FINAL

ENVIRONMENTAL ASSESSMENT

FOR

THE GAYLORD TEXAN EXPANSION AND RECREATIONAL ACTIVITIES

ASSOCIATED WITH PUBLIC LANDS ON GRAPEVINE LAKE

(ORIGINALLY PROPOSED OPRYLAND TEXAS DEVELOPMENT

AND 18-HOLE GOLF COURSE AND DRIVING RANGE)

CITY OF GRAPEVINE, TARRANT COUNTY, TEXAS

U.S. Army Corps of Engineers
Fort Worth District
819 Taylor Street, Room 3A14
Fort Worth, Texas 761 02-0300

August 2008

Updated: 8/25/2008

FINDING OF NO SIGNIFICANT IMPACT

THE GAYLORD TEXAN EXPANSION AND RECREATIONAL ACTIVITIES ASSOCIATED WITH PUBLIC LANDS ON GRAPEVINE LAKE CITY OF GRAPEVINE, TARRANT COUNTY, TEXAS

Proposed Action. The City of Grapevine, Texas (City), in partnership with Gaylord Entertainment Company (GEC) proposes to expand an existing convention center and construct a variety of recreational facilities and amenities on U.S. Army Corps of Engineers (USACE) land at Grapevine Lake in Grapevine, Texas. The recreational facilities and amenities are intended to be complementary to the Gaylord Texan Resort and Convention Center (GTRCC) located on adjacent private land. The Federal land in question was leased to the City for park and recreation purposes in 1999. At the time the property was leased, the City and GEC proposed to construct an 18-hole public golf course on the land in question as a recreational feature complementary to what was then known as GEC's Opryland Hotel and Resort, but now propose a variety of recreational facilities and amenities in lieu of the golf course. The change in proposed use is of sufficient scope to warrant preparation of this additional Environmental Assessment (EA).

Purpose and Need. The City of Grapevine is vitally interested in the public recreational benefits of the Federal lands at Grapevine Lake located within their corporate city limits. The City has endeavored to lease many of these federal lands to provide improved outdoor recreation benefits for their citizens and to improve the economic well being of the City. The City of Grapevine considers the Gaylord Texan Resort and Convention Center (GTRCC) to be a major economic stimulus for the City and hopes to partner with GEC to provide public recreational opportunities on federal lands adjacent to GTRCC in a way that is complementary to GTRCC and of direct benefit to the citizens of Grapevine. Money received by the City from GEC subleasing the Federal Property will be used by the City to improve and maintain public facilities on federal lands currently leased to the City by USACE.

Anticipated Environmental Effects. An Environmental Assessment of the proposed action evaluated three design alternatives for the construction of the resort expansion and recreational facilities and amenities on federal lands. Additionally, the No Action alternative, whereby no development would occur on federal lands was considered.

The preferred alternative would result in disturbance to approximately 33.5 acres of USACE-owned lands for the building of resort and lake-related recreational facilities and amenities, including approximately 2.9 acres of wooded land for the convention center expansion, and approximately 3 acres of wooded areas will be disturbed for the installation of nature trails, walking trails, biking trails and equestrian trails. Additionally, minor, unavoidable impacts to approximately 1.07 acres would occur in waters of the United States determined to be jurisdictional waters pursuant to Section 404 of the Clean Water Act, as amended. Those impacts would include trail crossings of small streams, and grade work along a short segment of lakeshore.

The preferred alternative avoids impacts to an archeological site, and minimizes disturbance to a closed landfill site. The preferred plan includes a mitigation plan for impacts to wildlife habitat within USACE fee lands, as well as for the minimal impacts to jurisdictional waters. There would be no significant adverse impacts on the natural

environment associated with proper implementation of the proposed action. No significant adverse environmental or cumulative impacts are anticipated for geology and soils; water resources; biological resources; noise; cultural resources; hazardous, toxic and radioactive wastes; air quality; or environmental justice within the subject property. No adverse impact is expected to occur to plant or animal species that are listed or proposed for listing as threatened or endangered in accordance with the Endangered Species Act.

During the public comment period, written comments were received from 13 individuals including one letter signed by 23 individuals. Some comments received were directed at issues taking place on private property owned by GEC and are therefore not relevant to this EA. In response to several comments received concerning the location and scope of the proposed pool and events assemblage area, the City of Grapevine and Gaylord Entertainment Corporation (GEC) have taken steps to ensure that the pool would be a passive use lounge pool with no diving boards, thrill-type rides or other active use facilities typical of water-oriented amusement parks, and would be constructed a minimum of 250 feet from any adjoining private land. The forested area lying between the pool area and adjacent private land would not be disturbed with the possible exception of future pedestrian trail construction. The City further ensures that events to be held at the events assemblage area would be in compliance with allowable uses under the City's Zoning Ordinance. The events assemblage area lies directly south of the pool and would feature a hardened event pad capable of supporting a pavilion and open space for a portable tent and parking for event sponsors only. Typical events envisioned would be passive activities including, but not be limited to, the ICE exhibit, receptions, art displays, picnics, and outdoor banquets. Special events taking place on Federal land require advance written approval from USACE and are governed by USACE policy and rules. Noise and lighting associated with the pool and events assemblage area must be in compliance with city ordinances and other Federal and State laws and regulations including the Code of Federal Regulations: Title 36 – Parks, Forests, and Public Property, Chapter III (USACE), Part 327 Rules and Regulations Governing Public Use of Water Resources Development Projects Administered by the Chief of Engineers.

Several comments were received concerning loss of trees and possible impacts to water quality, but USACE believes these impacts will either be avoided entirely or fully mitigated through implementation of the compensatory mitigation plan. Based upon comments received from resource agencies including US Fish and Wildlife Service (USFWS), Texas Commission on Environmental Quality (TCEQ) and Environmental Protection Agency (EPA), on-site meetings were held resulting in the following agreements: The NEPA process and integrated stormwater management best management practices published by the North Central Texas Council of Governments shall be utilized to the fullest extent as an aid to planning to prevent environmental degradation. The EA is a pre-decisional document and evaluates conceptual plans sufficient for the early identification of potential impacts. Understanding that the final design could result in changes to environmental impacts, it was agreed to provide the resource agencies a 5-day period for review, input and approval of final plans prior to USACE authorizing the City to begin construction. This will allow the agencies opportunity to provide project-specific recommendations to avoid, minimize and mitigate environmental impacts. It was also understood that any significant departure from the concept plans presented in the EA may trigger the need for plan changes or a supplement to the EA including additional public comment period.

Several comments were received citing the above-mentioned impacts as justification for USACE to hold a public meeting or public hearing. After analyzing the comments and the scope of the predicted impacts, I have concluded that a public meeting or hearing would not disclose significant, new information, and is not warranted. However, the City of Grapevine, as part of its normal planning and zoning process and associated community outreach efforts on large projects, plans to sponsor a neighborhood information meeting to be hosted jointly by the City, USACE and GEC. This meeting is scheduled for September of 2008 and will present information on Phase 1 concept plans for the convention center, pool, special event area, lakefront recreational area and the connecting trails. This meeting will be for information purposes only and not for the purpose of accepting additional public comment on the EA. If the meeting results in the City requesting changes to the preferred alternative described in the EA, the USACE will determine if those changes warrant additional NEPA documentation.

Facts and Conclusions. Based on a review of the information contained in this EA, supporting documentation and comments received, I have concluded that the following actions, when considered individually and collectively are not a major Federal action which would have a significant effect on the quality of the human environment and therefore do not require preparation of an environmental impact statement: Supplementing the Corps of Engineers Grapevine Lake Master Plan showing the change in proposed development plans; construction of the convention center expansion; construction of the proposed pool and events assemblage area; construction of proposed trails; and construction of the proposed lakefront recreational area and courtesy dock. Construction of any of the proposed facilities may not proceed until the USACE has received and approved final plans and specifications. I have further concluded that sufficient detail was not provided in the EA concerning the western-style ranch complex, amphitheater, and arena to determine the significance of potential environmental impact. While these actions are approved as a concept for inclusion in the USACE Grapevine Lake Master Plan, further action on these facilities is withheld pending receipt of more detailed plans which, depending on scope and compatibility with this EA, may be addressed in a supplement to this EA and an additional public comment period.

Christopher W. Martin
Colonel, Corps of Engineers
District Commander

26 AUG 2008
Date

FINAL ENVIRONMENTAL ASSESSMENT
FOR
THE GAYLORD TEXAN EXPANSION AND RECREATIONAL ACTIVITIES ASSOCIATED WITH PUBLIC LANDS ON GRAPEVINE LAKE

TABLE OF CONTENTS

1.0 INTRODUCTION 1

1.1 PROPOSED ACTION 1

1.2 BACKGROUND 1

1.3 NEPA HISTORY OF THE PROPOSED ACTION 2

1.4 PURPOSE AND NEED 3

2.0 PREFERRED ACTION AND ALTERNATIVES 5

2.1 NO ACTION PLAN 6

2.2 APPROVED GOLF COURSE PLAN 7

2.3 ALTERNATIVE # 1 DESIGN (”PREFERRED ACTION”) 7

2.4 ALTERNATIVE DESIGN # 2 11

2.5 ALTERNATIVE DESIGN # 3 12

2.6 NO ACTION ON FEDERAL LANDS ALTERNATIVE 13

3.0 EXISTING ENVIRONMENT 14

3.1 PROJECT SETTING & LAND USE 14

3.2 CLIMATE, GEOLOGY AND SOILS 15

3.3 WATER RESOURCES 16

3.3.1 Surface Waters, including Wetlands 16

3.3.2 Ground Water and Aquifers 19

3.3.3 Floodplains and Flood Storage 20

3.4 BIOLOGICAL RESOURCES 20

3.4.1 Wildlife and Fish 20

3.4.2 Aquatic Vegetation 21

3.4.3 Terrestrial Vegetation 21

3.4.4 Threatened and Endangered Species 22

(Last Revised 8/8/2007) 23

3.5 NOISE, LIGHTING AND GENERAL AESTHETICS 24

3.6 CULTURAL RESOURCES 25

3.7 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTES 26

3.8 AIR QUALITY 27

3.9 RECREATIONAL AREAS 27

3.10 STATE OR NATIONAL PARKS, FORESTS, CONSERVATION AREAS 27

3.11 PRIME OR UNIQUE FARMLAND (7 USC 4201) 27

3.12 WILD AND SCENIC RIVERS (16 USC 1271) 28

3.13 UNIQUE NATURAL RESOURCES 28

3.14 COASTAL ZONE AREAS (16 USC 1451 et seq.) 28

3.15 NATIVE AMERICAN CONCERNS (EO 13007) 28

3.16 SOCIO-ECONOMIC CONDITIONS AND MINORITY/LOW INCOME POPULATIONS 28

4.0 ENVIRONMENTAL CONSEQUENCES OF PREFERRED ACTION AND 30

4.1 PROJECT SETTING & LAND USE 31

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN (“PREFERRED ACTION”)
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.2 GEOLOGY AND SOILS 33

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN (“PREFERRED ACTION”)
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.3 WATER RESOURCES 34

4.3.1 Surface Waters, including Wetlands 34

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.3.2 Ground water and Aquifers 38

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.3.3 Floodplains and Flood Storage 39

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.4 BIOLOGICAL RESOURCES 40

4.4.1 Fish and Wildlife 40

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.4.2 Aquatic Vegetation 41

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.4.3 Terrestrial Vegetation 42

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.4.4 Threatened and Endangered Species 47

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.5 NOISE. LIGHTING AND GENERAL AESTHETICS 47

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.6 CULTURAL RESOURCES 49

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.7 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTES (HTRW) 50

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.8 AIR QUALITY 51

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.9 RECREATIONAL AREAS 52

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.10 STATE OR NATIONAL PARKS, FORESTS, CONSERVATION AREAS 55

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.11 PRIME OR UNIQUE FARMLAND (7 USC 4201) 55

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.12 WILD AND SCENIC RIVERS (16 USC 1271).....56

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.13 UNIQUE NATURAL RESOURCES 56

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.14 COASTAL ZONE AREAS (16 USC 1451 et seq.) 57

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.15 NATIVE AMERICAN CONCERNS (EO 13007).....57

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

4.16 SOCIOECONOMIC CONDITIONS AND MINORITY/LOW INCOME POPULATIONS....57

2.1 NO ACTION Plan
2.2 APPROVED GOLF COURSE PLAN
2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
2.4 ALTERNATIVE #2 DESIGN
2.5 ALTERNATIVE #3 DESIGN

5.0 CUMULATIVE IMPACTS.....61

5.1 PROJECT SETTING & LAND USE.....63

5.2 GEOLOGY AND SOILS 63
5.3 WATER RESOURCES 64
5.3.1 SURFACE WATERS OF THE U.S. INCLUDING WETLANDS 64
5.3.3 FLOODPLAINS 66
5.4 BIOLOGICAL RESOURCES 66
5.4.1 WILDLIFE AND FISH 66
5.4.2 AQUATIC VEGETATION 67
5.4.3 TERRESTRIAL VEGETATION 67
5.4.4 THREATENED AND ENDANGERED SPECIES 68
5.5 NOISE, LIGHTING AND GENERAL AESTHETICS 68
5.6 CULTURAL RESOURCES 69
5.7 HAZARDOUS, TOXIC AND RADIOACTIVE WASTES 69
5.8 AIR QUALITY 69
5.9 RECREATION 70
5.10 SOCIOECONOMIC CONDITIONS AND MINORITY/LOW INCOME POPULATIONS 70
6.0 MITIGATION FOR THE PREFERRED ACTION 71
7.0 PUBLIC INVOLVEMENT 73
7.1 REGULATORY REQUIREMENTS, PERMITS AND AGENCY COORDINATION 73
7.2 PUBLIC INFORMATION AND REVIEW 76
8.0 FINDINGS AND CONCLUSIONS 79
9.0 LIST OF PREPARERS 80
10.0 REFERENCES 81
11.0 LIST OF ACRONYMS AND ABBREVIATIONS 83

LIST OF TABLES

Table 1 – Jurisdictional Waters Delineation Summary Within Project Area……..19

Table 2 – Annotated County List of Rare Species……23

Table 3 – Population data for Tarrant, Dallas and Denton Counties……...29

Table 4 – Employment data for Tarrant, Dallas and Denton Counties……29

Table 5 – 2000 Census Population and Housing Characteristics……30

Table 6 – 2000 Census Income Characteristics……30

Table 7 – Typical Compensatory Mitigation Ratios for Loss of Jurisdictional Waters…...35

Table 8 – Typical Compensatory Mitigation Ratios for Loss of Vegetation/Habitat…… 43

Table 9 – Shoreline Variance Mitigation Cost Schedule Calculated for Grapevine Lake...43

Table 10 – Recreational Development Alternatives. ……..……58

Table 11 – Evaluations in the EA as Part of the Cumulative Effects Analysis. ……..……..60

Table 12- Impacts by Habitat Type ……70

Table 13- Summary of Approximate Impacts to Jurisdictional Waters of the US……....36

LIST OF EXHIBITS

Exhibit 1 - Vicinity Map
Exhibit 2 - USGS Topographic Map (Grapevine Quad)
Exhibit 3 - Jurisdictional Waters of the U.S. Map
Exhibit 4 – Approved Golf Course Design
Exhibit 5 - 2.3 ALTERNATIVE # 1 DESIGN ("PREFERRED ACTION")
Exhibit 6 - 2.4 ALTERNATIVE #2 DESIGN
Exhibit 7 - 2.5 ALTERNATIVE #3 DESIGN
Exhibit 8 - Grapevine Lake Master Plan - Land Classification Plan
Exhibit 9 - Grapevine Lake Master Plan – Utility Corridors and Env. Sensitive Areas
Exhibit 10 - Landfill Site Map
Exhibit 11 - Resource Study Area Map
Exhibit 12 - Socio-Economic and Cumulative Impacts Study Area Map
Exhibit 13- Habitat Type by Preferred Action

APPENDICES

Appendix A - Historical Topographic Maps
Appendix B - Historical Aerial Photographs
Appendix C - Definitions of Recreational Amenities
Appendix D - TCEQ 2004 Texas Water Quality Inventory of Grapevine Lake
Appendix E - EDR Regulatory Review
Appendix F – Recreation Development Policy for Outgranted Corps Lands
Appendix G - Environmental Assessment for Opryland on Grapevine Lake Facilities
Appendix H - Environmental Assessment for Opryland 18 Hole Golf Course and Driving Range
Appendix I – Representative Site Photographs
Appendix J – Gaylord Entertainment Press Release and Listing of Attendees at Public Meetings
Appendix K – Notice of Availability
Appendix L – Public Resource Agency Comments and Responses

FINAL ENVIRONMENTAL ASSESSMENT

1.0 INTRODUCTION

1.1 PROPOSED ACTION

The City of Grapevine, Texas (City), in partnership with Gaylord Entertainment Company (GEC) proposes to construct a variety of recreational facilities and amenities on U.S. Army Corps of Engineers (USACE) land at Grapevine Lake in Grapevine, Texas. The land in question was leased to the City for park and recreation purposes in 1999. At the time that the property was leased, the City and GEC proposed to construct an 18-hole golf course (impacting approximately 88 acres) and associated trails on the land in question, but now propose a variety of recreational facilities and amenities in lieu of the golf course. The change in proposed use is of sufficient scope to warrant preparation of this Environmental Assessment (EA). The proposed facilities and amenities include: expansion of an existing convention center by 492,000 square feet with lower level parking; a resort pool assemblage; a lakefront recreational area with courtesy dock; a western-style ranch complex with arena, amphitheater and equestrian trails; and hiking and biking trails. Additional parking areas are also proposed as part of the recreational facilities to support the ranch area and other amenities near the southern portion of the project. The proposed action would disturb approximately 33.5 acres of USACE Land. Each of these proposed amenities is described in detail in this EA.

The EA has been prepared in accordance with the policies and procedures outlined in the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality's (CEQ) NEPA regulations (40 CFR Part 1500-1508), and United States Army Corps of Engineers' (USACE) Procedures for Implementing NEPA (1988) (ER 200-2-2).

1.2 BACKGROUND

The site proposed for the development of resort and recreational features is located along the Silver Lake Branch and surrounding shoreline of Grapevine Lake near the USACE Grapevine Lake project headquarters (***Exhibit 1***). The U.S. Army Corps of Engineers (USACE) administers all federal lands at Grapevine Lake and over a span of more than 20 years has leased several park areas to adjoining municipalities for the purpose of providing expanded outdoor recreation opportunities. As a result, the City of Grapevine now operates all or portions of Meadowmere, Oak Grove, and Silver Lake parks at Grapevine Lake. In accordance with standard USACE park and recreation lease requirements, any revenues generated by lessees on the leased premises is to be used to operate, maintain and otherwise improve the leased premises for the public benefit.

Included in the area the USACE has leased to the City is approximately 210-acres, mostly undeveloped portion of Silver Lake Park. The city leased this acreage from the Corps in anticipation of providing recreational facilities through a sublease agreement with Gaylord Entertainment Company (GEC), owners of the adjacent private land and the Gaylord Texan Resort and Convention Center (GTRCC). The City and GEC plan to work in partnership to provide public recreation facilities that meet public needs and that are complementary to the GTRCC.

In December 2005, the USACE implemented a Recreation Development Policy for Outgranted

Corps Land (see **Appendix F**.) This policy defines the types of recreational facilities that are appropriate for placement on USACE lands. The USACE has determined that the recreational facilities and amenities included in the proposed action are complementary to a "Comprehensive Resort", as defined in the development policy and are therefore compatible with the policy. Comprehensive Resorts are typically multi-faceted developments with facilities such as marinas, lodging, conference centers, golf courses, tennis courts, restaurants, and other similar facilities.

Most of the USACE land on and in the immediate vicinity of the proposed action is leased to the City of Grapevine as Silver Lake Park, containing very little infrastructure other than the remnants of asphalt roadways and six concrete picnic tables near the Fairway Drive entrance, and a dirt road called Park Road 11 west of the existing resort with a paralleling single pole power line. The site is north of State Highway 26 (SH 26), east of Ruth Wall Street, and west of Grapevine Mills Mall. Grapevine Lake forms the northern boundary of the site, and a three-armed branch of Grapevine Lake extends though the center of the project, labeled as Silver Lake Branch on governmental maps. The area to the west of the project site is primarily residential, while the remainder of the surrounding area is predominantly federal lands associated with Grapevine Lake. The project would surround the existing GTRCC, which currently includes a 1,500-room hotel, approximately 400,000 s.f. of convention center with a lower-level parking garage, a four-acre atrium, a multiple story parking garage, restaurants, a night club, and streets leading to the facilities.

The primary limits of the "resource study area" for this assessment extend from the shoreline of Grapevine Lake at the north end of the resort to the undeveloped lands along Highway 26 to the south, and from the undeveloped USACE and private lands east of Fairway Drive to the residential and mobile home subdivisions to the west of the existing GTRCC complex. This is the area in which the direct and indirect effects of the project alternatives, including impacts to such resources as waters and wetlands, forested areas, and air quality, as well as proximity impacts such as noise and light, would be felt. The "resource study area" for broader impacts such as socio-economic impacts and cumulative impacts covers the communities in northeast Tarrant County and adjoining Dallas and Denton Counties, Texas in the vicinity of Grapevine Lake. See **Exhibit 11** and **Exhibit 12** for a visual representation of the study areas.

1.3 NEPA HISTORY OF THE PROPOSED ACTION

In 1999, the USACE prepared two EA's evaluating, respectively, the effects of infrastructure needed to provide utilities and access to the GTRCC, and the development of an 18-hole golf course. While the hotel and convention center infrastructure was eventually constructed, the City and GEC have concluded that the need for quality golf facilities has been met by the availability of two nearby courses also located on USACE land. Consequently, the City and GEC are now proposing to cooperate in the development of alternative recreation facilities and amenities on the USACE land in question. These facilities would offer both passive and active public outdoor recreation opportunities.

The EA that was generated in August 1999 (***Appendix G***) evaluated the proposed layout of a portion of the now-existing Gaylord Texan convention center with parking garage on USACE land and the construction of supporting roadway segments and a roadway bridge on USACE lands as described. The original project, then known as the Opryland Texas, included a 1,500-room hotel, 400,000 s.f. of meeting space with a lower level parking garage, a four-acre atrium, a fishing pier, and a street leading to the facilities. The only elements constructed on USACE land were some of the roads, and a corner of the parking garage/convention center. A fishing

pier was also evaluated and approved in the original EA, but this amenity has not been constructed. A second EA was generated in December 1999 (***Appendix H***) for the construction of an 18-hole golf course and driving range on federal lands around the previously approved resort and convention center. The proposed 18 hole golf course was never constructed. According to the data in the EA, the total area involved in the proposed golf course was 99 acres, with 88 acres (89 percent) on Federal land. The Gaylord Texan was referred to as the "Opryland on Grapevine Lake" in the two 1999 EAs, prior to the opening of the resort in 2004.

The driving range and associated parking lot proposed in the December 1999 golf course plan would have required approximately 11.14 acres of property. A considerable portion of this required property would have needed to be cleared of trees. The 3.4 miles of golf cart paths would have occupied approximately 3.30 acres, assuming an eight foot wide cart path. It is estimated that approximately 32.85 acres would have been required for the golf tees, greens and sand/water traps, in an area that is currently covered with upland woodlands. In addition, it is estimated that about 40 acres of fairways would have needed to be cleared through the upland woodlands. The December 1999 golf course EA also evaluated a proposed 1.74 acre irrigation pond. The depth of this pond was not discussed, but it would have needed to be excavated to a sufficient depth (6-10 feet) to hold enough water for the irrigation demands of the golf course. All of these area requirements for the golf course would have involved the removal of trees and habitat, as well as excavation and grading.

The golf course and driving range approved in the December 1999 EA, and the fishing pier approved in the August 1999 EA will not be built by GEC. Instead, alternative recreational plans have been developed by the City of Grapevine and the GEC for the use of the USACE lands which will lead to less intrusive environmental impacts and a more diverse use of those lands for recreational activities. The alternative designs for the expansion of the Gaylord Texan convention center and the building of recreational amenities are evaluated in this document.

This assessment document partially relies on information contained in the December 1999 EA. The footprints for the golf course and driving range features were situated on many of the same tracts of federal property as those included in the current proposed action. Consequently, much of the baseline environmental information gathered for the December 1999 EA is relevant to the analysis of the proposed action and alternatives in this EA.

1.4 PURPOSE AND NEED

The purpose of the proposed action is to provide a high quality, multi-use recreational development adjacent to Grapevine Lake in the vicinity of Grapevine, Texas, in order to meet the need for enhanced lake-related recreational facilities and amenities in the Grapevine area. The proposed action should take advantage of existing hospitality and recreational facilities and infrastructure associated with the Gaylord Texan Resort & Convention Center and the availability of USACE-owned land designated for "Intense Recreation" use in the immediate vicinity of the GTRCC.

Rapid population and employment growth and the resultant urban development in the Dallas Fort Worth (DFW) area have created an unprecedented demand for additional recreational opportunities in the DFW area, such as active and passive recreational areas, swimming and lakefront areas, hiking trails, and natural areas and equestrian activities. The efforts of the City of Grapevine to meet this demand for additional recreational opportunities have focused on the presence of Grapevine Lake and the adjacent lands under the control of the USACE in close proximity to the City of Grapevine. The lake and its associated lands provide numerous

opportunities and available land for offering additional recreational facilities and amenities in the Grapevine area. Many of those lands are designated for "Intense Recreation" in the Grapevine Lake Master Plan. The lake also helps to stimulate demand for additional recreational facilities and amenities, as those who visit the lake seek opportunities to return and take further advantage of its recreational features. While there is a need to accommodate this unprecedented demand for recreational facilities, especially in the vicinity of Grapevine Lake, there is also an important need to maintain open, undeveloped areas for wildlife habitat and aesthetics.

Along with the rapid population and employment growth and urban development, a thriving tourist and convention industry has grown in the greater DFW area. Additional hotel, resort and convention facilities have been developed throughout the DFW area. The GTRCC was originally constructed to help meet the demand for additional resort and convention facilities in the Grapevine area while providing additional recreational opportunities at Grapevine Lake. Since the preparation of the August 1999 EA for the original Opryland Texas facilities (now GTRCC), more than eight other hotels and resorts have been constructed within a one mile radius of the GTRCC. Much of this growth can be attributed to the attraction of Grapevine Lake and the potential for enhanced recreational opportunities at and around the lake for convention visitors and tourists. As this growth continues, there is an increasing need for additional lake related recreational activity areas for both residents and visitors to the City of Grapevine.

The construction of the hospitality and convention facilities at the GTRCC has significantly enhanced the ability of visitors to the Grapevine area to enjoy the recreational opportunities at Grapevine Lake. The success of the GTRCC has demonstrated the need for constructing additional recreational facilities and amenities at Grapevine Lake, and enhancing the existing hospitality and convention facilities to meet the needs of visitors to the lake. In addition to meeting the recreation needs of residents and visitors to the area, the provision of additional recreational facilities and amenities at Grapevine Lake will support additional employment and economic growth in the City of Grapevine by optimizing the planned uses of Grapevine Lake, as reflected in the Grapevine Lake Master Plan. In specific, there is a need to take advantage of the GTRCC and its existing infrastructure as a center of recreational activity.

The December 1999 Opryland Golf Course EA contained a proposal for the construction of a municipal 18-hole golf course and driving range (*See* ***Appendix H.***) This proposed golf course would have been built in close proximity to the city's Grapevine Golf Course which opened for public use in 1979. Since that time, a new public golf course was constructed on federal lands in the area of the proposed driving range and adjacent to the city's municipal golf course. This new club is called The Cowboys Golf Club, and is located on 159 acres and offers an 18-hole par 72 championship course. It was opened on June 14, 2001 and is the first NFL-themed golf course in the world. The demand for the additional golf course around the Gaylord Resort did not come to fruition. It is doubtful whether the course would ever be built. Therefore, the City of Grapevine's recreational development plan needed to be amended from Golf course and associated trails to other recreational and/or resort activities.

As was discussed earlier in this document, a significant amount of USACE-owned land in the vicinity of the GTRCC has been leased to the City of Grapevine as Silver Lake Park. A small portion of this land was leased previously for the construction of a portion of the GTRCC. The remainder of the land leased to the City of Grapevine, which is designated for "Intense Recreation," is available for incorporation in plans to provide enhanced recreational facilities and amenities in the Grapevine area. The City and Gaylord have determined that the existing hotel,

convention center and resort facilities at the Gaylord Texan are not sufficient to meet the current and anticipated recreational and hospitality needs, in light of additional growth in the area.

The recreational facilities and amenities to be authorized on federal lands associated with Grapevine Lake are part of a multi-component expansion of the GTRCC proposed by Gaylord Entertainment Company and the City of Grapevine. The proposed expansion would be accomplished in multiple complementary phases over a period of several years. Beginning in the spring of 2008, Gaylord Entertainment plans to commence construction on an expansion of an existing parking garage on Gaylord-owned land, followed by the construction of a new hotel wing, also on Gaylord-owned land. Several months after construction commences on Gaylord-owned land, and upon receipt of appropriate approvals from the USACE, Gaylord Entertainment and the City of Grapevine propose to expand an existing convention center and associated parking facility, and to construct a pool assemblage on USACE land. These components would enhance the recreational opportunities and the hospitality services provided at Grapevine Lake by the GTRCC.

While the new hotel wing and expanded parking garage on Gaylord-owned land would be constructed at roughly the same time as, and are complementary to, the recreational and convention facilities proposed on USACE land, they can be constructed and operated regardless of whether the new facilities on USACE land are approved or constructed. In fact, Gaylord Entertainment intends to commence construction of the facilities on Gaylord-owned land prior to a USACE decision on the proposed leasing action for facilities on USACE land. The facilities on Gaylord-owned land will serve distinct, although complementary, purposes – namely, to provide hospitality services to patrons of the existing convention and recreational facilities at the GTRCC.

Subsequent phases of the proposed expansion on USACE land would include the construction of a lakeshore recreational area, a courtesy dock for boats, additional hiking trails, picnic areas, related recreational areas, and a western-style ranch complex with associated arena and amphitheater. Each of these phases would serve distinct purposes, but would be complementary components of the overall plan to provide enhanced recreational opportunities at Grapevine Lake in the vicinity of the existing GTRCC complex. The likely environmental effects of the resort expansion on USACE land are evaluated in this EA.

2.0 PREFERRED ACTION AND ALTERNATIVES

This section of the environmental assessment identifies and evaluates the various design alternatives that were considered in determining the preferred action plan. The 2.1 NO ACTION Plan is the alternative in which the federal lands within the project area would be left in their existing state. The Proposed Action in the December 1999 EA (18-hole golf course and driving range alternative) has been carried through in this EA to provide a comparison to the previously approved plan for the subject federal lands. This EA also evaluates three design alternatives, including the preferred alternative, for the construction of the resort expansion and recreational amenities on federal lands. Additionally, this EA considers an alternative for no construction on federal lands, in which all resort and recreational amenities would be developed on private lands.

The areas designated as Silver Lake Park are comprised of 461 acres of federal land leased to the City of Grapevine, which is designated in the Grapevine Master Plan for intense recreational purposes. In accordance with the current Master Plan for Grapevine Lake, "The plan of development presented herein [in the Master Plan] is intended to provide the optimum

recreation development that can be offered at Grapevine Lake for the benefit of the general public."

Degrees of disturbance are addressed below in terms of their relative impact to land, environmental and social resources. The “significance” of the given impacts is primarily based on two criteria; the intensity or severity of the impact, and the context in which the proposed action will occur. The duration of the impact has also been used as a third criterion to determine significance of the impact. These effects on the resources can consist of changes that are either adverse or beneficial. An effect is considered significant if it will result in highly noticeable, permanent, and measurable changes to the resources under evaluation on a local, regional, and/or national level. The intensity of the proposed action might be based on the degree of controversy, effects on public health or safety, impacts to unique resources, precedent-setting effects, the degree of uncertainty about the effects and the risks, or on actions that will result in violation of federal, state, or local environmental law. NEPA requires that the reviews consider direct impacts, indirect impacts, and the cumulative effects of the proposed action.

Negligible impacts are those disturbances that result in no measurable changes to the resources. Minor or minimal impacts are those disturbances that result in small but temporary changes to the resources. Such terminology is further defined in Section 5.0 of this document under the discussion of cumulative impacts.

2.1 NO ACTION PLAN

The No Action Plan would leave both the federal lands and those Gaylord fee lands included within the proposed project site in their existing states. However, other properties outside of the federal lands and the undeveloped Gaylord fee lands would still have high potential to be developed in accordance with designated land uses. This action of leaving the subject properties in their existing states was reviewed in the December 1999 EA, and was ruled out since such an alternative would not provide optimum recreational development of the federally owned park lands.

Eight (8) other hotels and resorts have been constructed within a one-mile radius of the subject properties, and a few adjoining parcels in the “resource study area” have been developed since the area was reviewed for the December 1999 EA. The Cowboys Golf Club was built as a world class golf facility east of Fairway Drive, and the Great Wolf Resort was recently constructed across Hwy 26 from the Gaylord fee tracts. On the north end of the Gaylord fee lands, a large entertainment facility called the Glass Cactus was recently constructed. West of the Gaylord resort in Silver Park, the City of Grapevine constructed an additional boat ramp to allow access to Grapevine Lake during low stands.

Other than the construction of the Cowboys Golf Club on federal lands and the installation of the boat ramp within Silver Lake Park, no significant changes have taken place to the baseline environmental conditions of the subject federal lands as described in the December 1999 EA. Vegetative cover on the subject federal lands is much the same, other than the continued succession of woody and vining species in previously disturbed farm and park areas. This 2.1 NO ACTION Plan would not promote the recreational objectives of the grapevine Lake Master Plan for federal tracts within this portion of Silver Lake Park, and would not meet the identified need for additional recreational facilities and amenities in the vicinity of Grapevene Lake. Thus, the alternative was not considered to be the preferred alternative.

2.2 APPROVED GOLF COURSE PLAN

The Approved Golf Course Plan would involve developing the project area as a golf course as described in the December 1999 EA and approved in the February 2000 FONSI for the Opryland 18-hole golf course and driving range (see ***Exhibit 4***). The private land around the lake has a high potential to be developed, particularly in light of the high rates of growth in the DFW area, and the USACE-owned lands also would be subject to pressure for the continued development of recreational amenities in accordance with their designated land use(s) as set forth in the Master Plan for Grapevine Lake (except for those sites designated as Environmentally Sensitive Areas or for Operations and Maintenance). Other USACE parcels adjacent to the approved golf course and driving range sites would also remain under strong development pressure for expansion of recreational uses due to their "Intense Recreation" classification, proximity to commercial areas, and accessibility to the shoreline.

The Approved Golf Course Plan would not provide for optimum recreational development of the subject federal parcels of land. It is limited in its scope to only providing for the development of golf-related amenities such as golfing greens and driving ranges, and a fishing pier at the north end of the peninsula by the Glass Cactus. The construction of the Cowboys Golf Club since 1999 has satisfied the general need for additional golfing facilities in the resource study area. The approved plan in the December 1999 EA also included a hiking and biking trail system that connected to the proposed master planned trails. The trail network also functions as golf course paths for golf carts and golfers. Based on the limited recreational amenities provided under this alternative design, the trails by themselves would not satisfy the purpose and need for action as well as the "Preferred Action" described below.

2.3 ALTERNATIVE # 1 DESIGN ("PREFERRED ACTION")

Alternative # 1 Design is the "Preferred Action" plan as presented by the City of Grapevine and Gaylord Entertainment in November, 2007. It is depicted on the exhibit attached hereto, entitled: "Lake Related Recreational Activity Areas" (see ***Exhibit 5***). The "Preferred Action" will require disturbance to approximately 33.5 acres of USACE-owned lands for the building of lake-related recreational facilities and amenities, including approximately 2.9 acres of wooded land for the convention center expansion. In addition, approximately 3 acres of wooded areas will be disturbed for the installation of nature trails, walking trails, biking trails and equestrian trails.

These public recreational activities will be constructed in 3 (three) phases as shown on Exhibit 5 (the Preferred Alternative):

Phase 1: Upon Approval to 2 (two) years.

1. Pool Assemblage
2. Events Assemblage, and
3. Convention Center Expansion
4. Associated Trails

Phase 2: 1 (one) to 3 (three) years.

5. Lakefront Recreational Area, and
6. Associated Trails

Phase 3: 3 (three) to 5 (five) plus years. Note: Dependent on economic/market conditions.

7. Amphitheater & Ranch Assemblage
8. Recreational Assemblages (Types 1 and 2), and
9. Associated Trails.

Each of these recreational categories consists of several associated activities which are proposed to be built on those designated areas at some time in the near future. The proposed footprint of the proposed buildings (on and off Government Property) and the concept location of each of the recreational activity areas are identified on ***Exhibit 5***, entitled "Lake Related Recreational Activity Areas." These recreational activity areas are listed and further defined in ***Appendix C***. NOTE: These activity areas are proposed locations for the purpose of recreational authority and will have to be approved through the City of Grapevine public planning process. This process may require that the design and/or the location of the specific activity be changed. As specific designs become available, the City of Grapevine planning process includes: GEC must have a Special Use Permit (SUP) granted by the City which requires a Public Hearing before the Planning and Zoning Commission and then the City Council. GEC must notify by Legal Notice in news paper at least 2 weeks in advance of the SUP determination by Council and notify all residents within 200 feet within 15 days of the hearing.. Additionally, the City of Grapevine, as part of its normal planning and zoning process and associated community outreach efforts on large projects, plans to sponsor a neighborhood information meeting to be hosted jointly by the City, USACE and GEC. This meeting is scheduled for September, 2008 and will present information on Phase 1 concept plans for the convention center, pool, special event area, beach area and the connecting trails. The information to be presented will address specific public comment received during the comment period on the EA. This meeting will be for information purposes only and not for the purpose of accepting additional public comment. If the meeting results in the City requesting changes to the preferred alternative described in the EA, the USACE will determine if those changes warrant additional NEPA documentation.

Criteria for Design of this Action are:

1. Grading plan will avoid impacts to waters of the US as much as practicable,
2. Grading will be avoided below the conservation pool elevation of 535' NGVD, where practicable
3. A 50' riparian corridor adjacent to the conservation pool will be maintained adjacent to the Convention Center; however, a trail may be placed within this 50' zone.
4. Impacts to wooded areas would be minimized.
5. Impacts to archeological sites and landfill sites will be avoided.
6. Any disturbance that cannot be avoided will be mitigated within USACE fee lands.
7. The resort pool will not extend to within 250 ft from any existing residence.

The proposed current plan for the swimming pool assemblage adjacent to the Gaylord Texan proposed hotel tower is, in the truest sense, a resort swimming pool and an oasis for relaxation. The architectural design is compatible with the existing style of the resort with modern swimming amenities. Restrooms and cabana areas are provided. There is a large upper pool, and a smaller lower pool which is provided water from the upper pool by a cascading waterfall. The upper pool has a heated spa and a 'zero' entry area. The upper pool is about three times as large, (approximately 10,100 square feet) as the smaller pool. Both pools are irregularly shaped with large radius bends. Adjacent to the pools are decks with chairs and lounges. The upper pool has about 450 deck chairs and the lower pool has about 95 deck chairs. Movement of the public from one side of the pools to another is accomplished by two pedestrian bridges.

Two separate restrooms areas, for both men and women, are provided. The more centrally located restroom also has an attached cabana which offers refreshments.

The Gaylord Texan pool assemblage does not include any of the following;

* Diving boards or diving pools
* Multi-story water slides
* Multi-story tree house water forts
* Slide tubes
* Body surfing
* Water slide raceways
* Wave pools
* Flumes, or
* Tipping buckets

The proposed Gaylord Texan pool assemblage is not a waterpark , nor an amusement area. The events assemblage area, as shown on Exhibit 5, is located due south of the pool assemblage and is smaller in scope than the pool area. This area would consist of a hardened event pad area of approximately one (1) acre in size capable of supporting a permanent pavilion and open space for a portable tent and parking for event sponsors and related employees. The City ensures that events to be held at the events assemblage area would be in compliance with allowable uses under the City's Zoning Ordinance. The events assemblage area lies directly south of the pool and would feature a hardened event pad capable of supporting a pavilion and open space for a portable tent and parking for event sponsors only. Typical events envisioned would be passive activities including, but not be limited to, the ICE exhibit, receptions, art displays, picnics, and outdoor banquets. Entrance into the event area would be through the Hotel and all public parking needs would be met using existing or planned parking garages on GEC property. Only vehicles supporting a Special Event would have access to the special event area. Special events taking place on Federal land require advance written approval from USACE and are governed by USACE policy and rules. Noise and lighting associated with the pool and events assemblage area must be in compliance with city ordinances and other Federal and State laws and regulations including the Code of Federal Regulations: Title 36 – Parks, Forests, and Public Property, Chapter III (USACE), Part 327 Rules and Regulations Governing Public Use of Water Resources Development Projects Administered by the Chief of Engineers.

The plan for the proposed lakefront recreational area includes the following possible features: lake-accessible grounds for sunning, grounds for sport activities, picnicking, fishing and other water-based recreation activities, a pavilion with food and beverage facilities, restroom facilities, and connection to the trail systems. The fishing pier approved in the August 1999 EA is not included in this design, but a courtesy boat dock has been included east of the resort. Fishing will also be possible from trail access points along the shoreline of the lakes.

The ranch assemblage, amphitheater and arena are proposed as components of a western-themed event center on the eastern portion of the project. This facility will not be a "Stand Alone Facility"; but, will be utilized as a component of the resort. These amenities may include an indoor pavilion with stage and beverage/food preparation areas. Food services associated with the pavilion would be able to accommodate large gatherings for a hot buffet line. An open-air amphitheater is being proposed on the slopes near the lake to provide performance space for entertainment and speaker venues. The arena area will be designed for hosting horse

shows and similar rodeo type events. Associated parking for these amenities will be designed to blend into the landscape and fit the western theme.

The ambience of the western themed area would be enhanced by the addition of aesthetic features such as windmills, oil derricks, barns, stables, corrals, split rail fencing, and longhorn cattle. Activities within this western themed assemblage may include trail rides, horse back riding, horseshoe sand pits, simulated gun fights, hay rides, rodeo, and live country western music. This plan is offered as a conceptual model only and any holding of livestock would require further USACE approval.

The recreational assemblages would include nature trails, walking trails and biking trails winding through the wooded areas and connecting to lake features and the ranch assemblage. An equestrian trail system is also proposed for the area of the ranch assemblage. The proposed walking and biking trail systems will also have trailheads and connections that would provide linkages to the City of Grapevine's existing and proposed hard surface trail system. The hiking, biking and walking trail systems on the GTRCC will add to the connectivity of recreational features within Silver Lake Park for public use and make it possible for the public to traverse through the GTRCC amenities in order to connect to other parks and regional trail systems. The first phase of the proposed project will include the construction of a trail segment that will trend between the west portions of Silver Lake Park and Gaylord Trail. Construction of this trail segment will complete the connection between of the existing trail system on the north end of the peninsula and proposed trail systems west of Ruth Wall Road. See the preferred action diagram in **Exhibit 5** for an illustration of these recreational trail features.

All facilities on Corps property will be open for public use within design capacity limits. Entrance and/or user fees may be collected for use of facilities or services provided by the City and/or their sub-lessee, except for the trails, which will be available to the public at no cost. The rates and prices charged by the City and/or their sub-lessee will be reasonable and comparable to rates charged for similar resort facilities and services in the region. To insure that resort patrons are able to enjoy those facilities constructed and maintained by the resort, the City and/or their sub-lessee would be authorized to implement reasonable restrictions on general public use. These reasonable restrictions will be incorporated within public facility operational plans for each proposed facility (i.e. pool, lakefront recreational area, recreation courts, etc.); such as, public access hours; carrying capacity limitations; adult supervision requirements, public entrance fees; and any other such restrictions necessary to ensure safe recreational activities within design carrying capacities. The actual operational plan restrictions for each facility would be reviewed as part of the City of Grapevine public planning process prior to the City's approval of the facility and/or the operational plan. The City would then request approval from the USACE who would also review any restrictions to ensure fair and reasonable public access.

The City and/or their sub-lessee may hold special events from time to time that temporarily close facilities to the public for the duration of a special event. Facilities will not be arbitrarily closed during public access hours due to normal activity at the GEC such as a large conference taking place at the hotel. Closure of a public access facility would only occur due to either a health/safety reason for all patrons or for a closure for a Special Event at a facility that was authorized through the USACE Special Event process as previously described. In accordance with USACE policy and rules governing special events on Federal property, the City and GEC will need advance written approval from USACE for any event that would close the swimming pool area.

This alternative also includes the extension of the convention center/parking building at the south end of the GTRCC southeastward across USACE land. The proposed expansion of the convention center would increase the capacity by approximately 492,000 gross square feet of enclosed space. Two levels of parking to be constructed under the expanded convention center would include about 500 additional parking spaces for the convention facilities. The construction of additional hotel and convention space at the GTRCC would provide additional facilities to serve the needs of residents, visitors and recreational users of Grapevine Lake, and help to draw additional visitors to the lake. As noted earlier, a new hotel wing and expanded parking garage will be built and operated on Gaylord-owned land, and would be constructed at roughly the same time as, and are complementary to, the recreational and convention facilities proposed on USACE land. They can be built regardless of whether the new facilities on USACE land are approved or constructed.

This alternative provides for the use of the existing single lane dirt access road in Silver Lake Park (Park Road 11) west of the existing resort as a construction access road for the development of the pool complex. This roadway on federal land may also be used for temporary construction access to the private project components on Gaylord-owned land because construction of the facilities on private land will be occurring at roughly the same time as construction of the adjacent pool complex and providing common construction access may be more efficient and less disruptive. Although Gaylord desires to use this access road for temporary construction access, Gaylord has an alternative construction access route for the facilities on private land that would not require the use of the access road on federal land. In fact, Gaylord plans to use this alternative construction access route for its construction activities on Gaylord-owned land until this EA is finalized. Only the southern end of the dirt access road will remain after construction of the pool assemblage, and would be used only as a fire lane.

Preliminary plans for this alternative include the use of existing electrical service that runs along the federal tract just west of the GTRCC facilities. The service will be placed in an underground conduit that will run from Ruth Wall Road to the parking garage. An at-grade pad-mounted electrical transformer will be located at the end of the service feed near the existing parking garage. This underground electrical line will provide service to the parking garage and Glass Cactus facilities on Gaylord land and to the proposed pool assemblage on USACE lands.

The design of the “Preferred Action” would require less impact to terrestrial wooded areas than the footprint that was approved for the Golf Course plan. This design plan alternative provides the greatest variety of lake-related activities for public use of the project area with the least area of disturbance. The “Preferred Action” plan respects the designated land use classification under the Grapevine Lake Master Plan, while minimizing impacts to natural, ecological, and cultural resources in the project area. It also incorporates the best of all the elements that were considered in the other design alternatives. For these reasons, Alternative # 1 Design is considered the “preferred action” alternative.

2.4 ALTERNATIVE #2 DESIGN

Alternative #2 design was prepared in April 2007 [see attached diagram dated 12.14.2006], and is entitled the “Preliminary Recreation Plan” (**Exhibit *6)***. The development plan was divided into two (2) Phases of construction. Phase one (1) of the proposed development included a convention center expansion, a resort pool complex, a beachfront complex, trails, and several recreational areas. The design did not include the necessary amount of parking for the expansion.

The first phase of development would be located on the northern portion of the subject property and would require the use of USACE land. Phase two (2) of Alternative Design #2 was associated with the south-southeastern portion of the subject property, and included trails, parking areas, a western-themed ranch setting with an arena and an amphitheater, and equestrian trails. The total acreage of disturbance for this development alternative would be approximately 40 acres on USACE land, and approximately 3 acres of disturbance for the assorted trails.

Similar to the preferred alternative, the areas designated for a resort pool complex, beachfront complex, fishing piers west of and south of the existing resort, recreational areas and the western themed ranch were located entirely on USACE property. The design of the convention center expansion was also placed on USACE property and would have extended into the conservation pool elevation zone of the lake.

A variety of recreational activities were envisioned under Alternative #2 and closely compare to those described above under Alternative #1 Design, except for a "lake recreation" feature and the extension of the convention center expansion over the conservation pool area of the lake. A fishing pier (similar to the type approved in the August 1999 EA) and a dock are both proposed under this alternative. The amenities labeled Lake Recreation area, Beachfront Complex, and fishing pier were designated for construction along the lake finger west of the Glass Cactus. A second fishing pier was proposed for a location south of the proposed convention center expansion with a connecting bridge over the western finger of Silver Lake Branch. A courtesy dock was placed adjacent to Marinas International facilities on the east side of the resort, as in the preferred alternative. The Resort Pool Complex shown in Alternative #2 was designed to have been built along the drainage corridor of the waterway west of the resort, potentially impacting a larger area of forested stream and other jurisdictional waters.

Opposition was raised by the USACE for the placement of features labeled as the "lake recreation" area and the "beachfront complex" in the lake finger west of the resort under this alternative. Corps opposition arose because of water circulation concerns along the western side of the peninsula, and the location being directly across from the city's boat ramps. Because of these concerns, concerns within the USACE about construction of the convention center expansion over the conservation pool zone, a larger impact area for the resort pool complex, larger impacts to jurisdictional waters due to a trail bridge spanning the open water of Silver Lake Branch, and trail crossings of wetlands, and the lack of adequate parking in the design, 2.4 ALTERNATIVE #2 DESIGN was not considered to be the preferred alternative.

2.5 ALTERNATIVE DESIGN # 3

Alternative Design # 3 was prepared in December, 2006 (***Exhibit 7***), and was compiled from discussions between the USACE, the City of Grapevine and Gaylord Entertainment using earlier designs as a reference.

This alternative focused on the development of the large pool complex on the southern portion of Gaylord fee property adjacent to Highway 26, connected to a ranch complex. An alternate pool /recreational amenities site was considered for a location immediately west of the existing Gaylord Texan hotel, which would have required considerable clearing of upland woods in that ravine/stream corridor, and greater impacts to jurisdictional streams than those considered in the Alternative #1 design.

In addition, a large parking lot was proposed for a location on the western edge of the property, immediately adjacent to Ruth Wall Road.

A convention center expansion was proposed that would extend the building in a southeasterly direction across USACE property and into the conservation pool elevation zone of the lake.

A pedestrian bridge over Silver Lake Branch was proposed on USACE property, between the existing Gaylord Trail Bridge and the proposed ranch complex.

No trails were identified in this alternative design, and no recreational areas were identified. Limited points of public access to the recreational elements were identified. The total acreage of disturbance for this development alternative would be approximately 40 acres on USACE land; similar to the acreage impact in Alternative #2, other than the lack of disturbance for trail systems.

Similar to Alternative #2 Design concerns, opposition was raised by the USACE for the placement of features labeled as the "perched beach" in the lake finger west of the resort under this alternative. Corps opposition arose because of water circulation concerns along the western side of the peninsula, and the location being directly across from the city's boat ramps. Because of these concerns, concerns within the USACE about construction of the convention center expansion over the conservation pool zone, a larger impact area for the resort pool complex, a trail bridge spanning the open water of Silver Lake Branch for connection to the ranch complex, and a lack of hike and bike trail systems, Alternative # 3 Design was not considered to be the preferred alternative.

2.6 NO ACTION ON FEDERAL LANDS ALTERNATIVE

An alternative was evaluated by Gaylord Entertainment Company and the City of Grapevine that would totally avoid project construction on USACE property. It was determined that placing the convention center expansion and the recreational facilities entirely on private parcels would make the layout of the overall recreational project undesirable in terms of connectivity of the recreational features and the lack of lake access.

In order to meet the identified resort and recreational needs, the private land parcels being evaluated would need to be contiguous to the existing resort and at least 150 acres in size. A large acreage criterion was applied in the evaluation of potential land parcels because there would be more flexibility in the placement of recreational features in the design on a large parcel, thus avoiding and minimizing impacts to environmental resources such as streams, wetland features, native grasslands and high quality upland wooded areas.

The existing GTRCC complex is completely surrounded by USACE lands and by the open water of Grapevine Lake. The undeveloped tracts in the resource study area owned by Gaylord are not contiguous to the existing resort and are not adjacent to Grapevine Lake, and other potential large undeveloped private parcels are all located at some distance from the existing GTRCC facilities and Grapevine Lake. Potential sites that could be used for the construction of parking areas on Gaylord lands are also located at inconvenient distances from the resort and proposed recreational facilities. A considerable number of larger private lands adjacent to Corps land near State Highway 26 have been and are currently being developed with commercial retail and office facilities; thus these parcels are not available for consideration in this project. Other large tracts of undeveloped lands south of Ste Highway 26 are owned by Dallas-Ft. Worth

International Airport. These tracts cannot be used for any other purposes than “approach clear landing” zones, and therefore must be left undeveloped.

The proposed lake-related recreational facilities are water dependent, and would best serve their intended uses by being located in direct proximity to the shores of Grapevine Lake. The lands owned by Gaylord on the peninsula are contiguous with the USACE lands of Silver Lake Park surrounding the lake. For the resort design to be functional and to provide convenient access to all features by patrons, it is preferred that there be continuity between the existing resort development on private lands and areas to be used for lake-related recreational activities – preferably adjacent to the waters of the lake. Undeveloped, privately owned lands in the project area adjacent to the lake are not large enough and are not available for this purpose.

The proposed expansion of the GTRCC does include the construction of some features on Gaylord-owned land adjacent to USACE-owned lands. The resort expansion features include the addition of a 500-room hotel wing, and the expansion of an existing parking structure on Gaylord-owned land. The expansion of the existing convention center and building of a swimming pool complex would both require use of USACE property due to the size and required placement of these amenities.

For the reasons that large contiguous lands with lake access in close proximity to the existing resort are not available for development of the proposed recreational features, the “No Action on Federal Lands” alternative would not satisfy the purpose and need for action, and thus was not considered to be the preferred alternative. Therefore, the “No Action on Federal lands” alternative has been eliminated from further consideration in the Environmental Consequences review of reasonable alternatives.

3.0 EXISTING ENVIRONMENT

3.1 PROJECT SETTING & LAND USE

The project is proposed to be developed on federal land owned and managed by the USACE and leased to the City of Grapevine around Grapevine Lake. Parcels on adjacent privately-owned lands have been designated by the City's comprehensive land use plan for commercial uses. The adjoining lands are zoned for hotel, commercial, and office, which dictate development of commercial, retail, and other higher uses.

Parcels included in the proposed project boundaries are situated along the shoreline of the lake. The proposed lake-related recreational activities are adjacent to the shoreline along the GTRCC peninsula and the Silver Lake Branch inlets off of Grapevine Lake. The easternmost Silver Lake Branch inlet is presently developed with a marina complex that is leased from the USACE by Marinas International. Property uses west of the project site include high-density single family residential and mobile home developments. The Grapevine Lake USACE Project Headquarters is located east of the proposed development across Fairway Drive. The adjacent property uses are as follows:

North: Vacant land and Grapevine Lake.
South: Vacant land and single family residential.
East: Grapevine Lake Project Headquarters and vacant land along Grapevine Lake.
West: To the south is single-family residential property along Ruth Wall Street, which changes to Park Street 11 on the north end of the property. To the northwest is USACE parkland including a boat ramp and parking area.

The 2001 Master Plan Supplement No. 2 indicates that three utility corridors have been previously designated by the USACE across and adjacent to the proposed project area. The purpose of these corridors is to serve as the Government's preferred routing for present utility lines and for future utility line proposals. Concentrating future utility easements into these designated corridors would reduce environmental impacts by reducing fragmentation of wildlife habitat, reducing impacts on visual aesthetics, and in some cases reduce the direct loss of natural resources. Any natural resources that could not be avoided within a designated corridor would be mitigated as specified by the Corps of Engineers.

Corridor 1 follows the west side of Fairway Drive to intersect with Highway 26. Additional utilities could be located within 15 feet either side of the existing easement, as designated by the USACE in the 2001 Master Plan Supplement. Corridor 2 follows the two existing, overhead electrical transmission lines, crossing east-west across the two arms of Silver Lake Branch and Silver Lake Park lands. Future utilities within this segment of Corridor 2 could likely be authorized within 15 horizontal feet on either side of the existing easement. Corridor 3 follows Gaylord Trail up to the GTRCC. Future utilities proposed for this corridor could be located within 25 feet of the roadway on either side of Gaylord Trail, as designated by the USACE in the 2001 Master Plan Supplement.

A fourth utility easement not described in the 2001 Master Plan Supplement No. 2 is the buried sanitary sewer line running from the existing convention center, crossing the western finger of Silver Lake Branch, and trending southward where it eventually crosses State Highway 26.

The Grapevine Lake Master Plan Supplement #2 indicates that Silver Lake Park is designated as "Intense Recreation" Land Use Classification. These lands were previously listed as Priority 1 land use; reserved for use by the general public and to be administered and/or developed by the USACE or by Federal, State, and local governmental agencies for parks and recreational purposes and commercial concession areas.

Development activity on the federal lands within the City of Grapevine limits will follow the City's Development guidelines as addressed in the Zoning Code, Ordinance No. 82-73, Section 36 for a planned commercial development district. Full details on all of the Codes of Ordinance can be found on the City of Grapevine's website at **http://www.ci.grapevine.tx.us**.

3.2 CLIMATE, GEOLOGY AND SOILS

The north central Texas region is considered to have subtropical climate, although a wide range of extremes can be found. Cold fronts originating from the north are not uncommon in the winter months. Mean annual temperature is about 65 degrees Fahrenheit, but temperatures of 0 degrees Fahrenheit and 110 degrees Fahrenheit are not uncommon for winter and summer respectively. There is an average of 230 frost-free days in Tarrant County, and an average 31 inches of total annual precipitation. There is a concentration of rainfall in the spring and fall months, coupled with hot dry summers. Major storms have also been a problem in the region, with destructive tornados and hail storms. Recent attention is now focused on the possibility of future climate changes due to increasing carbon dioxide concentrations, which will result in increased greenhouse effect. All of these factors have influences on both the vegetative cover and on lake/stream hydrologic functions.

The subject property is underlain by the Upper Cretaceous Woodbine Formation. The Woodbine Formation is characterized as sandstone with clay and shale interbeds. The upper part

underlying the higher elevations in the project area is mostly fine grained, well sorted, reddish-brown sandstone with ripple marks and large scale cross-bedding. Some of the sandstone has large discoid concretions. The middle part of the formation exposed in stream valleys is mostly fine grained sandstone, which is cross-bedded. Interbeds of carbonaceous clay are present. The lower part is inter-bedded sandstone and clay. The sandstone is fine grained and very thinly bedded to massive. Examples of dinosaur footprints and bone have been found in this formation elsewhere along Lake Grapevine. The thickness of the Woodbine Formation ranges from 175 to 250 feet. The iron rich minerals in the Woodbine deposits often consolidate sand layers into dark-brown siliceous iron ores, forming iron ore knobs and erosion-resistant outcrops in stream valleys and along the lake edge.

The project tract is characterized by five different soils. The tract lies in the Crosstell-Gasil-Rader and Houston Black-Navo Heiden soils associates. The property is located within the Crosstell-Gasil-Rader general soil map units. These soils are deep, loamy soils on nearly level to sloping upland areas. The limitations of these soils are shrinking and swelling, permeability, slope, and wetness.

The Crosstell soils are moderately well drained and have a very slow permeability. The surface layer is described as four inches thick, consisting of a brown fine sandy loam. From a depth of 4 to 41 inches it is a clay, being yellowish-red in the upper part and brownish yellow in the lower part. Yellow and brown mottling is described throughout. From a depth of 41 to 60 inches, it is a light gray stratified shale.

The Gasil soils are well drained and have a moderate permeability. From the surface to 10 inches, it is described as a brownish fine sandy loam. From a depth of 10 to 17 inches, it is a brown sandy clay loam, and from a depth of 17 to 75 inches, a sandy clay loam which is brownish yellow in the upper part and olive brown in the lower part. Brownish and reddish mottles are present throughout the profile.

