Appendices B, "Illumination," G, "Multiple Use of Highway Right-of-way," and H, "Bikeway Design Guidelines" have been added to the Manual.

Part IV, "Design," has been completely rewritten and pages 4-1 through 4-140 should be removed from the ring binder and replaced with the attached pages 4-1 through 4-112. Included in the revisions are:

1. An expanded description of traffic volume as a design consideration emphasizing the mechanics of converting average daily traffic (ADT) to design hour volume (DHV) has been included in Section 4-201.
2. In Section 4-202, AASHTO minimum and desirable stopping sight distance values for various design speeds have been adopted. Appropriate revisions also have been made to the related crest and sag vertical curve design charts.
3. Design guidelines for maximum grades and horizontal curvature are included in Section 4-202. These criteria have been slightly revised and expanded to include lower design speed facilities such as urban streets. A revised figure showing critical length of grade for design has been included; it is based on recently acquired field data and is appropriate for use in the consideration of climbing lanes.
4. Section 4-300 presents expanded design guidelines for urban streets.
5. A new four-lane undivided rural highway section is shown in Section 4-400. This section should be considered to provide passing opportunities where rolling terrain, traffic volumes, or both, restrict free movement along conventional two-lane highways.
6. Section 4-500 includes design guidelines for two-lane rural highways. Low volume highways have been re-defined as facilities with less than 2200 design year ADT. For low volume highways, usable shoulder width varies from four to eight feet with further subclassification of current traffic volume; shoulders may be partially surfaced.

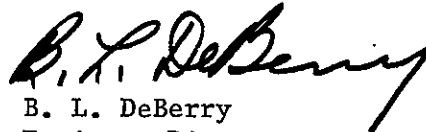
7. An inside shoulder width of four feet is appropriate for divided highways with (Section 4-600) or without (Section 4-400) access control.
8. The requirement for bridge rail offset has been eliminated, and minimum structure width should match approach roadway width including usable shoulders. Minimum structure widths are shown in Sections 4-400, 4-500, and 4-600 for multi-lane rural highways, two-lane rural highways, and freeways, respectively.
9. Fill slopes in the clear roadside area are shown as 4:1 or flatter for all highway classifications. Flatter slopes should be used wherever feasible, particularly on fills with low height.
10. Section 4-603 includes new material regarding freeway related bus priority treatments; new information concerning fringe parking areas is included in Section 4-704.
11. The subject area of pavement structure is no longer treated in Part IV, but will be addressed in a new appendix to be furnished in the near future.

Information regarding illumination, multiple use of highway right-of-way and bicycle facilities appears in new Appendices B, G, and H, respectively. The material presently occupying Appendix B concerning procedures for research studies should be removed and replaced by the Attached Appendix B.

As a matter of information, the remaining Parts and Appendices in the Manual will be revised within the next few months.

These revisions should be posted in the Manual immediately upon receipt and the record of revision sheet properly completed.

Sincerely yours

  
B. L. DeBerry  
Engineer-Director

Enclosures: Part IV  
Appendices B, G, and H

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Engineer-Manager  
Division Heads

**PART I**  
**GENERAL INFORMATION**



# **HIGHWAY DESIGN DIVISION**

**Index**  
**7-1-70**

## **OPERATIONS AND PROCEDURES MANUAL**

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## **PART I**

### **GENERAL INFORMATION**

#### **HIGHWAY DESIGN DIVISION FUNCTION AND ORGANIZATION (1-100)**

##### **1-101 FUNCTIONS**

The Highway Design Division is responsible for guiding the complex development of all highway construction projects through the preliminary engineering stages on both the rural and urban highway systems. The Division's responsibilities begin with the initial stage of each project's conception and development, prior to actual location and design, and continue through the design stages to the completion of plans, specifications and estimates prior to release for bids for construction. More specifically, this Division develops design criteria; prepares highway design standards; issues authority to do preliminary planning; programs Federal Aid projects; coordinates the development of the Twenty-Year Project Development and Control Plan, the one-year advance letting schedule and the monthly letting schedule; processes plans and specifications for letting; and, through field contact representatives, coordinates archaeological and environmental studies, plan development, construction specifications, engineering estimates and agreements. Specialized consultant services in the fields of computerized project data; illumination; traffic; geometrics; pavement design and rehabilitation; social and environmental considerations; archaeological and cultural resources; air, water, and noise pollution studies; and highway economic and evaluation studies are also available to the field upon request.

##### **1-102 CHIEF ENGINEER OF HIGHWAY DESIGN**

The Chief Engineer of Highway Design is the head of the Highway Design Division which has a staff of approximately 110 employees. He is directly responsible to the Engineer-Director and the Assistant Engineer-Directors for the administration and operation of the Highway Design Division. The Chief Engineer of Highway Design is responsible for the development and recommendation of policies concerning all phases of highway design, except bridges and signing. He is responsible for coordinating design recommendations with other Divisions and the Districts to make certain that policies approved by the Engineer-Director are carried out.

##### **1-103 ASSISTANT TO THE CHIEF ENGINEER**

The Chief Engineer of Highway Design is assisted by the Design Administrative Engineer and the Engineer of Design Operations. These assistants are delegated the duties and responsibilities of the Chief Engineer during his absence. The two positions carry the direct line of authority from the Chief Engineer to the Division organization.

##### **1-104 ORGANIZATION**

The Highway Design Division is organized into nine sections covering six general areas of operation as shown in Figure 1-1. These sections and their responsibilities within the Division are as follows:

### **1-104.1 FIELD OPERATIONS**

The area of field operations is divided into four sections. Three of these are under the direction of an Engineer of Field Coordination and the fourth is under the direction of the Engineer of Secondary Roads. Engineers of Field Coordination are responsible for a geographic area of the state comprising several of the Department's Districts. The Engineer of Secondary Roads has statewide responsibility.

Each of these four sections provides liaison between the Austin Headquarters of the Department and the field offices in the Districts. They are responsible for matters concerning project development, geometrics, project plans, specifications, construction cost estimates, and general matters as may be required.

### **1-104.2 PLANS AND PROJECT SERVICES**

The Plans and Project Services Section, under the direction of the Engineer of Design Services, is responsible for the processing of completed plans, specifications and estimates prior to the letting of contracts for construction; coordinating the review of proposed specifications; preparing the notification to contractors of upcoming new projects and advertising the letting of contracts. The section also provides drafting services to the Division; and conducts air, water and noise studies related to highway projects.

### **1-104.3 ROADWAY DESIGN**

The Roadway Design Section, under the direction of the Engineer of Roadway Design, is responsible for geometric, pavement, lighting and other related roadway design procedures and policies. The procedures, policies and standards have been compiled and are kept current in Part IV and related appendices and references of this Design Manual. This Section reviews proposed geometric, pavement and lighting designs and related construction specifications. Consulting services to the Field Operations Sections and Districts and assistance in design analyses and documentation are provided as needed. This section is responsible for the preparation of most detail plan standards used in the final plan assemblies. Responsibilities also include the review and correlation of matters dealing with multiple use of right-of-way and the review and monitoring of research studies relating to pavements, geometrics and lighting. This Section also serves as a clearinghouse for material and related correspondence received from the American Association of State Highway and Transportation Officials.

### **1-104.4 ENVIRONMENTAL AND COMMUNITY FACTORS**

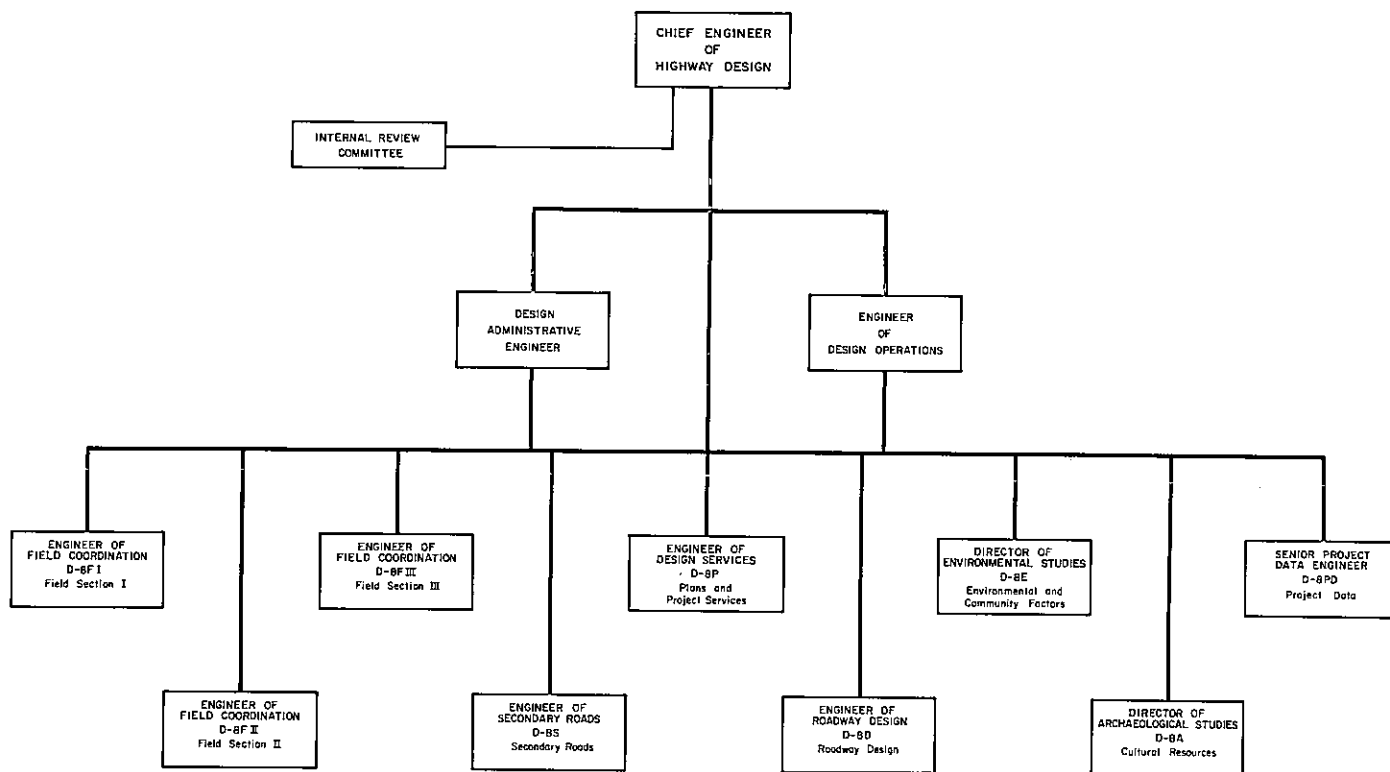
The Environmental and Community Factors Section under the direction of the Director of Environmental Studies, performs social, economic and environmental investigations, and assists the District offices in these and other combined studies involving various disciplines. An important function of this section is to monitor the public involvement process as outlined in the Department's Action Plan. This section also serves as a clearinghouse for environmental statements prepared and circulated by other agencies.

**1-104.5 CULTURAL RESOURCES**

The Cultural Resources Section, under the direction of the Director of Archaeological Studies, is responsible for the evaluation of historic and prehistoric cultural resources that are affected by highway construction. This section inspects the location of proposed highway improvements and conducts appropriate scientific excavations to examine and analyze artifacts recovered within highway right-of-way. The Section also prepares and publishes reports of their findings and analyses.

**104.6 PROJECT DATA**

The Project Data Section is responsible for the management of the Design-Construction Information System; a series of computerized management systems providing current data on all construction projects throughout the development and construction stages. This section coordinates DCIS activities statewide, providing special studies and analyses based on project data for various levels of Departmental management, including the Twenty Year Project Development and Control Plan. The Section also provides consultation services to the Districts and Divisions on matters related to the Design-Construction Information System.



# HIGHWAY DESIGN DIVISION ORGANIZATION CHART

February 1980

# HIGHWAY DESIGN DIVISION

## OPERATIONS AND PROCEDURES MANUAL

### PART II-B

#### ENVIRONMENTAL & PUBLIC INVOLVEMENT PROCEDURES

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## **2-300 INTERDISCIPLINARY PROJECT PLANNING**

As outlined in the Texas Action Plan, and in conjunction with legislation and policy directives from both the State and Federal governments (specifically, the Texas Policy for the Environment, 1973, and the National Environmental Policy Act of 1969), the State Department of Highways and Public Transportation uses a systematic, interdisciplinary approach in the development of major projects that may have a significant effect on the environment.

The Highway Design Division (File D-8) has primary staff responsibility for social, economic and environmental matters in the development of highway projects. Qualified professionals in a wide range of disciplines and specialties are available within File D-8 and other divisions.

### **2-301 INTERDISCIPLINARY-ENVIRONMENTAL STUDIES**

Interdisciplinary-environmental studies should be considered for each project and conducted when appropriate depending on the project's social, economic, environmental and transportation significance. Studies serve as the basis for any required environmental assessments, statements or declarations.

Appropriate environmental studies and documentation should be developed for all projects considered to be major actions. For the criteria to make a major-nonmajor determination, see Section 2-402. Projects which are obvious nonmajor actions need little or no environmental study or documentation.

### **2-302 HIGHWAY SECTION PROCESSING (LOGICAL TERMINI)**

- (a) For discussion in Social, Economic and Environmental (S.E.E.) Assessments, negative environmental declarations and environmental impact statements, a highway section should be as long as practicable to permit consideration of environmental matters on a broad scope and meaningful evaluation of alternatives. A highway section may include, when appropriate, completed as well as uncompleted portions of the highway and one or more future highway projects. Piecemealing proposed highway improvements in separate S.E.E. assessments, negative environmental declarations (NED) or environmental impact statements (EIS) should be avoided. The highway section identified in the S.E.E. assessment, NED or EIS should include the total length of highway between logical termini even though only a short length of the total identified highway section is proposed for construction or reconstruction. The S.E.E. assessment, EIS or NED should clearly identify the length or segment of the total highway section that is proposed for improvement and furnish any available information concerning long-range possibilities for future improvements within the highway section. Environmental effects identified and discussed in the S.E.E. assessment, NED, or EIS should ordinarily be those anticipated to be precipitated by the proposed construction, but should also, as pertinent, include effects associated with the total highway section. For instance, completing a gap in a highway may substantially increase traffic volumes, change traffic patterns or improve access to an area creating a need to include a discussion of effects related to the entire highway section.
- (b) The flow chart showing process guidelines for project development emphasizing public involvement and social, economic and environmental consideration is presented in Figure 1.

FIGURE I

FLOW CHART SHOWING PROCESS GUIDELINES  
FOR PROJECT DEVELOPMENT EMPHASIZING PUBLIC  
INVOLVEMENT AND SOCIAL, ECONOMIC  
& ENVIRONMENTAL CONSIDERATIONS

is included as the final page in Part II-B.

(Flow Chart is from 1976 Edition of Design Manual.)

### **2-303 PUBLICITY OF PROJECT PLANNING AND AVAILABILITY OF INFORMATION TO THE PUBLIC**

- (a) Early and extensive publicity should be considered for all major action types of projects and all nonmajor action types of projects in urban areas. Media releases should be a normal course of action taken at the beginning of project planning.

This early publicity should:

- (1) Point out the need for the project.
- (2) Describe the project to the extent possible at such an early stage.
- (3) Emphasize the beneficial effects anticipated on the project's total area of influence.
- (4) Extend an invitation to all citizens (particularly those living in the area of influence) to contact the resident or District office where their input will be welcomed. Include the name and address of the District personnel to contact.
- (5) Emphasize that early input by all of the citizens of the area will make a valuable contribution to the selection of reasonable alternatives for study.
- (6) Correlate the project with previous systems planning.

At the same time that media press releases are made, it is advisable to also notify those individuals and groups that were involved during systems planning of the initiation of project planning. Any individual or groups included on a maintained early notification list should be individually notified that project planning is beginning.

Methods of early publicity (and publicity throughout project development) will vary depending on the area, type of project, significance, etc. Suggested methods include press releases, notices, advertisements, letters to property owners, handbills, posters, bulletin board announcements, contacts with community leaders, clubs, organizations, schools, churches, etc.

- (b) During all phases of planning, timely and accurate information must be made available to the public so that their participation will be on the most informed basis possible. Most planning studies result in reports of some kind which should upon completion be made available to the public when requested. As a guide, material should be considered completed if a correlative decision has been made by the appropriate individual at the organizational level authorized to make final approval for the Department.

Requests for information should be satisfied as expeditiously as possible and in a manner reassuring to the public that planning activities are open to the public and that the public's early and continuing input is welcomed during systems and project planning.

When environmental documents are approved by the Austin Office and submitted to the FHWA, that is the time under the Texas Open Records Act (House Bill 6) the documents must be considered as completed and made available to any citizen requesting a copy.



## **2-400 SOCIAL, ECONOMIC AND ENVIRONMENTAL (S.E.E.) ASSESSMENTS**

### **2-401 PURPOSES AND PROCEDURES**

- a. Purposes of the S.E.E. assessment are:
  - (1) To provide early assessment of anticipated social, economic and environmental effects;
  - (2) To indicate whether a project is a nonmajor action, or a major action; and if a major action, whether the anticipated social, economic and environmental effects are significant or insignificant; and the type of environmental report appropriate;
  - (3) To serve as documentation for determining whether a Project Concept Conference should be held; and
  - (4) To provide general information relative to the project that may be furnished the interested public and other agencies.
- b. As soon as practical after an Investigation and Planning Expense (IPE) Authorization is issued for a project, the District should make an initial assessment of the anticipated social, economic and environmental effects of the project using the criteria set forth in Sections 2-402 and 2-403. The S.E.E. assessment should be prepared using the format in Section 2-404 and submitted to the Austin Office for review and concurrence. The information included in the S.E.E. assessment should be to the extent possible at the initial stage of project planning.
- c. The letter transmitting the S.E.E. assessment should indicate the District's recommendations regarding (1) whether a Project Concept Conference should be held; (2) any special coordination and/or permits needed or anticipated; (3) the project's need for a noise report; and (4) the extent of public involvement believed necessary. Submit the original and four copies of the S.E.E. assessment.

### **2-402 DETERMINATION OF MAJOR AND NONMAJOR ACTIONS**

- a. A project determined to be a "major" action will require either an environmental impact statement or negative environmental declaration. (The criteria for selecting which will be appropriate is discussed in Section 2-403.) Major actions are those projects of superior, large and considerable importance. Any project that is likely to precipitate significant foreseeable alterations in land use; planned growth; development patterns; traffic volumes; travel patterns; transportation services, including public transportation; and natural and manmade resources should be considered a major action. The following are examples of types of projects which are ordinarily considered to be major actions:
  - (1) A new freeway or expressway,
  - (2) A highway which provides new access to an area and is likely to precipitate significant changes in land use or development patterns,

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- (3) A new or reconstructed arterial highway which provides substantially improved access to an area and is likely to precipitate significant changes in land use or development patterns,

(Note: For those projects which will not provide substantially improved access to an area and will not precipitate significant changes in land use or development patterns, a nonmajor action determination may be appropriate. The S.E.E. assessment should be submitted early enough in project development to assist in the determination of nonmajor action to avoid the possibility of delaying other phases of project development should the project be determined to be a major action.)

- (4) A new circumferential or belt highway which bypasses a community,
- (5) A highway which provides new access to areas containing significant amounts of exploitable natural resources,
- (6) Added interchanges to a completed freeway or expressway which provide new or substantially improved access to an area and are likely to precipitate significant changes in land use or development patterns, and
- (7) A highway project which requires the taking of land from any publicly owned land from a public park, recreation area, wildlife and waterfowl refuge, or any land from a historic site.

- b. Nonmajor actions do not require environmental impact statements, nor negative environmental declarations. A S.E.E. assessment should be prepared for projects which provide for additional through traffic lanes. A S.E.E. assessment should also be prepared covering those types of projects indicated in (1) below. For those types of improvements categorized in (2) below, the majority of the projects will permit the determination of nonmajor action to be deferred until submission of P.S. & E.; however, some modernization projects may involve features which may cause a delay in nonmajor action concurrence at the P.S. & E. stage. Therefore, where there is doubt, nonmajor action concurrence should be obtained by submission of a S.E.E. assessment early enough in project planning to avoid the possibility of delaying other phases of project development should the project be determined to be a major action. For all of the types of projects or actions identified below in (3) through (11), a statement that the proposed improvement is a nonmajor action should be included in the request for FHWA authorization for construction. It will not be necessary to obtain this concurrence of nonmajor action prior to the submission of P.S. & E. unless there is some doubt the project is a nonmajor action.

The following are examples of types of actions which are ordinarily considered to be "nonmajor" actions:

- (1) Construction of a new rural two-lane highway which does not provide new access to an area and which would not be likely to precipitate significant changes in land use or development patterns,
- (2) Modernization of an existing highway by resurfacing, widening less than a single lane width, adding shoulders, adding auxiliary lanes for localized purposes (weaving, climbing speed change, etc.), and correcting substandard curves and intersections,
- (3) Lighting, signing, pavement marking, signalization, freeway surveillance and control systems, and railroad protective devices,

## HIGHWAY DESIGN DIVISION OPERATIONS AND PROCEDURES MANUAL 2-78

- (4) Safety projects such as grooving, glare screen, safety barriers, energy attenuators, etc.,
- (5) Reconstruction of existing crossroad or railroad separations and existing stream crossings,
- (6) Highway landscaping and rest area projects,
- (7) Construction of bus shelters and bays,
- (8) Alterations to existing buildings to provide for noise attenuation and installation of noise barriers,
- (9) Temporary replacement of a highway facility which is commenced immediately after the occurrence of a natural disaster or catastrophic failure to restore the highway for the health, welfare, and safety of the public,
- (10) Approval of utility installations along or across a highway or approval of grade separated crossings of highways by railroads or highways, and
- (11) Highway safety work programs.

### 2-403 DETERMINATION OF SIGNIFICANCE AND INSIGNIFICANCE

Determination of significance or insignificance of a major action should be made using the following guidelines. The determination of significance or insignificance will be the basis for selecting the type of environmental report required for the project. In evaluating the significance, the changes which may be caused by the action and the importance and scale of those changes are to be considered.

- a. The following are examples of types of major actions which ordinarily have a "significant effect on the quality of the human environment", and therefore will require draft and final environmental impact statements:
  - (1) An action that has more than minimal effect on and requires the taking of land from any publicly owned land from a public park, recreation area, wildlife and waterfowl refuge, or any land from a historic site,
  - (2) An action that is likely to be highly controversial on environmental grounds or with respect to the availability of adequate relocation housing,
  - (3) An action that is likely to have a significantly adverse impact on natural, ecological, cultural or scenic resources of national, State or local significance,
  - (4) An action that (a) causes significant division or disruption of an established community or disrupts orderly, planned development, or is determined to be significantly inconsistent with plans or goals that have been adopted by the community in which the project is located, as determined by a responsible official(s); or (b) causes a significant increase in traffic congestion, or
  - (5) An action which (a) is determined to be inconsistent with any law or regulation relating to the environment; or (b) has a significant detrimental impact on air or water quality or on

## HIGHWAY DESIGN DIVISION OPERATIONS AND PROCEDURES MANUAL 2-78

ambient noise levels for adjoining areas; or (c) may contaminate a public water supply system.

- b. Draft and final negative environmental declarations should be prepared for those major actions which will not have a significant impact upon the quality of the human environment of a magnitude to require the processing of an EIS.

### 2-404 FORMAT OF S.E.E. ASSESSMENT

- a. Description of Proposed Action and Reasonable Alternatives (Comparable to the extent suitable for comparison and to the extent known at the initiation stage of project planning.)

- (1) Project limits, logical termini for study, and character of area (rural, urban, etc.)

- (2) Project length (new and existing alignment)

- (3) Right of way width and access control (existing and proposed)

- (4) Type of facility, including:

- 1. Number of lanes

- 2. General horizontal and vertical alignment

- 3. Location of bridges, interchanges, grade separations, at-grade intersections, other structures and features

- 4. Current and design ADT

- 5. Nature of service which the highway is intended to provide

- 6. Anticipated utility adjustments needed

- (5) Description of surrounding terrain and land use, including surrounding natural and cultural features such as:

- 1. Towns, communities, neighborhoods, developed areas, landmarks, institutions, principal roads and highways, and similar features

- 2. Lakes and streams

- 3. Principle vegetation types, such as pine forest, grassland, etc.

- 4. Historical and archeological sites

- (6) Description of the existing facility, including but not limited to its condition and deficiencies in meeting present and future traffic demands, and the planning basis of the proposed project (the purpose and need for the proposed project). The relationship between the proposed project and the fulfillment of present and future traffic demands (as indicated by any urban, area-wide, or other transportation studies or plans, and/or by specific recent or planned developments or changes in land use) should be thoroughly discussed in order to show why the project is needed. Note should be made if there is no known plan for development in the area.

## HIGHWAY DESIGN DIVISION OPERATIONS AND PROCEDURES MANUAL 2-78

- (7) Items of special nature such as navigation or airway-highway clearances, special permits or agreements.
  - (8) Estimated cost of construction, right of way utility adjustments and relocation assistance
  - (9) Local governmental and private views and support
  - (10) Include a map showing the section of highway discussed in the S.E.E. assessment. Also show all reasonable alternate routes considered. Other graphic materials should be included when necessary.
- b. Discussion of Potential Social, Economic and Environmental Effects of the Proposed Action and Reasonable Alternatives (to the extent applicable at this initiation stage of project development.) The effects of the following should be considered:
1. Regional and Community Growth. Discuss any trends for land use change that are present in the area and any general plans that exist for proposed land use. Any anticipated development that may affect total transportation requirements should be specifically addressed indicating the need for the proposed project. The status of how the proposed project fits into any overall development plan should be mentioned. Also, the discussion should include how the proposed project is expected to affect the trend for land use change in the area, as well as the specific use of adjacent properties. This discussion should include the anticipated effects of the proposed project on adjacent property values and the local tax base. The general beneficial economic effects - - both short-term and long-term - - which are expected to accrue to the area should also be discussed.
  2. Conservation and Preservation including soil erosion and sedimentation, the general ecology of the area as well as man-made and other natural resources, such as: park and recreational facilities, wildlife and waterfowl areas, historic and archeological sites, and natural landmarks. If no Section 4(f) lands are involved, include a statement indicating that the use of land from a publicly owned park, recreation area or wildlife and waterfowl refuge of National, State or local significance is not anticipated.
    - (a) Lakes and streams. Discuss any anticipated impoundment, diversion, channel deepening, or other modification of a stream or body of water, or any affected navigable waters and associated wetlands. Other anticipated modifications which should be discussed include changes to a stream or lake as the result of bridging or culverting, borrow or fill material in the water or floodplain, or the encroachment into the floodplain. (Refer to Section 2-607) The District's letter of transmittal should indicate if permits or coordination with other agencies is believed necessary. For example, agencies such as U.S. Coast Guard and U.S. Army Corps of Engineers issue permits which may require early coordination. Other agencies which, as appropriate, should be coordinated with early in project planning are the U.S. Fish and Wildlife Service, Texas Parks and Wildlife Department, Texas Department of Water Resources, and others depending upon possible project effects.
    - (b) Historical and Archaeological Sites. The National Register of Historic Places, the Texas Historical Commission's inventory of cultural properties Historic Preservation in Texas, and the Guide to Official Texas Historical Markers should be examined to determine if there are any inventoried properties in the project area. The County Chairman of the Texas Historical Commission should also be consulted to determine whether properties in the project area are eligible for inclusion in or are under nomination to the National Register of Historic Places.