Rader soils are moderately well drained and have a very slow permeability. The typical surface layer is a brownish fine sand loam to a depth of 18 inches. From a depth of 18 to 27 inches it is a light yellowish brown sandy clay loam. From a depth of 27 to 69 inches, it is a sandy clay that grades to a sandy clay loam. This layer is mottled throughout in shades of gray, yellow, and red.

Heiden and Navo clay occur along Fairway Drive and the remainder of the tract is defined as arents which are loamy soils that have been smoothed and reclaimed after sand and gravel mining operations. None of the five soils listed are considered hydric within Tarrant County.

3.3 WATER RESOURCES

3.3.1 Surface Waters, including Wetlands

Section 10

USACE is directed by Congress under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) to regulate all work or structures in or affecting the course, condition or capacity of navigable waters of the United States. Grapevine Lake and Silver Lake Branch are not considered navigable waters and therefore, are not regulated under Section 10.

Section 404

The Congress directed USACE under Section 404 of the Clean Water Act (33 USC 1344) to regulate the discharge of dredged and fill material into all waters of the United States including wetlands. The waters in Grapevine Lake, Silver Lake Branch, their tributaries and adjacent jurisdictional waters of the United States are all regulated under Section 404.

An assessment of the water resources was performed in October, 2007 on the project site. Boundaries of lakes and wetlands were traversed and were mapped using both aerial topographic data and historical aerial photo coverage. The subject property is located on several lake fingers at the southeast end of Grapevine Lake adjacent to the Grapevine Lake dam. Examination of a 1953 historical aerial shows that drainage over this area originally consisted of a series of wooded to sparsely wooded, meandering stream tributaries draining northward into the pre-lake Denton Creek.

The main hydrologic features affecting the subject property now include Grapevine Lake and contiguous Silver Lake Branch adjacent to the USACE lands and lease lands comprising the subject property. It is estimated that 16,300 linear feet of open water lake edge are present along the proposed project boundaries. Two southern fingers of Lake Grapevine have been called the east and west branches of Silver Lake, which are located southeast and south of the present GTRCC facilities. A smaller finger of Silver Lake Branch extends south of the existing Gaylord Texan convention center up to Ruth Wall Road. A fourth lake finger from Lake Grapevine trends along the western edge of the Grapevine Texan parking garage and the main hotel building. Most lake slopes are somewhat steep and are too rocky to support much wetland development, but isolated sections of button bush and scattered stands of herbaceous wetland plants have grown up on flatter, siltier benches along the lake edges and within the flat, marshy embayment areas at the upper ends of the lake fingers. Hydrology in these marshy areas is sourced by both inundation during high levels of Lake Grapevine and by intermittent streams draining into the lakes from the upgradient sandy watershed areas to the south and west.

Several natural tributaries originate on the site and flow into branches of the lakes. Two stream tributaries originate south of Hwy 26 and drain northward into the two southern branches of Silver Lake. Tributary 1 begins as drainage from Hwy 26 and crosses the USACE property leased to the City of Grapevine as a first order ephemeral stream channel, becoming an intermittent stream at the east-west electric power line. North of the power line, the drainage corridor is much broader and marshy as it drains into the eastern branch of Silver Lake. Several other ephemeral channels also drain into this marsh area from the west.

Tributary 2 begins south of the Great Wolf facilities and crosses the USACE property as a meandering intermittent stream. Several other first order ephemeral channels drain into this intermittent corridor from the adjacent sandy and rocky slopes. East of the previous horse and cattle facilities offsite, the drainage becomes marshy as it enters the impounded lake upgradient to the western branch of Silver Lake. The impoundment has breached its large dam during the recent 2006 drought period when overflowing water cut a steep channel at the east end of the dam. The re-establishment of lake levels since 2006 has allowed for the water levels to be restored in this previously impounded lake.

Tributary 3 begins to the west of Ruth Wall Road as a wooded intermittent stream with ponds. The tributary enters the smaller branch of Silver Lake under the water main for the GTRCC. Another drainage begins as an ephemeral channel at the road adjacent to the existing convention center complex, primarily carrying storm water runoff. Downgradient, this tributary becomes more intermittent, then marshy prior to entering the western branch of Silver Lake.

A few other intermittent stream channels originate east of the existing hotel complex and primarily carry storm water runoff from Gaylord Trail. One of the intermittent channels originally began under the footprint of the current hotel and was impounded to create several small decorative lakes. Overflow from these lakes in front of the hotel enters an older impounded water body to the east of the road via a short intermittent channel. This older impoundment existed as a stock pond prior to building of Grapevine Lake. During the 2006 drought period, this shallow lake impoundment became breached by downcutting water, and was completely drained. The re-establishment of lake levels since 2006 has allowed for the water levels to be restored in this previously impounded lake, but the water levels will now fluctuate with the rising and falling of Grapevine Lake.

Water entering the finger of Lake Grapevine west of the existing hotel complex is fed by several first order ephemeral channels that begin near the intersection of Ruth Wall Road and Park Road 7. Downgradient, the channels become intermittent prior to entering the lake finger through a narrow brushy marsh.

It is estimated that 99,700 square feet (2.29 acres) of both herbaceous emergent marsh and scrub/shrub wetlands are present adjacent to and within the proposed project boundaries. In total length of drainage ways, it is estimated that there are 3369 linear feet of ephemeral stream bed and 3703 linear feet of intermittent stream bed within the proposed project boundaries.

The functions and services provided by the jurisdictional waters and wetlands were evaluated for their benefits to the Grapevine Lake area. The functional assessment looked at the hydrologic processes, the biogeochemical processes and the habitat functions that were provided by the different water types. The lakes and lake fingers provide the most benefits to the region. The lakes function for long-term storage of surface water, recharge to the ground water system, removal of elements and compounds, retention of particulates, and maintenance of both terrestrial species and aquatic species of animals. Other than the fringe marshes, the lakes do not appear to maintain any significant growth of aquatic plant species.

The fringes of wetlands developed along the margins of the lakes and the more extensive areas of wetland flats developed at the upper end of most arms of the lake provide some functional benefits to the Grapevine Lake area. The wetland flats at the lower ends of the stream drainages provide short-term storage of surface water, some recharge of subsurface waters, and dissipation of moving water energy. The wetlands also provide for some cycling of nutrients, removal of elements and compounds, retention of particulates, and some export of organic carbon from the emergent marshes. The primary habitat functions provided by these areas of saturated to inundated soils are the maintenance of emergent marsh and wet scrub/shrub communities and their benefits to the biodiversity of animal communities as a functional ecosystem.

The streambeds within the project area provide marginal water quality benefit. There are few hydrologic functions provided, other than site drainage. There are few biogeochemical functions provided by the streams other than a limited retention of particulates. The most important functions provided by the stream channels appear to be as wildlife habitat and as water source for the biota.

Table 1. Jurisdictional Waters Delineation within Project Area

Type	Linear Footage	Sq. Footage (Acreage)
Open Waters	16,300 LF	
Wetlands		99,700 (2.29 Ac.)
Intermittent Stream	3703 LF	
Ephemeral Stream	3369 LF	

Surface water in the Grapevine Lake and similar reservoirs are the primary sources of municipal water for this area. Grapevine Lake is identified as Segment 0826 of the Trinity River Basin. Stream segments provide a way for the TCEQ to classify stream portions by geographic location. The TCEQ establishes surface water quality standards on the basis of beneficial uses such as domestic water supply, propagation of fish and wildlife, contact recreation, and non-contact recreation. The 2004 Texas Water Quality Inventory conducted by TCEQ determined that Grapevine Lake has the following water body uses: aquatic life use, contact recreation use, general use, fish consumption use, and public water supply use.

According to the most current TCEQ database published in the 2008 Texas Water Quality Inventory (See **Appendix D**), the public water supply and general uses of Grapevine Lake are fully supported. Nutrient enrichment concerns for Nitrates were labled Concern for Screening levels because 10 of 25 samples exceeded criteria levels. No other concerns were listed for nutrient enrichments of ammonia nitrogen, nitrites, orthophosphorus, or total phosphorus. No concerns were listed in the lower part of the lake for sediment contaminants or algal growth. The aquatic life and contact recreation uses were not assessed by TCEQ. Fish consumption uses were not assessed, but no concerns were listed in the lower part of the lake for fish tissue contaminants.

3.3.2 Ground Water and Aquifers

Usable water-bearing aquifers in the area of study are in the Woodbine Aquifer and in the Paluxy and Twin Mountains formations. The latter two formations are part of the Trinity Group Aquifer, a major aquifer in the state of Texas. A major aquifer is defined as "one that yields large quantities of useable quality water in a comparatively large area of the state." The Woodbine is a minor aquifer in north central Texas as classified by the Texas Water Board. Minor aquifers yield large quantities of water in small areas or relatively small quantities of water in large areas of the state.

The Paluxy Formation is composed of sandstone, mudstone, and limestone. Recharge to the unconfined portion of this zone in the Trinity Aquifer is primarily from infiltration of precipitation and seepage of surface water bodies into the outcrops of this formation to the west of the project. The Twin Mountains Formation is composed of sand with inter-bedded clay, limestone, dolomite, and gravel. The form of recharge is similar to that of the Paluxy Formation.

The Woodbine Formation outcrops on the property and is composed of friable, iron bearing fine-grained sand and sandstone with interbedded shale, sandy shale, and clay. Rainfall on the outcrop is the primary source of recharge to the Woodbine Aquifer.

Depth to shallow or perched groundwater on the property is not known. Depth to deep groundwater is approximately 800 feet in the Paluxy Formation and 1,800 feet in the Twin Mountains Aquifer, Reported usage in the Woodbine Aquifer ranges from 140 feet to 340 feet *(The Geology of Texas, 1990)*

The general directional flow characteristics of the Trinity Group Aquifer are to the east-southeast in accordance with the orientation of the overall stratigraphy. Groundwater flows to the east in the Woodbine Aquifer, following the dip of the aquifer in the subsurface. The directional flow of shallow or perched water is anticipated to follow the site topography. However, seasons and local groundwater extraction or infusion may influence groundwater direction.

3.3.3 Floodplains and Flood Storage

Grapevine Lake was built for the purposes of flood control and conservation. The lake is considered to be at "conservation pool" at an elevation of 535 feet above mean sea level (msl). This is the desired water level elevation for the lake during normal rainfall years. The government has acquired the right to flood adjacent lands up to an elevation of 572 feet msl. in perpetuity. This floodable zone is commonly called the "flowage easement." A flowage easement may be privately owned, but it is encumbered by the federal government with the right to flood it up to that designated elevation for each lake. Grapevine Lake is considered to be under flood conditions when the water level exceeds the flooding easement elevation of 572 feet msl.

A portion of the private property owned by Gaylord adjacent to the proposed project area is within the flowage easement of Grapevine Lake. There is no flowage easement established on USACE property. No structures are permitted within a flowage easement without USACE consent. Any allowable structures within the flowage easement must be designed so as not to block the movement of water during flooding events. Pavement from roads and driveways is not considered as a structure by the USACE. Shorelines of privately-owned parcels of land located adjacent to the lake and outside the flowage easement must be protected from shoreline erosion by the lake, or the eroded areas may become encumbered by the USACE's flowage easement.

The water surface elevation can vary by as much as 20 feet above or below the 535 foot elevation, depending on the rainfall and drought conditions. During drier conditions the lake may also experience occasional drawdowns below the conservation pool level as the demands for municipal and industrial water supply dictate.

3.4 BIOLOGICAL RESOURCES

3.4.1 Wildlife and Fish

This section addresses resident and migratory animal populations that are associated with the terrestrial, riparian, wetland and lake habitats described in other sections of this document. The Grapevine Lake area contains a typical assortment of endemic wildlife species such as owls (*Tytonidae* and *Strigidae*), raccoons (*Procyon lotor*), bobcats (*Lynx* rufus), mink (Mustela vison), opossums (Didelphis virginiana), grey squirrels (Sciurus niger), rabbits (*Sylvilagus floridanus*), and white tail deer (*Odocoileus virginianus*), as well as various species of other small mammals.

Grapevine Lake and associated wetlands offer feeding, staging, and roosting areas for migratory birds. The wooded areas adjoining the lake offer nesting and roosting areas for many birds, especially those species that prefer to nest or roost over water. Species such as ducks, coots, grebes, pelicans, herons, egrets, gulls, terns, and hawks migrate through the area and utilize open water, shallow wetlands, and the associated riparian vegetation for feeding, perching and roosting. There is a typical resident bird population, which includes great blue

heron (Ardea herodias), turkey vulture *(Carthartes aura),* mourning dove *(Zenaida asiatica*), red-tailed hawk (*Buteo jamaicensis*), northern bob-white (*Colinus virginianus*), blue jay (*Cyanocitta cristata*), American crow (*Corvus brachyrhynchos*), Carolina chickadee (*Parus carolinensis*), tufted titmouse (*Parus bicolor*), Carolina wren (*Thryothorus ludovicianus*), northern cardinal (*Richmondena cardinalis*), field sparrow (*Spizella pusilla*), red-winged blackbird (*Agelaius phoeniceus*). northern mockingbird (*Mimus polyglottos*), and red-bellied woodpecker (*Melanerpes carolinus*).

The fish of Grapevine Lake represent the typical assemblage of reservoir fish. Included are recreationally important species such as; channel catfish (*Ictalurus punctatus*), largemouth bass (*Micropterus salmoides*), white crappie (*Pomoxis annularis*), black crappie (*P. nigrornaculatus*), bluegill (*Lepomis macrochirus*), redear sunfish *(L. microlophus*), warmouth (*L. gulosus*), striped bass (*Morone saxatilis*), white bass *(M, chrysops*), and hybrid bass (a cross of the two species of *Morone*). Fish such as gar (*Lepisosteus* spp.), bowfin (*Amia calva*), and buffalofish (*Ictiobus* spp.), minnows (*Cyprinidae* spp.), shiners (*Notropis* spp.), gizzard shad (*Dorosoma sepedianum*), and inland silverside (*Menidia beryllina*) are also present.

3.4.2 Aquatic Vegetation

There is only a scattering of shoreline vegetation around the lake edges. The aquatic varieties of vegetation are typically growing either along steep, heavily eroded bluffs with little ground cover, or on moderate slopes and benches. The dominant vegetation types are flood-tolerant pasture grasses, various weeds, forbs, black willows (*Salix nigra*), persimmon (*Diospyros virginiana*), cottonwood (*Populus deltoides*), and buttonbush (*Cephalanthus occidentalis*). The vegetation mix associated with particular wetlands on flatter benches at the upper ends of the lake is dominantly scrub-shrub, and is dominated by buttonbush (*Cephalanthus occidentalis*) and black willow (*Salix nigra)* saplings. No growth of submerged aquatic vegetation (SAV) or floating vascular vegetation was observed within the lake.

3.4.3 Terrestrial Vegetation

The project's vegetation on USACE land is typical of that found in the Cross Timbers and Prairies region of Texas. The sandy soils of the underlying Woodbine Formation have contributed to the development of a deciduous forest belt in the Eastern Cross Timbers vegetation area. The post oak-blackjack oak vegetation typical of the East Cross Timbers zone does well on the deep loose soils developed from the unconsolidated layers of the iron-containing, Woodbine sandstones and clay rich zones. Vegetation can be locally limited along the lake edge where the iron-rich sandstone outcrops form steep bluffs.

The Texas Parks and Wildlife Department in its publication “Texas Parks & Wildlife for the 21st Century”, concluded in a key finding that a significant loss of sustainable habitats has occurred in each of the eleven ecoregions of Texas. The publication further states that the Oakwoods and Prairies, which includes the East Cross Timbers, is one of the three most highly fragmented ecoregions in Texas.

According to the 2001 Master Plan Supplement #2 for Grapevine Lake, “the federal land surrounding Grapevine Lake has been in federal ownership for approximately 50 years. During this 50-year period, the vegetation on these lands has changed dramatically, with many areas succeeding naturally toward a climax vegetation status with resulting high ecological and aesthetic value. “ The federal lands within the project area contain some vegetation stands that fit this climax vegetation evaluation such as the post oak mottes and stands of mature cedar

elms; the subcanopy vegetation in both being colonized by thickets of eastern red cedar. Other tracts of land that were previously either used for grazing or were the cleared footprints of previous rural development are still in the early stages of succession, and are covered with thickets of brush, hardwoods and stands of eastern red cedar.

Grasslands: Open upland areas are vegetated with a variety of forbs such as ragweed (*Ambrosia* spp.), goldenrod (*Solidago canadensis*), partridge-pea (*Chamaecrista fasciculata*), and pasture grasses (*Bromus* spp., etc.). In disturbed areas, introduced or invading species are found; such as mesquite (*Prosopis glandulosa*), groundsel-tree (*Baccharis* sp.), and common bermudagrass (*Cynodon dactylon*). Minor scatterings of little blue stem (*Schizachyrium scoparium*) are present in the fall. Any remnants of native grasslands within the project area have been overgrown with thickets of hardwoods and eastern red cedar.

Riparian Woodlands: Since the project area is adjacent to an impounded lake, the riparian corridor adjacent to the lake edges is developed on upland woodlands and grassland features, with most of the woody vegetation growing adjacent to the lake dominated by black willow (*Salix nigra*) and buttonbush (*Cephalanthus occidentalis*). Some stands of persimmon (*Diospyros virginiana*) are found within this zone. The larger trees growing above the ponding water level of the lake are dominated by cedar elms (*Ulmus crassifolia*), but those large trees became established prior to the creation of the lake in the 1950's.

Forested edges of the ephemeral and intermittent streams feeding into the lake are dominated by cedar elm (*Ulmus crassifolia*), American elm (*Ulmus Americana*), green ash (*Fraxinus* sp.), greenbrier (*Smilax* spp.), poison ivy (*Toxicodendron radicans*), rattanvine (*Berchemia scandens*), and Virginia wild rye (*Elymus virginicus*).

Upland Woodlands: The dominant canopy species on the wooded uplands of the project area consist of post oak (*Quercus stellata*), cedar elm (*Ulmus crassifolia*), sugar hackberry (*Celtis laevigata*) and occasional blackjack oak. Understory species vary throughout the property but include saplings of canopy species, eastern red cedar (*Juniperus virginiana*), greenbrier (*Smilax* spp.), grape vines (*Vitis* spp.), and coralberry (*Symphoricarpos orbiculatus*).

Project lands immediately adjacent to subdivision properties and much of the site for the proposed ranch complex frequently support introduced or escaped vegetation characteristic of residential landscaping. The proposed ranch site in the area of Silver Lake Park is a cleared, open landscape mixed with wooded areas. Mesquite (*Prosopis glandulosa*), eastern red cedar (*Juniperus virginiana*), cedar elm (*Ulmus crassifolia*), American elm (*Ulmus Americana*), and sugar hackberry (*Celtis laevigata*) are found around this tract, with tall weedy species overgrowing the cleared areas that were originally used as storage areas by the park and the USACE. Similar mixes of vegetation can be found in other previously cleared areas and along utility rights of ways across the project area.

3.4.4 Threatened and Endangered Species

Section 7 of the Endangered Species Act of 1973 (PL 93-205) (ESA) requires Federal agencies to consult with the U.S. Fish and Wildlife Service (Service) in order to ensure projects do not jeopardize the continued existence of threatened and endangered species. According to the United States Fish and Wildlife Service (USFWS) records, there are four (4) species on the Federal threatened or endangered list that are likely to occur or have been known to occur within the vicinity of the GTRCC project area. The two (2) mammal species are considered extirpated in these regions. There are also four (4) bird species that are now delisted by the

USFWS. The identified endangered, threatened and delisted species are listed under the "Federal Status" column in **Table 2**.

The animals in "State Status" column of **Table 2** are listed on the Endangered, Threatened, and Watch List of Texas Parks and Wildlife Department for Tarrant County, Texas. The Texas Parks and Wildlife Department (TPWD) county lists include: Vertebrates, Invertebrates, and Vascular Plants identified as being of conservation concern by TPWD within Texas. These special species lists are comprised of species, subspecies, and varieties that are federally listed; proposed to be federally listed; have federal candidate status; are state listed; or carry a global conservation status indicating a species is critically imperiled, very rare, vulnerable to extirpation, or uncommon. No plants are listed for Tarrant County in the TPWD database.

Table 2. Texas Parks & Wildlife Dept. Annotated County Lists of Rare Species
(Last Revised 8/8/2007)

	TARRANT COUNTY		
	BIRDS	Federal Status	State Status
American Peregrine Falcon	*Falco peregrinus anatum*	DL	E
year-round resident and local breeder in west Texas, nests in tall cliff eyries; also, migrant across state from more northern breeding areas in US and Canada, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.			
Arctic Peregrine Falcon	*Falco peregrinus tundrius*	DL	T
migrant throughout state from subspecies' far northern breeding range, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.			
Bald Eagle	*Haliaeetus leucocephalus*	DL	T
found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds			
Interior Least Tern	*Sterna antillarum athalassos*	LE	E
subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland lake shores, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony			
Peregrine Falcon	*Falco peregrinus*	DL	E T
both subspecies migrate across the state from more northern breeding areas in US and Canada to winter along coast and farther south; subspecies (F. p. anatum) is also a resident breeder in west Texas; the two subspecies' listing statuses differ, thus the species level shows this dual listing status; because the subspecies are not easily distinguishable at a distance, reference is generally made only to the species level; see subspecies for habitat.			

Whooping Crane	*Grus americana*	LE	E
potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties			
	MAMMALS	Federal Status	State Status
Gray wolf	*Canis lupus*	LE	E
extirpated; formerly known throughout the western two-thirds of the state in forests, brush lands, or grasslands			
Red wolf	*Canis rufus*	LE	E
extirpated; formerly known throughout eastern half of Texas in brushy and forested areas, as well as coastal prairies			
	REPTILES	Federal Status	State Status
Texas horned lizard	*Phrynosoma cornutum*		T
open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive; breeds March-September			
Timber/Canebrake rattlesnake	*Crotalus horridus*		T
swamps, floodplains, upland pine and deciduous woodlands, riparian zones, abandoned farmland; limestone bluffs, sandy soil or black clay; prefers dense ground cover, i.e. grapevines or palmetto			

Legend: E (endangered), T (threatened), Dl (delisted), LE (Federal Endangered)

The earleaf false-foxglove *(Agalinis auriculata)* is the only plant species listed on the Endangered, Threatened, and Watch List for Tarrant County, Texas according to the Texas Organization for Endangered Species *(TOES, 1993).* The *TOES* have placed the earleaf false-foxglove on their Watch List, although this species has not been recently found in Texas and is now thought to be extirpated in the state. There are no endangered, threatened, or watch list Natural Communities listed for the project area according to TOES (TOES, *1992).*

3.5 NOISE, LIGHTING AND GENERAL AESTHETICS

The project site is located between residential developments and public recreation lands. There are no major highways in the vicinity of the proposed project that serve as noise sources. Existing noise levels are primarily associated with aircraft departing and approaching Dallas-Fort Worth International Airport. Boat traffic noises and sounds from gatherings in residential and commercial developments contribute to additional noise in the study area and around the GTRCC.

Currently the USACE lands included in the project are undeveloped, and illumination of the site is negligible. Sources for illumination of the site are currently limited to lighting of the resort, convention center and roadways at the GTRCC, lighting at the Glass Cactus, adjacent property lighting from the marina and boating traffic, the neighboring residential community, and the roadway lighting along Ruth Wall Road.

Aesthetics are subjective and dependent upon individual or societal preferences. Within the project area of the resort and Silver Lake Park, the aesthetic resources range from man-made to natural features. Man-made features such as major resort and convention facilities, roadway infrastructure, marinas, residential and mobile home sites, and recent commercial development have been built within a post oak to riparian woodland setting along a large recreational and water reservoir lake.

3.6 CULTURAL RESOURCES

Archeological and cultural resources at Grapevine Lake are managed by implementing the policies and guidelines established by Federal archeological and historic preservation laws and regulations. Resources in this category consist of scientific, prehistoric, historic, archeological, or paleontological resources that could be lost or destroyed by the ”Preferred Action”. The following laws and regulations provide the basis for the cultural resources management program: Antiquities Act of 1906 (Public Law 59-209); Historic Sites Act of 1935 (Public Law 74-292); Reservoir Salvage Act (Public Law 86-523); National Historic Preservation Act of 1966 (Public Law 89-665); Archeological and Historic Preservation Act of 1974 (Public Law 993-291); the Archeological Resources Protection Act of 1979; and the Native American Graves Protection and Repatriation Act of 1990 (Public Law 101-601; 104 Stat. 3048; 25 USC 3001-1 3).

As identified in the original August 1999 EA for the Opryland on Grapevine Lake project and the subsequent December 1999 EA for the golf course, an archeological survey of the project area was conducted by Geoarch Consultations. Dr. Reid Ferring, an archeologist from the University of North Texas (UNT), performed a comprehensive cultural resource evaluation of the site. The survey was to determine if any adverse affects to cultural resources would result from the Opryland on Grapevine Lake project. The evaluation was pertinent to the proposed golf course plans in 1999, and also to this proposed resort expansion and recreational features design. The major portion of the survey area is on private lands to be incorporated into the development. Portions of the project area are owned by the USACE, and are under the regulation of the Fort Worth District.

The survey determined that two archeological sites are present within the areas to be affected by development. Site 41TR172 is located on private property, and Site 41TR173 is located on USACE property.

Site 41TR172 was delineated as a 29-acre area containing an extensive thin scattering of lithic artifacts in the plowed zone of an old terrace surface. The major portion of the surveyed area was located on private lands that were incorporated into the original Opryland (now Gaylord Texan) hotel development. This site also included concentrations of historic artifacts related to structures dating between 1890 and present. No buildings except for small sheds stood on the project area in 1999. Due to the large size and surficial context of the site, the archeologist did not recommend any further study on the site at this time. However, the archeologist did recommend that the site be monitored during any development for possible features or artifact concentrations.

The second site, Site 41TR173, was mapped as a single occurrence near a streambank that contained a small concentration of lithic artifacts that appeared to be spatially in place, yet appeared to lack fauna or datable materials. It was the opinion of Dr. Ferring in the 1999 assessment reports that Site 41TR173 is potentially eligible for inclusion in the National Register

of Historic Places. It was recommended that site 41TR173 be avoided during any site development.

The 1977 FEIS for the Operations and Maintenance Programs within the Trinity River Basin included paleontological resources along with historic, architectural, and archeological resources as part of cultural resources management. Numerous sites with paleontological value have been identified in the Lake Grapevine area. Specifically, Cretaceous-age dinosaur footprints have been discovered elsewhere in parks along Lake Grapevine in the Woodbine Sandstones, and mastodon bones have been discovered in the Pleistocene-age terrace sediments below the Lake Grapevine spillway. Site reconnaissance and site visits by USACE staff have not revealed any evidence of either fossil materials in rock outcrops or sediments of the project areas.

3.7 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTES

According to the December 1999 EA for the Opryland Golf Course, the USACE reportedly used one or more disposal pits during the 1970's and early 1980's in the vicinity of the proposed ranch complex. The following is a description provided by the USACE for submittal to the Texas Natural Resource Conservation Commission (now called the TCEQ) on January 25.1995.

> "Site #1 - The USACE disposed municipal solid waste in landfill units located in tract A1A, and A1C during the 1980's. The waste was deposited in at least two pits, which were 20 feet wide, 40 feet long and 10 feet deep. There could have been one or two additional pits. Soil cover depth is greater than three feet. Soil type is Navo clay loam. Vegetative cover consists of grass and forbs. Material disposed included wood, metal, empty paint cans, buoys, and tires. One of the pits may contain several drums of pesticide and fertilizer. The drums were constructed of metal and some may have been plastic. The location of the pit which contains the pesticide and fertilizer is unknown."

In a subsequent letter issued by the Texas Natural Resource Conservation Commission (TNRCC) to the USACE, dated March 15,1995, the TNRCC acknowledged receipt of their correspondence pertaining to three closed municipal landfill sites [the other two sites are located outside of the proposed project site in other areas around the lake]. The letter indicated that a TNRCC field inspector inspected the site and found that it "appeared to be adequately covered with soil and was sufficiently graded to drain. Also, there was adequate grass growth on the cover." No notation of closure status was indicated in the TNRCC letter. Additionally, no regulatory information was provided in the regulatory report.

During the on-site inspection under the previous EA assessment in 1999, the general area believed by the USACE to be Site #1 was indicated by Mr. Dale King, Park Ranger for the USACE, Grapevine Lake Project Office *(***Exhibit 10**). A portion of the surveyed area was leased to Silver Lake Marina and the remaining portion was used as a USACE storage area. According to the December 1999 EA report, "the area appeared free of debris and was vegetated with grasses and bordered by tree growth. No visual evidence of the disposal pit was observed."

The 1999 report further stated that "discarded materials were observed on the western end of the Silver Lake Marina open storage area and included wooden spools for cables, tires, styrofoam, a riding lawn mower, empty propane tanks, wooden pallets and boards, and sheet metal. Minor amounts of windblown and discarded domestic trash were observed in the vicinity of the boats and boat trailers."

During on-site inspections in October 2007, the same grassy and weedy areas in the footprints of the previous USACE storage areas were traversed on foot and found to be free of discarded materials and construction debris, other than scattered trash and bottles along the roadways and paths from park users. The site designated by the USACE as a potential waste disposal pit was observed to be a dirt surface overgrown with tall weeds, but free of debris. Inspections into the brushy areas and woods adjacent to this potential pit location revealed considerable piles of old wooden posts, cables and metal pipes from demolition of old park facilities, scatterings of discarded tires, and minor amount of empty metal cans as shown in the attached site photos. The age of trees growing up through this debris indicates that the piles had been there for decades. Inspections of the corridors along the old Silver Lake Park asphalt roadways revealed at least six concrete picnic tables with benches in various states of disrepair and minor amounts of domestic trash illegally dumped in eight scattered piles.

3.8 AIR QUALITY

The North Central Texas Area, comprised of nine counties including Tarrant, Denton and Dallas counties, has been designated nonattainment for the pollutant ozone under the National Ambient Air Quality Standard (NAAQS). Therefore, the North Central Texas Council of Governments (NCTCOG) Regional Transportation Council (RTC) has developed a broad range of air quality programs that aggressively target major sources of ozone-causing emissions.

Some of these programs include: vehicle emission testing, clean construction fleet initiative, clean public activity fleet initiatives, and diesel vehicle idling reduction program, to name a few.

The air quality designation for the area is currently listed as moderate.

3.9 RECREATIONAL AREAS

Much of the land outside of the parcels owned by Gaylord is leased to the City of Grapevine by the USACE as park lands. The USACE Master Plan Supplement No. 2 shows a classification of these parcels as “Intense Recreation.” Silver Lake Park was established as a city park on the USACE parcels east of Fairway Drive and west of Ruth Wall Road/Park Road 11, and an additional small parcel west of Ruth Wall Road and north of Wildwood Lane. Silver Lake Park also extends west over the USACE parcels on the west side of the existing GTRCC and west of the Glass Cactus facilities and parking lot. Existing infrastructure on park tracts within the project footprint consists of a wooden sign at the Fairway Drive entrance to the east portion of the park, remnants of asphalt roads entering the park, six concrete picnic tables in various states of disrepair, and the remnant of a north-south trending park road (Park Road 11) adjacent to the western boundary of the existing GTRCC with a paralleling single pole electric transmission line. West of the project footprint, Silver Lake Park contains a few small parking lots and a new boat ramp for entrance into the finger of Grapevine Lake west of the GTRCC.

3.10 STATE OR NATIONAL PARKS, FORESTS, CONSERVATION AREAS

There are no state or national parks, forest or conservation areas in this project development area. However, the property surrounding Grapevine Lake is U.S. Army Corps of Engineers property some of which has been leased to the City of Grapevine and other private ventures to develop and use as public parks and marinas.

3.11 PRIME OR UNIQUE FARMLAND (7 USC 4201)

The Farmland Protection Act requires a review of land development needs within the proposed project to minimize unnecessary conversion of farmland (including prime or unique farmlands) to non-agricultural uses. Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, or other agricultural crops. Unique farmland is agricultural land other than prime farmland for producing specific high-value food or fiber crops. There are no prime or unique farmlands as mapped by the NRCS associated with the proposed project area.

3.12 WILD AND SCENIC RIVERS (16 USC 1271)

There are no designated Wild and Scenic rivers in this area of Texas.

3.13 UNIQUE NATURAL RESOURCES

This section addresses unique natural resources in the area, such as timber, range, or soils. The area is underlain by geologic layers which have recently been shown to be productive for gas production, as evidenced by the "Barnett Shale" play that is currently being drilled and developed on surrounding lands to the south. There are no other natural resources in this area that would fit the category of being unique.

3.14 COASTAL ZONE AREAS (16 USC 1451 et seq.)

Coastal Zones Areas issues and regulations are not applicable to this region of Texas.

3.15 NATIVE AMERICAN CONCERNS (EO 13007)

No Native American concerns have been identified in this project area.

3.16 SOCIO-ECONOMIC CONDITIONS AND MINORITY/LOW INCOME POPULATIONS

Over the last decade, attention to the impact of environmental pollution on particular segments of our society has been steadily growing. Concern that minority populations and/or low-income populations bear a disproportionate amount of adverse health and environmental effects from federal decision-making led President Clinton to issue Executive Order 12898 in 1994, focusing Federal agency attention on these issues.

The Research and Information Services Department of the North Central Texas Council of Governments (NCTCOG) conducts population estimates through their Population Estimate Program. According to the NCTCOG's latest population estimates, Tarrant County had the highest absolute growth from 2000 to 2007 with an increase of 298,831 persons. Dallas County had an increase of 198,751 persons through 2007 bringing population up to 2,417,650 from 2,218,899 in 2000. Denton County had the highest percentage increase in population with a 38.43% increase bringing their 2007 population estimate to 599,350 up from 432,976 in 2000.

The NCTCOG Research and Information Services Department has also created employment data as a part of the NCTCOG's Employment Estimates program. NCTCOG's data shows an increase in employment in all three counties around the study area. Dallas County added 179,084 jobs between 2000 and 2005 bringing the total employment to 1,924,193. Tarrant County had 846,360 jobs in 2000 and by 2005 had 985,109 jobs totaling in a 138,749 job increase. Denton County had the highest percentage change of the three counties. Denton recorded a 26.7% increase in jobs since 2000 bringing the total jobs to 193,627 in 2005.

The surrounding cities of Coppell, Flower Mound and Keller have experienced record growth in employment from 2000 to 2005. Grapevine has experienced more growth than its surrounding cities. With a 27.60% increase in jobs Grapevine has grown from 49,565 in 2000 to 63,244 in 2005. Coppell has added 4,814 between 2000 and 2005 bringing the total to 23,215 in 2005. Flower Mound and Keller have had some of the highest percentage increases in the MPA at 41.23% and 69.39% respectively. This brings the Flower Mound and Keller 2005 employment figures to 7,245 and 4,367 up from 5,130 and 2,578.

Table 3. ---Population data for Tarrant, Dallas and Denton Counties

Counties	Final Census 1990	Final Census 2000	Revised Estimated Population 2006	Estimated Population 2007	Compound Annual Growth Rate	Absolute Growth 2000-07	Percent Growth 2000-07	Absolute Growth 2006-07	Percent Growth 2006-07
Tarrant County	1,170,103	1,446,219	1,706,300	1,745,050	2.72%	298,831	20.66%	38,750	2.27%
Dallas County	1,852,810	2,218,899	2,397,350	2,417,650	1.23%	198,751	8.96%	20,300	0.85%
Denton County	273,775	432,976	582,200	599,350	4.75%	166,374	38.43%	17,150	2.95%

[1]Population and employment data from the North Central Texas Council of Governments Research and Informations Services Department.

Table 4. --- Employment data for Tarrant, Dallas, and Denton Counties.

Counties	1990 Employment	1995 Employment	2000 Employment	2005 Employment	2000-05 Total Change	2000-05 Percent Change
Tarrant County			846,360	985,109	138,749	16.39%
Dallas County			1,745,109	1,924,193	179,084	10.26%
Denton County			152,818	193,627	40,809	26.70%
Surrounding Cities						
Coppell	6,350	7,200	18,401	23,215	4,814	26.16%
Flower Mound	1,550	2,950	5,130	7,245	2,115	41.23%
Grapevine	27,100	33,550	49,565	63,244	13,679	27.60%
Keller	950	1,550	2,578	4,367	1,789	69.39%

[1]Population and employment data from the North Central Texas Council of Governments Research and Informations Services Department

Table* 5** indicates the low percentages of minority populations within communities around the study area. These minority populations are not concentrated in any particular area that would be impacted by the project. ***Table 6 illustrates the higher median and mean incomes for populations-in the area when compared to the counties where the cities are located..

Grapevine Lake is a natural attraction and a center for recreational activity in the area. As such, it has contributed to the social and economic climate for the region. Grapevine Lake is primarily located in Denton and Tarrant Counties; however its proximity to residential, commercial and industrial development less than a mile to the east in Dallas County is such that it also provides recreational services to the communities in that county.

Table 5: 2000 Census Population and Housing Characteristics

City/County	Total Population	Race And Hispanic Origin					
		White	Black	American Indian Eskimo, or Aleut	Asian or Pacific Islander	Other race	Hispanic origin (of any race)
Dallas County	2,218,899	1,294,769 (58%)	450,557 (20%)	12,499 (1%)	89,646 (4%)	311,504 (15.8%)	662,729 (30%)
Denton County	432,976	353,855 (82%)	25,369 (6%)	2,533 (1%)	17,665 (4%)	24,072 (6%)	52,619 (12%)
Tarrant County	1,446,219	1,030,208 (71%)	185,143 (13%)	8,300 (1%)	54,846 (4%)	131,393 (9%)	285,290 (20%)
Coppell	35,958	29,929 (83%)	1,174 (3%)	122 (0%)	3,351 (9%)	675 (2%)	2,490 (7%)
Flower Mound	50,702	45,753 (90%)	1,482 (3%)	178 (0%)	1,574 (3%)	898 (2%)	2,855 (6%)
Keller	27,345	25,634 (94%)	392 (1%)	106 (0%)	493 (2%)	324 (1%)	1,234 (5%)
Grapevine	42,059	37,081 (88%)	1,001 (2%)	232 (1%)	1,106 (3%)	1,927 (5%)	4,860 (12%)

Population and employment data from the North Central Texas Council of Government Research and Information Services

Table 6: 2000 Census Income Characteristics

City/County	Housholds Median Income	Families Median Income	Household Mean Income
Dallas County	$43,324	$49,062	$61,320
Denton County	$58,216	$69,292	$72,457
Tarrant County	$46,179	$54,068	$60,112
Coppell	$96,935	$106,630	$117,974
Flower Mound	$95,416	$98,055	$107,841
Keller	$86,232	$90,129	$99,396
Grapevine	$71,680	$84,940	$84,066

Population and employment data from the North Central Texas Council of Government Research and Information Services

4.0 ENVIRONMENTAL CONSEQUENCES OF PREFERRED ACTION AND ALTERNATIVES

This section evaluates the environmental consequences of each alternative for each environmental resource area. After a general introduction of each resource area and the types of impacts that might occur in that area, the nature of the environmental consequences for each specific alternative are described. Consequences of the ”Preferred Action” and other alternatives consist of both direct and indirect (or secondary) impacts. Secondary impacts are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. Table 10 shows a relative comparison of each alternative design, based on the resources affected by and the environmental consequences of those actions.

The “No Action of Federal Lands” alternative does not satisfy the recreational objectives of the Master Plan for federal tracts within this portion of Silver Lake Park. Therefore, the “No Action

of Federal Lands" alternative has been eliminated from further consideration in this Environmental Consequences review of reasonable alternatives.

4.1 PROJECT SETTING & LAND USE

The proposed action would be constructed on USACE land that has been designated for "Intense Recreation" under the Grapevine Lake Master Plan. Intense recreation lands are not intended to be kept as preserves, but instead are designated for recreational development. (The USACE has designated certain areas around the lake as Environmentally Sensitive Areas in order to preserve those lands from any sort of development, recreational or otherwise.) This proposed development plan may include resort building expansion, a boat dock, pool and lakefront amenities, multi-use entertainment facilities and arenas, equestrian facilities, hard and soft surfaced walkways, trails and similar activities.

Supplement #2 to the Grapevine Lake Master Plan, dated January 2001, indicates the following Natural Resources Objectives, which apply to the proposed use of USACE lands for the project:

- Protection of Environmentally Sensitive areas
- Seek Opportunities for Environmental Education, Research and Restoration on Project Lands
- Stewardship of Wildlife Habitat
- Management of Woodlands and Grasslands
- Management of Aquatic Habitats, and
- Maintain Public Hunting

In addition, the Recreational Objectives of the Master Plan for Grapevine Lake include:

- Consolidate Public use Areas
- Separation of Uses (eliminating conflicts between day use and overnight uses)
- Facility Rehabilitation
- Park and Recreation Leases (encouraging lessees to implement new designs and facility rehabilitation efforts)
- Safety Programs
- Recreational Trends (staying informed and being sensitive to new trends in outdoor recreational activities)
- Universal Accessibility (by persons with disabilities)
- Aesthetics (of parks and other land areas), and
- Trails (making efforts to adequately maintain, as well as improve and expand for increased use of recreational trails).

All alternative project designs evaluated in this Section 4.1 would require the use of USACE lands for the expansion of the convention center, the pool complex, the ranch/amphitheater/arena, the general recreation areas and the lakeshore recreation areas, and the trail system. Under the previously approved plan for the golf course and driving range (the "Golf Course Alternative" described in this document), USACE tracts would also be used.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:

The 2.1 NO ACTION Plan would not result in usage variances from the "Intense Recreation" classification of the federal lands in the area. This alternative would not promote the recreational objectives of the Master Plan

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would involve development of the approved golf course and driving range on federal lands, and would not result in usage variances to the "Intense Recreation" classification of those lands. This alternative would promote some of the recreational objectives of the Master Plan, but not address objectives such as facility rehabilitation of Silver Lake Park, universal accessibility for ADA compliance, expansion of the recreational uses of Silver Lake Park, and the expansion of trail systems and trail heads on the park lands.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
The "Preferred Action" Alternative would not result in usage variances from the "Intense Recreation" classification of the federal lands under consideration for the project. This alternative would satisfy the Natural Resource Objectives and the Recreational Objectives of the Grapevine Lake Master Plan. Examples of natural resource objectives that would be met by this alternative design include stewardship of wildlife habitat, management of woodlands and grasslands, and management of aquatic habitats. This alternative requires a smaller impact area to natural resources such as forested areas as compared to the golf course plan or the other design alternatives. This design has water access via a lakefront recreational area and courtesy dock, but requires less impact to aquatic habitat as compared to Alternative #2 Design. In addition, the recreational objectives are better represented by this alternative as compared to the golf course plan and Alternative #2 Design, specifically in terms of trail systems. New trends in passive and active recreational activities are included in the "Preferred Action" Alternative. Rehabilitation of former facilities, expansion of the trail system with connectivity to other trails, and ADA accessibility coupled with aesthetic design all make this the preferred action plan.

2.4 ALTERNATIVE #2 DESIGN:
2.4 ALTERNATIVE #2 DESIGN would not result in usage variances from the "Intense Recreation" classification of the federal lands under consideration for the project. This alternative would satisfy similar Natural Resource Objectives and the Recreational Objectives of the Grapevine Lake Master Plan as those described in the "Preferred Action" alternative.. Examples of natural resource objectives that would be met by this alternative design include stewardship of wildlife habitat, management of woodlands and grasslands, and management of aquatic habitats. This alternative requires several trail crossings over Grapevine Lake and wetland marshes, and would therefore impact a larger area of aquatic zones in Grapevine Lake and more natural resources as compared to the "Preferred Action" plan

2.5 ALTERNATIVE #3 DESIGN:
Alternative # 3 Design would not result in usage variances from the "Intense Recreation" classification of the federal lands under consideration for the project. This alternative would not meet some of the Recreation objectives of the Master Plan – for example, improving and expanding the trail system for increased use of recreational trails. No trails were proposed as part of the recreational features in this alternative, but a connection bridge over Grapevine Lake was proposed to connect the resort to the ranch complex.

Under all development alternatives, it is anticipated that there would be minor inducement for additional commercial and residential growth adjacent to the project area. The area is experiencing increases in economic growth, but there could be an incremental increase upon

completion of the resort expansion and building of recreational features. Remaining undeveloped lands are being held speculatively by others for future development. Gaylord also holds approximately 53 acres of land in three parcels adjacent to Highway 26 for future commercial development.

4.2 GEOLOGY AND SOILS

None of the alternatives considered would have a significant impact on the site's geological resources. Should any materials of paleontological value be unearthed during the construction activities, construction will cease until such finds are investigated and appropriate action taken to recover them.

Regardless of the alternative considered, there would be short-term adverse impacts to soils as a result of construction activity. The removal or degradation of vegetation could increase the potential for soil erosion in the construction zone. The Erosion Control Plans for the construction areas will include “Best Management Practices” such as silt fencing around the downgradient perimeters of all construction areas, stabilized construction access points for work vehicles, and sediment traps at storm sewer inlets. Post-construction suspended solids control will consist of groundcover establishment for stabilization of disturbed areas and the use of a bioswale to polish runoff in the stream below the convention center. As a result of applying Best Management Practices during construction and stabilizing any exposed areas with groundcovers after construction, none of the alternatives would have a significant impact on the site's soil resources in terms of erosion.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not result in development, and would result in no impacts to geology or soils in the area.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would involve golf course development on federal lands, and would result in minimal impacts to the physical conditions on the properties, as a result of short-term site disturbances. The footprint of soil disturbance for the golf course plan is much larger than the area of soil disturbance required for the other design alternatives listed below. Best Management Practices would be applied during construction, and any exposed areas would be stabilized with turfgrass groundcovers after construction.

.

2.3 ALTERNATIVE #1 DESIGN (“PREFERRED ACTION”)
Alternative # 1 Design (the ”Preferred Action”) would result in minimal impacts to the physical conditions on the properties, such as soil cover. Soil disturbance would be a short-term event on the work sites. Best Management Practices as discussed earlier in this section would be applied during construction, and any exposed areas after construction would be stabilized with turfgrass as a groundcover, along with ornamental plantings of trees, shrubs and flowerbeds.

2.4 ALTERNATIVE #2 DESIGN:
Similar to Alternative #1, 2.4 ALTERNATIVE #2 DESIGN would result in minimal impacts to the soil cover on the properties, as a result of short-term site disturbances. Similar

Best Management Practices would be applied during construction, and any exposed areas would be stabilized with similar groundcovers after construction.

2.5 ALTERNATIVE #3 DESIGN:
Similar to Alternative #1Design , Alternative # 3 Design would result in minimal impacts to the soil cover on the properties, as a result of short-term site disturbances. Similar Best Management Practices would be applied during construction, and any exposed areas would be stabilized with similar groundcovers after construction.

4.3 WATER RESOURCES

4.3.1 Surface Waters, including Wetlands

Each design alternative would involve the expansion of the existing convention center building and parking garage onto a wooded tract near one arm of Silver Lake Branch. The alternatives also variously include construction of lakefront amenities and a courtesy boat dock adjacent to Grapevine Lake, a pool complex and other multipurpose recreational amenities adjacent to upland buffers around the lakes, a ranch and amphitheater complex, and a series of trail systems crossing numerous tributaries around the lakes.

Impacts to jurisdictional waters would be avoided at many of the features. The extent of unavoidable impacts would be minimized to the extent possible by reviewing alternative orientations for building structures and placement of recreational features. Anticipated impacts to Jurisdictional Waters of the US are less than 1.10 acres.

In areas proposed for structures, paved roadways, or parking lots, construction zone setbacks of at least 50 feet from shorelines of lakes or from the centerline of riparian corridors will be established to minimize lake and stream water quality impacts and to provide acceptable widths of wildlife corridors. Trails would be graded to minimize slope erosion and to direct runoff through vegetated buffers prior to draining into any lakes or streams. Construction fencing/siltation barriers would be utilized during the construction phase where needed to protect lake and stream areas. Except for the proposed construction work in the lakefront recreational area, building of the proposed courtesy dock, and the anticipated repairs in front of the Glass Cactus and on the small dams associated with the ponds east and south of the resort, no grade work or other construction activity will extend below the conservation pool elevation of 535' NGVD on this project. The repair work on the small man-made pond east of the resort may also include dredging activity to remove accumulated sediments.

Most of the streambeds on the project area are located on the upper ends of the tributaries that eventually discharge into Grapevine Lake. Almost all of these impacted drainages consist of bare dirt or rock substrates meandering through mixed hardwood woodlands. Very little herbaceous vegetation is present along the majority of these streambeds, other than at the downgradient ends of the stream reaches where they cross flatter wetland benches.

Exhibit 3 shows the locations and acreages of waters of the United States within the project area. All of the tributaries on the project lands eventually discharge into fingers of Grapevine Lake, which subsequently discharges into Denton Creek.

The proposed impacts to jurisdictional waters include culverting of stream corridors for storm water outfall drains, fill of ephemeral streams within the footprints of the proposed pool and

events complex, trail crossings of streams, and impacts along the shoreline of lakes by the construction of lakeside amenities. These unavoidable impacts to jurisdictional waters would primarily involve disturbances to stream and riparian corridors due to the building construction described above, and minor, temporary shoreline disturbances due to grading during the construction of lakeshore recreational features, and installation of piers for a courtesy dock. Rock fill will need to be placed within the conservation pool zone to repair the eroded shoreline in front of the Glass Cactus, and hard armoring structures will be constructed along the shoreline to prevent further erosion at that location on the north tip of the peninsula.

Section 404 mitigation plans will be developed to compensate for any unavoidable jurisdictional impacts. Features of the projects that would potentially impact jurisdictional waters will be reviewed under the Section 404(b)(1) guidelines for sequencing. The mitigation ratios in **Table 7** would be applied to calculate the appropriate wetland mitigation acreages for those Section 404 impacts to lakes, streams and wetlands that cannot be either avoided or minimized. Mitigation requirements for these impacts will be based on the most recent USACE Draft Mitigation Guidelines. Both the proposed shoreline wetlands plantings and plantings within the bioswale will be regularly inundated by lake water levels and by the inflow of storm water in the stream. Therefore, an irrigation system will not be necessary for the wetland mitigation project. The performance standards and success criteria for the mitigation will be based on at least an 80% cover of planted acreage in herbaceous wetlands at the end of each growing season for the 3 years of annual monitoring, otherwise the mitigation areas will be replanted to achieve this desired minimum survival rate. The Section 404 mitigation areas would be surveyed and mapped, but site protection of designated mitigation areas in the form of a real estate restriction will not be necessary since the mitigation sites are within the lease area on USACE land. Land use restrictions are already in place on USACE land around these lakes, as defined in the Master Plans for the USACE lakes.

Table 7. Typical Compensatory Mitigation Ratios for Loss of Jurisdictional Waters

	Class Condition		
Waters Type	Low	Medium	High
Open Water	1:1	2:1	3:1
Stream	2:1	3:1	4:1
Non-Forested Wetland	3:1	4:1	5:1
Forested Wetland	4:1	5:1	6:1

Source: from USACE Programmatic Environmental Assessment for Lewisville Lake (1999)

Many practices would be in place to maintain surface water quality. These practices would apply the appropriate Best Management Practices (BMPs) as established for construction activities under NPDES regulations, and within the TCEQ's Section 401 certification program for any impacts to jurisdictional waters. In the short term during construction activities on the phases of the project, these practices would involve the installation of erosion control features like silt fencing and rock weirs, in addition to sediment and other pollutant management methods to prevent site erosion and siltation into drainage systems. In the long term, agronomic principles would be applied post-construction in order to maintain the turf or adjoining vegetated buffers while protecting the environment. These principles would include turf grass selection, minimal chemical application, proper irrigation and maintenance, design and construction measures, and other best management practices designed to limit impervious surfaces, reduce run-off and increase infiltration of stormwater. All storm water run-off is and will be diverted through oil separators which removes oil, debris and sediment from approximately the first one-fourth inch of rain before the runoff enters streams.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not result in development, and would result in no impacts to surface water and water quality.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would involve golf course development within the project area, and would result in surface water and water quality impacts on federal lands as described in the December 1999 EA. Those impacts included building golf cart trails across eleven (11) stream tributaries, the construction of a parking lot east of Fairway Drive, and the building of a fishing pier at the north end of the peninsula. The total impacts to ephemeral streams due to cart paths crossings was estimated to be 235 linear feet (0.02 acres), and 451 linear feet (0.051 acres) of stream would be filled during construction of the driving range parking area. Construction of the fishing pier would result in impacts to 0.012 acres of lake. Under this design alternative, impacts to jurisdictional waters would have totaled approximately 0.083 acres.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
The design of the "Preferred Action" would require USACE permit authorization for limited impacts to the intermittent stream under the convention center(.016 acres), to ephemeral stream areas in the footprint of the pool assemblage(.01 acres), and to ten (10) stream crossings(.08 acres) along the proposed trail system. The footprint of the proposed pool assemblage has been designed to partially sit on Gaylord land, thus having a smaller impact on jurisdictional streams at that location than the pool designs shown in Alternatives #2 Design and #3 Design. Proposed impacts to the shoreline of Grapevine Lake will be due to the slope repairs at the Glass Cactus (.01 acres), construction of recreational amenities in the lakefront area(.01 acres), and by the building of the proposed courtesy dock(.01 acres). It is anticipated that authorization will be available under the USACE's Nationwide Permit program for these impacts related to the construction of the convention center expansion, the pool assemblage, the construction of a lakefront recreational area, the building of a courtesy dock, the repair to the slopes adjacent to the Glass Cactus, and for any unavoidable impacts due to stream crossings by trails. The "Preferred Plan" does not include additional trail bridges over Silver Lake Branch, as compared to impacts shown in trail designs under Alternatives #2 Design and #3 Design.

Alternative #1Design will be built in phases, with Phase 1 construction activities associated with building the convention center expansion and the pool assemblage. Later phases of construction will result in impacts within the conservation pool of the lakes due to the installation of the courtesy dock and repairs to the shoreline in front of the Glass Cactus and repairs to the two breached dams on the small ponds(1.01 acres). Most of the stream crossings associated with the proposed hiking trail systems will span the jurisdictional widths of the tributaries with timber bridges, but unavoidable impacts to these intermittent and ephemeral streams may occur during the placement of support piers. The construction of the lakefront recreational area is still conceptual in nature. Avoidance and minimization sequences will be applied during the design to minimize potential impacts and to minimize grading activity within the jurisdictional limits of waters of the U.S.

TABLE 13 Summary of Approximate Impacts to Jurisdictional Waters of the US

Project within the GTRCC Area	LF Stream Impact	Acreages of Impact	Temp/Permanent
Convention Center	105/50	0.011/0.005	Temp./Perm.
Pool Assemblage	140	0.01	Permanent
Recreation Trail Crossings	50	0.008	Permanent
Lakeshore Rec. Area		0.01	Temporary
East Pond Dam Repair		0.01	Temporary
East Pond Dredging/Restoration		1.0	Temporary
Courtesy Dock installation		< 0.01	Permanent
Glass Cactus slope repairs		0.01	Temporary
South Dam Grade Control		0.01	Temporary
TOTAL IMPACTS (Ac.):		1.074 ac.	

2.4 ALTERNATIVE #2 DESIGN:
This alternative would have similar types of impacts to jurisdictional waters as described under the "Preferred Action", except for larger impacts under the convention center expansion and a longer stream impacts to tributaries within the footprint of the pool assemblage area. The proposed convention center expansion would require the construction of support piers within the conservation pool zone of Silver Lake Branch, with impacts to jurisdictional streams and to Grapevine Lake similar in size to the impact areas shown in 2.5 ALTERNATIVE #3 DESIGN. The footprint for the resort pool complex requires a larger impact to ephemeral and intermittent streams west of the existing resort than the design proposed in the "Preferred Action", but similar in area to the impacted area in 2.5 ALTERNATIVE #3 DESIGN. The proposed trail system in Alternative #2 Design would require a similar number and size of unavoidable stream crossing impacts as in Alternative #1, but Alternative #2 Design also includes a trail bridge crossing Silver Lake Branch at a point west of the Gaylord Trails Bridge, and a bridge crossing of the marshes on Stream SL-4.

The design of Alternative #2 Design was proposed as two phases of construction, with a majority of the impacts to jurisdictional waters occurring during the first phase of construction. The convention center expansion, resort pool complex, dock, fishing pier, beachfront complex, the lake recreation feature in Grapevine Lake, and half of the trail system would all result in impact to jurisdictional waters, and would be constructed during the first phase under this alternative design.

2.5 ALTERNATIVE #3 DESIGN:
This alternative would have similar types of impacts to jurisdictional waters as described under the "Preferred Action", except for larger impacts under the convention center expansion and a longer stream impacts to tributaries within the footprint of the pool assemblage area. The proposed convention center expansion in this alternative would also require the construction of support piers into the conservation pool zone of Silver Lake Branch, similar in size to the impact area shown in Alternative #2. The footprint for the resort pool complex requires a larger impact to ephemeral and intermittent streams west of the existing resort than the design proposed in the "Preferred Action", but similar in area to the impacted area in Alternative #2 Design. The 2.5 ALTERNATIVE #3

DESIGN does not include courtesy docks or trails with stream crossings within the project; therefore it would have less impact to streams due to crossings or impacts within the lake due to dock installation. 2.5 ALTERNATIVE #3 DESIGN does have a trail bridge crossing of Silver Lake Branch between the convention center and the proposed ranch assemblage.

4.3.2 Ground water and Aquifers

Groundwater and surface water quality can be primarily affected by two mechanisms: leaching and runoff. Leaching is the downward movement of a chemical or contaminant through the soil and into the groundwater. Runoff is the movement of falling water across the turf and soil surface as a result of heavy rainfall or heavy irrigation. If this moving water comes in contact with pesticides or fertilizers in the turf or any chemical spills on the ground surface, then these chemicals and pollutants can be transported into streams, lakes, and rivers.

The degree of leaching and runoff is affected by several physical and chemical factors: soil type (products leach less in clay than sand); the degree to which fertilizers or chemicals bind to the soil; persistence of chemicals or fertilizers in the soil; and the solubility of the chemical in water.

Because of the significant depths to the major Trinity aquifer, no potential impacts are anticipated to the major aquifer system. Groundwater discharge is observable in the intermittent stream channels at the project, so a shallow groundwater table is present under the sandy to rocky subsurface. The sandy outcrops in the area are of Woodbine age, which is considered as a minor aquifer system by the Texas Water Development Board. These outcrops could be recharge zones for this minor aquifer which extends eastward under Dallas County.

Best Management Practices (BMPs) will be applied during construction to minimize spills and avoid chemical releases into the subsurface. Typical BMPs used to protect ground water include proper collection and off-site disposal of solid wastes, minimization of hazardous materials use and proper handling and storage of such materials during and after construction, containment of fueling and maintenance areas, use of designated washout areas, and compliance with sanitary sewer, portable toilet or septic system regulations. Therefore, no adverse impacts to ground water are expected due to this proposed project. This conclusion is drawn regardless of the alternative considered.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not result in development, and would result in no impacts on subsurface water quality.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would involve golf course development on federal lands. Based upon the application of Best Management Practices to minimize spills during construction, this Alternative should have no impacts on subsurface water quality.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
Based upon the application of Best Management Practices to minimize spills during construction, this Alternative should have no impacts on subsurface water quality.

2.4 ALTERNATIVE #2 DESIGN:
This Alternative should have no impacts on subsurface water quality, based upon the application of Best Management Practices.

2.5 ALTERNATIVE #3 DESIGN:
This Alternative should have no impacts on subsurface water quality, based upon the application of Best Management Practices.

4.3.3 Floodplains and Flood Storage

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not result in development, and would result in no impacts on flood storage or to the floodplain.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN only includes golf course development on federal lands. This alternative would not result in impacts to floodplains on those lands, or on private lands. The golf course alternative did not include expansion of any facilities or structures into the flowage easement. No impacts to flood storage or to the floodplain would occur in this alternative.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
The "Preferred Action" would have no impacts on the flowage easement or impact the storage volume of the easement zone. The preferred action design of the convention center expansion has a reduced size in order for the building footprint to be totally outside of the conservation pool boundary. No fill or piers would be placed within the Conservation Pool zone (535' NGVD), other than the piers associated with the courtesy dock and the fill associated with repairs to the slope below the Glass Cactus and repairs to the two breached pond dams. Excavation may take place within the small man-made pond east of the resort to remove accumulated sediments. Any fill between the 100-Year floodplain boundary (537' NGVD) and the Conservation Pool zone would have to be compensated on lands other than the USACE fee or flowage easement lands.

2.4 ALTERNATIVE #2 DESIGN:
Similar to Alternative # 1, this alternative design would have no impacts on the storage volume of the flood easement zone, although the design of the convention center expansion would extend over the conservation pool boundary of Grapevine Lake. The convention center expansion design in Alternative #2 Design includes building support piers within this pool zone. The USACE is opposed to the construction of structures in this flooding zone.

2.5 ALTERNATIVE #3 DESIGN:
Similar to Alternative # 1, this alternative design would have no impacts on the storage volume of the flood easement zone, although the design of the convention center expansion would extend over the conservation pool boundary of Grapevine Lake. The convention center expansion design in 2.5 ALTERNATIVE #3 DESIGN includes building support piers within this pool zone. The USACE is opposed to the construction of structures in this flooding zone.

4.4 BIOLOGICAL RESOURCES

4.4.1 Fish and Wildlife

The proposed design alternatives would have minimal impacts on aquatic wildlife and fish populations. Impacts to open water habitat have been avoided in the designs, other than minor shoreline repairs that would take place in front of the Glass Cactus, temporary disturbances in the lake during the construction of the courtesy boat dock, and construction work along the shoreline to build the lakeshore recreational amenities. Impacts within streams and wetlands would also be minimal. Aquatic wildlife would have the ability to move away from any temporary disturbances in the lake during construction activities.

Terrestrial disturbances due to the construction of resort and recreational features on upland areas would have a larger impact on wildlife, especially in areas of woodlands disturbance. The acreage and quality of these woodland areas and other habitats will be described later in Section 4.4.3 and under Section 6.0 Mitigation. Construction affecting nesting areas and burrows within the areas of the convention center expansion, ranch area and pool complexes would result in permanent changes in those habitats. In spite of the loss of habitat at those locations, such disturbances are minor in the context of available habitat in the project area, and most terrestrial wildlife would have the ability to relocate or fly to other nearby undisturbed areas. Scheduling of proposed construction to only disturb the forested areas and grassy areas in the wintertime will be utilized to minimize impacts to eggs and fledglings in any bird nests. No rookeries have been documented or observed within the proposed project under this EA.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not result in development, and would result in no impacts to fish and wildlife.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would only involve golf course development. The approved development would have minor impacts on streams at crossings, and very little impact on lakes bearing aquatics such as fish, vertebrates and invertebrates. Terrestrial disturbances due to the construction of the golf course on upland areas would have an impact on wildlife, especially in areas of woodlands disturbance. The development would require clearing of large areas of wooded wildlife habitat, and would therefore result in impacts to upland wildlife on federal lands. The impacts to wildlife under this alternative would be larger than for the other alternative because larger footprints of woodlands clearing would be required to build the open turf areas for the golf course.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
The preferred plan would have minor impacts on streams or lakes bearing aquatics such as fish, vertebrates and invertebrates, and would have less impact on upland wildlife habitat as compared to the approved golf course and driving range alternative approved in the December 1999 EA. Any impacts in the waters due to slope repairs, lakefront amenity creation or installation of docks would be temporary, and all precautions will be made to impact the smallest areas possible and to reduce degradation of the shoreline and water. Terrestrial disturbances due to the construction of resort and recreational features on upland areas would result in minor impacts to wildlife, especially in areas of

woodlands disturbance. However, as noted above, wildlife will be able to relocate to nearby habitat areas, and limiting most construction to wintertime will further reduce potential impacts to birdlife. Only minor clearing will be necessary in the footprints of the trail systems, resulting in minimal impacts to terrestrial wildlife.

2.4 ALTERNATIVE #2 DESIGN:
This alternative would have similar impacts as Alternative #1 due to clearing for the convention center expansion, clearing for the pool complex, clearing of wooded areas around the perimeter of ranch complex footprint, in the footprints of parking areas, and clearing of other recreational areas in wooded spots. This design alternative would have very little impact on streams or lakes bearing aquatics such as fish, vertebrates and invertebrates. Only minor clearing will be necessary in the footprints of the trail systems resulting in minimal impacts to terrestrial wildlife.

2.5 ALTERNATIVE #3 DESIGN:
This alternative would have similar impacts as Alternative #1 due to clearing for the convention center expansion, clearing for the pool complex, clearing of wooded areas around the perimeter of ranch complex footprint, in the footprints of parking areas, and clearing of other recreational areas in wooded spots. This design alternative would have very little impact on streams or lakes bearing aquatics such as fish, vertebrates and invertebrates. No trail systems are proposed under this alternative, so there are no clearings required for such features in the wooded areas.

4.4.2 Aquatic Vegetation

Minimal aquatic vegetation is present within the areas designated for resort and recreational features of the various alternatives. Very little submerged aquatic vegetation and no floating vascular vegetation was observed within the lakes. Hydrophytic and aquatic vegetation observed in wetlands along the fringes of the lakes and at the upper ends of the lake fingers are dominated by scrub/shrub buttonbush and stands of emergent marsh grasses and sedges. Scattered wet grasses and sedges were observed on benches along the lake edge.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not result in development, and would result in no impacts to aquatic vegetation.

2.2 APPROVED GOLF COURSE PLAN:

The 2.2 APPROVED GOLF COURSE PLAN would only involve golf course development on federal lands. This alternative would not result in impacts to aquatic vegetation on those lands, or on private lands. None of the features in the approved plan extend to the waters edge or into the lake.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
The "Preferred Action" Alternative would have very little impact on hydrophytic vegetation around the lakes. The proposed trail system does include at least one crossing of a buttonbush marsh on intermittent stream channel SL4. Any impacts within

the waters due to slope repairs, lakefront creation or installation of docks would be temporary; the lake bottom would return to normal conditions shortly after completion of construction work. No aquatic vegetation is present within the footprint of the proposed slope repairs or the footprint of the proposed courtesy dock. No stands of scrub/shrub wetlands would be impacted along the lake edge in front of the proposed site for the lakefront recreational area.

2.4 ALTERNATIVE #2 DESIGN:
This alternative would result in impacts to scrub/shrub wetlands along the shoreline of Silver Lake Branch at the convention center expansion. Otherwise there are no anticipated impacts to aquatic vegetation. The proposed convention center expansion would also include impacts into the conservation pool level of Silver Lake Branch. The proposed trail system does include at least one crossing of a buttonbush marsh on intermittent stream channel SL4. No aquatic vegetation is present within the footprint of the proposed sites for the beachfront complex and fishing pier, or within the lake recreation area in the lake.

2.5 ALTERNATIVE #3 DESIGN:
This alternative would result in similar impacts to aquatic vegetation as those described in Alternative #2. The proposed convention center expansion would include impacts into the conservation pool level of Silver Lake Branch and associated buttonbush shrubs in wetlands along the shoreline.

4.4.3 Terrestrial Vegetation

The 2001 Master Plan Supplement for Grapevine Lake indicates that "the woodlands and grasslands in intensive recreation areas should also be managed to achieve climax status to the extent possible while continuing to meet recreational needs." The proposed resort expansion and recreational amenities as described in Alternatives 1, 2 and 3 have been designed to maximize the preservation of larger stands of trees and preserve a significant portion of the habitat areas within the project limits.

Areas between recreational amenities such as the pool area, lakefront recreational area, ranch, arena and amphitheater area, and trails would be utilized to retain and preserve existing native vegetation, where possible. Structures and building locations have been designed such that impacts to habitats and significant natural areas such as stands of large post oaks would be avoided. Recreational amenities will be designed such that the clearing limits will avoid impacts or removal of large trees, except when the footprint of the proposed structures requires such removal. Mitigation for losses of all habitats including terrestrial vegetation is further described in Section 6.0 of this report.

Appropriate erosion control measures would be established during construction in conformance with the Non-Point Source Program best management practices, such as erosion and sediment controls during construction work and soil stabilization after land disturbance. Access roads would be located and designed to only impact those areas necessary for the construction of the project. Access roads would be located within the established grading boundaries wherever possible and would be designed to avoid impacting additional wooded habitat, streams, or other sensitive sites. Appropriate barriers such as construction fencing around protected areas would restrict movement or storage of equipment from areas within the drip lines of trees designated for preservation during grading operations. Any large trees that become damaged during grading or other construction operations would be replaced by equivalent caliper inches.

Where impacts are necessary, measures would be taken to minimize the impairments to wooded habitat. Field fitting of the trail system footprints will be employed to avoid removal of or impairment to large trees where possible. Where possible, the footprint of clearing areas for the proposed features will be designed to avoid impacts to mature post oak trees. Within preserved wooded areas, standing snags and downed logs would be retained in place for their recognized habitat value.

In conjunction with the efforts to avoid and minimize impacts to wooded habitat, some of these areas within the project could not be avoided. The proposed project (Alternative #1) would result in direct impacts by vegetative clearing to approximately 15.6 acres of upland wooded areas containing both hard and soft mast tree species, plus approximately 3 acres of disturbance within the wooded areas for the proposed trail systems. Alternatives #2 Design and #3 Design would have similar acreages of required clearing at the convention center expansion, but additional acres of wooded clearing for their respective pool assemblages.

There are several types of indirect impacts to wildlife that could occur as a result of implementing the project. Noise impacts during construction, vegetation clearing due to construction of the proposed resort expansion and recreational amenities, habitat fragmentation, habitat loss, and/or the increased presence of people can adversely affect wildlife. The disturbances could alter behavior and inhibit mating, breeding, nesting, and feeding/foraging activities.

Mitigation plans will be proposed to compensate for loss of wooded vegetation due to unavoidable clearing during project construction. The mitigation ratios (acres of mitigation required : acres impacted) were obtained from mitigation requirements outlined in Section 8 of the Lewisville Lake Programmatic Environmental Assessment, dated September 30, 1999. **Table 8** below details the ratios established for Lake Lewisville, which assess different quantities of mitigation for different types and qualities of habitat impacted as determined by elevation ranges tied to flood-event frequencies. A detailed mitigation plan would be submitted to the USACE Environmental Planning Branch, Fort Worth District, for final approval prior to any real estate transaction. The resort expansion and recreational project would be designed to ensure that impacts to wooded vegetation are minimized where feasible, and mitigated for when the impacts are unavoidable.

Table 8. Typical Compensatory Mitigation Ratios for Loss of Vegetation/Habitat

	Vegetation/Habitat Condition		
Flood Event Frequencies	Poor	Good	Excellent
5 Year	1:1	2:1	3:1
10 Year	2:1	3:1	4:1
50 Year	3:1	4:1	5:1
100 Year (563')	4:1	5:1	6:1

Source: from USACE Programmatic Environmental Assessment for Lewisville Lake (1999)

The valuations established in the Shoreline Variance Mitigation Cost Schedule for the USACE's Elm Fork Project Mowing and Underbrushing Permit Guidelines (2005), will be used to establish a cost basis for required mitigation. In previous EA's, the City of Grapevine mitigated by planting trees, constructing wetlands, planting native grasses, removing undesirable vegetation, and implementing Natural Resource Prescriptions along the guidelines within the "Ecosystem-based Vegetation Management Prescriptions for Federally-owned Land at Grapevine Lake and Lewisville Lake.", as described below. The Final Mitigation plan will be coordinated with the

USFWS prior to construction of any facilities. The elevations listed in the Lewisville Lake PEA will be converted to the appropriate elevations for Grapevine Lake, based on the equivalent flood frequency values. The mitigation cost values calculated for Grapevine Lake are listed in **Table 9**.

Table 9. Shoreline Variance Mitigation Cost Schedule

		Vegetation/Habitat Condition:		
		Poor	**Good**	**Excellent**
Habitat Type (by Flood Freq.): Woodlands: $5,227 / ac				
Up to 5 Year	535'-547.5'	1 x $0.12 x SF	2 x $0.12 x SF	3 x $0.12 x SF
10 Year	547.5'-554.0'	2 x $0.12 x SF	3 x $0.12 x SF	4 x $0.12 x SF
50 Year	554.0'-562.3'	3 x $0.12 x SF	4 x $0.12 x SF	5 x $0.12 x SF
Above 50 Year	> 562.3'	4 x $0.12 x SF	5 x $0.12 x SF	6 x $0.12 x SF
Native Grasslands: $2,178 / ac				
Up to 5 Year	535'-547.5'	1 x $0.05 x SF	2 x $0.05 x SF	3 x $0.05 x SF
10 Year	547.5'-554.0'	2 x $0.05 x SF	3 x $0.05 x SF	4 x $0.05 x SF
50 Year	554.0'-562.3'	3 x $0.05 x SF	4 x $0.05 x SF	5 x $0.05 x SF
Above 50 Year	> 562.3'	4 x $0.05 x SF	5 x $0.05 x SF	6 x $0.05 x SF
Savannah: $3,484 / ac				
Up to 5 Year	535'-547.5'	1 x $0.08 x SF	2 x $0.08 x SF	3 x $0.08 x SF
10 Year	547.5'-554.0'	2 x $0.08 x SF	3 x $0.08 x SF	4 x $0. 08 x SF
50 Year	554.0'-562.3'	3 x $0.08 x SF	4 x $0.08 x SF	5 x $0. 08 x SF
Above 50 Year	> 562.3'	4 x $0.08 x SF	5 x $0.08 x SF	6 x $0. 08 x SF

SF = square footage of vegetation/habitat impacted by project. Note: These costs are CY 2005 costs. Any mitigation requirement utilizing these numbers would be required to be increased by the current year Consumer Price Index .

Based on equivalent values in the USACE Programmatic Environmental Assessment for Lewisville Lake

Vegetation management within the protected areas meeting the definition of Habitat Management Zones (HMZ) in the project area will follow the methods described in the November, 2004 USACE Lewisville Lake Office's guidance, "Ecosystem-based Vegetation Management Prescriptions for Federally-owned Land at Grapevine Lake and Lewisville Lake." The guidance prescribed vegetation management to thin the overgrowth of thicket-forming species that have aggressively taken over small openings in woodlands and areas of excessive vine growth in favor of more desirable canopy-forming trees and native ground covers. Typical thicket-forming species consist of eastern red cedar and overly thick stands of young cedar elm and hackberry trees. Similar thicket and vine management techniques may be applied to native tallgrass prairie stands and areas of savannah.

Grasslands:

No native grassland areas are observed within the project limits, other than isolated groupings of little bluestem and shorter grass species. Only negligible impacts are anticipated to the native grass stands in the "resource survey area" as a result of minimal impacts to isolated stands of grass in the construction zones of the project alternatives. Approximately 2.4 acres of good quality savannah habitat and 13.0 acres of poor quality grasslands dominated by exotic grasses will be impacted.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not result in development, and would result in no impacts to grasslands.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would involve golf course development on federal lands, and would not result in impacts to native grasslands on either federal lands or on private lands.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")No anticipated impacts to native grasslands.

2.4 ALTERNATIVE #2 DESIGN:
No anticipated impacts to native grasslands.

2.5 ALTERNATIVE #3 DESIGN:
No anticipated impacts to native grasslands.

Riparian Woodlands:

The species of riparian woodland trees, shrubs and vines that would be impacted by the listed alternatives are described in Section 3.4.3 of this report.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not result in development, and would result in no impacts to riparian woodlands.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would involve golf course development on federal lands, and would result in impacts to riparian woodlands on those lands due to clearing operations along some intermittent and ephemeral streams.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
The preferred project would require the removal of approximately 0.4 acres of wooded riparian habitat for the construction of the convention center expansion. Minimal riparian habitat would be disturbed by the construction of the proposed pool assemblage, the building of the proposed lakefront recreational area, and the footprint of the ranch /amphitheater/arena assemblage. Hiking, biking and equestrian trails could require clearing a path across sections of riparian corridors at ten stream crossings, but the trails would be field fit such as to minimize impacts to larger trees at the crossings.

2.4 ALTERNATIVE #2 DESIGN:
As compared to Alternative #1, this alternative design would require the same amount of impact to wooded riparian habitat within the footprint of the convention center expansion, but more impact to riparian corridors at the pool assemblage. This design would have similar amounts of impact to riparian stream crossings as in Alternative #1 Design.

Based on the design of the trail system in this alternative, additional marsh and pond crossings would be required to the east and west of the existing resort as compared to the preferred alternative.

2.5 ALTERNATIVE #3 DESIGN:
This alternative design would require a similar amount of impact to wooded riparian habitat as Alternative #2 Design within the footprint of the convention center expansion and the pool assemblage. No hiking/biking/equestrian trails or trail crossings were carried in this design, other than the bridge over Silver Lake Branch.

Upland Woodlands:

The species of upland woodland trees, shrubs and vines that would be impacted by the listed alternatives are described in Section 3.4.3 of this report.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not result in development, and would result in no impacts to upland woodlands.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would involve golf course development on federal lands, and would result in impacts to approximately 57 acres of upland woodlands on those lands. Compensation for loss of the wooded areas would consist of the proposed planting of trees and shrubs of both containerized and bare-root sapling size on 250 acres of federal land at the west end of Grapevine Lake.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
The preferred project would require the removal of approximately 2.6 acres of upland woodlands for the construction of the convention center expansion and 1 acre of upland woodlands along the pool complex. The footprint of the proposed pool assemblage has been designed to partially sit on Gaylord land, thus having a smaller impact on upland woodlands than Alternatives #2 Design and #3 Design. The building of the proposed lakefront recreational area will require the removal of approximately one acre of upland woodlands; primarily impacting scrubby mid-story vegetation and cedar elms. The layout of the amenities can be designed to avoid most areas with post oak tree stands and areas with steeper slopes. The footprint of the ranch /amphitheater/arena assemblage would be oriented such as to minimize impacts to forested areas, but approximately one acre of upland woodlands would be impacted by the construction. Hiking, biking and equestrian trails could be field fit such as to minimize impacts to larger trees along the trail corridors. The clearing required for the preferred alternative would result in less clearing of upland woodlands than was approved for the golf course and driving range plan in the December 1999 EA.

Compensation for the loss of upland woodlands is described in Section 6.0 of this report. Compensation formulas were established at Lewisville Lake, based on the size of impacts, type of vegetation impacted and elevation of impacted lands.

2.4 ALTERNATIVE #2 DESIGN:
This alternative design would require similar acreages of impact to upland wooded

habitat within the footprint of the convention center expansion as in Alternatives #1 and #3. However, the designs of the pool assemblages in Alternatives #2 Design and #3 Design require more acreage of upland wooded area to be cleared as compared to Alternative #1 Design. The trail designs would have similar amounts of impact to upland woods as in Alternative #1 Design, and trails would also be field fit such as to minimize impacts to larger trees along the trail corridors. .

2.5 ALTERNATIVE #3 DESIGN:
This alternative design would require similar acreages of impact to upland wooded habitat as Alternative #1 Design and Alternative #2 Design within the footprint of the convention center expansion. However, the designs of the pool assemblages in Alternatives #2 Design and #3 Design require more acreage of upland wooded area to be cleared as compared to Alternative #1 Design. No hiking/biking/equestrian trails or trail crossings were carried in this design.

4.4.4 Threatened and Endangered Species

Federally listed endangered or threatened species would not be adversely impacted by the proposed project, as defined under the Endangered Species Act. None of the alternatives considered would adversely modify or destroy critical habitat of any Federally listed species. No federal or state endangered or threatened species have been identified on the subject property. No critical habitats have been observed on the subject property. Therefore, none of the proposed alternatives would have an effect on threatened/endangered species or on critical habitat.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not result in development. There are no anticipated impacts to any threatened or endangered species or critical habitat.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would involve golf course development on federal lands. There are no anticipated impacts to any threatened or endangered species or critical habitat.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
There are no anticipated impacts to any threatened or endangered species or to critical habitat.

2.4 ALTERNATIVE #2 DESIGN:
There are no anticipated impacts to any threatened or endangered species or to critical habitat.

2.5 ALTERNATIVE #3 DESIGN:
There are no anticipated impacts to any threatened or endangered species or critical habitat.

NOISE. LIGHTING AND GENERAL AESTHETICS

Minimal noise effects would occur in association with the proposed resort expansion and

recreational features. The noise effects would primarily be the result of the construction phases of the project.

Zoning Ordinance No. 82-73, Section 55 of the City of Grapevine's Code of Ordinances addresses Performance Standards for activities within the city, including noise levels and lighting. (Full details on the Code of Ordinance can be found on the City of Grapevine's website at **http://www.ci.grapevine.tx.us**.) For lawn and yard maintenance, an individual, association or corporation "may not conduct a use that creates a sound which exceeds the A-weighted sound levels (dBA) established in Table 1 of that ordinance or that exceeds the background sound levels by 5 dBA., whichever is greater." Table 1 of the ordinance designates a Leq sound level of 59 dBA for continuous sound sources generated between 7:00 AM and 10:00 PM., and a Leq sound level of 52 dBA for continuous sound sources generated between 10:00 PM and 7:00 AM. For impulsive (i.e., hammering, popping, exploding) sounds and periodic (i.e., humming, buzzing, screeching) sounds, the ordinance subtracts 5 dB from the maximum permissible sound levels.

Noise effects associated with the construction phases of the project are difficult to predict. Heavy machinery, the major source of noise during construction, is constantly moving in unpredictable patterns. However, construction would be limited to occur during daylight hours when occasional loud noises are more tolerable. Regardless of the alternative considered, none of the receivers are expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities would not be expected.

The DFW International Airport has modeled noise associated with aircraft. The 65-dB noise contour runs north south just west of Ruth Wall Street. The noise impacts resulting from aircraft greatly exceed noise impact levels from vehicular traffic, construction activity, expanded recreational features at the resort, or any golfing activities proposed in the original December 1999 EA. Therefore, regardless of the alternative considered, the "Preferred Action" would not result in a significant noise increase over the existing background noise levels in the area due to aircraft.

Attempts have also been made to minimize adverse illumination impacts. Walking areas would likely use minimal lighting for security and pedestrian safety considerations. All of the proposed resort expansion and recreational amenity designs would include measures to reduce illumination effects on the surrounding properties. Therefore, all of considered alternatives would result in minimal illumination impacts.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not result in adverse noise or lighting effects in the area.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would involve golf course development on federal lands, and would not result in adverse noise or lighting effects on those lands, or on private land because the golf course would not be lighted for night play, nor would it be the site of championship games that attract large galleries..

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
No significant noise increase would be caused by the "Preferred Action". Some increase in noise from automobile, truck and boat traffic is expected after the expansion, but the increases would be minor. Because of the close proximity to DFW international Airport and the landing approach patterns, flyover by jet planes contributes to noise levels on the subject property. Special consideration for noise and lighting is being made in the facilities design on the western portion of the proposed expansion, adjacent to the residential and mobile-home communities. Adverse illumination impacts will be minimized by directing the lighting to shine downwards.
Aesthetic considerations will be part of the overall design of the expansion projects on the resort property. Large areas of tree, shrub, flower and grass plantings are proposed to enhance the grounds near the actively used areas. The proposed mitigation plantings along the shoreline in front of the convention center expansion are designed both as habitat enhancement and to improve the aesthetic view of the facility from the entry roads. Natural areas of the federal property that are outside of the proposed recreational features would remain undisturbed. This is especially true in areas where trails are proposed.

2.4 ALTERNATIVE #2 DESIGN:
The alternative would have the same impacts as described in Alternative # 1 Design.

2.5 ALTERNATIVE #3 DESIGN:
The alternative would have the same impacts as described in Alternative # 1 Design.

4.6 CULTURAL RESOURCES

Archeological and cultural resources would continue to be managed in accordance with Federal laws, regulations, and USACE policies/procedures under the "Preferred Action" Alternative.

Site 41TR172, as referenced in Section 3.12, contains a very sparse distribution of surface artifacts. Based on the determination of the Texas State Historical Preservation Officer (as relayed by communication with Mr. Dan McGregor, USACE archeologist, in the December 1999 EA), this site was not significant enough to be declared as a historic property. Due to the large size and superficial context of Site TR172, the archeologist did not recommend any further work on the site. However, the, archeologist did recommend when the resort features were originally built that the site be monitored during development for possible features or artifact concentrations. It is not anticipated that hotel wing construction on private land in the area of Site 41TR172 would result in impacts, due to fill material covering the remnants of the archeological site.

Site 41TR173 is located near the shoreline of Silver Lake Branch outside the proposed alignment of the trails; therefore, the project would result in no adverse impacts to cultural resources. Should cultural resources be encountered during development of the GTRCC expansion, all construction activities in that area would be halted and the USACE archeologist immediately contacted. Regardless of the alternative considered, the proposed resort expansion and recreational amenities would result in no impacts to cultural resources.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not result in impacts to cultural resources in the area.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would involve golf course development on federal lands, and would not result in impacts to cultural resources on those lands, or on private lands.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
The "Preferred Action" alternative would avoid impacts to areas containing cultural or historic resources.

2.4 ALTERNATIVE #2 DESIGN:
The alternative would avoid impacts to areas containing cultural or historic resources.

2.5 ALTERNATIVE #3 DESIGN:
The alternative would avoid impacts to areas containing cultural or historic resources.

4.7 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTES (HTRW)

A search of available regulatory data from Federal, state and local sources, as provided by Environmental Data Resources (EDR), revealed no records of hazardous waste materials being used on the project site or having been spilled on site. The only registered facility on or near the subject property is the hotel's own laundry facility, Five Star Laundry. The laundry facility is registered because of the types of cleaning solvents which are used in their operations.

A copy of EDR's data report can be found in ***Appendix E****.*

The previous environmental assessment revealed evidence of recognized environmental conditions in connection with the property.

1) The data provided by the USACE indicates that up to four disposal pits exist in the vicinity of the subject property. The majority of the materials reported in the disposal pits include wood, metal, empty paint cans, buoys, and tires, with the potential of several drums of pesticide and fertilizer. The general location of one of these pits was the only information provided to Carter & Burgess during their 1999 EA document investigation. Based on correspondence from the TNRCC at that time and verbal information provided by the USACE, these sites are closed in accordance with state regulations.

2) Discarded materials were located at the western end of the Silver Lake Marina Open Storage area. This discarded material was located near the 18th hole of the golf course, but is outside of the alternative designs of this project.

Based on this information obtained from the USACE and the TNRCC (TCEQ), the following recommendations are made:

1) Prior to construction in the area of the ranch/arena/amphitheater complex, a detailed review of the regulations pertaining to the post-closure land use for the closed municipal solid waste landfills should be performed to determine the state requirements. Based on the review, a plan of action would be developed. In the event that the cover soil on the closed disposal pits in the area of the ranch complex is to be disturbed, TCEQ (then called TNRCC) Solid Waste Division staff previously recommended having a pre-construction meeting to discuss planned actions.

2) Should hazardous materials be uncovered during any part of the construction process, the action plan should include immediate cessation of construction, notification to TCEQ, and assessment of the situation by an environmental professional. Waste that is uncovered would be transported to a permitted disposal facility. Deed recordation may be required for disposal pits that are uncovered.

Any remedial action required would be conducted in accordance with applicable Federal, state, and local regulations. Therefore, development of the proposed recreational areas would have a negligible impact on the potential contaminant areas, regardless of the alternative considered.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not result in impacts to recognized environmental conditions in the area.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would only involve golf course development on federal lands, and would not result in impacts to recognized environmental conditions on those lands, or on private lands. The greens for the golf course could be built over the footprint of the USACE disposal pit, but construction would not require excavation into the soil cover. The piles of wood posts, cable wire and discarded cans observed by the USACE were not considered to be recognized environmental conditions to the site, as these would be removed and properly disposed of prior to any developmental construction activity.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
The preferred plan will not have an impact on recognized environmental conditions such as waste sites in the area. The pad of the arena or ranch assemblage could be built over the footprint of the USACE disposal pit, but construction would not require excavation into the soil cover. The piles of wood posts, cable wire and discarded cans observed by the USACE disposal pit were not considered to be recognized environmental conditions to the site.

2.4 ALTERNATIVE #2 DESIGN:
The alternative would have similar impacts as Alternative #1 Design.

2.5 ALTERNATIVE #3 DESIGN:
The alternative would have similar impacts as Alternative #1 Design.

4.8 AIR QUALITY

Air quality would be temporarily impacted during construction activities from air pollution emissions, including dust that originates from heavy equipment and delivery vehicles. The effects on the air quality from construction would be minimal and short-lived. These effects may involve increases in levels of carbon dioxide, nitrous oxide, and hydrocarbons. There would be a seasonal increase in traffic associated with the lake related recreational activities and the use of the hotel and convention facilities with summer or warmer months showing greater activity. The construction plans would incorporate appropriate dust control measures such as spraying down dry, dusty construction areas to minimize dust impacts.

The maintenance vehicles and equipment would be primarily gas-powered and could potentially have a minimal impact air quality, but the effects would be short-term and localized. Efforts will be made to reduce the use of this equipment during "ozone-action days." Ozone Action Days typically occur in the summer when harmful and unhealthy ozone levels are forecasted. On these days, private citizens and area businesses are encouraged to voluntarily reduce ground-level ozone levels with simple pollution-reducing measures. Any woody debris collected during clearing and grubbing activities would be disposed of by recycling or in an approved landfill. This debris would not be burned.

Because automobile and truck traffic entering and exiting the resort facilities under these alternatives will be distributed throughout the day, and different routes would be taken by automobiles and trucks accessing the resort, concentrations of emissions will not be significant. Therefore, the proposed alternatives would not have significant adverse long-term impacts on regional air quality.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would have no impacts on air quality in the area.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would involve golf course development on federal lands, and would not have any major effects on air quality, nor would temporary construction activities.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
The increased number of cars and trucks entering the hotel and convention center as a result of resort development would have only a minor effect on air quality, as would temporary construction activities.
.
2.4 ALTERNATIVE #2 DESIGN:
The increased number of cars and trucks entering the hotel and convention center as a result of resort development would have only a minor effect on air quality, as would temporary construction activities.
.
2.5 ALTERNATIVE #3 DESIGN:
The increased number of cars and trucks entering the hotel and convention center as a result of resort development would have only a minor effect on air quality, as would temporary construction activities.

4.9 RECREATIONAL AREAS

The areas designated for high-density recreation activities in the project area are mostly undeveloped. There are no existing trails, walks, recreational areas or equestrian facilities within the proposed use area, with the exception of boat ramps at the Marinas International marina northeast of the proposed project, a few remnant picnic areas within the Silver Lake Park parcel on the west side of Fairway Drive, and concrete walking trails around the existing GTRCC and along roadways. Some impromptu fishing takes place from the shore and several boats daily enter the coves on Silver Lake Branch to fish behind the marina.

The 2001 Master Plan Supplement for Grapevine Lake sets recreational objectives that include facility rehabilitation, park and recreation leases, safety programs, awareness of new recreational trends, universal accessibility, aesthetics, and trails. Among the items listed in the Master Plan Supplement are improving the quality and functionality of recreation areas to include adding new facilities, improving park road circulation patterns, encouraging lessees to implement new designs and facility rehabilitation efforts where needed, emphasizing safe facility designs, being sensitive to new trends in outdoor recreation activities, and insuring that all new/rehabilitated facilities are designed and constructed for accessibility by persons with disabilities.

The 2001 Master Plan Supplement further states that, "existing hike/bike/equestrian trails serve a significant segment of the public at Grapevine Lake. Every effort should be employed to adequately maintain and, where possible, improve and expand for increased use of these recreational trails." The following paragraph sets forth guidance on the types of trail development that would be appropriate for various land classifications, recognizing that each trail proposal is unique. "Therefore, each trail proposal requires considerable flexibility in design and choice of materials that will protect resources and serve the public."

Portions of the master-planned, hard surface trail systems already exist along Gaylord Trail Road, Ruth Wall Road, and Dove Loop Extension within and adjacent to the proposed project. Other master-planned trails such as the links trails for Gaylord Mills Trail and the Grapevine Golf Course Trail are proposed for construction along sections of State Highway 26 and along Fairway Drive. These hard surface trails are typically 8 to 10 foot wide and most utilize public funding. Other sidewalks within the existing Gaylord resort tie into the wider trail along Gaylord Trail Road and the connector road.

The proposed project on Grapevine Lake is being proposed for use as lake related recreational facilities such as trails, pool/event assemblages, lakefront recreational area, and recreational ranch assemblage, in addition to the expansion of the convention center. This use is in keeping with the land use allowed for a high-density recreation designation. This use is also compliant with the operational Master Plan. The project would not adversely affect the "Intense Recreation" land use classification or intended land use, regardless of the alternative considered.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not involve any development, and would not result in adverse impacts to designated recreation areas on those lands, or on private lands.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would involve golf course development on federal lands, and would not result in adverse impacts to designated recreation areas on those lands, or on private lands. This alternative would result in new recreational amenities for the region, but the activities would be limited to golfing. A trail system was proposed in this design that connects to the master planned trails, and also serves as the golf course paths connecting the greens for use by golfers.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
The preferred alternative will not adversely impact the existing recreation areas within Silver Lake Park. This project will result in a more diverse mix of park uses, and the

construction of new trails, publicly available trailheads, park facilities, and publicly available parking.

A "Low Intensity Use" trail system is proposed for installation within the natural areas of the park lands as part of this project. Low Intensity Use trails are defined as trails with natural earth surfaces for low impact activities (including hiking and equestrian activities). This proposed low intensity trail system will have trailheads at appropriate localities in the park to accommodate parking and to provide connections to the master-planned, hard surface trail systems. These proposed trails associated with the GTRCC will be similar in size and surfacing to those existing trails currently maintained by the City of Grapevine in other parks operated on USACE lands.

Section 6.4 (Community Access Trails) in the USACE's "Elm Fork Project Mowing and Underbrushing Permit Guidelines" document establish the maximum width of these "low intensity" pedestrian trails as five (5) feet, and that the trails shall follow a meandering route that confirms to the topography. The guidelines also state that construction of the trails be designed to avoid or minimize the removal of vegetation, and that proper precautions be taken to prevent any erosion (such as minimizing slopes on trails and armoring potentially erosive surfaces.) The design of these wooded trails will be of a width to be compliant to the City of Grapevine trail guidelines to allow for comfortable passage of people. For safety reasons, the inclusion of any biking trails, mountain hiking trails and equestrian trails in conjunction with pedestrian walking trails may require additional clearing widths for pedestrian trails to assure safe separation of the different users of the trails. Timber bridges with channel protection armoring are proposed as trail structures spanning most of the tributary crossings.

The use of natural reinforcement materials such as gravel, wood chips, or crushed granite would be acceptable trail surfaces to control erosion or improve trail safety. The use of geotextiles or comparable materials, or limited use of concrete and paving blocks, may be acceptable for use in sensitive locations such as stream crossings or wetlands. Trailheads will normally require a vehicle parking area, and should be located only in areas classified for high intensity or low intensity recreation. High Intensity Use trails, defined as trails with hardened surfaces, are intended for high traffic situations and are generally appropriate only in areas classified for high intensity recreation development. These trails are described as having hardened surfaces of concrete, asphalt, soil cement, or extensive use of crushed granite or gravel.

2.4 ALTERNATIVE #2 DESIGN:
Similar impacts to Alternative #1 Design. This project will result in a more diverse mix of park uses, and the construction of new trails, publicly available trailheads, park facilities, and publicly available parking. The trail width specifications and reinforcement materials used in the construction of the low intensity and equestrian trails would be the same as those described in the preferred alternative. These proposed trails associated with the GTRCC will be similar in size and surfacing to those existing trails currently maintained by the City of Grapevine in other parks operated on USACE lands

2.5 ALTERNATIVE #3 DESIGN:
Similar impacts to Alternative #1 Design. This project will result in a more diverse mix of park uses, park facilities, and publicly available parking. No trails, or publicly available trailheads were proposed in this alternative. No option was made within the ranch complex for equestrian trails. Walking and biking connectivity within this alternative

design would rely on existing and proposed master-planned hard surface trails, and upon the use of vehicular roadways.

4.10 STATE OR NATIONAL PARKS, FORESTS, CONSERVATION AREAS

The parklands within and adjacent to the project area are not designated as federal or state parks or as conservation areas. The USACE lands within the project area of Silver Lake Park were not listed as Environmentally Sensitive Areas (ESAs). No impacts are anticipated to this category of park areas by any of the proposed alternatives.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not involve impacts to this category of park areas.

2.2 APPROVED GOLF COURSE PLAN:
No impacts are anticipated to this category of park areas.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
No impacts are anticipated to this category of park areas.

2.4 ALTERNATIVE #2 DESIGN:
No impacts are anticipated to this category of park areas.

2.5 ALTERNATIVE #3 DESIGN:
No impacts are anticipated to this category of park areas.

4.11 PRIME OR UNIQUE FARMLAND (7 USC 4201)

A review of the project site under the requirements of the Farmlands Protection Act as administered by the NRCS did not reveal any prime or unique farm lands on either the Gaylord property or on the federal lands associated with the proposed actions.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not involve any development, and would not result in impacts to any prime or unique farm lands.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would only involve golf course development on federal lands, and would not result in impacts to any prime or unique farm lands.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
Historically, the area now occupied by the GTRCC was once used for ranching activities. Analyses of historic aerial photographs from 1942 through 1995 do not indicate any fields of planted crops; rather pasture and grazing fields are observed. The "Preferred Action" alternative would not result in impacts to any prime or unique farm lands.

2.4 ALTERNATIVE #2 DESIGN:
The alternative would have no impacts on prime or unique farmland in the project area.

2.5 ALTERNATIVE #3 DESIGN:
The alternative would have no impacts on prime or unique farmland in the project area.

4.12 WILD AND SCENIC RIVERS (16 USC 1271)

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not involve any development, and would not result in impacts to any wild or scenic rivers.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would only involve golf course development on federal lands, and would not result in impacts to any wild or scenic rivers.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
Not Applicable. There are no wild and scenic rivers in the project area.

2.4 ALTERNATIVE #2 DESIGN:
Not Applicable. There are no wild and scenic rivers in the project area.

2.5 ALTERNATIVE #3 DESIGN:
Not Applicable. There are no wild and scenic rivers in the project area.

4.13 UNIQUE NATURAL RESOURCES

No unique natural resources have been identified in the project area, other than the presence of gas production from the underlying "Barnett Shale field".

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
There would be no impacts to area development of the untested resources in the underlying gas field.

2.2 APPROVED GOLF COURSE PLAN:
There would be no impacts to area development of the untested resources in the underlying gas field.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
The "Preferred Action" alternative would have no impact to area development of the untested resources in the underlying gas field.

2.4 ALTERNATIVE #2 DESIGN:
There would be no impacts to area development of the untested resources in the underlying gas field.

2.5 ALTERNATIVE #3 DESIGN:

There would be no impacts to area development of the untested resources in the underlying gas field.

4.14 COASTAL ZONE AREAS (16 USC 1451 et seq.)

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
Not Applicable. The project is not located in a coastal zone area.

2.2 APPROVED GOLF COURSE PLAN:
Not Applicable. The project is not located in a coastal zone area.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
Not Applicable. The project is not located in a coastal zone area.

2.4 ALTERNATIVE #2 DESIGN:
Not Applicable. The project is not located in a coastal zone area.

2.5 ALTERNATIVE #3 DESIGN:
Not Applicable. The project is not located in a coastal zone area.

4.15 NATIVE AMERICAN CONCERNS (EO 13007)

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
No Native American concerns have been identified in the project area.

2.2 APPROVED GOLF COURSE PLAN:
No Native American concerns have been identified in the project area.

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
No Native American concerns have been identified in the project area..

2.4 ALTERNATIVE #2 DESIGN:
No Native American concerns have been identified in the project area..

2.5 ALTERNATIVE #3 DESIGN:
No Native American concerns have been identified in the project area.

4.16 SOCIOECONOMIC CONDITIONS AND MINORITY/LOW INCOME POPULATIONS

Negative effects would result if the project were to create an increase in population growth or the demand for housing, schools, or community facilities that is beyond the capacity of a region to accommodate. Significant effects also would result from the displacement of a large number of people, especially from affordable housing, a decrease in local employment, or a decrease in the accessibility of community facilities. Environmental justice effects would occur if the project led to disproportionately negative effects on low-income and/or minority populations.

The proposed project is expected to provide benefits to the local economy in comparison to its present state. Some impacts may include an increase in employment and resident households, property values and tax revenues for the City of Grapevine. The number of people utilizing the proposed resort and recreational areas may vary due to seasonal tourism connected with the proposed GTRCC expansion; drawing in added business for local sales. However, even with the added influence of the proposed GTRCC, this flux would be minimal.

The three surrounding counties, Denton, Dallas and Tarrant, alone have experienced a 24.3 % increase in population growth from the year 1990 to 2000. In the North Central Texas Work Force Area which is a made up of 14 counties, including Denton, Tarrant, and Dallas Counties, the creation of jobs is expected to grow at a rate of 27.9% by adding 194,650 jobs from 2004 to 2014.

The driving force behind the incredible population growth being experienced in North Central Texas has been due to the unprecedented growth rates in employment opportunities taking place. Locally, the operations and maintenance of the current GTRCC presently employ some 1500 full time positions. The employment totals in the area should experience minor increases due to construction work and the new positions at the resort, but resident populations in the area of the resort are not expected to be negatively impacted during or after construction of the proposed project.

Table* 5** in **Section 3.16** indicates the low percentages of minority populations within the communities around the study area. These minority populations are not concentrated in any particular area that would be impacted by the project. ***Table 6 illustrates the higher median and mean incomes for populations-in the area when compared to the counties where the listed cities of Coppell, Flower Mound, Keller, and Grapevine are located. For this reason, it is not anticipated that the proposed resort expansion and recreational amenities would have disproportionate adverse impacts on any low income populations, regardless of the alternative considered.

Usage fees, if any, for the use of the proposed recreational activities within the proposed project would be comparable to other similar public and private recreational facilities in the area. Therefore, it is not expected that the project would adversely impact minority or economically disadvantaged segments of the population in communities around the study area.

A review of U.S. Census Tracts for communities around the general project area in Tarrant, Dallas and Denton counties identified no minority population groupings or densities. Therefore, it is not anticipated that the proposed resort expansion would have any disproportionate adverse impacts on minority populations.

Discussions of Environmental Consequences due to Selected Alternatives and Designs:

2.1 NO ACTION Plan:
The 2.1 NO ACTION Plan would not involve any development, and would not result in impacts to minority or economically disadvantaged segments of the population in communities around the study area.

2.2 APPROVED GOLF COURSE PLAN:
The 2.2 APPROVED GOLF COURSE PLAN would involve golf course development on federal lands, and would not result in impacts to minority or economically disadvantaged segments of the population in communities around the study area.

Table 10. Environmental Assessment of Gaylord Texan Expansion and Recreational Development Alternatives

ENVIRONMENTAL PARAMETER	NO ACTION	GOLF COURSE	PREFERRED PLAN	ALT #2	ALT #3	NON-FEDERAL
3.1 PROJECT SETTING & LAND	0	< +	+	+	< +	< +

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")
The "Preferred Action" alterative will not result in impacts to minority or economically disadvantaged segments of the population in communities around the study area. No houses are being removed or demolished by the actions, no one is being displaced, and no development is taking place on land owned by minority or low income persons. There are no people living on the USACE land or on the Gaylord property. The implementation of the "Preferred Action" would provide additional jobs for the surrounding area.

2.4 ALTERNATIVE #2 DESIGN:
The alternative would have no impacts on minority or economically disadvantaged segments of the population in communities around the study area. The implementation of the alternative would provide additional jobs for the surrounding area.

2.5 ALTERNATIVE #3 DESIGN:
The alternative would have no impacts on minority or economically disadvantaged segments of the population in communities around the study area. The implementation of the alternative would provide additional jobs for the surrounding area.

USE						
3.2 CLIMATE, GEOLOGY AND SOILS	0	minimal	minimal	minimal	minimal	minimal
3.3 WATER RESOURCES						
3.3.1 Surface Waters, including Wetlands	0	minimal	minimal	minimal	minimal	minimal
3.3.2 Ground Water and Aquifers	0	0	0	0	0	0
3.3.3 Floodplains and Flood Storage	0	0	0	minimal	minimal	0
3.4 BIOLOGICAL RESOURCES						
3.4.1 Wildlife and Fish	0	> -	-	-	-	< -
3.4.2 Aquatic Vegetation	0	0	minimal	minimal	0	0
3.4.3 Terrestrial Vegetation						
Grasslands	0	minimal	minimal	minimal	minimal	minimal
Riparian Vegetation	0	minimal	minimal	minimal	minimal	minimal
Upland Woodlands	0	> -	-	-	< -	< -
3.4.4 Threatened and Endangered Species	0	0	0	0	0	0
3.5 NOISE AND GENERAL AESTHETICS	0	minimal	minimal	minimal	minimal	minimal
3.6 CULTURAL RESOURCES	0	minimal	minimal	minimal	minimal	minimal
3.7 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTES	0	0	0	0	0	0
3.8 AIR QUALITY	0	minimal	minimal	minimal	minimal	minimal
3.9 RECREATIONAL AREAS	< +	< +	+	+	< +	< +
internal recreation trails?	no	no	yes	yes	no	no
connectivity to regional trails?	no	no	yes	yes	no	no
additional bridges over open water	no	no	minimal	yes	yes	no
3.10 STATE/NATIONAL PARKS, FORESTS, CONSERVATION AREAS	0	0	0	0	0	0
3.11 PRIME OR UNIQUE FARMLAND (7 USC 4201)	0	0	0	0	0	0
3.12 WILD AND SCENIC RIVERS (16 USC 1271)	0	0	0	0	0	0
3.13 UNIQUE NATURAL RESOURCES	0	0	0	0	0	0
3.14 COASTAL ZONE AREAS (16 USC 1451 et seq.)	N/A	N/A	N/A	N/A	N/A	N/A
3.15 NATIVE AMERICAN CONCERNS (EO 13007)	0	0	0	0	0	0
3.16 SOCIO-ECONOMIC /MINORITY/LOW INCOME POP.	0	0	0	0	0	0

LEGEND

0	no impacts
minimal	minimal impacts
+	positive impacts
-	negative impacts
<	less impacts than Preferred Plan

>	greater impact than Preferred Plan

5.0 CUMULATIVE IMPACTS

The following subsections include an evaluation of the anticipated cumulative environmental impacts associated with the ”Preferred Action” and other alternatives described above. Cumulative impacts are the impacts on the environment that would result from the incremental impacts of the ”Preferred Action” or alternative when added to other past, present and reasonably foreseeable actions, regardless of who carries out the action (40 CFR Part 1508.7). A meaningful cumulative effects study must identify, (1) the area in which effects of the proposed project will be felt; (2) the impacts that are expected in that area from the proposed project, (3) other past, proposed and reasonably foreseeable actions that have or are expected to have impacts in the same area; (4) the impacts or expected impacts from these other actions; and (5) the overall impact that can be expected if the individual impacts are allowed to accumulate.

The Council on Environmental Quality Guidance for implementing NEPA (CEQ, 1997) recommends that Federal agencies identify the temporal and geographic boundaries of the potential cumulative effects of a proposed action. For the purposes of this Environmental Assessment, the temporal boundary of project analysis includes actions that have taken place within the study area during the past two decades, as well as current and reasonably foreseeable future action anticipated between the present (2008) and 2011. The window for considering evaluated projects encompasses a period during which data are reasonably available and forecasts can be reasonably made.

The issues and resources evaluated in this cumulative impacts analysis are listed below. The list also indicates whether or not a particular issue or resource was considered relevant in evaluating the potential cumulative effects of the proposed action and provides a brief explanation for each such determination. Only those issues that had a reasonable potential for cumulative impacts were evaluated in detail in this Environmental Assessment.

The cumulative effects analysis requires an evaluation of sustainability of each issue or resource of interest as viewed from a perspective of a geographic area that is larger than the immediate project area. The geographic boundaries of cumulative effects analysis will vary, depending on the resource in question and the potential effects. The geographic area for each resource a function of the area in which the effects of the proposed action or alternative under consideration have a reasonable potential to interact with the effects of other past, present, and reasonably foreseeable future action on the same resource, so as to affect the long-term viability of that given resource. This is a case-by-case basis analysis based on the unique aspects of the particular proposed action.

As stated in Section 1.1, the primary limits of the “resource study area” for the direct and indirect effects evaluated in this Environmental Assessment extend from the fingers of Grapevine Lake at the north end of the resort to the undeveloped lands along Highway 26 to the south, and from the undeveloped USACE and private lands east of Fairway Drive to the residential and mobile home subdivisions to the west of the existing GTRCC. See **Exhibit 11** for a general representation of the resource study area. The “resource study area” for broader impacts such as socio-economic impacts and cumulative impacts, covers the communities in northeast Tarrant County and adjoining Dallas and Denton Counties, Texas within the area of Grapevine Lake. See **Exhibit 12** for a representation of the resource study area addressed in the broader impacts.

Table 11. Issues/Resources Evaluated in the EA as Part of the Cumulative Effects (CE) Analysis		
Issue/Resource	**Included for C. E. Analysis?**	**Reason for Inclusion or Elimination**
Setting/Land Use	Yes	
Climate/Geology/Soils	Yes	
Water Resources (Surface, Groundwater, Floodplains)	Yes	
Biological Resources (Wildlife/Fish/Vegetation/TES species)	Yes	
Noise/Lighting/General Aesthetics	Yes	
Cultural Resources	Yes	
Haz./Toxic/Radioactive Waste	Yes	
Air Quality	Yes	
Recreational Areas	Yes	
State or Nat. Parks/ Forests/Conservation Areas	No	Not applicable; no State or National Parks, public forest or Conservation Areas impacted.
Prime/Unique Farmland	No	Not applicable; no prime/unique farmland impacted.
Wild and Scenic Rivers	No	Not applicable; no wild and scenic rivers impacted.
Unique Natural Resources	No	Not applicable; no unique natural resources impacted.
Coastal Zone Areas	No	Not applicable; no coastal zone areas impacted.
Native American Concerns	No	No Native American concerns identified.
Socioeconomic Concerns	Yes	

Specific projects that are similar in size or scope or have the potential to cumulatively affect the resources evaluated for the project are identified in the summary list below. These project are further described in the narrative following the summary list. Some resources would be affected by several or all of the described activities, while others could be affected very little or not at all.

Past Actions: Construction of the Gaylord Texan Hotel, convention center, and Glass Cactus facilities. Construction of Gaylord Trail and bridge. Abandonment of Park Road 11 north of Ruth Wall Road.

Present Actions: Construction of the Great Wolf resort south of the ”Preferred Action”, and upgradient to Silver Lake Branch.

Reasonably Foreseeable Actions of the USACE:

Reasonably Foreseeable Actions by Others in the Same Geographic Area: Disposition of Highway 26 frontage parcels by Gaylord, clearing of upland woodlands, and building of commercial facilities on parcels north of Highway 26. Installation of additional traffic control features on Highway 26 by TX DOT. Building of new breakwater adjacent to the GTRCC by Marinas International. Construction of regional hiking trail system segments to the east and west by City of Grapevine.

Terminology

The effects analysis includes terms referring to impact intensity, context, and duration. Unless otherwise stated, the standard definitions for these terms are as follows:

- *Negligible:* The impact is at the lower level of detection, and there would be no measurable change.
- *Minor or Minimal:* The impact is slight but detectable, and there would be a small but temporary change.
- *Moderate:* The impact is readily apparent, and there would be a measurable change that could result in a small but permanent change.
- *Major:* The impact is severe, and there would be a highly noticeable, permanent, measurable change.
- *Localized Impact:* The impact occurs in a specific site or area. When comparing changes to existing conditions, the impacts are detectable only in the localized area.
- *Short-Term Effect:* The effect occurs only during or immediately after implementation of the project.
- *Long-Term Effect:* The effect could occur for an extended period after implementation of the project. The effect could last several years or more and could be beneficial or adverse.

The proposed project will include both Section 404 and NEPA mitigation to offset direct impacts and reduce cumulative impacts to jurisdictional waters and to other habitats. The proposed project's mitigation requirements would be necessary to comply with state and federal regulations, agreements, and/or policies. Therefore, analysis of the proposed project without mitigation was not analyzed, as the proposed project would not be built without appropriate mitigation. The cumulative impacts of the proposed project are discussed as follows:

5.1 PROJECT SETTING & LAND USE

The "Preferred Plan" resort expansion and recreational project would result in the development of features that are consistent with and supportive of the natural resources and recreational objectives in the USACE's Grapevine Lake Master Plan. In this context, the incremental effects of the proposed project and other uses of the federal lands would be supportive of their intended uses. All other foreseeable construction projects in the "resource study area" outside of the federal lands would be on tracts zoned for such development. Therefore, there would not be adverse cumulative impact to the land uses within the "resource study area" from any of the proposed projects and alternatives in the foreseeable future.

5.2 GEOLOGY AND SOILS

Significant cumulative effects would be reached if the projects in the area were to expose people to an increased level of geologic hazards, such as decreased slope stability, or if they were to result in a change in or loss of a unique geologic resource. Significant cumulative effects would be reached if the projects were to result in substantial soil loss due to increased erosion, decreased soil stability, or increased impermeable surfaces such that measurable decrease in water infiltration into the soils were a result.

The proposed project would result in temporary and minor impacts to soils and surface geology during the construction operations. A SWPPP would be applied on the construction site, and all disturbed areas would be planted or seeded after construction. All other foreseeable construction projects in the area would also have only temporary impacts on the subsurface during construction operations, based on erosion control and sediment stabilization measures required to be applied as part of their erosion control plans. In this context, the incremental effects of the proposed project would be minimal. Therefore, there would only be minimal adverse cumulative impact to geology and soils within the study area from any of the proposed projects and alternatives in the foreseeable future.

5.3 WATER RESOURCES

5.3.1 SURFACE WATERS OF THE U.S. INCLUDING WETLANDS

Significant cumulative effects would be reached if the projects in the area were to substantially impair any significant surface water bodies, watershed health, or the functionality of major rivers. Significant cumulative effects would be reached if the projects in the area were to substantially decrease surface water quality or quantity.

Water quality can be altered by changes made to the natural state of a watershed. Various factors generated by human activity such as urbanization and agricultural use can have adverse effects unless appropriate abatement programs are put into place. As a general matter, impacts from urbanization have included physical modifications and heavy management of stream and river channels for flood control; construction of reservoirs; storm water runoff from residential, commercial, and industrial areas; and discharges from municipal wastewater treatment plants. Urban runoff has resulted in other types of use impairments as evidenced by the multiple 303(d) listings for legacy pollutants (pesticides and PCBs) in fish tissue in the Dallas-Fort Worth (DFW) area. Numerous studies examining storm water runoff have documented that these constituents are the predominant source for water quality impairment.

Grapevine Lake (Segment 0826) is not listed as an impaired water in the 2004 TCEQ database, and the public water supply and general uses are fully supported. Individually, the GTRCC expansion and recreational amenities project, other development projects discussed above, and other foreseeable projects would only have minimal short-term impacts on water quality. Storm water pollution prevention plans (SWPPP) are mandated by TCEQ in their TPDES rules, and construction activities disturbing more than one acre would have requirements for Best Management Practices to be put in place to minimize erosion and to stabilize disturbed soils. Therefore, disturbances associated with the ”Preferred Action” and other construction work in the area would not cumulatively cause adverse impacts to water quality within the project study area.

Significant cumulative effects would be reached if the projects in the area were to dredge, fill or substantially impair the health or the functionality wetlands. Within this part of North Central

Texas, the most notable sources of wetland decline include conversion of land to agricultural uses, inundation of floodplains from reservoir construction, sedimentation due to storm water erosion, infilling of streams and wetlands for urban development, and the impairment of water quality due to chemical contamination from excessive nutrients, fertilizers, and pesticides. The destruction and loss of wetlands has created a potential for secondary impacts such as increased flood damages, increased drought damages, and the decline of bird populations.

The proposed project avoids wetlands and waters of the U.S. to the greatest extent practicable. Construction setback zones and riparian buffers have been retained adjacent to lake shorelines and stream corridors in the project area; however minimal impacts to streams and shorelines were unavoidable in locations under the proposed convention center expansion, along the lakefront recreational area and courtesy dock, and at the trail crossings of streams. Repair activity to the eroded slopes below the Glass Cactus and to the two breached dams will also require impacts within jurisdictional waters. Areas fitting the wetland criteria were primarily found on flats at the lower ends of stream drainages and along lake shorelines, and have been avoided to the extent practicable. Section 404 Nationwide Permit applications will be made to the Regulatory Branch of the USACE for the proposed impacts to jurisdictional waters. Mitigation is being included in the Section 404 permit to compensate unavoidable impacts caused by these project components. The proposed mitigation plan for impact to waters discussed in Section 6.0 describes the mitigation activities that would be applied during and following construction activities to minimize impacts to waters of the U.S.

The project has been designed with a consideration for avoiding and minimizing potential impacts to the extent practicable, with compensatory mitigation being provided for the unavoidable, minimal impacts to streams and wetland areas. Other proposed projects that have been or are being developed in the general area may also have potential impacts on streams and wetlands draining into Grapevine Lake. All such actions affecting jurisdictional waters of the United States are subject to the permitting requirements of CWA Section 404 and its mandate to avoid impacts to the maximum extent practicable. Although past, present, and reasonably foreseeable future actions in the resource study area have resulted, or will result, in minimal impacts to jurisdictional areas – including intermittent and ephemeral streams and wetland areas around Grapevine Lake – the cumulative effect of those impacts is expected to be minimal, particularly taking into account mitigation measures that have been or will be implemented to offset such losses. It is anticipated that the cumulative effect of all such actions in the area will comply with the national mandate for “no net loss” of wetland functions and values. Numerous areas around Grapevine Lake, including those areas designated as Environmentally Sensitive Areas in the Grapevine Lake Master Plan, have been and will be preserved, and will help to sustain the wetland functions and values of the lakes, streams and wetlands in the general area. The minimal effects on jurisdictional waters that are expected to result from the implementation of the ”Preferred Action” would have only a minor incremental effect in light of the effects of other actions in the area. Therefore, it is concluded that the project with proposed mitigation for Section 404 impacts would only have minimal cumulative impacts on jurisdictional waters and wetlands in the “resource study area”.

5.3.2 GROUNDWATER and AQUIFERS

Significant cumulative effects would be reached if the projects in the area were to substantially impair any significant groundwater aquifer, or affect the functionality of an aquifer.

Urbanization in the area would lead to a more rapid and higher rainfall runoff pattern, alteration of hydrologic regimes for streams, reduction in ground water recharge areas,

potential overdraught of groundwater, and pollution loading that could infiltrate to shallow groundwater in the Woodbine Aquifer. The proposed project and those listed above would not directly impact groundwater. Implementation of the requisite SWPPP would minimize the potential for contaminated surface water runoff or chemical spills which would minimize impacts to groundwater recharge areas. Based on the nature of the proposed resort and recreational project, there would not be a cumulative effect on groundwater quality.

5.3.3 FLOODPLAINS

Significant cumulative effects would be reached if the projects in the area were to substantially impair the functionality of floodplains.