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- (1) If a known archaeological or historical site may be adversely affected by the project, the type and significance of property as well as the nature of effect should be discussed.
- (2) If no adverse effect is anticipated, it should be noted in the assessment along with the resource materials examined and the persons and agencies contacted in support of this determination.
  - (a) If a project is believed to be a nonmajor action and if the project will require additional right of way, the District's letter of transmittal should indicate that an archaeological and historical survey will be requested before the PS&E will be prepared. On-site surveys should not be requested before the S.E.E. assessment is submitted to File D-8. Based on the review of the assessment, File D-8 will determine whether a survey is required and will notify the District. Results of the survey will be reported to the State Historic Preservation Officer (SHPO) and his endorsement acquired before the FHWA will approve the PS&E (See Section 2-603).
  - (b) If a project is believed to be a nonmajor action and if the project will require an insignificant amount or no additional right of way, then in most cases, an on-site survey will not be needed. The District's letter of transmittal should indicate whether an on-site survey is believed necessary. File D-8 will determine whether a survey is warranted after an examination of the S.E.E. assessment and other resource materials. Generally, a survey will not be conducted on projects in an urban area unless there is a possibility that (1) archaeological material may be found; or (2) the project may have an effect on an historic site or on an architecturally prominent structure. Structures with a Texas Historical Commission medallion should be considered to be eligible for inclusion in the National Register of Historic Places until positive determination is made to the contrary or until it is determined that they will not be affected by the proposed project. Architecturally prominent structures as well as other historical and archaeological sites within approximately 100 yards of a project should be evaluated for effect. If it is determined that an on-site survey is not required, File D-8 will obtain the concurrence of the SHPO that the project will not have an adverse effect upon historical or archaeological resources known to exist in the area. If a survey is not required, File D-8 will obtain the SHPO endorsement immediately following the review of the S.E.E. assessment. Evidence of coordination with the SHPO will be furnished to the FHWA by File D-8.
  - (c) If a project is a major action, the archaeological and historical survey should be conducted before preparation of a draft EIS or a draft NED. (Also see Section 2-603.) The S.E.E. assessment should indicate that a survey will be conducted. On-site surveys should not be requested before the S.E.E. assessment is submitted to File D-8.
  - (d) On-site surveys will be conducted before the submission of the S.E.E. assessment only in those cases where such surveys are necessary to determine whether the project is a major or nonmajor action or whether project effects are significant or insignificant. In cases of such questions, submit a written request to File D-8.
3. Public Facilities and Services including religious, health and educational facilities; and public utilities, fire protection and other emergency services.

## HIGHWAY DESIGN DIVISION OPERATIONS AND PROCEDURES MANUAL 2-78

4. Community Cohesion including residential and neighborhood character and stability, highway impacts on minority and other specific groups and interests. Indicate whether the project is likely to divide or disrupt an established community or disrupt orderly planned development or be inconsistent with plans or goals adopted by the community.
5. Displacement of People, Businesses and Farms including economic activity (employment gains and losses, etc.). Each assessment should indicate the approximate number and ethnic makeup of family units to be displaced, and the number and types of businesses to be relocated. Each assessment should also include (if appropriate) statements regarding the relocation assistance program and services available, and the likelihood of available decent, safe and sanitary replacement housing and business sites during the acquisition stage of project development.

To insure a complete discussion of items 4 and 5, refer to Section 2-702, item (d) 5 of this Manual.

6. Air, Noise and Water Pollution including consistency with approved State Implementation Plan for air pollution control, FHWA noise level standards, and any relevant Federal or State water quality standards.
  - (a) Refer to the Department's Noise Guidelines. A noise report is required for all projects unless specifically exempted by Federal regulations. The S.E.E. Assessment should either contain the "short form" noise analysis, if appropriate, or indicate that a separate noise report will be submitted for approval at some time prior to PS & E submission. If the short form analysis is selected, the S.E.E. Assessment should also contain information regarding construction noise and coordination with local officials. Discuss in specific terms the coordination efforts made with the local officials and/or local planning agency. The S.E.E. Assessment should indicate that local officials will be furnished copies of the FHWA publication "The Audible Landscape: A Manual for Highway Noise and Land Use," FHPM 7-7-3, and the noise report for the project.
  - (b) A comparison of the expected CO concentration under worse meteorological conditions at design year with the National Ambient Air Quality Standard should be made and other information furnished as outlined in the Department's Air Quality Guidelines. In this way consistency of the highway project with the State Implementation Plan can be demonstrated.

7. Aesthetic and Other Values including visual quality, such as: "view of the road" and "view from the road", and the joint development and multiple use of space.

c. End the assessment with one of the three following statements as appropriate:

- (1) This assessment of social, economic, and environmental effects indicates that the proposed project is a nonmajor action; therefore, neither an environmental impact statement nor a negative declaration will be prepared.
- (2) This assessment of social, economic, and environmental effects indicates that the proposed project is a major action with significant effects; therefore, a draft environmental impact statement will be prepared.
- (3) This assessment of social, economic, and environmental effects indicates that the proposed project is a major action with insignificant effects; therefore, a draft negative environmental declaration will be prepared.

## 2-500 PROJECT CONCEPT CONFERENCE

### 2-501 PROCEDURES

- a. The Project Concept Conference (P.C.C.) is intended to be an informal, working meeting, primarily involving those persons who will be directly involved in the development of the project. Local governmental officials should be invited to attend and participate. If they choose to attend, they should be made aware that the meeting is intended as a departmental work-session. The P.C.C. should not be considered an open meeting for making final decisions and binding commitments about the project; or a publicity type meeting for press coverage.
- b. The P.C.C. should be held early in project development for those highway projects which are major actions significantly affecting the quality of the human environment. See Section 2-402 for guidelines for determining whether a project is a major or a nonmajor action; and if a major action, see Section 2-403 for guidelines for determining the significance or insignificance of the social, economic and environmental effects.

### 2-502 PURPOSES OF PROJECT CONCEPT CONFERENCE

- a. Identify beneficial and detrimental social, economic and environmental effects. It is intended that these effects be considered in broad, general terms, and since studies have not been conducted at this point, the effects identified are only potential.
- b. Determine the fields of specialization which may be needed to provide interdisciplinary input during project planning, including a determination of what assistance from other agencies may be necessary. The Project staff should be established during the P.C.C. with the realization that the staff can subsequently be modified during development of the project.
- c. Evaluate existing data bases to determine the types of study and analysis needed. The District, insofar as possible, should gather existing data and have it available before the P.C.C. Examples of data which might be gathered prior to the P.C.C. include: (1) route maps; (2) photographs; (3) census data or transportation study information on population, land use, economics; (4) travel and traffic information and forecasts; (5) approved long-range plans; (6) materials related to historic or archaeological sites; (7) study techniques and methodologies; and (8) other related data.
- d. Make preliminary investigations of the most likely alternatives, including the "no build" alternative. Alternatives refer to modes of transportation as well as to location and general types of facilities.
- e. Make preliminary determination of the extent of public involvement needed, including identification of special interest groups. The District Environmental Coordinator and the Resident Engineer should make some identification of the "publics" (groups, individuals (including minorities) and institutions within the community) affected by, or interested in, the project before the P.C.C. Some determination of the extent of public involvement required can then be determined.

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- f. Evaluate the relationship of the proposed project to the community, regional and State goals as set forth by adopted or proposed planning efforts. Local officials, if present, should be encouraged to discuss how a project will affect a community. Goals and objectives previously adopted from existing transportation plans, city plans, county plans or other studies should be examined to determine if the proposed project is consistent with these prior plans.
- g. Prepare a P.C.C. Report that reflects the decisions made and the expected course of project development. Following the P.C.C., the District Environmental Coordinator should prepare a report containing brief, annotated minutes basically outlining what occurred at the conference. The report should also contain (1) a general description of the project; (2) a sketch map; (3) a discussion of interdisciplinary studies to be performed; (4) the composition of the Project Staff; (5) identification of the most likely alternatives; (6) the tentative plans for public involvement; (7) a review of the relationship of the project to existing systems plans; and (8) a preliminary determination of the significant social, economic and environmental effects. Expand the S.E.E. assessment, or else attach S.E.E. assessment if no new information is presented at project concept conference.

The P.C.C. report is the basis for project publicity and solicitation of views from local, State and Federal governmental agencies, including A-95 Clearinghouse, and interested individuals and private groups. This procedure is initiated at both the District and Austin Office by the District Public Affairs Officer and the Division Environmental Coordinator. Those individuals and groups interested in the initiation of project development may request notification. If special coordination with other State or Federal agencies such as Fish and Wildlife Service, Corps of Engineers, Department of Water Resources, or State Historic Preservation Officer will be required or is believed necessary, the District should so indicate in the letter of transmittal.

- h. Prepare the Project History and Status (PHAST) file to reflect the degree of planning required. File D-8 will create an entry on the PHAST system as soon as an I.P.E. is issued for each proposed project.

## **2-600 COORDINATION WITH OTHER AGENCIES**

Other governmental agencies are involved in project development through the mutual exchange of information relative to concerns involving both agencies, appropriate cooperative solution of mutual problems, and establishment of a formal review process at optimum intervals. Relationships with some governmental agencies having jurisdictional interests or special expertise have been formalized by cooperative agreements or memoranda of understanding. Other interested governmental agencies are provided opportunities for information exchange and review through the Department's notification and solicitation of views process, and through the circulation of draft environmental impact statements for review and comments.

### **2-601 LOCAL GOVERNMENTAL AGENCIES**

During early stages of project development, any necessary agreements with local governmental agencies, water or reservoir districts, should be negotiated at the direction of the State Highway and Public Transportation Commission by approved Minute Order. Throughout project development, the local governmental agencies and local elected officials should continually be apprized of the status of project planning. Prior to a public hearing process, copies of maps and design drawings should be filed with the County and/or city.

### **2-602 COUNCILS OF GOVERNMENTS - Metropolitan and Regional Clearinghouses.**

- (a) Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 and Title IV of the Intergovernmental Cooperation Act of 1968 as interpreted by Bureau of the Budget Circular A-95 require cooperation between State, Federal and local governments in the evaluation, review and coordination of Federal assistance programs and projects. The project notification and review system (PNRS) procedures should be followed for all projects except those exempted by agreement.
- (b) The District Engineer will be responsible for notification of the appropriate clearinghouse (C.O.G.) for all projects within the District.
- (c) The project data submitted to the clearinghouse should generally include the following: a map showing the project location and a brief description of the proposed project by type, number of lanes, right of way width and estimated cost. It should include a statement of whether or not an environmental statement or negative declaration is required and, if so, an indication of the nature and extent of environmental impacts anticipated.
- (d) Notification of the Department's intent to develop a project should be made at the earliest possible date. The PNRS process should take place prior to the determination of environmental significance as soon as a project appears on an approved right of way or construction program, is authorized by a Commission Minute Order, or is approved for advanced planning by the State Engineer-Director. Copies of all correspondence should be made a part of the appropriate project file and should be submitted as documentation as needed. Draft environmental statements when circulated for review are to be accompanied by comments made by clearinghouses. Actual copies of any correspondence supplied by the clearinghouse should be a part of the draft environmental statement. For draft negative environmental declarations, a

## HIGHWAY DESIGN DIVISION OPERATIONS AND PROCEDURES MANUAL 2-78

discussion of the clearinghouse's views obtained by the PNRS process should be included. After a draft EIS is adopted by the FHWA, copies should be furnished to the clearinghouse for review and comments.

### 2-603 STATE HISTORIC PRESERVATION OFFICER - Texas Historical Commission and the Advisory Council on Historic Preservation

- (a) The Department and the Texas Antiquities Committee are parties to a Memorandum of Understanding assuring cooperation and mutual exchange of information where projects affect sites of archaeological and/or historical significance. Historical and archaeological surveys and exploratory test excavations are conducted as needed.
- (b) The National Historic Preservation Act of 1966 created the Advisory Council on Historic Preservation. The State Historic Preservation Officer (SHPO) acts as liaison for the purpose of implementing the National Historic Preservation Act. Evidence of coordination with the SHPO is required on all projects (except the obvious nonmajor actions listed in Section 2-402.b (3) thru (11) of the Design Manual). According to the Advisory Council on Historic Preservation guidelines, only the SHPO can determine if a site, either already on the National Register of Historic Places or eligible for addition to the Register, will be affected by a proposed project.
- (c) A departmental staff archaeologist should conduct an on-site survey for archaeological as well as historic sites. The survey results are reported to the SHPO. Surveys should be conducted for most types of highway improvements. Archaeological and historic site surveys and investigations will be conducted by staff archaeologists upon written request by the District. Types of nonmajor action projects listed in Section 2-402.b (3) thru (11) do not need evidence of coordination with the SHPO.
- (d) If the project is believed to be a nonmajor action, i.e., one of the types listed in Section 2-402.b (1) and (2), and if the project is in an urban area where an insignificant amount or no additional right of way is needed, then in most cases, an on-site survey will not be required. The District's letter transmitting the S.E.E. assessment should indicate whether an on-site survey is believed necessary. File D-8 will determine whether a survey is warranted after examination of the S.E.E. assessment and other resource material. Generally, a survey will not be conducted on projects in an urban area unless there is a possibility that (1) archaeological material may be found; or (2) the project may have an effect on an historic site or on an architecturally prominent structure. Structures with a Texas Historical Commission medallion should be considered to be eligible for inclusion in the National Register of Historic Places until positive determination is made to the contrary or until it is determined that they will not be affected by the proposed project. Architecturally prominent structures as well as other historical and archaeological sites within approximately 100 yards of a project will be evaluated for effect.

If it is determined that an on-site survey is not required, File D-8 will obtain the concurrence of the SHPO that the project will not have an adverse effect upon historical or archaeological resources known to exist in the area. Evidence of coordination with the SHPO will be furnished to the FHWA by File D-8.

- (e) An archaeological and historical site survey should be conducted on all projects except those exempted by paragraphs c and d above. After the S.E.E. assessment is submitted to the Austin Office, it will be reviewed to determine whether a survey is required. As soon after right of way

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requirements are reasonably known, a written request should be submitted by the District to File D-8 for an on-site survey by staff archaeologists. Following the survey, File D-8 will prepare a letter to the SHPO providing notification of the results of the survey and requesting endorsement that no sites on the National Register of Historic Places or sites eligible for addition to the Register are affected. An endorsed copy of that letter will be returned by the SHPO and will be transmitted to the District to be included in a draft NED or draft EIS. If the project is a nonmajor action, File D-8 will send a copy of the endorsed letter to the FHWA to obtain the removal of the qualified endorsement of the S.E.E. assessment.

- (f) The Department's archaeological survey responsibility covers the area within the proposed right of way as well as all properties affected by easements, material sources, and waste sites under option to the Department. This includes additional right of way, and existing right of way not previously disturbed by highway construction but where construction is planned. The Department's historical survey interest extends outside the proposed right of way. Architecturally prominent structures as well as other historical and archaeological sites within approximately 100 yards of a project will be evaluated for effect. A survey must be conducted on all such property by a staff archaeologist before construction on State-funded projects and before environmental clearance by the FHWA on Federal projects. Under certain circumstances, particularly in urban areas, previous construction and/or land use may exempt a project from a survey. In all cases where there is doubt whether a survey should be conducted, the District should check with File D-8.
- (g) The Advisory Council on Historic Preservation has promulgated Procedures for the Protection of Historic and Cultural Properties pursuant to the National Historic Preservation Act of 1966. These procedures apply to all projects which could affect a property which is included or eligible for inclusion in the National Register of Historic Places.
- (h) The National Register is constantly being enlarged by the addition of new entries. File D-8 furnishes each District a complete cumulative listing of the National Register each year and interim additions, changes, or deletions. The Advisory Council procedures require the Department, the FHWA, and the SHPO to apply the National Register criteria to all possible historic sites within the project's area of effect at the earliest planning stage. Potential entries should be identified before preparation of the draft EIS.
- (i) If the Department, FHWA or SHPO determines that it is questionable whether a property meets the National Register criteria, the Department through the FHWA will request, in writing, an opinion from the Secretary of the Interior, Attention: The Keeper of the National Register, National Park Service, Washington, D.C. 20240, with respect to the property's eligibility for inclusion in the National Register. If the Secretary declares the property eligible, it will be assumed that it will be named to the Register.
- (j) File D-8 initiates coordination with the FHWA, SHPO, DOI, the Advisory Council on Historic Preservation, and others as needed whenever a project affects a property which is included or eligible for inclusion in the National Register. Therefore, Districts should advise File D-8 of possible effects on historic sites as early as possible in project planning. The coordination should be completed before environmental statements or negative declarations are prepared.

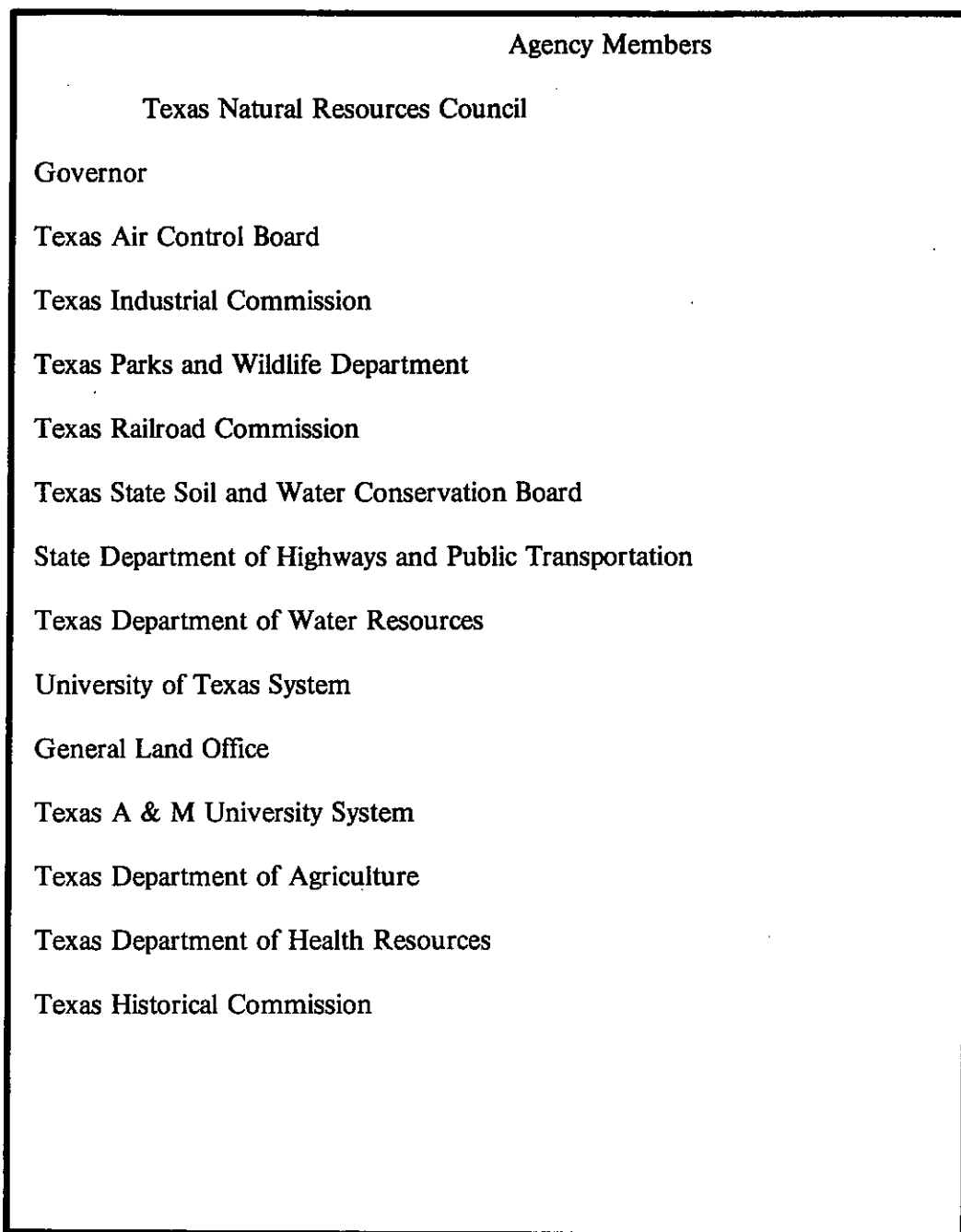
## **HIGHWAY DESIGN DIVISION OPERATIONS AND PROCEDURES MANUAL 2-78**

### **2-604 TEXAS AIR CONTROL BOARD**

- (a) The Texas Air Control Board (TACB) is responsible for maintaining the quality of the State's air resources. The consistency of the Air Quality Report with the Texas Air Control Board's State Implementation Plan as currently approved is the determining factor for acceptances of the air quality study in regard to environmental clearance of a project considered to be a major action with significant effects.
- (b) Various levels of air quality analysis depend on the degree of project complexity. These various levels and required data are described in the Department's Air Quality Guidelines.
- (c) The studies and coordination activities related to construction or reconstruction projects shall include appropriate consideration of air quality. The level of this consideration and the air quality analysis is determined on the basis of project type and location, the anticipated traffic volume, existing air quality problems, sensitivity of nearby receptors to air pollution, and meteorological conditions. It is anticipated that lower volume facilities in areas without critical air quality problems can be satisfactorily analyzed using simplified analysis techniques and that on-site measurements will not be required. High volume facilities in areas with critical air quality problems will usually require on-site data gathering and a high level of analysis.
- (d) Air quality reports should be prepared early in project planning and coordinated through File D-8 with the Texas Air Control Board prior to the preparation and submission of a draft EIS, if required. TACB's comments regarding the air quality report should always be included in the draft EIS.
- (e) If the project will require a negative environmental declaration, an air quality report need not be submitted for coordination with TACB prior to the submission of the draft negative environmental declaration to File D-8. However, thorough and adequate consideration of air quality must be contained in all draft and final negative environmental declarations.
- (f) All negative declarations and environmental statements should reflect compliance with TACB's Regulation 1, Rule 101, when appropriate. Regulation 1, "Control of Air Pollution from Smoke, Visible Emissions and Particulate Matter", Rule 101 allows burning of debris under specified conditions.

### **2-605 TEXAS NATURAL RESOURCES COUNCIL**

Draft environmental statements are circulated to members of the Natural Resources Council (NRC). A listing of Council members is shown in Figure 2.



**FIGURE 2**

**2-606 TEXAS PARKS AND WILDLIFE DEPARTMENT**

The Memorandum of Understanding with TP & WL provides for the submission of departmental programs for early coordination. Coordination also is initiated under the provisions of the Fish and Wildlife Coordination Act for certain types of activities. See Section 2-607.

### 2-607 U.S. FISH AND WILDLIFE SERVICE OF THE DEPARTMENT OF THE INTERIOR

- (a) The Fish and Wildlife Coordination Act (FWCA) requires that the views of the Fish and Wildlife Service of the Department of the Interior and the State agency responsible for fish and wildlife (Texas Parks and Wildlife Department) be obtained whenever a highway project involves impoundment, diversion, channel deepening, or other modification of a stream or body of water. The FWCA is applicable to those highway projects affecting water resources and their dependent contiguous environment (bottomlands, marshes, swamps) and causing ecosystem changes to the detriment of fish and wildlife.
- (b) Navigable waters are a special case of the FWCA which require both a review by the Fish and Wildlife Service and a permit from the Corps of Engineers.
- (c) Other modifications such as changes to a stream or lake as a result of bridging or culverting, borrow of material from the water or floodplain, and encroachment into the floodplain are initially evaluated by the staff ecologist to determine possible adverse ecosystem changes. Coordination on these types of modifications should be carried out when adverse ecosystem changes are anticipated, or when there is doubt as to project effects.
- (d) In the early planning stages of a highway project, prior to the preparation of the S.E.E. assessment, the District should, if in doubt, consult with the Bridge Division (File D-5) to determine if navigable waters or associated coastal wetlands are involved. File D-5 will notify File D-8 and the District of its findings.
- (e) Generally, the type of data which should be included in a S.E.E. assessment when fish and wildlife coordination is required includes: (1) location and type of structure involved; (2) a description of the proposed work to include changes that will be made to the water resource and an estimate of the volume of material that will be involved; (3) stream or lake stabilization measures at the bank or in the water itself; (4) any mitigation features that have been decided upon; and (5) a description of anticipated hydraulic changes.
- (f) File D-8 will be responsible for contact with the Fish and Wildlife Service and the Texas Parks and Wildlife Department. Coordination with the Fish and Wildlife Service, TP & W Department and/or the Corps of Engineers should be documented in the draft environmental statement or the draft negative environmental declaration.

### 2-608 TEXAS DEPARTMENT OF WATER RESOURCES

For projects requiring draft EIS, the Austin Office will coordinate with TDWR based on the effects described in the S.E.E. assessment.

## 2-700 ENVIRONMENTAL STATEMENTS AND DECLARATIONS

- (a) A project determined to be a "major" action (See Section 2-402) will require either an environmental impact statement (EIS) or a negative environmental declaration (NED). The criteria for selecting the type of environmental statement or declaration is discussed in Section 2-403.
- (b) Concurrence by the Austin Office in the project's S.E.E. assessment should be obtained before proceeding with either a draft EIS or a draft NED.
- (c) The NED or EIS (and if required, Section 4(f) statement and historic preservation processing) should be completed during the location stage, prior to the selection of a particular location; except for those "instream" highway projects which have received location approval prior to the requirements for environmental reports.
- (d) When a public hearing process is required, the draft NED or draft EIS should be prepared and submitted to the Austin Office for concurrence (and circulation of draft EIS) prior to the publication of the initial public hearing process notice. After the public hearing process, the NED or EIS should be finalized and submitted to the Austin Office.

### 2-701 PROCESSING OF DRAFT AND FINAL NEGATIVE ENVIRONMENTAL DECLARATIONS

- (a) A draft NED should be prepared by the District for each major action when the studies and coordination demonstrate that implementing the proposed action will not have a significant impact upon the quality of the human environment of a magnitude to require the processing of an EIS. Concurrence by the Austin Office in the S.E.E. assessment should always be received before proceeding with a draft NED.
- (b) A draft NED is a written document which records the determination that implementing the proposed action will not have a significant effect upon the quality of the human environment. See Section 2-702 for the format and content for negative environmental declarations.
- (c) The draft NED should be submitted to the Austin Office for review and concurrence and handling prior to scheduling a public hearing process if one is required. The original and four complete copies should be submitted. All pages, including exhibits, maps, etc. should be numbered consecutively.
- (d) For those projects which may utilize Federal funds, the draft NED will be submitted to the FHWA by the Austin office for FHWA's review and adoption.
- (e) A draft NED does not need to be circulated for comment, but its public availability should be included in the notice of the public hearing or opportunity for public hearing.

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- (f) When a public hearing notice is not required, the District Office should place a notice in local newspaper(s), similar to a public hearing notice, and at a similar stage of development, advising the public of the availability of the draft NED and where to obtain information concerning the undertaking, and that any written comments should be furnished to the Department within 30 days of the notice in the newspapers. See Figure No. 3 for a suggested notice format. When the publication of the notice of availability is necessary, the final NED should not be submitted to the Austin Office until after the 30 day public comment period has expired. Also, the date of publication of the notice should be included in the letter transmitting the final NED to the Austin Office.

### NOTICE OF AVAILABILITY OF ENVIRONMENTAL STATEMENT

The State Department of Highways and Public Transportation has prepared a (draft environmental impact statement) or (draft negative environmental declaration) covering the proposed (improvement) or (construction) of \_\_\_\_\_ highway and limits \_\_\_\_\_ in \_\_\_\_\_ County.

The (draft environmental impact statement) or (draft negative environmental declaration) may be inspected and reviewed at the \_\_\_\_\_ office \_\_\_\_\_ address \_\_\_\_\_.

Copies may be obtained for the cost of actual reproduction. Comments should be sent to the above address within 30 days of the date of this notice.

FIGURE 3

- (g) The final NED should include a summary and disposition of the public hearing comments and/or any other comments received on the social, economic, environmental, and other effects of the proposed action, including alternatives raised at the public hearing, or when the notice of availability was published.
- (h) The final NED should be submitted to the Austin Office for review, concurrence and handling. Submit the original and four complete copies. All pages should be numbered consecutively (including exhibits, maps, etc.).
- (i) For those projects which may utilize Federal funds, the final NED will be submitted to the FHWA by the Austin Office for FHWA's review and adoption.
- (j) A draft EIS should be prepared and processed in lieu of a NED if significant impacts are identified prior to finalizing the NED or at any subsequent time. It is not necessary in such instances to hold a public hearing for the sole purpose of presenting the draft EIS. Circulation of the draft EIS affords the public and governmental agencies an opportunity to express their views on the anticipated environmental impacts should the proposed action be implemented.
- (k) The NED should be reevaluated by the Department periodically for the purpose of determining whether there has been a substantial change in the social, economic and environmental effects of the proposed action prior to proceeding with major project activities. If there are substantial changes in the proposed action that will significantly affect the quality of the human environment, draft and final EIS's should be prepared and processed.

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### 2-702 FORMAT AND CONTENT OF NEGATIVE ENVIRONMENTAL DECLARATION (DRAFT AND FINAL)

- (a) Title Page. Each NED (draft or final) should have a title page as shown in Figure No. 4. The signature line should be included only on the final NED.