The protection of floodplains and floodways is required by EO 11988 Floodplain Management and is implemented through 23 CFR 650, Subpart A Location and Hydraulic Design of Encroachments on Floodplains. Urban development, flood damage reduction projects, placement of fill material, and transportation projects can have cumulative impacts to floodplains. Secondary impacts associated with floodplain encroachment include increases in base flood elevations, changes in natural stream flow dynamics, and alterations to life process requirements of aquatic species. The proposed construction methods would not impact floodplain storage within the project area. All disturbed areas would be returned to pre-construction contours and grades; therefore, flood storage loss would not occur. As a result of the absence of any adverse flooding effects from the “Preferred Action” and alternatives, the incremental effects of the project in light of other actions would be negligible. Thus, no cumulative effects to floodplains are anticipated.

5.4 BIOLOGICAL RESOURCES

5.4.1 WILDLIFE AND FISH

Significant cumulative effects would be reached if the projects in the area were to substantially affect the abundance or diversity of any native animal species beyond normal variability. Significant cumulative effects would be reached if the projects in the area could be inferred to substantially affect the movement of any resident or migratory fish or wildlife species. Significant cumulative effects would be reached if the projects in the area were to substantially harm, harass or destroy species, natural communities or habitat that is recognized for scientific, recreational, ecological, or commercial importance. Significant cumulative effects would be reached if the projects in the area were to substantially alter or destroy habitat that would prevent the establishment of native biological communities that inhabited the area prior to the disturbances, would lead to an extensive loss of biological communities in high quality habitat for longer than a year, or would lead to a violation of the Migratory Bird Treaty Act.

Urban pressure due to growth within the general area is displacing wildlife and causing them to relocate to other nearby undeveloped properties. Relocated wildlife will often be forced to move into other animals’ ranges and experience a higher competition for food and shelter. Accordingly, it is anticipated that the land within the USACE limits of Grapevine Lake will continue to see an increase in density of wildlife species. Removal of wooded habitat in the proposed project will add to the cumulative loss of upland habitat in the area. However, significant areas of upland wooded, riparian and native grassland habitat still remain protected and preserved as Environmentally Sensitive Areas on the remainder of the acreage surrounding Grapevine Lake.

A part of the mitigation proposed for this project is to enhance the wetland habitat available along a portion of Silver Lake Branch. The minimal size of the wetland plantings will have a minimal impact on the amount of aquatic habitat in the "resource study area" As is mentioned in discussions on surface waters and wetlands, this project and other foreseeable projects with appropriate Section 404 mitigation would only have minimal impacts on aquatic habitat in the area.

5.4.2 AQUATIC VEGETATION

Significant cumulative effects would be reached if the projects in the area were to introduce or encourage the spreading of noxious aquatic weeds or other undesirable aquatic invasive species. Significant cumulative effects would be reached if the projects in the area were to lead to the substantial loss of riparian, wetland or marsh habitats. Significant cumulative effects would be reached if the projects in the area were to alter or destroy habitat that would prevent the reestablishment of native aquatic plant communities that inhabited the area prior to disturbances. Significant cumulative effects would be reached if the projects in the area were to substantially harm or destroy aquatic species, natural aquatic communities or aquatic habitat that is specifically recognized as biologically significant in local, state or federal policies, statutes or regulations.

Urban development in the DFW region is resulting in cumulative impacts upon the region's remaining natural resources (i.e., wetlands, water resources, and biological resources.) Applicable federal regulations require avoidance and minimization of jurisdictional impacts to waters and wetlands in the project designs, which should minimize the effects of development. To offset unavoidable losses of jurisdictional waters and wetlands, mitigation is required for impacts occurring in residential, commercial, and industrial development as well and supporting roadway, pipeline, and utility line infrastructure.

As a result of avoidance and minimization measures applied during the GTRCC project design, the incremental impacts of the proposed project would only result in minimal adverse cumulative impact to aquatic and wetland fringe vegetation in light of the effects of other actions in the "resource study area." Since fringe aquatic vegetation is being avoided in the disturbed zones, the proposed project would not adversely affect the general loss of wetlands in the lake area or in the regional of urban development. Planting of aquatic vegetation as part of the mitigation plan would add to the acreage of emergent marsh on Grapevine Lake, and will add a seed source of desirable fringe wetland vegetation to the fingers of Silver Lake Branch. This new seed source will increase the diversity of native wetland species in the lake.

5.4.3 TERRESTRIAL VEGETATION

Significant cumulative effects would be reached if the projects in the area were to introduce or encourage the spreading of noxious terrestrial weeds or other undesirable invasive species. Significant cumulative effects would be reached if the projects in the area were to lead to the substantial loss of upland habitats. Significant cumulative effects would be reached if the projects in the area were to alter or destroy habitat that would prevent the reestablishment of native biological communities that inhabited the area prior to disturbances. Significant cumulative effects would be reached if the projects in the area were to substantially harm or destroy terrestrial species, natural terrestrial communities or terrestrial habitat that is specifically recognized as biologically significant in local, state or federal policies, statutes or regulations.

The proposed resort expansion and recreational amenities have been designed to maximize the preservation of most larger stands of trees and preserve a significant portion of the habitat areas. Areas between recreational amenities such as the pool area, lakefront areas, ranch arena and amphitheater, and trails would be utilized to retain and preserve existing native vegetation, where possible. Structures and building locations have been designed such that impacts to habitats and significant natural areas would be avoided. Recreational amenities will be designed such that the clearing limits will avoid large trees where possible.

Some of these areas within the project could not be avoided. The proposed project would result in direct impacts to approximately 18.5 acres of wooded areas containing both hard and soft mast tree species. Proposed resort development on upland wooded areas would contribute to the overall loss of woodlands in the "resource study area" of the GTRCC, but there should only be a minimal effect on the quality or quantity of remaining upland woodlands around Grapevine Lake on USACE lands based on the large amount of forested USACE land in park areas.

Where impacts are necessary, measures will be taken to minimize the impairments to wooded habitat. The footprint of the trail system will be field fit where possible to avoid removal of or impairment to large trees. Many of the standing snags and downed logs would be retained for their habitat values within preserved wooded areas, except where standing snags would pose a safety threat to recreational users.

Measures to mitigate and compensate for loss of woodland vegetation due to unavoidable clearing of East Cross Timbers post oak and cedar elm forest are described in Section 6.0. The mitigation efforts under the Preferred Action plan will aid in enhancing and maintaining the remaining terrestrial and wetland habitats on USACE lands in the watershed.

5.4.4 THREATENED AND ENDANGERED SPECIES

Significant cumulative effects would be reached if the projects in the area were to result in harm, harassment or destruction of any federally listed endangered, threatened or candidate species, its habitat, migration corridors, or breeding areas. Significant cumulative effects would be reached if the projects in the area were to harm, harass or destroy any birds of conservation concern.

There would be no threatened and endangered species impacts related to the proposed project. Thus, no cumulative effects on threatened and endangered species are anticipated.

5.5 NOISE, LIGHTING AND GENERAL AESTHETICS

There are no universally applicable regulatory thresholds for assessing significance of noise impacts, but environmental noise regulations and guidelines are defined by various Federal and state agencies. Significant cumulative effects would be reached if the projects in the area were to violate EPA noise standards at the boundaries of the project areas over an extended period of time, or create impulse or other short-term event noise levels. As was noted earlier, the 65-dB noise contour for the DFW International Airport is located just west of Ruth Wall Road on the west side of the proposed project. Based on predicted noise levels from the airport, noise levels resulting from aircraft would not be exceeded by the cumulative noise impacts due to proposed project and all other development in the general area of the GTRCC. The design of the propose action and alternatives would ensure that noise impacts are minimized, and thus the incremental noise effects of the project would result in negligible cumulative effects.

The visual landscape near the project area is characterized by Grapevine Lake, USACE-managed forest lands around the lake, undeveloped land, and residential/commercial development in Grapevine, Texas. There is considerable roadway, commercial and resort development occurring in the general area south of the proposed project, primarily along Highway 26 and along Texan Trail. The widening of roads and the conversion of open land to commercial and resort facilities has resulted in increases in noise during construction and temporary aesthetic impacts on the appearance of the area during construction work. Since the majority of the proposed project would be surrounded by some wooded areas, no impacts to the local aesthetics are anticipated. The southwest edge of the pool assemblage adjacent to residential development will be designed with features to reduce noise and lighting effects to offsite properties. As a result, the proposed project would only cause a minimal adverse impact to local aesthetics. Thus, the incremental impacts of the project on aesthetics, in light of the effects of other actions in the area would be minimal. The proposed emergent wetlands and riparian buffer proposed for planting along a portion of the Silver Lake Branch shoreline as mitigation for Section 404 impacts will be an aesthetic benefit to an area that is currently vegetated by scrub/shrub buttonbush stands and overgrown with vines.

5.6 CULTURAL RESOURCES

Significant cumulative effects would be reached if the projects in the area were to directly or indirectly alter the integrity or characteristics of a resource that would qualify for inclusion in the National Registry of Historic Places, or if it were determined that the projects inhibited access to or use of culturally important locations or interfered with cultural or religious practices.

Archeological resources within the project area will be avoided by present and foreseeable future construction activities. Thus, the project is not anticipated to result in cumulative impacts to cultural resources.

5.7 HAZARDOUS, TOXIC AND RADIOACTIVE WASTES

Significant cumulative effects would be reached if the projects in the area were to directly or indirectly create hazards by exposing the public to hazardous materials at levels exceeding the range of risk generally considered acceptable by the EPA.

No hazardous, toxic or radioactive waste sites are recorded within the project area. No additional impacts are anticipated to the USACE landfill site within project area if the ranch/arena site should be built on top of the cover fill.

5.8 AIR QUALITY

The Gaylord Texan is a resort destination. When people arrive at the resort either by cars shuttle busses or other private carriers, they generally stay for an extended period of time without having to leave the Resort. The Gaylord Texan offers all of the shopping, dining, nightclub, and meeting needs of it's guests. Thus, the constant starting and stopping of cars to leave and return to the Resort is greatly reduced and is a positive for air quality.

In addition, the Resort has shuttle van services to and from the main doors of the resort to the Glass Cactus and other off site locations such as the DFW International Airport. An employee parking lot is located near State Highway 26 and Ruth Wall. The Resort shuttles it's employees from that lot to the main Resort facilities. This reduces the number of additional cars having to drive to the Resort. This reduction in employee cars entering the Resort is a positive for the air

quality, as well.

Construction of the buildings and other recreational assemblages in the area of the proposed project would involve the use of diesel powered construction equipment. During daytime work hours there would be exhaust (and particulate) emissions associated with construction activities. However, this is considered a minor or temporary event affecting air quality; especially since the construction is distributed along linear corridors and as such would preclude a high density of construction machinery.

The potential short-term impacts due to dust during construction of the proposed features would be mitigated by use of BMPs such as periodic watering of loose soil in traffic areas to minimize dust release into the air. Vegetation would be reestablished on all areas disturbed during construction following completion to stabilize the bare soil; therefore, the incremental air quality impacts of the proposed project, in light of other actions in the area, would be negligible.

5.9 RECREATION

Significant cumulative effects would be reached if the projects in the area were to result in a substantial decline in the quality or quantity of existing recreational facilities, or would result in a substantial decline in the opportunities to participate in these recreational activities.

Continued population growth within the region could lead to additional water-based recreational draw on Grapevine Lake and increased trail usage in the foreseeable future. Connectivity of recreational areas around Grapevine Lake will continue to be improved by the construction of trail projects like those proposed for the GTRCC, trail projects planned by the City of Grapevine and other municipalities, and trail projects built by the USACE on federal lands. The increases in trail systems and the increased accessibility to Grapevine Lake in the GTRCC project will have a beneficial effect on the usability of both parklands and water features as supported in the Grapevine Lake Master Plan.

5.10 SOCIOECONOMIC CONDITIONS AND MINORITY/LOW INCOME POPULATIONS

Significant cumulative effects would be reached if the projects in the area were to create an increase in population growth or the demand for housing, schools, or community facilities that is beyond the capacity of a region to accommodate. Significant effects also would result from the displacement of a large number of people, especially from affordable housing, a decrease in local employment, or a decrease in the accessibility of community facilities. Significant environmental justice effects would occur if the cumulative result of all area projects led to disproportionately negative effects on low-income and minority populations.

Census data show that areas served by NTMWD have been among the fastest growing population areas in the US between 1990 and 2000. The development of surrounding land would provide homes and employment in the immediate vicinity and proposed expansion of transportation facilities in the area would provide means that are more efficient for residents to commute. Most of the development in the area is taking place on undeveloped land currently fallow or pasture land. Therefore, it is not anticipated that local development would have adverse cumulative impacts on socioeconomic resources of the Grapevine area in accordance with local planning efforts. The beneficial impacts from the GTRCC expansion, the proposed recreational features, and the continued economic development being experienced along the Highway 26 corridor will be realized by those neighborhoods close to the project area in the

form of new job opportunities, shopping convenience and more diverse recreational amenities. The local community will benefit from increased tax revenues and property values.

Secondary or indirect effects of the ”Preferred Action” on the broader “resource study area” may include negligible growth-inducing effects or other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air, water and other natural systems, including ecosystems. Activities taking place at the GTRCC expansion and in the general area of Grapevine Lake would have no cumulative adverse or disproportionate social and economic implications on residents and businesses in Tarrant, Denton and Dallas Counties.

6.0 MITIGATION FOR THE PREFERRED ACTION

Throughout the planning of the preferred alternative, avoidance and minimization of environmental impacts will be incorporated to the extent feasible. Where unavoidable impacts would occur, the City, acting through GEC, would implement a mitigation plan on Federal lands at Grapevine Lake. With regard to impacts on jurisdictional wetlands, the Section 404(b) (1) guidelines for sequencing have been applied in the design of the preferred alternative in order to avoid jurisdictional waters where possible and to minimize impacts within jurisdictional waters. A 50-foot setback will be maintained along riparian and lake corridors to protect the jurisdictional waters. For unavoidable impacts to waters of the United States, a watershed approach will be taken to mitigate for the proposed stream, wetland and riparian impacts. On-site wetlands creation and enhancement will be considered as part of the Section 404 permitting process to mitigate for impacts to stream crossings, lake impacts and wetland fill.

The preferred alternative will result in unavoidable impacts and loss to approximately 18.6 acres of good quality, upland woodland habitat. Included with the wooded acreage are narrow strips of riparian vegetation along impacted intermittent streams. Minimal marsh areas or scrub-shrub wetlands will be impacted by the proposed amenities. The preferred alternative will also result in unavoidable impacts and loss to approximately 2.4 acres of good quality savannah habitat, and approximately 13 acres of poor quality, mostly non-native grassy areas.

Table – 12 Proposed Impacts by Habitat Type

Project	**Habitat Type**			
	Jur. Waters	Woodlands	Savannah	Non-Native Grasslands
Convention Center	0.016	2.9	0.2	0
Pool Assemblage	0.01	1	1	2.9
Recreation Trail Crossings	0.008	2	0.5	0.5
Ranch/Amphitheater	0	1	0	9.4
Recreational Areas	0	10.2	0.4	0.2
Lakeshore Rec. Area	0.01	1	0.3	0
East Dam Repair and Pond dredging/restoration	0.01 1.0	0	0	0
Courtesy Dock installation	< 0.01	0	0	0

Glass Cactus slope repairs	0.01	0	0	0
South Dam Grade Control	0.01	0	0	0
TOTAL IMPACTS (Ac.):	1.07	18.1	2.4	13

TOTAL AREA OF PROPOSED IMPACT ON FEDERAL LANDS: 33.5 ACRES PLUS 1.07 AC. OF WATERS

Due to the limited areas that would be available for planting trees on the immediate site around the GTRCC project, it was not deemed feasible to mitigate for the loss of upland woodlands and shrub lands on the immediate project site. Acceptable habitat improvement projects on other USACE land at Grapevine Lake would be feasible and could include, implementation of many of the Ecosystem-based vegetation management prescriptions included in the May 2005 PEA, as well as fence building/site protection in Wildlife Management Areas and Environmentally Sensitive Areas as designated in the 2001 Grapevine Lake Master Plan Supplement No. 2. Monetary value of required NEPA mitigation for loss of woodlands or shrub lands will be based on the size of impacts, the type and habitat value of vegetation impacted and the elevation of lands impacted by the projects. The Shoreline Variance Mitigation Cost Schedule (***Table 9***) as derived from the 1999 PEA for Lake Lewisville will be used to calculate the dollar value of mitigation requirements. These dollar values would then be used as a basis for determine the extent of habitat improvements to be implemented as described above. Impacts may be phased over a period time, along with mitigation for the impacts, so mitigation costs will be linked to the Consumer Price Index.

The USACE has established several utility corridors of appropriate widths at strategic locations on or adjacent to existing easements at Grapevine Lake, as described earlier from the 2001 Master Plan Supplement No. 2. These corridors would be utilized for placement of required utilities as much as possible, thus reducing forest fragmentation and other future adverse environmental impacts resulting from construction and maintenance activities associated with placement.

Determination of the discharge of dredged or fill material into waters of the United States will be evaluated under the requirements of Section 404 of the Clean Water Act as specific designs and plans are made available. Mitigation for any impacts to the intermittent or ephemeral streams under the footprint of the proposed convention center expansion and within the pool assemblage would be authorized under a Nationwide Permit 39 for Commercial and Institutional Developments. The construction of stream crossings by trails, the construction of a courtesy dock, and a lakefront recreational area along the edge of Grapevine Lake would likely require mitigation under a Nationwide Permit 42 for Recreational Facilities. Repairs to the eroded slope in front of the Glass Cactus and repairs to the breached dams on the two small ponds would be covered under other types of Nationwide Permits. Each project feature has independent utility, except for the trails, as one feature is not dependent of any other feature. Additionally, project features are phased by anticipated years of construction as shown on page 7 of this document. It is important to note; however, that anticipated, total project impacts to waters of the US is less than 1.10 acres. All Section 404 activities will be coordinated independently with the Regulatory Branch of the USACE. Acreage of required Section 404 mitigation will be based on the size of impacts and the type of stream or other waters of the U.S. impacted by the projects, as shown in **Table 7**. Satisfaction of the compliance requirements for mitigation of adverse impacts to jurisdictional waters of the U.S. would be made by the USACE Regulatory Branch project manager.

7.0 PUBLIC INVOLVEMENT

Public information concerning the proposed actions has been provided to the local affected communities. Gaylord Entertainment issued a press release indicating approval from the City of Grapevine for economic incentives to expand the GTRCC on September 5, 2007. A neighborhood meeting was conducted by Gaylord Entertainment along with the design consultants Huitt-Zollars, TVS, and EDSA on February 6, 2008 to inform the local residents about the proposed plan for the hotel wing, convention center expansion, and the other features proposed for the first phases of construction. Additional public meetings will be conducted at the City of Grapevine as part of the Conditional Use Permit (CUP) process. Future public meetings will be conducted as specific plans become available.

A copy of this Sept. 5, 2007 Press Release and a listing of attendees from the February 6, 2008 neighborhood meeting can be found in ***Appendix J*.**

7.1 REGULATORY REQUIREMENTS, PERMITS AND AGENCY COORDINATION

Numerous Federal laws apply to the management of Federal lands administered by the U.S. Army Corps of Engineers. The majority of these laws are listed in the Corps of Engineers publication, EP 1130-2-540, Environmental Stewardship Operations and Maintenance Guidance and Procedures, and in EP 1130-2-550, Recreation Operations and Maintenance Guidance and Procedures. Application of the general objectives, natural resource objectives and recreation objectives are administered by the Grapevine and Lewisville lake offices of the Ft. Worth District USACE.

The proposed project would require permits/certifications under Section 401 and Section 404 of the Clean Water Act as indicated in Section 4.3.1. Proposed impacts to jurisdictional waters will be permitted under the Nationwide Permit program as administered by the Regulatory Branch at the Ft. Worth District USACE.

The proposed project would require a TPDES Storm Water permit for construction of the described features, since the total acres disturbed would be greater than one acre. The contractor would also be required to post all pertinent documents on-site during construction. Since the proposed project would disturb more than five acres, the contractor would be required to file a Notice of Intent (NOI) with TCEQ for storm water discharges associated with construction activity under the TPDES Construction General Permit and would be required to abide by the provisions of the permit.

An agency meeting was held on July 15, 2008 with a follow-up meeting held on July28, 2008. Memorandum for Record follows:

Memo for Record 15 July 2008
Subject: Agency Meeting, Gaylord Texan Resort Expansion,

1. A meeting was held on 15 July at 10:00 AM at the Gaylord Texan Resort.

2. The following team members were in attendance:

Heath McLane	USACE PER-EE	817-886-1849
Richard Prather	EPA	214-665-8333
Matt Singleton	City of Grapevine	817-410-3328

Douglas Cox	USACE Partnership Program Manager	469-645-9112
Brian Phelps	USACE Deputy OPM Trinity Project	469-645-9100
Don Wiese	USACE Operations	817-886-1568
Paul Lee	Huitt-Zollars	817-335-3000
Mark Harberg	USACE- PER-E	817-886-1687
Robert Hansen	TCEQ	512-239-4583

3. The purpose of the Environmental Assessment (EA) is to determine if there would be any significant impacts to the environment from construction of the proposed outdoor recreation amenities and related facilities on Federal land at Grapevine Lake in association with an on-going expansion of the Gaylord Texan Resort. If it is determined there would be no significant impacts (and a FONSI executed) further review of construction plans and specifications will be required as illustrated in #4.

4. EA is for authorization of a conceptual recreation development plan sufficient to allow the Corps to supplement the Grapevine Lake Master Plan by denoting the change from an approved golf course plan to the plan set forth in the proposed action. The FONSI only allows us to supplement our master plan and does not authorize construction. This authority would allow the Corps to modify the Development Plan in the park and recreation lease to the City (remove the golf course authority and add the new recreation development), contingent that no construction may occur without fully developed plans and the City receiving consent to construct. The City would then require the sub-lessee, Gaylord, to finalize their specific plans within the EA guidance and would then have Gaylord put those plans through the City of Grapevine's public planning process. Once the City approves the plans (with any necessary changes), the City would then forward to the Corps those specific plans requesting authority to initiate construction. Those specific plans would then be reviewed by the Corps for compliance with the EA and Master Plan, and to ensure compliance with all state, federal, and local regulations, laws, and policy guidelines. The compensatory mitigation plan would be reviewed to ensure full mitigation of unavoidable impacts and would be added as a lease condition to the City of Grapevine's park and recreation lease..

5. At the time the property was leased, the City and Gaylord Entertainment Corporation, (GEC), proposed to construct an 18-hole public golf course on the land in question as a recreational feature complementary to what was then known as GEC's Opryland Hotel and Resort, but now propose a variety of recreational facilities and amenities in lieu of the golf course. These facilities are considered appropriate for USACE lands having a high intensity recreation classification..

6. Prior to initiation of construction, specific design and construction plans, including mitigation requirements, must be approved through:

a. City Planning Process: Public hearing, City Council Approval

b. USACE Operations approval: Plan meets requirements as laid out in project authority, process, intent and regulations.

c. Regulatory Application Approval: Meets the requirements set forth in Section 404 and Section 401

d. Environmental review: Plans meet requirements as set forth in the EA.

As a result of this meeting and coordination with agencies, the specific design and plans will be sent to resource agencies for a 5-day review, input, and approval after approval by Operations

Division in step b. above. Additional time may be requested to provide input by the resource agencies dependent on the scope and location of individual design components.

7. NEPA requirements shall be utilized to the fullest extent as an aid to planning to prevent environmental degradation. The EA incorporates approximately 30% design which is sufficient for the early identification of potential impacts. Typically EPA and TCEQ review plans containing 90% or more design to ensure very specific compliance. By providing the resource agencies a 5-day review, input and approval of detailed plans prior to initiation of construction, the agencies have the ability to provide project-specific recommendations to avoid, minimize and mitigate environmental impacts.

8. TCEQ and EPA agree with the approval process, use of mitigation tables in the EA and signing of the FONSI. Comments received from each agency regarding the need for more information remains. The coordination of design and construction plans in step 5 will be utilized to guarantee agency input for individual design components.

9. All storm water run-off is and will be diverted through oil separators which removes oil, debris and sediment from approximately the first one-fourth inch of rain before the runoff enters streams. Additional storm water minimization and mitigation measures may also be required dependent on the scope and location of individual design components.

10. Post construction Storm Water Management Plans will be included in submittals to include BMP's to be utilized for each individual design component with the goal of limiting impervious surfaces, to reduce run-off and increase infiltration of stormwater.

11. Natural resources within the footprint of the pool assemblage and Convention Center expansion area will be considered a 100% loss. We also identified that BMP's would be used to stabilize the areas underneath the convention center and around the building and all unavoidable impacts would be fully mitigated. Impacts to water quality functions will be mitigated on-site and cumulative effects will be minimized and mitigated for the protection of natural resources.

12. One mitigation feature discussed was the restoration of the stream feeding the pond, the pond itself, and providing Natural Resource/riparian/wetland interpretation along the Phase 1 trail system. NOTE: Portions of the stream feeding the pond, the pond dam, and siltation are required to be restored as a maintenance item (cleaning silt out of the pond and stream, installation of baffle blocks to reduce flow at the exit point of the drainage and installation of filtered check dams to ensure reduced flow velocity, etc.), so these costs would not be considered mitigation. Parts of a design for actual stream/riparian restoration, wetland plantings, wetland interpretation, etc. would be considered mitigation.

13. A follow-up meeting was held on 28 July 2008. Attendees for the follow-up meeting were: Craig Kislingbury, Douglas Cox, Don Wiese, Eric Pedersen and Heath McLane; USACE and Sid Puder; USFWS. USFWS was amenable to the 5 day review period as described above and requested the mitigation plan describe the value of existing habitat and specific mitigation measures be identified.

Heath McLane
Environmental Resource Specialist

7.2 PUBLIC INFORMATION AND REVIEW

NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL ASSESSMENT
GAYLORD TEXAN EXPANSION AND RECREATIONAL FACILITIES ASSOCIATED WITH FEDERAL LANDS AT GRAPEVINE LAKE CITY OF GRAPEVINE, TARRANT COUNTY, TEXAS

Description. Interested parties are hereby notified that the District Commander, Fort Worth District, has prepared a draft Environmental Assessment (EA) and a draft Finding of No Significant Impact (FONSI) regarding the proposed Gaylord Texan expansion and recreational Facilities associated with Federal Lands at Grapevine Lake, City of Grapevine, Tarrant County, Texas.

Statutory Authority. This notice is being issued to all interested parties in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, the Council on Environmental Quality (CEQ) Code of Federal Regulations (40 CFR parts 1500-1508), and Engineering Regulation 200-2-2.

Background. The City of Grapevine, Texas (City), in partnership with Gaylord Entertainment Company (GEC) proposes to expand an existing convention center and construct a variety of recreational facilities and amenities on U.S. Army Corps of Engineers (USACE) land at Grapevine Lake in Grapevine, Texas. The recreational facilities and amenities are intended to be complementary to the Gaylord Texan Resort and Convention Center (GTRCC) located on adjacent private land. The Federal land in question was leased to the City for park and recreation purposes in 1999. At the time the property was leased, the City and GEC proposed to construct an 18-hole public golf course on the land in question as a recreational feature complementary to what was then known as GEC's Opryland Hotel and Resort, but now propose a variety of recreational facilities and amenities in lieu of the golf course. The change in proposed use is of sufficient scope to warrant preparation of this additional Environmental Assessment (EA).

Proposed Action. The proposed action would include the following facilities and amenities: expansion of an existing convention center by 492,000 square feet with lower level parking; a resort pool assemblage; a lakefront recreational area with courtesy dock; a western-style ranch complex with arena, amphitheater and equestrian trails; and hiking and biking trails. Additional parking areas are also proposed as part of the recreational facilities to support the ranch area and other amenities near the southern portion of the project. The EA addresses the impacts of three design alternatives including the preferred alternative and the no action alternative. The federal land in question has been leased to the City by USACE for several years for park and recreation purposes, and any significant development proposal requires prior written approval of USACE.

The preferred alternative would result in disturbance to approximately 30.5 acres of USACE-owned lands for the building of lake-related recreational facilities and amenities, including approximately 2.9 acres of wooded land for the convention center expansion, and approximately 3 acres of wooded areas will be disturbed for the installation of nature trails, walking trails, biking trails and equestrian trails. Additionally, minor, unavoidable impacts would occur in waters of the United States determined to be jurisdictional waters pursuant to Section 404 of the Clean Water Act, as amended. Those impacts would include trail crossings of small streams, and grade work along a short segment of lakeshore. No grade work would extend below the Grapevine Lake conservation pool elevation of 535' NGVD.

Public Involvement and Meetings. Public information concerning the proposed actions has been provided to affected communities through news releases, neighborhood meetings, and a public hearing sponsored by GEC and the City. Gaylord Entertainment issued a press release on September 5, 2007 indicating approval from the City of Grapevine for economic incentives to expand the GTRCC. A neighborhood meeting was conducted by Gaylord Entertainment along with the design consultants Huitt-Zollars, TVS, and EDSA on February 6, 2008 to inform area residents about the proposed plan for the hotel wing, convention center expansion, and the other features proposed for the first phases of construction. On March 25, 2008, the Grapevine City Council and the City's Planning and Zoning Commission conducted a public hearing on the Gaylord expansion project. The meeting was attended by approximately 100 citizens. After the hearing, both the City Council and the Planning and Zoning Commission voted to approve the expansion.

Prior to the close of the public comment period described below, any person may make a written request for a public meeting setting forth specific reasons for the request. If the District Commander determines that a public meeting is warranted, all known interested parties will be notified of the time, date, and location of such a meeting.

Public Review. Pursuant to the regulations implementing the procedural provisions of the National Environmental Policy Act of 1969 as amended in 1975 (40 Code of Federal Regulations [CFR], Parts 1500 through 1508), the USACE gives notice that it has prepared the required environmental documentation for the proposed Gaylord Texan Expansion and Recreational Activities associated with Federal Lands at Grapevine Lake. This document is available for review on the Fort Worth District website www.swf.usace.army.mil or at the following addresses:

Grapevine Public Library
1201 Municipal Way
Grapevine, Texas 76051

U.S. Army Corps of Engineers
Grapevine Lake Office
110 Fairway Drive
Grapevine, TX 76051

Comment Period. The public comment period for this action is 30 days and ends at close of business on June 27, 2008. Please address any comments to Mr. Heath McLane, CESWF-PER-EE, Post Office Box 17300, Fort Worth, Texas 76102-0300, or by e-mail at Heath.R.McLane@usace.army.mil.

William Fickel, Jr.

Chief, Planning, Environmental,
And Regulatory Division

8.0 FINDINGS AND CONCLUSIONS

This EA evaluates the potential environmental impacts associated with the construction of the resort expansion and recreational amenities at the GTRCC project, along the south shore of Grapevine Lake in Grapevine, Texas. The alternatives that were evaluated include:

2.2 APPROVED GOLF COURSE PLAN

2.3 ALTERNATIVE #1 DESIGN ("PREFERRED ACTION")

2.4 ALTERNATIVE #2 DESIGN

2.5 ALTERNATIVE #3 DESIGN:

2.6 NO ACTION ON FEDERAL LANDS ALTERNATIVE

Of the alternatives considered, the "Preferred Action" (Alternative # 1 Design) would best satisfy the purpose and needs for the project and provide the least environmentally damaging alternative. Implementation of the "Preferred Action" would result in impacts to approximately 33.5 acres of Federal land. The footprint of proposed impacts for the "Preferred Action" is smaller than the 88 acres of acreage impact on federal land in the previously approved EA for the golf course, and the footprints of the convention center expansion and pool assemblage are smaller than the footprints reviewed in Alternatives #2 Design and #3 Design. Placing the resort expansion and recreational facilities entirely on private parcels would make the layout of the overall recreational project undesirable in terms of connectivity of the recreational features and the lack of lake access. Therefore, the "No Action on Federal Lands" alternative was eliminated from consideration.

In addition, impacts to natural resources would be mitigated both by enhancement of wetland acreage along lake shoreline at a 2:1 ratio to compensate for wetlands loss, and the provision of in-lieu fees to the USACE for enhancement of natural areas to compensate for woodlands loss. Fees for natural resource enhancement work by the USACE will be based on monetary value of impacted woodlands.

Based on the EA and results of coordination, a conclusion has been determined that 2.3 Alternative # 1 Design ("Preferred Action"), the preferred plan, most of the proposed facilities and recreational amenities are not anticipated to result in significant adverse impacts, nor are they environmentally controversial. These activities are being carried forward and recommended for a Finding of No Significant Impact (FONSI). However, activities within the proposed ranch assemblage, including the proposed amphitheater and arena are not sufficiently described in the EA to determine the significance of potential environmental impact. While these actions are approved as a concept for inclusion in the USACE Grapevine Lake Master Plan, further action on these facilities is dependent upon receipt of more detailed plans which, depending on scope and compatibility with this EA, may be addressed in a supplement to this EA.

This action would, therefore, not warrant the preparation of an environmental impact statement (EIS).

9.0 LIST OF PREPARERS

Douglas B. Cargo, Ph.D.	**35 years of environmental experience.**
R.J. Taylor, P.G., P.W.S.	**15 years of environmental experience**
Adam Beckom	**4 years of planning and environmental experience.**

10.0 REFERENCES

Bureau of Economic Geology, 1990	The Geology of Texas. 1990. Volume I Stratigraphy. The University of Texas. Austin, Texas.
Texas Department of Water Resources, 1979	Ground-Water Availability in Texas, Estimates and Projections Through 2030. Texas Department of Water Resources, Austin, Texas.
Texas Organization for Endangered Species, 1988	Endangered, Threatened, and Watch List of Vertebrates for Texas. Austin, Texas.
Texas Organization for Endangered Species, 1992	Endangered, Threatened, and Watch List Natural Communities. Austin, Texas.
Texas Organization for Endangered Species, 1993	Endangered, Threatened, and Watch List of Plants. Austin, Texas.
Texas Parks and Wildlife Dept., 2007	Annotated County Lists of Rare Species – Tarrant County, Texas. Last Revision: 8/8/2007. Austin, Texas.
U.S. Army Corps of Engineers, 1977	Final Environmental Statement for Operations and Maintenance Programs of Bardwell Lake, Benbrook Lake, Grapevine Lake, and Navarro Mills Lake, Trinity River Basin, Texas. March 1977. Ft. Worth District
U.S. Army Corps of Engineers, 1995	"Recreation Development Policy for Outgranted Corps Lands". December 6, 1995. USACE CECW-ZA Memorandum
U.S. Army Corps of Engineers, 1998	Beaver Lake Shoreline Management Plan Draft Environmental Assessment. June 1998. Little Rock District Office, Little Rock, Arkansas.
U.S. Army Corps of Engineers, 1999	Environmental Assessment for Opryland on Grapevine Lake Facilities. August 1999. Ft. Worth District
U.S. Army Corps of Engineers, 1999	Environmental Assessment for Opryland 18-Hole Golf Course and Driving Range on Grapevine Lake. December 1999. Ft. Worth District
U.S. Army Corps of Engineers, 2001	Master Plan Supplement No. 2 to Grapevine Lake Master Plan. January 2001. Ft. Worth District

U.S. Army Corps of Engineers, 2004 — Ecosystem-based Vegetation Management Prescriptions for Federally-owned Land at Grapevine and Lewisville Lakes. Nov. 2004. Lewisville Project Office

U.S. Department of Agriculture, 1984 — Soil Survey of Tarrant County, Texas. 1978. U.S. Department of Agriculture, Soil Conservation Service. Texas Agricultural Experiment Station.

U.S. Fish and Wildlife Service, 1989 — Endangered, Threatened, and Candidate Species Listed by County, Arlington Field Office's Area of Responsibility. 1989. U.S. Fish and Wildlife Service. Ecological Services, Arlington, Texas.

11.0 LIST OF ACRONYMS AND ABBREVIATIONS

A, B, C, D
ADA Americans with Disabilities Act
AQCR Air Quality Control Region
CBD Central Business District
CEQ Council on Environmental Quality
DBH Diameter at breast height
DFW Dallas Fort Worth

E, F,G
EA Environmental Assessment
EID Environmental Information Document
EIS Environmental Impact Statement
EPA Environmental Protection Agency
ER Engineer Regulation
GPS Global Positioning System

H,I,J,K,

L, M, N
M PA Metropolitan Planning Area
NAAQS National Ambient Air Quality Standards
NCTCOG North Central Texas Council of Governments
NEPA National Environmental Policy Act
NPDES National Pollutant Discharge Elimination System

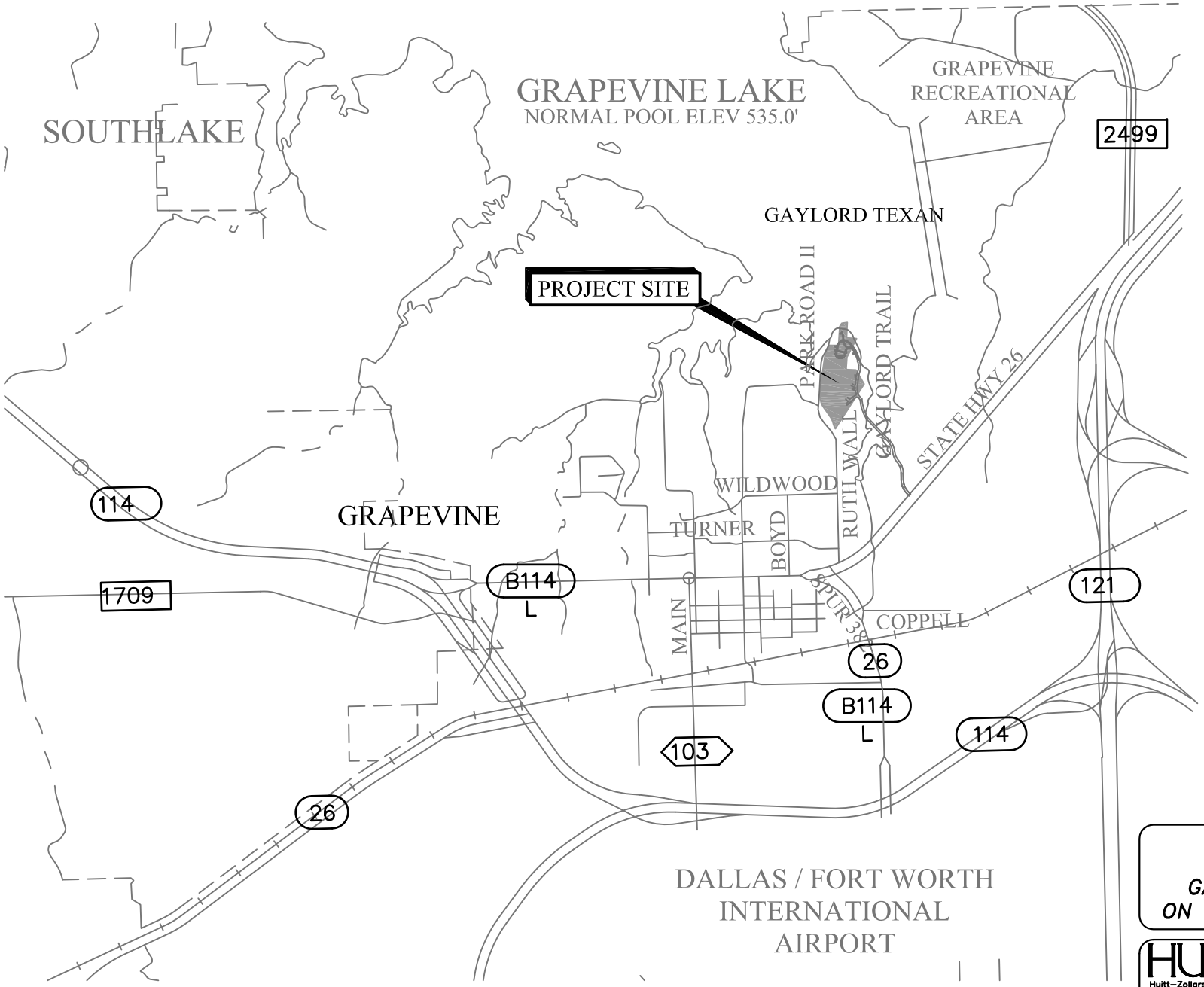
O,P,Q

R, S, T
SWPPP Storm Water Pollution Prevention Plan
TCEQ Texas Commission on Environmental Quality
TNRCC Texas Natural Resource Conservation Commission (now called the TCEQ)
TOES Texas organization for Endangered Species
TPWD Texas Parks and Wildlife Department

U
UNT University of North Texas
U.S. United States
USACE U.S. Army Corps of Engineers
USC United States Code
USFWS U.S. Fish and Wildlife Service

V,W,X,Y,Z

EXHIBITS

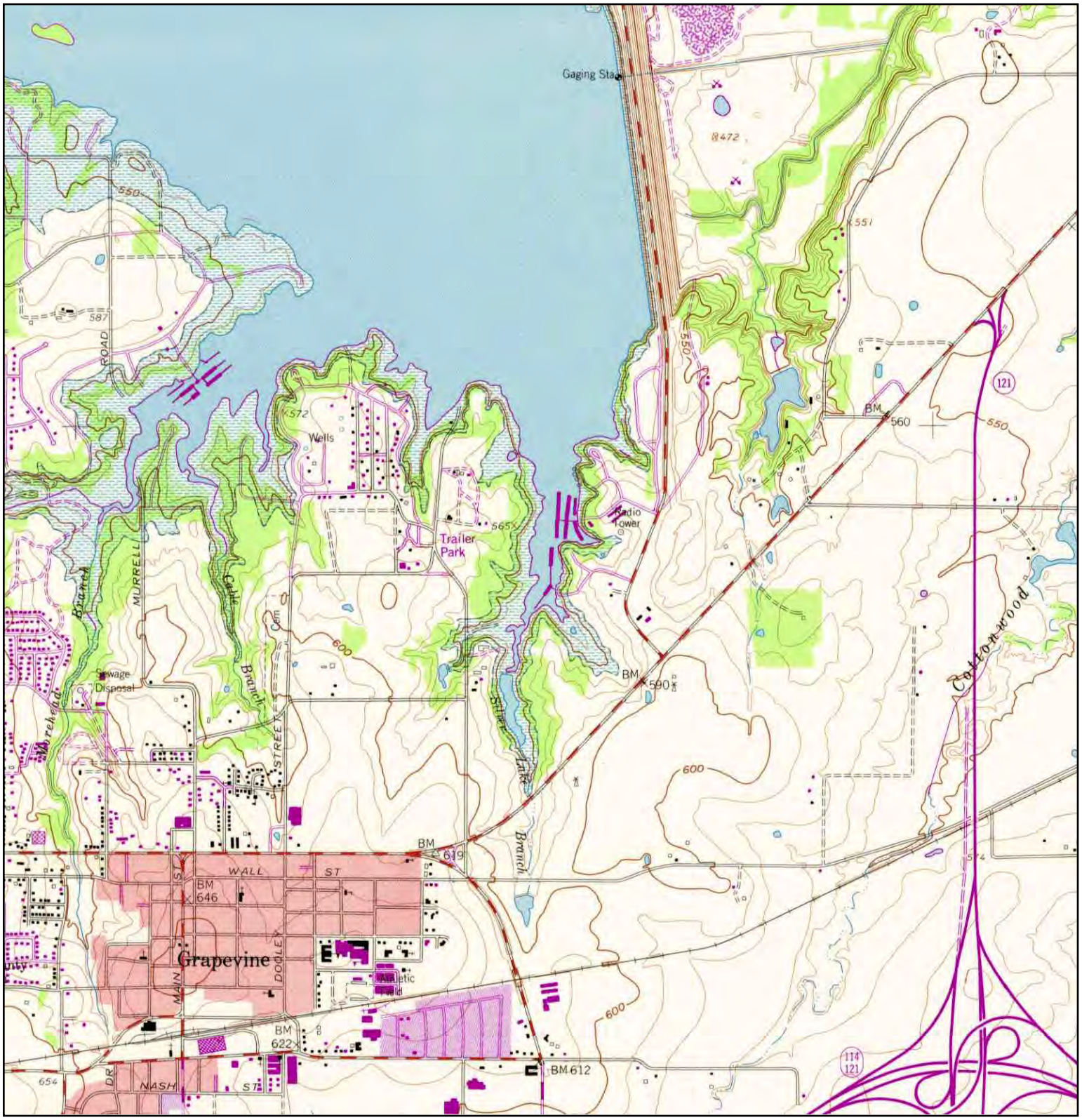


NOT TO SCALE

EXHIBIT – 1
VICINITY MAP
GAYLORD TEXAN
ON LAKE GRAPEVINE

HUITT-ZOLLARS
Huitt–Zollars, Inc. Engineering / Architecture
500 W. 7th St. Ste. 300 Fort Worth, Texas 76102
Phone (817)335–3000 Fax (817)335–1025

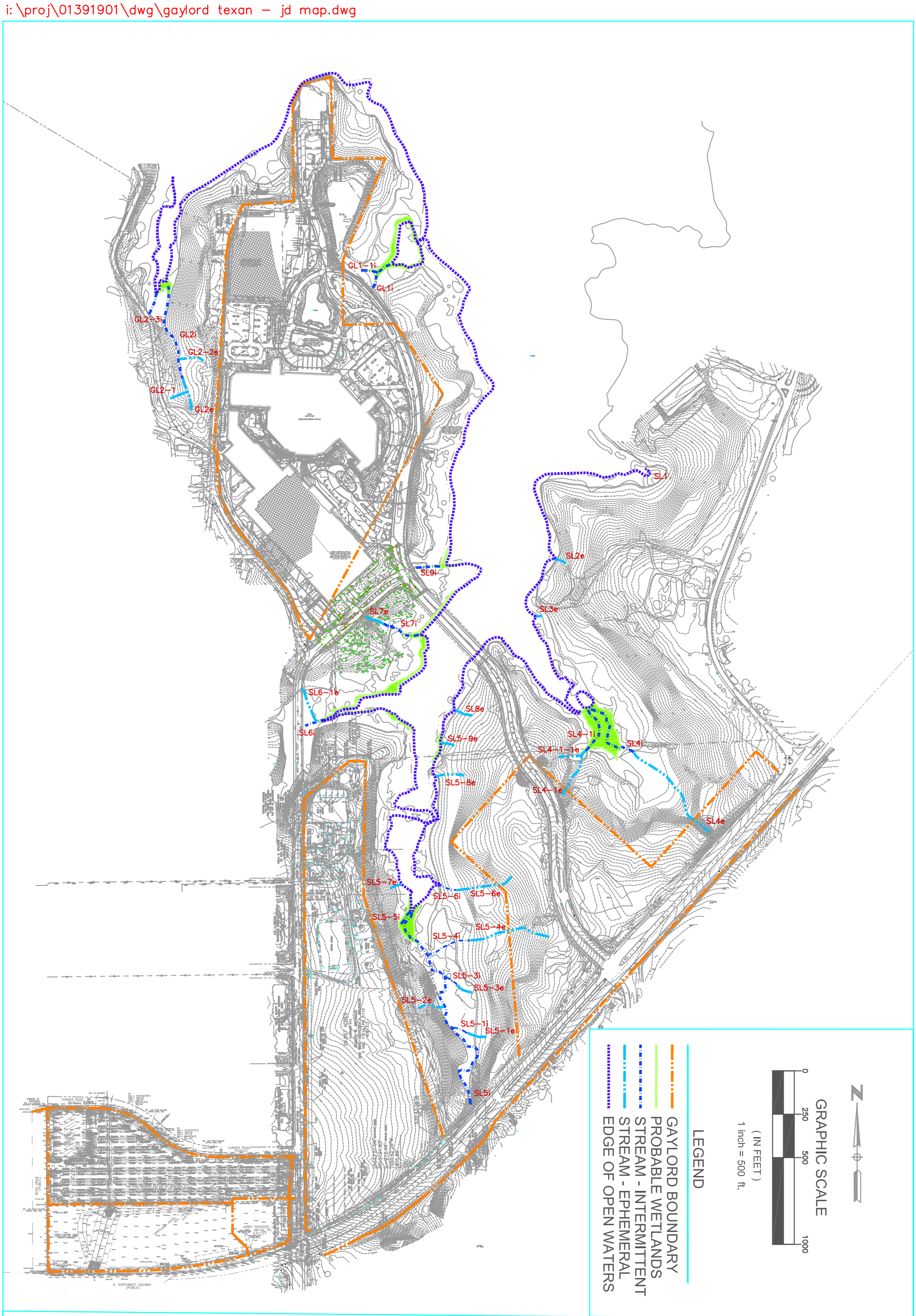
Historical Topographic Map



N	TARGET QUAD NAME: GRAPEVINE MAP YEAR: 1981 PHOTOREVISED FROM:1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Gaylord Texan Resort ADDRESS: 1501 Gaylord Trail Grapevine, TX 76051 LAT/LONG: 32.9536 / 97.062	CLIENT: Huitt-Zollars, Inc. CONTACT: Doug Cargo INQUIRY#: 2094641.4 RESEARCH DATE: 12/07/2007

Exhibit 2. USGS Topographic Map - Grapevine, Texas Quad

i:\proj\01391901\dwg\gaylord texan – jd map.dwg



Gaylord Texan Project Tarrant County, Texas

Exhibit 3. - Jurisdictional Waters Determination

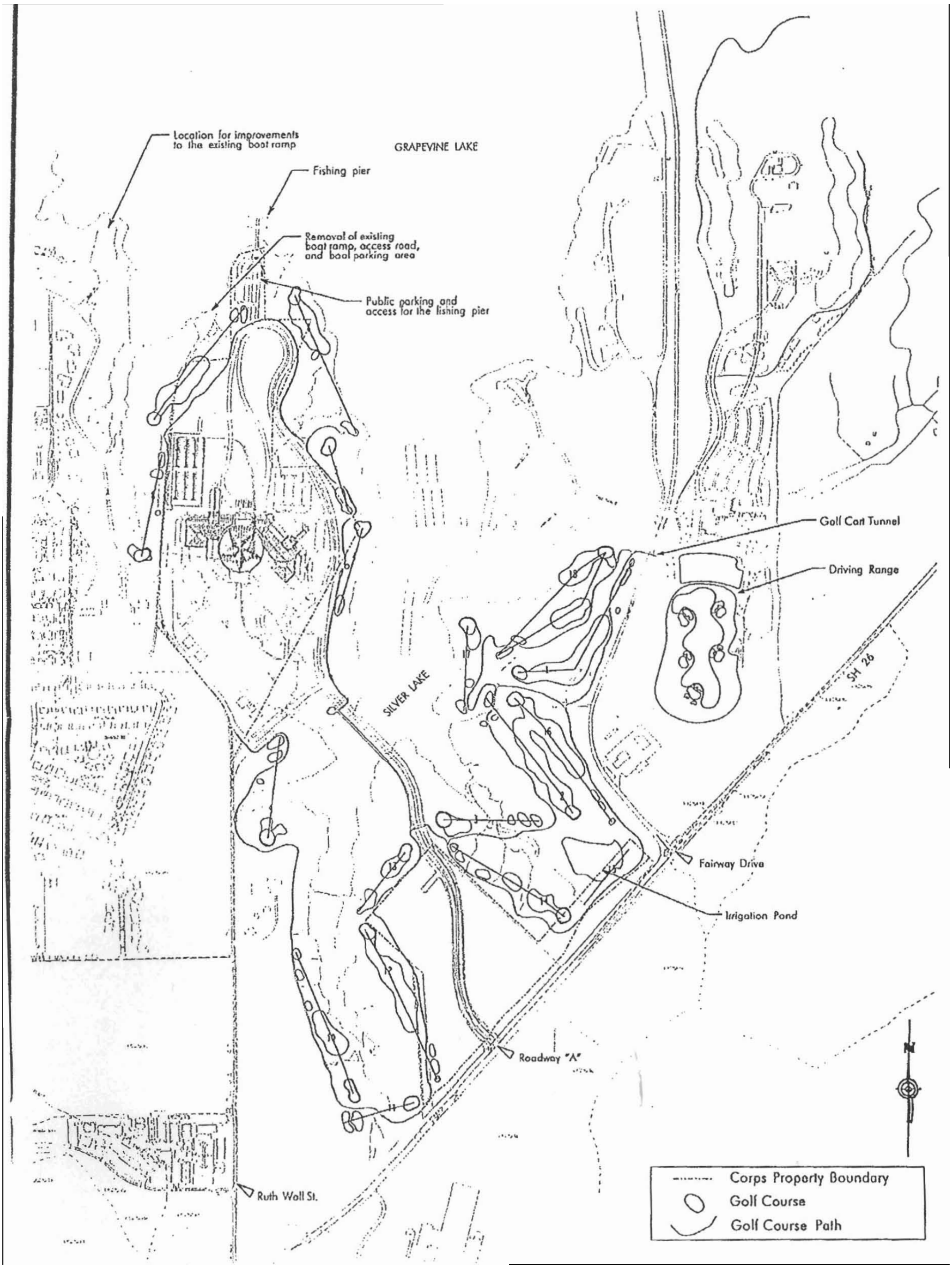
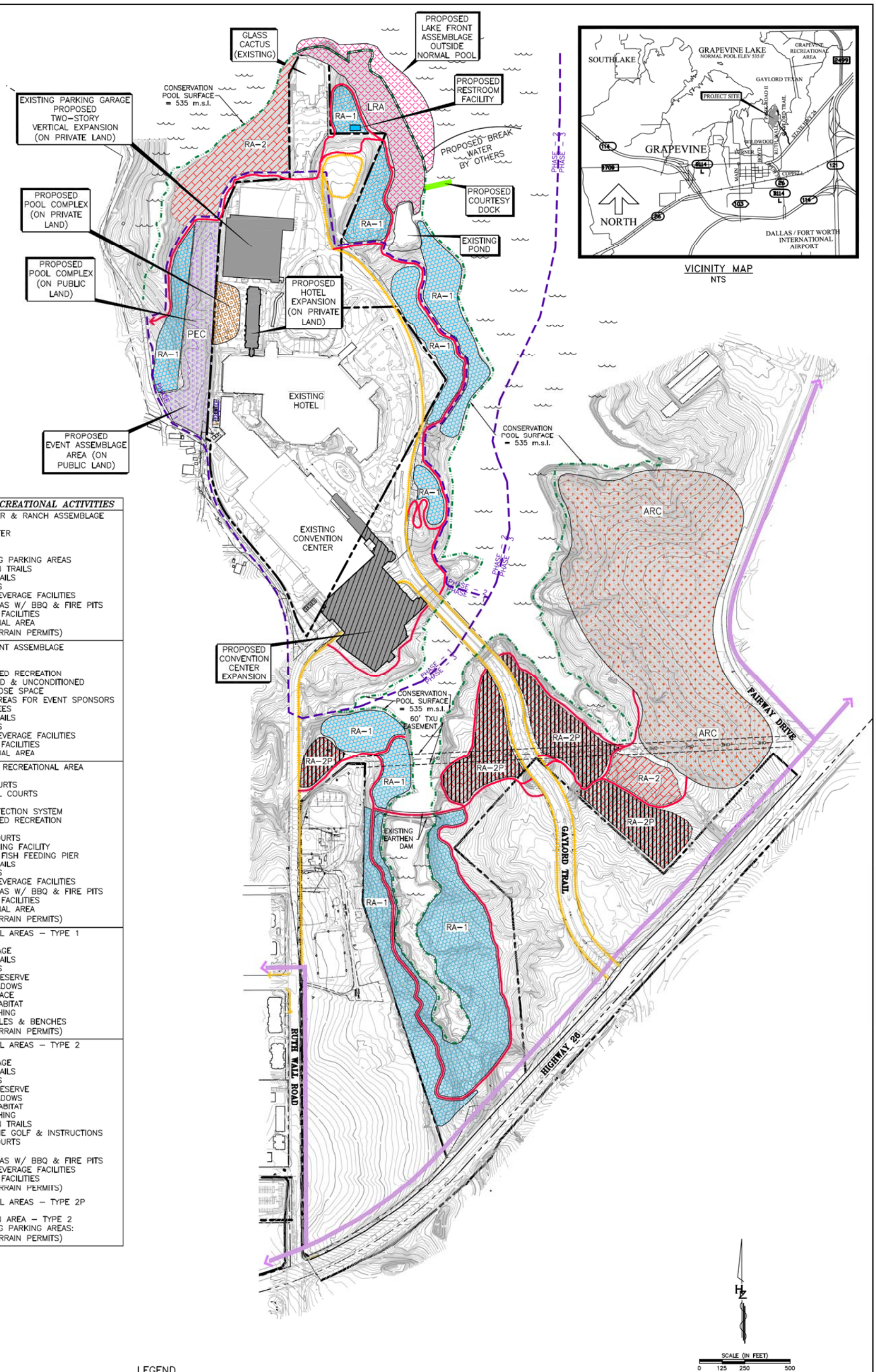


EXHIBIT 4. – APPROVED DESIGN OF OPRYLAND GOLF COURSE ON GRAPEVINE LAKE AND DRIVING RANGE



LAKE RELATED RECREATIONAL ACTIVITIES	
ARC	AMPHITHEATER & RANCH ASSEMBLAGE INCLUDES: >AMPHITHEATER >RANCH >ARENA >SUPPORTING PARKING AREAS >EQUESTRIAN TRAILS >FITNESS TRAILS >BIKE TRAILS >FOOD & BEVERAGE FACILITIES >PICNIC AREAS W/ BBQ & FIRE PITS >RESTROOM FACILITIES >RECREATIONAL AREA (WHERE TERRAIN PERMITS)
PEC	POOL / EVENT ASSEMBLAGE INCLUDES: >POOLS >WATER BASED RECREATION >CONDITIONED & UNCONDITIONED MULTIPURPOSE SPACE >PARKING AREAS FOR EVENT SPONSORS & EMPLOYEES >FITNESS TRAILS >BIKE TRAILS >FOOD & BEVERAGE FACILITIES >RESTROOM FACILITIES >RECREATIONAL AREA
LRA	LAKE FRONT RECREATIONAL AREA INCLUDES: >TENNIS COURTS >BASKETBALL COURTS >PAVILION >BUOY PROTECTION SYSTEM >WATER BASED RECREATION >KIDS CAMP >SPORTS COURTS >BOAT DOCKING FACILITY >FISHING & FISH FEEDING PIER >FITNESS TRAILS >BIKE TRAILS >FOOD & BEVERAGE FACILITIES >PICNIC AREAS W/ BBQ & FIRE PITS >RESTROOM FACILITIES >RECREATIONAL AREA (WHERE TERRAIN PERMITS)
RA-1	RECREATIONAL AREAS – TYPE 1 INCLUDES: >TRAIL LINKAGE >FITNESS TRAILS >BIKE TRAILS >NATURE PRESERVE >NATIVE MEADOWS >LAWN TERRACE >WILDLIFE HABITAT >BIRD WATCHING >PICNIC TABLES & BENCHES (WHERE TERRAIN PERMITS)
RA-2	RECREATIONAL AREAS – TYPE 2 INCLUDES: >TRAIL LINKAGE >FITNESS TRAILS >BIKE TRAILS >NATURE PRESERVE >NATIVE MEADOWS >WILDLIFE HABITAT >BIRD WATCHING >EQUESTRIAN TRAILS >SHORT GAME GOLF & INSTRUCTIONS >SPORTS COURTS >KIDS CAMP >PICNIC AREAS W/ BBQ & FIRE PITS >FOOD & BEVERAGE FACILITIES >RESTROOM FACILITIES (WHERE TERRAIN PERMITS)
RA-2P	RECREATIONAL AREAS – TYPE 2P INCLUDES: >RECREATION AREA – TYPE 2 >SUPPORTING PARKING AREAS: (WHERE TERRAIN PERMITS)

LEGEND

- GAYLORD TEXAN PROPERTY LINE
- NATURE TRAIL
- EXISTING HARD SURFACE HIKE & BIKE TRAIL
- MASTERPLANNED HARD SURFACE TRAIL
- EDGE OF WATER
- PHASING LINE
- PROPOSED BUILDING ON GAYLORD LAND
- PROPOSED BUILDING ON USACE LAND

GAYLORD TEXAN
RESORT HOTEL AND CONVENTION CENTER
GRAPEVINE, TEXAS

EXHIBIT 5
PREFERRED ALTERNATIVE DESIGN

HUITT-ZOLLARS
Huitt-Zollars, Inc. Engineering / Architecture
500 W. 7th St. Ste. 300 Fort Worth, Texas 76102
Phone (817)335-3000 Fax (817)335-1025

AUGUST 20, 2008

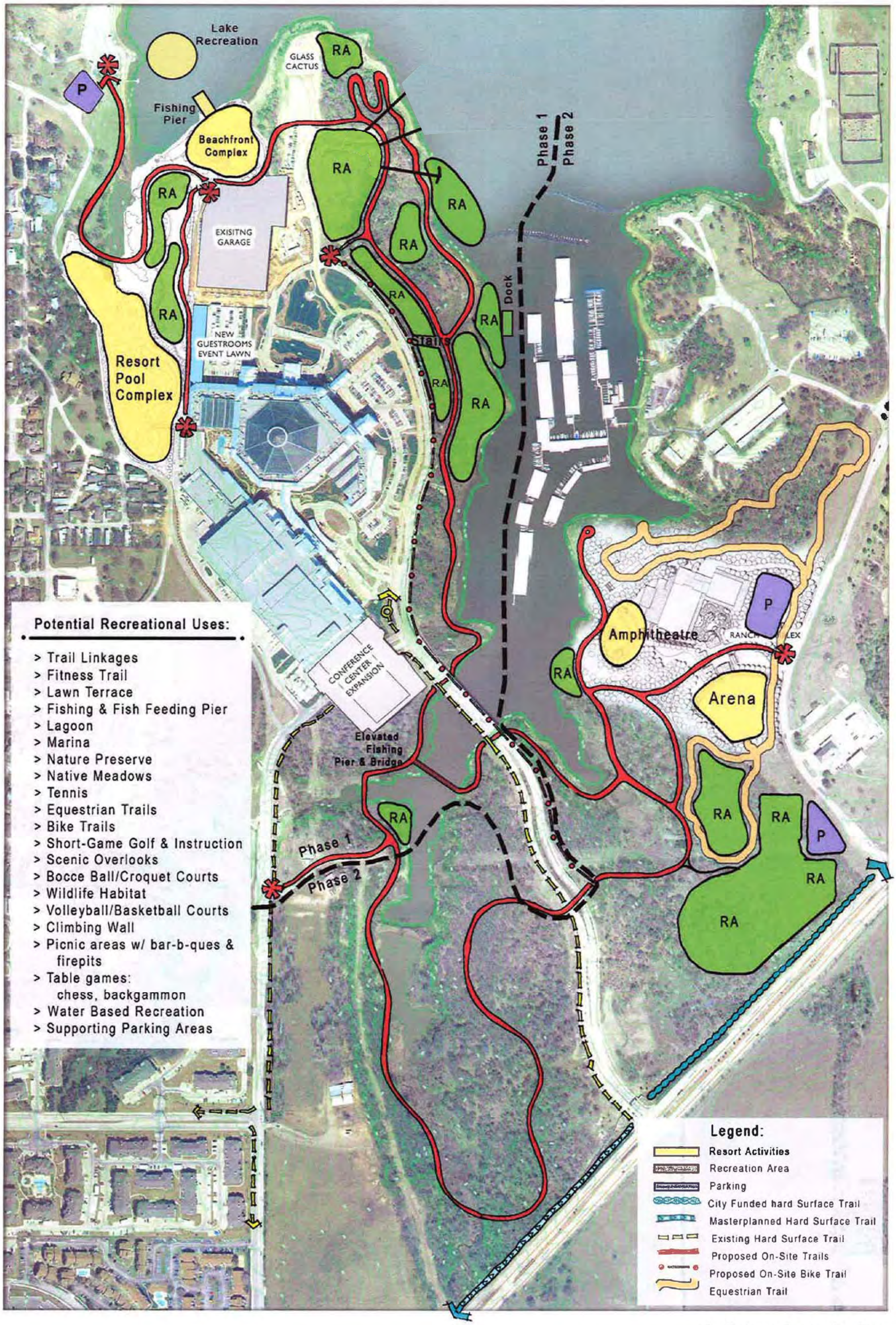


EXHIBIT 6. - ALTERNATIVE DESIGN #2

Preliminary Recreation Plan

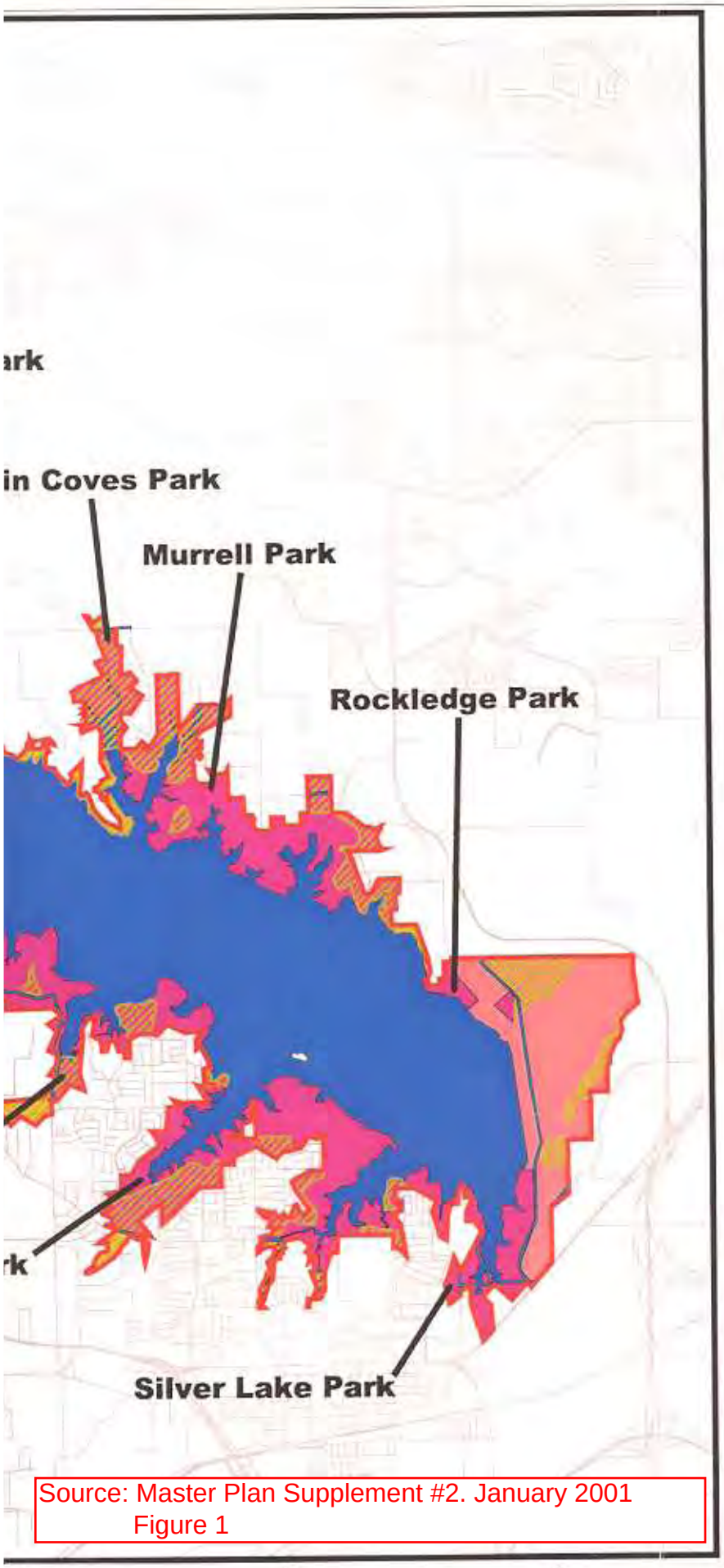
14 December 2006

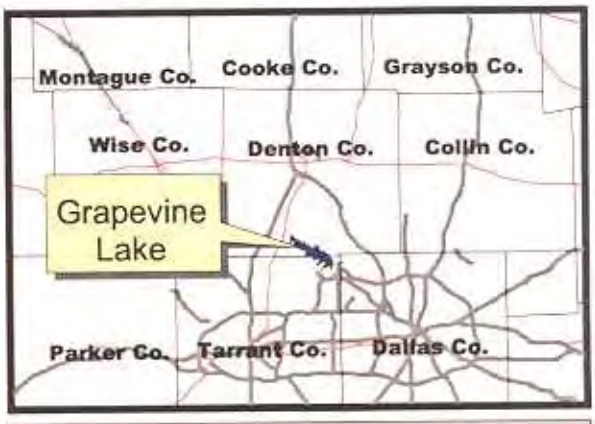
GAYLORD TEXAN RESORT AND CONVENTION CENTER EXPANSION

GAYLORD HOTELS RTKL

EXHIBIT 7. - ALTERNATIVE DESIGN #3

Grapevine Lake
Master Plan





Legend

- Federal Property Line
- Utility Corridors
- Environmentally Sensitive Areas
- Approximate Lake Boundary
- Operations Area
- Multiple Resource Mgt. - Low Density Rec.
- Intense Recreation
- Multiple Resource Mgt. - Low Density Rec. & Wildlife Mgt.
- Multiple Resource Mgt. - Wildlife Mgt. Area

Grapevine Lake
Master Plan

Land Classification Plan

N
W E
S

US Army Corps of Engineers
Fort Worth District

December, 2000
CESWF EV-M
Environmental Division
R:\ef\gr\work\masterplan\parks_and_corr.apr

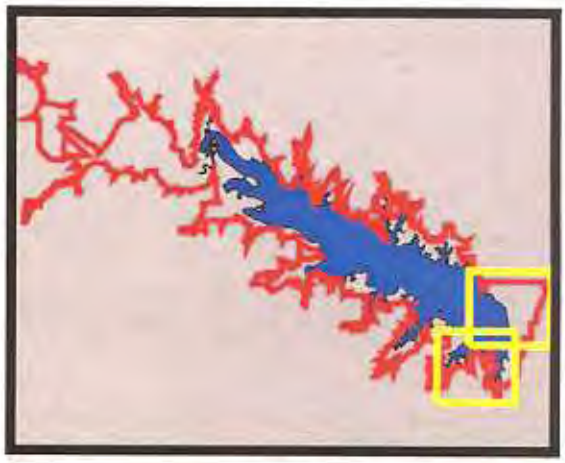
0 2 4 6 Miles

Source: Master Plan Supplement #2. January 2001
Figure 1

EXHIBIT 8

Rockledge and Silver Lake Park

Source: Master Plan Supplement #2, Figure 2



Legend

- Federal Property Line
- Utility Corridors
- Environmentally Sensitive Areas

Note: Each Utility Corridor and Environmentally Sensitive Area is identified by a number or an alpha-numeric designation. Refer to Chapters 3 and 5 for full descriptions.

Grapevine Lake
Master Plan

Utility Corridors and Environmentally Sensitive Areas

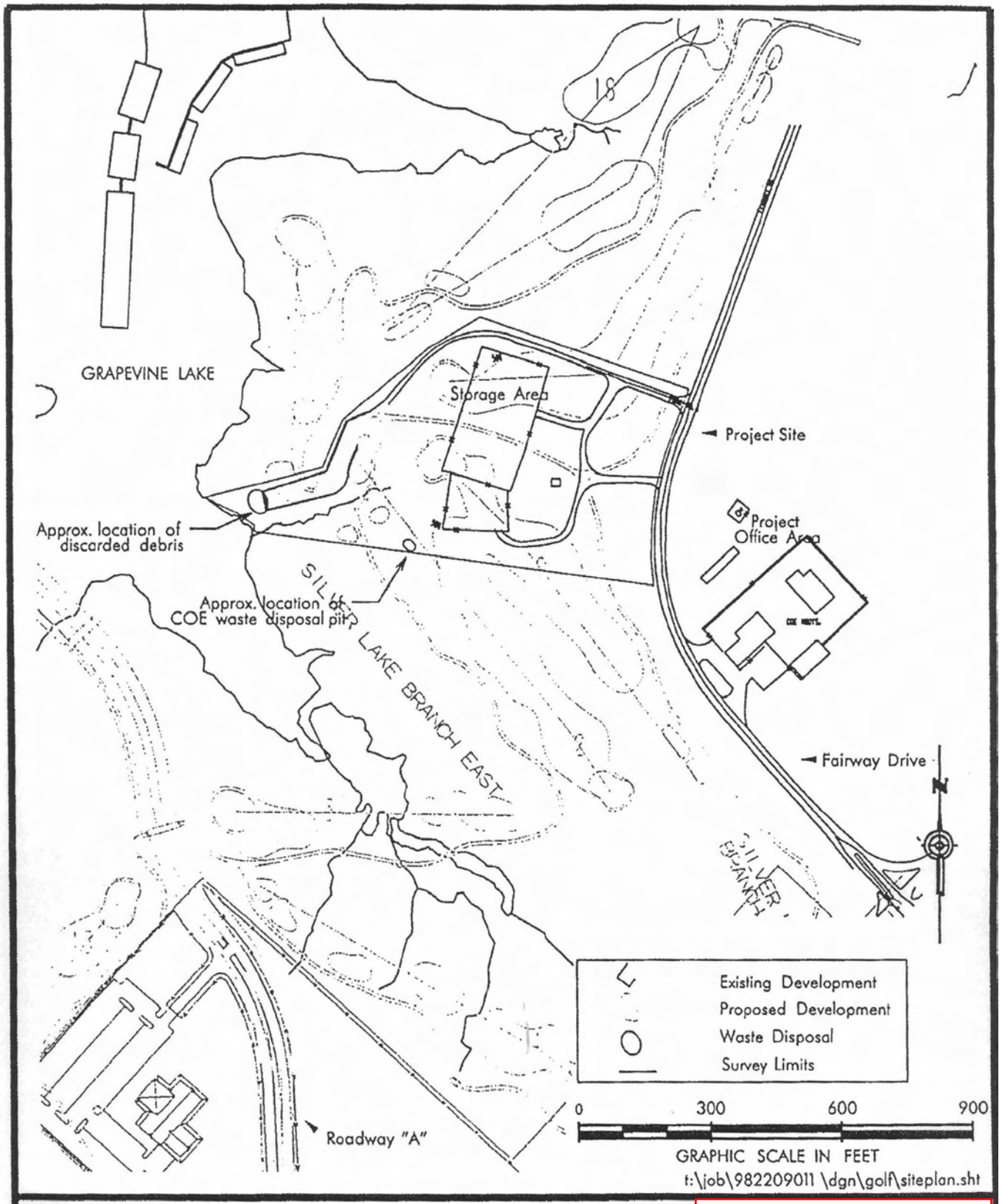
N
W E
S

U S Army Corps of Engineers
Fort Worth District

December, 2000
CESWF EV-M
Environmental Division
R:\efgr\work\masterplan\parks_and_corr.apr

0.4 0 0.4 0.8 1.2 Miles

EXHIBIT 9



Landfill Site Map
Corps Storage Area &
Silver Lake Marina Open Storage
on Grapevine Lake
Tarrant County, Texas

Gaylord Texan

Exhibit 10

...\982209\dgn\golf\siteplan.sht Dec. 22, 1999 09:05:23

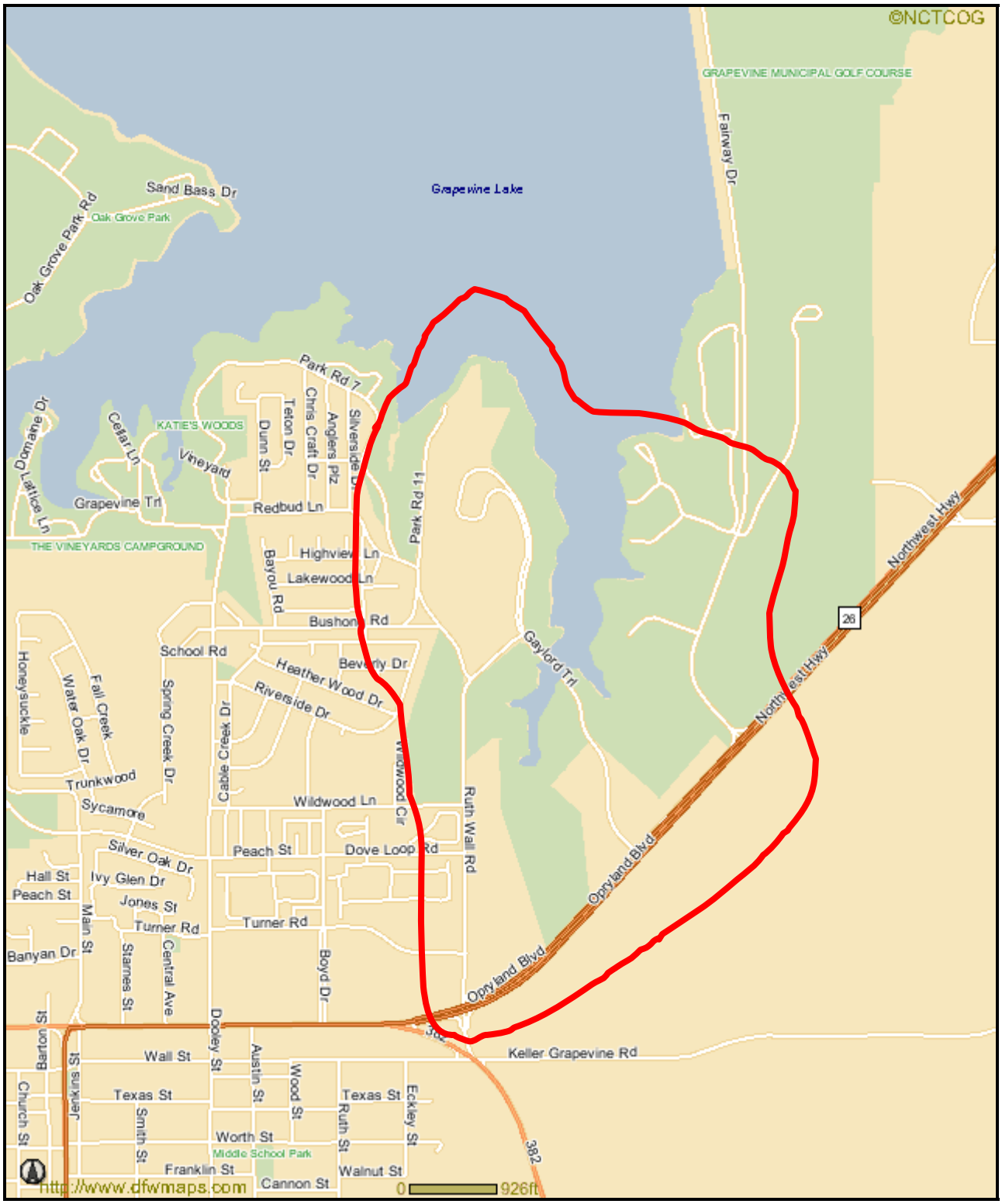


Exhibit 11. "Resource Study Area" for Gaylord Texan Resort Expansion and Recreational Activities

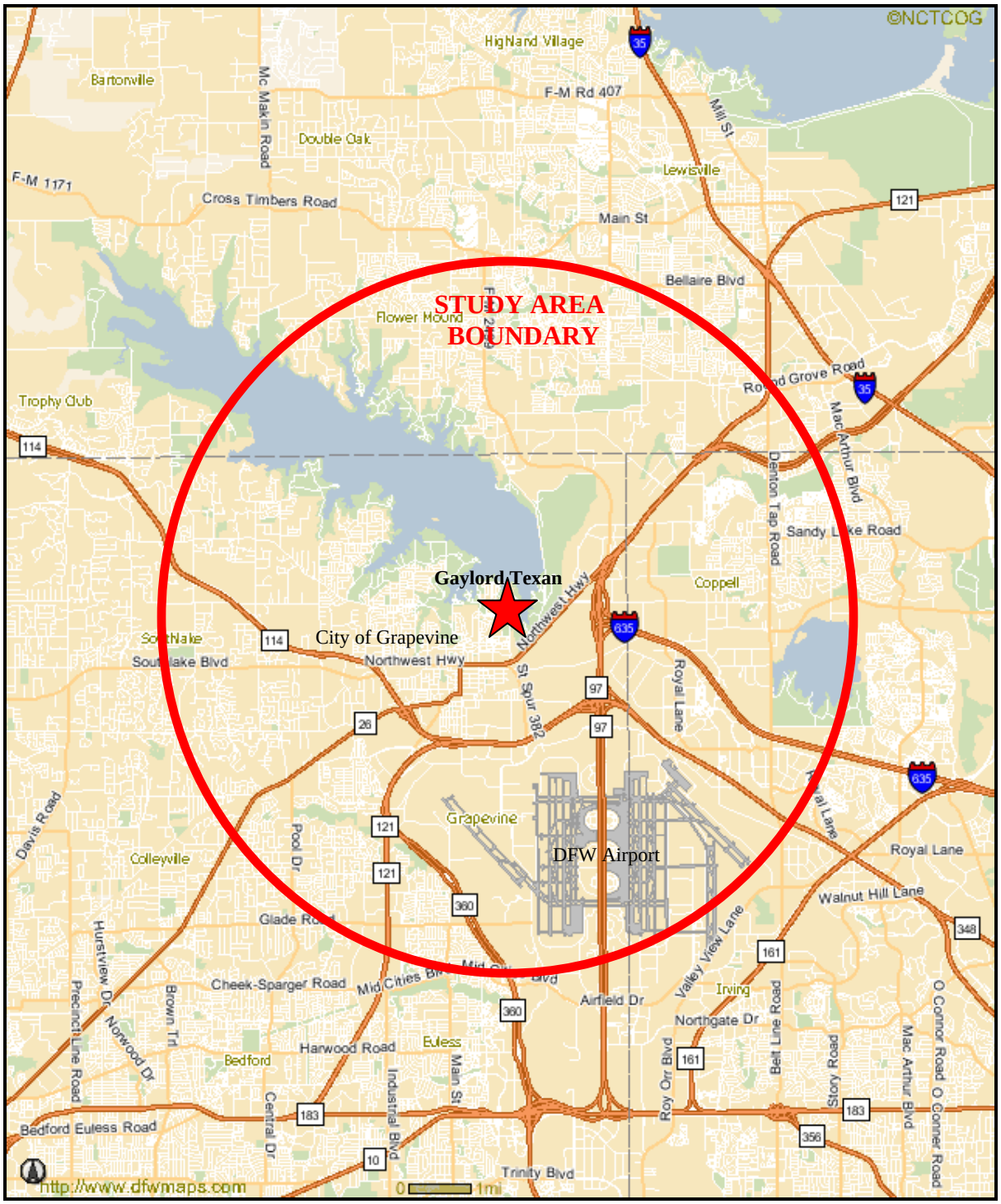


Exhibit 12. "Resource Study Area" for Socio-economic Impacts and Cumulative Effects due to Gaylord Texan Resort Expansion and Recreational Activities

NOTES:
All habitats occurring within 50 feet of jurisdictional waters are mapped as Riparian Habitat Zones.

PROPOSED HABITAT IMPACTS:

Upland Woodlands - 18.1 acres

Savannah - 2.4 acres

Non-Native Grasslands - 13 acres

Jurisdictional Waters - 1.07 acres

See Table 12. for detailed breakdown of impacts by resort/recreational feature.

(reference Exhibit 5. Preferred Alternative Design for index of recreational features within the represented "Bubble Areas".)

GRAPHIC SCALE

0 250 500 1000

(IN FEET)

LEGEND

HABITAT TYPE MAPPING UNITS

- Upland Woodlands (quality varies from mesquite/hackberry succession to mature post post oak/cedar elm stands)
- Savannah
- Non-Native Grasslands/Pasture
- Edge of 50-ft Riparian Buffer
- Probable Wetlands (within riparian buffer and along shorelines)
- Open Waters
- Intermittent/Ephemeral Streams
- "Bubble Areas" of Proposed Features
- Conceptual Trail System

N

Gaylord Texan Project Tarrant County, Texas

Habitat Types on Federal Lands and Proposed Bubble Areas

Updated 07/24/2008

APPENDICES

APPENDIX A

Historical Topographic Maps

EDR Historical Topographic Map Report

Gaylord Texan Resort
1501 Gaylord Trail
Grapevine, TX 76051

Inquiry Number: 2094641.4

December 07, 2007

EDR® Environmental Data Resources Inc

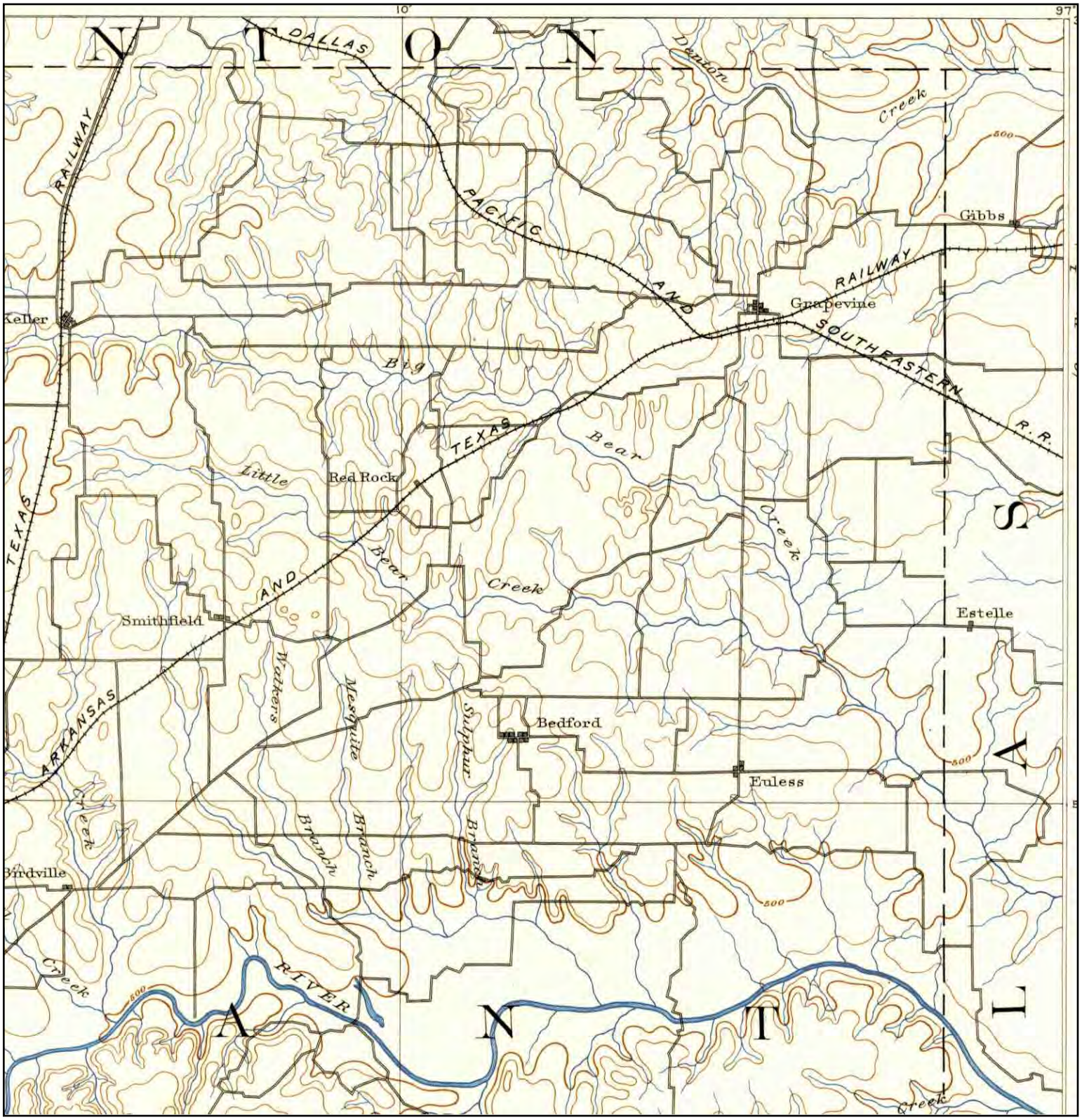
The Standard in Environmental Risk Information

440 Wheelers Farms Rd
Milford, Connecticut 06461

Nationwide Customer Service

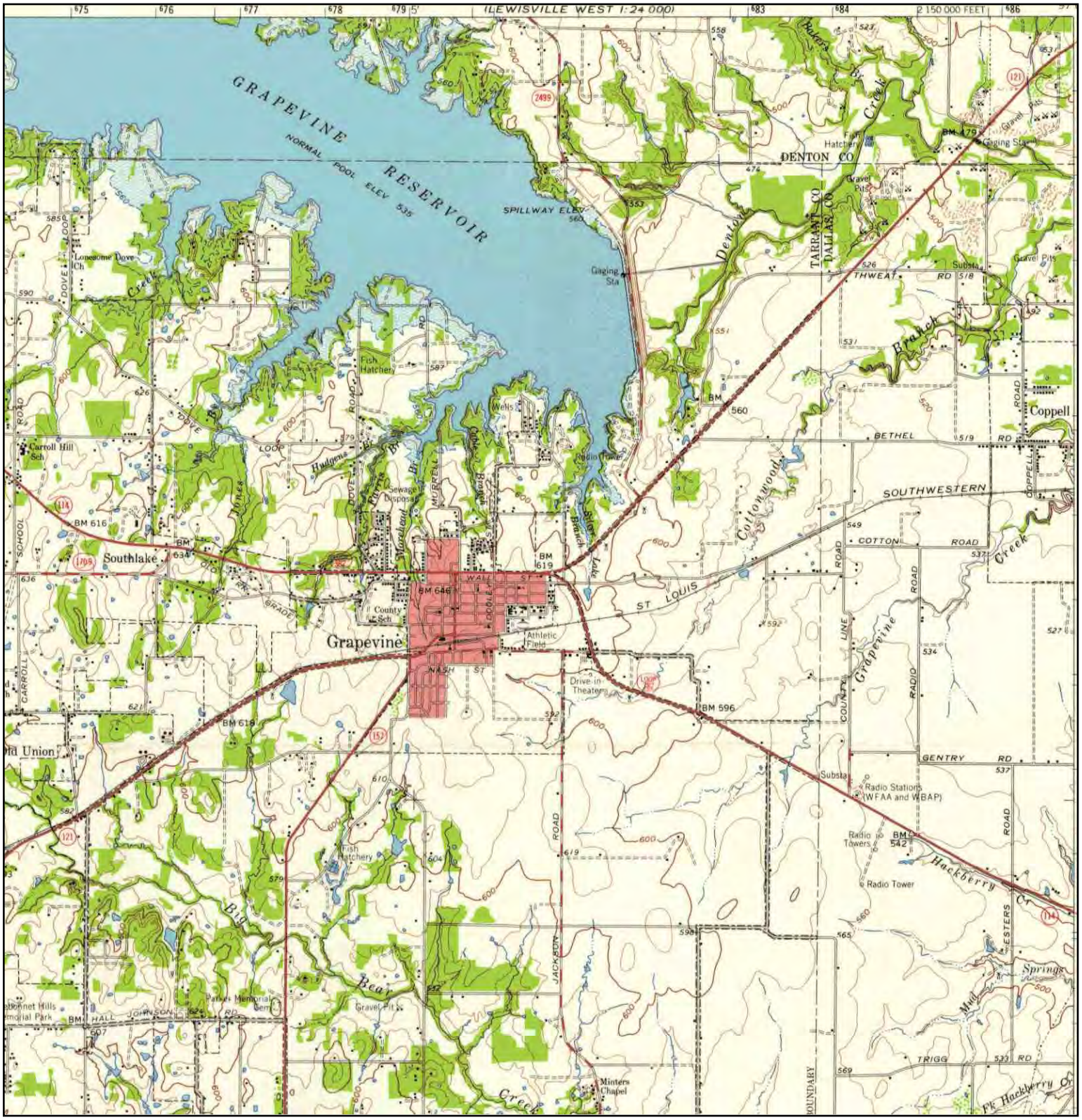
Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

Historical Topographic Map



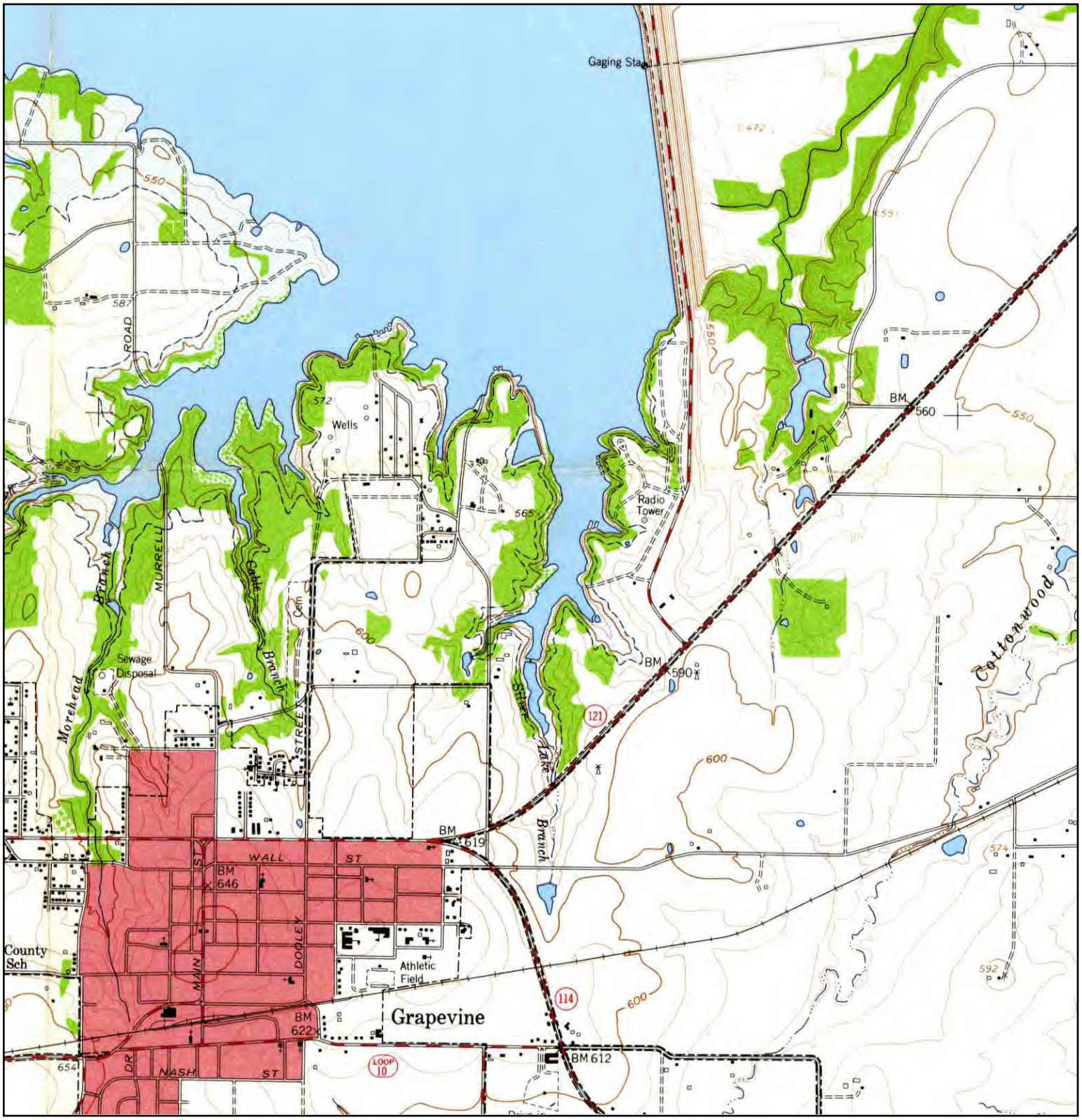
N	TARGET QUAD NAME: FORT WORTH MAP YEAR: 1894 SERIES: 30 SCALE: 1:125000	SITE NAME: Gaylord Texan Resort ADDRESS: 1501 Gaylord Trail Grapevine, TX 76051 LAT/LONG: 32.9536 / 97.062	CLIENT: Huitt-Zollars, Inc. CONTACT: Doug Cargo INQUIRY#: 2094641.4 RESEARCH DATE: 12/07/2007

Historical Topographic Map



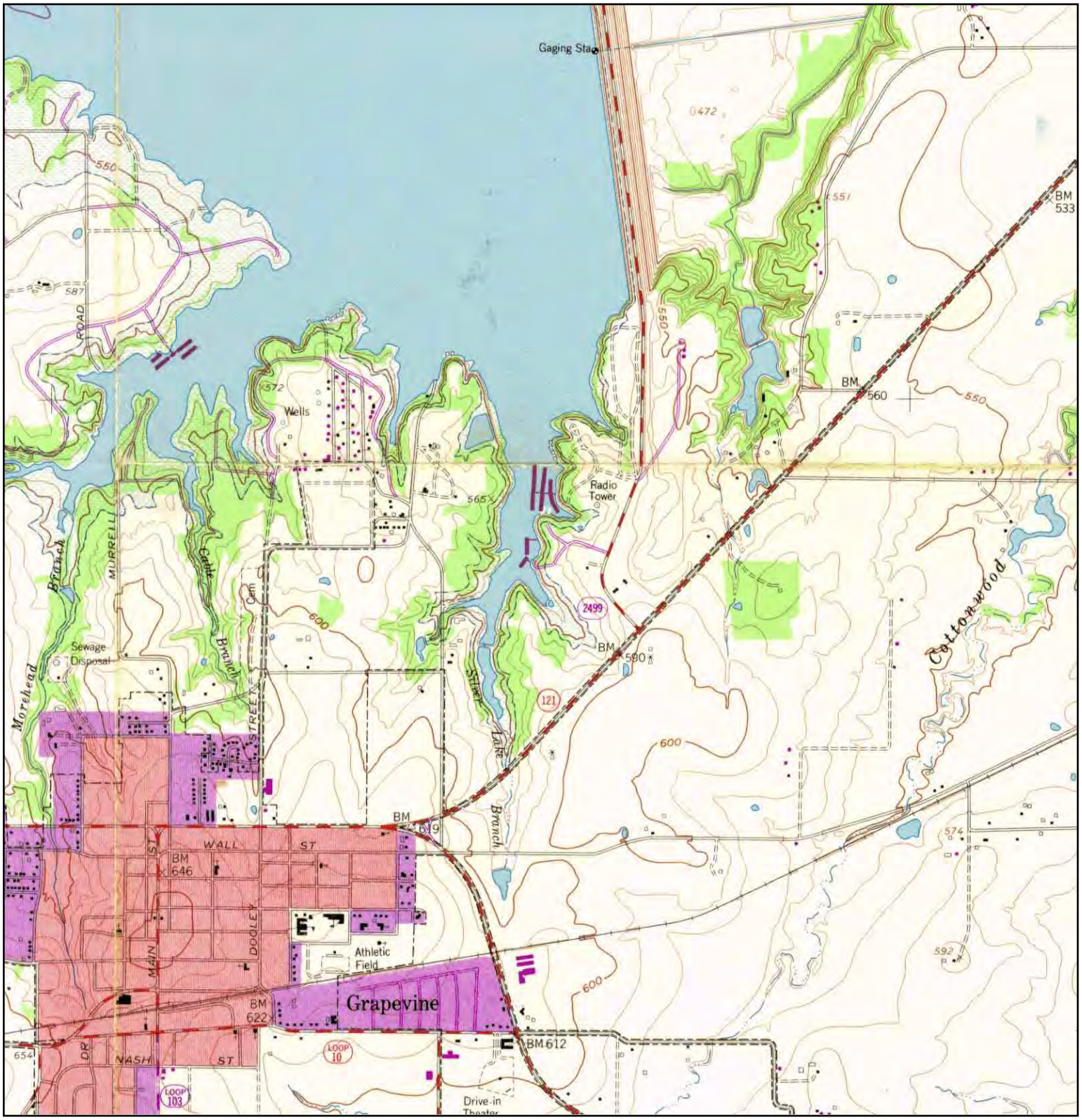
N	TARGET QUAD NAME: GRAPEVINE MAP YEAR: 1959 SERIES: 15 SCALE: 1:62500	SITE NAME: Gaylord Texan Resort ADDRESS: 1501 Gaylord Trail Grapevine, TX 76051 LAT/LONG: 32.9536 / 97.062	CLIENT: Huitt-Zollars, Inc. CONTACT: Doug Cargo INQUIRY#: 2094641.4 RESEARCH DATE: 12/07/2007

Historical Topographic Map



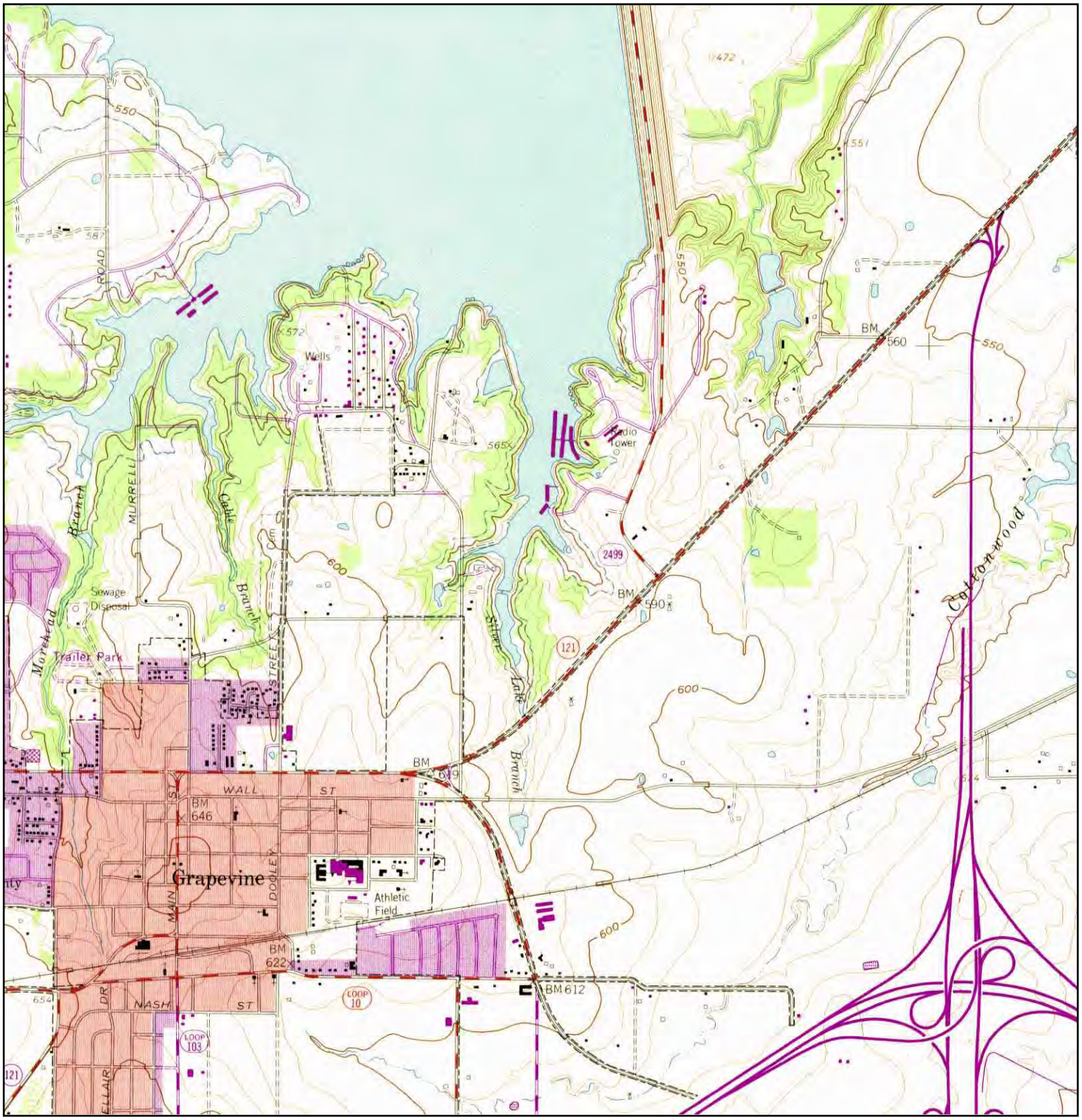
N	TARGET QUAD NAME: GRAPEVINE MAP YEAR: 1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Gaylord Texan Resort ADDRESS: 1501 Gaylord Trail Grapevine, TX 76051 LAT/LONG: 32.9536 / 97.062	CLIENT: Huitt-Zollars, Inc. CONTACT: Doug Cargo INQUIRY#: 2094641.4 RESEARCH DATE: 12/07/2007

Historical Topographic Map



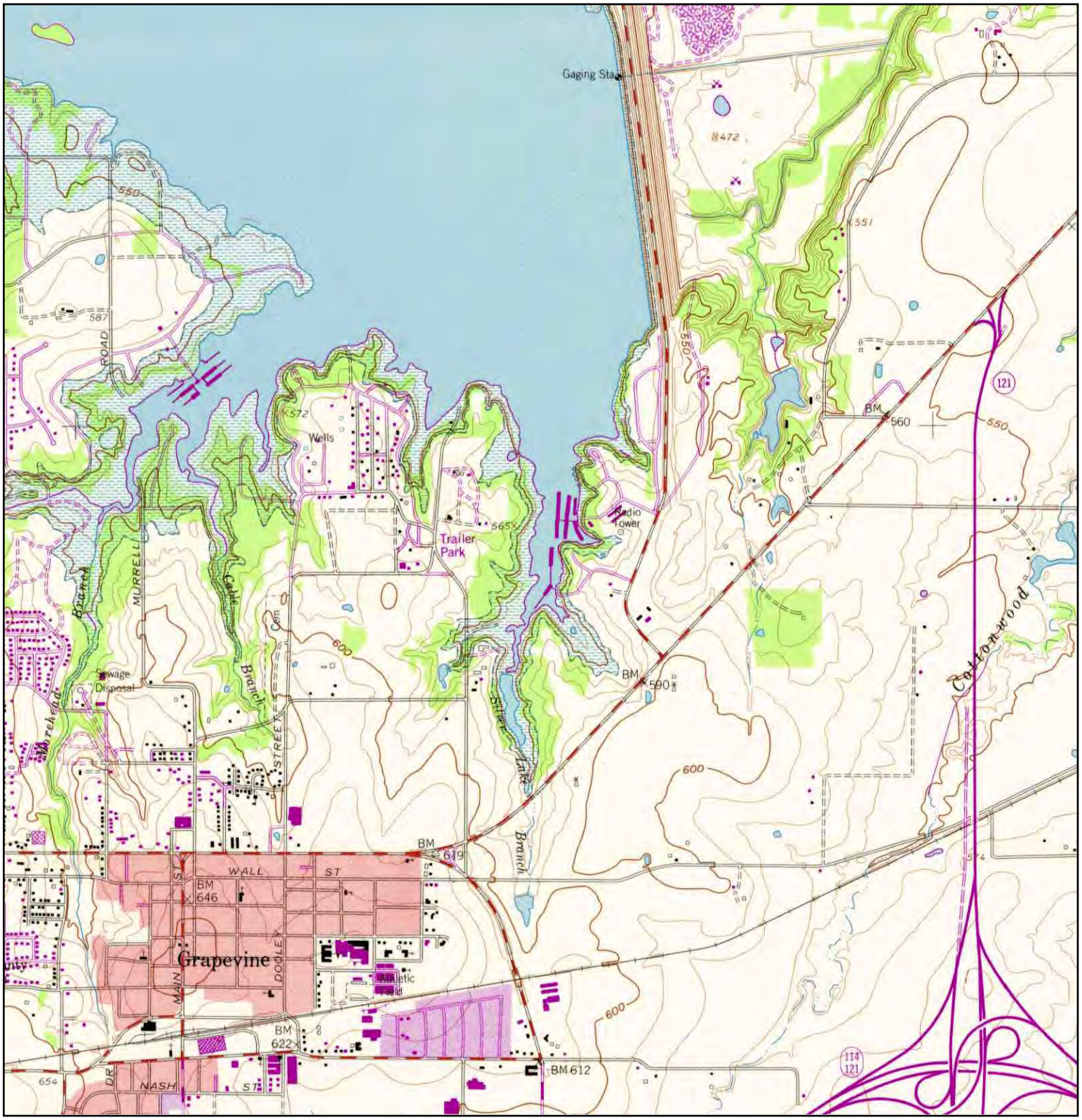
N	TARGET QUAD NAME: GRAPEVINE MAP YEAR: 1968 PHOTOREVISED FROM:1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Gaylord Texan Resort ADDRESS: 1501 Gaylord Trail Grapevine, TX 76051 LAT/LONG: 32.9536 / 97.062	CLIENT: Huitt-Zollars, Inc. CONTACT: Doug Cargo INQUIRY#: 2094641.4 RESEARCH DATE: 12/07/2007

Historical Topographic Map



N	TARGET QUAD NAME: GRAPEVINE MAP YEAR: 1973 PHOTOREVISED FROM:1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Gaylord Texan Resort ADDRESS: 1501 Gaylord Trail Grapevine, TX 76051 LAT/LONG: 32.9536 / 97.062	CLIENT: Huitt-Zollars, Inc. CONTACT: Doug Cargo INQUIRY#: 2094641.4 RESEARCH DATE: 12/07/2007

Historical Topographic Map



N	TARGET QUAD NAME: GRAPEVINE MAP YEAR: 1981 PHOTOREVISED FROM:1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Gaylord Texan Resort ADDRESS: 1501 Gaylord Trail Grapevine, TX 76051 LAT/LONG: 32.9536 / 97.062	CLIENT: Huitt-Zollars, Inc. CONTACT: Doug Cargo INQUIRY#: 2094641.4 RESEARCH DATE: 12/07/2007

APPENDIX B

Historical Aerial Photographs

The EDR Aerial Photo Decade Package

Gaylord Texan Resort
1501 Gaylord Trail
Grapevine, TX 76051

Inquiry Number: 2094641.5

December 07, 2007

EDR® Environmental Data Resources Inc

The Standard in Environmental Risk Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

Date EDR Searched Historical Sources:

Aerial Photography December 07, 2007

Target Property:

1501 Gaylord Trail

Grapevine, TX 76051

Year	***Scale***	***Details***	***Source***
1942	Aerial Photograph. Scale: 1"=500'	Flight Year: 1942	ASCS
1957	Aerial Photograph. Scale: 1"=500'	Flight Year: 1957	ASCS
1964	Aerial Photograph. Scale: 1"=500'	Flight Year: 1964	TXDOT
1976	Aerial Photograph. Scale: 1"=500'	Flight Year: 1976	TXDOT
1984	Aerial Photograph. Scale: 1"=500'	Flight Year: 1984	TXDOT
1995	Aerial Photograph. Scale: 1"=500'	Flight Year: 1995	USGS-CIR
2003	Aerial Photograph. Scale: 1"=500'	Flight Year: 2003	NCTCOG

INQUIRY #: 2094641.5

YEAR: 1942

= 500'

N

INQUIRY #: 2094641.5

YEAR: 1957

= 500'

N

INQUIRY #: 2094641.5

YEAR: 1964

= 500'

N

INQUIRY #: 2094641.5

YEAR: 1976

= 500'

N

INQUIRY #: 2094641.5

YEAR: 1984

= 500'

N

INQUIRY #: 2094641.5

YEAR: 1995

= 500'

N

INQUIRY #: 2094641.5

YEAR: 2003

= 500'

N

APPENDIX C

Definitions of Recreational Activities

Gaylord Texan - Land Use Definitions

Amphitheater & Ranch Complex (ARC)

Amphitheater

A round or circular shaped structure with seats surrounding a center area used for contests or other public sporting events

Ranch

Area of landscape, including various structures, given primarily to the practice of Ranching, the practice of raising grazing livestock such as cattle or sheep for meat or wool

Arena

An arena is an enclosed area, often circular or oval-shaped, designed to showcase theater, musical performances, or sporting events. It is composed of a large open space surrounded on most or all sides by tiered seating for spectators.

Supporting Parking Areas

A cleared area that is more or less level and is intended for parking vehicles in support of a main parking area

Equestrian Trails

A non-paved trail usually in rural or semi-isolated areas. However these trails can be routed with and parallel to other use trails. Surfacing should be natural soil, mulch, gravel for short distances and non-slick concrete or asphalt for shorter distances.

Fitness Trails

Jogging, walking or running trails usually composed of smooth packed earth or compacted gravel or wood chips.

Bike Trails

A route separated from vehicular traffic and like most bicycle activity areas has specific standards for size, clearance, grade and surface material (asphalt or concrete preferred). Bike trails can also refer to bare dirt trails designated for off road biking; designed along corridors in such a way to minimize erosion and rutting of the natural areas.

Food & Beverage Facilities

Permanent or temporary facility used to convey assorted foods and beverages as a service for other recreational and entertainment facilities.

Picnic Areas w/BBQ & Fire Pits

A designated area in a park setting that generally includes tables, benches, outdoor grills and fire pits.

Restroom Facilities

Facilities used to house plumbing fixtures and disposal systems primarily intended for the disposal of the bodily wastes: urine, fecal matter and vomit.

Recreational Facilities

Facilities and equipment devoted to recreational purposes, swimming pools, tennis courts, playgrounds, clubhouses, and other similar uses.

Pool/Event Complex (PEC)

Pools

An artificially enclosed body of water intended for swimming or water-based recreation. There are many standard sizes; the largest and deepest is the Olympic size. A pool can be built either above or in the ground, and from materials such as metal, plastic or concrete.

Water Based Recreation

Any recreation activity in or around a water body (natural or artificial)

Conditioned & Unconditioned Multipurpose Space

A facility used for social gatherings such as reunions, parties, or exhibits that can be air conditioned or not. The space can be enclosed by a permanent structure or a tent, or left open for outdoor events.

Short Game Golf & Instructions

Golf game and instruction comprised of shots that take place on or near the green. Putting, chipping, pitching, and bunker play are all aspects of short game.

Supporting Parking Areas

A cleared area that is more or less level and is intended for parking vehicles in support of a main parking area

Fitness Trails

Jogging, walking or running trails usually composed of smooth packed earth or compacted gravel or wood chips.

Bike Trails

A route separated from vehicular traffic and like most bicycle activity areas has specific standards for size, clearance, grade and surface material (asphalt or concrete preferred). Bike trails can also refer to bare dirt trails designated for off road biking; designed along corridors in such a way to minimize erosion and rutting of the natural areas.

Food & Beverage Facilities

Permanent or temporary facility used to convey assorted foods and beverages as a service for other recreational and entertainment facilities.

Picnic Areas w/BBQ & Fire Pits

A designated area in a park setting that generally includes tables, benches, outdoor grills and fire pits.

Restroom Facilities

Facilities used to house plumbing fixtures and disposal systems primarily intended for the disposal of the bodily wastes: urine, fecal matter and vomit.

Recreational Facilities

Facilities and equipment devoted to recreational purposes, swimming pools, tennis courts, playgrounds, clubhouses, and other similar uses.

Lakefront Recreational Area (LRA)

Beach

A geological formation consisting of loose rock particles such as sand, gravel, shingle, pebbles, cobble, or even shell along the shoreline of a body of water. Beach can also be a manmade feature built by spreading sandy material along flatter spaces on the shoreline, or by creating tiered benches covered with sand above the water's edge.

Lakefront Pavilion

A permanent or temporary structure located on or near a lakefront area.

Buoy Protection System

A protective system of buoys which extends from the shore into the water to prevent a beach from washing away.

Water Based Recreation

Any recreation activity in or around a water body (natural or artificial)

Kids Camp

A supervised program for children and/or teenagers living temporarily in tents, cabins or other portable dwellings. Camp area can also refer to day use recreational facilities with no overnight accomodations.

Sports Courts

Graded impervious or semi-impervious surface used for organized recreation. These features can include courts for tennis, basketball, and volleyball. The courts can also be grassy or sandy areas used for active sports such croquet, soccer, rugby, football, and sand volleyball.

Boat Docking Facility

Facilities (permanent or temporary) used to secure arriving boats with ropes. Structures can consist of either bulkheads along the shoreline or piers into the water.

Fishing & Fish Feeding Pier

A raised walkway over water, supported by widely spread pile or pillars used for fishing and fish feeding

Fitness Trails

Jogging, walking or running trails usually composed of smooth packed earth or compacted gravel or wood chips.

Bike Trails

A route separated from vehicular traffic and like most bicycle activity areas has specific standards for size, clearance, grade and surface material (asphalt or concrete preferred).

Food & Beverage Facilities

Permanent or temporary facility used to convey assorted foods and beverages as a service for other recreational and entertainment facilities.

Picnic Areas w/BBQ & Fire Pits

A designated area in a park setting that generally includes tables, benches, outdoor grills and fire pits.

Restroom Facilities

Facilities used to house plumbing fixtures and disposal systems primarily intended for the disposal of the bodily wastes: urine, fecal matter and vomit.

Recreational Areas with Water Access

Areas with facilities and equipment devoted to recreational purposes, swimming pools and swimming areas, tennis courts and other sport courts, playgrounds, clubhouses, and other similar uses. Under this "lakefront" category, these facilities have direct access to the shoreline of the lake.

Recreational Areas – Type 1 (RA-1)

Trail Linkage

Designated areas or paths that serve as connectors to existing trail systems.

Fitness Trails

Jogging, walking or running trails usually composed of smooth packed earth or compacted gravel or wood chips.

Bike Trails

A route separated from vehicular traffic and like most bicycle activity areas has specific standards for size, clearance, grade and surface material (asphalt or concrete preferred). Bike trails can also refer to bare dirt trails designated for off road biking; designed along corridors in such a way to minimize erosion and rutting of the natural areas.

Nature Preserve

A protected area of importance for wildlife, flora, fauna or features of geological or other special interest, which is reserved and managed for conservation and to provide special opportunities for study or research.

Native Meadows

A habitat of rolling or flat terrain where native or indigenous grasses predominate

Lawn Terrace

A leveled section of a hilly area that is often formed in multiples terraces, giving a stepped appearance

Wildlife Habitat

The native environment of an animal that provides all the elements needed for the life functions of individuals and populations of a given species

Bird Watching

The observation and study of birds with the naked eye or through a visual enhancement device like binoculars.

Picnic Tables & Benches

A modified table with benches expressly for the purpose of eating a meal outdoors (picnicking). In the past, picnic tables were

typically made of wood, but modern tables can be made out of anything from recycled plastic to brushed metal.

Recreational Areas – Type 2 (RA-2)

Trail Linkage

Designated areas or paths that serve as connectors to existing trail systems.

Fitness Trails

Jogging, walking or running trails usually composed of smooth packed earth or compacted gravel or wood chips.

Bike Trails

A route separated from vehicular traffic and like most bicycle activity areas has specific standards for size, clearance, grade and surface material (asphalt or concrete preferred). Bike trails can also refer to bare dirt trails designated for off road biking; designed along corridors in such a way to minimize erosion and rutting of the natural areas.

Nature Preserve

A protected area of importance for wildlife, flora, fauna or features of geological or other special interest, which is reserved and managed for conservation and to provide special opportunities for study or research.

Native Meadows

A habitat of rolling or flat terrain where native or indigenous grasses predominate

Wildlife Habitat

The native environment of an animal that provides all the elements needed for the life functions of individuals and populations of a given species

Bird Watching

The observation and study of birds with the naked eye or through a visual enhancement device like binoculars.

Equestrian Trails

A non-paved trail usually in rural or semi-isolated areas. However these trails can be routed with and parallel to other use trails. Surfacing should be natural soil, mulch, gravel for short distances and non-slick concrete or asphalt for shorter distances.

Short Game Golf & Instructions

Golf game and instruction comprised of shots that take place on or near the green. Putting, chipping, pitching, and bunker play are all aspects of short game.