<hr style="width: 50%; margin: 0 auto;"/> <p>(Route, Termini, County, City, etc.)</p> <p>DRAFT (FINAL)</p> <p>NEGATIVE ENVIRONMENTAL DECLARATION</p> <p>U.S. DEPARTMENT OF TRANSPORTATION</p> <p>FEDERAL HIGHWAY ADMINISTRATION</p> <p>AND</p> <p>TEXAS DEPARTMENT OF HIGHWAYS</p> <p>AND</p> <p>PUBLIC TRANSPORTATION</p> <hr style="width: 50%; margin: 0 auto;"/> <table style="width: 100%; border: none;"><tr><td style="width: 40%; text-align: center; padding-top: 10px;">Date</td><td style="width: 60%; text-align: center; padding-top: 10px;">FEDERAL HIGHWAY ADMINISTRATION</td></tr></table>		Date	FEDERAL HIGHWAY ADMINISTRATION
Date	FEDERAL HIGHWAY ADMINISTRATION		

FIGURE 4

- (b) Description of Proposed Action and Reasonable Alternatives, and the Social, Economic and Environmental Context of the Area. This section should describe in comparable detail the proposed and recommended location and design and any feasible alternatives considered. Briefly described the social, economic and environmental setting for the area prior to any proposed action. The significant differences and the reasons supporting the proposed location and design should be discussed. If only one location and/or design is considered, specific reasons should be given why alternatives were not studied. Always discuss the "do-nothing" alternative.

1. Project limits, logical termini for study and character of area (rural, urban, etc.)
2. Project length (new and existing alignment)
3. Right of way width and access control (existing and proposed)
4. Type of facility, including:
  - a. Number of lanes

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- b. General horizontal and vertical alignment
  - c. Location of bridges, interchanges, grade separations, at-grade intersections, other structures and features
  - d. Current and design ADT
  - e. Nature of service which the highway is intended to provide
  - f. Anticipated utility adjustments needed
5. Description of surrounding terrain and land use, including surrounding natural cultural features such as:
  - a. Natural environment-topography, terrain, geology, soils, meteorology, climatology, hydrology, vegetation, fish, wildlife and visual.
  - b. Social environment-land tenure, population, growth characteristics, racial and ethnic composition, housing, transportation facilities including principal roads, streets and highways, recreation, cultural aspects, public institutions, aesthetics, community facilities and services.
  - c. Economic setting-land and improvements, tax base, income, labor force, business, industry and services.
6. Description of existing facility, its condition and deficiencies, and the planning basis for the proposed project.
7. Items of special nature such as navigation or airway-highway clearances, special permits or agreements.
8. Estimated cost of construction, right of way, utility adjustments and relocation assistance.
9. Local governmental support and citizen views. Include a discussion of views received as the result of PNRS (Council of Governments), and any other views received and/or known as the result of earlier coordination, public meeting, etc. The final NED should include a summary and disposition of comments and views expressed at the public hearing process, including alternatives raised at the public hearing, or as the result of the notice of availability. Feasible alternatives raised by agencies, persons or groups outside the Department should be discussed in comparable detail in the NED.
10. Maps, Typical Sections, and Other Attachments.
  - a. The recommended location and any alternate locations considered should be clearly shown on an attached map. This map (and other attachments) may be attached at end of NED. The map must be of sufficient scale to show necessary details and pertinent features such as parks, hospitals, schools, etc., mentioned in the declaration. The map should also identify principal roads and highways in the area and any other pertinent features. Symbols should be used instead of colors on the map. Maps should be limited to 8 1/2 x 11 inch size as much as possible. If necessary, a strip map

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no wider than 11 inches may be used if folded in accordion fashion to unfold from the right hand margin. If cronaflexes are submitted, do not fold cronaflexes.

- b. A typical section should be attached for the recommended design showing all pertinent features within the right of way, omitting structural details.
- c. Other drawings, sketches, etc., may be attached as necessary.
- (c) Purpose and Need for the Proposed Project. This section should explain why the proposed project is needed and the relationship of the proposed project to any urban, area-wide or other transportation studies or plans. Note should be made if there is no known plan of development for the area. Include reasons why a highway project is proposed rather than another mode. Discuss regional and community growth including general plans and proposed land use, total transportation requirements, and status of the planning process.
- (d) Discussion of Social, Economic and Environmental Impacts of the Proposed Action and Alternatives, and the Basis for Negative Environmental Declarations. This section of the NED should describe the beneficial and detrimental environmental impacts anticipated if the proposed project is implemented. (If there are significant detrimental impacts identified, a draft EIS should be prepared and circulated.) Topics to be investigated and the depth of investigation and discussion will vary with the nature, scale and geographic area. Summarize any studies used as sources and any studies undertaken. Include enough data or cross-referencing to determine validity of the study methodology.

Discuss reasons why the social, economic and environmental effects are not considered significant, and reasons why a negative environmental declaration is appropriate for the proposed action.

Discuss the anticipated effects of the proposal and the alternatives under consideration on the following:

1. Regional and Community Growth. Discuss any trends for land use change that are present in the area and any general plans that exist for proposed land use. Any anticipated development that may affect total transportation requirements should be specifically addressed indicating the need for the proposed project. The status of how the proposed project fits into any overall development plan should be mentioned. Also, the discussion should include how the proposed project is expected to affect the trend for land use change in the area, as well as the specific use of adjacent properties. This discussion should include the anticipated effects of the proposed project on adjacent property values and the local tax base. The general beneficial economic effects - - both short-term and long-term - - which are expected to accrue to the area should also be discussed.
2. Conservation and Preservation including soil erosion and sedimentation, the general ecology of the area as well as man-made and other natural resources, such as: park and recreational facilities, wildlife and waterfowl areas, historic and archaeological sites, and natural landmarks. If no Section 4(f) lands are involved, include a statement indicating that the use of land from a publicly owned park, recreation area or wildlife and waterfowl refuge of National, State or local significance is not anticipated.
  - a. General ecology. The general vegetation types and their associated wildlife species

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should be mentioned. The effects of the project upon these and any known endangered species should be noted.

- b. Lakes and streams. Discuss any anticipated impoundment, diversion, channel deepening, or other modification of a stream or body of water, or any affected navigable waters and associated wetlands. Other anticipated modifications which should be discussed include changes to a stream or lake as the result of bridging or culverting, borrow of material from the water or floodplain, or the encroachment into the floodplain. (Refer to Section 2-607) Discuss any permits, agreements and/or coordination with other agencies which has been initiated, completed, or is needed. Other agencies which might be involved are U.S. Coast Guard, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Texas Parks and Wildlife Department, Texas Department of Water Resources and others.
- c. Historical and Archaeological sites. The National Register of Historic Places, the Texas Historical Commission's inventory of cultural properties Historic Preservation in Texas, and the Guide to Official Texas Historical Markers should be examined to determine if there are any inventoried properties in the project area. The County Chairman of the Texas Historical Commission should also be consulted to determine whether properties in the project area are eligible for inclusion in or are under nomination to the National Register of Historic Places.
  - (1) If a known archaeological or historical site may be adversely affected by the project, the type and significance of property as well as the nature of effect should be discussed. In many cases, an adverse effect on an archaeological or historical site will require an EIS and possibly a Section 4(f) determination and/or a determination of significance. (See Sections 2-603 and 2-705)
  - (2) If no adverse effect is anticipated, it should be noted in the NED along with the resource materials examined, and the persons and agencies contacted in support of the determination. Evidence of coordination with the State Historic Preservation Officer in the form of an endorsed letter should be attached to the negative environmental declaration and discussed in this section of the negative declaration.
3. Public Facilities and Services including religious, health and educational facilities; and public utilities, fire protection and other emergency services. Also the provision of national defense.
4. Community Cohesion including residential and neighborhood character and stability, highway impacts on minority and other specific groups and interests.
5. Relocation of Individuals and Families Impacts. Discuss the following information for each alternate studied. This information can be obtained by a visual inspection and supplemented by other readily available data such as U.S. census, housing surveys, city and regional planning agencies and local or State housing authorities. To insure compliance with Title VI of the Civil Rights Act, refer to the guidelines in Figure 5.
  - a) Estimate of households to be displaced, including the family characteristics (e.g., minorities, income levels, tenure, the elderly, large families, single or multi-dwelling).

## **GUIDELINES**

**for**

### **FHWA TITLE VI COMPLIANCE REVIEW**

#### **B. ENVIRONMENT & DESIGN**

##### **I. Location Selection and Design**

The Department, as normal practice, should compile and consider the following type of information when selecting a highway location. Maps and other display techniques can be utilized.

- a. The major racial populations that will be affected by each alternate. This includes those contiguous to the location alternate(s).
- b. The character of minority area(s) affected by each alternate, including levels of income, single or multi-dwelling, residential or commercial, etc.
- c. Estimated number of minority businesses and individuals by race employed at these businesses to be affected by each alternate.
- d. Effect of each alternate on and access to community services and facilities in minority area(s) including hospitals, libraries, shopping areas, fire and police protection, schools, churches, parks, recreation centers, etc.
- e. Effect of each alternate on existing and/or planned residential and commercial areas.
- f. Will alternates affect local minority community and/or neighborhood planning goals and needs?
- g. Effect of each alternate on existing streets, roads, and traffic volumes in minority area(s).
- h. Provide proper access to and exit from minority area(s) for each proposed alternate.
- i. Has the general location and quantity of replacement housing been identified?
- j. Effect of cross streets, pedestrian crossings with consideration of adequate safety and design features for minority area(s).

**FIGURE 5**

## II. Public Involvement

- a. Opportunities should be provided for minority groups and individuals to participate in an open exchange of views (meetings, forums, councils, task forces, citizen advisory groups and committees, etc.)
- b. Local minority leaders, (elected officials, ministers, businessmen, spokesmen, etc.), groups and individuals who are affected or who have an interest should be identified, notified and encouraged to participate in project development.
- c. Special efforts should be made to overcome language barriers.

## III. Public Hearings

- a. The hearing should be held at a convenient time and place for minority groups and individuals.
- b. The hearing must be held before the Department is committed to any alternative.
- c. Public notification of hearings to inform minority groups and individuals of hearing opportunities should be by means convenient to minority area(s), as radio stations, newspapers, posters, letters to affected property owners, etc.
- d. Arrangements should be made for responsible highway officials to be present at hearings to respond to questions and problems that may arise.
- e. Special effort should be made to overcome language barriers.

## IV. Consultant Contracts

- a. Does the department have procedures for identifying, contracting and involving minority consultant firms in the normal contract selection process?
- b. If the department maintains a list of acceptable consultant firms, are minority consultant firms included in the list? How many minority consultant firms have active contracts?
- c. When sub-contractors are utilized, does the consultant contractor have procedures to identify, contact, and involve minority firms in the sub-contract selection process?

## V. General

Has the Department received any civil rights complaints in this program area? If so, what corrective action has the State taken?

FIGURE 5 (Continued)

## HIGHWAY DESIGN DIVISION OPERATIONS AND PROCEDURES MANUAL 2-78

- b) Divisive or disruptive effect on the community, such as separation of residences from community facilities or separation of neighborhoods.
  - c) Impact on the neighborhood and housing where relocation is likely to take place (e.g. what effects will relocation have on community and public services such as schools, police, water, sewer, etc.). Secondary impacts.
  - d) Estimate of the number of businesses, non-profit organizations and farms to be displaced.
  - e) General effect of business, non-profit organizations and farm displacements on the economy of the community, including effect on minority ownership and minority employment. Secondary impacts.
  - f) Description of replacement housing in the area.
  - g) General location and quality of replacement housing.
  - h) Ability to provide adequate replacement housing for the types of families to be displaced. Discuss departmental policy that: (1) No person shall be displaced by the Department's construction projects unless and until adequate replacement housing has already been provided for or is in place and has been made available to all affected persons. (2) Replacement housing must be offered to all affected persons regardless of their race, color, religion, sex or national origin. (3) All replacement housing must be fair housing, open to all persons regardless of race, color, religion, sex or national origin.
  - i) Description of special relocation advisory services that will be necessary for identified unusual conditions.
  - j) Description of the actions proposed to remedy insufficient relocation housing, including if necessary, housing of last resort.
  - k) Results of consultation with local officials, social agencies and community groups regarding the impacts on the community affected.
6. Social Impacts. Discuss the significant social impacts anticipated to be caused by the proposed project and alternatives. Discuss changes (beneficial or adverse) in life style for the neighborhoods and/or various groups. These impacts may include splitting the neighborhood, isolating a portion of a distinct ethnic group, new development, etc. If the proposed action will change travel patterns, such as vehicular, commuter or pedestrian, identify the impact. Discuss temporary impacts due to construction activities. The following are examples of groups or individuals who may have special problems and may require special consideration with respect to access to jobs, schools, churches, parks, recreation areas, hospitals, shopping facilities, and community services:
- (1) elderly
  - (2) school-age children

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- (3) those dependent upon public transportation
- (4) handicapped
- (5) illiterate
- (6) nondrivers
- (7) pedestrians
- (8) bicyclists
- (9) low income
- (10) racial, ethnic, or religious groups.

Refer to Figure 5 for Guidelines for FHWA Title VI Compliance Review on Environment and Design.

7. Air, Noise and Water Quality including consistency with the approved State Implementation Plan for air pollution control, the FHWA noise level standards and any relevant Federal or State water quality standards.
  - a. Noise Impacts. (Refer to the Department's Noise Guidelines for details of preparing the noise report.) A noise report is required for each project unless specifically exempted by Federal regulations. The noise report should be summarized in the NED and attached to the NED as an appendix. The primary purpose for preparing a noise report is to determine the change in the noise atmosphere for the immediate area as a result of a highway related improvement, to explain the nature and extent of this change in layman's terms, and to make every reasonable effort possible to keep the change from unduly disrupting the activities and habits of those who will be affected by an increase in the ambient noise level. The noise report should include a discussion of the following for each alternate location and/or design:
    - (1) Information on the numbers and types of activities which may be affected (identification of sound sensitive areas)
    - (2) Ambient (existing) noise levels
    - (3) Design year noise levels and a comparison of the ambient levels to the design levels.
    - (4) An indication of whether the projected levels exceed FHWA standards.
    - (5) Traffic data on which calculations are based (current and design year traffic volumes.)
    - (6) Extent of the impact (in decibels) and an explanation of the nature and extent of the change in the noise for the immediate area in layman's terms.

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- (7) Likelihood that noise abatement measures can reduce the noise impacts if the FHWA standards are exceeded and/or if there is a great difference between the ambient and the calculated design year levels.
  - (8) Noise abatement measures which will likely be incorporated in the project. Abatement measures to be discussed should include barriers, elevated or depressed roadways, rerouting truck traffic, purchase of noise buffer zones, etc. Briefly discuss the feasibility, economic justification, driver safety, aesthetics, etc., for the abatement measures.
    - (a) In the draft NED, any view point of property owners regarding abatement measures should be avoided.
    - (b) In the final NED, it would be proper to indicate property owners views since the final NED will follow the public hearing process which presumably included a full discussion with affected property owners where abatement measures are considered feasible and effective.
  - (9) Coordination to control future noise sensitive land development adjacent to the highway. Discuss in specific terms the coordination efforts made with the local officials and/or local planning agency. Local officials should be furnished copies of the FHWA publication "The Audible Landscape: A Manual for Highway Noise and Land Use," FHPM 7-7-3 and the noise report for the project.
  - (10) Construction noise and possible mitigation.
  - (11) Noise problems for which no apparent solution is available; i.e., an exception may be required as indicated in the FHWA standards. If the FHWA DNL standards will be exceeded, this section of the NED should provide a summary of the factual information that the design noise levels will be exceeded. However this section of the NED should not make any statement that an exception may be required. If an exception is required for a project or if FHWA standards are exceeded, the noise report must be a separate document. If an exception will be required or if FHWA standards will be exceeded, the NED should include a summary of the conclusions reached in the noise report and should make reference to the complete noise report. If an exception will be required or if standards will be exceeded, four additional, separate copies of the noise report should be submitted when the final NED is submitted. The four additional copies of the noise report supporting the request for an exception or explaining that standards will be exceeded will be used for separate handling and submission to the FHWA. Exceptions may be granted by the FHWA and standards being exceeded will be allowed to exist only after the noise report has demonstrated that noise abatement measures are either not possible or not feasible.
- b. Air Quality. Air quality considerations involved in the development of the project should be discussed for the appropriate level as indicated in the Department's Air Quality Guidelines. Various levels of air quality analysis will be necessary depending on the location and degree of complexity of the project. A separate air quality report is not required for NED type projects nor do NED type projects normally need to be coordinated with the Texas Air Control Board (TACB). This section of the NED should include a discussion of the conclusions of the air quality analysis. In addition, items such as traffic projections, topography and land use (both existing and anticipated) should be included in the NED. Items which need special attention and are more fully described in the Air Quality Guidelines include:

- (1) Ambient air quality data, including point sources.
  - (2) Computations for carbon monoxide concentration to be based on worst case meteorology. Include at least one sample of calculations. Also for urban projects, indicate CO concentrations for at least one typical residence and one typical business. Indicate concentration for ETC, design year and appropriate intermediate years (usually every five years).
  - (3) Carbon monoxide and hydrocarbons need to be shown as total pollutant load in tons per year for time of completion, design year and sufficient years in between to indicate a trend.
  - (4) Identify sensitive receptors (hospitals, rest homes and schools) within 500 feet of the right of way, or indicate that none exist.
  - (5) Present data for each alternate including as a minimum the no-build condition.
  - (6) Include a tentative finding of consistency with the TACB's State Implementation Plan.
- c. **Water Quality.** Include in this section a discussion on significant water quality impacts, including summaries of analyses and consultations with the Texas Department of Water Resources. Possible water quality impacts related to highways include: erosion and subsequent sedimentation problems; use of deicing, weed, rodent and insect control products; waste water disposal at safety roadside rest areas; spillage of poisons or chemicals by trucks into a water supply system; and contamination of surface and ground water supplies and of recharge areas by polluted fill material.
- d. **Aquatic Considerations.**
- (1) **All Waters.** The aquatic environment which would be influenced by the project should be described. The following items should be included:
    - a) Location and types of structures.
    - b) The approximate area affected. This should be given in surface-acres for impoundments. For streams, the channel description should include the approximate depth and width of the natural channel, as well as the affected length.
    - c) Bottom type. The nature of the natural bottom such as mud, limestone, pebbles, etc., should be given.
    - d) Vegetation in the affected area. A listing of the prominent types of vegetation and some discussion of the local topography (whether the channel is in a wide bottomland area or steep woody banks, etc.) should be included.
    - e) Effects of reshaping or rechanneling. Any proposed rechanneling or reshaping, including the use of fill materials below the natural water line, should be discussed. Any anticipated effects of these changes should also be discussed.

- (2) **Intermittent Streams.** If intermittent waters are crossed, general comments describing erosion control specifications, other pertinent measures proposed to minimize erosion during and after construction, and the expected results should be presented.
- (3) **Perennial Streams.** Constantly flowing streams usually require more extensive treatment than do intermittent waters. For affected perennial waters a general description of water quality, uses of the water, aquatic life, and the proposed temporary and permanent mitigating measures should be presented. If the stream is listed in the State's water quality standards, reference to those standards should be included.
- (4) **Valuable waters.** If valuable waters are crossed or encroached upon, (i.e., municipal water supply, waters receiving contact recreation, rivers heavily utilized by commercial fishermen, or streams maintaining brackish coastal marshes), it may be necessary to make an in-depth evaluation of project effects on the water to determine the impacts and mitigating measures. Monitoring before, during, and after construction may be required. Consultation with outside agencies may be helpful in these endeavors. For instance, it is likely that one of the water-oriented agencies (Texas Department of Water Resources, State Health Department, U.S. Corps of Engineers) may have a monitoring station near project sites in waters of this description. Consultation with File D-8 personnel is encouraged in these studies.

This section of the statement should also include a summary of consultations with the appropriate public and governmental agencies. For example, when there is a need for a permit from the U.S. Coast Guard or the Army Corps of Engineers, such related Federal actions should be described. A discussion of the degree of coordination that has been or will be carried out to minimize conflicts should also be included. Section 2-600 of this Manual discusses coordination with various other agencies.

- e. **Wetlands and Coastal Zones Impact.** This section should summarize the anticipated significant impacts on wetlands and coastal zones, including analyses, consultations and efforts to reduce the impact. Where applicable, the discussion should set forth any inconsistencies with wetlands or coastal zone management programs.
- f. **Stream Modification or Impoundment Impacts.** This section should include a summary of information which is necessary to comply with the Fish and Wildlife Coordination Act. Briefly, the Fish and Wildlife Coordination Act requires consultation with the U.S. Fish and Wildlife Service and the Parks and Wildlife Department when a Federal action involves impoundment (surface area 10 acres or more), diversion, channel deepening or other modification of a stream or body of water. The draft NED should include a summary of the early consultation. (See Section 2-607)
- g. **Flood Hazard Evaluation.** When an alternative under consideration significantly encroaches on a flood plain, this section should include a summary of studies and consultation made for compliance with the FHWA directive implementing Executive Order 11296 and Flood Hazard Evaluation Guidelines for Federal Executive Agencies, or information evidencing that such requirements can be met during project development.

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- h. Construction Impacts. In general, adverse impacts during construction will be less important than long-term impacts. However, if appropriate, the NED should discuss significant impacts (particularly air, noise and water) associated with construction. Also, where applicable, the impact of the proposed disposal methods and the impact of borrow areas should be discussed.
- 8. Aesthetic and Other Values including visual quality, such as: "view of the road" and "view from the road", and the joint development and multiple use of space.

### 2-703 PREPARATION AND PROCESSING OF DRAFT AND FINAL ENVIRONMENTAL IMPACT STATEMENTS

- (a) The purpose of the environmental impact statement (EIS) is to clarify issues, and to forecast and analyze significant impacts of a proposal and its reasonable alternatives. Therefore, efforts should be made early in the EIS preparation to weed out unnecessary information. Less important material should be summarized, consolidated or simply referenced. By focusing on meaningful analyses, the legal adequacy of an EIS will also be supported and enhanced.
- (b) Descriptive material in an EIS should be adequate to permit an assessment of potential environmental impacts by decision makers, commenting agencies and the public. Convey the required information concisely, giving attention to the substance of the information conveyed rather than to the particular form, or length, or detail of the EIS. Highly technical and specialized analyses and data should be avoided in the body of the EIS. Such material should be submitted with the EIS as technical appendices. The body of the EIS should summarize the analyses and data, and indicate that the complete data is available for those wishing to review it and where it may be viewed.
- (c) Specific baseline inventories and environmental research may be needed to determine if there are environmental problems which should be analyzed in an EIS. While these studies should be made available to the public, they should be referenced as technical appendices, rather than simply reproduced in the EIS. The need for manageable, concise EIS's does not imply a reduction in the quality or specificity of environmental studies or investigations which should be done before preparing the EIS.
- (d) A draft environmental impact statement should be prepared by the District for each major action which significantly affects the quality of the human environment. Concurrence by the Austin Office in the S.E.E. assessment should always be received before proceeding with a draft EIS.
- (e) The draft EIS should be submitted to the Austin Office for review, concurrence and circulation prior to scheduling a public hearing process if one is required. Submit the original and four complete copies of the draft EIS. Also submit any tracings, cronaflexes, etc., needed for reproduction of multiple copies. Do not fold Cronaflexes. Number all pages, including exhibits, maps, etc., consecutively. The District should indicate how many copies of the draft EIS will be needed for local circulation.
- (f) While the air quality report should not be attached to the EIS, two copies of the air quality report should be submitted to File D-8 along with the draft EIS so copies of the air quality report can be furnished to the FHWA and EPA. If the air quality report is revised at the final EIS stage, then four copies of the revised air quality report should be submitted to File D-8 along with the final EIS.

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- (g) For those projects which may utilize Federal funds, the draft EIS will be submitted to the FHWA by the Austin Office for FHWA's review and adoption. If in agreement with the scope and content, the FHWA will take responsibility for the draft EIS by signing and dating the title page before it is released for circulation and comments.
- (h) The draft EIS is circulated by the Department for comment and made available to the public at least 30 days before the public hearing and no later than the publication of first notice for the hearing or opportunity therefore. Agencies, groups, etc., which are furnished copies of the draft EIS should be given a minimum of 50 days to review the statement and return comments. A calendar date for return of comments should be included in the letter transmitting the draft EIS for review. The transmittal letter to commenting entities should also indicate where to send comments, and that if significant comments are furnished, a copy of the final EIS will be provided upon request.
- (i) The Department circulates the draft EIS for review and comment to: Federal, State and local agencies with jurisdiction by law and special expertise with respect to any environmental impacts involved; the areawide clearinghouse; the affected city and/or county; public and private organizations and individuals with special expertise with respect to the environmental impacts involved; organizations and individuals who are known to have an interest in the project; and organizations and individuals who request an opportunity to comment. The draft EIS should also be furnished to the public library in the project area.
- (j) The Austin Office is responsible for circulating the draft EIS to the Federal and State agencies and groups. Comments received will be reviewed and transmitted to the District.
- (k) The District Office is responsible for circulating the draft EIS to appropriate local agencies, clearinghouse, city, county, public library, organizations, individuals, etc.
- (l) The draft EIS is available for review by the public at the Main Office of the Department and appropriate District offices and the public hearing. The availability of the draft EIS should be included in the public hearing notice.
- (m) Circulation of the draft EIS affords the public and governmental agencies opportunity to comment on the anticipated environmental effect if the proposed action is implemented. Therefore, a public hearing or public meeting is not ordinarily required for the sole purpose of presenting and receiving comments on a draft EIS. When a hearing is not held where the draft EIS may be discussed, a notice should be placed in the newspaper similar to the public hearing notice advising where the draft EIS is available for review, how copies may be obtained, and where comments should be sent. See Figure No. 3 for a suggested notice format. When the publication of this notice of availability is necessary, the final environmental impact statement should not be submitted to the Austin Office until after the 30 day public comment period has expired. The date of publication of the notice should be furnished in the letter transmitting the final EIS to the Austin Office. Also see paragraphs (e) and (m) of this section for other time periods which should expire before a final EIS is prepared and submitted.
- (n) The draft EIS should, if necessary, be revised, unless the final EIS is adopted within 3 years from the date the draft EIS was circulated. If the draft EIS is revised, it should also be recirculated for comment. Such recirculation should be in the same manner as an original draft EIS.
- (o) A draft EIS may be changed to a negative environmental declaration if the review process and public hearing comments indicate the anticipated environmental impacts are not considered significant. The Austin Office's concurrence in such a change should be obtained prior to the preparation of the NED. All agencies and individuals that received copies or commented on the draft EIS should be informed by the Department that a NED was substituted for the draft EIS and given a brief explanation of the reason thereof.

## HIGHWAY DESIGN DIVISION OPERATIONS AND PROCEDURES MANUAL 2-78

- (p) The final EIS should not be submitted to the Austin Office until after the expiration of 45 days from the date the availability of the draft EIS is published in the Federal Register. The Austin Office will notify the District of the date when the availability of the draft EIS is published in the Federal Register.
- (q) A final EIS should be prepared by the District for major actions which significantly affect the quality of the human environment. It should contain the same information required in the draft EIS with appropriate revisions to reflect comments received from circulation of the draft EIS and the public hearing process (if required). See Section 2-704 for the format and content of the EIS.
- (r) The final EIS should be submitted to the Austin Office along with the public hearing process documentation (See Sections 2-807 and 2-808) if a public hearing process is required. If the public hearing process has been previously approved, then the final EIS may be submitted alone.
- (s) The District should submit the original and four complete copies of the final EIS. Also submit tracings, cronaflexes, etc., needed for reproduction of multiple copies. Number all pages, including exhibits, maps, etc., consecutively. Do not fold cronaflexes. The District should indicate how many copies of the final EIS will be needed for distribution.
- (t) For those projects which may utilize Federal funds, copies of the final EIS will be submitted to the FHWA by the Austin Office along with other required material. (See Sections 2-807 and 2-808).
- (u) If an exception to the Federal design noise levels is required, the District should also submit four separate copies of the noise analysis information supporting the request for an exception. This should be done at the same time that the original and four copies of the complete final EIS are submitted to the Austin Office.