Sports Courts

Graded impervious or semi-impervious surface used for organized recreation. These features can include courts for tennis, basketball, and volleyball. The courts can also be grassy or sandy areas used

for active sports such croquet, soccer, rugby, football, and sand volleyball.

Kids Camp

A supervised program for children and/or teenagers living temporarily in tents, cabins or other portable dwellings.

Picnic Areas w/BBQ & Fire Pits

A designated area in a park setting that generally includes tables, benches, outdoor grills and fire pits.

Food & Beverage Facilities

Permanent or temporary facility used to convey assorted foods and beverages as a service for other recreational and entertainment facilities.

Restroom Facilities

Facilities used to house plumbing fixtures and disposal systems primarily intended for the disposal of the bodily wastes: urine, fecal matter and vomit.

Recreational Areas – Type 2P (RA-2P)

Supporting Parking Areas

An area that is more or less level and is intended for parking vehicles in support of a main parking area

APPENDIX D

TCEQ 2004 Texas Water Quality Inventory Of Grapevine Lake

(-based on data from 03/01/1998 to 02/28/2003)

Grapevine Lake

Segment: 0826 Trinity River Basin

Basin number:	8
Basin group:	B
Water body description:	From Grapevine Dam in Tarrant County up to normal pool elevation of 535 feet (impounds Denton Creek)
Water body classification:	Classified
Water body type:	Reservoir
Water body length / area:	7,380 Acres
Water body uses:	Aquatic Life Use, Contact Recreation Use, General Use, Fish Consumption Use, Public Water Supply Use

Additional Information: The public water supply and general uses are fully supported. The aquatic life, contact recreation and fish consumption uses were not assessed.

Monitoring sites used:

Assessment Area	Station ID	Station Description
Lower portion of reservoir north of Oak Grove Park	16114	GRAPEVINE LAKE, MID-LAKE BETWEEN ISLAND AND SHORE, NORTH OF OAK GROVE PARK
Lowermost portion of reservoir	16113	GRAPEVINE LAKE NEAR INTAKE STRUCTURE AT NORTH END OF DAM
Lowermost portion of reservoir	17827	GRAPEVINE LAKE AT DALLAS WATER UTILITIES INTAKE, NORTH OF BUSHONG ROAD AND KAITE DRIVE
Middle portion of reservoir east of Meadowmere Park	13875	GRAPEVINE LAKE SITE BC
Middle portion of reservoir east of Meadowmere Park	16115	GRAPEVINE LAKE, MID-LAKE BETWEEN MEADOWMERE PARK AND SLOUGH CONTAINING TWIN COVES PARK
Middle portion of reservoir southeast of Walnut Grove Park	16112	GRAPEVINE LAKE, MID-LAKE BETWEEN WALNUT GROVE PARK AND RED BUD POINT
Middle portion of reservoir southeast of Walnut Grove Park	17828	GRAPEVINE LAKE AT LITTLE PETE'S MARINA, SOUTH OF MURRELL PARK ROAD AND SOUTHEAST OF SIMMONS ROAD
Morehead Creek cove	11036	GRAPEVINE RESERVOIR AT MOREHEAD CREEK COVE NEAR MOUTH OF COVE
Morehead Creek cove	11037	GRAPEVINE RESERVOIR AT MOREHEAD CREEK COVE 2.89 KM FROM DAM
Morehead Creek cove	16118	GRAPEVINE LAKE AT UPSTREAM END OF MCPHERSON SLOUGH COVE, SOUTH OF OAK GROVE PARK
North Main Slough cove	16116	GRAPEVINE LAKE AT MOUTH OF NORTH MAIN SLOUGH COVE
North Main Slough cove	16117	GRAPEVINE LAKE AT UPSTREAM END OF NORTH MAIN SLOUGH COVE
Upper portion of reservoir east of Marshall Creek Park	16111	GRAPEVINE LAKE, MID-LAKE AT HALFWAY POINT BETWEEN SAM BASS CAVE AND COVE CONTAINING MARSHALL CREEK PARK

(-based on data from 03/01/1998 to 02/28/2003)

Published studies: Publication	Date	Author
IMS 23 Grapevine Reservoir	March 1975	Brazier, F.

APPENDIX E

EDR Regulatory Review of Gaylord Texan Project Area

The EDR Radius Map
with GeoCheck®

Gaylord Texan Resort
1501 Gaylord Trail
Grapevine, TX 76051

Inquiry Number: 2094641.2s

December 07, 2007

EDR® Environmental Data Resources Inc

The Standard in Environmental Risk Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	6
Orphan Summary	14
EPA Waste Codes	EPA-1
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting Source Map	A-7
Physical Setting Source Map Findings	A-8
Physical Setting Source Records Searched	A-16

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2007 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

1501 GAYLORD TRAIL
GRAPEVINE, TX 76051

COORDINATES

Latitude (North):	32.953640 - 32˚ 57' 13.1''
Longitude (West):	97.062040 - 97˚ 3' 43.3''
Universal Tranverse Mercator:	Zone 14
UTM X (Meters):	681148.9
UTM Y (Meters):	3647623.2
Elevation:	542 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	32097-H1 GRAPEVINE, TX
Most Recent Revision:	1981

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 6 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
FIVE STAR LAUNDRY 1501 GAYLORD TRL GRAPEVINE, TX 76051	RCRA-SQG	TXR000065714
GAYLORD TEXAN 1501 GAYLORD TRL GRAPEVINE, TX 76051	Ind. Haz Waste	N/A
HOTEL LAUNDRY FIVE STAR 1501 GAYLORD TRL GRAPEVINE, TX 76051	DRYCLEANERS	N/A
FIVE STAR LAUNDRY 1501 GAYLORD TRL GRAPEVINE, TX 76051	FINDS	110022832773

EXECUTIVE SUMMARY

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL LIENS	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
CORRACTS	Corrective Action Report
RCRA-TSDF	Resource Conservation and Recovery Act Information
RCRA-LQG	Resource Conservation and Recovery Act Information
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
FUDS	Formerly Used Defense Sites
US BROWNFIELDS	A Listing of Brownfields Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
SSTS	Section 7 Tracking Systems
DOT OPS	Incident and Accident Data
LIENS 2	CERCLA Lien Information
LUCIS	Land Use Control Information System
ICIS	Integrated Compliance Information System
RADINFO	Radiation Information Database
US CDL	Clandestine Drug Labs
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
RAATS	RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

SHWS	State Superfund Registry
IOP	Innocent Owner/Operator Program
SWF/LF	Permitted Solid Waste Facilities
CLI	Closed Landfill Inventory
WasteMgt	Commercial Hazardous & Solid Waste Management Facilities
LTANKS	Leaking Petroleum Storage Tank Database
UST	Petroleum Storage Tank Database

EXECUTIVE SUMMARY

AST ..... Petroleum Storage Tank Database
LIENS ..... Environmental Liens Listing
DEL SHWS ..... Deleted Superfund Registry Sites
TX Spills ..... Spills Database
AUL ..... Sites with Controls
TX VCP ..... Voluntary Cleanup Program Database
BROWNFIELDS ..... Brownfields Site Assessments
ENF ..... Notice of Violations Listing
ED AQUIF ..... Edwards Aquifer Permits
AIRS ..... Current Emission Inventory Data
TIER 2 ..... Tier 2 Chemical Inventory Reports
MSD ..... Municipal Settings Designations Database
RWS ..... Radioactive Waste Sites
HIST LIENS ..... Environmental Liens Listing

TRIBAL RECORDS

INDIAN RESERV ..... Indian Reservations
INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land
INDIAN UST ..... Underground Storage Tanks on Indian Land

EDR PROPRIETARY RECORDS

Manufactured Gas Plants ... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL RECORDS

DOD: Consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

A review of the DOD list, as provided by EDR, and dated 12/31/2005 has revealed that there is 1 DOD site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
GRAPEVINE LAKE		1/4 - 1/2 N	0	13

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
METRO CLEANERS	DRYCLEANERS
AMERICAN PETRO MKT INC GRAPEVINE TERM	CERC-NFRAP
DALLAS FORT WORTH REGIONAL AIRPORT AMERI	SWF/LF
DALLAS FORT WORTH REGIONAL AIRPORT BOARD	SWF/LF
DELTA AIRLINES INCINERATION FACILITY	SWF/LF
GTE GRAPEVINE MAIN CENTRAL OFFICE	LTANKS
GIFFORD HILL CO INC	LTANKS
EZ MART STORE 476	LTANKS
FREEMAN PONTIAC-BUICK-GMC	AST
TECHWAY SERVICES INC	RCRA-SQG
GRAPEVINE MATTRESS CO	RCRA-SQG, FINDS
AMERICAN TELEPHONE AND TELEGRAPH COMPANY	RCRA-SQG, FINDS

OVERVIEW MAP - 2094641.2s

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

0 1/4 1/2 1 Miles

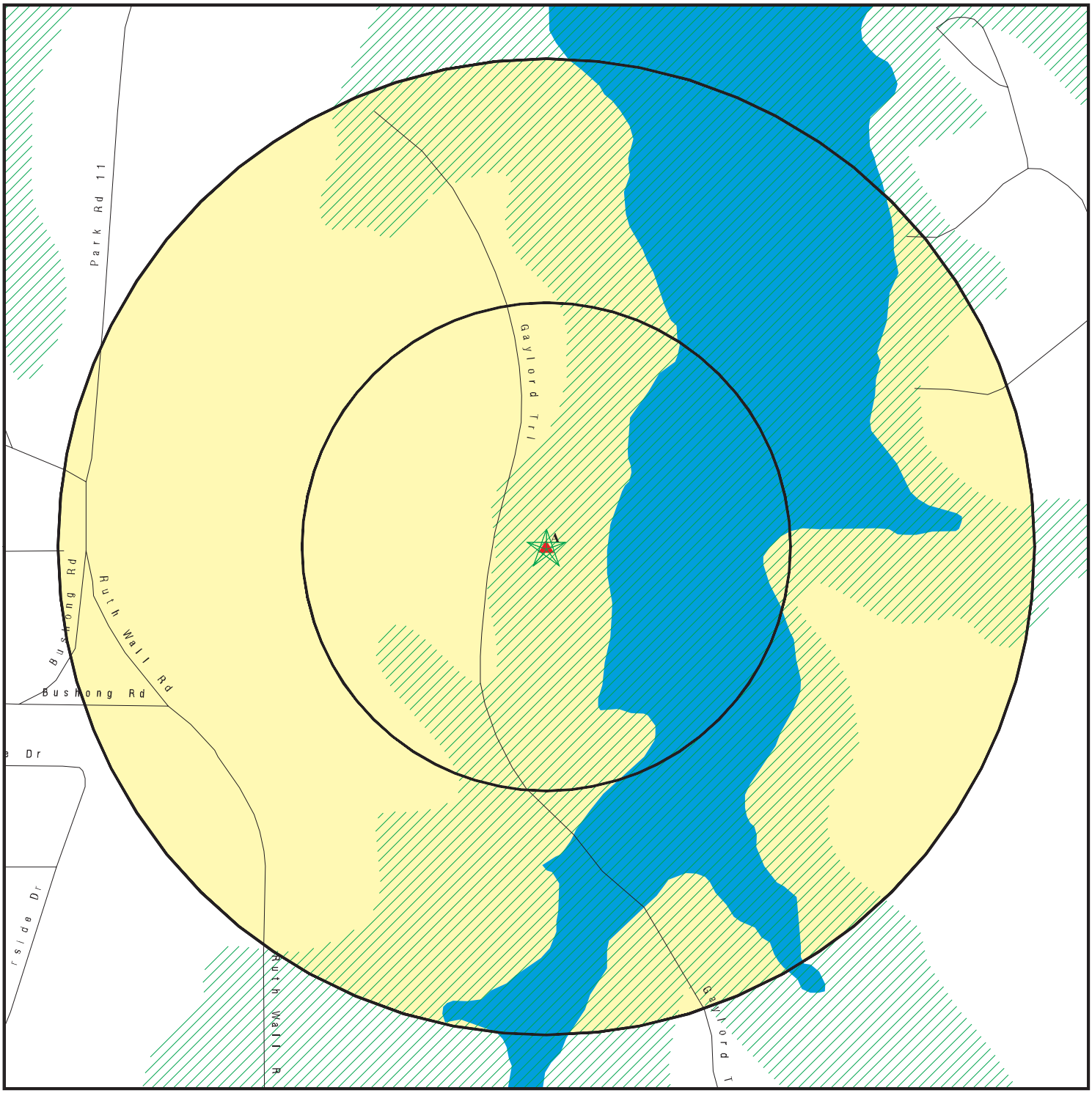
N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Gaylord Texan Resort	CLIENT: Huitt-Zollars, Inc.
ADDRESS: 1501 Gaylord Trail Grapevine TX 76051	CONTACT: Doug Cargo INQUIRY #: 2094641.2s
LAT/LONG: 32.9536 / 97.0620	DATE: December 07, 2007 9:23 am

Copyright © 2007 EDR, Inc. © 2007 Tele Atlas Rel. 07/2006.

DETAIL MAP - 2094641.2s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Gaylord Texan Resort	CLIENT: Huitt-Zollars, Inc.
ADDRESS: 1501 Gaylord Trail Grapevine TX 76051	CONTACT: Doug Cargo INQUIRY #: 2094641.2s
LAT/LONG: 32.9536 / 97.0620	DATE: December 07, 2007 9:23 am

Copyright © 2007 EDR, Inc. © 2007 Tele Atlas Rel. 07/2006.

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL RECORDS								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
NPL LIENS		TP	NR	NR	NR	NR	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.500	0	0	0	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRA TSD		0.500	0	0	0	NR	NR	0
RCRA Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA Sm. Quan. Gen.	X	0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	1	0	NR	1
FUDS		1.000	0	0	0	0	NR	0
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
DOT OPS		TP	NR	NR	NR	NR	NR	0
LIENS 2		TP	NR	NR	NR	NR	NR	0
LUCIS		0.500	0	0	0	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0
RADINFO		TP	NR	NR	NR	NR	NR	0
CDL		TP	NR	NR	NR	NR	NR	0
HIST FTTS		TP	NR	NR	NR	NR	NR	0
DEBRIS REGION 9		0.500	0	0	0	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
FINDS	X	TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
STATE AND LOCAL RECORDS								
State Haz. Waste		1.000	0	0	0	0	NR	0
IOP		TP	NR	NR	NR	NR	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
CLI		0.500	0	0	0	NR	NR	0
WasteMgt		TP	NR	NR	NR	NR	NR	0
LTANKS		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
AST		0.250	0	0	NR	NR	NR	0
LIENS		TP	NR	NR	NR	NR	NR	0
DEL SHWS		1.000	0	0	0	0	NR	0
TX Spills		TP	NR	NR	NR	NR	NR	0
AUL		0.500	0	0	0	NR	NR	0
TX VCP		0.500	0	0	0	NR	NR	0
DRYCLEANERS	X	0.250	0	0	NR	NR	NR	0
BROWNFIELDS		0.500	0	0	0	NR	NR	0
ENF		TP	NR	NR	NR	NR	NR	0
Ind. Haz Waste	X	TP	NR	NR	NR	NR	NR	0
ED AQUIF		TP	NR	NR	NR	NR	NR	0
AIRS		TP	NR	NR	NR	NR	NR	0
TIER 2		TP	NR	NR	NR	NR	NR	0
MSD		0.500	0	0	0	NR	NR	0
RWS		TP	NR	NR	NR	NR	NR	0
HIST LIENS		TP	NR	NR	NR	NR	NR	0
TRIBAL RECORDS								
INDIAN RESERV		1.000	0	0	0	0	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
EDR PROPRIETARY RECORDS								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 Target Property — **FIVE STAR LAUNDRY**, **1501 GAYLORD TRL**, **GRAPEVINE, TX 76051** — **RCRA-SQG** — **1008405675** / **TXR000065714**

Actual: 545 ft.

Site 1 of 4 in cluster A

RCRAInfo:

Owner: FIVE STAR LAUNDRY
817-778-1851
EPA ID: TXR000065714

Contact: SYLVESTER PRICE
817-778-1851

Classification: Small Quantity Generator
TSDF Activities: Not reported

BIENNIAL REPORTS:
Last Biennial Reporting Year: 2005

Waste	Quantity (Lbs)	Waste	Quantity (Lbs)
D002	2898.00	D007	3038.00
D039	5088.00	D040	5088.00
F002	2190.00		

Violation Status: No violations found

A2 Target Property — **GAYLORD TEXAN**, **1501 GAYLORD TRL**, **GRAPEVINE, TX 76051** — **Ind. Haz Waste** — **S108167709** / **N/A**

Actual: 545 ft.

Site 2 of 4 in cluster A

Ind. Haz Waste:

Transporters Registration Number:	87774
Registration Initial Notification Date:	20050824
Registration Last Amendment Date:	Not reported
EPA Identification:	TXR000065714
Primary NAICS Code:	812320
Status Change Date:	20050824
Description of Facility Site Location:	1501 Gaylord Trl, Grapevine, TX
Site Primary Standard Industrial Code:	72160
Site Primary SIC Description:	Dry Cleaning Plants, Except Rug
Registration is Generator of Waste:	Yes
Registration is Receivers of Waste:	No
Registration is Transporter of Waste:	No
Registration is Transfer Facility:	No
Facility is STEERS Reporter:	No
Reqired to Submit Annual Waste Summary:	Yes
Facility Involved In Recycling:	No
Revcr Has Monthly Reporting Requirement:	0
Mexican Facility:	Does not represent a Maquiladora (Mexican Facility)
Facility Status:	Active
Type of Generator:	Non-industrial and/or municipal, SQG
TNRCC Region Number:	04
TNRCC Region:	Not reported
Company Name:	Five Star Laundry
Contact Name:	Sylvester Price
Contact Telephone Number:	817-778-1851
Mailing Address:	1501 Gaylord Trl
Mailing Address2:	Not reported
Mailing City,St,Zip:	Grapevine, TX 76051 1945

GAYLORD TEXAN (Continued) **S108167709**

Mailing County:	USA
Facility County Code:	220
Facility County:	TARRANT
Facility Country:	USA
TNRCC Facility ID:	119333
Site Owner Tax ID:	200610454
Site Location Latitude:	Not reported
Site Location Longitude:	Not reported
Last Update to NOR Data:	20051122
Ind. waste permit Number:	Not reported
Mun waste permit Number:	Not reported
Non Notifier:	No
Year:	2005

OWNER:

Owner Mailing Address:	1501 Gaylord Trl
Owner Mailing Address2:	Not reported
Owner City,St,Zip:	Grapevine, TX 76051 1945
Owner Country:	USA
Owner Phone Number:	817-778-1851
Owner Fax Number:	817-778-1859
Owner Email Address:	sprice@gaylordhotels.com
Owner Business Type:	Corporation
Owner Tax Id:	200610454
Owner Bankruptcy Code:	0

OPERATOR:

Operator Last Name:	Five Star Laundry
Operator First Name:	Not reported
Operator Name:	Five Star Laundry
Operator Mailing Address:	1501 Gaylord Trl
Operator Mailing Address 2:	Not reported
Operator Mailing City,St,Zip:	Grapevine, TX 76051 1945
Operator Country:	USA
Operator Phone:	817-778-1851
Operator Fax:	817-778-1859
Operator Email:	sprice@gaylordhotels.com
Operator Business Type:	Corporation
Operator Tax Id:	200610454
Operator Bankruptcy Code:	0

CONTACT:

Contact Name:	Sylvester Price
Contact Title:	Valet Manager
Contact Role:	Primary Contact
Contact Address:	1501 Gaylord Trl
Contact Address2:	Not reported
Conact City,St,Zip:	Grapevine, TX 76051 1945
Contact Phone:	817-778-1851
Contact Fax:	817-778-1859
Contact Email:	sprice@gaylordhotels.com

Business Desc: Not reported

UNIT:

Unit No:	Not reported
Unit Type Code:	Not reported
Unit Type:	Not reported
Unit Status:	Not reported
Unit Regulatory Status:	Not reported

GAYLORD TEXAN (Continued) **S108167709**

UIC Permit Number: Not reported
Capacity: Not reported
Capacity Measurment: Not reported
Off Site Hazardous Waste: No
Off Site Class 1 Waste: Not reported
Off Site Class 2 Waste: Not reported
Off Site Class 3 Waste: Not reported
Off Site Non Indstrl Sld Wst: Not reported
System Type Code: Not reported
System Type: Not reported
System Type Code 1: Not reported
System Type 1: Not reported
System Type Code 2: Not reported
System Type 2: Not reported
System Type Code 3: Not reported
System Type 3: Not reported
System Type Code 4: Not reported
System Type 4: Not reported
Permit Seq #: Not reported
Waste Desc: Not reported
Dt Last Changed: Not reported
WasteID: ,

ACTIVITY:
Activity Type Involves: Not reported
Activity Desc: Not reported

OTS:
One-time Shipper ID: Not reported
Location Desc: Not reported
Broker Name: Not reported
Broker Phone: Not reported
Date Processing Complete: Not reported
Date Request Sent: Not reported
Company Name: Not reported
Waste ID: Not reported
Waste Form: Not reported
Waste Class: Not reported
Waste Origin Code: Not reported
Shipment Request ID: Not reported
Waste Code Audited: Not reported

RCV:
Waste Receipts Summary Form Code: Not reported
State Manifest Documentaion Number: Not reported
Generators TX Registration Number: Not reported
Generators EPA ID: Not reported
Generators Waste Code: Not reported
Generators Waste Classification: Not reported
Generators Waste Form Code: Not reported
Generators Waste Form: Not reported
Quantity Shipped: Not reported
Units: Not reported
How Waste Handled by Receivers: Not reported
Receivers Date: Not reported
Transporters Registration Number: Not reported
Shipment Comment: Not reported
EPA Haz Waste: Not reported
EPA Haz Waste: Not reported

GAYLORD TEXAN (Continued) **S108167709**

EPA Haz Waste:	Not reported
EPA Haz Waste:	Not reported
Receiver Name:	Not reported
Reporting method:	Not reported
No Shipmnts Recvd In Rept Period:	Not reported
Record Creation Date:	Not reported
Record Contains Error:	Not reported
Record ID:	Not reported
Co. Submitting Report:	Not reported
Authorized Agent Submitting Report:	Not reported
Authorized Agent Title:	Not reported

ANNUAL:

Waste Code:	0001207H
Waste Class:	H
Generators Waste Form Code:	207
Generators Waste Form:	Concentrated aqueous solution of other organics
Texas Waste Code:	Not reported
Quantity Shipped:	000002050.0000
Unit Quantity Handled:	Pounds
More than 1.1 Tons Waste Gen:	Pounds
More than 2.2 lbs Acute Waste Gen:	Pounds
How Waste Handled By Recievers:	Storage
Facility Id:	87774
EPA Identification:	TXD077603371
Comments:	Not reported
EPA Waste Code:	D040
EPA Haz Waste:	Not reported
DEF Code1:	F002
EPA Haz Waste:	Not reported
DEF Code2:	D039
EPA Haz Waste:	Not reported
DEF Code3:	Not reported
EPA Haz Waste:	Not reported
Unit Quantity Handled:	P
Fee Exemption Request:	Not reported
Resolution of Exemption Request:	Not reported
Report Required:	0
Record Creation Date:	20060410
Record Contains Error:	No
Reporting method:	Paper
Record ID:	08019300
Co. Submitting Report:	FIVE STAR LAUNDRY
Authorized Agent Submitting Report:	SYLVESTER PRICE
Authorized Agent Title:	VALET MANAGER
Total Qty Generated:	000002050.0000

ANNUAL:

Waste Code:	0002609H
Waste Class:	H
Generators Waste Form Code:	609
Generators Waste Form:	Other organic sludges
Texas Waste Code:	Not reported
Quantity Shipped:	000002898.0000
Unit Quantity Handled:	Pounds
More than 1.1 Tons Waste Gen:	Pounds
More than 2.2 lbs Acute Waste Gen:	Pounds
How Waste Handled By Recievers:	Storage

GAYLORD TEXAN (Continued) **S108167709**

Facility Id: 87774
EPA Identification: TXD981053416
Comments: Not reported
EPA Waste Code: D040
EPA Haz Waste: Not reported
DEF Code1: D002
EPA Haz Waste: Not reported
DEF Code2: D007
EPA Haz Waste: Not reported
DEF Code3: D039
EPA Haz Waste: Not reported
Unit Quantity Handled: P
Fee Exemption Request: Not reported
Resolution of Exemption Request: Not reported
Report Required: 0
Record Creation Date: 20060410
Record Contains Error: No
Reporting method: Paper
Record ID: 08019301
Co. Submitting Report: FIVE STAR LAUNDRY
Authorized Agent Submitting Report: SYLVESTER PRICE
Authorized Agent Title: VALET MANAGER
Total Qty Generated: 000002898.0000

ANNUAL:
Waste Code: 0003310H
Waste Class: H
Generators Waste Form Code: 310
Generators Waste Form: Spent solid filters or adsorbents (inorganic)
Texas Waste Code: Not reported
Quantity Shipped: 000000140.0000
Unit Quantity Handled: Pounds
More than 1.1 Tons Waste Gen: Pounds
More than 2.2 lbs Acute Waste Gen: Pounds
How Waste Handled By Recievers: Storage
Facility Id: 87774
EPA Identification: TXD981053416
Comments: Not reported
EPA Waste Code: D007
EPA Haz Waste: Not reported
DEF Code1: D040
EPA Haz Waste: Not reported
DEF Code2: F002
EPA Haz Waste: Not reported
DEF Code3: D039
EPA Haz Waste: Not reported
Unit Quantity Handled: P
Fee Exemption Request: Not reported
Resolution of Exemption Request: Not reported
Report Required: 0
Record Creation Date: 20060410
Record Contains Error: No
Reporting method: Paper
Record ID: 08019302
Co. Submitting Report: FIVE STAR LAUNDRY
Authorized Agent Submitting Report: SYLVESTER PRICE
Authorized Agent Title: VALET MANAGER
Total Qty Generated: 000000140.0000

GAYLORD TEXAN (Continued) **S108167709**

WASTE:

Waste ID:	00212439
Waste Desc Yr:	2005
Waste Descrptn:	Waste water and perc from dry cleaning operation. 8/24/05
Desc of Waste:	Not reported
Texas Waste Code:	Not reported
Texas Waste Code 2:	0001207H
Waste Code Status:	Active
Waste Form Code:	207
Waste Form:	Concentrated aqueous solution of other organics
Waste Classification:	H
Waste is Radioactive:	0
Waste Treated Off Site:	1
Primary Standard Industustrial Code:	Not reported
Standard Industrial Classification:	Not reported
Primary Source:	G08
Primary Source:	Not reported
Primary Measurenent Point Code:	Not reported
Primary Measurenent Point:	Not reported
Primary Origin Code:	1
Primary Origin:	Gen. on-site from prod. or service activity
Primary System Type Code:	Not reported
Primary System Type:	Not reported
New Chemical Substance:	0
Audit Performed:	0
Company Waste ID:	Not reported
Primary NAICS Code:	812320
EPA Waste Form Code:	W219
Reason Waste Form No Longer Gen.:	Not reported
EPA Haz Waste:	Not reported

WASTE:

Waste ID:	00212440
Waste Desc Yr:	2005
Waste Descrptn:	Perc sludge from from dry cleaning operation. 8/24/05
Desc of Waste:	Not reported
Texas Waste Code:	Not reported
Texas Waste Code 2:	0002609H
Waste Code Status:	Active
Waste Form Code:	609
Waste Form:	Other organic sludges
Waste Classification:	H
Waste is Radioactive:	0
Waste Treated Off Site:	1
Primary Standard Industustrial Code:	Not reported
Standard Industrial Classification:	Not reported
Primary Source:	G19
Primary Source:	Not reported
Primary Measurenent Point Code:	Not reported
Primary Measurenent Point:	Not reported
Primary Origin Code:	1
Primary Origin:	Gen. on-site from prod. or service activity
Primary System Type Code:	Not reported
Primary System Type:	Not reported
New Chemical Substance:	0
Audit Performed:	0
Company Waste ID:	Not reported

GAYLORD TEXAN (Continued) **S108167709**

Primary NAICS Code: 812320
EPA Waste Form Code: W609
Reason Waste Form No Longer Gen.: Not reported
EPA Haz Waste: Not reported

WASTE:
Waste ID: 00212441
Waste Desc Yr: 2005
Waste Descrptn: Perc filters from dry cleaning operation. 8/24/05
Desc of Waste: Not reported
Texas Waste Code: Not reported
Texas Waste Code 2: 0003310H
Waste Code Status: Active
Waste Form Code: 310
Waste Form: Spent solid filters or adsorbents (inorganic)
Waste Classification: H
Waste is Radioactive: 0
Waste Treated Off Site: 1
Primary Standard Industustrial Code: Not reported
Standard Industrial Classification: Not reported
Primary Source: G07
Primary Source: Not reported
Primary Measurenent Point Code: Not reported
Primary Measurenent Point: Not reported
Primary Origin Code: 1
Primary Origin: Gen. on-site from prod. or service activity
Primary System Type Code: Not reported
Primary System Type: Not reported
New Chemical Substance: 0
Audit Performed: 0
Company Waste ID: Not reported
Primary NAICS Code: 812320
EPA Waste Form Code: W310
Reason Waste Form No Longer Gen.: Not reported
EPA Haz Waste: Not reported

Click this hyperlink while viewing on your computer to access additional TX IHW: detail in the EDR Site Report.

A3 Target Property | **HOTEL LAUNDRY FIVE STAR** | **DRYCLEANERS** | **S106566917**
1501 GAYLORD TRL | **N/A**
GRAPEVINE, TX 76051

Site 3 of 4 in cluster A

Actual: 545 ft.

DRYCLEANERS:
Regulated Entity Number: RN104207709
Customer Number: CN602589137
Site Class: FACIL
Paid Trough End of Year: 3
Fiscal Year: FY2007
PERC Status: YES
Contact Phone: 4079224090

Map ID Direction Distance Distance (ft.) Elevation	Site	Database(s)	EDR ID Number EPA ID Number
A4 Target Property	**FIVE STAR LAUNDRY 1501 GAYLORD TRL GRAPEVINE, TX 76051**	**FINDS**	**1008908023 110022832773**

Site 4 of 4 in cluster A

Actual:
545 ft.

FINDS:

Other Pertinent Environmental Activity Identified at Site

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

DOD Region North 1/4-1/2 1960 ft.	**GRAPEVINE LAKE GRAPEVINE LAKE (County), TX**	**DOD**	**CUSA145068 N/A**

DOD:

Feature 1:	Army Corps of Engineers DOD
Feature 2:	Not reported
Feature 3:	Not reported
URL:	Not reported
Name 1:	Grapevine Lake
Name 2:	Not reported
Name 3:	Not reported
State:	TX
DOD Site:	Yes
Tile name:	TXDENTON

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
GRAPEVINE	S105050279	GTE GRAPEVINE MAIN CENTRAL OFFICE	HWY 114	76051	LTANKS
GRAPEVINE	1008375450	TECHWAY SERVICES INC	4051 HWY 121 N SUITE 400	76051	RCRA-SQG
GRAPEVINE	S106169996	DALLAS FORT WORTH REGIONAL AIRPORT AMERI	AMERICAN AIRLINES TERMINAL 3E NEAR GATE NO 1		SWF/LF
GRAPEVINE	S108425159	DALLAS FORT WORTH REGIONAL AIRPORT BOARD	BRANIFF INTERNATIONAL AIRLINES TERMINAL 2 MILES W		SWF/LF
GRAPEVINE	S106170007	DELTA AIRLINES INCINERATION FACILITY	SOUTH END TERMINAL 4 E DALLAS FORT WORTH INTERNATI		SWF/LF
GRAPEVINE	1000346805	GRAPEVINE MATTRESS CO	607 FORT WORTH HIGHWAY	76051	RCRA-SQG, FINDS
GRAPEVINE	S105049987	GIFFORD HILL CO INC	2004 W HWY 114	76051	LTANKS
GRAPEVINE	S106863949	EZ MART STORE 476	2631 W HWY 26	76051	LTANKS
GRAPEVINE	S107982554	METRO CLEANERS	303 W NORTHWEST HWY STE D	76051	DRYCLEANERS
GRAPEVINE	1000360387	AMERICAN TELEPHONE AND TELEGRAPH COMPANY	RURAL ROUTE	76051	RCRA-SQG, FINDS
GRAPEVINE	A100165890	FREEMAN PONTIAC-BUICK-GMC	501 STATE HWY 114 W	76051	AST
GRAPEVINE	1003874533	AMERICAN PETRO MKT INC GRAPEVINE TERM	2 MI W OF GRAPEVINE ON HWY 26	76051	CERC-NFRAP

EPA Waste Codes Addendum

Code	Description
D002	A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
D007	CHROMIUM
D039	TETRACHLOROETHYLENE
D040	TRICHLOROETHYLENE
F002	THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/18/2007
Date Data Arrived at EDR: 08/03/2007
Date Made Active in Reports: 08/29/2007
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 07/31/2007
Next Scheduled EDR Contact: 10/29/2007
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 08/09/2007
Date Data Arrived at EDR: 09/05/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 36

Source: EPA
Telephone: N/A
Last EDR Contact: 08/31/2007
Next Scheduled EDR Contact: 10/29/2007
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 08/27/2007
Date Data Arrived at EDR: 08/29/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 43

Source: EPA
Telephone: N/A
Last EDR Contact: 08/29/2007
Next Scheduled EDR Contact: 10/29/2007
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/23/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 08/29/2007
Number of Days to Update: 70

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 12/06/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 06/21/2007
Date Data Arrived at EDR: 07/23/2007
Date Made Active in Reports: 08/29/2007
Number of Days to Update: 37

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 12/06/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/26/2007
Date Data Arrived at EDR: 08/08/2007
Date Made Active in Reports: 08/29/2007
Number of Days to Update: 21

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/03/2007
Next Scheduled EDR Contact: 03/03/2008
Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/13/2006
Date Data Arrived at EDR: 06/28/2006
Date Made Active in Reports: 08/23/2006
Number of Days to Update: 56

Source: EPA
Telephone: 214-665-6444
Last EDR Contact: 10/16/2007
Next Scheduled EDR Contact: 01/14/2008
Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 01/24/2007
Date Made Active in Reports: 03/12/2007
Number of Days to Update: 47

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 10/19/2007
Next Scheduled EDR Contact: 01/21/2008
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 07/02/2007
Date Data Arrived at EDR: 07/18/2007
Date Made Active in Reports: 09/18/2007
Number of Days to Update: 62

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 10/16/2007
Next Scheduled EDR Contact: 01/14/2008
Data Release Frequency: Annually

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 07/16/2007
Date Data Arrived at EDR: 08/03/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 11/16/2007
Next Scheduled EDR Contact: 12/31/2007
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 07/16/2007
Date Data Arrived at EDR: 08/03/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 11/16/2007
Next Scheduled EDR Contact: 12/31/2007
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 11/09/2007
Next Scheduled EDR Contact: 02/04/2008
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 08/31/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 41

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 10/01/2007
Next Scheduled EDR Contact: 12/31/2007
Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 06/20/2007
Date Data Arrived at EDR: 07/09/2007
Date Made Active in Reports: 08/29/2007
Number of Days to Update: 51

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/10/2007
Next Scheduled EDR Contact: 12/10/2007
Data Release Frequency: Semi-Annually

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 04/13/2007
Date Data Arrived at EDR: 07/16/2007
Date Made Active in Reports: 08/29/2007
Number of Days to Update: 44

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/21/2007
Next Scheduled EDR Contact: 01/21/2008
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 06/08/2007
Date Data Arrived at EDR: 07/03/2007
Date Made Active in Reports: 08/29/2007
Number of Days to Update: 57

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 11/08/2007
Next Scheduled EDR Contact: 12/31/2007
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/08/2006
Date Made Active in Reports: 01/29/2007
Number of Days to Update: 82

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 09/19/2007
Next Scheduled EDR Contact: 12/17/2007
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 04/27/2007
Date Made Active in Reports: 07/05/2007
Number of Days to Update: 69

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 09/18/2007
Next Scheduled EDR Contact: 12/17/2007
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 11/14/2007
Next Scheduled EDR Contact: 01/14/2008
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/06/2007
Date Data Arrived at EDR: 07/20/2007
Date Made Active in Reports: 09/18/2007
Number of Days to Update: 60

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 09/17/2007
Next Scheduled EDR Contact: 12/17/2007
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 07/06/2007
Date Data Arrived at EDR: 07/20/2007
Date Made Active in Reports: 09/18/2007
Number of Days to Update: 60

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 09/17/2007
Next Scheduled EDR Contact: 12/17/2007
Data Release Frequency: Quarterly

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/13/2007
Date Made Active in Reports: 04/27/2007
Number of Days to Update: 45

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/15/2007
Next Scheduled EDR Contact: 01/14/2008
Data Release Frequency: Annually

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 09/12/2007
Next Scheduled EDR Contact: 12/10/2007
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 08/14/2007
Date Data Arrived at EDR: 08/29/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 43

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 11/29/2007
Next Scheduled EDR Contact: 02/25/2008
Data Release Frequency: Varies

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/27/2007
Date Data Arrived at EDR: 08/13/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 59

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 10/15/2007
Next Scheduled EDR Contact: 01/14/2008
Data Release Frequency: Quarterly

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 07/25/2007
Date Data Arrived at EDR: 07/31/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 72

Source: EPA, Region 9
Telephone: 415-972-3336
Last EDR Contact: 09/24/2007
Next Scheduled EDR Contact: 12/24/2007
Data Release Frequency: Varies

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 09/17/2007
Next Scheduled EDR Contact: 12/17/2007
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 12/01/2006
Date Data Arrived at EDR: 01/08/2007
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 3

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 10/02/2007
Next Scheduled EDR Contact: 12/24/2007
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/31/2007
Date Data Arrived at EDR: 08/01/2007
Date Made Active in Reports: 08/29/2007
Number of Days to Update: 28

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/31/2007
Next Scheduled EDR Contact: 01/28/2008
Data Release Frequency: Quarterly

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 03/08/2007
Date Data Arrived at EDR: 04/12/2007
Date Made Active in Reports: 05/14/2007
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Varies

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 04/12/2007
Date Data Arrived at EDR: 06/08/2007
Date Made Active in Reports: 08/29/2007
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 08/09/2007
Next Scheduled EDR Contact: 11/05/2007
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/09/2007
Date Data Arrived at EDR: 07/24/2007
Date Made Active in Reports: 09/18/2007
Number of Days to Update: 56

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/01/2007
Next Scheduled EDR Contact: 12/31/2007
Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/09/2007
Date Data Arrived at EDR: 06/28/2007
Date Made Active in Reports: 08/29/2007
Number of Days to Update: 62

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/26/2007
Next Scheduled EDR Contact: 12/24/2007
Data Release Frequency: Semi-Annually

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/19/2007
Date Data Arrived at EDR: 07/25/2007
Date Made Active in Reports: 09/18/2007
Number of Days to Update: 55

Source: EPA
Telephone: (214) 665-2200
Last EDR Contact: 10/01/2007
Next Scheduled EDR Contact: 12/31/2007
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 12/03/2007
Next Scheduled EDR Contact: 03/03/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/06/2007
Date Made Active in Reports: 04/13/2007
Number of Days to Update: 38

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/12/2007
Next Scheduled EDR Contact: 12/10/2007
Data Release Frequency: Biennially

PWS: Public Water System Data

This Safe Drinking Water Information System (SDWIS) file contains public water systems name and address, population served and the primary source of water

Date of Government Version: 02/24/2000
Date Data Arrived at EDR: 04/27/2005
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: EPA
Telephone: N/A
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: N/A

USGS WATER WELLS: National Water Information System (NWIS)

This database consists of well records in the United States. Available site descriptive information includes well location information (latitude and longitude, well depth, site use, water use, and aquifer).

Date of Government Version: 03/25/2005
Date Data Arrived at EDR: 03/25/2005
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: USGS
Telephone: N/A
Last EDR Contact: 03/25/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: N/A

STATE AND LOCAL RECORDS

SHWS: State Superfund Registry
State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 09/20/2007
Date Data Arrived at EDR: 10/19/2007
Date Made Active in Reports: 10/31/2007
Number of Days to Update: 12

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5680
Last EDR Contact: 10/09/2007
Next Scheduled EDR Contact: 01/07/2008
Data Release Frequency: Semi-Annually

IOP: Innocent Owner/Operator Program
Contains information on all sites that are in the IOP. An IOP is an innocent owner or operator whose property is contaminated as a result of a release or migration of contaminants from a source or sources not located on the property, and they did not cause or contribute to the source or sources of contamination.

Date of Government Version: 07/30/2007
Date Data Arrived at EDR: 07/31/2007
Date Made Active in Reports: 09/27/2007
Number of Days to Update: 58

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5894
Last EDR Contact: 10/26/2007
Next Scheduled EDR Contact: 01/28/2008
Data Release Frequency: Quarterly

SWF/LF: Permitted Solid Waste Facilities
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/19/2007
Date Data Arrived at EDR: 09/19/2007
Date Made Active in Reports: 10/31/2007
Number of Days to Update: 42

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6706
Last EDR Contact: 11/19/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Quarterly

CLI: Closed Landfill Inventory
Closed and abandoned landfills (permitted as well as unauthorized) across the state of Texas.

Date of Government Version: 08/30/1999
Date Data Arrived at EDR: 09/28/2000
Date Made Active in Reports: 10/30/2000
Number of Days to Update: 32

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6016
Last EDR Contact: 07/30/2007
Next Scheduled EDR Contact: 10/29/2007
Data Release Frequency: Varies

WASTEMGT: Commercial Hazardous & Solid Waste Management Facilities
This list contains commercial recycling facilities and facilities permitted or authorized (interim status) by the Texas Natural Resource Conservation Commission.

Date of Government Version: 12/01/2006
Date Data Arrived at EDR: 02/16/2007
Date Made Active in Reports: 03/29/2007
Number of Days to Update: 41

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2920
Last EDR Contact: 11/02/2007
Next Scheduled EDR Contact: 01/28/2008
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LTANKS: Leaking Petroleum Storage Tank Database
An inventory of reported leaking petroleum storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 09/05/2007
Date Data Arrived at EDR: 09/21/2007
Date Made Active in Reports: 10/31/2007
Number of Days to Update: 40

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2200
Last EDR Contact: 07/23/2007
Next Scheduled EDR Contact: 10/22/2007
Data Release Frequency: Quarterly

UST: Petroleum Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 09/06/2007
Date Data Arrived at EDR: 09/21/2007
Date Made Active in Reports: 10/23/2007
Number of Days to Update: 32

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 10/22/2007
Next Scheduled EDR Contact: 01/21/2008
Data Release Frequency: Quarterly

LIENS: Environmental Liens Listing
The listing covers TCEQ liens placed against either State Superfund sites or Federal Superfund sites to recover cost incurred by TCEQ.

Date of Government Version: 09/18/2007
Date Data Arrived at EDR: 09/18/2007
Date Made Active in Reports: 09/27/2007
Number of Days to Update: 9

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2209
Last EDR Contact: 09/17/2007
Next Scheduled EDR Contact: 12/17/2007
Data Release Frequency: Varies

AST: Petroleum Storage Tank Database
Registered Aboveground Storage Tanks.

Date of Government Version: 09/06/2007
Date Data Arrived at EDR: 09/21/2007
Date Made Active in Reports: 10/23/2007
Number of Days to Update: 32

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 10/22/2007
Next Scheduled EDR Contact: 01/21/2008
Data Release Frequency: Quarterly

DEL SHWS: Deleted Superfund Registry Sites
Sites have been deleted from the state Superfund registry in accordance with the Act, ?361.189

Date of Government Version: 09/20/2007
Date Data Arrived at EDR: 10/19/2007
Date Made Active in Reports: 10/31/2007
Number of Days to Update: 12

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0666
Last EDR Contact: 10/09/2007
Next Scheduled EDR Contact: 01/07/2008
Data Release Frequency: Quarterly

SPILLS: Spills Database
Spills reported to the Emergency Response Division.

Date of Government Version: 09/26/2007
Date Data Arrived at EDR: 09/28/2007
Date Made Active in Reports: 10/31/2007
Number of Days to Update: 33

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0983
Last EDR Contact: 09/17/2007
Next Scheduled EDR Contact: 12/17/2007
Data Release Frequency: Quarterly

AUL: Sites with Controls
Activity and use limitations include both engineering controls and institutional controls.

Date of Government Version: 07/30/2007
Date Data Arrived at EDR: 07/31/2007
Date Made Active in Reports: 09/27/2007
Number of Days to Update: 58

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5891
Last EDR Contact: 10/26/2007
Next Scheduled EDR Contact: 01/28/2008
Data Release Frequency: Varies

VCP TCEQ: Voluntary Cleanup Program Database

The Texas Voluntary Cleanup Program was established to provide administrative, technical, and legal incentives to encourage the cleanup of contaminated sites in Texas.

Date of Government Version: 07/30/2007
Date Data Arrived at EDR: 07/31/2007
Date Made Active in Reports: 09/27/2007
Number of Days to Update: 58

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5891
Last EDR Contact: 10/26/2007
Next Scheduled EDR Contact: 01/28/2008
Data Release Frequency: Quarterly

VCP RRC: Voluntary Cleanup Program Sites

The Voluntary Cleanup Program (RRC-VCP) provides an incentive to remediate Oil & Gas related pollution by participants as long as they did not cause or contribute to the contamination. Applicants to the program receive a release of liability to the state in exchange for a successful cleanup.

Date of Government Version: 03/27/2007
Date Data Arrived at EDR: 05/17/2007
Date Made Active in Reports: 06/19/2007
Number of Days to Update: 33

Source: Railroad Commission of Texas
Telephone: 512-463-6969
Last EDR Contact: 10/31/2007
Next Scheduled EDR Contact: 01/28/2008
Data Release Frequency: Varies

DRYCLEANERS: Drycleaner Registration Database Listing

A listing of drycleaning facilities.

Date of Government Version: 07/06/2007
Date Data Arrived at EDR: 07/09/2007
Date Made Active in Reports: 07/30/2007
Number of Days to Update: 21

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 10/01/2007
Next Scheduled EDR Contact: 12/31/2007
Data Release Frequency: Varies

BROWNFIELDS: Brownfields Site Assessments

Brownfield site assessments that are being cleaned under EPA grant monies.

Date of Government Version: 07/30/2007
Date Data Arrived at EDR: 07/31/2007
Date Made Active in Reports: 09/27/2007
Number of Days to Update: 58

Source: TCEQ
Telephone: 512-239-5872
Last EDR Contact: 10/26/2007
Next Scheduled EDR Contact: 01/28/2008
Data Release Frequency: Semi-Annually

ENFORCEMENT: Notice of Violations Listing

A listing of permit violations.

Date of Government Version: 09/26/2007
Date Data Arrived at EDR: 10/18/2007
Date Made Active in Reports: 10/31/2007
Number of Days to Update: 13

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6012
Last EDR Contact: 12/03/2007
Next Scheduled EDR Contact: 03/03/2008
Data Release Frequency: Semi-Annually

Ind. Haz Waste: Industrial & Hazardous Waste Database

Summary reports reported by waste handlers, generators and shippers in Texas.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/07/2006
Date Made Active in Reports: 12/04/2006
Number of Days to Update: 27

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0985
Last EDR Contact: 10/30/2007
Next Scheduled EDR Contact: 01/28/2008
Data Release Frequency: Annually

ED AQUIF: Edwards Aquifer Permits

A listing of permits in the Edwards Aquifer Protection Program database. The information provided is for the counties located in the Austin Region (Hays, Travis, and Williamson counties).

Date of Government Version: 08/23/2007
Date Data Arrived at EDR: 09/07/2007
Date Made Active in Reports: 09/27/2007
Number of Days to Update: 20

Source: Texas Commission on Environmental Quality, Austin Region
Telephone: 512-339-2929
Last EDR Contact: 11/05/2007
Next Scheduled EDR Contact: 01/21/2008
Data Release Frequency: Varies

AIRS: Current Emission Inventory Data

The database lists by company, along with their actual emissions, the TNRCC air accounts that emit EPA criteria pollutants.

Date of Government Version: 06/26/2007
Date Data Arrived at EDR: 09/25/2007
Date Made Active in Reports: 10/31/2007
Number of Days to Update: 36

Source: Texas Commission on Environmental Quality
Telephone: N/A
Last EDR Contact: 10/12/2007
Next Scheduled EDR Contact: 01/07/2008
Data Release Frequency: Semi-Annually

TIER 2: Tier 2 Chemical Inventory Reports

A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 04/12/2007
Date Made Active in Reports: 05/17/2007
Number of Days to Update: 35

Source: Department of State Health Services
Telephone: 512-834-6603
Last EDR Contact: 09/17/2007
Next Scheduled EDR Contact: 12/17/2007
Data Release Frequency: Annually

MSD: Municipal Settings Designations Database

An MSD is an official state designation given to property within a municipality or its extraterritorial jurisdiction that certifies that designated groundwater at the property is not use as potable water, and is prohibited from future use as potatable water because that groundwater is contaminated in excess of the applicable potable-water protective concentration level.

Date of Government Version: 07/13/2007
Date Data Arrived at EDR: 07/24/2007
Date Made Active in Reports: 07/30/2007
Number of Days to Update: 6

Source: Texas Commission on Environmental Quality
Telephone: 512-239-4982
Last EDR Contact: 10/30/2007
Next Scheduled EDR Contact: 01/14/2008
Data Release Frequency: Varies

HIST LIENS: Environmental Liens Listing

This listing contains information fields that are no longer tracked in the LIENS database.

Date of Government Version: 03/23/2007
Date Data Arrived at EDR: 03/23/2007
Date Made Active in Reports: 05/02/2007
Number of Days to Update: 40

Source: Texas Commission on Environmental Qualilty
Telephone: 512-239-2209
Last EDR Contact: 09/17/2007
Next Scheduled EDR Contact: 12/17/2007
Data Release Frequency: No Update Planned

RWS: Radioactive Waste Sites

Sites in the State of Texas that have been designated as Radioactive Waste sites.

Date of Government Version: 07/24/2006
Date Data Arrived at EDR: 12/14/2006
Date Made Active in Reports: 01/23/2007
Number of Days to Update: 40

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0859
Last EDR Contact: 09/12/2007
Next Scheduled EDR Contact: 12/10/2007
Data Release Frequency: Semi-Annually

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 11/09/2007
Next Scheduled EDR Contact: 02/04/2008
Data Release Frequency: Semi-Annually

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/27/2007
Date Data Arrived at EDR: 09/07/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 34

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/04/2005
Date Data Arrived at EDR: 01/21/2005
Date Made Active in Reports: 02/28/2005
Number of Days to Update: 38

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 09/05/2007
Date Data Arrived at EDR: 10/02/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 9

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 12/01/2006
Date Data Arrived at EDR: 12/01/2006
Date Made Active in Reports: 01/29/2007
Number of Days to Update: 59

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 09/12/2007
Date Data Arrived at EDR: 09/14/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 27

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 09/11/2007
Date Data Arrived at EDR: 09/14/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 06/01/2007
Date Data Arrived at EDR: 06/14/2007
Date Made Active in Reports: 07/05/2007
Number of Days to Update: 21

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

Date of Government Version: 08/27/2007
Date Data Arrived at EDR: 09/07/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 34

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

Date of Government Version: 09/12/2007
Date Data Arrived at EDR: 09/14/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 27

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

Date of Government Version: 12/02/2004
Date Data Arrived at EDR: 12/29/2004
Date Made Active in Reports: 02/04/2005
Number of Days to Update: 37

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land
A listing of underground storage tank locations on Indian Land.

Date of Government Version: 12/01/2006
Date Data Arrived at EDR: 12/01/2006
Date Made Active in Reports: 01/29/2007
Number of Days to Update: 59

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

Date of Government Version: 08/31/2007
Date Data Arrived at EDR: 08/31/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 41

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Semi-Annually

INDIAN UST R4: Underground Storage Tanks on Indian Land

Date of Government Version: 09/05/2007
Date Data Arrived at EDR: 10/02/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 9

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Semi-Annually

INDIAN UST R9: Underground Storage Tanks on Indian Land

Date of Government Version: 09/11/2007
Date Data Arrived at EDR: 09/14/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 27

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

Date of Government Version: 06/01/2007
Date Data Arrived at EDR: 06/14/2007
Date Made Active in Reports: 07/05/2007
Number of Days to Update: 21

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 11/15/2007
Next Scheduled EDR Contact: 02/18/2008
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

FEDERAL RECORDS

HOSPITALS: AHA Hospital Guide

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Date of Government Version: N/A
Date Data Arrived at EDR: 10/19/1994
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: American Hospital Association
Telephone: 800-242-2626
Last EDR Contact: 09/22/2006
Next Scheduled EDR Contact: N/A
Data Release Frequency: N/A

PUBLIC SCHOOLS: Public Schools

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/13/2004
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: National Center for Education statistics
Telephone: 202-502-7300
Last EDR Contact: 10/10/2007
Next Scheduled EDR Contact: 01/07/2008
Data Release Frequency: N/A

PRIVATE SCHOOLS: Private Schools of the United States

The National Center for Education Statistics' primary database on private school locations in the United States.

Date of Government Version: N/A
Date Data Arrived at EDR: 10/07/2005
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: National Center for Education Statistics
Telephone: 202-502-7300
Last EDR Contact: 09/22/2006
Next Scheduled EDR Contact: N/A
Data Release Frequency: N/A

COLLEGES: Integrated Postsecondary Education Data
The National Center for Education Statistics' primary database on integrated postsecondary education in the United States.

Date of Government Version: N/A
Date Data Arrived at EDR: 10/12/2005
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: National Center for Education Statistics
Telephone: 202-502-7300
Last EDR Contact: 09/22/2006
Next Scheduled EDR Contact: N/A
Data Release Frequency: N/A

MEDICAL CENTERS: Provider of Services Listing
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health & Human Services.

Date of Government Version: 06/01/1998
Date Data Arrived at EDR: 11/10/2005
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
Last EDR Contact: 01/12/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: N/A

NURSING HOMES: Directory of Nursing Homes
Information on Medicare and Medicaid certified nursing homes in the United States.

Date of Government Version: N/A
Date Data Arrived at EDR: 10/11/2005
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: N/A
Telephone: 800-568-3282
Last EDR Contact: 09/22/2006
Next Scheduled EDR Contact: N/A
Data Release Frequency: N/A

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 06/15/2007
Date Made Active in Reports: 08/20/2007
Number of Days to Update: 66

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 09/12/2007
Next Scheduled EDR Contact: 12/10/2007
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 04/01/2007
Date Data Arrived at EDR: 04/05/2007
Date Made Active in Reports: 05/08/2007
Number of Days to Update: 33

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 11/07/2007
Next Scheduled EDR Contact: 12/31/2007
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/27/2007
Date Data Arrived at EDR: 08/30/2007
Date Made Active in Reports: 09/21/2007
Number of Days to Update: 22

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/29/2007
Next Scheduled EDR Contact: 02/25/2008
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 08/23/2007
Date Made Active in Reports: 09/27/2007
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 09/10/2007
Next Scheduled EDR Contact: 12/10/2007
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 04/09/2007
Date Data Arrived at EDR: 04/12/2007
Date Made Active in Reports: 04/27/2007
Number of Days to Update: 15

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 10/16/2007
Next Scheduled EDR Contact: 12/17/2007
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data
Hazardous waste manifest information.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 04/03/2007
Date Made Active in Reports: 04/24/2007
Number of Days to Update: 21

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 11/13/2007
Next Scheduled EDR Contact: 02/11/2008
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 04/27/2007
Date Made Active in Reports: 06/08/2007
Number of Days to Update: 42

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 10/09/2007
Next Scheduled EDR Contact: 01/07/2008
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facility List
Source: Department of Protective & Regulatory Services
Telephone: 512-438-3269

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

© 2007 Tele Atlas North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

GAYLORD TEXAN RESORT
1501 GAYLORD TRAIL
GRAPEVINE, TX 76051

TARGET PROPERTY COORDINATES

Latitude (North):	32.95364 - 32˚ 57’ 13.1’’
Longitude (West):	97.06204 - 97˚ 3’ 43.4’’
Universal Tranverse Mercator:	Zone 14
UTM X (Meters):	681148.9
UTM Y (Meters):	3647623.2
Elevation:	542 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	32097-H1 GRAPEVINE, TX
Most Recent Revision:	1981

EDR’s GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

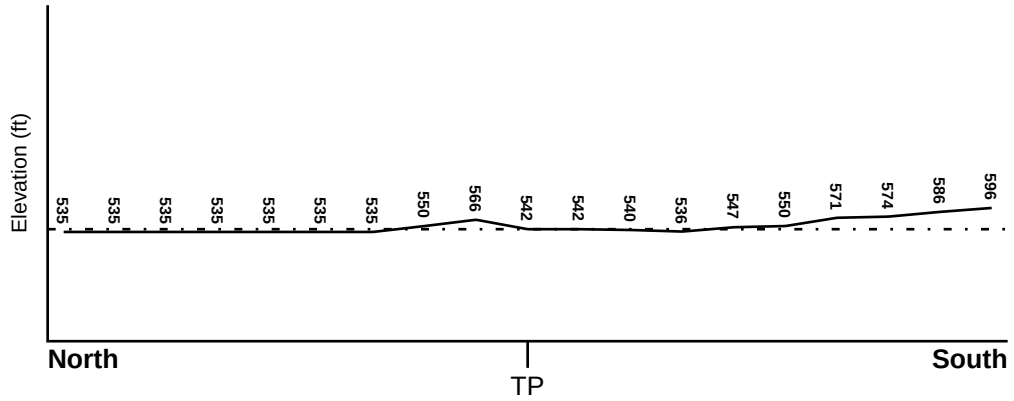
TOPOGRAPHIC INFORMATION

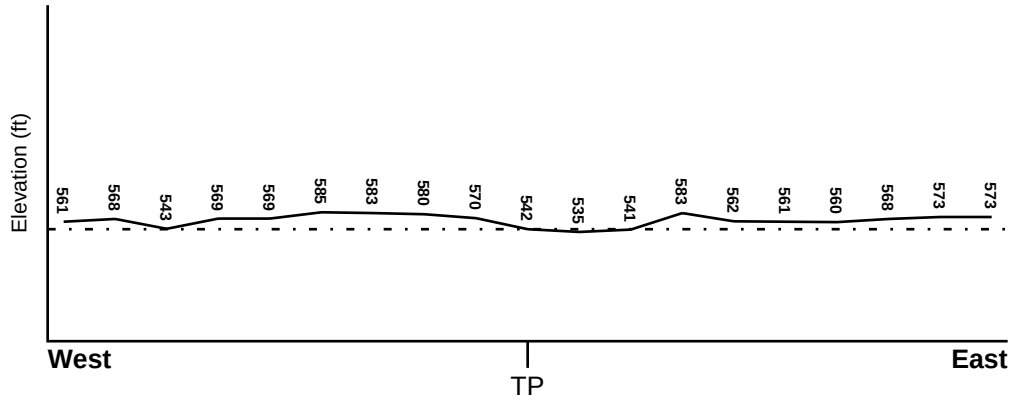
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General East

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 542 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
TARRANT, TX	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 4805980210H

Additional Panels in search area: 4805980205H

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
GRAPEVINE	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Mesozoic
System:	Cretaceous
Series:	Woodbine and Tuscaloosa Groups
Code:	uK1 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	CALLISBURG
Soil Surface Texture:	fine sandy loam
Hydrologic Group:	Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	MODERATE
Depth to Bedrock Min:	> 60 inches
Depth to Bedrock Max:	> 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	6 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 2.00 Min: 0.60	Max: 7.30 Min: 5.60
2	6 inches	19 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.60 Min: 0.20	Max: 7.30 Min: 5.10
3	19 inches	65 inches	sandy clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.60 Min: 0.20	Max: 7.80 Min: 5.10

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: loamy fine sand
clay loam

Surficial Soil Types: loamy fine sand
clay loam

Shallow Soil Types: fine sand

Deeper Soil Types: weathered bedrock
sandy clay loam
stratified
silty clay

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

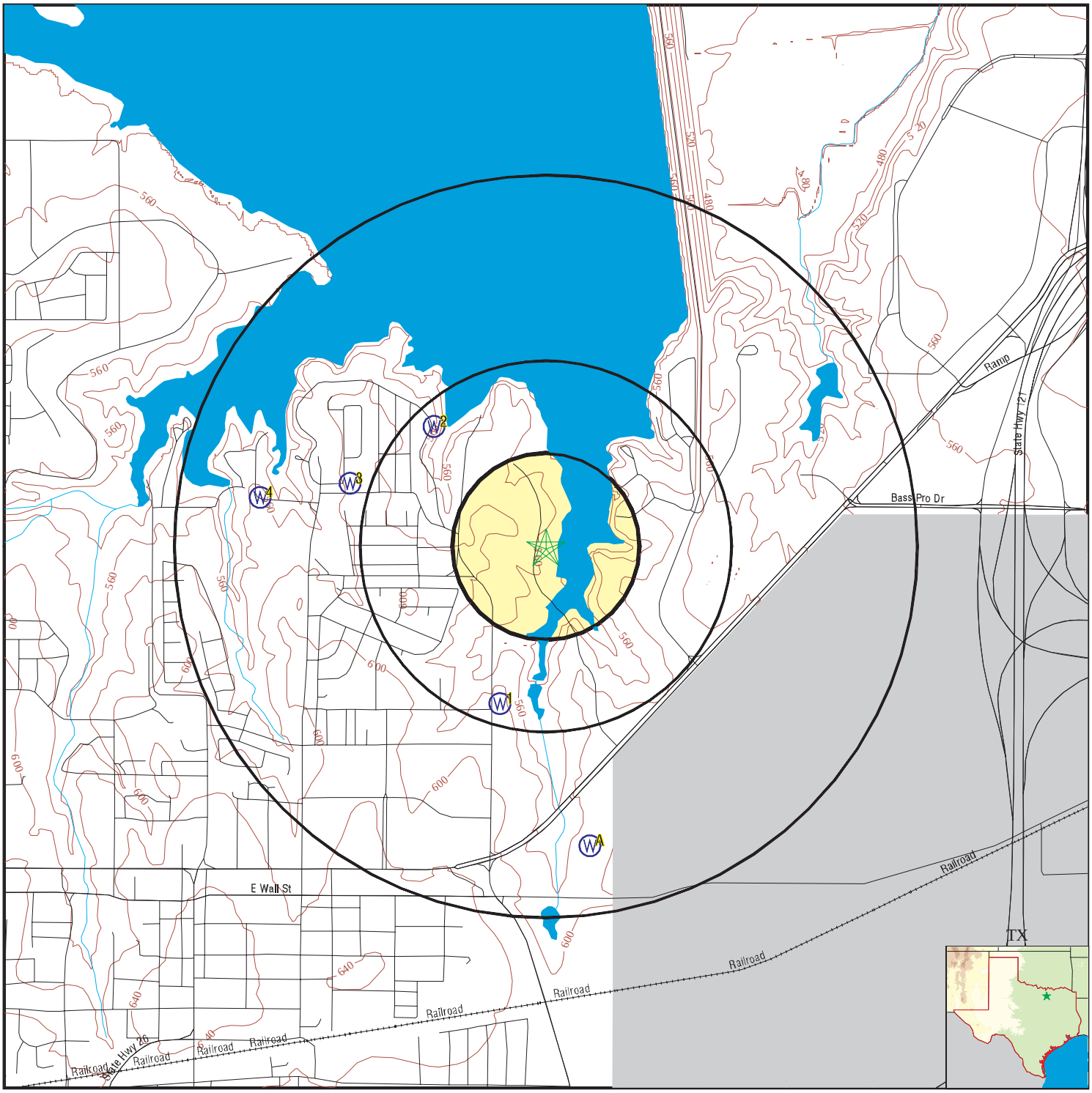
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	TXWDB0000044937	1/4 - 1/2 Mile SSW
2	TXWDB0000044923	1/4 - 1/2 Mile NW
3	TXWDB0000044939	1/2 - 1 Mile WNW
4	TXWDB0000044935	1/2 - 1 Mile West
A5	TXD1033537	1/2 - 1 Mile South
A6	TXD1033538	1/2 - 1 Mile South
A7	TXD1033536	1/2 - 1 Mile South

PHYSICAL SETTING SOURCE MAP - 2094641.2s



County Boundary
Major Roads
Contour Lines
Airports
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Closest Hydrogeological Data
Oil or gas wells
(in certain Texas counties)

SITE NAME: Gaylord Texan Resort	CLIENT: Huitt-Zollars, Inc.
ADDRESS: 1501 Gaylord Trail Grapevine TX 76051	CONTACT: Doug Cargo INQUIRY #: 2094641.2s
LAT/LONG: 32.9536 / 97.0620	DATE: December 07, 2007 9:23 am

Copyright © 2007 EDR, Inc. © 2007 Tele Atlas Rel. 07/2006.

Map ID Direction Distance Elevation	Database	EDR ID Number
1 **SSW** **1/4 - 1/2 Mile** **Higher**	**TX WELLS**	**TXWDB0000044937**

Database:	Texas Water Development Board Groudwater Database		
County:	Tarrant	Basin:	Trinity River
Zone:	1	Region num:	6
Old Well #:	Not Reported		
Latitude:	325651		
Lat dec:	32.9475		
Longitude:	970351		
Long dec:	-97.0641667		
Owner 1:	Silver Lake Farm	Owner 2:	Not Reported
Driller 1:	J.L. Myers Sons	Driller 2:	Not Reported
Coords Accuracy:	+/- second	Aquifer code:	218PLXY
Aquifer id #1:	Trinity	Aquifer id #2:	0
Aquifer id #3:	0	Elev of LSD:	580
Elev mmt method:	Not Reported		
User code Economics:	0		
Date drilled:	1969	Well type:	withdrawal of water
Well depth:	984	Depth mmt source:	Not Reported
Type of lift:	submersible pump	Type of power:	electric motor
Horsepower:	1.50	Primary use:	industrial
Secondary use:	Not Reported	Tertiary use:	Not Reported
Water levels avail:	M	Water quality avail?:	N
Well logs avail?:	Not Reported	Other data avail?:	Not Reported
Date collected :	Not Reported	Reporting Agency:	Not Reported
Well sched in TWDB?:	Y	Construct method:	Not Reported
Completion:	Not Reported	Casing mat:	Not Reported
Screen mat:	Not Reported	Lith log type:	Not Reported
Lithology Inits:	Not Reported	Lith date:	Not Reported
Interpreted date:	Not Reported	User name:	Not Reported

Water Level Information:

State well number:	3208506	Pn well visit mark:	P
Depth from lsd:	-415	Mm date:	1
Dd date:	4	Yy date:	1969
Measurement number:	01	Measuring agency:	Not Reported
Method of meas:	Not Reported	Remark:	Not Reported
Date entered:	Not Reported	User name:	Not Reported

---

2 **NW** **1/4 - 1/2 Mile** **Higher**	**TX WELLS**	**TXWDB0000044923**

Database:	Texas Water Development Board Groudwater Database		
County:	Tarrant	Basin:	Trinity River
Zone:	1	Region num:	6
Old Well #:	Not Reported		
Latitude:	325730		
Lat dec:	32.9583333		
Longitude:	970402		
Long dec:	-97.0672222		
Owner 1:	U.S. Army Corp of Engs	Owner 2:	Not Reported
Driller 1:	Not Reported	Driller 2:	Not Reported

Coords Accuracy:	+/- second	Aquifer code:	212WDBN
Aquifer id #1:	Woodbine	Aquifer id #2:	0
Aquifer id #3:	0	Elev of LSD:	555
Elev mmt method:	Not Reported		
User code Economics:	889430		
Date drilled:	1961	Well type:	withdrawal of water
Well depth:	238	Depth mmt source:	Not Reported
Type of lift:	submersible pump	Type of power:	electric motor
Horsepower:	1.00	Primary use:	public supply
Secondary use:	Not Reported	Tertiary use:	Not Reported
Water levels avail:	M	Water quality avail?:	Y
Well logs avail?:	Not Reported	Other data avail?:	Not Reported
Date collected :	Not Reported	Reporting Agency:	Not Reported
Well sched in TWDB?:	Y	Construct method:	Not Reported
Completion:	Not Reported	Casing mat:	Not Reported
Screen mat:	Not Reported	Lith log type:	Not Reported
Lithology Inits:	Not Reported	Lith date:	Not Reported
Interpreted date:	Not Reported	User name:	Not Reported

Infreq Const Water Quality Information:

State well number:	3208201	Mm date:	6
Dd date:	21	Yy date:	1972
Sample number:	1	Storet code:	01045
Flag:	Not Reported	Const val:	2700.
Plus minus:	Not Reported		

Infreq Const Water Quality Information:

State well number:	3208201	Mm date:	6
Dd date:	21	Yy date:	1972
Sample number:	1	Storet code:	01055
Flag:	<	Const val:	50.
Plus minus:	Not Reported		

Water Level Information:

State well number:	3208201	Pn well visit mark:	P
Depth from lsd:	-72	Mm date:	5
Dd date:	30	Yy date:	1961
Measurement number:	01	Measuring agency:	Not Reported
Method of meas:	Not Reported	Remark:	Not Reported
Date entered:	Not Reported	User name:	Not Reported

Water Quality Information:

State well number:	3208201	Mm date:	6
Dd date:	21	Yydate:	1972
Sample number:	1	Sample time:	Not Reported
Temp centigrade:	Not Reported	Top s interval:	Not Reported
Bottom s interval:	Not Reported	Samp int aqcode:	Not Reported
Collection remarks:	Not Reported	Reliability rem:	Not Reported
Collecting agency:	06	Lab code:	01
Bu wqanalysis:	B	Q00955 flag:	Not Reported
Q00955 silica mgl:	Not Reported	Q00910 flag:	Not Reported
Q00910 calcium mgl:	1	Q00920 flag:	Not Reported
Q00920 magnes mgl:	2	Q00929 flag:	Not Reported
Q00929 sodium mgl:	128	Q00937 flag:	Not Reported
Q00937 potass mgl:	Not Reported	Q01080 flag:	Not Reported
Q01080 strontium:	Not Reported	Q00445 carb mgl:	0
Q00440 bicarb mgl:	214.78	Q00945 flag:	Not Reported
Q00945 sulfate mgl:	40	Q00940 flag:	Not Reported
Q00940 chloride mg:	56	Q00951 flag:	Not Reported
Q00951 fluoride mg:	.3	Q71850 flag:	Not Reported
Q71850 nitrate mgl:	1.5	Q00403 flag:	Not Reported
Q00403 ph:	7.9	Q70300 tds:	334

Q00415 flag:	Not Reported	Q00415 phen alk:	0
Q00410 flag:	Not Reported	Q00410 total alk:	176
Q00900 tot hardnes:	10	Q00932 percent na:	96
Q00931 sar:	17	Q71860 rsc:	3.31
Q00095 flag:	Not Reported	Q00095 spec cond:	600
Date entered:	Not Reported	User name:	cmuller

3
WNW **TX WELLS** **TXWDB0000044939**
1/2 - 1 Mile
Higher

Database:	Texas Water Development Board Groudwater Database		
County:	Tarrant	Basin:	Trinity River
Zone:	1	Region num:	6
Old Well #:	Not Reported		
Latitude:	325722		
Lat dec:	32.9561111		
Longitude:	970416		
Long dec:	-97.0711111		
Owner 1:	Virgil Williams	Owner 2:	Not Reported
Driller 1:	E.C. Stone Water	Driller 2:	Well Drilling
Coords Accuracy:	+/- second	Aquifer code:	212WDBN
Aquifer id #1:	Woodbine	Aquifer id #2:	0
Aquifer id #3:	0	Elev of LSD:	582
Elev mmt method:	Not Reported		
User code Economics:	0		
Date drilled:	1966	Well type:	withdrawal of water
Well depth:	138	Depth mmt source:	Not Reported
Type of lift:	submersible pump	Type of power:	electric motor
Horsepower:	1.00	Primary use:	domestic
Secondary use:	Not Reported	Tertiary use:	Not Reported
Water levels avail:	N	Water quality avail?:	N
Well logs avail?:	Not Reported	Other data avail?:	Not Reported
Date collected :	Not Reported	Reporting Agency:	Not Reported
Well sched in TWDB?:	Y	Construct method:	Not Reported
Completion:	Not Reported	Casing mat:	Not Reported
Screen mat:	Not Reported	Lith log type:	Not Reported
Lithology Inits:	Not Reported	Lith date:	Not Reported
Interpreted date:	Not Reported	User name:	Not Reported

4
West **TX WELLS** **TXWDB0000044935**
1/2 - 1 Mile
Higher

Database:	Texas Water Development Board Groudwater Database		
County:	Tarrant	Basin:	Trinity River
Zone:	1	Region num:	6
Old Well #:	Not Reported		
Latitude:	325720		
Lat dec:	32.9555556		
Longitude:	970431		
Long dec:	-97.0752778		
Owner 1:	U.S. Army Corp of Engs	Owner 2:	Not Reported
Driller 1:	Watts Drilling Co	Driller 2:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Coords Accuracy:	+/- second	Aquifer code:	212WDBN
Aquifer id #1:	Woodbine	Aquifer id #2:	0
Aquifer id #3:	0	Elev of LSD:	555
Elev mmt method:	Not Reported		
User code Economics:	889430		
Date drilled:	1962	Well type:	withdrawal of water
Well depth:	187	Depth mmt source:	Not Reported
Type of lift:	submersible pump	Type of power:	electric motor
Horsepower:	1.00	Primary use:	public supply
Secondary use:	Not Reported	Tertiary use:	Not Reported
Water levels avail:	N	Water quality avail?:	Y
Well logs avail?:	Not Reported	Other data avail?:	Not Reported
Date collected :	Not Reported	Reporting Agency:	Not Reported
Well sched in TWDB?:	Y	Construct method:	Not Reported
Completion:	Not Reported	Casing mat:	Not Reported
Screen mat:	Not Reported	Lith log type:	Not Reported
Lithology Inits:	Not Reported	Lith date:	Not Reported
Interpreted date:	Not Reported	User name:	Not Reported

Infreq Const Water Quality Information:

State well number:	3208504	Mm date:	6
Dd date:	6	Yy date:	1974
Sample number:	1	Storet code:	01045
Flag:	Not Reported	Const val:	3000.
Plus minus:	Not Reported		

Infreq Const Water Quality Information:

State well number:	3208504	Mm date:	6
Dd date:	6	Yy date:	1974
Sample number:	1	Storet code:	01055
Flag:	Not Reported	Const val:	150.
Plus minus:	Not Reported		

Water Quality Information:

State well number:	3208504	Mm date:	6
Dd date:	6	Yydate:	1974
Sample number:	1	Sample time:	Not Reported
Temp centigrade:	Not Reported	Top s interval:	Not Reported
Bottom s interval:	Not Reported	Samp int aqcode:	Not Reported
Collection remarks:	Not Reported	Reliability rem:	Not Reported
Collecting agency:	06	Lab code:	01
Bu wqanalysis:	B	Q00955 flag:	Not Reported
Q00955 silica mgl:	Not Reported	Q00910 flag:	Not Reported
Q00910 calcium mgl:	23	Q00920 flag:	Not Reported
Q00920 magnes mgl:	9	Q00929 flag:	Not Reported
Q00929 sodium mgl:	71	Q00937 flag:	Not Reported
Q00937 potass mgl:	Not Reported	Q01080 flag:	Not Reported
Q01080 strontium:	Not Reported	Q00445 carb mgl:	0
Q00440 bicarb mgl:	196.48	Q00945 flag:	Not Reported
Q00945 sulfate mgl:	33	Q00940 flag:	Not Reported
Q00940 chloride mg:	42	Q00951 flag:	Not Reported
Q00951 fluoride mg:	.3	Q71850 flag:	<
Q71850 nitrate mgl:	.4	Q00403 flag:	Not Reported
Q00403 ph:	7.5	Q70300 tds:	275

Q00415 flag:	Not Reported	Q00415 phen alk:	0
Q00410 flag:	Not Reported	Q00410 total alk:	161
Q00900 tot hardnes:	94	Q00932 percent na:	62
Q00931 sar:	3.18	Q71860 rsc:	1.33
Q00095 flag:	Not Reported	Q00095 spec cond:	532
Date entered:	Not Reported	User name:	cmuller

A5
South **TX WELLS** **TXD1033537**
1/2 - 1 Mile
Higher

Rec id:	42280		
Owner:	Astec Industries, Inc/DBA Trencor	Owner well #:	TMW-3
Owner Address:	9600 Corporate Park, Drive	City state zip:	Loudon ,TN37774
Grid:	32-08-5		
Well address:	1400 E Northwest Hwy/SH 26		
Well city state:	Grapevine ,TX76051	Latitude:	32° 56 31N
Well county:	Tarrant	Longitude:	097° 03 36 W
Elevation:	587 ft.	Gps brand:	None
Type of work:	New Well	Use:	Environmental Soil Boring
Spud date:	7/19/2005	Completed date:	7/19/2005
Diameter:	6 in From Surface To	13 ft	
Drilling method:	Hollow Stem Auger		
Borehole Completed:	Not Reported		
Gravel Packed from:	Not Reported		
Pack size:	Not Reported		
1st interval:	No Data		
2nd interval:	No Data		
3rd interval:	No Data		
Cement method:	Not Reported	Cemented by:	Not Reported
Distance to septic:	Not Reported	Dist. to property line:	Not Reported
Verify method:	Not Reported	Variance:	Not Reported
Surface completion:	Alternative Procedure Used	Static level:	No Data
Flow:	No Data		
Packers:	No Data		
Cement left in well:	Not Reported	Pump type:	No Data
Pumpbowl depth:	Not Reported	Well tests:	No Data
Yield:	Not Reported		
Water quality:	No Data		
Strata depth:	No Data		
Chem. analysis:	No	Undesirable:	No

Certification: The driller certified that the driller drilled this well (or the well was drilled under the drillers direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required

Company name:	PSI	Company address:	4087 Shilling Way
City state:	Dallas , TX 75237	Driller license #:	2680
Driller Signature:	Sheldon Lauritsen	Apprentice signature:	No Data
Apprentice Reg. #:	No Data		

Comments: No Data
Description: 0 to 12 Clay, dark gray and brown12 to 13 sand, grayish brown
Old id : 634

A6
South **TX WELLS** **TXD1033538**
1/2 - 1 Mile
Higher

Rec id:	42281		
Owner:	Astec Industries, Inc/DBA Trencor	Owner well #:	TMW-2
Owner Address:	9600 Corporate Park, Drive	City state zip:	Loudon ,TN37774
Grid:	32-08-5		
Well address:	1400 E Northwest Hwy/SH 26		
Well city state:	Grapevine ,TX76051	Latitude:	32° 56 31N
Well county:	Tarrant	Longitude:	097° 03 36 W
Elevation:	587 ft.	Gps brand:	None
Type of work:	New Well	Use:	Environmental Soil Boring
Spud date:	7/19/2005	Completed date:	7/19/2005
Diameter:	6 in From Surface To	15 ft	
Drilling method:	Hollow Stem Auger		
Borehole Completed:	Not Reported		
Gravel Packed from:	Not Reported		
Pack size:	Not Reported		
1st interval:	No Data		
2nd interval:	No Data		
3rd interval:	No Data		
Cement method:	Not Reported	Cemented by:	Not Reported
Distance to septic:	Not Reported	Dist. to property line:	Not Reported
Verify method:	Not Reported	Variance:	Not Reported
Surface completion:	Alternative Procedure Used	Static level:	No Data
Flow:	No Data		
Packers:	NA		
Cement left in well:	Not Reported	Pump type:	No Data
Pumpbowl depth:	Not Reported	Well tests:	No Data
Yield:	Not Reported		
Water quality:	No Data		
Strata depth:	No Data		
Chem. analysis:	No	Undesirable:	No
Certification:	The driller certified that the driller drilled this well (or the well was drilled under the drillers direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required		
Company name:	PSI	Company address:	4087 Shilling Way
City state:	Dallas , TX 75237	Driller license #:	2680
Driller Signature:	Sheldon Lauritsen	Apprentice signature:	No Data
Apprentice Reg. #:	No Data		
Comments:	No Data		
Description:	0 to 8 Clay, dark gray8 to 12 Sandy clay, light gray and yellow12-15 Sandstone, light gray		
Setting:	NA		
Old id :	634		

A7
South
1/2 - 1 Mile
Higher

TX WELLS **TXD1033536**

Rec id:	42282		
Owner:	Astec Industries, Inc/DBA Trencor	Owner well #:	TMW-1
Owner Address:	9600 Corporate Park, Drive	City state zip:	Loudon ,TN37774
Grid:	32-08-5		
Well address:	1400 E Northwest Hwy/SH 26		
Well city state:	Grapevine ,TX76051	Latitude:	32° 56 31N
Well county:	Tarrant	Longitude:	097° 03 36 W
Elevation:	587 ft.	Gps brand:	None

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Type of work:	New Well	Use:	Environmental Soil Boring
Spud date:	7/19/2005	Completed date:	7/19/2005
Diameter:	6 in From Surface To	20 ft	
Drilling method:	Hollow Stem Auger		
Borehole Completed:	Not Reported		
Gravel Packed from:	Not Reported		
Pack size:	Not Reported		
1st interval:	No Data		
2nd interval:	No Data		
3rd interval:	No Data		
Cement method:	Not Reported	Cemented by:	Not Reported
Distance to septic:	Not Reported	Dist. to property line:	Not Reported
Verify method:	Not Reported	Variance:	Not Reported
Surface completion:	Alternative Procedure Used	Static level:	No Data
Flow:	No Data		
Packers:	NA		
Cement left in well:	Not Reported	Pump type:	No Data
Pumpbowl depth:	Not Reported	Well tests:	No Data
Yield:	Not Reported		
Water quality:	No Data		
Strata depth:	No Data		
Chem. analysis:	No	Undesirable:	No
Certification:	The driller certified that the driller drilled this well (or the well was drilled under the drillers direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required		
Company name:	PSI	Company address:	4087 Shilling Way
City state:	Dallas , TX 75237	Driller license #:	2680
Driller Signature:	Sheldon Lauritsen	Apprentice signature:	No Data
Apprentice Reg. #:	No Data		
Comments:	No Data		
Description:	0-16 Sand and clay, reddish brown16-20 Shale, dark gray		
Setting:	NA		
Old id :	634		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: TX Radon

Radon Test Results

County	Mean	Total Sites	%>4 pCi/L	%>20 pCi/L	Min pCi/L	Max pCi/L
TARRANT	1.1	86	3.8	.0	<.5	7.4

Federal EPA Radon Zone for TARRANT County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 76051

Number of sites tested: 5

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.340 pCi/L	80%	20%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Public Water Supply Sources Databases
Source: Texas Commission on Environmental Quality
Telephone: 512-239-6199
Locations of public drinking water sources maintained by the TCEQ

Groundwater Database
Source: Texas Water Development Board
Telephone: 512-936-0837

Well Report Database
Source: Department of Licensing and Regulation
Telephone: 512-936-0833

Water Well Database
Source: Harris-Galveston Coastal Subsidence District
Telephone: 281-486-1105

OTHER STATE DATABASE INFORMATION

Texas Oil and Gas Wells:
Source: Texas Railroad Commission
Oil and gas well locations

RADON

State Database: TX Radon
Source: Department of Health
Telephone: 512-834-6688
Rinal Report of the Texas Indoor Radon Survey

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

STREET AND ADDRESS INFORMATION

© 2007 Tele Atlas North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

Appendix F – USACE CEC-ZA Memorandum
“Recreational Development Policy for Outgranted Corps Lands”

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
WASHINGTON, D.C. 20314-1000

CECW-ZA DEC 6 2005

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Recreation Development Policy for Outgranted Corps Land

1. **Background**. In executing the U.S. Army Corps of Engineers mission to provide public outdoor recreation opportunities, districts receive numerous and diverse proposals for recreation development of lands and waters at water resources development projects. No consistent nationwide criteria exist to evaluate these proposals and districts have taken different approaches that have created inconsistencies in the type and scope of recreation development provided. This policy was developed jointly by the Real Estate and Operations Communities of Practice.

2. **Purpose**. The purpose of this guidance is to establish consistent, nationwide policy that will be applied to evaluate requests for recreation development at Corps water resources development projects. The Corps intent is to provide public outdoor recreation opportunities that support project purposes and meet the recreation demands created by the project itself while sustaining our natural resources. Depending on specific project legislation, project purposes may also include navigation, hydropower, flood control, and or water supply. Additional statutes can assign missions responsibilities such as fish and wildlife management, and endangered species.

3. **Applicability**. This policy generally applies to all new requests for recreation development by public (State and local), private sector and quasi-public entities and individuals at Civil Works water resources development projects. Previously approved development plans for land currently outgranted for recreation development are grandfathered under this policy. When proposed development is not specifically addressed in a previously approved development plan for an existing outgrant instrument, the proposed development will be treated as a new request; however, land availability will not have to be reevaluated. New or existing sublessees that propose recreational development outside the terms and conditions of the current outgrant instrument will be considered as a new request. All new requests require a conceptual development plan in sufficient detail to evaluate the proposed recreation development.

4. **Policy.** The primary rationale for any future recreation development must be dependent on the project's natural or other resources. This dependency is typically reflected in facilities that accommodate or support water-based activities, overnight use, and day use such as marinas, campgrounds, picnic areas, trails, swimming beaches, boat launching ramps, and comprehensive resort facilities. Examples that do not rely on the project's natural or other resources include theme parks or ride-type attractions, sports or concert stadiums, and stand alone facilities such as restaurants, bars, motels, hotels, non-transient trailers, and golf courses. Normally, the recreation facilities that are dependent on the project's natural or other resources and accommodate or support water-based activities, overnight use, and day are approved first as primary facilities followed by those facilities that support them. Any support facility (e.g., playgrounds, multi-

purpose sports fields, overnight facilities, restaurants, camp stores, bait shops, comfort stations, boat repair facilities), must also enhance the recreation experience, be dependent on the resource-based facilities, be secondary to the original intent of the recreation development and the land base occupied by the outgrant. The Corps will not support private exclusive use of any type of facility.

Corps policy is to provide outdoor recreation opportunities to the public where there is an unfulfilled demand and a corresponding deficit of those facilities. This shortfall is fulfilled by either the Corps constructing the facilities itself or allowing other public (State and local), private sector, quasi-private entities or individuals to do so on project lands through an outgrant. Accordingly, outgrants that the Corps enters into should not unfairly compete with other established private or public recreational facilities. Existing outgrants with proposed facilities in development plans should be given priority to develop similar facilities within a reasonable timeframe before issuing a new outgrant for like facilities.

5. **Definitions.**

a. **Comprehensive Resort** – Typically, multi-faceted developments with facilities such as marinas, lodging, conference centers, golf courses, tennis courts, restaurants, and other similar facilities.

b. **Development Plan** – Requestor's or existing lessee's conceptual plan for development of an area of Corps land that shows existing and or proposed facilities, services, and acreage necessary to meet the current and potential public demand and the management and development activities to be undertaken.

c. **Master Plan** - A conceptual document guiding Corps responsibilities pursuant to Federal laws and regulations to preserve, conserve, develop, restore, maintain, and manage the project lands, waters, and associated resources. The primary goals of a Master Plan are to prescribe an overall land and water management plan, resource objectives, land use classifications, and associated design and management concepts. The plan addresses all resources including but not limited to fish and wildlife, vegetation, cultural, aesthetic, interpretive, recreational, mineral, commercial, and outgranted lands, easements and water.

d. **Outgrant** – Authorizes the right to use Army-controlled real property. It is a written legal document that establishes the timeframe, consideration, conditions and restrictions on the use of Army property. For the purposes of this policy, an outgrant is typically a lease or license authorized by 16 USC 460d, 10 USC 2667 and the general administrative authority of the Secretary of the Army (reference ER 405-1-12, Chapter 8 (Real Property Management) and the forthcoming EC 405-1-80 (Management and Outgrant Programs).

e. **Project Level Representative** – Person responsible for operations at a project or area level such as lake manager, operations project manager, resource manager, etc.

6. Evaluation Criteria. All new requests for recreation development must be in writing and will be reviewed by a district team. At a minimum, the team will consist of a project level representative, Real Estate, Operations, and other district legal/technical elements as appropriate (Engineering, Planning, Regulatory, etc.). Final authority to approve recreation development rests with the District Commander. In the rare circumstance that exceptions to this policy may be warranted, proposals for recreational developments may be forwarded to the Director of Civil Works through the Division Commander for review on a case by case basis.

Although these evaluation criteria are integral to any land availability determination, the preparation of the Report of Availability (ROA) will follow the processes established in ER 405-1-12, Chapter 8 (Real Property Management) and the forthcoming EC 405-1-80 (Management and Outgrant Programs) and ER 200-2-2 (Procedures for Implementing NEPA). In addition, the evaluation will be consistent with ER 1130-2-540 (Environmental Stewardship Operations and Maintenance Policies), ER 1130-2-550 (Recreation Operations and Maintenance Policies), and ER 1130-2-406 (Shoreline Management at Civil Works Projects.)

The team will evaluate requests for recreation development using the following criteria:

- Consistent with project purposes
- Reasonable connection to the project's natural and other resources
- Consistent with land use classifications and resource management objectives in the Project Master Plan (or supplement thereto)
- In the public interest
- Justified by public demand (market study- See Enclosure 1)
- Economically viable (feasibility study- See Enclosure 1)
- Meets the recreation demands created by the project itself while balancing natural resources requirements

Routine, minor expansions/requests of previously approved facilities within the lease footprint such as additional campsites at an existing campground, additional marina boat slips, enlargement of a restaurant, additional picnic sites or parking spaces may warrant a streamlined evaluation in accordance with established district procedures.

7. Implementation. This policy is effective immediately and supersedes any existing project, district, or MSC policy on evaluating proposed recreation development. This policy will remain in effect until incorporated into appropriate Engineer Regulations.

FOR THE COMMANDER:

Encl

DON T. RILEY
Major General, USA
Director of Civil Works

CECW-CO
SUBJECT: Recreation Development Policy for Outgranted Corps Land

DISTRIBUTION:

COMMANDER, GREAT LAKES & OHIO RIVERS DIVISION, ATTN: CELRD-ET-CO-R
COMMANDER, BUFFALO DISTRICT, ATTN: CELRB-CO-TB
COMMANDER, CHICAGO DISTRICT, ATTN: CELRC-CO
COMMANDER, DETROIT DISTRICT, ATTN: CELRE-CO-L
COMMANDER, HUNTINGTON DISTRICT, ATTN: CELRH-OR
COMMANDER, LOUISVILLE DISTRICT, ATTN: CELRL-OP-TO
COMMANDER, NASHVILLE DISTRICT, ATTN: CELRN-OP-T-N
COMMANDER, PITTSBURGH DISTRICT, ATTN: CELRP-OR-TR
COMMANDER, MISSISSIPPI VALLEY DIVISION, ATTN: CEMVD-PD-KM
COMMANDER, MEMPHIS DISTRICT, ATTN: CEMVM-CO
COMMANDER, NEW ORLEANS DISTRICT, ATTN: CEMVN-OD-T
COMMANDER, ROCK ISLAND DISTRICT, ATTN: CEMVR-OD-T
COMMANDER, ST. LOUIS DISTRICT, ATTN: CEMVS-CO-T
COMMANDER, ST. PAUL DISTRICT, ATTN: CEMVP-CO-OP
COMMANDER, VICKSBURG DISTRICT, ATTN: CEMVK-OD
COMMANDER, NORTH ATLANTIC DIVISION, ATTN: CENAD-ET-O
COMMANDER, BALTIMORE DISTRICT, ATTN: CENAB-OP-TR
COMMANDER, NEW ENGLAND DISTRICT, ATTN: CENAE-CO-TM
COMMANDER, NEW YORK DISTRICT, ATTN: CENAN-OP
COMMANDER, NORFOLK DISTRICT, ATTN: CENAO-TS-O
COMMANDER, PHILADELPHIA DISTRICT, ATTN: CENAP-OP
COMMANDER, NORTHWESTERN DIVISION, ATTN: CENWD-CM-O
COMMANDER, NWD – OMAHA OFFICE, ATTN: CENWD-CM-O - OMAHA
COMMANDER, KANSAS CITY DISTRICT, ATTN: CENWK-OD-TR
COMMANDER, OMAHA DISTRICT, ATTN: CENWO-OD-TN
COMMANDER, PORTLAND DISTRICT, ATTN: CENWP-CO-SR
COMMANDER, SEATTLE DISTRICT, ATTN: CENWS-OD-TS-NR
COMMANDER, WALLA WALLA DISTRICT, ATTN: CENWW-OD-TN
COMMANDER, PACIFIC OCEAN DIVISION, ATTN: CEPOD-ET-C
COMMANDER, ALASKA DISTRICT, ATTN: CEPOA-CO-OR
COMMANDER, HONOLULU DISTRICT, ATTN: CEPOH-EC-T
COMMANDER, SOUTH ATLANTIC DIVISION, ATTN: CESAD-CM-OC
COMMANDER, CHARLESTON DISTRICT, ATTN: CESAC-TS-O
COMMANDER, JACKSONVILLE DISTRICT, ATTN: CESAJ-CO-OP
COMMANDER, MOBILE DISTRICT, ATTN: CESAM-OP-TR
COMMANDER, SAVANNAH DISTRICT, ATTN: CESAS-OP-SR
COMMANDER, WILMINGTON DISTRICT, ATTN: CESAW-OP-TN
COMMANDER, SOUTH PACIFIC DIVISION, ATTN: CESPD-CM-O
COMMANDER, ALBUQUERQUE DISTRICT, ATTN: CESPA-OD-O
COMMANDER, LOS ANGELES DISTRICT, ATTN: CESPL-CO-O
COMMANDER, SACRAMENTO DISTRICT, ATTN: CESPK-CO-O
COMMANDER, SAN FRANCISCO DISTRICT, ATTN: CESPN-CO-O
COMMANDER, SOUTHWESTERN DIVISION, ATTN: CESWD-ETO
COMMANDER, FORT WORTH DISTRICT, ATTN: CESWF-OD-R
COMMANDER, GALVESTON DISTRICT, ATTN: CESWG-OD-O
COMMANDER, LITTLE ROCK DISTRICT, ATTN: CESWL-OP-ON
COMMANDER, TULSA DISTRICT, ATTN: CESWT-OD-R
COMMANDER, ENGINEER RESEARCH AND DEV. CENTER, ATTN: CEERD-EE
COMMANDER, ENGINEER RESEARCH AND DEV. CENTER, ATTN: CEWES-EE-R

MARKET AND FEASIBILITY STUDIES
ENCLOSURE 1

Market Study

A market study is contingent upon developing an inventory of the supply of existing types of recreational resources within a given area. The study must also include a recreational demand analysis that provides an indication of what people do, feel and want concerning recreational facilities (e.g., public demand). By comparing the inventory and the demand analysis it is possible to determine the types and amount of additional recreational facilities that are needed now or in the future. At a minimum, proposed recreation development by a by public (State and local), private sector and quasi-public entities and individuals will demonstrate a demand for the type of facilities proposed and a current or near future need for the type of facility being proposed.

Proposed demand studies shall contain data on the regional population and future projections, demographic characteristics and an inventory of similar types of recreational facilities (e.g., campgrounds, picnic areas, marinas, etc.) and their resources (e.g., 125 camping spurs, 150 picnic tables, etc) within a 30-mile radius of the proposed site requested for development. The study should demonstrate that the demand analysis was done through one or a combination of methods. These general categories of methods include but are not limited to, public input gathered through surveys and or workshops, using recreational standards (e.g., 1000 camping spurs per 50,000 people), participation levels/rates (e.g., 2.4 million people participate in picnicking which is 56 percent of the regional population), and trend analysis (e.g., extrapolating historical use statistics for those similar types of facilities over a ten to twenty year period).

The availability of information described above for use in the study will vary from region to region. Public (state and local), private sector and quasi-public entities and individuals should consult with State Census Bureaus, State Departments of Commerce, State and Federal Recreational Agencies, and travel bureaus for this information and to minimize study cost. Each state has a State Comprehensive Outdoor Recreation Plan that contains analysis criteria referenced above. In addition there are numerous Federal recreational studies such as the National Survey of Recreation and Environment that contain this type of information. Regional universities with outdoor recreational departments may also be a source for this information and assistance.

All costs associated with a market study, NEPA documents, land surveys, preparation and review of the ultimate lease by the Corps as well as any other administrative costs associated with Corps review and approval any proposed development are the responsibility of the entity proposing the recreation development.

Feasibility Study

The intent in requiring a private sector or individual to provide a feasibility study is to demonstrate that the entity can make a reasonable return of profit on a yearly basis for the proposed recreational development and that such development is economically viable. Factors such as the input of capital to develop the facility(s), maintenance cost, insurance, labor, etc. should be addressed. The type and size level of the facility(s) (e.g., 250 camping spurs vs. 100 spurs, 200 marina boat slips vs. 100) should also be addressed to demonstrate a reasonable rate of profit would occur. The numbers of visitors needed and the associated fee for these services should also be addressed. Detailed charts, graphs, and projections are not required; however, enough data must be provided to demonstrate such factors have been considered and that a profit can be generated.

Feasibility studies for public (State and local) or quasi-public entities will also be required. However the content of the analysis is limited to the types and size of the facility and evidence that yearly profits of the facility will offset or nearly offset the yearly operational cost or the proposed facility(s). Private sector or individuals working through a public entity for a development request (third party) will be required to furnish a feasibility study that complies with the requirements for a private requestor or individual as referenced above.

All costs associated with a market study, NEPA documents, land surveys, preparation and review of the ultimate lease by the Corps as well as any other administrative costs associated with Corps review and approval any proposed development are the responsibility of the entity proposing the recreation development.

APPENDIX G

EA for Opryland on Grapevine Lake Facilities (August 1999)

ENVIRONMENTAL ASSESSMENT
FOR
OPRYLAND ON GRAPEVINE LAKE FACILITIES
CITY OF GRAPEVINE, TARRANT COUNTY, TEXAS

U.S. Army Corps of Engineers
Fort Worth District
Fort Worth, Texas 76102-0300

August 1999

Opryland on Grapevine Lake

TARRANT COUNTY, TEXAS

TABLE OF CONTENTS

1.0 Introduction 1
1.1 Purpose and Need 1
2.0 Alternatives to the Proposed Plan 1
2.1 Future without Project 1
2.2 Preferred Plan 1
2.3 Bridge and Box Culvert Alignment 2
2.4 Project Off Federal Lands 2
2.5 Single Road Access 2
3.0 Affected Environment 2
3.1 Soils 2
3.2 Geology 3
3.3 Air Quality 3
3.4 Noise 3
3.5 Surface Water and Water Quality 3
3.5.1 Surface Waters 3
3.5.2 Water Quality 4
3.6 Illumination 4
3.7 Aquatic Resources 4
3.7.1 Aquifers 4
3.7.2 Wetlands/Jurisdictional Waters 5
3.8 Terrestrial Resources 5
3.8.1 Vegetation 5
3.8.2 Fish and Wildlife 5
3.9 Land Use 6

3.10 Federal Threatened and Endangered Species 6
3.11 State Special Species and Critical Habitats 7
3.11.1 Vegetation Resources 7
3.11.2 Animal Resources 7
3.12 Cultural Resources 7
3.13 Socioeconomic Resources 8
4.0 Environmental Consequences of the Proposed Action 10
4.1 Impacts to Soils and Geology 10
4.1.1 Soils 10
4.1.2 Geology 10
4.2 Air Quality Impacts 10
4.3 Noise Impacts 10
4.4 Illumination Impacts 13
4.5 Safety Impacts 14
4.6 Impacts to Surface Water and Water Quality 14
4.6.1 Surface Water 14
4.6.2 Ground Water 15
4.7 Impacts to Aquatic Resources 15
4.8 Impacts to Terrestrial Resources 16
4.9 Impacts to Federal Threatened and Endangered Species 18
4.10 Impacts to State Special Species and Critical Habitats 18
4.11 Executive Order 11988, Floodplain Management 18
4.12 Executive Order 11990, Protection of Wetlands 19
4.13 Environmental Justice 19
4.14 Cultural Resources 20
4.15 Socioeconomic Resources 21
5.0 Conclusion 21
6.0 References 22

List of Acronyms and Abbreviations 24

List of Tables

Page

Table 3-1. Federally listed Threatened and Endangered Species in Tarrant County, Texas. 6
Table 3-2. Endangered, Threatened, and Watch List of Vertebrates for the entire state of Texas (TOES 1988)... 7
Table 4-1. *Common Sound/Noise Levels* 11
Table 4-2. *Federal Highway Administration Noise Abatement Criteria (NAC)* 12
Table 4-3. *Predicted Traffic Noise Level Contours* 13
Table 4-4. Typical Compensatory Mitigation Ratio for Loss of Vegetation/Habitat 18
Table 4-5. 1990 Census Population and Housing Characteristics 20
Table 4-6. 1990 Census Income Characteristics 20

List of Exhibits

After Page

Exhibit 1: Vicinity Map 1
Exhibit 2: Preferred Plan 1
Exhibit 3: Bridges and Box Culvert Alternative 2
Exhibit 4: Digital Ortho Quarter Quad 4
Exhibit 5: Jurisdictional Waters of the U.S. 15
Exhibit 6: Grapevine Lake Land Use Map 16
Exhibit 7: Wildlife Habitat Appraisal Procedure Layout 18

1.0 Introduction

The proposed action to be evaluated in this Environmental Assessment (EA) is the construction of roads, portion of a parking garage, and fishing pier associated with the Opryland Texas project, along the south shore of Grapevine Lake in Grapevine, Texas. The proposed activities will be conducted on federal lands associated with the Grapevine Lake project in Grapevine, Texas. This EA evaluates the environmental impacts associated with the implementation of this action. The EA has been prepared in accordance with the policies and procedures outlined in the National Environmental Policy Act (NEPA) of 1969, Council on Environmental Quality (CEQ) regulations, and COE Procedures for Implementing NEPA 1988 (ER 200-2-2).

1.1 Purpose and Need

A site was selected by the City of Grapevine for the development of a 1,500 room hotel, a 400,000 s.f. convention center with a lower-level parking garage, a four-acre atrium, a restaurant, a fishing pier, and streets leading to the facilities. The plan also included a hiking and biking trail that would tie into the City's trail master plan. Support facilities for the complex also include access and service roads. Future plans for the location also include a proposed golf course. This golf course would be studied and assessed in a separate EA. The Opryland Hospitality Group from Nashville, Tennessee, has been selected as the operator of this complex and proposes to build a program facility prototype to apply nationwide. This complex will be constructed on the 52-acre peninsula tract, near Silver Lake Park and the COE Grapevine Lake project headquarters. The tract of land is located north of State Highway 26 (SH 26), east of Ruth Wall Street, and west of Parkway Drive. Grapevine Lake forms the northern boundary of the site. The area to the west of the site is comprised primarily of residential usage while the remainder of the surrounding area is predominately the federal lands associated with Grapevine Lake (***Exhibit 1***). The Grapevine Lake master plan indicates that Silver Lake park is designated as Priority 1 Land Use Classification. These are lands reserved for use by the general public and are to be administered and/or developed by the Corps of Engineers or by Federal, State, and local governmental agencies for parks and recreational purposes and commercial concession areas.

For the purposes of this EA, the proposed action only includes the portions of Opryland facilities located on federal fee property. These portions include a section of the convention center parking garage, the eastern perimeter road, secondary street, and fishing pier. The site does contain an existing boat ramp at the north end of the Opryland facilities on fee property. The ramp is underutilized and has had some operational problems. The City will take over operations and maintenance of the ramp and associated parking lot as a component of the proposed action. All shorelines and existing associated features such as the boat ramp, would remain free and accessible to the public for fishing and other recreational uses.

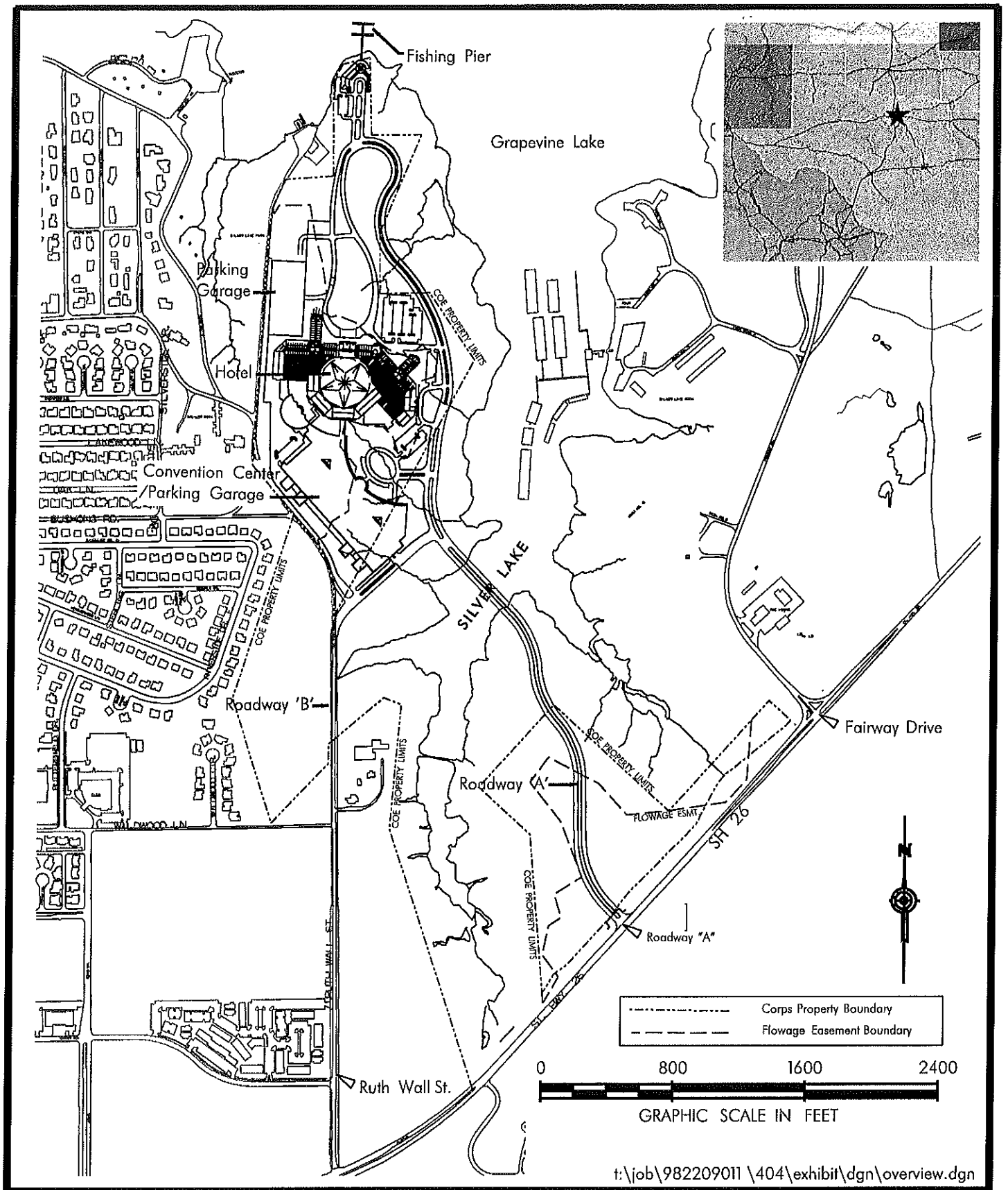
2.0 Alternatives to the Proposed Plan

2.1 Future without Project

The Future Without Project Alternative would, in the short term, leave the site in its existing state. However, the land around the lake except those designated for Corps Operation and Maintenance would have a high potential to be developed in accordance to the designated land use as set forth in the master plan for Grapevine Lake.

2.2 Preferred Plan

The preferred plan includes a proposed four-lane divided roadway (Roadway A) that would serve as a



	Vicinity Map Opryland on Grapevine Lake Tarrant County, Texas		Exhibit 1

...\dgn\exhibits\vicinity.sht Aug. 30, 1999 16:52:06

main entrance to allow access from SH 26 to the pier and the main Opryland facility. The entrance drive would intersect with SH 26 approximately 3,000 feet east of the SH 26-Ruth Wall Street intersection. The proposed right-of-way (ROW) width is 100 feet, which would include room for the hiking and biking trail. The proposed roadway would include a 500-foot bridge to cross Silver Lake Branch. The expansion of the existing two-lane Ruth Wall Street is proposed to be a secondary access roadway. This expansion would consist two parts. First, from SH 26 for approximately 1600 feet north, the roadway would be expanded to a 49-foot roadway with a 75-foot ROW width. Second, north of this location, the roadway would be 37-foot pavement width to include gutters and curbs with a 60-foot ROW. The hiking and biking trail proposed is a six-foot wide, concrete multi-use pedestrian and bike trail. The trail would also tie into the nationally recognized master planned trail system that has been developed by the City. Other aspects of the proposed action include construction of a small section of the convention center parking garage and a fishing pier. The fishing pier would be on floats and piles and designed structurally to withstand the water forces caused by wind and flooding conditions. The pier would provide free public access for fishing and access for transient watercraft to enjoy the recreational facility. Stairs would lead from a restaurant off of fee property to a concrete landing (***Exhibit 2***).

2.3 Bridge and Box Culvert Alignment

The Bridge and Box Culvert alternative relocated Roadway A but still requires a 500-foot bridge to cross over the Silver Lake Branch cove ***(Exhibit 3)***. Roadway B is located east of, and parallel to Ruth Wall Street. Roadway B includes two 8-foot x 8-foot box culverts approximately 300 feet in length. Other components of the plan previously mentioned in preferred plan would be unchanged.

2.4 Project Off Federal Lands

A project was considered to align the Opryland project such that its facilities would totally avoid fee property. This alternative would not be economically practical due to the standardization of the facility complex and the high cost associated in extensive revision to that standard site plan and configuration. For these reasons, this alternative has been eliminated from consideration.

2.5 Single Road Access

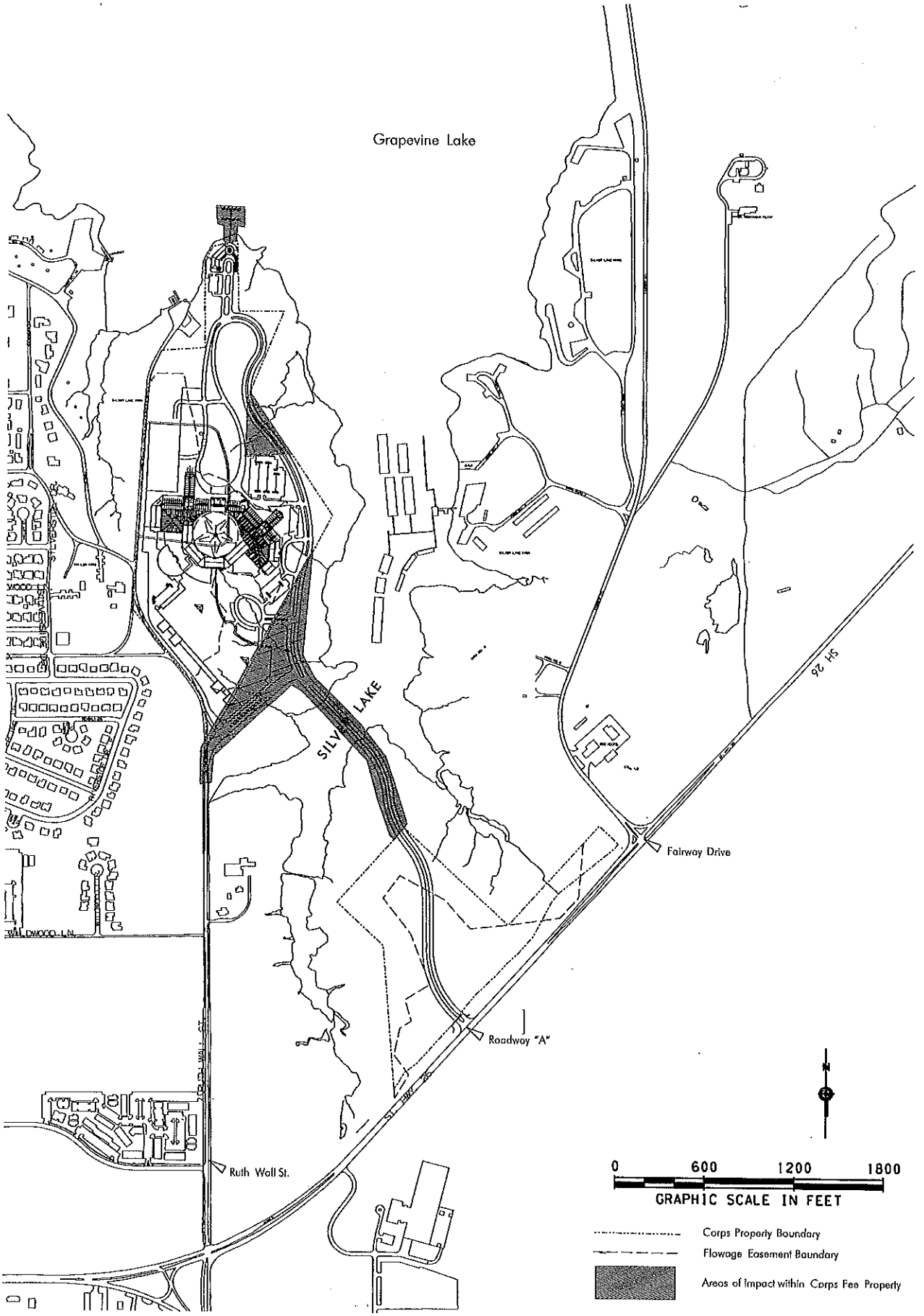
The Single Road Access alternative was considered to eliminate the primary roadway into the facility complex and to utilize Ruth Wall Street as the project's only access. However, traffic studies have shown that providing adequate ingress and egress to the facility on Ruth Wall Street would not be feasible. This alternative would cause high traffic counts on the roadway, resulting in significant vehicular circulation delay as well as adverse noise and air impacts. For these reasons, this alternative has been eliminated from consideration.

3.0 Affected Environment

3.1 Soils

The project tract is characterized by five different soils. The tract lies in the Crosstell-Gasil-Rader and Houston Black-Navo Heiden soils associates. The property is located within the Crosstell-Gasil-Rader general soil map units. These soils are deep, loamy soils on nearly level to sloping upland areas. The limitations of these soils are shrinking and swelling, permeability, slope, and wetness.

The Crosstell soils are moderately well drained and have a very slow permeability. The surface layer is described as 4 inches thick, consisting of a brown fine sandy loam. From a depth of 4 to 41 inches it is



t:\job\98220901\dgn\exhibit\overview.sht

Exhibit 2

Preferred Plan
Opryland on Grapevine Lake
Tarrant County, Texas

PROJECT NO.	98220901	DATE	REVISIONS
DRAWN BY	DVG		
APPROVED BY	PDM		
DATE	6/99		

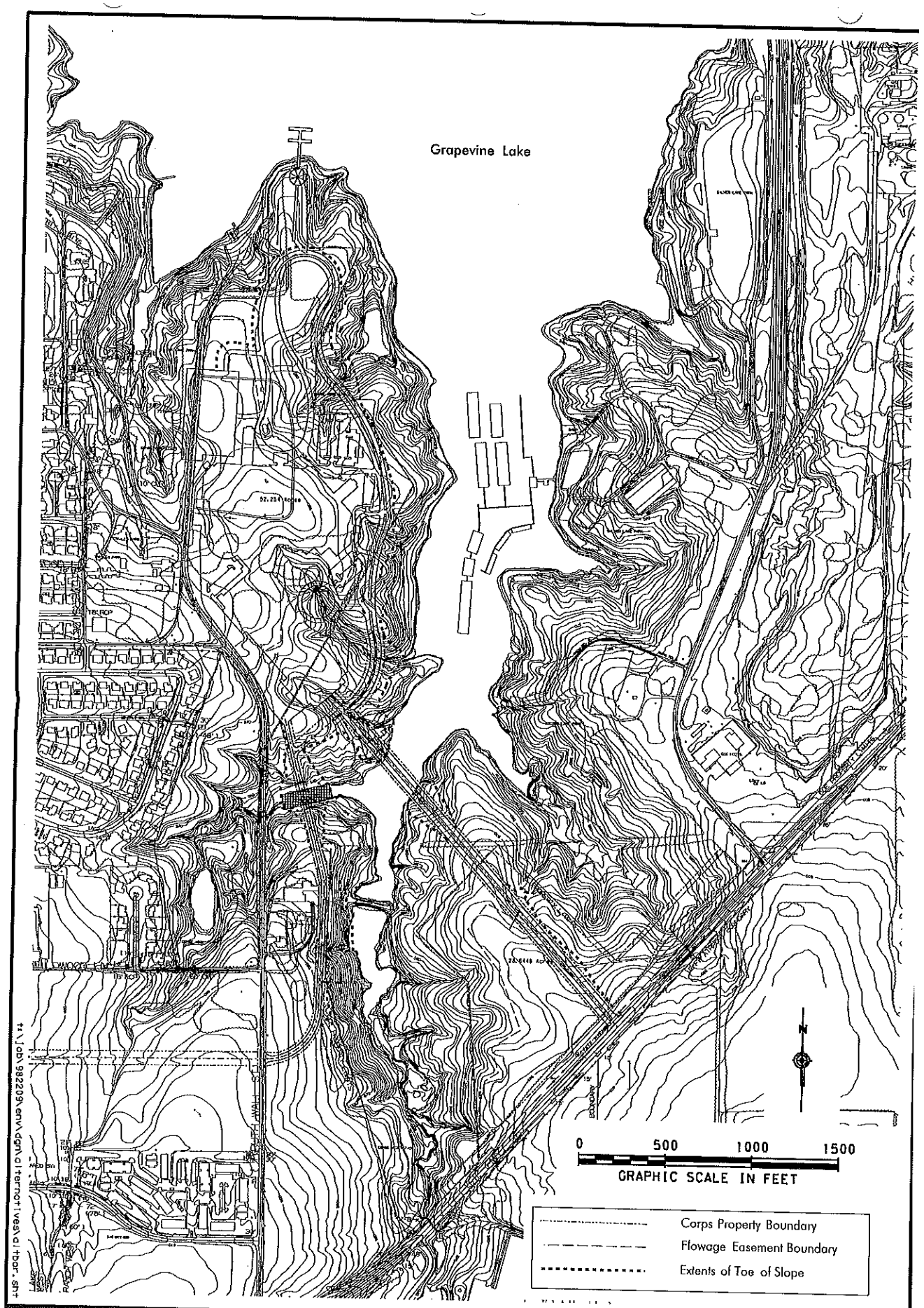


Exhibit 3

Bridge and Box Culvert Alignment
Opryland on Grapevine Lake
Tarrant County, Texas

PROJECT NO.	982209	DATE	REVISIONS
DRAWN BY			
APPROVED BY			
DATE			

...\dgn\alternatives\altbor.sht Aug. 30, 1999 13:54:25

a clay, being yellowish-red in the upper part and brownish yellow in the lower part. Yellow and brown mottling is described throughout. From a depth of 41 to 60 inches, it is a light gray stratified shale.

The Gasil soils are well drained and have a moderate permeability. From the surface to 10 inches, it is described as a brownish fine sandy loam. From a depth of 10 to 17 inches, it is a brown sandy clay loam, and from a depth of 17 to 75 inches, a sandy clay loam which is brownish yellow in the upper part and olive brown in the lower part. Brownish and reddish mottles are present throughout the profile.