### 2-704 FORMAT AND CONTENT OF ENVIRONMENTAL IMPACT STATEMENTS (DRAFT AND FINAL)

(SEE FIGURE NUMBERS 6 AND 7)

- (a) Title Page. Each environmental impact statement (draft or final) should have a title page as shown in Figure 8. The report number at the top of the title page will be assigned by D-8.
- (b) Summary. Each EIS (draft and final) should have a summary containing the information indicated in Figure 9. Immediately following the summary, insert an 8 1/2 by 11 inch map showing the project area and alternate locations considered.
- (c) Need for the Proposed Project. This section should provide a complete and factual discussion of the need for the project. Identify the transportation problem, objectives and concept solutions to the problem. This section should be developed to such an extent that it will later serve as the nucleus of the "no-build" discussion under Alternatives. Include reasons why a highway project is proposed rather than another mode. Technical reports and studies may be summarized if the summarized factual data stands on its own. It may be necessary to discuss a longer section of highway than that actually covered by the environmental statement. This section should include comments on the following:

# FORMAT OF A DRAFT EIS

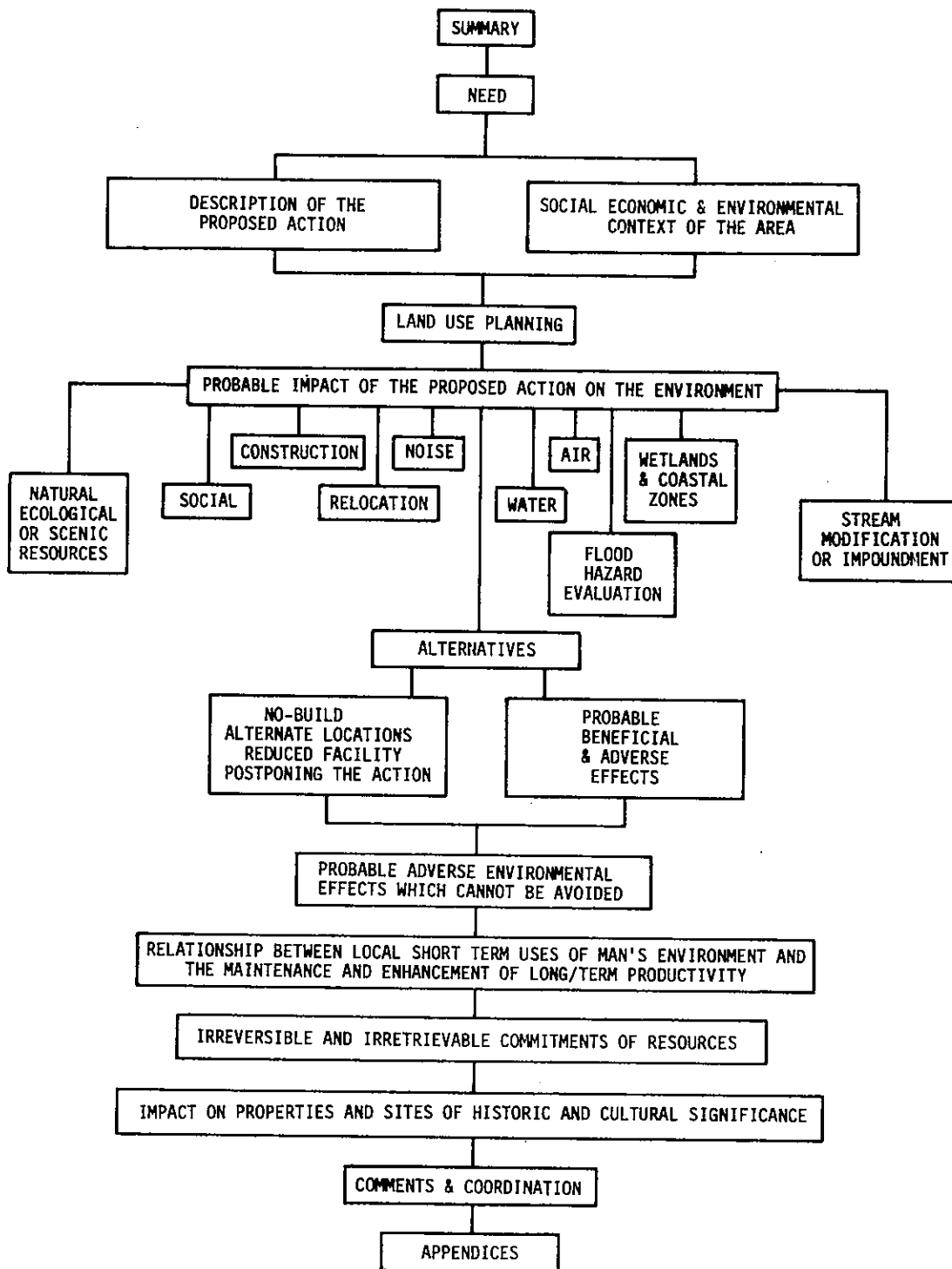


FIGURE 6

# FORMAT OF A FINAL EIS

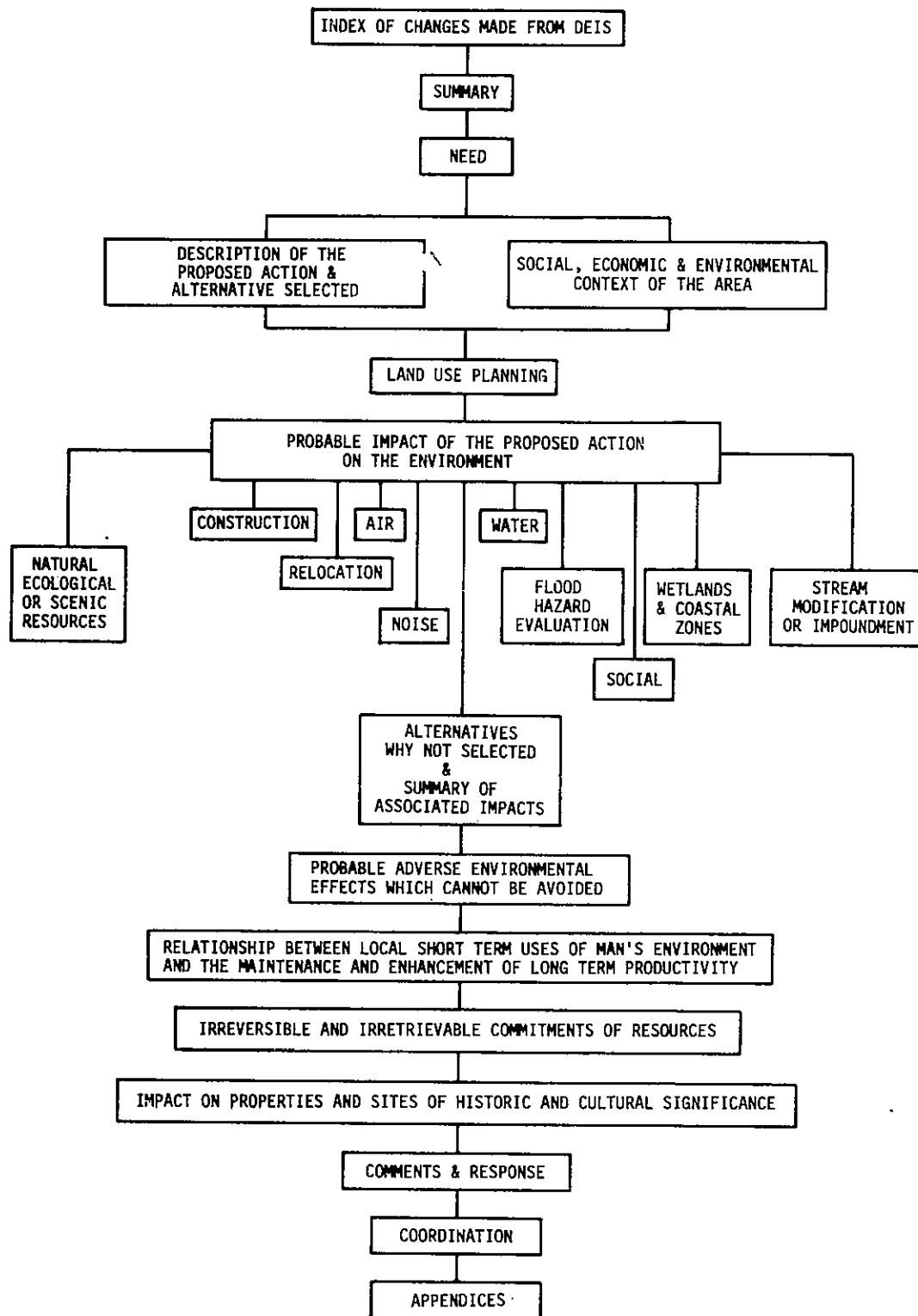


FIGURE 7

Report Number: FHWA-TEX-EIS-\_\_\_\_\_

Federal Highway Administration

Region 6

Fort Worth, Texas 76102

Highway and Limits

County and/or City

**ADMINISTRATIVE ACTION**

(DRAFT) or (FINAL)

**ENVIRONMENTAL IMPACT STATEMENT**

**U.S. DEPARTMENT OF TRANSPORTATION**

Federal Highway Administration

and

Texas Department of Highways and Public Transportation

Submitted pursuant to 42 U.S.C. 4332 (2) (C),  
23 U.S.C. 128 (a) and (when applicable) 49 U.S.C. 1653 (f)  
and 16 U.S.C. 470 (f)

(For Draft EIS)

Date \_\_\_\_\_

\_\_\_\_\_  
Division Administrator  
Federal Highway Administration

(For Final EIS)

\_\_\_\_\_  
Regional Director  
Office of Environment and Design  
Federal Highway Administration

Price per copy \_\_\_\_\_

FIGURE 8

Summary Sheet

Federal Highway Administration  
and  
Texas Department of Highways and Public Transportation

Administrative Action

1. (Draft) or (Final) Environmental Impact Statement (Section 4(f) Statement Attached) (if appropriate)
2. The names, addresses and telephone numbers of the individuals at the Department and FHWA who can be contacted for additional information concerning the action and statement. (Leave eight lines blank and this information will be filled in by D-8.)
3. Brief description of the proposed action indicating route, termini, type of highway, number of lanes, length, county, city, State, etc., as appropriate. Also list coordination which has been or will be carried out with local, State or Federal agencies. (For example, note if a permit is needed from U.S. Coast Guard, Corps of Engineers, Forest Service, etc.)
4. Summary of environmental impacts, both beneficial and adverse. Indicate the broad scope of impacts.
5. Summary of major alternatives considered. Also summary of advantages or disadvantages relative to the proposed action.
6. Draft EIS: List of all entities solicited for comments. The following should be listed:

Department of Transportation  
Department of Health, Education and Welfare  
Department of Housing and Urban Development  
U.S. Army Corps of Engineers  
U.S. Department of Agriculture  
Department of the Interior  
Environmental Protection Agency  
Federal Energy Administration  
Texas Natural Resources Council  
Governor  
Texas Air Control Board  
Texas Industrial Commission  
Texas Parks and Wildlife Department  
Texas Railroad Commission  
Texas State Soil and Water Conservation Board  
Texas Department of Water Resources

FIGURE 9

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General Land Office  
Texas Department of Agriculture  
Texas Historical Commission  
University of Texas System  
Texas A & M University System  
Texas Health Department

Local entities:

Final EIS: List all entities solicited for comments and indicate those entities commenting on the draft EIS.

7. For final EIS, include the following statement:

The draft environmental statement was mailed to the Environmental Protection Agency on \_\_\_\_\_.

### FIGURE 9 (Continued)

1. The relationship of the proposed project to functional classification studies or transportation plans (transportation requirements and demand).
2. Any legislation specifically directing the development of the project.
3. Any particular economic developments in the area or any identifiable social needs the project is intended to serve (new employment, schools, land use plans, recreation, etc.).
4. Coordinative planning and supportive and complimentary roles of other modes of transportation such as the inclusion of carpool or bus lanes, rail facilities, etc. Include a description of how the proposed project may interface with airports, rail terminals, and port facilities.
5. The relationship of the proposed project to the development of a useable and complete highway facility. A description of its relationship to the local, state and national system.
6. The accident rate and whether it is considered excessively high, and how the proposed improvement will reduce the accident rate and improve safety (anticipated safety benefits or lack thereof if project is not built).
7. The existing and anticipated traffic and what level of service the proposed improvement is expected to provide (capacity).
8. The structural condition of the existing facility and/or facilities, and the cost of maintaining the facility without significant improvements.
9. The social, economic and environmental effects if the proposed project is not constructed ("no-build" alternative).
10. The current status of the proposed project with a brief historical resume of project development, the point in the decision-making process the proposed is at now, and an estimate of when the facility may be constructed.

## HIGHWAY DESIGN DIVISION OPERATIONS AND PROCEDURES MANUAL 2-78

- (d) Description of the Proposed Action. (In the draft EIS, this section should briefly describe the broad proposed action. In the final EIS, this section should describe the alternative selected.)

This section of the EIS should include information such as the following:

1. Location, type of facility, and length (new and existing alignment).
2. Highway and traffic engineering factors including traffic data and number of lanes.
3. Predominant right-of-way width and access control (existing and proposed).
4. Other major design features such as the general horizontal and vertical alignment, and the location of interchanges, separation structures, at-grade intersections, stream crossings, etc.
5. Features to reduce or eliminate adverse environmental impacts.

- (e) Social, Economic and Environmental Context of Area. Briefly describe the social, economic and environmental setting for the area affected by all of the alternative proposals prior to any proposed action. The description should be a single description for the area rather than a separate one for each alternative.

1. Natural Environment

Topography, terrain, etc.

Geology

Soils

Meteorology and climatology

Hydrology

Vegetation

Fish and Wildlife

Visual

2. Social Environment

Land tenure

Population, growth characteristics, racial and ethnic composition

Housing

Transportation facilities including principal roads, streets and highways

Recreation

Cultural aspects

Public institutions

Aesthetics

Community facilities and services

### 3. Economic Setting

Land and improvements

Tax base

Income

Labor force

Business and industry and services

- (f) Land Use Planning. Review relevant plans, ordinances and established goals for the area and discuss. Indicate any meetings and consultations with those agencies involved in the area's planning process. Describe existing land uses and projected or anticipated land uses, and indicate those land uses on maps of the same base. Note in the discussion whether the land use plan for the area was developed with the proposed action as part of it. Assess the compatibility and consistency of the proposed action with goals, objectives and plans of the area. Where conflicts or inconsistencies exist, discuss reconciliation and reasons.
- (g) Probable Impact of the Proposed Action on the Environment. This section of the EIS should describe the significant beneficial and detrimental environmental consequences anticipated if the proposed project is implemented. Topics to be investigated and the depth of investigations and discussion will vary with the nature, scale and geographic area and the values placed on them by those concerned. Present complete but concise information to establish the range and reasonableness of the impacts anticipated. Summarize any studies used as sources and any studies undertaken. Include enough data or cross-referencing to determine validity of study methodology. Technical studies such as air quality and noise analysis reports should be referenced and included as "technical appendices". Technical appendices should be submitted along with the EIS and are considered as part of the legal EIS document. When technical appendices are referenced, indicate that while they are not attached to the EIS, they will be made available to those who request them.

The discussion of the probable impact of the proposed action on the environment should include both secondary and primary impacts. Secondary impacts are those stimulated or induced by highways such as more rapid land development or changed patterns of social and economic activities. Give basis for predicting an impact, i.e. Comprehensive Plan for City for 1995. Indicate whether the plan was developed with an awareness of the proposed action. To the extent possible and predictable, discuss the changes that the action may bring to land use, development patterns, or community growth. If such changes are likely, estimate the public facilities needed to serve the new development and problems or issues which would arise in connection with these facilities, i.e. water, sewer, schools, police, etc. Discuss any community disruption and/or changes in community life styles created by the highway facilities.

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This section of the EIS should also include discussion of practical and feasible measures to mitigate adverse impacts, and their relative cost and benefits. The discussion should cover the full range of reasonable measures to resolve or minimize anticipated problems and pros and cons of each.

The impacts upon the following elements, factors and features should be discussed in this section of the EIS. (For the final EIS, the content should essentially be the same with appropriate changes to address the comments received, and some additional detail of the impacts associated with the selected alternate.)

1. Natural, Ecological or Scenic Resources Impacts. Discuss the significant effects on natural, ecological and scenic resources anticipated to be associated with the implementation of the proposed action. Include a summary of any consultations with appropriate public and governmental agencies. The effects on major types of vegetation and wildlife should be noted. Discuss food chains, habitat, types and area involved. The first time the name of any flora or fauna is used, the scientific name should appear in parenthesis following the common name, thereafter use the common name. Describe any potential effects (or lack of effects) of the project upon threatened and endangered species. If there are any threatened and endangered species, include a summary of coordination and documentation, and outline mitigation items for protection of these species. Identify alterations to land forms and its effect on the overall natural configuration.
2. Relocation of Individuals and Families Impacts. Discuss the following information which can be obtained by a visual inspection and supplemented by other readily available data such as U.S. census, housing surveys, city and regional planning agencies and local or State housing authorities. To insure compliance with Title VI of the Civil Rights Act, refer to the guidelines in Figure 5.
  - a) Estimate of households to be displaced, including the family characteristics (e.g., minorities, income levels, tenure, the elderly, large families, single or multi-dwelling).
  - b) Divisive or disruptive effect on the community, such as separation of residences from community facilities or separation of neighborhoods.
  - c) Impact on the neighborhood and housing where relocation is likely to take place (e.g. what effects will relocation have on community and public services such as schools, police, water, sewer, etc.). Secondary impacts.
  - d) Estimate of the number of businesses, non-profit organizations and farms to be displaced.
  - e) General effect of business, non-profit organizations and farm displacements on the economy of the community, including effect on minority ownership and minority employment. Secondary impacts.
  - f) Description of replacement housing in the area.
  - g) General location and quality of replacement housing.

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- h) Ability to provide adequate replacement housing for the types of families to be displaced. Discuss departmental policy that: (1) No person shall be displaced by the Department's construction projects unless and until adequate replacement housing has already been provided for or is in place and has been made available to all affected persons. (2) Replacement housing must be offered to all affected persons regardless of their race, color, religion, sex or national origin. (3) All replacement housing must be fair housing, open to all persons regardless of race, color, religion, sex or national origin.
  - i) Description of special relocation advisory services that will be necessary for identified unusual conditions.
  - j) Description of the actions proposed to remedy insufficient relocation housing, including if necessary, housing of last resort.
  - k) Results of consultation with local officials, social agencies and community groups regarding the impacts on the community affected.
3. Social Impacts. Discuss the significant social impacts anticipated to be caused by the proposed action. Discuss changes (beneficial or adverse) in life style for the neighborhoods and/or various groups. These impacts may include splitting the neighborhood, isolating a portion of a distinct ethnic group, new development, etc. If the proposed action will change travel patterns, such as vehicular, commuter or pedestrian, identify the impact. Discuss temporary impacts due to construction activities. The following are examples of groups or individuals who may have special problems and may require special consideration with respect to access to jobs, schools, churches, parks, recreation areas, hospitals, shopping facilities, and community services:
- (1) elderly
  - (2) school-age children
  - (3) those dependent upon public transportation
  - (4) handicapped
  - (5) illiterate
  - (6) nondrivers
  - (7) pedestrians
  - (8) bicyclists
  - (9) low income
  - (10) racial, ethnic, or religious groups.

Refer to Figure 5 for Guidelines for FHWA Title VI Compliance Review on Environment and Design.

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4. Air Quality. An air quality report should be coordinated through File D-8 with the Texas Air Control Board (TACB) before the draft EIS preparation begins. Various levels of air quality analysis will be necessary depending on the location and degree of complexity of the project. These analyses and required data are described in the Department's Air Quality Guidelines. This section of the EIS should include a concise discussion of the conclusions of the air quality report together with graphs and/or tables showing CO concentrations and CO and hydrocarbons total pollutant loads. All aspects of the air quality report described in the Air Quality Guidelines should be concisely discussed in this section, with special attention to the air quality impact of the different alternatives.

The draft EIS must contain the following:

- (1) An identification of the air quality impact of the highway section. (Identification consists of pollution concentrations both predicted and existing for base condition at sensitive receptors.
- (2) An identification of the analysis methodology utilized. (Identification should consist of microscale model or technique used, mesoscale model or technique used, whether model has been calibrated for section studied, and level of sophistication of the analysis, i.e. paper study vs. complete study.)
- (3) A brief summary of the early consultation with TACB and where applicable, a brief summary of any consultation with the indirect source review agency.
- (4) Any comments received from TACB and where applicable, any comments received from the indirect source review agency. Attach copies of any letters received from TACB concerning the consistency of the proposal with the State implementation plan. Also attach any letters from indirect source review agency.
- (5) Determination on the consistency of each alternative under consideration with the approved State implementation plan.
- (6) This section of the EIS should also indicate that the complete air quality report is available for those wishing to review it and state where it may be viewed. The air quality report should not be attached to the EIS, however, two copies should be submitted to File D-8 with the draft EIS so that copies can be furnished to the FHWA and to the EPA. If at the final EIS stage the air quality report is revised, then four copies of the revised air quality report should be submitted to File D-8 along with the final EIS.

Where required by the Environmental Protection Agency Indirect Source Regulations, the preferred alternative should be submitted through File D-8 to the indirect source review agency for review. The proposed final EIS should not be submitted to FHWA for adoption if the indirect source review agency has found that the highway section will result in a violation of applicable portions of the control strategy or will interfere with the attainment or maintenance of the National Ambient Air Quality Standards.

The final EIS will be adopted by the FHWA only after FHWA has determined that the proposed highway section is consistent with the approved State implementation plan. The determination on consistency will be made by the Regional Federal Highway Administrator.

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5. Noise Impacts. (Refer to the Department's Noise Guidelines for details of preparing the Noise Report and Summary.) This section of the EIS should discuss noise impacts in layman's terms with enough technical information to alert the expert to any significant noise problem. Summarize the noise report and indicate that the complete noise report is available for those wishing to review it and where it may be viewed. While the noise report should not be attached to the EIS, it should be submitted with the EIS to File D-8 as a technical appendix. If an exception to the design noise level standards is required, four separate copies of the noise analysis information supporting the request for an exception should be submitted at the same time as the final EIS is submitted to File D-8. Briefly explain in layman's terms the noise terminology, definitions, measurements, abatements, impacts, etc. The two general definitions of impact are (1) when the predicted future noise level exceed the FHWA standards, and (2) when the predicted future noise level is substantially greater than the existing measured noise level.

Summarized information from the noise report can be presented in tabular form or shown on maps. The EIS should contain information and discussion concerning the following items.

- (1) Existing (ambient) noise levels. Sufficient determinations should be made, shown and correlated with site numbers to quantify the existing noise environment. These determinations should represent the actual existing noise environment for all the alternates being considered.
- (2) Predicted future noise levels. Include traffic characteristics and data on which calculations are based (current and design year volumes, percentage trucks, and speed.) If the predicted future noise levels are presented in tabular form, the site numbers should correspond with the measured site numbers.
- (3) Identification of sound sensitive areas. Clearly indicate the numbers and types of noise sensitive land uses and activities which may be impacted by the proposed project.
- (4) Extent of the impact in decibels. Include an explanation of the nature and extent of the change in the noise for the immediate area.
- (5) Noise abatement measures which will likely be incorporated into the project. Discuss in summary form abatement measures such as barriers, elevated or depressed roadways, rerouting truck traffic, purchase of noise buffer zones, etc. Briefly discuss the feasibility, economic justification, driver safety, aesthetics, etc., for the abatement measures. In draft EIS, avoid any reference to the views of property owners regarding abatement measures. In final EIS, property owners views can be presented since the final EIS will be prepared following the public hearing process which presumably included a full discussion with affected property owners where abatement measures are considered feasible and effective.
- (6) Numbers and types of land uses which will remain impacted even after abatement and mitigation measures are taken, or for which abatement measures are not feasible nor prudent. If an exception to the FHWA Standards will be required, or if FHWA Standards are exceeded, submit four additional, separate copies of the noise report to D-8 along with the final EIS. The EIS discussion of noise impacts should not indicate that an exception will be required or requested but should indicate in some manner that FHWA Standards will be exceeded.

- (7) Coordination to control future noise sensitive land development adjacent to the highway. Discuss in specific terms the coordination efforts made with the local officials and/or local planning agency. Local officials should be furnished copies of the FHWA publication "The Audible Landscape: A Manual for Highway Noise and Land Use," FHPM 7-7-3 and the noise report for the project.
  - (8) Construction noise and possible mitigation.
  - (9) A copy of a chart of typical noise levels and a copy of the FHWA Standards should be included.
6. Water Quality. Include in this section a discussion on significant water quality impacts, including summaries of analyses and consultations with the Texas Department of Water Resources. Possible water quality impacts related to highways include: erosion and subsequent sedimentation problems; use of deicing, weed, rodent and insect control products; waste water disposal at safety roadside rest areas; spillage of poisons or chemicals by trucks into a water supply system; and contamination of surface and ground water supplies and of recharge areas by polluted fill material.
- (1) Aquatic Considerations for All Waters. The aquatic environment which would be influenced by the project should be described.

The following items should be included:

- a) Location and types of structures.
  - b) The approximate area affected. This should be given in surface-acres for impoundments. For streams, the channel description should include the approximate depth and width of the natural channel, as well as the affected length.
  - c) Bottom type. The nature of the natural bottom such as mud, limestone, pebbles, etc., should be given.
  - d) Vegetation in the affected area. A listing of the prominent types of vegetation and some discussion of the local topography (whether the channel is in a wide bottomland area or steep woody banks, etc.) should be included.
  - e) Effects of reshaping or rechanneling. Any proposed rechanneling or reshaping, including the use of fill materials below the natural water line, should be discussed. Any anticipated effects of these changes should also be discussed.
- (2) Aquatic Considerations for Intermittent Streams. If intermittent waters are crossed, general comments describing erosion control specifications, other pertinent measures proposed to minimize erosion during and after construction, and the expected results should be presented.
  - (3) Aquatic Considerations for Perennial Streams. Constantly flowing streams usually require more extensive treatment than do intermittent waters. For affected perennial waters a general description of water quality, uses of the water, aquatic life, and the proposed temporary and permanent mitigating measures should be presented. If the stream is listed in the State's water quality standards, reference to those standards should be included.

- (4) **Aquatic Considerations for Valuable Waters.** If valuable waters (i.e., municipal water supply, waters receiving contact recreation, rivers heavily utilized by commercial fishermen, or streams maintaining brackish coastal marshes) are crossed or encroached upon, it may be necessary to make an in-depth evaluation of project effects on the water to determine the impacts and mitigating measures. Monitoring before, during, and after construction may be required. Consultation with outside agencies may be helpful in these endeavors. For instance, it is likely that one of the water-oriented agencies (Texas Department of Water Resources, State Health Department, U.S. Corps of Engineers) may have a monitoring station near project sites in waters of this description. Consultation with File D-8 personnel is encouraged in these studies.

This section of the statement should also include a summary of consultations with the appropriate public and governmental agencies. For example, when there is a need for a permit from the U.S. Coast Guard or the Army Corps of Engineers, such related Federal actions should be described. A discussion of the degree of coordination that has been or will be carried out to minimize conflicts should also be included. Section 2-600 of this Manual discusses coordination with various other agencies.

7. **Wetlands and Coastal Zones Impacts.** This section should summarize the anticipated significant impacts on wetlands, marshes, coastal zones, estuaries, etc., including analyses, consultations and efforts to reduce the impact. Where applicable, the discussion should set forth any inconsistencies with wetlands or coastal zone management programs.
  8. **Stream Modification or Impoundment Impacts.** This section should include a summary of information which is necessary to comply with the Fish and Wildlife Coordination Act. Briefly, the Fish and Wildlife Coordination Act requires consultation with the U.S. Fish and Wildlife Service and the Parks and Wildlife Department when a Federal action involves impoundment (surface area 10 acres or more), diversion, channel deepening or other modification of a stream or body of water. The draft EIS should include a summary of the early consultation. (See Section 2-607)
  9. **Flood Hazard Evaluation.** When an alternative under consideration significantly encroaches on a flood plain, this section should include a summary of studies and consultation made for compliance with the FHWA directive implementing Executive Order 11296 and Flood Hazard Evaluation Guidelines for Federal Executive Agencies, or information evidencing that such requirements can be met during project development.
  10. **Construction Impacts.** In general, adverse impacts during construction will be less important than long-term impacts. However, if appropriate, the EIS should discuss significant impacts such as noise, dust, temporary drainage, and changing traffic patterns and access associated with construction and discuss mitigation measures. Also, where applicable, the impact of the proposed disposal methods and the impact of borrow areas should be discussed.
- (h) **Alternatives.** This section of the EIS should discuss reasonable location, design and scope alternatives including the "no-build" (status quo) and mode of transportation alternatives. In some instances, it may be necessary to discuss alternatives which are outside the responsibility of the Department or would require changes in statutory authority. Reasonable alternatives,

developed as the result of the study and evaluation of the proposed action, should be described accurately and clearly. Discuss each alternative's termini, location, scope (number of lanes, right-of-way requirements, etc.) and other design elements.

The probable beneficial and adverse effects and costs of reasonable alternatives should be described in a manner consistent with the scale of the proposed highway improvement and significance of the impact. The discussion of environmental impacts in this section should include significant impacts associated with the alternatives themselves, as opposed to the discussion of regional environmental impacts associated with implementing the action.

In one of the previous sections of the EIS, Probable Impact of the Proposed Action on the Environment, those impacts which are regional in scope should have been discussed. Therefore, this section of the EIS, Alternatives, should include the probable impacts resulting from a specific alternative on its immediate surroundings.

In the draft EIS, this section should include a discussion of why the highway alternative or a combination highway/transit alternative was selected for the proposed action. This section should then present the reasonable alternatives which have been studied and which vary in location, design and/or scope. Each alternative should be discussed in comparable detail in the draft EIS. Discuss the disposition of the existing facility if appropriate.

If an alternative is preferred at the time that the draft EIS is prepared, the proposed action should still be for a highway and/or transportation facility, not the preferred alternative. The draft should always state that all alternatives are under consideration and that a decision will be made only after the public hearing transcript and comments have been evaluated.

In the final EIS, the Alternatives section should discuss the alternatives not selected, why they were not selected, and the associated impacts of the alternatives. In the final EIS, the selected alternative should be described in detail in the section, Description of the Proposed Action. The final EIS should clearly state which alternative was selected and why.

- (i) Probable Adverse Environmental Effects Which Cannot be Avoided. Unavoidable impacts such as water, noise or air pollution; damage to life systems; threats to health; undesirable land use patterns; effects on minorities, etc., should be summarized in this section. These will be adverse environmental effects outlined in preceding sections, and should only include those which cannot be reduced in severity and those for which the use of reasonable corrective or abatement measures will not reduce the impact to acceptable levels.
- (j) The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity. This section of the EIS should contain a brief discussion of the extent to which the proposed action involves trade-offs between short-term environmental gains at the expense of long-term environmental losses, or vice-versa, and a discussion of the extent to which the proposed action forecloses future options. "Short term" refers to the immediate effects of a project, while "long term" is the period over which the direct or indirect effects of the project are apparent. For example, a highway project may induce change in land use patterns and changed land use patterns may result in homes being built on farmland. There is a gain, therefore, in available housing units, but the option to use the land for agricultural production has been foreclosed. The gains (short-term and long-term) may be the benefits associated with a proposed highway to the area or region such as improved transportation, reduction of traffic congestion, improvement in air quality, reduction in noise, improved economic base, accessibility, improved development potential, etc. The losses

(short- and long-term) may be the disadvantages associated with the proposed highway, such as use of land by the highway, use of land for highway-associated developments (residential and industrial), loss of parks and recreation areas, and increased pollution (air, water and noise) and impacts on open space, wetlands, etc.

- (k) Irreversible and Irretrievable Commitments of Resources. This section of the EIS requires an identification of the extent to which the irreversible adverse effects curtail the range of potential uses of the environment. "Resources" means the full range of natural and cultural resources committed to loss or destruction by the action. A transportation facility may precipitate other related actions such as land development, exploitation of resources, travel, etc. that could induce a significant irreversible and irretrievable commitment curtailing other use of the area. An effect is irreversible or a resource commitment irretrievable, if once the project is undertaken, the effects cannot be eliminated by any counter measures. The EIS should indicate the cost of land, construction materials, labor and other economically measurable costs which cannot be retrieved once a highway is constructed, and the resources which may be irretrievably lost and the nature of each such loss, to which a dollar value cannot be readily assigned (for example, the loss of forested recreational land.)
- (l) Impact on Historical and Archaeological Resources: This section of the EIS should discuss the effect (if any) of each alternative on districts, sites, buildings, structures, and objects of historical, architectural, archaeological, or cultural significance, and mitigation measures to be taken where appropriate.
  - (1) The National Register of Historic Places, the Texas Historical Commission's inventory of cultural properties Historic Preservation in Texas, and the Guide to Official Texas Historic Markers should be examined to determine if there are any inventoried properties in the project area. The County Chairman of the Texas Historical Commission should also be consulted to determine if there are any inventoried properties in the project area. The County Chairman of the Texas Historical Commission should also be consulted to determine whether properties in the project area are eligible for inclusion in or are under nomination to the National Register of Historic Places.
  - (2) If a known archaeological or historical site may be adversely affected, the type and significance of property as well as the nature of effect should be discussed. In many cases, an adverse effect on an archaeological or historical site of National, State, or local significance may require a Section 4(f) determination, a record of coordination with the Executive Director, Advisory Council on Historic Preservation (ACHP), or other information to be supplied on a project by project basis. (See Sections 2-603 and 2-705)
  - (3) If no adverse effect is anticipated, it should be noted in the EIS along with the resource material examined and the persons and agencies contacted in support of the determination. Evidence of coordination with the State Historic Preservation Officer in the form of an endorsed letter should be attached to the EIS and discussed in this section of the statement.
- (m) Comments and Coordination
  - (1) The draft EIS should include a summary of coordination and public and minority involvement during the development of the project and pertinent comments received during the coordination. If public meeting(s) have been held, include a discussion of views received.

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- (2) In areas which specifically call for early coordination, insert copies of letters showing that early consultation and discussion has taken place during the development of the draft EIS.
- (3) The draft EIS should be revised, as appropriate, to reflect the consideration given to substantive comments received, and to reflect consideration given to public hearing comments. The final EIS should include a copy of all substantive comments (letters, etc.) received (or summaries thereof where response has been exceptionally voluminous) as the result of circulation for comments, along with a discussion of each substantive comment and suggestion. When the draft EIS is revised as a result of comments received, the copy of the comment (letter, etc.) should contain marginal references indicating the page and paragraph where revisions were made or the discussion of comments should contain such references.
- (4) Any letters or material received from a commenting entity which is not legible when reproduced may be summarized. Every effort should be made to insure that the statement will be legible when reproduced.
- (5) Any unresolved environmental issues and efforts to resolve them should be discussed in this section.
- (6) The final EIS should contain a summary and disposition of substantive social, economic, environmental and other comments received in connection with the public hearing process, including the alternatives which were raised at the public hearing. Do not include a copy of the public hearing transcript or other public hearing data in the final EIS.

### 2-705 SECTION 4(f) STATEMENTS - Procedures and Contents

If a proposed action will require the use of any publicly owned land from a public park, recreation area, wildlife and waterfowl refuge, or historic site of local, State or National significance as determined by the local, State or Federal officials having jurisdiction thereof, a preliminary Section 4(f) statement should be prepared and submitted to D-8, either as a separate document or in a special section of a draft EIS. The determination of significance should be accomplished by means of early consultation with the relevant official having jurisdiction over the publicly owned land, and subsequently obtaining a written determination from the agency concerned.

- (a) The purpose of a Section 4(f) statement is to document the consideration, consultations and alternative studies for a determination that there are no feasible and prudent alternatives to the use of land from a publicly owned park, recreation area, or wildlife and waterfowl refuge of national, State or local significance, or any land from a historic site of national, State or local significance. The purpose of the Section 4(f) statement is also to support a determination that the proposed project includes all possible planning to minimize harm.
- (b) If the project will use land from a historic property that is included in or eligible for inclusion in the National Register of Historic Places, the Section 4(f) statement should provide evidence that the Advisory Council on Historic Preservation, Procedures for the Protection of Historic and Cultural Properties have been satisfied. If the project will use land from a historic site not included on or eligible for inclusion in the National Register of Historic Places, the Section 4(f) statement should provide evidence that the official having jurisdiction thereof has determined it to be of national, State or local significance.

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- (c) A Section 4(f) statement is not required when the Federal, State or local official having jurisdiction over a park, recreation area, refuge or historic site determines that it is not significant. The FHWA will review the non-significance determination to assure the reasonableness of such determinations. In the absence of such a statement, the Section 4(f) land will be considered to be significant.
- (d) The provisions of this section and Section 4(f) do not apply to publicly owned lands that are administered for multiple uses if the portion of the land to be taken is not in fact being used for park, recreation, wildlife, waterfowl, or historic purposes and there is no definite formulated plan for such use as determined by the official having jurisdiction over such lands. The FHWA will review the land use determination to assure its reasonableness.
- (e) Park and recreation lands, wildlife and waterfowl refuges, and historic sites are sometimes designated or determined to be significant late in the development of a highway section. In such cases, a project may proceed without the preparation of a Section 4(f) statement if the right of way from such 4(f) type lands was acquired prior to the designation or change in significance.
- (f) The Section 4(f) information should be self-contained to the extent practicable and be consolidated in a special section of an EIS or in a separate statement. It may be necessary to repeat information contained in the EIS to eliminate unnecessary reference to the EIS.
- (g) The preliminary Section 4(f) statement should be prepared at the draft EIS stage of project development.
- (h) The preliminary Section 4(f) statement should be coordinated with the agency having jurisdiction over the Section 4(f) lands, and with the U.S. Departments of the Interior, Housing and Urban Development, and, if appropriate, with the Department of Agriculture. The circulation will ordinarily be accomplished by including it in the draft EIS as a special section, or by attaching it to the draft EIS. Separate circulation may be made if there are unusual conditions which warrant separate circulation. Such conditions could include, for example, when a Section 4(f) area is identified, designated or involved after the final EIS processed, and when another agency is the lead agency for EIS processing. Separate circulation of the preliminary Section 4(f) statement should be in the form of a supplement to the EIS. The FHWA will review the preliminary Section 4(f) statement if separate from the EIS or negative declaration and indicate its acceptability by signing the title page before it is circulated for comment.
- (i) When circulating a preliminary Section 4(f) statement to the agencies noted above, the agencies should be given a minimum of 50 days to return their comments.
- (j) The following information, where pertinent and available, should be included in the preliminary Section 4(f) statement to initiate the necessary interagency review.
  - 1. A description of the proposed action including alternatives contained in the EIS. At least one of the alternatives should miss the Section 4(f) lands. Alternatives should also include the "no-build" alternative and an alternative that causes least damage to the 4(f) land.
  - 2. Describe the Section 4(f) land in sufficient detail to permit those not acquainted with the project to have an understanding of the relationship between the project and the Section

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- 4(f) land and the extent of the impact, including detailed maps and/or drawings of sufficient scale to discern the essential elements of the highway/Section 4(f) land involvement.
- a) Size (acres or square feet) and location (maps or other exhibits such as photographs, slides, sketches, etc.).
  - b) Type (recreation, historic, etc.).
  - c) Available recreational activities (fishing, swimming, golf, etc.).
  - d) Facilities existing and planned (description and location of ball diamonds, tennis courts, etc.).
  - e) Usage (approximate number of users for each activity).
  - f) Relationship to other similarly used lands in the vicinity.
  - g) Access (both pedestrian and vehicular) and effect thereon.
  - h) Ownership (city, county, State, etc.).
  - i) Applicable clauses affecting title, such as covenants, restrictions or conditions, including forfeiture.
  - j) Unusual characteristics of the Section 4(f) land (flooding problems, terrain conditions, or other features that either reduce or enhance the value of portions of the area).
  - k) The location and amount of land (acres or square feet) to be used by the highway.
  - l) The facilities affected.
  - m) The probable increase or decrease in physical effects on the Section 4(f) land users (noise, fumes, etc.).
3. Provide a description of the transportation problem, objectives and concept solutions to the problem. This section may be repeated from the EIS section concerning Need.
  4. Provide a text description supported by maps of sufficient scale to relate the project alternatives to 4(f) lands. Special design or environmental constraints to these alternatives should be shown. Provide reasons why the alternatives shown do not meet the need established earlier, and are not judged to be prudent or feasible.
  5. List and show on the maps all facilities that are affected or taken. Describe how the proposed action will change the remaining portions of the 4(f) land with regard to access, noise, air, water, visual, esthetic, etc.
  6. Accurate and detailed information is needed to support the determination that there is no feasible or prudent alternative. Supporting information should demonstrate that there are unique problems, truly unusual factors present, and evidence that the cost or community

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disruption resulting from alternative routes reaches extraordinary magnitudes. Section 4(f) determinations will be reviewed for legal sufficiency by the FHWA Office of the Chief Counsel.

7. The Section 4(f) statement should include the best available information on possible measures to minimize harm to the Section 4(f) land by the highway involvement. The discussion should be as specific as possible, consistent with the state of the highway section planning and the need to demonstrate that all possible planning to minimize harm has been included in the highway proposal. Even though the transportation project may be at the location stage, detailed planning of design features to minimize harm is desirable. Include maps and/or sketches to show in some detail the design features being considered to alleviate damage caused by the take, ie. landscaping, berms, relocated facilities, etc. Following are some measures which may be used to minimize harm.
  - a) Provisions for compensating or replacing the Section 4(f) land and improvements thereon (include the status of any agreements, i.e., agreed upon functional replacement and type of land, etc.).
  - b) Design features to enhance the Section 4(f) land or to lessen adverse effects (improving or restoring existing pedestrian, bicycle or vehicular access, landscaping, esthetic treatment, noise abatement measures, etc.).
  - c) Coordination of construction to permit orderly transition and continual usage of Section 4(f) land facilities and least damage to wildlife and vegetation (new facilities constructed and available for use prior to demolishing existing facilities, moving of facilities during off-season, etc.).
  - d) Description of the coordination with the public agency having jurisdiction over the Section 4(f) land relative to measures to minimize harm. Summarize discussions with agency having jurisdiction. Include relevant letters from agency having jurisdiction.
- (k) After receipt of the comments from the circulation of the preliminary Section 4(f) documentation, and after the required public hearing, the finalized Section 4(f) statement should be prepared and should ordinarily accompany the final EIS through the review process. This finalized version of the Section 4(f) statement should be a selfcontained document. The final EIS should summarize the 4(f) involvement in the appropriate sections of the EIS.
- (l) The Section 4(f) statement should be prepared for selected 4(f) alternative with detailed descriptions and refined design details proposed to minimize harm. Discuss the other alternatives considered and the rationale for selection of the selected alternative as opposed to the other alternatives. Discuss prudence and feasibility. Summarize coordination, include copies of comments received, and discuss disposition of the points (comments) raised.
- (m) Special effort should be made to resolve any issues concerning Section 4(f) lands prior to preparing the Section 4(f) statement.
- (n) If land acquired or improved with Federal grant money (Department of Housing and Urban Development open space, or Bureau of Outdoor Recreation land and water conservation funds) is involved, the Section 4(f) statement should include a description of the coordination with the grantor agency.

# **HIGHWAY DESIGN DIVISION OPERATIONS AND PROCEDURES MANUAL 2-78 2-800 PUBLIC INVOLVEMENT THROUGHOUT PROJECT**

## **DEVELOPMENT**

- (a) Public involvement as used herein refers to the processes whereby all interested persons (including minorities) are given adequate opportunities to become fully acquainted with transportation projects and to express views early enough in the project planning process when flexibility to respond still exists.
- (b) Public involvement is the process which facilitates interaction between the Department and the public. This process provides for the interchange of information concerning the direct and indirect consequences of a project. The results of this process are used in the Department's decision making process during project planning.
- (c) Goals of the Department's public involvement process are: (1) public awareness (2) public participation (3) public confidence.
- (d) Public involvement strategies and techniques should be developed on a project-by-project basis to suit the community, people and factors inherent in each project. Opportunities should be provided for groups and individuals (including minorities) to participate in an open exchange of views (especially at public meetings - See Section 2-803). In an area where the population is significantly Mexican-American, the following should be considered:
  - 1. Have an interpreter present at public meetings and hearings if language difficulties are anticipated.
  - 2. Have the public notices advertised in Spanish as well as English.
  - 3. Always have the departmental brochure on the relocation assistance program available in Spanish as well as English for distribution.
- (e) While flexibility in implementing public involvement is a primary and desired characteristic, the Department has recognized that certain minimum considerations must be satisfied. The following requirements have been established for projects which are determined to be major actions (See Section 2-402).
  - 1. Hold at least one public meeting where Department representatives and community leaders, individuals, groups, organizations, or representatives thereof, can discuss and participate in an open exchange of views regarding the proposed project. A brief written summary of the meeting should be developed and made a part of the project records and submitted to File D-8 as soon after the meeting as practical. (See Section 2-803)
  - 2. Hold a public hearing or afford an opportunity for a public hearing to be requested for the project before the Department commits itself to a particular location and/or design, and allow the public an opportunity to officially comment concerning the highway project's need, alternative locations and major design features, and their social economic and environmental effects. A verbatim transcript should be made of the public hearing (if one is held) to become a part of the project records. See Sections 2-807 and 2-808 for submissions to File D-8.
- (f) For projects determined to be nonmajor actions (See Section 2-402), a public hearing opportunity should be afforded if the project will:
  - 1. Require the acquisition of significant or substantial amounts of additional right of way; or
  - 2. Have a significant adverse impact upon abutting real property; or
  - 3. Substantially change the layout or function of connecting roads or of the facility being improved; or
  - 4. Otherwise have a significant social, economic or environmental effect.

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- (g) Project publicity (both early and throughout project development) should encourage public involvement in project development. Methods of early publicity (and publicity throughout project development) will vary depending on the area, type of project, significance, etc. Suggested methods include press releases, notices, advertisements, letters to property owners, handbills, posters, bulletin board announcements, contacts with community leaders, clubs, organizations, schools, churches, etc.

### **2-801 APPLICATION OF PUBLIC INVOLVEMENT REQUIREMENTS**

- (a) These instructions apply to all highway projects.
- (b) For Federal highway projects, if preliminary engineering or acquisition of right of way related to an undertaking to construct a portion of a Federal highway project is carried out without Federal funds, subsequent phases of the work can be eligible for Federal funding only if the non-participating work is done in accordance with these instructions.
- (c) These instructions do not apply to the construction of highway projects where a formal determination has been made that the construction of the project is urgently needed because of a national emergency, a natural disaster or a catastrophic failure.
- (d) The determination that a project is a nonmajor action (See Section 2-402), does not mean that the public involvement process is not required. A public hearing opportunity must be afforded on all federal highway projects that provide for the construction of additional throughway lanes even though the proposed improvement is within existing right of way and no additional right of way is required. Since under Section 2-402 a project may qualify as a nonmajor action and still require significant amounts of right of way, it will be necessary that each nonmajor project be evaluated to determine if at least a public hearing opportunity should be afforded. As a general rule, this will be determined based solely on whether or not a significant or substantial amount of additional right of way is required; however, consideration should also be given to the possibility of the proposed project having a significant social, economic or environmental effect regardless of the amount of right of way required.

### **2-802 COORDINATION**

- (a) When consideration is first given to the development or improvement of a highway project in a particular area, the views of the State's resources, recreation, and planning agencies, and of those Federal agencies and local public officials and agencies, and public advisory groups should be solicited. The social, economic and environmental (S.E.E.) assessment and/or the project concept conference report should be used as the basis for project publicity and solicitation of views from local, State and Federal governmental agencies, including A-95 Clearinghouse, and interested individuals and private groups (including minorities). This procedure should be initiated by both the District and File D-8. Mailing lists should be maintained in the District to provide the names and addresses of those interested in receiving early notification of project planning. District mailing lists will vary from project-to-project depending on variables such as location, local interest, scope of project, etc. If the project affects another State, views should also be solicited from the appropriate agencies within that State by File D-8 and the Administration. All written views received as a result of coordination should be made available to the public as a part of the public hearing procedures set forth in Section 2-808.
- (b) File D-8 is responsible for soliciting the views of the Federal and State agencies and groups. The District is responsible for such solicitation from local agencies, groups and individuals.

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- (c) Section 2-600, Coordination with Other Governmental Agencies, should be consulted throughout project development to ensure that coordination is accomplished at the appropriate times.

### 2-803 PUBLIC MEETINGS

- (a) If a project is determined to be a major action, at least one public meeting should be scheduled and held prior to the public hearing process in the vicinity of the project. Public meetings may occur at any stage in project planning. However, the following instructions are specifically applicable to those types of public meetings held between project inception and the official public hearing process.

It is not necessary to hold a public meeting prior to affording a public hearing opportunity on projects which have been approved as nonmajor action projects. If a meeting is held on a non-major action project, the files should reflect that such meeting is not required by Action Plan.
- (b) A public meeting(s) should be scheduled and held as early as the District considers feasible to assure public input into project planning. Meetings should not be scheduled before sufficient studies have been conducted to permit the Department to discuss the potential effects of possible alternatives. In most cases, it is preferable that a S.E.E. assessment be submitted to File D-8 for review and concurrence prior to scheduling a public meeting. Should departmental studies and early coordination with local governments point to a preferred alternative, it is appropriate for such a tentative solution to be noted at the meeting(s), with the qualification that such alternative appears to be the solution based on the studies performed so far.
- (c) The alternatives discussed at the meeting(s), whether presented by the Department or other meeting participants, should be treated in discussions as alternatives that will be evaluated, as feasible, for continued study and consideration through necessary detailed social, economic, and environmental studies. At the meeting(s), the Department should emphasize that feasible alternatives will be studied in comparable detail and evaluated continually through the environmental study and review phase of project planning. It should be explained that the Department will probably recommend one of the alternatives at the time the official public hearing process is initiated although a decision will not be made until after the public hearing process is completed.
- (d) It is recommended that the public meeting(s) be presided over by a representative of the Department. Local community leaders, groups and individuals (including minorities) who are affected or who have an interest in the project should be identified, notified and encouraged to participate in project development. Representatives of local governments should be encouraged to participate especially in the discussions relating to the initiation of the project, and its relationship to the community's goals and objectives as outlined in regional, city or countywide transportation plans.
- (e) Public meetings should be scheduled and held at a time and place convenient to the public (including minorities) in the vicinity of the project. In an area where the population is significantly Mexican-American, an interpreter should be present at the public meetings if language difficulties are anticipated.
- (f) Meetings should be publicized in the same manner and to the same extent that public hearings are publicized. The public meeting should be announced by the publication of two newspaper notices or advertisements at times similar to the publication of public hearing notices. Notices or ads should contain the information shown in Figure No. 12. The initial publication should be approximately 30 days before the date of the meeting and the second publication should be approximately 10 days before the date of the meeting. Advance notification of public meetings should be submitted to File D-8 approximately 30 days in advance of the meeting. In

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an area where the population is significantly Mexican-American, the public notices should be advertised in Spanish as well as English. Other publicity of public meetings should be by means convenient to the citizens involved, such as radio and TV stations, newspaper articles, posters, letters to affected property owners, etc., as deemed appropriate by the District.

- (g) After the public meeting is held, a brief written summary of the proceedings should be developed and made a part of the records which should be forwarded to File D-8.

### NOTICE OF PUBLIC MEETING

The State Department of Highways and Public Transportation will conduct a public meeting on \_\_\_\_\_  
date, time and place \_\_\_\_\_ for the purpose of discussing the need for and suggested alternatives for the possible improvement to \_\_\_\_\_  
Highway and Limits \_\_\_\_\_

All interested citizens are invited to attend this public meeting to express their views.

FIGURE 12

### 2-804 PUBLIC HEARING REQUIREMENTS

A public hearing opportunity will be afforded on all projects except those projects that are solely for such improvements as resurfacing, widening existing lanes less than lane width, adding auxiliary lanes, replacing existing structures, installing traffic control devices or similar improvements. However, a public hearing opportunity will be afforded on these usually minor types of improvements if the proposed project will:

- (a) Require the acquisition of significant or substantial amounts of additional right of way; or
- (b) Have a significant adverse impact upon abutting real property; or
- (c) Substantially change the layout or function of connecting roads or streets or of the facility being improved; or
- (d) Otherwise have a significant social, economic or environmental effect.

A public hearing opportunity is required for adding travel lanes within existing right of way.

### 2-805 "LIMITED" MEETINGS WITH PROPERTY OWNERS IN LIEU OF PUBLIC HEARING OPPORTUNITIES

For the types of improvements listed in Section 2-804, if an opportunity for a public hearing is not required, but in evaluating (a) it is determined that the project will require only an insignificant amount of additional right of way from an isolated property or properties, then in lieu of a public hearing opportunity a meeting shall be held with the owner or owners of such isolated properties to discuss the effects of the project on the property and residents and formally obtain the view of the owners and residents.

Before this type of "limited" meeting is scheduled with affected property owners, concurrence must be obtained from File D-8. After such "limited" meetings are held, a brief written summary of each meeting should be developed and made a part of the records which should be forwarded to File D-8 along with the District's recommendation for the further development of the project.

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### 2-806 "LIMITED" MEETINGS WITH PROPERTY OWNERS FOLLOWING HEARING OPPORTUNITIES

When a location or design revision is found to be needed after an opportunity for a hearing has been afforded or a hearing has been held, another opportunity for a hearing will not be required if, upon application of conditions (a) through (d) of Section 2-804 to the proposed revision, it is determined that the revision is insignificant and provided that a meeting is held with the affected property owners and residents.

Before this type of "limited" meeting is scheduled with affected property owners, concurrence must be obtained from File D-8. After such "limited" meetings are held, a brief written summary of each meeting should be developed and made part of the records which should be forwarded to File D-8 along with the District's recommendation for the further development of the project.

When location or design revisions are considered to be significant, the environmental document should be revised and an additional public hearing opportunity should be considered based on the provisions of Section 2-810.

### 2-807 OPPORTUNITY FOR PUBLIC HEARING

- (a) The requirements for a public hearing process may be satisfied by either holding a public hearing, or publishing two notices of opportunity for public hearing and holding a public hearing in those instances where written requests for such a hearing are received which cannot be otherwise satisfied. The initial notice affording an opportunity should be published approximately 30 days in advance of the deadline for submission of a written request to hold a hearing. The second notice should be published approximately 10 days before the deadline. The procedure for requesting a public hearing should be explained in the notices.

The notices should be published in newspaper(s) having general circulation in the vicinity of the proposed undertaking. The notices should also be published in any newspaper having a substantial circulation in the area concerned, such as foreign language and local community newspapers. In an area where the population is significantly Mexican-American, the public notices should be advertised in Spanish as well as English. Notices should be similar to example shown in Figure 13, and should describe the type of highway facility proposed for construction, number of lanes, general right-of-way width and relocations. A statement concerning relocation assistance should be included in all notices even though additional right of way may not be required for the project.

- (b) A copy of the notice as proposed for publication should be submitted to File D-8 at least two weeks prior to the first date of publication. The scheduled dates of publication and newspapers involved should be reported at the same time. File D-8 will submit copies of the notice to the FHWA no later than date of first publication. All notices submitted to File D-8 should be accompanied by a small scale map showing the proposed location. Maps should be prepared from half or full scale maps and be 8 1/2 x 11 inches in size, if possible.

**NOTICE AFFORDING OPPORTUNITY FOR PUBLIC HEARING**

The State Department of Highways and Public Transportation is planning the (improvement) or (construction) of \_\_\_\_\_ (Highway and limits). The proposed project will pass through the cities and/or towns of \_\_\_\_\_.

(Paragraph containing general statement describing type of improvements or construction proposed, general right-of-way widths and relocations.)

Maps and other drawings showing the proposed location and design, (the draft environmental impact statement) or (the draft negative environmental declaration) or (environmental studies), and any other information about the proposed project are on file and available for inspection and copying at the Resident Engineer's Office at \_\_\_\_\_ Address \_\_\_\_\_. Also the maps and drawings showing the proposed location and design have been placed on file with the \_\_\_\_\_ county and/or city \_\_\_\_\_.

Information about the State's Relocation Assistance Program, the benefits and services for displacees and information concerning the relocation assistance office as well as information about the tentative schedules for acquisition of right of way and construction can be obtained at the Resident Engineer's Office.

Any interested citizen may request that a public hearing be held covering the social, economic and environmental effects of the proposed location and design for this highway project by delivering a written request to the Resident Engineer's Office on or before \_\_\_\_\_ date \_\_\_\_\_. The address of the Resident Engineer's Office is \_\_\_\_\_.

In the event such a request is received, a public hearing will be scheduled and adequate notice will be publicized about the date and location of the hearing.

**FIGURE 13**

File D-8 is responsible for mailing copies of the notice and map to Federal and State agencies and groups. The District is responsible for notifying local agencies and groups. Local community leaders, groups and individuals (including minorities) who have an interest in the project should be identified and notified by the District.

- (c) If no requests are received in response to the notice within the time specified for submission, the District should submit a request for departmental approval of the project and the following:
1. A separate certification page signed by the District Engineer certifying that:
    - a. The opportunity has been afforded to request a public hearing covering the project's location and design and no request for a public hearing was received;
    - b. The economic and social effects of the project's location and design and its impact on the environment have been considered;

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- c. In determining economic, social and environmental effects, the statutory provisions of the Civil Rights Act of 1964 have been considered; and
    - d. The project's consistency with the goals and objectives of such urban planning as has been promulgated by the community has been considered. (If a community is involved that does not have a known plan of development, this should be noted in the submission and the certification modified as necessary.)
  - 2. The appropriate final environmental report (either a final environmental impact statement or a final negative environmental declaration), if required. See Section 2-704 for content and format for a FEIS, and Section 2-702 for the content and format for a FNED.
  - 3. A summary and analysis of the views received as a result of earlier coordination and in connection with the opportunity for a public hearing. This summary and analysis should be a part of the appropriate environmental statement or declaration if one is required.
- (d) The opportunity for another public hearing should be afforded, or a "limited" meeting with affected property owners should be held (See Section 2-806) in those cases where subsequent studies or comments result in location and/or design changes different from those previously presented in an opportunity notice or at a public hearing. (See the public hearing requirements in Section 2-804.)
- (e) The opportunity for a public hearing should be afforded in each case where there is any doubt if a public hearing is required.
- (f) If public land is involved as outlined in Senate Bill 324, 61st Legislature, State law requires that a public hearing be held.

### 2-808 PUBLIC HEARING PROCEDURES

#### (a) Notices Published Prior To Public Hearing

1. When a public hearing is to be held, notices of public hearing should be published at least twice in newspaper(s) having general circulation in the vicinity of the proposed undertaking. The notice should also be published in any newspaper having a substantial circulation in the area concerned, such as foreign language newspapers and local community newspapers. In an area where the population is significantly Mexican-American, the public notices should be advertised in Spanish as well as in English. The initial notice should be published approximately 30 days in advance of the date of the hearing, and the second should be published approximately 10 days before the date of the hearing. The timing of additional publications is optional except in the case where the project requires the use of land designated as a park, recreation area, scientific area, wildlife refuge or historic site; State law requires that public hearing notices be published for three consecutive weeks. These notices should be in addition to the two required above.
2. In addition to publishing a notice of public hearing, the Department should furnish copies of the notice to the FHWA, appropriate news media, the State's resource, recreation, and planning agencies, and appropriate representatives of the Departments of the Interior and Housing and Urban Development. The Department should also furnish copies to other Federal agencies, local public officials, public advisory groups, and public agencies or in-

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dividuals (including minorities) who have requested notice of hearing and other groups, or agencies who, by nature of their function, interest, responsibility or prehearing public involvement, the Department knows or believes might be interested in or affected by the proposal.

3. Notices should be similar to examples in Figure 14. Each notice of public hearing should specify the date, time and place of the hearing and should contain a narrative description of the proposal, including the type of facility proposed, number of lanes, general right of way widths and relocations. Notices should indicate that verbal and written comments from the public regarding the project are requested and that comments may be presented either at the hearing or submitted within 10 days after the hearing. The address where written comments may be submitted should be included in each notice. To promote public understanding, the inclusion of a map or other drawing as part of the notice is desirable and encouraged. The notice of public hearing should specify the maps, drawings, environmental studies and other pertinent information developed by the Department and written views received will be available for public inspection and copying and should specify where this information is available; namely, at the nearest Department office or at some other convenient location in the vicinity of the proposed project. Notices of public hearing should indicate that relocation assistance information will be available and tentative schedules of right-of-way acquisition and construction will be discussed.
4. All proposed notices concerning public hearings should be submitted by the District to File D-8 two weeks before the date of first publication and be accompanied by a small scale map showing the proposed location. Maps should be prepared from half or full scale maps and be 8 1/2 x 11 inches in size, if possible. The scheduled dates of publication and newspapers involved should be reported at the same time.
5. File D-8 will submit copies of the notice to the FHWA no later than date of first publication.
6. File D-8 is responsible for mailing copies of the notice and map to Federal and State agencies and groups. The District is responsible for notifying local agencies and groups.
7. Local community leaders, groups and individuals (including minorities) who are affected or who have an interest in the project should be identified, notified and encouraged to participate in the public hearing phase of project development. Public notification of hearings may also be by means convenient to the citizens involved (including minorities), such as radio and TV stations, newspaper articles, posters, letters to affected property owners, etc., as deemed appropriate by the District.

### (b) Conduct of Public Hearings

1. It will be the responsibility of the District to arrange for a proper meeting place in which to hold the public hearing. The hearing should be held at a place convenient to the location of the proposed project and at a time considered most convenient to the citizens involved (including minorities) to encourage maximum attendance. A tape recorder should be provided to record the entire public hearing. In an area where the population is significantly Mexican-American, an interpreter should be present at public hearings if language difficulties are anticipated. Arrangements should be made for the registration of complete names and addresses of those in attendance. In arranging for the hearing, efforts should

## NOTICE OF PUBLIC HEARING

The State Department of Highways and Public Transportation will conduct a public hearing on date, time and place for the purpose of discussing the (improvements) or (construction) of highway and limits. The proposed project will pass through the cities and/or towns of .

(Paragraph containing general statement describing type of (improvements) or (construction) proposed, the general right-of-way widths and relocations.)

Maps and other drawings showing the proposed location and design will be displayed at the public hearing and together with (the draft environmental impact statement) or (the draft negative environmental declaration) or (environmental studies) and any other information about the proposed project are on file and available for inspection and copying at the Resident Engineer's Office at address

Also, the maps and drawings showing the proposed location and design have been placed on file with the \_\_\_\_\_ county and/or city \_\_\_\_\_.

The State's Relocation Assistance Program, the benefits and services for displacees and information concerning the relocation assistance office will be discussed. Tentative schedules for right-of-way acquisition and construction will also be discussed.

**All interested citizens are invited to attend this public hearing. Verbal and written comments from the public regarding the project are requested. Comments may be presented either at the hearing or within 10 days after the hearing. Written statements and other exhibits may be submitted to the Resident Engineer's Office at \_\_\_\_\_ address \_\_\_\_\_, but must be received not later than 10 days after the public hearing.**

FIGURE 14

be made to encourage officials of local governmental agencies, regional clearinghouse (Council of Governments) and any private organizations and individuals (including minorities) to make statements at the hearing for the record or submit written statements in regard to the proposed project.

2. Provision should be made for submission of written statements and other exhibits in place of, or in addition to, oral statements at a public hearing. The procedure of the submission should be described in the notice of public hearing and at the public hearing. The final date for receipt of such statements or exhibits should be at least 10 days after the public hearing.
3. At each required public hearing, pertinent information concerning the social, economic and environmental effects of location and design alternatives studies by the Department should be made available. If the project required an environmental report (either a draft negative environmental declaration, or a draft environmental impact statement), it should be discussed and its availability announced.

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4. Public hearing displays should be commensurate with the complexness, size and scope of the project. Public hearing displays should include, as appropriate, a map showing the proposed project and alternate locations studied, schematic drawings, aerial photographs, and/or if the project is in an urban area, scale models. Prominent landmarks such as major streets, rivers, parks, large buildings, etc., should be identified in large, bold letters. Any other helpful displays should be utilized whenever possible to aid in public understanding of the proposed project and its alternatives. Schematic diagrams prepared for office use should be modified to omit contour lines, curve data, etc., so that the lay person can more easily understand the display.
5. The District should make suitable arrangements for responsible highway officials to be present at public hearings as necessary to conduct the hearings and to be responsive to questions which arise.
6. The District should describe the State-Federal relationship in the Federal-Aid highway program by an appropriate brochure, pamphlet, or statement, or by other means. See Figure No. 15 for sample statements.
7. The District may arrange for local public officials or other qualified individuals to conduct a required public hearing.
8. The District should discuss the relocation assistance program and relocation assistance payments available as appropriate for the project being considered (See Figure 16 ) and the proposed time schedule of project development; including tentative schedules of right-of-way acquisition and construction. The departmental booklet on the relocation assistance program (which is available in both English and Spanish) should be provided at all public hearings free of charge.
9. At each public hearing the District should announce or otherwise explain that all information developed in regard to the proposed project location and design will be available upon request for public inspection and copying.
10. At each public hearing, after the required statements and descriptive review of the proposed project and alternatives, it is recommended that a recess be held to provide an opportunity to those in attendance to review the displays and ask questions. This will provide an effective means of answering some questions in advance of the period when recorded questions and statements are requested from those in attendance. Statements should be solicited rather than questions.

The presiding officer should not engage in a debate or present arguments in rebuttal to statements unless it is considered essential to good public relations. Every effort should be made to answer questions relating to location and design and if proper information is not available to answer any question, arrangements should be made to furnish a reply as soon after the hearing as possible. During the receipt of statements from those in attendance at the public hearing, in order to insure correct interpretation of the verbatim transcript, the presiding officer should, as appropriate, restate all remarks or questions made by participants which are vague and uninformative and which refer to unidentifiable reference points on maps or schematics.

**SUGGESTED STATEMENT CONCERNING  
LOCAL-STATE-FEDERAL RELATIONSHIPS  
IN HIGHWAY CONSTRUCTION\***

Highway planning and construction requires close cooperation among all levels of government. The highway project covered by this public hearing will be developed cooperatively by the county or city or both, the State Department of Highways and Public Transportation and the Federal Highway Administration.

**LOCAL GOVERNMENT-STATE RELATIONSHIP**

The right-of-way will be acquired under the provisions of House Bill 620, 55th Legislature and right-of-way costs will be shared on a 50-50 basis between the county and/or city and the State. The county and/or city will further participate in the cost of the proposed project by financing all improvements such as curb, gutter and storm sewers, etc.

**STATE-FEDERAL RELATIONSHIP**

This project, also, is being developed in cooperation with the United States Department of Transportation, FHWA. Although the Federal government does not participate in either the cost of preliminary engineering or right of way for projects of this type, the construction cost is shared with the State; therefore, FHWA concurrence will be obtained relative to the proposed project.

\* (Modifications required for interstate and farm-to-market road projects)

FIGURE 15

## **PUBLIC INFORMATION ON RELOCATION ASSISTANCE**

- (a) **General Requirements.** In order to assure that the public has adequate knowledge of the relocation program, the Department should present information and provide opportunity for discussion of relocation services and payments at public hearings, distribute a relocation brochure, and give full and adequate public notice of the relocation assistance program. In order to give proper information and assistance to relocatees, every effort should be made to communicate with them in their language.
- (b) **Public Hearings.** The discussion should include but not necessarily be limited to the following:
  - 1. **Departmental policy that:**
    - (a) No person shall be displaced by the Department's construction projects unless and until adequate replacement housing has already been provided for or is in place and has been made available to all affected persons.
    - (b) Replacement housing must be offered to all affected persons regardless of their race, color, religion, sex or national origin.
    - (c) All replacement housing must be fair housing, open to all persons regardless of race, color, religion, sex or national origin.
  - 2. **The relocation assistance eligibility requirements and payment procedures including:**
    - (a) Eligibility requirements and payment limits for moving costs.
    - (b) Replacement housing payment eligibility requirements and payment limits.
    - (c) Mortgage interest rate differential eligibility requirements and payment.
    - (d) Payment of closing costs incident to the purchase of a replacement dwelling.
    - (e) Appeal procedures.
  - 3. **Discussion of the services available under the Department's relocation assistance advisory program.** The address and telephone number of the local relocation office and the name of the relocation officer in charge.
  - 4. **The estimated number of individuals or families to be relocated.**
  - 5. **The estimated number of dwelling units presently available that meet replacement housing requirements.**
  - 6. **An estimate of the time necessary for relocation and the number of dwelling units meeting the replacement housing requirements that will become available during that period.**

FIGURE 16

7. The depth of presentation should be influenced by the comprehensiveness of the brochure. If the brochure covers a particular item in sufficient detail, it will be satisfactory to highlight what the brochure contains without going into any great detail. If a particular item is not applicable to the project it will not be necessary to discuss the item beyond the mere mention that the law makes provision for such item.
- (c) Brochure. The Department has available a brochure describing its relocation program. The brochure, available in both English and Spanish, should be distributed without cost at all public hearings and to all other individuals and organizations as appropriate. The brochure also states where copies of any State regulations implementing the relocation assistance program can be obtained.

**FIGURE 16 (Continued)**

**(c) Transcript of Public Hearings**

1. A verbatim written transcript should be made of the oral proceedings at each public hearing. A copy of the transcript should be submitted to File D-8 within a reasonable period after the public hearing, together with:
  - a. Copies of, or reference to, or photographs of each statement, letter or exhibit used or filed in connection with a public hearing, including those submitted both before the hearing and within the time specified after the public hearing.
  - b. Photographs of schematics as displayed at the public hearing if there are no changes since File D-8 and FHWA approval of the schematics prior to the public hearing. If there are any geometric changes to the schematic after File D-8 and FHWA approval and before the public hearing, five copies of the revised schematic, as displayed at the hearing, should be submitted either prior to or accompanying the public hearing data.
  - c. A summary or index of all information made available to the public before the public hearing.
  - d. The appropriate final environmental report (either a final environmental impact statement or a final negative environmental declaration) if required. See Section 2-704 for the content and format for a FEIS, and Section 2-702 for the content and format for a FNED. The final environmental report should contain a summary and analysis of the views received as a result of earlier coordination and in connection with public hearing(s).
  - e. A summary and analysis of views received as a result of earlier coordination and in connection with public hearing(s) if a final environmental report is not required.

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f. A separate certification page, signed and dated by the District Engineer, certifying that:

- (1) A public hearing has been held;
- (2) The economic and social effects of the project's location and design and its impact on the environment have been considered;
- (3) In determining economic, social, and environmental effects, the statutory provisions of the Civil Rights Act of 1964 have been considered; and
- (4) The project's consistency with the goals and objectives of such urban planning as has been promulgated by the community has been considered. (If a community is involved that does not have a known plan of development, this should be noted in the submission and the certification modified as necessary.)

2. Copies of these materials described above should be made available for public inspection and copying not later than the date the transcript is submitted.

(d) Request For Project Approval

1. At the time the transcript and related materials described above are transmitted to File D-8, the District should include recommendations regarding departmental action on the project.
2. At this point, any one of three possible actions is possible: (1) the Administration may disapprove or defer the project; (2) the Administration may approve the project, in which case the final negative environmental declaration or the final environmental impact statement, if required, is processed; or (3) the Administration may submit the project to the Project Review Board for further study and recommendation. The following are likely types of projects that could warrant the latter action: (1) projects containing significant, unresolved social, economic or environmental questions; (2) projects containing difficult trade-off's among alternatives; and (3) projects that have been developed amid significant controversy.
3. After action on a project by the Administration, its progression depends upon the prospective source of funding as follows:
  - a. Federal Secondary Funds - The final negative environmental declaration or final environmental impact statement, if required, is submitted to the FHWA for approval. After notification that the final negative environmental declaration has been adopted, the District will be authorized by the Administration to initiate right-of-way acquisition procedures and preparation of construction plans. If a final environmental impact statement has been submitted, the District may not proceed until notified that the final environmental statement has been approved and adopted. For those nonmajor actions which require a public hearing process, but do not require either an environmental impact statement or a negative environmental declaration, the District should not proceed until notified that the appropriate reports, transcripts and certifications have been accepted by the Administration and that the District is authorized to initiate right-of-way acquisition procedures and preparation of construction plans.

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- b. Other Federal Projects - If the project is to be developed with Federal participation other than Federal Secondary funds, the documentation submitted by the District is further submitted to the FHWA for review and acceptance. After notification that the final negative environmental declaration has been adopted, the District will be authorized by the Administration to initiate right-of-way acquisition procedures and preparation of construction plans. If a final environmental impact statement has been submitted, the District should not proceed until notified that the final environmental statement has been approved and adopted.
- c. For those nonmajor actions which require a public hearing process, but do not require either an environmental impact statement or a negative environmental declaration, the District should not proceed until notified that the appropriate reports, transcripts and certifications have been accepted by the Administration and the FHWA, and that the District is authorized to initiate right-of-way acquisition procedures and preparation of construction plans.

### (e) Approvals

- a. Approval of the final environmental document by the FHWA is deemed as acceptance of the required reports and certifications, and acceptance of the general location and design features.

## 2-809 POST-HEARING PUBLIC INVOLVEMENT

Following the Department's and, if required, the FHWA's adoption of the appropriate final environmental statement or declaration, and/or acceptance of the appropriate reports, transcripts and certifications, the District should provide for the effective publicizing of the actions. The emphasis on public involvement after the approval action shifts from an informational exchange to: (1) the routine provision of information to interested parties and (2) responding to inquiries from and coordinating with property owners and displacees as to right of way and relocation assistance policies and procedures.

## 2-810 ADDITIONAL HEARING OPPORTUNITIES

Following the usual approval action of a project's location and design, an additional public hearing process (opportunity, hearing, or limited meeting) should be held when there has been a substantial change in the proposal, or substantial unanticipated development in the area affected by the proposal, or an unusually long lapse of time since the last hearing, or significant social, economic, or environmental effects are identified that were not previously considered at the earlier public hearing process. The determination of an "unusually long lapse of time" since the last hearing must be on a project-by-project basis, and not on a prescribed lapsed time applied unvaryingly to every project. The determination of an "unusually long lapse of time" should take into consideration (1) the time normally required to develop a project from inception to contract, (2) whether or not there has been substantial change in the project, (3) whether or not there has been a substantial unanticipated development in the area, or (4) the identification of significant effects not previously considered at earlier hearings.

Before scheduling an additional public hearing process, the District should consult File D-8.

FIGURE I

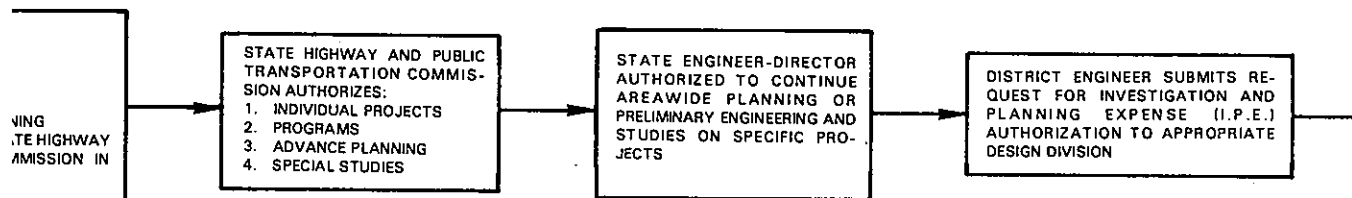
FLOW CHART SHOWING PROCESS  
GUIDELINES FOR PROJECT DEVELOPMENT  
EMPHASIZING PUBLIC INVOLVEMENT AND  
SOCIAL, ECONOMIC & ENVIRONMENTAL CONSIDERATION:

ABBREVIATIONS

DES. DIV.	DESIGN DIVISIONS
E.C.	ENVIRONMENTAL COORDINATOR
IPE	INVESTIGATION AND PLANNING EXPENSE
SEE	SOCIAL, ECONOMIC AND ENVIRONMENTAL
DNED	DRAFT NEGATIVE ENVIRONMENTAL DECLARATION*
FNED	FINAL NEGATIVE ENVIRONMENTAL DECLARATION*
DEIS	DRAFT ENVIRONMENTAL IMPACT STATEMENT*
FEIS	FINAL ENVIRONMENTAL IMPACT STATEMENT*
BPO	GOVERNOR'S BUDGET AND PLANNING OFFICE
COG	COUNCIL OF GOVERNMENTS
FHWA	FEDERAL HIGHWAY ADMINISTRATION
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES

\* TO BE ACCOMPANIED BY SECTION 4(f) DOCUMENTATION  
IF SECTION 4(f) LANDS ARE INVOLVED.

INDIVIDUAL PROJECTS  
PROGRAM DEVELOPMENT  
LONG RANGE (SYSTEMS) I  
LOCAL AREA STUDIES  
NEEDS AND COST STUDIE  
URBAN TRANSPORTATION  
DELEGATIONS APPEARING  
AND PUBLIC TRANSPORT  
PUBLIC HEARING

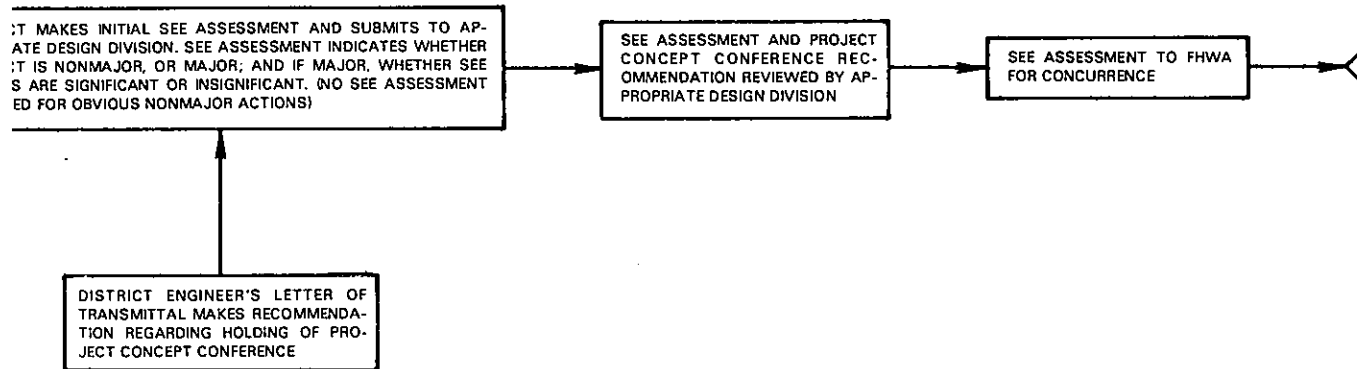


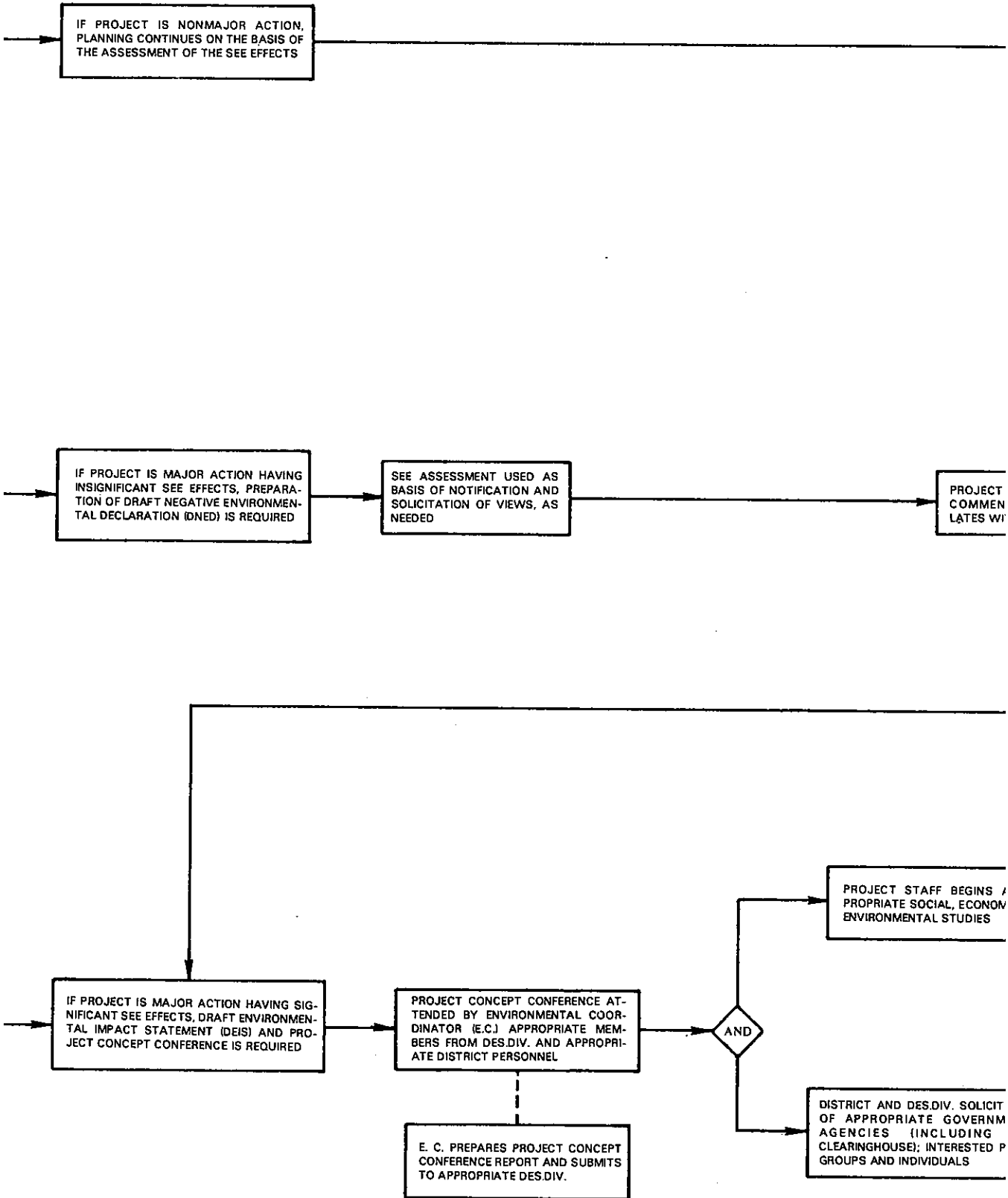
IT MAKES INITIAL SEE ASSESSMENT AND SUBMITS TO AP-  
ATE DESIGN DIVISION. SEE ASSESSMENT INDICATES WHETHER  
IT IS NONMAJOR, OR MAJOR; AND IF MAJOR, WHETHER SEE  
S ARE SIGNIFICANT OR INSIGNIFICANT. (NO SEE ASSESSMENT  
ED FOR OBVIOUS NONMAJOR ACTIONS)

SEE ASSESSMENT AND PROJECT  
CONCEPT CONFERENCE REC-  
COMMENDATION REVIEWED BY AP-  
PROPRIATE DESIGN DIVISION

SEE ASSESSMENT TO FHWA  
FOR CONCURRENCE

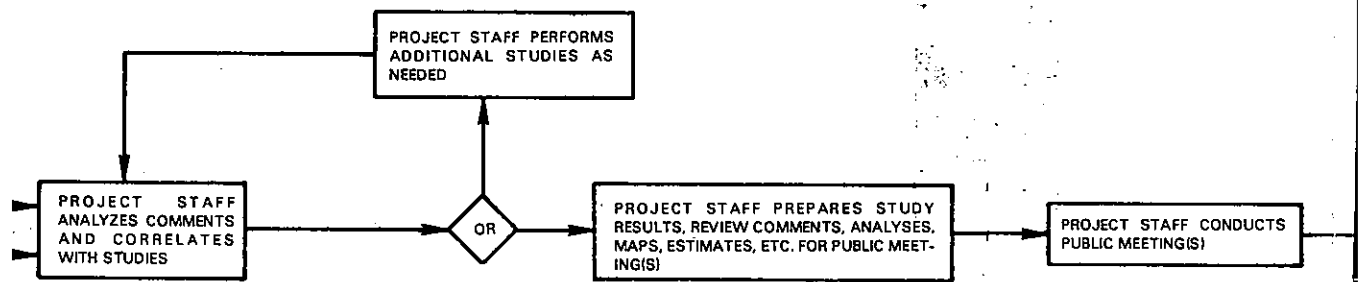
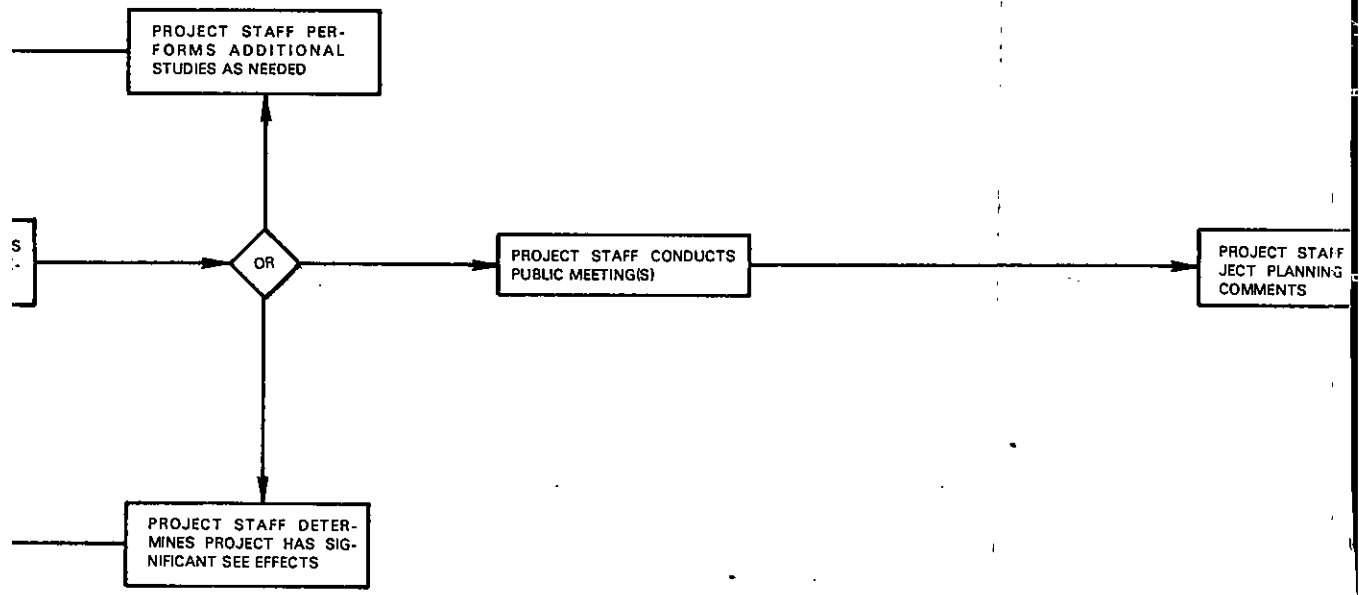
DISTRICT ENGINEER'S LETTER OF  
TRANSMITTAL MAKES RECOMMENDA-  
TION REGARDING HOLDING OF PRO-  
JECT CONCEPT CONFERENCE

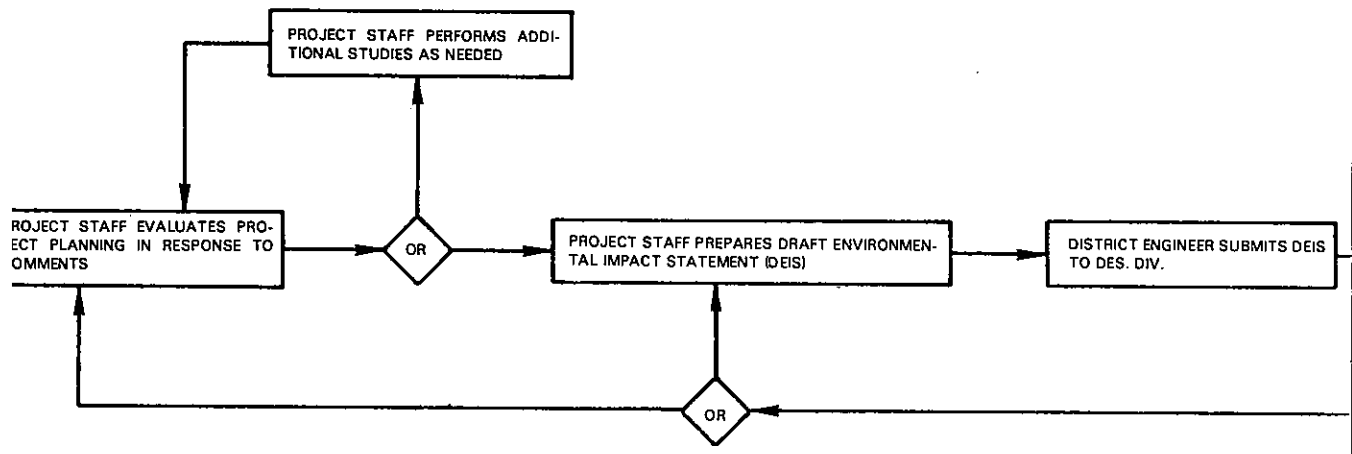
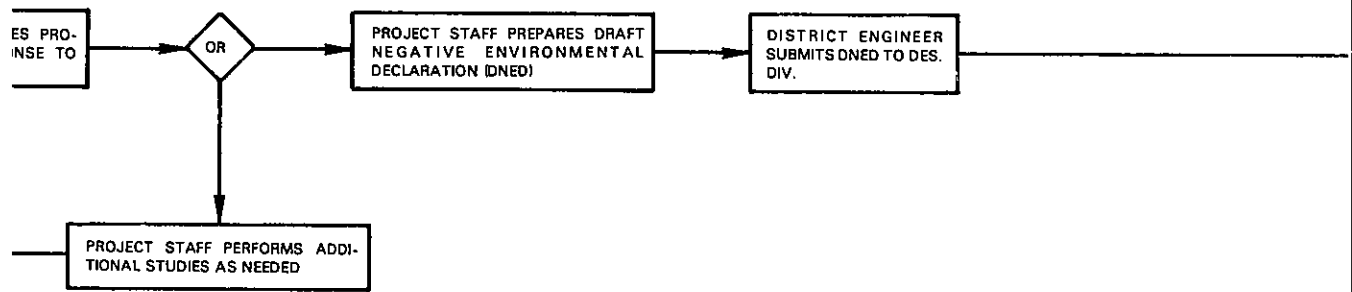


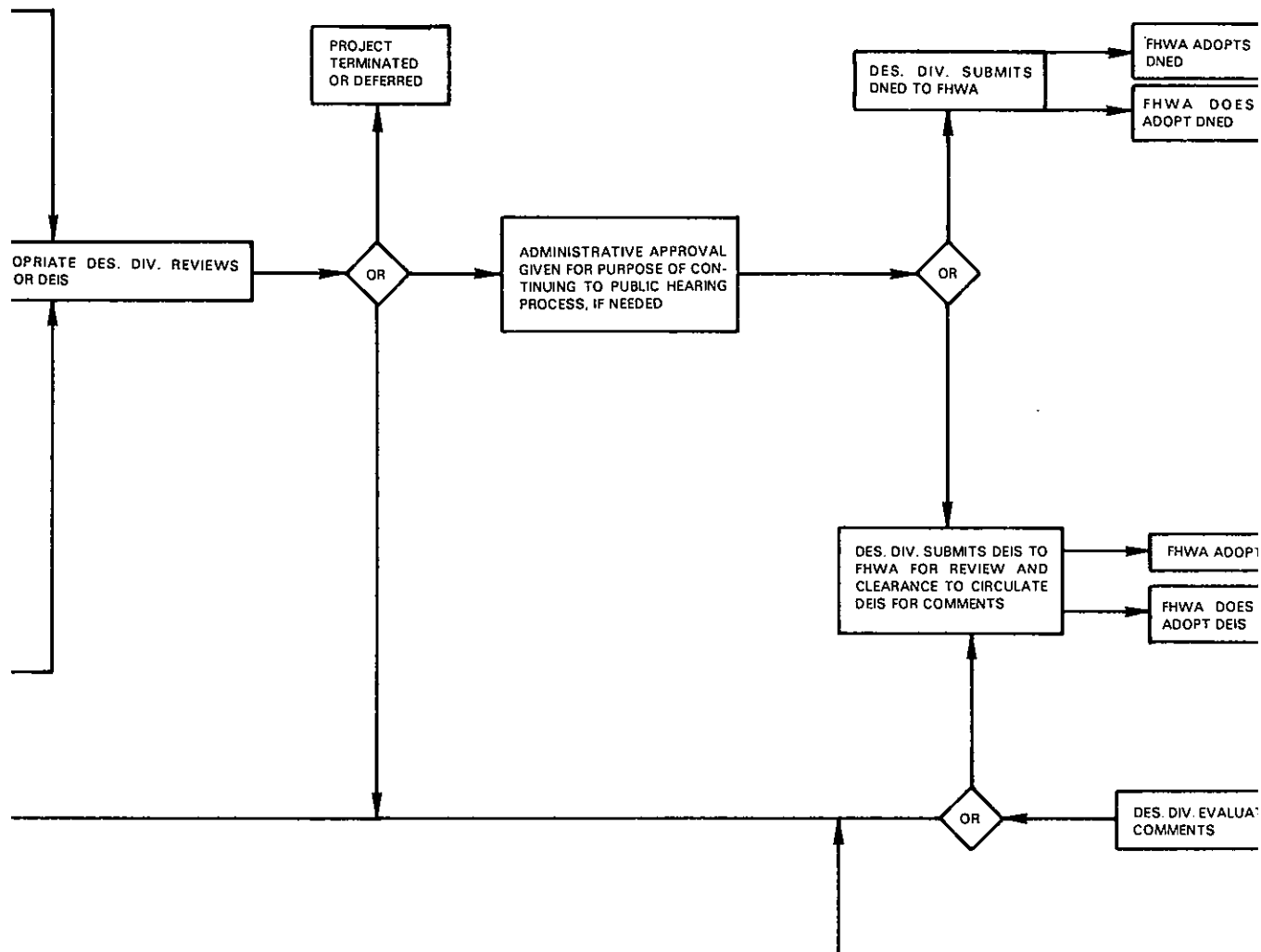


THE DISTRICT INITIATES NOTIFICATION OF VIEWS (GENERALLY FOR PROJECTS WHICH REQUIRE THE HOLDING OF A PUBLIC MEETING AND A PUBLIC HEARING PROCESS)

AS NEEDED, THE DISTRICT CONDUCTS PUBLIC MEETING(S)







NOTICE PUBLISHED INDICATING  
AVAILABILITY OF DNEP IF PUBLIC  
HEARING PROCESS NOT REQUIRED

FHWA SUBMITS DEIS TO DEPT OF TRANSPORTATION  
COUNCIL ON ENVIRONMENTAL QUALITY, AND U.S.  
COAST GUARD, WASHINGTON, D.C.

DES DIV SUBMITS DEIS TO HOUSING AND URBAN  
DEVELOPMENT, HEALTH, EDUC. AND WELFARE, DEPT  
OF INTERIOR, DEPT OF AGRICULTURE, ENVIRONMEN-  
TAL PROTECTION AGENCY, CORPS OF ENGINEERS,  
ETC.

DISTRICT ENGINEER SUBMITS DEIS TO C O G AND  
CITY AND COUNTY GOVERNMENTS AND OTHERS  
INVOLVED IN COORDINATION

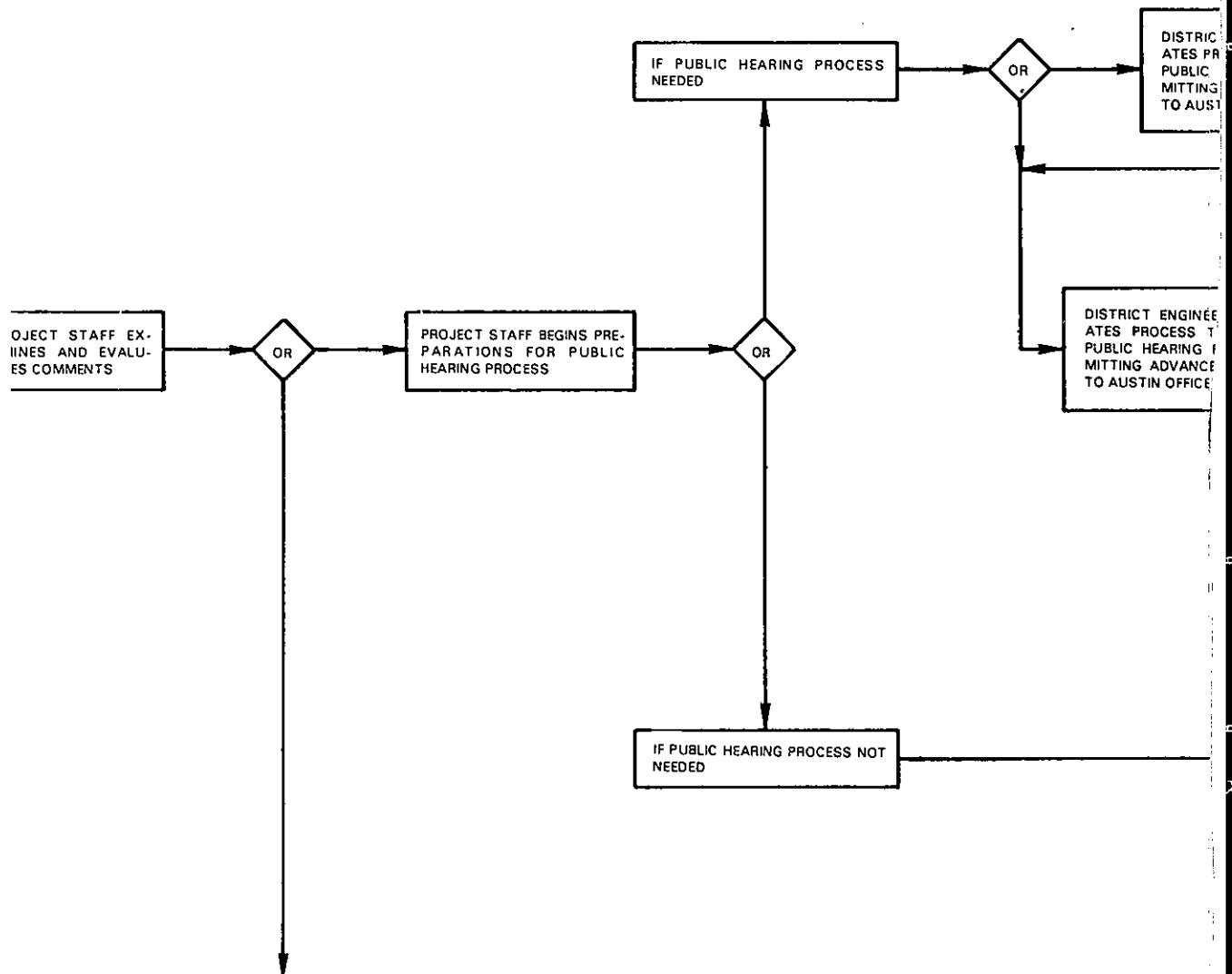
DES. DIV SUBMITS DEIS TO  
GOVERNOR'S BUDGET AND  
PLANNING OFFICE (BPO)

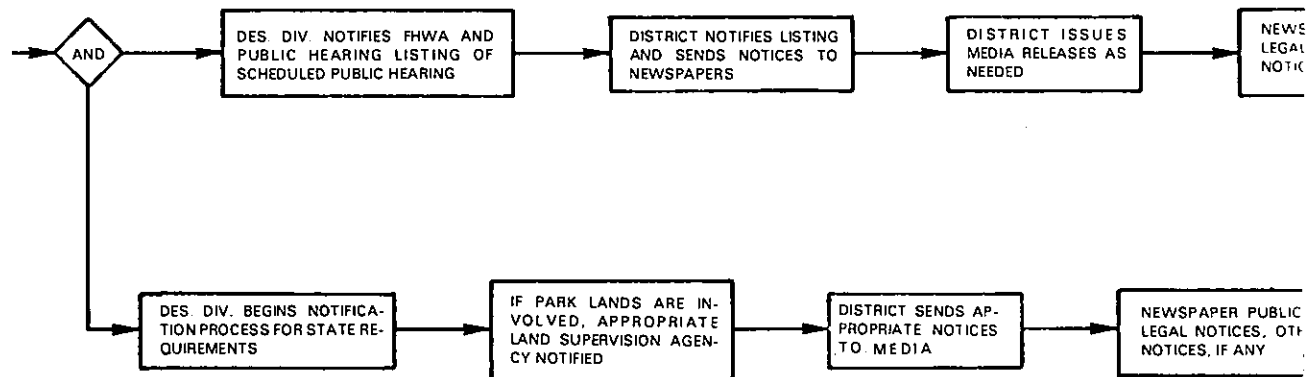
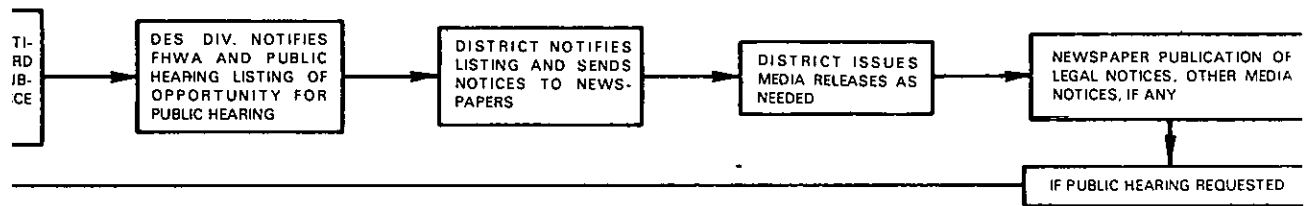
BPO DISTRIBUTES DEIS TO  
STATE AGENCIES FOR  
REVIEW AND COMMENTS

COMMENTS RECEIVED BY  
DES DIV ARE REVIEWED  
AND FORWARDED TO DIS-  
TRICT

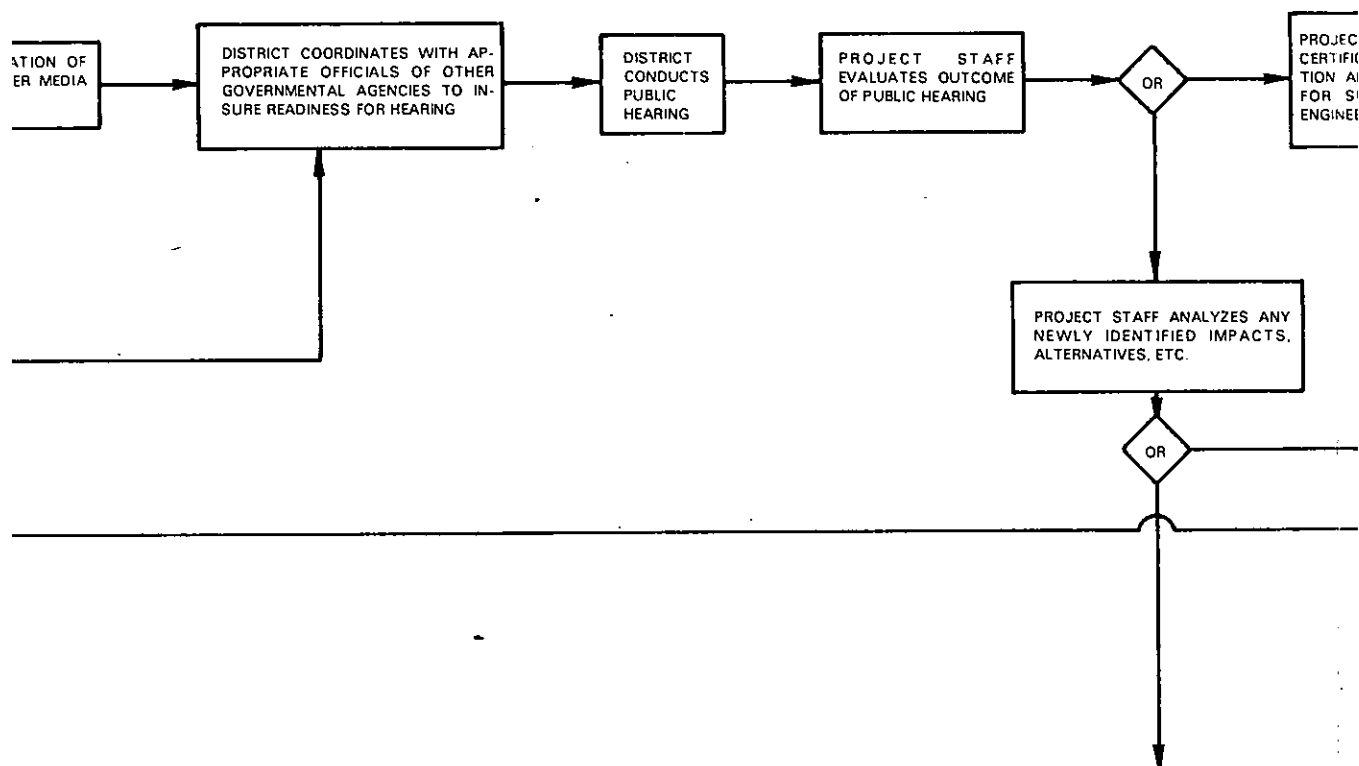
B P O. COLLECTS  
COMMENTS AND  
TRANSMITS TO SDHPT

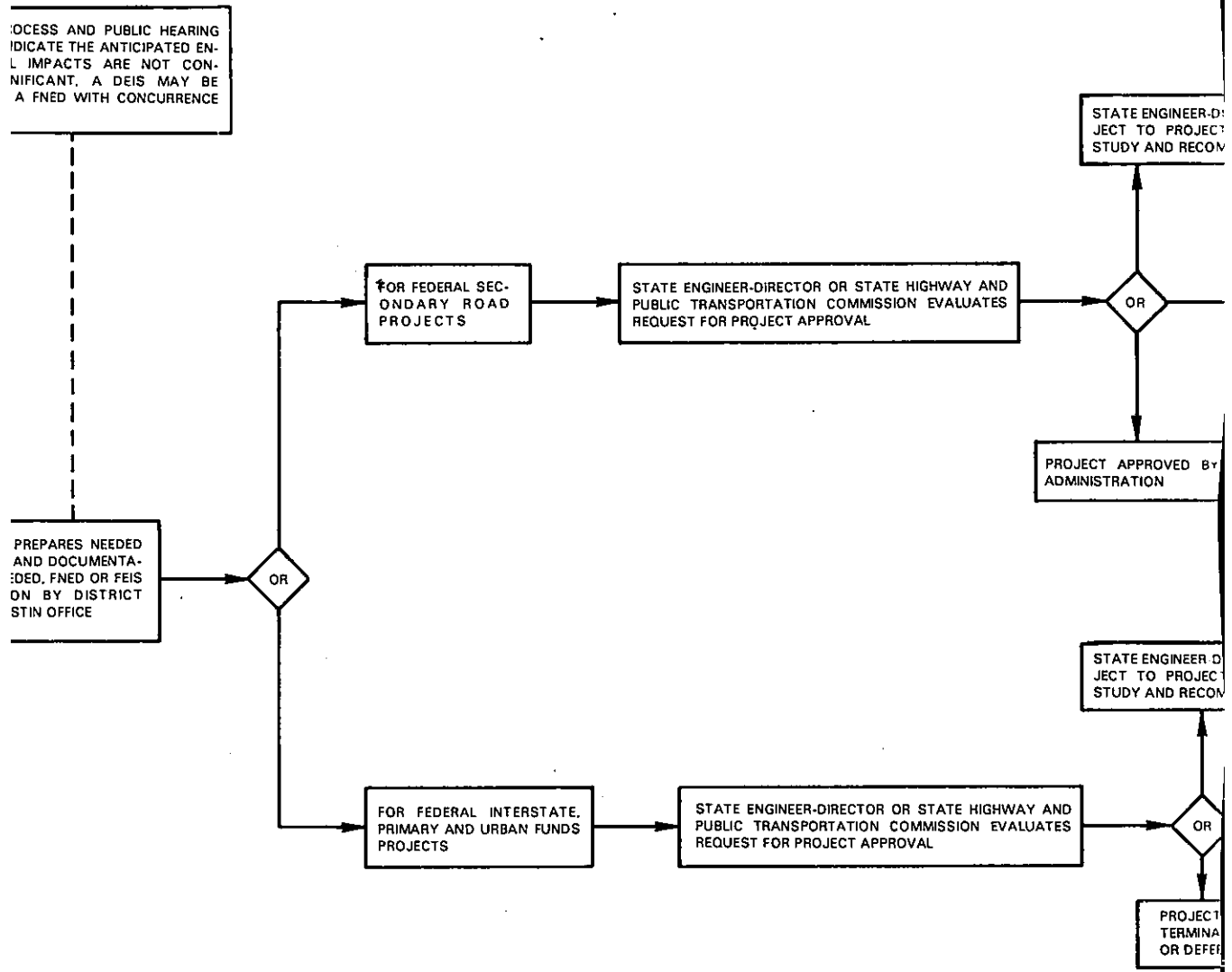
NOTICE PUBLISHED INDICATING  
AVAILABILITY OF DEIS IF PUBLIC HEAR-  
ING PROCESS NOT REQUIRED

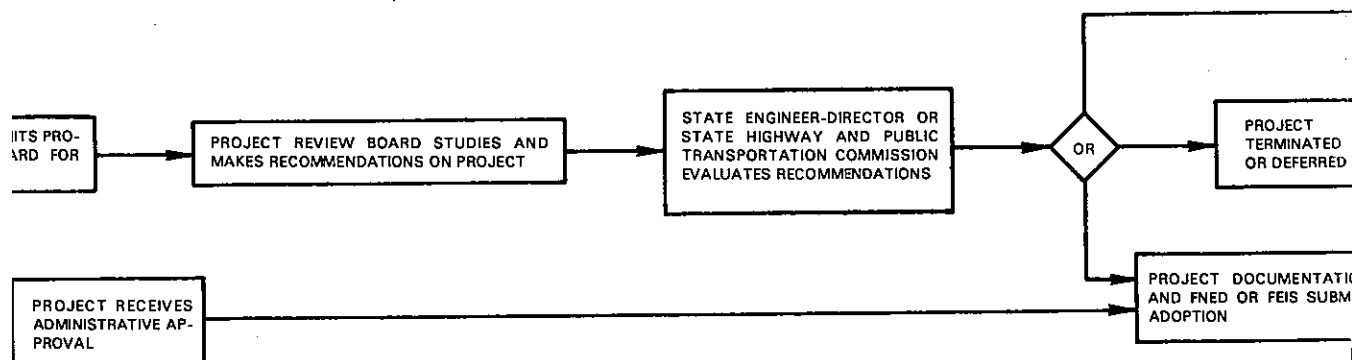
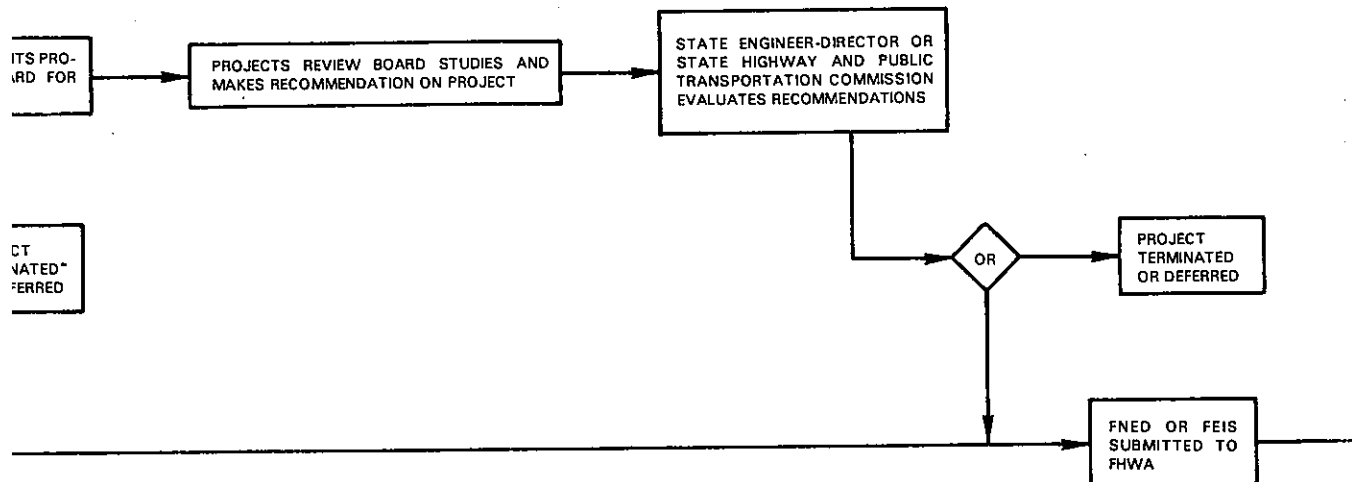


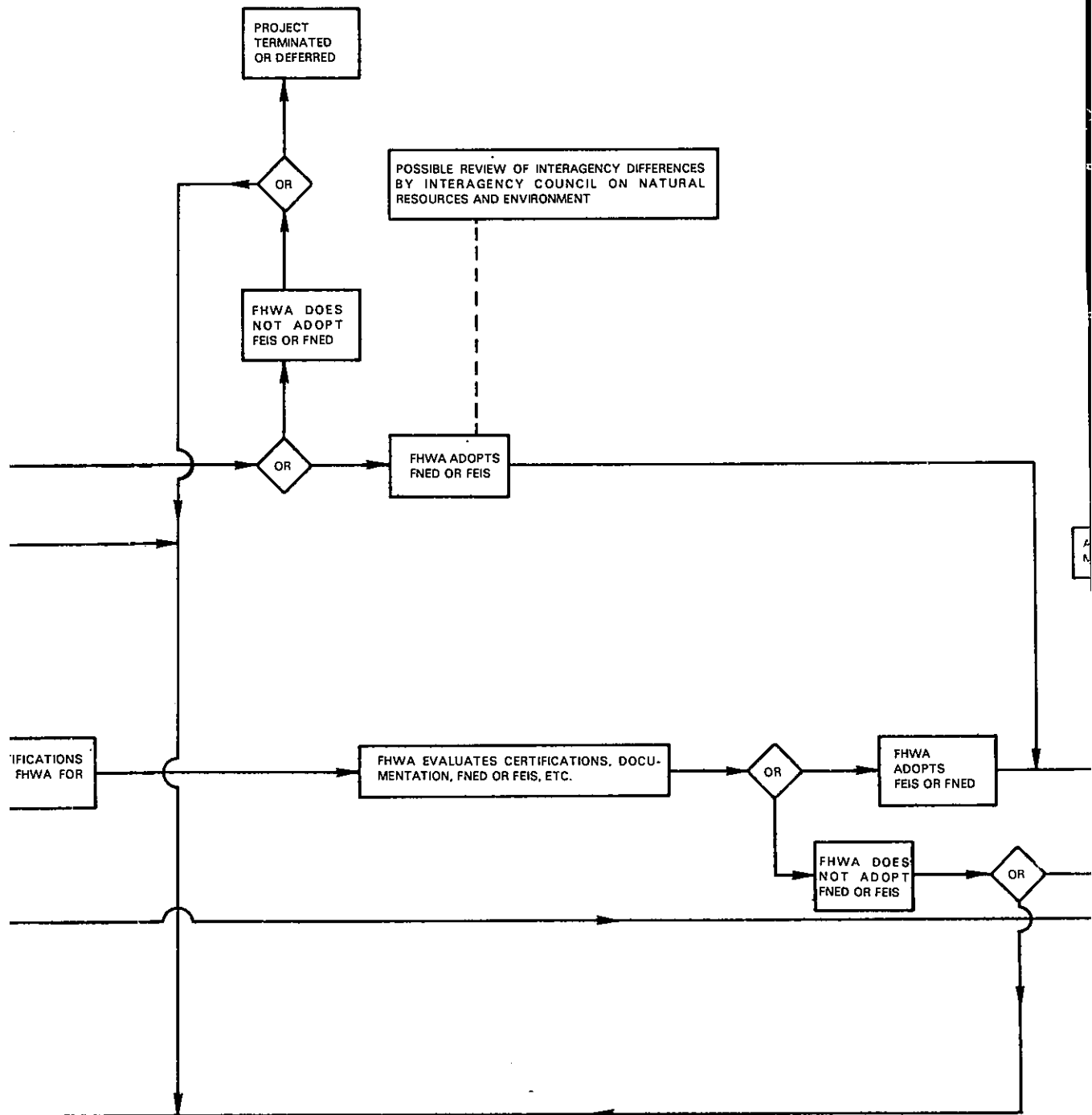


IF RECOMMENDED  
VIOLO  
SIDER  
CHAN  
OF FH

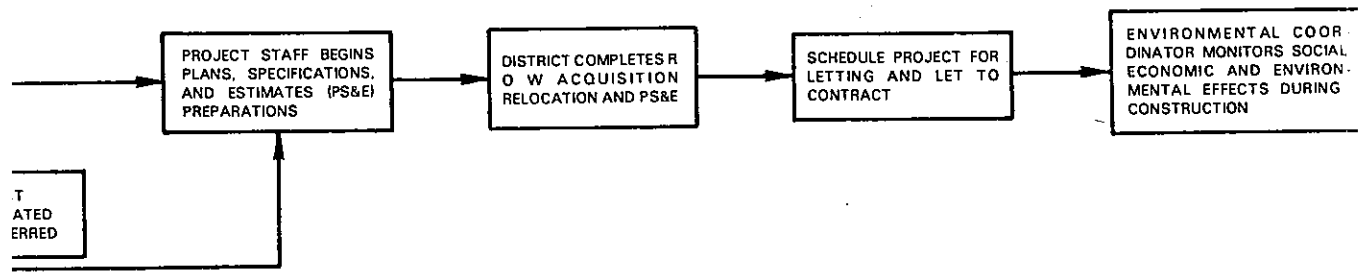


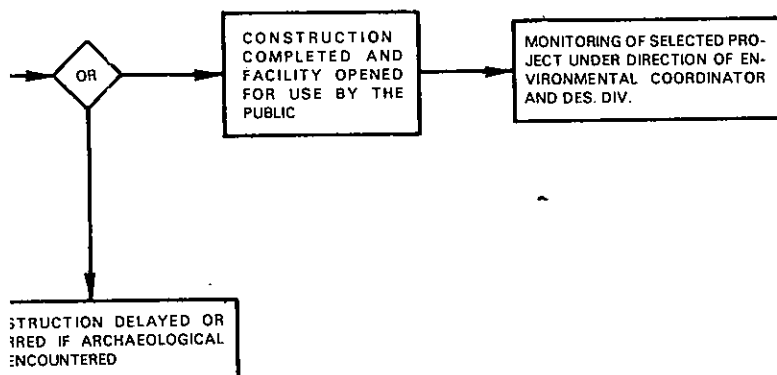






ARING OPPORTUNITIES  
ED, AS NEEDED





## **PART III**

# **CONSTRUCTION AND RECONSTRUCTION OF FARM AND RANCH TO MARKET ROADS**



## **FARM AND RANCH TO MARKET ROAD DESIGN GENERAL (3-100)**

### **3-100 GENERAL**

New Farm and Ranch to Market Roads are developed to approved design standards utilizing either Federal Aid Secondary and/or pure State funds. These projects utilizing Federal Aid Secondary funds are approved by the Federal Highway Administration under the provisions of an approved "Secondary Road Plan."

### **3-101 SECONDARY ROAD PLAN**

Adoption of the "1954 Secondary Road Plan" as authorized by the Federal Aid Highway Act of 1954 and approved for Texas November 1, 1954, with subsequent revisions substitutes policy agreement with the Federal Highway Administration on a State-wide basis for individual treatment of public hearing, route, location, design plans, specifications and the related details on projects financed with Federal Secondary Highway funds. Forest Highway projects, are under the usual Federal Aid requirements necessitating P.S. & E. approval by the FHWA prior to advertising for bids. The updating of the 1954 Secondary Road Plan through appropriate amendments is the responsibility of the Highway Design Division.

## **PROJECT PLANNING AND DEVELOPMENT (3-200)**

### **3-200 PREPROGRAM ACTIVITIES**

In offering assistance to the State Highway and Public Transportation Commission it has long been the practice of the Department to recommend expansion, relocation and rehabilitation of the Farm and Ranch to Market Road System on a logical and systematic basis. Traffic and area necessities, as well as costs, are analyzed to provide a facility that will best serve the most people with the limited funds available for construction and future maintenance.

#### **3-200.1 DOCUMENTATION**

State and Federal legislation continue to emphasize the need for expansion, relocation and rehabilitation of this system. An increased emphasis is made on analyses of the effects the facility will have on the area, its people, its uses and its history. Public hearings, or the offer of an opportunity for hearings, are required. Effective use of preprogram activities should gain the evidence needed to assure the area support that is an integral part of project approvals. This differs from past procedures only in its scope, its thoroughness and in the need for documentation in District Office files.

### **3-201 PROJECT AUTHORIZATION**

In response to the Administration's request for Farm and Ranch to Market Road program recommendations, the District submissions include written descriptions supported by county traffic maps delineating each proposed project. When Commission action is favorable and County and/or City acceptance follows, the line on the supporting map becomes the basis for I.P.E. authorization and project development. Isolated project authorizations may arise through any one of several channels, though in substance they will be upheld by acceptances paralleling program approvals. If subsequent developments indicate that changes in the map or written descriptions would be in order, the District will forward its recommendation and supporting data to the Administration for further handling. Since the original Commission Order and its acceptance locally constitute a contract between the two agencies, any change requiring a modification in the Commission Order will be supported by a copy of an official request from the local authority for revision. When the Commission Order may remain as written, the change will be acted upon Administratively.

#### **3-201.1 INVESTIGATION AND PLANNING EXPENSE (I.P.E.)**

Investigation and planning expense is composed of all costs incurred during the development of any authorized project. Requests for I.P.E. Authorization should be forwarded to the Highway Design Division in accordance with instructions as outlined in Part II of this manual.

### **3-202 PROJECT DEVELOPMENT**

Upon submission and return of an approved I.P.E. on Farm and Ranch to Market projects, the District Engineer shall arrange and be responsible for the sequence and documentation of project development

## HIGHWAY DESIGN DIVISION OPERATIONS AND PROCEDURES MANUAL 2-78

in keeping with the approved Action Plan and governing requirements generally as follows:

- (a) Social, Economic and Environmental assessment with approval by the Highway Design Division, D-8.
- (b) Design approval following D-8 concurrence in Basic Design Values.
- (c) Public hearings or the opportunity for public hearings.
- (d) District Engineer certification of public hearing compliance.
- (e) Preparation and release of right-of-way deeds to county or city.
- (f) Relocation assistance, if any, as regulated through the Right of Way Division, D-15.
- (g) Arrangements for railroad grade crossing easements with the Bridge Division, D-5.
- (h) Preliminary approval of bridge layouts and special design details of structures.
- (i) Completion of P.S. & E. and supporting papers.
- (j) District office review and recommendation for approval.
- (k) Transmittal to D-8 for review, approval and handling to contract.

### 3-202.1 AIRWAY-HIGHWAY CLEARANCE

Data regarding Airway-Highway clearances for Farm and Ranch to Market Road projects should be formulated in accordance with the procedures outlined in Part II of this Manual pertaining to Airway-Highway Clearance. Such data will be submitted to D-8 for necessary approvals.

### 3-203 PUBLIC HEARINGS

Public Hearing requirements for Farm and Ranch to Market Road projects are essentially the same as outlined in Part II of this manual, with the following exceptions:

- (a) The responsibility for documentation will lie with the District.
- (b) Certification of Compliance with Public Hearing requirement is to be made by District Engineer. One copy of certification of compliance should be furnished with P.S. & E. Submission.
- (c) Copies of required notices, transcripts, etc. need not be submitted, but should be maintained in District files and available for ready reference.

In the event there appears to be controversy of any form and the District Engineer so elects, complete transcript etc. may be submitted to D-8 with a request for comment or concurrence.

### 3-204 DEMONSTRATION CITIES AND METROPOLITAN DEVELOPMENT ACT OF 1966

For Farm and Ranch to Market Road projects, authorizations under this Act are given at the District

## HIGHWAY DESIGN DIVISION OPERATIONS AND PROCEDURES MANUAL 2-78

level with the District Engineer certifying that all required procedures have been met. These approvals must follow the clearing house procedures as outlined in Part II of this Manual, with all required procedures documented in the District office file. Special emphasis is placed on the proper completion of Part III of the P.S. & E. Submission Data (Figure 3-1). This information should accompany the P.S. & E. Submission.

\_\_\_\_\_ County Control No. \_\_\_\_\_ I.P.E. \_\_\_\_\_  
F.M. & R.M. Project No. \_\_\_\_\_ P.D. \_\_\_\_\_

(A) <u>AUTHORIZED FUNDS:</u>	_____	\$ _____
(Program or Minute No.)	_____	
	_____	\$ _____
	_____	\$ _____
	_____	\$ _____
	_____	\$ _____
SUB - TOTAL	_____	\$ _____

COUNTY	_____	\$	_____
CITY	_____	\$	_____
OTHER	_____	\$	_____
TOTAL (Sum of A and B) -----		\$	_____

FORCE-ACCOUNT WORK		Description	
STATE	_____	\$	_____
	_____	\$	_____
RAILROAD	_____	\$	_____
	_____	\$	_____

(E) REASONS FOR OVERRUN \_\_\_\_\_

3-5

- II TRAFFIC Present \_\_\_\_\_ ADT; Upon Completion \_\_\_\_\_ ADT  
Opportunity
- III PUBLIC HEARING Required? \_\_\_\_\_ Held? \_\_\_\_\_ Afforded \_\_\_\_\_ : Date \_\_\_\_\_  
COUNCIL OF GOVT'S. ADVISED BY LTR DATED: \_\_\_\_\_ COPY TO D-8 \_\_\_\_\_  
C.O.G. LTR. TO T.H.D. DATED \_\_\_\_\_ COPY TO D-8 \_\_\_\_\_  
RELOCATION ASSISTANCE INVOLVED? \_\_\_\_\_ IF YES, CERTIFICATION SUBMITTED? \_\_\_\_\_
- IV BASIC DESIGN VALUES: Approved \_\_\_\_\_ Date \_\_\_\_\_
- V OPTION AGREEMENTS: Included with P.S. & E. \_\_\_\_\_  
PREVIOUSLY SUBMITTED \_\_\_\_\_ For Project No. \_\_\_\_\_  
TO BE SUBMITTED \_\_\_\_\_ None Required \_\_\_\_\_  
(Est. Date)
- VI RIGHT OF WAY: R/W Clear \_\_\_\_\_ R/W Not Clear \_\_\_\_\_  
ESTIMATE CLEAR BY: \_\_\_\_\_ (Date)  
UTILITIES ADJUSTED: \_\_\_\_\_; If Not; Special Provision Provided; \_\_\_\_\_
- VII NEW SPECIAL PROVISION AND SPECIAL SPECIFICATIONS:  
REASON FOR NEED: \_\_\_\_\_  
\_\_\_\_\_  
MODIFICATION OF EXISTING SP. PROV./SPEC. NO. \_\_\_\_\_  
SPECIFY MODIFICATION: \_\_\_\_\_  
\_\_\_\_\_
- VII RAILROAD AGREEMENTS: Required? \_\_\_\_\_ Status: \_\_\_\_\_  
Name of R.R. \_\_\_\_\_ Type Work \_\_\_\_\_
- IX AIRWAY-HIGHWAY CLEARANCE: Cleared \_\_\_\_\_ Date \_\_\_\_\_  
(If none required, so state)
- X REMARKS: (Expansion of above items)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Do not type below this line)

Figure 3-1 Con't. (Refers to Paragraph 3-204)

## **DESIGN STANDARDS FOR FARM AND RANCH TO MARKET ROADS (3-300)**

### **3-300 GENERAL**

The geometric highway design standards outlined here are to be applied in the location and design of Farm and Ranch to Market Roads. These standards deal with features such as vertical and horizontal alignment, width of roadway, shoulders, surfacing and bridges, permissible slopes and required clearances. The standards do not cover structural features of design such as types and thicknesses of materials or their respective load carrying capabilities.

Established values are considered minimums for the design traffic classifications indicated. Exceptions to these standards will be considered on the basis of individual merit. Predominant adherence to the limitations imposed, however, is essential for efficient and equitable expenditure of funds.

Safety is an important factor for consideration in the location and design of Farm and Ranch to Market Roads. In many cases, provisions for safer passage of traffic can be realized at no appreciable increase in cost by including desirable safety features at the time of initial location and design.

### **3-301 DEFINITION OF TERMS**

Elements of geometric design contained in Table 3-I are delineated in Figure 3-2 with the following exceptions:

#### **Minimum Clearance Between Culvert Ends:**

Where headwalls are used on pipes or on box culverts (single & multiple), clearance is measured face to face of headwall curbs. When pipes are used without headwalls, clearance is measured between the intersection of side slope and top of pipe on each side.

#### **Roadway Width of Bridges:**

New Bridges: Roadway width is measured face to face of railing.

Bridges to Remain: Roadway width is measured face to face of railing or curbs as the case may be.

### **3-302 ELEMENTS OF DESIGN**

#### **3-302.1 DESIGN TRAFFIC VOLUMES**

Traffic volumes indicated in Table 3-I refer to the ADT anticipated on completion of the project. The design values indicated for the various traffic brackets allow for anticipated increases derived from Transportation Planning Division studies.

At points where significant changes in traffic volumes occur or are anticipated within the limits of a project, consideration should be given to a design change based on the corresponding traffic design

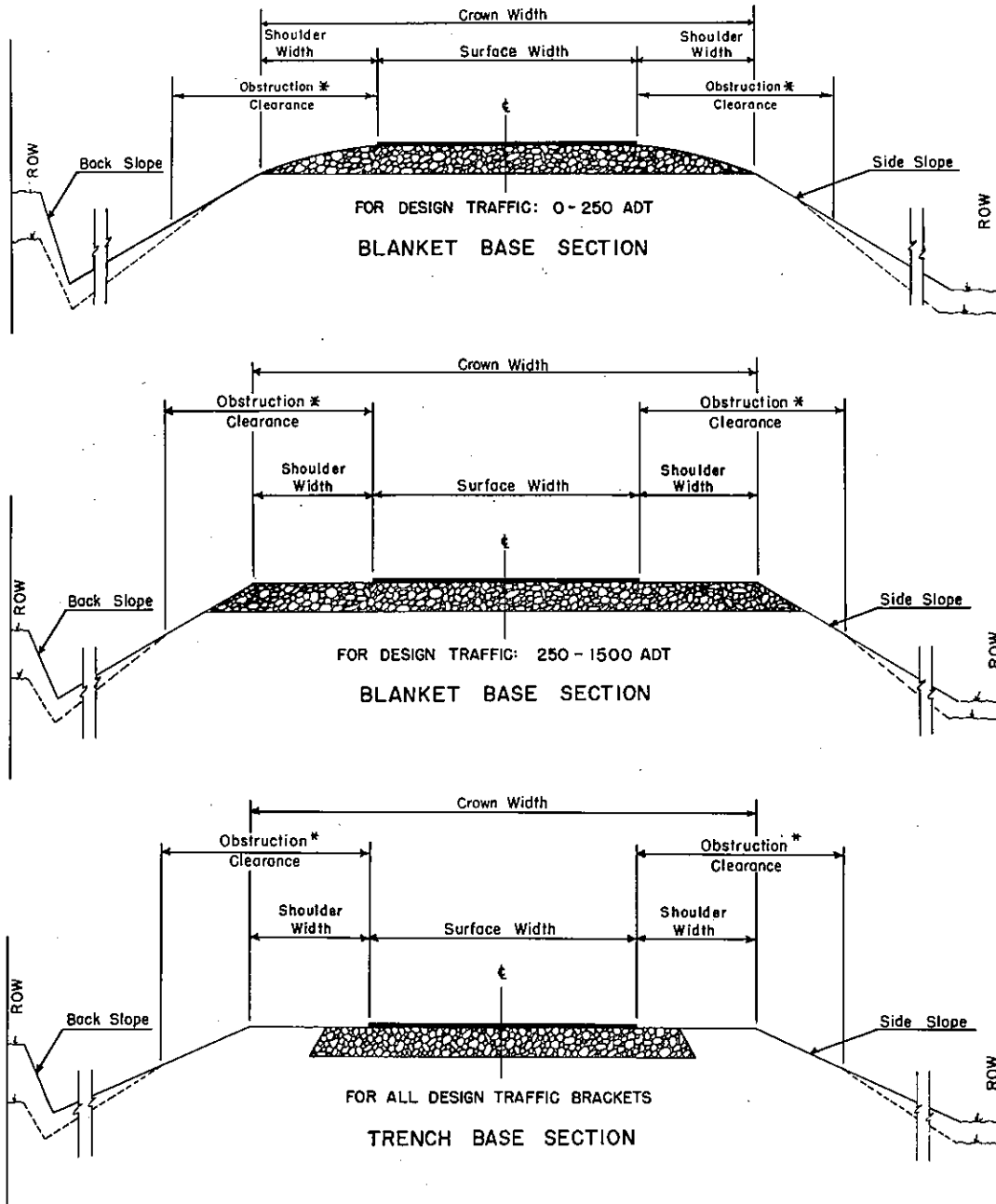
TABLE 3-I  
DESIGN STANDARDS FOR  
CONSTRUCTION AND RECONSTRUCTION OF  
FARM AND RANCH TO MARKET ROADS

Traffic Brackets for Design Control (ADT)<sup>a</sup>.

Design	0 - 50 <sup>d</sup>	0 - 250	250-400	400-750	750-1500 <sup>b</sup>
Right of Way Width (Ft.)	80	100	100	120	120
Crown Width (Ft.)	24	28	28	34	40
Shoulder Width (Ft.)	3	4	4	6	8
Surface Width (Ft.)	18	20	20 <sup>c</sup>	22	24
Obstruction Clearance (Ft.) <sup>e</sup>	_____	Min---Des 0 - 16	Min---Des 7 - 16	Min---Des 7 - 16	Min---Des 16 - 30
Clearance Between Culvert <sup>e</sup> Ends (Pipes or Boxes)(Ft.)	_____	Min---Des 28 - 52	Min---Des 34 - 54	Min---Des 36 - 54	Min---Des 56 - 84
New Bridges:					
Roadway Width (Ft.)	24	28	28 <sup>c</sup>	34	40
Design Loading (Ton)	H-15	HS - 20	HS - 20	HS - 20	HS - 20
Bridges to Remain:					
Minimum Roadway Width (Ft.)	18	20	20	24	_____
Minimum Safe Loading (Ton)	H-10	H - 15	H - 15	H - 15	_____
Hydraulic Design Frequency (Yrs.)					
Culverts	2	2	5	10	10
Minor Bridges	5	5	10	25	25
Major Bridges	_____	10	25	50	50

- a. ADT represents average daily traffic anticipated at time of project completion.
- b. For traffic volumes in excess of 1500 vpd, Design shall be in accordance with Part IV of this Manual.
- c. For design speed of over 50 mph, surface width should be 22 feet and roadway width of new bridges should be 34 feet.
- d. The 0-50 traffic bracket should be used only on projects involving 100% State Funds.
- e. For Federal Aid projects use desirable rather than minimum dimensions unless prohibited by terrain, right of way, etc.

TYPICAL SECTIONS  
USED IN DESIGN STANDARDS  
FOR  
FARM AND RANCH TO MARKET ROADS



\* Varies - see Table 3-1

FIGURE 3-2 (Refers to Paragraph 3-301)

bracket. Engineering judgment should be exercised on projects having predicted traffic volumes on the upper side of the applicable traffic bracket, or on which future extensions would provide a through facility. Design standards as outlined in Part IV of this Manual shall apply on projects having present or anticipated traffic volumes exceeding 1,500 ADT.

### 3-302.2 DESIGN SPEED

The design speed for Farm and Ranch to Market Roads will vary due to differences of terrain. Suggested minimum design speeds for the various design traffic volumes in level, rolling or mountainous terrain are shown in Table 3-II.

### 3-302.3 RIGHT OF WAY

Widths indicated in Table 3-I are minimums. Where the characteristics of a particular project indicate a future expansion to a higher type facility, consideration should be given to initially acquiring sufficient right of way width to assure future construction of the ultimate facility.

### 3-302.4 OBSTRUCTION CLEARANCE

Where indicated in Table 3-I an area free of all obstructions to vehicular traffic shall be provided for the width specified. In the obstruction clearance width, the maximum slope (shoulder or side) shall not exceed 6:1. Metal beam guard fence may be considered where unusual conditions and economics restrict the obstruction clearance that can be provided. The minimum clearance between pipe culvert or box culvert ends to provide obstruction clearance shall be as specified in Table 3-I.

### 3-303 RETENTION OF EXISTING BRIDGES

As a general rule, existing bridges which require reconditioning and which will not have a useful life of ten years or more after reconditioning should not be retained in place. Also, when the cost of reconditioning equals or exceeds twenty per cent of the cost of a new bridge of comparable length and roadway width, the existing bridge should not be retained in place. The minimum design values and frequencies indicated do not prohibit practical and economic usage of low-water structures or overflow sections under special conditions and with prior approval of D-8.

### 3-304 CURVES, GRADES AND SIGHT DISTANCES

Maximum values for curves and grades shall be as indicated in Table 3-II. The use of steeper-than-indicated maximum grades should be considered on the basis of traffic volumes served and economics of construction. Minimum, values for stopping sight distances are indicated in Table 3-II.

### 3-305 SLOPES

In the interest of safety, side slopes and back slopes should be as flat as economically feasible. If sufficient right of way is available, consideration should be given to flattening embankment slopes versus the cost of providing metal beam guard fence on sections where steep slopes would be hazardous. The intersection of slope planes should be well rounded.

TABLE 3-II  
DESIGN STANDARDS FOR  
CONSTRUCTION AND RECONSTRUCTION OF  
FARM AND RANCH TO MARKET ROADS

SUGGESTED MINIMUM DESIGN SPEEDS (MPH):

Type of Terrain	Traffic Brackets for Design Control (ADT)				
	0-50	50-250	250-400	400-750	750-1500
Level	40	40	50	50	50
Rolling	30	30	40	40	40
Mountainous	20	20	20	30	30

CURVES, GRADES AND SIGHT DISTANCES:

	Design Speed - Miles Per Hour					
	<u>20</u>	<u>30</u>	<u>40</u>	<u>50</u>	60	<u>70</u>
Maximum Degree of Curve (e=0.08)	53.5	23.0	12.5	7.5	5.0	3.5
Maximum Grades (Per Cent)						
Flat Terrain	7	6	5	4	3	3
Rolling Terrain	10	7	6	5	4	4
Mountainous Terrain	12	9	8	7	6	5
(For low volume roads grades of relatively short lengths may be increased to 150% of the value shown.)						
Stopping Sight Distance (Ft.)	150	200	275	350	475	600
K Value (Crest V.C.)	16	28	55	85	160	255
K Value (Sag V.C.)	24	35	55	75	105	145

K Value multiplied by algebraic difference in grade will give length of vertical curve in feet to provide minimum sight distance. For stopping sight distances, height of eye is 3.75 feet and height of object is 0.5 foot.

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### 3-306 SPECIAL CONDITIONS

#### 3-306.1 THROUGH RESERVOIR AREAS

On high fills through reservoir areas where riprap slope protection is provided in conjunction with metal beam guard fence, making future widening of the embankment impractical, a minimum of two 12-foot traffic lanes and a minimum shoulder width of 8 feet between the surface edge and face of the metal beam guard fence should be provided.

#### 3-306.2 METAL BEAM GUARD FENCE

##### 50-250 ADT Design Traffic Bracket:

- (a) Across Culverts: The use of guard fence shall be restricted to ONLY those locations where terrain presents an unusually hazardous condition.
- (b) Bridge Ends: Except for unusual conditions, a maximum of 75 feet of guard fence shall be provided at all four corners in accordance with the latest guard fence standard for the turned down and anchored design.

##### 250-400 ADT Design Traffic Bracket:

- (a) Across Culverts: Guard fence shall be provided ONLY across multiple box culverts having the minimum clearance between culvert ends and where terrain presents an unusually hazardous condition. Where guard fence is required, consideration should be given to the cost of lengthening the multiple box culvert a minimum of 3 feet on each end and omitting the guard fence versus the cost of the shorter culvert with guard fence.

When used, the minimum length of guard fence shall be 50 feet in advance and 50 feet beyond the headwall of the culvert with both ends turned down and anchored. The face of the guard fence shall be placed on the obstruction clearance line.

- (b) Bridge Ends: Except for unusual conditions, a maximum of 75 feet of guard fence shall be provided at all four corners in accordance with the latest guard fence standard for the turned down and anchored design.

##### 400-750 ADT Design Traffic Brackets:

- (a) Across Culverts: Guard fence shall be provided across all multiple box culverts having the minimum clearance between culvert ends and a height of box in excess of 5 feet and side slopes steeper than 6:1. When used, the minimum length of guard fence shall be 50 feet in advance and 50 feet beyond the headwall of the culvert with both ends turned down and anchored. The face of the guard fence shall be placed on the obstruction clearance line.
- (b) Across High Fills: Where fill height exceeds 5 feet (measured at centerline subgrade elevation) and side slopes beyond the obstruction clearance line exceed 6:1, judicious use of guard fence will be permissible. Where the use of guard fence is contemplated, a comparative study should be made of the cost of installing guard fence versus flattening of side slopes to a minimum of 6:1.
- (c) Bridge Ends: A minimum of 75 feet of guard fence shall be provided at all four corners in accordance with the latest guard fence standard for the turned down and anchored design.

750-1500

ADT Design Traffic Bracket:

Guard fence shall be used only where physical features prohibit the construction of the typical section specified under Table 3-I. At bridge ends, a minimum of 75 feet of guard fence shall be provided at all four corners in accordance with the latest guard fence standard for the turned down and anchored design.

### 3-307 WIDENING IN URBAN AREAS

Where a Farm or Ranch to Market Road enters an urban area, the following shall apply:

- (a) 500 ADT or Less - Where the existing traffic volume immediately outside an urban area is 500 ADT or less, the typical section proposed for use on the rural portion of the project MAY BE widened by 6 feet with the cost of such widening being borne by the State. The cost of all widening in excess of 6 feet shall be the responsibility of others.
- (b) Over 500 ADT - Where the existing traffic volume immediately outside an urban area exceeds 500 ADT, the cost of widening through the urban area will be borne by the State except that the cost of curb and gutter, storm sewer, new sidewalks and driveways, etc. shall be the responsibility of others.
- (c) Where widening is proposed through an urban area, advance approval should be requested from D-8 since Commission action is frequently required.

### 3-308 TERRAIN CLASSIFICATION

Terrain classification pertains to the general character of the specific route corridor.

#### 3-308.1 LEVEL TERRAIN

Level terrain is that condition where sight distances governed by both horizontal and vertical restrictions are generally long, or could be made long without difficulty or major expenses.

#### 3-308.2 ROLLING TERRAIN

Rolling terrain is that condition where the natural slopes consistently rise above and fall below the highway grade line and where occasional steep slopes offer some restrictions to normal highway horizontal and vertical alignment.

#### 3-308.3 MOUNTAINOUS TERRAIN

Mountainous terrain is that condition where longitudinal and transverse changes in the elevation of the ground with respect to the highway are abrupt and where the roadbed is obtained by frequent benching or side hill excavation.