Rader soils are moderately well drained and have a very slow permeability. The typical surface layer is a brownish fine sand loam to a depth of 18 inches. From a depth of 18 to 27 inches it is a light yellowish brown sandy clay loam. From a depth of 27 to 69 inches, it is a sandy clay that grades to a sandy clay loam. This layer is mottled throughout in shades of gray, yellow, and red.

Heiden and Navo clay occur along Fairway Drive and the remainder of the tract is defined as arents which are loamy soils that have been smoothed and reclaimed after sand and gravel mining operations. None of these soils are considered hydric within Tarrant County.

3.2 Geology

The subject property is underlain by the Upper Cretaceous Woodbine Formation. The Woodbine is a sandstone with clay and shale. The upper part is mostly fine grained, well sorted, reddish-brown sandstone with ripple marks and large scale cross-bedding. Some of the sandstone has large discoid concretions. The middle part is mostly fine grained sandstone, which is cross-bedded. Interbeds of carbonaceous clay are present. The lower part is interbedded sandstone and clay. The sandstone is fine grained and very thinly bedded to massive. The thickness of the Woodbine Formation ranges from 175 to 250 feet.

3.3 Air Quality

The project site is located within the EPA's Air Quality Control Region (AQCR) 215 for Texas. AQCR 215 consists of 19 counties including Dallas, Denton, and Tarrant counties. AQCR 215 is classified as a non-attainment area for ozone and attainment/unclassifiable for other National Ambient Air Quality Standards (NAAQS) including lead, sulfur dioxide, nitrogen dioxide, carbon monoxide, and particulates (40 Code of Federal Regulations 52.2308(a)). The air quality designation for the area is currently listed as serious.

3.4 Noise

The project site is located between residential developments and public recreation lands. There are no major highways in the near vicinity that serve as noise sources. Existing noise levels are primarily associated with aircraft departing and approaching Dallas-Fort Worth International Airport. Boaters and residential development contribute additional noise in the study area.

3.5 Surface Water and Water Quality

3.5.1 Surface Waters

The topography of this tract of land contains gradual slopes to the northeast and an upslope along the eastern boundary, which creates opportunities for ponding. The main hydrologic features include Grapevine Lake and its tributaries that are adjacent to the subject property. Several of the lake's tributaries originate on the site and flow into the lake.

3.5.2 Water Quality

Grapevine Lake is identified as Segment 0826 of the Trinity River Basin. Stream segments provide a way for the Texas Natural Resource Conservation Commission (TNRCC) to classify stream portions by geographic location. The segment's designated water uses are listed as contact recreation, high aquatic life, and public water supply. The TNRCC has established surface water quality standards on the basis of beneficial uses such as domestic water supply, propagation of fish and wildlife, contact recreation, and non-contact recreation. However, because this segment did not have enough data for the evaluation period, it could not be evaluated by the TNRCC.

High quality aquatic habitat is defined as containing a highly diverse collection of species including regionally expected species and some sensitive species. High quality aquatic habitat requirements are sufficient to protect most aquatic species. The aquatic habitat rating is determined, in large part, by the local physical and chemical characteristics of the water. The habitat rating is also determined by the desired use of the water and the sensitivity of usual aquatic communities. Exceptional quality aquatic habitat is the highest classification of aquatic habitats. Few water bodies in Texas are rated as exceptional quality aquatic habitat.

3.6 Illumination

Currently the land is undeveloped and illumination of the site is negligible. Sources for illumination of the site are currently limited to boating traffic, adjacent property lighting from the marina and other surface water, the neighboring residential community, and the roadway lighting from Ruth Wall Street.

3.7 Aquatic Resources

3.7.1 Aquifers

Usable water-bearing aquifers in the area of study are in the Woodbine aquifer and in the Paluxy and Twin Mountains formations. The latter two formations are part of the Trinity Group aquifer, a major aquifer in the state of Texas. A major aquifer is defined as "one that yields large quantities of useable quality water in a comparatively large area of the state." The Woodbine aquifer is a minor aquifer. Minor aquifers yield large quantities of water in small areas or relatively small quantities of water in large areas of the state.

The Paluxy Formation is composed of sandstone, mudstone, and limestone. Recharge to the unconfined portion of this aquifer is primarily from infiltration of precipitation and seepage of surface water bodies along the outcrop of the formation. The Twin Mountains Formation is composed of sand with inter-bedded clay, limestone, dolomite, and gravel. The form of recharge is similar to that of the Paluxy Formation.

The Woodbine aquifer is composed of friable, iron bearing fine-grained sand and sandstone with interbedded shale, sandy shale, and clay. Rainfall on the outcrop is the primary source of recharge to the Woodbine aquifer.

Depth to shallow or perched groundwater is not known. Depth to deep groundwater is approximately 800 feet in the Paluxy and 1,800 feet in the Twin Mountains aquifer. Reported usage in the Woodbine ranges from 140 feet to 340 feet ***(The Geology of Texas, 1990)***

The general directional flow characteristics of the Trinity Group aquifer are to the east-southeast in accordance with the orientation of the overall stratigraphy. Groundwater flows to the east in the Woodbine aquifer, following the dip of the aquifer in the subsurface. The directional flow of shallow or perched water is anticipated to follow the site topography; however, seasons and local groundwater

extraction or infusion may influence groundwater direction.

3.7.2 Wetlands/Jurisdictional Waters

An assessment of the water resources was performed in October, 1998 and April, 1999 on the project site. Boundaries of wetlands were surveyed using a Global Positioning System (GPS). In addition, streams, ponds, and the lake edge were surveyed, as necessary.

The banks of the lake within the proposed street alignments are generally too steep, or of unsuitable substrate to accommodate a great deal of wetland development. The western reaches of the lake allow for a greater floodplain area and, subsequently, more wetlands. Vegetation along the shorelines is sparse at the waters edge but herbaceous vegetation begins near the ordinary high water mark including common buttonbush (*Cephalanthus occidentalis*), trailing wild bean vine (*Strophostyles helvula*), trumpet creeper (*Campsis radicans*), and giant ragweed (*Ambrosia trifida*).

On COE fee property, ephemeral tributaries mainly carry water from rain events and are dominated by woody species along the edges with little herbaceous riparian vegetation. Typical woody species along these tributaries include post oak (*Quercus stellata*), cedar elm (*Ulmus crassifolia*), sugar hackberry (*Celtic laevigata*), American elm (*U. americana*), green ash (*Fraxinus pennsylvanica*), junipers (*Juniperus* spp.), and blackjack oak (*Q. marilandica*). Understory woody species and vines include grapevines (*Vitis* spp.), poison ivy (*Toxicodendron radicans*), deciduous yaupon (*Ilex decidua*), dogwood (*Cornus* spp.), and red mulberry (*Morus rubra*). Typical herbaceous species include *Bromus* spp., goldenrod (*Solidago* spp.) and common ryegrass.

3.8 Terrestrial Resources

3.8.1 Vegetation

The project's vegetation on COE land is typical of that found in the Cross Timbers and Prairies region of Texas. The dominant canopy species on the wooded uplands of the project consist of post oak, cedar elm, green ash and blackjack oak. Understory species vary throughout the property but include saplings of canopy species, small junipers, greenbrier *(Smilax spp.)*, *Vitis* sp., and a variety of forbs such as partridge-pea (*Chamaecrista fasciculata*), ragweed (*Ambrosia* spp.) and grasses (*Bromus* spp.). In disturbed areas introduced or invading species are found such as mesquite (*Prosopis glandulosa*), baccharis, and grasses such as common bermudagrass (*Cynodon dactylon*) **(Exhibit 4)**.

Project lands immediately adjacent to subdivision property frequently support introduced or escaped vegetation characteristic of residential landscaping. Shoreline vegetation is typically either on steep, heavily eroded bluffs with little vegetation, or on moderate slopes with flood-tolerant pasture grasses, various weeds, forbs, willows (*Salix* spp.), cottonwoods, and buttonbush.

3.8.2 Fish and Wildlife

The Grapevine Lake area contains a typical assortment of endemic wildlife species such as owls (*Tytonidae* and *Strigidae*), raccoons (*Procyon lotor)*, bobcats (*Lynx rufus)*, mink (*Mustela vison)*, opossums (*Didelphis virginiana*), grey squirrels (*Sciurus niger*), rabbits (*Sylvilagus floridanus*), and white tail deer (*Odocoileus virginianus*), as well as various species of other small mammals.

Grapevine Lake and associated wetlands offer important feeding, staging, and roosting areas for migratory birds. Species such as ducks, coots, grebes, pelicans, herons, egrets, gulls, terns, and hawks migrate through the area and utilize open water, shallow wetlands, and the associated riparian vegetation for feeding, perching and roosting. There is a typical resident bird population, which includes great blue heron (*Ardea herodias*), turkey vulture (*Carthartes aura*), mourning dove (*Zenaida*

	Digital Ortho Quarter Quad Opryland on Grapevine Lake Tarrant County, Texas	Texas Natural Resource Information System (TNRIS) www.tnris.state.tx.us Original: NAPP, 1994-97	**Exhibit** **4**

asiatica), red-tailed hawk (*Buteo jamaicensis*), northern bob-white (*Colinus virginianus*), blue jay (*Cyanocitta cristata*), American crow (*Corvus brachyrhynchos*), Carolina chickadee (*Parus carolinensis*), tufted titmouse (*Parus bicolor*), Carolina wren (*Thryothorus ludovicianus*), northern cardinal (*Richmondena cardinalis*), field sparrow (*Spizella pusilla*), red-winged blackbird (*Agelaius phoeniceus*), northern mockingbird (*Mimus polyglottos*), and red-bellied woodpecker (*Melanerpes carolinus*).

The fish of Grapevine Lake represent a typical assemblage of reservoir fish. Included are recreationally important species such as; channel catfish (*Ictalurus punctatus*), largemouth bass (*Micropterus salmoides*), white crappie (*Pomoxis annularis*), black crappie (*P. nigromaculatus*), bluegill (*Lepomis macrochirus*), redear sunfish (*L. microlophus*), warmouth (*L. gulosus*), striped bass (*Morone saxatilis*), white bass (*M. chrysops*), and hybrid bass (a cross of the two species of *Morone*). Fish such as gar (*Lepisosteus* spp.), bowfin (*Amia calva*), and buffalofish (*Ictiobus* spp.), minnows (*Cyprinidae* spp.), shiners (*Notropis* spp.), gizzard shad (*Dorosoma sepedianum*), and inland silverside (*Menidia beryllina* are also present.

3.9 Land Use

The subject property is located on a peninsula of Grapevine Lake. One of the lake's sloughs is directly east of the site and is developed with a marina. Properties west of the site include high density single family residential and single family housing developments. Northwest of the site is the COE parkland. The adjacent property uses are as follows:

North: Vacant land and Grapevine Lake.

South: Vacant land and single family residential.

East: Vacant land beyond which is one of the sloughs on Grapevine Lake.

West: To the south is single-family residential property along Ruth Wall Street, which changes to Park Street 11 on the north end of the property. To the northwest is COE parkland including a boat ramp and parking area.

3.10 Federal Threatened and Endangered Species

According to the USFWS records, there are four species on the Federal threatened or endangered list that are likely to occur or have been known to occur within the vicinity of the Opryland project area. The identified species are listed in **Table 3-1**.

Table 3-1. *Federally listed Threatened and Endangered Species in Tarrant County, Texas.*

Common Name	Scientific Name	Taxonomic Group	Federal Status
Bald Eagle	*Haliaeetus leucocephalus*	Bird	Threatened[1]
Interior Least Tern	*Sterna antillarum anthalassos*	Bird	Endangered
Whooping Crane	*Grus americana*	Bird	Endangered
Mountain Plover	*Charadrius montanus*	Bird	Proposed

[1]*Proposed for delisting (Federal Register, July 6, 1999).*

3.11 State Special Species and Critical Habitats

3.11.1 Vegetation Resources

The eared false-foxglove (*Agalinis auriculata*) is the only plant species listed on the Endangered, Threatened, and Watch List for Tarrant County, Texas according to the Texas Organization for Endangered Species ***(TOES, 1993)***. The TOES have placed the eared false-foxglove on their Watch List. The species has not been found in Texas. There are not any endangered, threatened, or watch list natural communities listed for the project area according to TOES ***(TOES, 1992)***.

3.11.2 Animal Resources

According to TOES the animals in **Table 3-2** are on the Endangered, Threatened, and Watch List of Vertebrates for the entire state of Texas ***(TOES, 1988)***.

Table 3-2. *Endangered, Threatened, and Watch List of Vertebrates for the entire state of Texas* ***(TOES 1988)***.

Common Name	Scientific Name	Taxonomic Group	Status	Range in Texas	Preferred Habitat	Reason for Status
Texas Horned Lizard	*Phrynosoma cornutum*	Reptile	Threatened	Statewide	Open, flat terrain, bare ground	Pesticides, commercial exploitation
Milk Snake	*Lampropeltis triangulum*	Reptile	Watch list	Statewide	Wide variety of habitats	Commercial exploitation, habitat destruction
Bald Eagle	*Haliaeetus leucocephalus*	Bird	Threatened	Statewide	Lakes, reservoirs, large rivers	Pesticides, unlawful killing
Golden Eagle	*Aquila chrysaetos*	Bird	Watch list	Statewide	Mountains, woodlands, deserts	Unlawful killing
Merlin	*Falco columbarius*	Bird	Threatened	Statewide	Open country	Pesticides

3.12 Cultural Resources

Cultural resources at Grapevine Lake are managed by implementing the policies and guidelines established by Federal archeological and historic preservation laws and regulations. The following laws and regulations provide the basis for the cultural resources management program: Antiquities Act of 1906 (Public Law 59-209); Historic Sites Act of 1935 (Public Law 74-292); Reservoir Salvage Act (Public Law 86-523); National Historic Preservation Act of 1966 (Public Law 89-665); Archeological and Historic Preservation Act of 1974 (Public Law 993-291); the Archeological Resources Protection Act of 1979 ; and the Native American Graves Protection and Repatriation Act of 1990 (Public Law 101-601; 104 Stat. 3048; 25 USC 3001-13).

An archeological survey of project was conducted by Geoarch Consultations. Dr. Reid Ferring, an

archeologist from the University of North Texas (UNT), performed a comprehensive cultural resource evaluation of the site. The archeology investigation revealed the presence of two sites with artifacts.

Portions of the project area are owned by the COE, and are under the regulation of the Fort Worth District. The major portion of the survey area is on private lands to be incorporated in to the development. The survey was to determine if any adverse affects to cultural resources would result from the project. The survey determined that two archeological sites are present within the areas to be affected by development. Site 41TR172 is located on private property, and Site 41TR173 is located on COE property.

Site 41TR172 is a very large area containing an extensive thin scatter of lithic artifacts in the plow zone of an old terrace surface. This site also includes concentrations of historic artifacts related to structures dating between 1890 and present. No buildings except for small sheds stand in the project area. Due to the large size and surficial context of the site, the archeologist did not recommend any further study on the site at this time. However, the archeologist did recommend that the site be monitored during any development for possible features or artifact concentrations.

The second site, Site 41TR173, is a much smaller area than Site 41TR172, and it contains a small concentration of lithic artifacts that appear to be spatially in place, yet appear to lack faunas or datable materials. Site 41TR173 is potentially eligible for inclusion in the National Register of Historic Places. It was recommended that site 41TR173 be avoided during development. Therefore, the COE has determined that the proposed project will have no effect on historic properties.

3.13 Socioeconomic Resources

A socioeconomic analysis for the proposed project involves three counties, Dallas, Denton and Tarrant, that surround Grapevine Lake. Although the majority of Grapevine Lake and the proposed project area are within Tarrant and Denton counties, the Dallas County population is close enough to be impacted by the social and economic implications of activities associated with the lake and project facility.

The North Central Texas Council of Governments (NCTCOG), Research and Information Services Department 1998 is part of the Population Estimates Program. Population trends within the three-county area from 1970 to 1999 are recorded in ***Table 3-4***. This three county area has experienced an approximate increase of 14 percent in its population from 1990 to 1999. The Metropolitan Planning Area (MPA) recognizes Fort Worth in Tarrant County as having a population increase of 10,200 persons which set it over the half million threshold in 1998 with 504,350 residents along with Lewisville at 74,700 and Flower Mound with 47,300. Overall, Tarrant County was second in absolute growth in 1998 with 31,142 new persons, and has now added more than 200,000 persons since 1990. Denton County ranked third with 24,925 persons added, and Dallas County followed with 19,208 new residents.

The NCTCOG Research and Information Services Department has also created employment data as a part of the NCTCOG's on-going development monitoring program. With an employment base of over 2.5 million, the MPA captures 93 percent of the work activities in North Central Texas.

Employment growth in North Central Texas, which includes 16 counties, has been the driving force behind the population growth in the last part of this decade. Total MPA employment grew by 264,269 jobs between 1995 and 1998. Figures show an added increase of nearly 89,000 jobs per year since 1995. Jobs have been created at unprecedented rates in the last few years, peaking with more than 100,000 new jobs in 1997. However, in 1998, job growth slowed by nearly 10 percent in the region, but overall, the annual growth of jobs has doubled from the rate of 39,000 jobs per year. Dallas County captures nearly 60 percent of all employment growth with 150,685 new jobs, and Tarrant County ranked second with 65,292 new jobs, followed by Collin (25,477) and Denton (13,071) counties. MPA cities near Grapevine Lake have some of the highest growth rates in the MPA. Coppell has a 42

percent increase, and Keller has had an 84 percent increase since 1995 (1,300 new jobs). Whereas the city of Dallas captures 29 percent of all job growth (76,300) and 37 percent of the total 1998 MPA employment (930,700) ***(Table 3-5)***. The Dallas/Fort Worth (D/FW) International Airport continues as the regional "central business district" (CBD) of the North Central Texas region. Approximately 2.1 million jobs, 83 percent of the MPA total are within a 20-mile radius of the airport. This sphere of influence extends east and west to the D/FW CBDs, and as far north as the UNT and south to Joe Pool Lake. Consequently, 80 percent of the employment increase in the MPA has been within the D/FW sphere of influence.

Table 3-4. *Population data for Dallas, Denton, and Tarrant Counties.*[1]

Counties	Final Census 4/1/90	Estimated Population 1/1/95	Revised Population 1/1/98	Estimated Population 1/1/99	Compound Annual Growth Rate 1990-1999	Absolute Growth 1998-99	Percent Growth 1998-99	Absolute Growth 1990-99	Average Annual Growth Rate 1990-99
Dallas County	1,852,810	1,931,150	2,023,736	2,042,944	1.27%	19,208	0.95	190,134	1.32%
Denton County	273,525	320,400	375,990	400,915	5.06%	24,925	6.63	127,390	6.01%
Tarrant County	1,170,103	1,258,450	1,345,413	1,376,555	2.12%	31,142	2.31	206,452	2.28%
NCTCOG Region	4,111,750	4,450,300	4,826,217	4,963,064	2.46%	136,847	2.84	851,314	2.67%

[1] ***Population and employment data from the North Central Texas 'Council of Government Research and Information Services.***

Table 3-5. *Employment data for Dallas, Denton, and Tarrant Counties (with cities near Grapevine Lake).*[1]

Counties	1990 Employment	1995 Employment	1990-95 Total Change	1990-95 Percent Change	1998 Employment	1995-98 Total Change	1995-98 Percent Change
Dallas County					1,496,082		
Denton County					106,842		
Tarrant County					690,994		
Surrounding Cities							
Coppell	6,350	7,200	850	13.4%	10,250	3,050	42.4
Flower Mound	1,550	2,950	1,400	90.3%	3,600	650	22.0
Grapevine	27,100	33,550	6,450	23.8%	39,100	5,550	16.5
Keller	950	1,550	600	63.2%	2,850	1,300	83.9

[1] ***Population and employment data from the North Central Texas Council of Government Research and Information Services.***

4.0 Environmental Consequences of the Proposed Action

4.1 Impacts to Soils and Geology

4.1.1 Soils

Regardless of the alternative considered, there would be short-term adverse impacts to soils as a result of construction activity. The removal or degradation of vegetation would increase the potential for soil erosion. Erosion control measures are discussed in **Section 5.6.1**. The proposed action would have no significant impact on the site's soil resources.

4.1.2 Geology

The proposed action, regardless of the alternative considered, would have no significant impact on the site's geological resources.

4.2 Air Quality Impacts

Future traffic projections are required for proposed roadway projects in order to perform an air quality analysis. The proposed project's traffic projection, regardless of the alternative considered, does not exceed 20,000 vehicles per day for either the Estimated Time of Completion (ETC) or ETC+20 years (2005 and 2025 respectively) and thus is exempt from a traffic air quality analysis because previous analyses of similar projects did not result in a violation of the NAAQS. This is in accordance with the Texas Department of Transportation's (TxDOT) 1999 Air Quality Guidelines, which were approved by the Federal Highway Administration (FHWA).

Air quality would be temporarily adversely impacted during construction activities from air pollution emissions, including dust, that originate from heavy equipment and delivery vehicles. The effects from construction on the air quality will be minimal and short-lived. This involves increases in levels of carbon dioxide, nitrous oxide, and hydrocarbons. There will be a seasonal increase in traffic associated with the facility with summer or warmer months showing greater activity. The plans will incorporate appropriate dust control measures to minimize dust impacts. The proposed action will have no significant adverse long-term impact on regional air quality.

4.3 Noise Impacts

Noise impact analysis conforms to the FHWA Regulation 23 CFR 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise," and TxDOT's 1996 Guidelines for Analysis and Abatement of Highway Traffic Noise.

Sound from this development project will be generated primarily from a vehicle's tires, engine, and exhaust. Noise is commonly measured in decibels and is expressed as "dB." Sound occurs over a wide range of frequencies, however, not all frequencies are detectable by the human ear; therefore, an adjustment is made to the high and low frequencies to approximate the way an average person hears traffic sounds. This adjustment is called A-weighting and is expressed as "dBA." **Table 4-1** illustrates some common sound/noise levels in dBA. Also, because traffic sound levels are never constant due to the changing number, type, and speed of vehicles, a single value is used to represent the average or equivalent sound level and is expressed as "L_{eq}."

Table 4-1. *Common Sound/Noise Levels*

OUTDOOR	dBA	INDOOR
Pneumatic hammer	100	Subway train
Gas lawn mower at 1 meter		
	90	Food blender at 1 meter
Downtown (large city)	80	Garbage disposal at 1 meter
		Shouting at 1 meter
Lawn mower at 30 meters	70	Vacuum cleaner at 3 meters
Commercial area		Normal speech at 1 meter
Air conditioning unit	60	Clothes dryer at 1 meter
Babbling brook		Large business office
Quiet urban (daytime)	50	Dishwasher (next room)
Quiet urban (nighttime)	40	Library

The traffic noise analysis typically includes the following elements:

- Identification of land use activity areas that might be impacted by traffic noise.
- Determination of existing noise levels.
- Prediction of future noise levels.
- Identification of possible noise impacts.
- Consideration and evaluation of measures to reduce noise impacts.

The FHWA has established the Noise Abatement Criteria (NAC) for various land use activity areas that are used as one of two means to determine when a traffic noise impact will occur. The NAC is shown in **Table 4-2**.

Table 4-2. *Federal Highway Administration Noise Abatement Criteria (NAC)*

Activity Category	L_{eq} (dBA)	Description of Land Use Activity Areas
A	57 (exterior)	Lands on which serenity and quiet are of extra-ordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	Developed lands, properties or activities not included in categories A or B above.
D	--	Undeveloped lands.
E	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

A noise impact occurs when either the absolute or relative criterion is met:

Absolute criterion: the predicted noise level at a receiver approaches, equals, or exceeds the NAC. "Approach" is defined as one dBA below the NAC. For example, a noise impact would occur at a Category B residence if the noise level is predicted to be 66 dBA or above.

Relative criterion: the predicted noise level substantially exceeds the existing noise level at a receiver even though the predicted noise level does not approach, equal, or exceed the NAC. "Substantially exceeds" is defined as more than 10 dBA. For example, a noise impact would occur at a Category B residence if the existing level is 54 dBA and the predicted level is 65 dBA (11 dBA increase).

When a traffic noise impact occurs, noise abatement measures must be considered. A noise abatement measure is any positive action taken to reduce the impact of traffic noise on an activity area.

The FHWA traffic noise modeling software was used to calculate predicted traffic noise level contours. These contours represent the distance from the centerline that noise levels do not approach, equal or exceed the absolute or relative NAC criterion. The model primarily considers the number, type, and speed of vehicles; highway alignment and grade; cuts, fills, and natural berms; surrounding terrain features; and the locations of activity areas likely to be impacted by the associated traffic noise.

Predicted traffic noise level contours were modeled along the proposed roadway alignments and improvements using predicted traffic volumes. The predicted traffic noise level contours were then used to assess impacts at Category B and C receivers that represent the residences, commercial businesses, etc. adjacent to the roadway project that might be impacted by traffic noise and that may

potentially benefit from reduced noise levels.

Noise modeling was completed using FHWA's new Traffic Noise Model (TNM) Version 1.0a for the 66 dBA Leq contour (impact for residential areas) and the 71 dBA L_{eq} contour (impact for commercial areas). The roadways modeled were straight line level roadways. **Table 4-3** shows the 66 dBA L_{eq} distance, as it satisfies noise level impacts for both residential and commercial areas.

Table 4-3. *Predicted Traffic Noise Level Contours*

Roadway	Vehicle Count [1] (Per day)		Vehicle Count (Peak hour)		Speed (MPH)		66 L_{eq} - Noise Contour (feet from centerline)	
	Existing	Predicted (20 year)	Existing	Predicted (20 year)	Existing	Predicted	Existing	Predicted (20 year)
Roadway 'A'	0	11,806	0	827	0	30	0	82
Ruth Wall Street	1,663	6,056	200	425	30	30	72	78

[1] ***The two year predicted vehicle count of Ruth Wall Street will be 4,715 per day.***

Using Roadway A as an example: With a 100 foot ROW, the 66 dBA L_{eq} noise contour would be 32 feet outside of the ROW assuming that the centerline is approximately centered within the ROW. Any homes located further than 32 feet from the ROW line would not be impacted. No homes were located within this range. Noise associated with aircraft has been modeled by Dallas/Fort Worth International Airport. The 65 dB noise contour runs north-south just west of Ruth Wall Street. This decibel level also closely resembles the approximate location of the existing noise level. To address the cumulative impacts of aircraft and vehicular traffic noise, the noise level expected at the nearest residence (receiver) was determined. The resulting noise from vehicular traffic to the nearest residence is approximately 48 dB. The noise impacts from aircraft greatly exceeds noise impacts from vehicular traffic. Therefore, regardless of the alternative considered, the noise impacts from the action proposed results in insignificant noise increase over the existing noise levels in the area.

Noise associated with the construction phase of the project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction will be limited to occur during daylight hours when occasional loud noises are more tolerable. Regardless of the alternative considered, None of the receivers are expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected.

4.4 Illumination Impacts

The proposed project does plan to illuminate its facilities through a combination of incandescent and electric discharge lamps. The fishing pier and dock area will be lit. However, the lighting will be directed away from the residential areas and will shine downwards towards the facilities. Certain portions of street and general utility lighting have the most potential impact to the neighboring community. Recommended lighting levels (in foot candles) for parking lots often are two times the recommendation for roadways and pedestrian ways ***(Landscape Architecture Construction, 1988)***.

Attempts have been made to minimize adverse illumination impacts. The actual footprint of the site has been set at an elevation below natural ground on the western portion of the site adjacent to the neighboring community. The parking garage has only one level above natural ground, which will minimize light impacts. A retaining wall along the western portion in combination with a proposed six-

foot masonry screen will further contain illumination on the project site. Regardless of the alternative considered, the proposed facilities would have no significant illumination impacts.

4.5 Safety Impacts

Regardless of the alternative considered, the proposed project does plan to incorporate all applicable federal, state, and local safety standards and regulations into its design plans. All roadways within the project area will be designed according to applicable Texas Manual of Uniform Traffic Control Devices (TMUTCD), City of Grapevine and TXDOT design criteria and standards. These criteria address design speeds, lane widths, sight distances, curves, barriers, stream crossings and other applicable standards. Bridges along these roadways will be properly equipped with the appropriate railings and barriers to meet safety standards. Pedestrian use areas will also be properly designed with appropriate railings and other materials to meet safety standards.

Use of the traffic control criteria will allow the removal and upgrade of a dangerous low water crossing at Ruth Wall Street and a tributary to Silver Lake Branch. In the recent past, there has been a fatality resulting from high water at the existing low water crossing. Improvements to the crossing will raise the roadway elevation so that it will be less subject to frequent inundation. The improvements will also provide better emergency ingress and egress to adjacent neighborhoods during periods of high water at the tributary and Ruth Wall Street.

Boater safety in association to the proposed crossing of the Silver Lake Inlet has been considered. Warning signs and reflective markings will be posted on the beams of the bridge that do extend into the water. However, high speeds in the inlet are not expected because of the proximity of the adjacent marina with speed standards. The inlet it is not a major thoroughfare and is used fishing area, and therefore it is not anticipated that boaters will attempt high speeds under the bridge crossing. Reflective markings also will be placed on the pier to increase boater safety. Regardless of the alternative considered, the proposed facilities would result in no significant safety impacts.

4.6 Impacts to Surface Water and Water Quality

4.6.1 Surface Water

The National Pollutant Discharge Elimination System (NPDES) permit guidelines will be adhered to in both the construction and the operational stage of the project. Opryland will prepare a Storm Water Pollution Prevention Plan (SWPPP) for all construction areas to include the COE property. Currently, it is common practice to adhere to the guidelines required in the permits promulgated by the Environmental Protection Agency. Application of the guidelines set out in these permits will minimize adverse impacts future development activities will have on water quality in Grapevine Lake.

During construction of any kind, and for any of the proposed alternatives there may be temporary fluctuations in sediment and suspended material loads due to excavation and removal of vegetation of surrounding surfaces. There will also be a need for de-watering procedures in locations of pier construction. In most instances these temporary situations, if practiced appropriately through accepted containment procedures, will not create any long term impacts.

Runoff from areas of exposed soils may affect the water quality of the lake. Sedimentation may occur when eroded soils collect in areas below the construction site. Petroleum materials can be spilled during the operation and maintenance of construction equipment. Proper methods will be used to contain the escape of these materials, such as silt fences and other acceptable barriers outlined in the NPDES permit.

Although not likely, there is always the potential for direct toxic spills in any of the upstream water

features or Grapevine Lake itself. Any bridge structure would increase the possibility of a direct spill. In the unlikely event that such an event would happen, emergency recovery activities would be enacted to minimize effects on water quality.

The use of vegetation cover and long flow distances in all waterways conveying storm water away from roadways and into water features will optimize percolation and provide additional water quality protection. The roadway design will convey storm water into appropriate storm water facilities where possible. Erosion control methods will be implemented, such as temporary silt fences, and permanent seeding and mulching within a reasonable time after the soil is disrupted.

As a result of implementing the mitigation measures where practicable, regardless of the alternative considered, the proposed facilities would have no significant adverse impacts on the surface water and water quality.

4.6.2 Ground Water

Regardless of the alternative considered, no adverse impacts to ground water are expected.

4.7 Impacts to Aquatic Resources

A degradation of wetland aquatic functions can occur when impacts are made on the trapping of sediments and nutrient removal. Soil erosion and additions of pollutants (petroleum products, pesticides, etc.) can damage or kill the fish and wildlife habitat. Impacts to wetlands also can result in the reduction of groundwater recharge, food storage, and conveyance, as well as the decrease in water supply, and production of food, fiber, timber, and recreation.

The streambeds are located, for the most part, on the upper ends of the tributaries that eventually discharge into Grapevine Lake. Almost all of these impacted drainages consist of bare dirt/rock substrates meandering through mixed hardwood woodlands. Very little herbaceous vegetation is present along the majority of these streambeds.

The area of waters of the United States that will be impacted by facilities on COE fee property will be 0.12 acre, which includes 1,004 linear feet of ephemeral streambeds. ***Exhibit 5*** shows location and estimated acreage of impacts to waters of the United States. A permit under Section 404 of the Clean Water Act would be required prior to construction activities. The city of Grapevine and Opryland are in the process of procuring developmental authority to proceed for this property under nationwide permit 26 from the Regulatory Branch of the COE for impacts to jurisdictional waters on fee and private lands.

It appears that these streambeds provide a marginal water quality benefit. The most important function appears to be as wildlife habitat. All of these tributaries eventually discharge into Grapevine Lake that subsequently discharges into Denton Creek.

Due to the fact that the impacts to jurisdictional waters are comprised solely of riparian impacts, this mitigation plan was developed to compensate for those types of impacts.

To mitigate for these riparian impacts, a watershed approach was taken. Due to site constraints, it was impossible to mitigate for these riparian impacts on the project site. Since all of the impacted tributaries discharge into one collection point, Grapevine Lake, the search for possible mitigation areas was narrowed to COE property around Grapevine Lake. A site is proposed on COE property presently designated in the Grapevine Lake Master Plan as agricultural and grazing. The proposed mitigation area contains a degraded portion of Marshall Branch that has an ordinary high water mark ranging from 15 to 20 feet. Banks along the perennial creek are eroded and reach a height of 15 feet. The vegetation is dominated by weedy annuals, such as giant ragweed (*Ambrosia trifida*), false

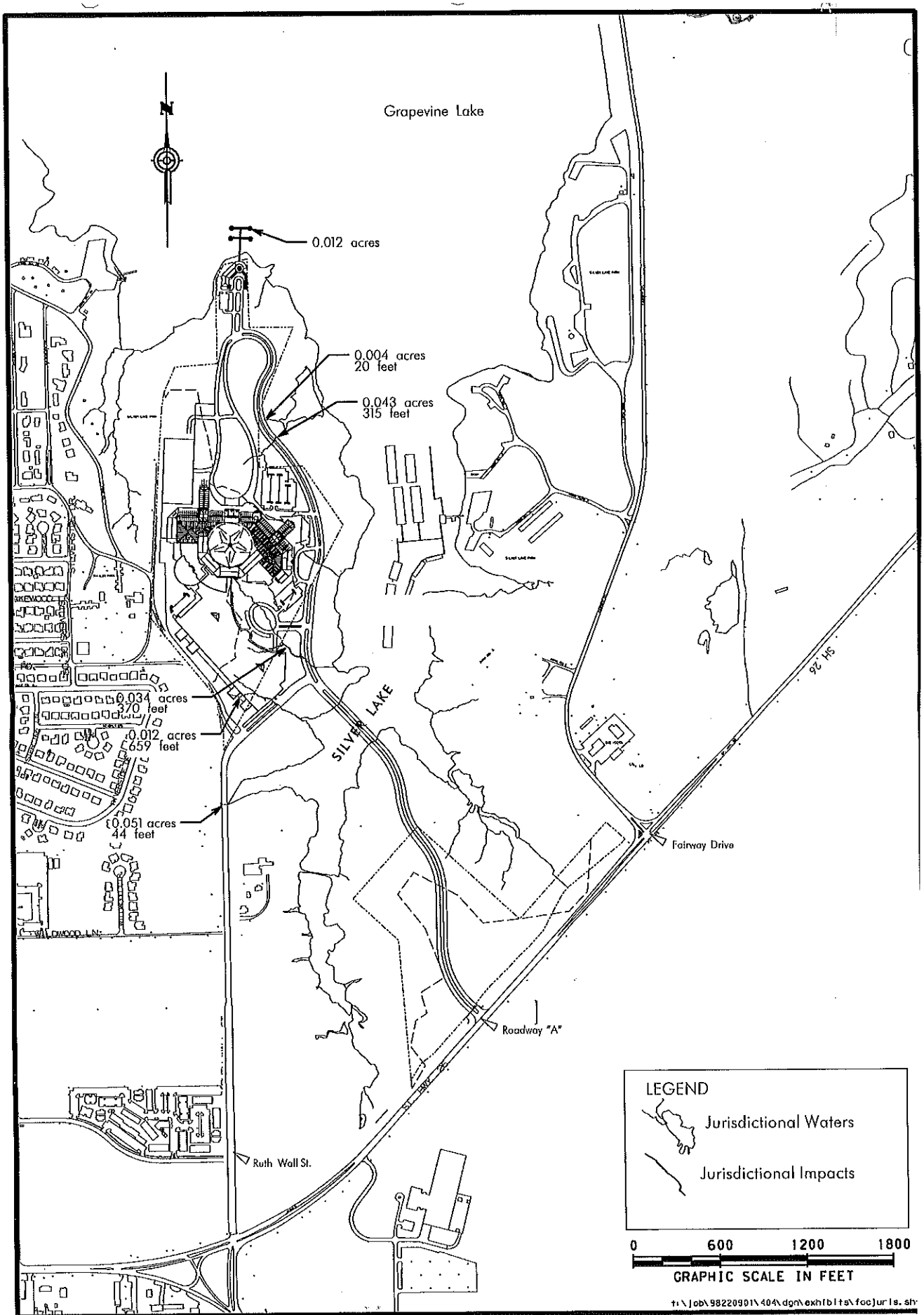


Exhibit 5

Jurisdictional Waters of the U.S.
Opryland on Grapevine Lake
Tarrant County, Texas

PROJECT NO.	98220901	DATE	REVISIONS
DRAWN BY	DVG		
APPROVED BY	FDM		
DATE	6/99		

...\dgn\exhibits\facjuris.sht Aug. 30, 1999 15:52:35

honeysuckle (*Gaura* sp.), Johnson grass (*Sorghum halepense*), and greenbrier (*Smilax* sp.). There are small pockets of wooded areas along the creek that provide a small corridor of one or two trees deep with pecan (*Carya illinoensis*) and cedar elm (*Ulmus crassifolia*) trees. These areas do not contribute a substantial amount of stability to the eroding creek banks nor a wide corridor for habitat use.

Marshall Branch is a much larger stream than any of those impacted by the proposed project. Without gauge data, it appears that this stream has flow in it almost year-around. The mitigation plan proposes planting trees along approximately 1,600 linear feet of Marshall Branch. The mitigation area will consist of a 150-foot wide corridor along Marshall Branch. This 150-foot corridor will consist, on average, of 75 feet extending from the stream centerline on both sides. There are some areas where the mitigation area extends beyond the 150-foot width because of existing, isolated woodland patches and/or bends in the stream. The proposed mitigation area for impacts within the scope of this EA is approximately 9.5 acres in size of which 1.76 acres consists of Marshall Branch.

Five hundred and fifty trees are proposed to be planted for impacts within the scope of this EA within the mitigation area beginning from the top of each bank extending outward to the mitigation area boundary. The trees are proposed to be 1- to 2-inch caliper specimens consisting of the following hard- and soft-mast producing species. There will be a minimum acceptable planting survival rate and criteria for minimum mitigation plan success.

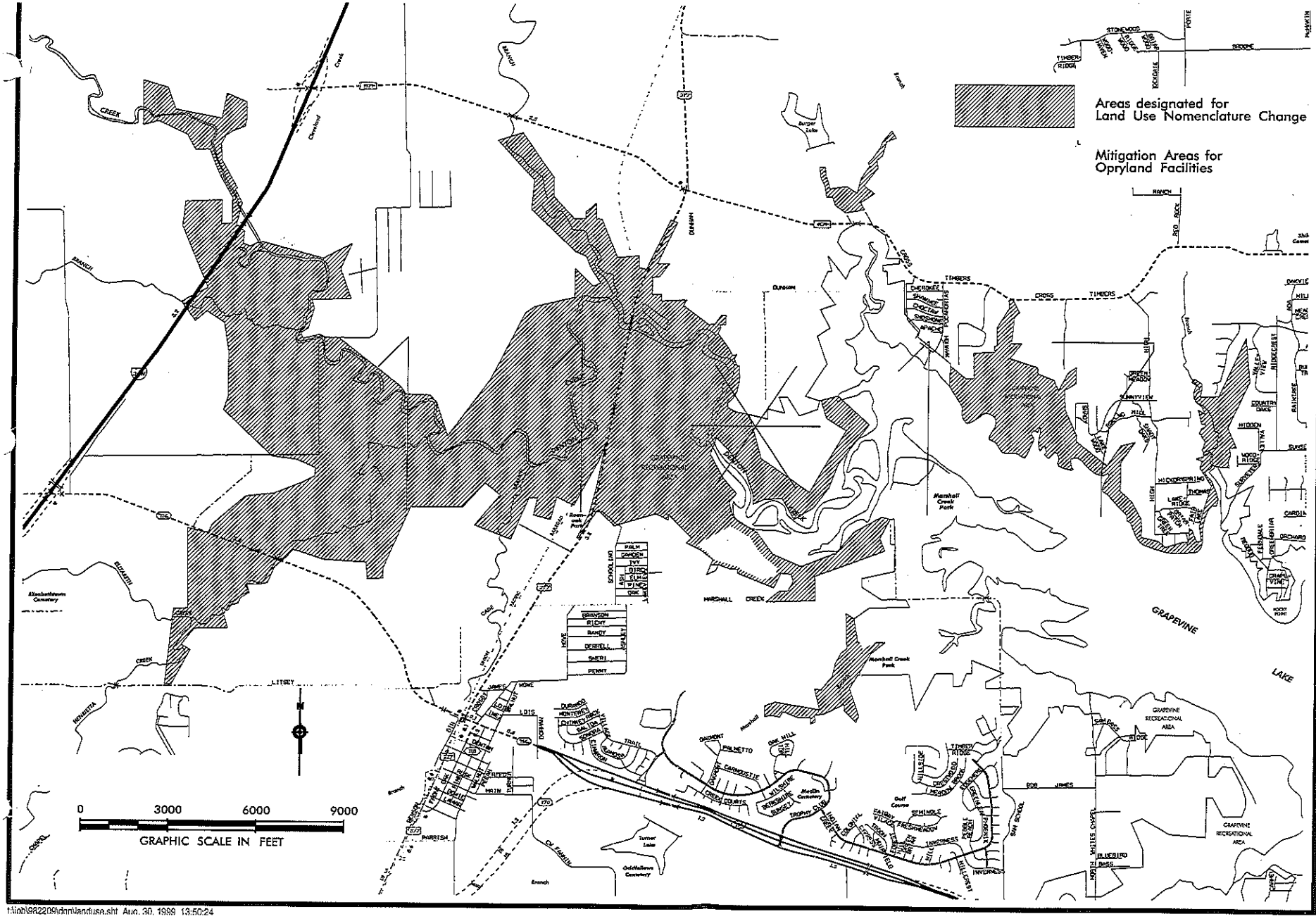
Further mitigation for this project entails upgrading the land use nomenclature of fee areas around Grapevine Lake that presently are not designated for either "High Density Recreation" or "Operation and Maintenance" to "Wildlife Management Areas" (***Exhibit 6***) through a supplement to the lake master plan. The nomenclature upgrade would involve approximately 4,000 acres of land. To protect the mitigation area from future disturbance, the site will be classified as an "Environmental Sensitive Area" as stated in EP 1130-2-550 dated November, 15, 1996. Environmental Sensitive Areas are sites where scientific, ecological, cultural or aesthetic features have been identified. The identification of these areas on the map must be supported by narrative explaining the rationale for the classification. These areas, normally within one of the other classification categories, must be considered by management to ensure the sensitive areas are not adversely impacted. Normally limited or no development of public use is contemplated on land in this classification. No agricultural or grazing uses are permitted on this land. Additionally, mitigation areas in Wildlife Management Areas from past and future actions would also be designated as "Environmental Sensitive Area". Utility corridors of appropriate widths would also be established by the Corps at strategic locations either on or adjacent to existing easements at Grapevine Lake. These corridors would be utilized to place as many utilities within these easements as possible, thus reducing future adverse environmental impacts resulting from construction activities associated with placement.

The section 404 impacts to jurisdictional waters as a result of the total Opryland project contain areas outside the scope of the proposed action. All section 404 activities will be coordinated independently with the regulatory branch of the Army Corps of Engineers. Satisfaction of any requirements for mitigation of adverse impacts to jurisdictional waters of the U.S. will only be made by the COE Regulatory Branch project manager.

4.8 Impacts to Terrestrial Resources

4.8.1 Vegetation and Wildlife

The proposed project would result in significant adverse impacts to 11.6 acres of forb and wooded areas containing both hard and soft mast producing plant species. ***Exhibit 7*** depicts the habitat types impacted. There are several types of direct and indirect adverse impacts to wildlife that could occur as a result of implementing the project. Noise impacts, construction of facilities, habitat fragmentation,



PROJECT NO.		DATE	REVISIONS
DRAWN BY			
APPROVED BY			
DATE			

Grapevine Lake Land Use Map
Opryland on Grapevine Lake
Tarrant County, Texas

Exhibit
6

t:\job\982209\dgn\landuse.sht Aug. 30, 1999 13:50:24

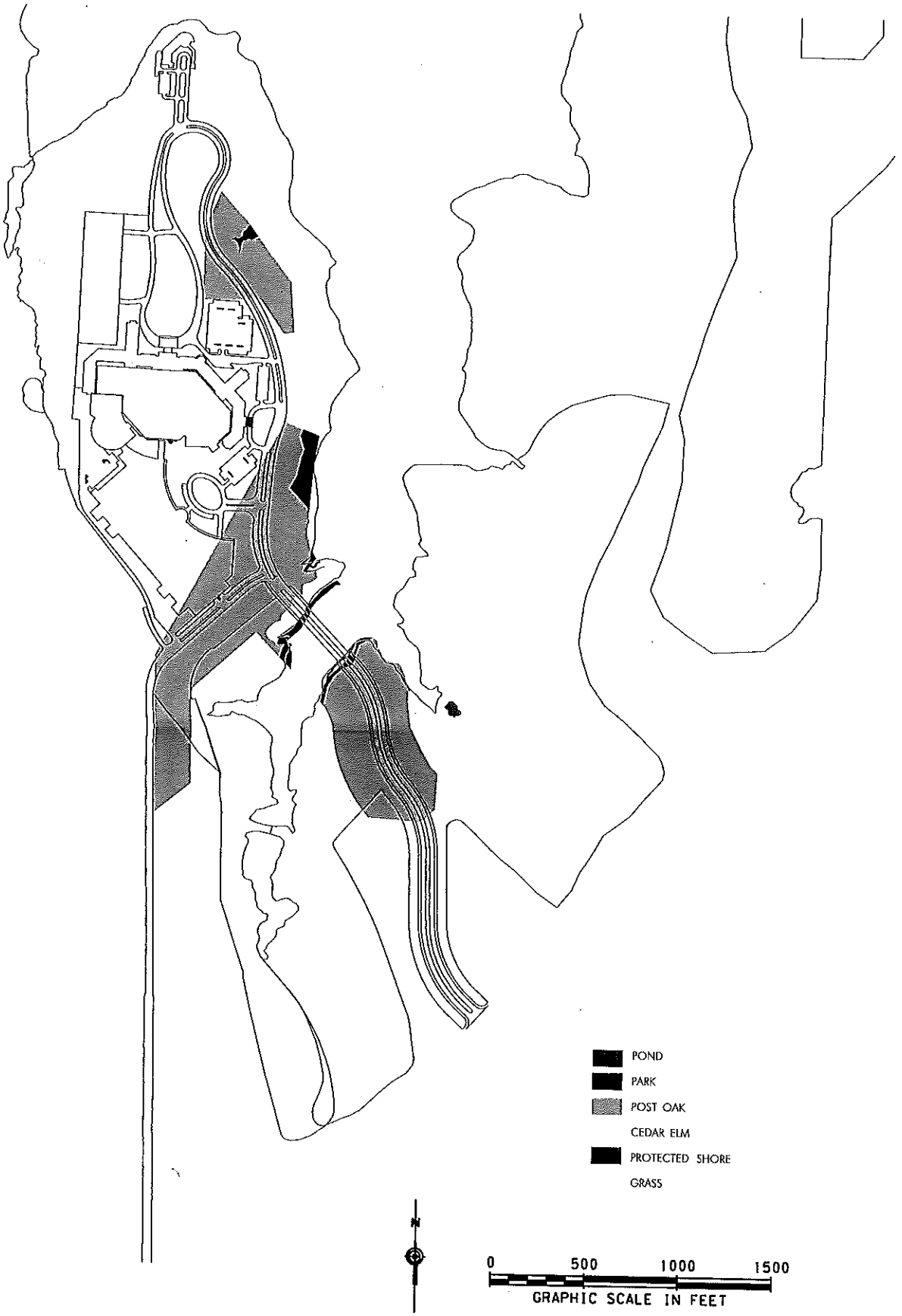


Exhibit 7

Wildlife Habitat Appraisal Procedure Layout
Opryland on Grapevine Lake
Tarrant County, Texas

PROJECT NO.		DATE	REVISIONS
DRAWN BY			
APPROVED BY			
DATE			

habitat loss, and/or the increased presence of people can adversely affect wildlife. The disturbances could alter behavior and inhibit mating, breeding, nesting, and feeding/foraging activities. Adverse impacts to soils and vegetation can lead to a reduction in food and/or degradation in habitat such as a loss of nesting or escape cover. Impacts to vegetation at the site be mitigated as stated below.

In an attempt to decrease fragmentation of the habitats that the wildlife are associated with, as well as compensate for loss of wooded vegetation, a mitigation plan for the impacts of the facilities would involve replanting in bottomland areas, as well as upland areas located in COE property around Grapevine Lake. A watershed approach was taken to mitigate for these hardwood impacts. Due to site constraints, it was impossible to mitigate for these woodland impacts at the specific project location. The search for possible mitigation areas was narrowed to potential sites suggested by COE rangers at Grapevine Lake. One primary site being considered is near the western end of the lake, south of Denton Creek, and east of State Highway 377. This site will be located in an area that has been previously degraded and fragmented. It would benefit from the addition of valuable canopy and understory tree species to satisfy the mitigation requirements and meet lake managers' acceptance.

In order to reduce the net adverse impacts to no more than minimal, the mitigation plan would include planting trees and shrubs in an area to total approximately 50 acres. The native trees proposed will be a mixture of 1- to 2-inch caliper specimens and bare-root seedlings consisting of hard- and soft-mast producing species with a high wildlife/habitat value. There will be a minimum acceptable planting survival rate and criteria for minimum mitigation plan success.

The mitigation ratio (acres of mitigation required : acres impacted) was obtained from **Table 4-4** which requires different quantities of mitigation for different types and qualities of habitat impacted. Habitat types are assessed with this method according to flood-event frequencies. After calculating the final impacts (11.61 acres), the mitigation area will comprise 50 acres, which is an overall four to one replacement of impacted woodland. A detailed mitigation plan will be submitted to the COE Environmental Planning Branch, Fort Worth District, for final approval prior to any real estate transaction.

Further mitigation for this project has been previously described in Section 4.7 of this document.

4.9 Land Use Impacts

The site was designated in the Master Plan for the lake as a recreational area. The proposed project would attract people to the area on a daily basis for use of the hiking and biking trails, conferences, and other recreational activities. The project includes the management of natural areas with some public use. The project would not affect the land use classification, regardless of the alternative considered.

4.10 Permits and Other Regulatory Action

The proposed project will require permits/certifications under Section 401 and Section 404 of the Clean Water Act as indicated in **Section 4.7**.

Table 4-4. *Typical Compensatory Mitigation Ratio for Loss of Vegetation/Habitat*

Flood Event Frequencies	Vegetation/Habitat Condition		
	Poor	Good	Excellent
5 Year	1:1	2:1	3:1
10 Year	2:1	3:1	4:1
50 Year	3:1	4:1	5:1
100 Year	4:1	5:1	6:1

4.9 Impacts to Federal Threatened and Endangered Species

The endangered or threatened species would not be adversely impacted by the proposed project, as defined under the endangered species act. The projected proposed or any alternative considered, will not adversely modify or destroy the critical habitat of any listed species.

4.10 Impacts to State Special Species and Critical Habitats

The proposed project will not have a significant adverse impact to any state special species as defined under the endangered species act. The project proposed or any alternative considered, will not adversely modify or destroy the state's critical habitat.

4.11 Executive Order 11988, Floodplain Management

Executive Order 11988 was enacted May 24, 1977, in furtherance of the National Environment Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.), the National Flood Insurance Act of 1968, as amended (42 U.S.C. 4001 et seq.), and the Flood Disaster Protection Act of 1973 (Public Law 93-234, 87 Star. 975). The purpose of the Order was to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.

One of the aspects of making this site functional for the project is working within the flowage easement that is on the property. Designers and planners have worked extensively to arrange the facilities on this project to comply with the intended use and restrictions of the flowage easement. One example of this is that the hotel structure has now been moved completely out of the flowage easement. The only remaining structural uses in the flowage easement now are the convention center/ garage and the porte-cochere. The porte-cochere will serve as an entry point into the hotel. Both of these structures will be structurally detached from the hotel structure.

The convention center/parking garage will be located toward the south end of the property. The convention center structure will have a garage underneath at the 100-year flood level with a finished floor elevation of 564-feet. The next floor up will be the lower floor of the convention center and will be set above the 572 elevation. The convention center-parking garage will also be constructed of reinforced concrete and will be open to flood storage above elevation 564-feet. No loss of storage has been calculated above elevation 564-feet for the convention center garage.

The restaurant will be located on the extreme north end of the property. The finished floor elevation of the restaurant will be elevation 565-feet. The restaurant will be constructed of reinforced concrete and will have vertical retaining walls that extend from the ground elevation to the finished floor elevation.

The hotel structure is located entirely outside of the flowage easement. This means that no habitable structures will be located within the flowage easement.

The overall net impact to flood storage areas within the flowage easement was evaluated using *Inroads*, a three-dimensional surface model software package. The software uses digital elevations of the existing terrain and the proposed grading to evaluate cut and fills quantities.

The net results of adding the total fill and cut on the project is zero. The total cut in cubic yards equals the total fill in cubic yards. Therefore, no loss in storage volume within the flowage easement below elevation 572.0 ft will occur as a result of this project. Other alternatives for the Opryland facilities, were not analyzed in the detail required to make cut and fill calculations, however, the USACE would have the standard of requiring no flood loss regardless of the alternative considered. Subsequently, the facilities will have no significant adverse impact on the floodplain.

The 100-year floodplain levels are primarily a result of backwater from Grapevine Lake. The lowest component underneath the proposed bridge over the Silver Lake Inlet of Grapevine Lake will be set at an elevation higher than the 100-year floodplain elevation. The abutments for the bridge will be vertical retaining walls. Therefore, the proposed bridge will not impede the passage of the 100-year flood event.

4.12 Executive Order 11990, Protection of Wetlands

Executive Order 11990 was enacted May 24, l977, in furtherance of the NEPA of 1969, as amended (42 U.S.C. 4321 et seq.). The purpose of the order was to avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

Section 404 of Title 44 Code of Federal Regulation addresses the protection of wetlands. The project affected environment and impact details with regard to this regulation can be located in sections 3.5.4 and 4.6.1 of this document. Impacts to wetlands will be mitigated as previously described in Section 5.7.1. Regardless of the alternative considered, the facilities will result in no significant adverse impacts to wetlands.

4.13 Environmental Justice

EPA defines Environmental Justice (EJ) as the "fair treatment for people of all races, cultures, and incomes, regarding the development of environmental laws, regulations, and policies." Over the last decade, attention to the impact of environmental pollution on particular segments of our society has been steadily growing. Concern that minority populations and/or low-income populations bear a disproportionate amount of adverse health and environmental effects, led President Clinton to issue Executive Order 12898 in 1994, focusing Federal agency attention on these issues. EPA responded by developing the Environmental Justice Strategy, which focuses on the Agency's efforts in addressing these concerns.

Table 4-5 illustrates the low percentages of minority populations within the study area. These minority populations are not concentrated in any particular area that would be impacted by the project. ***Table 4-6*** illustrates the higher median and mean incomes for populations in the area when compared to the counties the cities are located in. For this reason, regardless of the alternative considered, it is not anticipated that the Opryland facilities will have disproportionate adverse impacts on any low income or minority populations.

Table 4-5. *1990 Census Population and Housing Characteristics*

City/County	Total Population	Race And Hispanic Origin					
		White	Black	American Indian, Eskimo, or Aleut	Asian or Pacific Islander	Other race	Hispanic origin (of any race)
Dallas County	1,852,810	1,241,455 (67.0%)	369,597 (19.9%)	9,437 (0.5%)	52,238 (2.8%)	180,083 (9.7%)	315,630 (17.0%)
Denton County	273,525	241,982 (88.5%)	13,569 (5.0%)	1,416 (0.5%)	6,870 (2.5%)	9,688 (3.5%)	19,013 (7.0%)
Tarrant County	1,170,103	917,501 (78.4%)	140,740 (12.0%)	5,551 (0.5%)	29,705 (2.5%)	76,606 (6.5%)	139,879 (12.0%)
Coppell	16,881	15,108 (89.5%)	387 (2.3%)	55 (0.3%)	913 (5.4%)	418 (2.5%)	1,007 (6.0%)
Flower Mound	15,527	14,727 (94.8%)	321 (2.1%)	60 (0.4%)	156 (1.0%)	263 (1.7%)	658 (4.2%)
Keller	13,683	13,338 (97.5%)	78 (0.6%)	69 (0.5%)	91 (0.7%)	107 (0.8%)	392 (2.9%)
Grapevine	29,202	27,653 (94.7%)	523 (1.8%)	134 (0.5%)	331 (1.1%)	561 (1.9%)	1,657 (5.7%)

[1] ***Population and employment data from the North Central Texas 'Council of Government Research and Information Services.***

Table 4-6. *1990 Census Income Characteristics*

City/County	Households median income	Families median income	Non-family Household median income	Households mean income	Families mean income	Non-family Household mean income
Dallas County	$31,605	$36,982	$22,373	$42,432	$48,625	$28,726
Denton County	$36,914	$44,945	$20,829	$42,875	$50,531	$25,058
Tarrant County	$32,335	$38,279	$20,616	$40,077	$45,710	$25,429
Coppell	$58,815	$62,218	$35,062	$63,324	$67,761	$41,047
Flower Mound	$53,693	$55,113	$31,579	$58,705	$61,071	$38,902
Keller	$55,050	$56,985	$32,413	$61,994	$64,407	$40,821
Grapevine	$48,901	$54,669	$26,793	$52,282	$58,499	$31,630

[1] ***Population and employment data from the North Central Texas 'Council of Government Research and Information Services.***

4.14 Cultural Resources

Archeological and historical resources would continue to be managed in accordance with Federal laws, regulations, and COE policies/procedures under the Proposed Action Alternative.

Site 41TR172, as referenced in section 3.12, contains a very sparse distribution of surface artifacts. Based on the determination and concurrence of the Texas SHPO ***(Appendix A)***, this site was not significant enough to be declared as a historic property (Personal communication with Mr. Dan

McGregor, COE Archeologist). Due to the large size and surficial context of Site TR172, the archeologist did not recommend any further work on the site. However, the archeologist did recommend that the site be monitored during development for possible features or artifact concentrations. Site 41TR173 will be avoided; therefore, there will be no adverse impacts to cultural resources. Should cultural resources be encountered during development of the Opryland facilities, all construction activities in that area will be halted and the COE archeologist contacted immediately. Regardless of the alternative considered, the facilities would result in no significant impacts to cultural resources.

4.15 Socioeconomic Resources

The proposed project is expected to provide minimal benefits to the local economy in comparison to its present state. Some impacts may include an increase in employment and resident populations. The number of people in the areas may vary due to seasonal tourism connected with the proposed Opryland, which may draw in added business for local sales. However even without the added influence of the proposed Opryland, this flux will not be significant.

The three surrounding counties, Denton, Dallas and Tarrant counties, alone have experienced an overall 14 percent increase in population growth from the year 1990 to 1999. In the North Central Region of Texas, the creation of jobs has peaked at more than 100,000 new jobs in 1997. Therefore, the driving force behind the incredible population growth in North Central Texas has been due to the unprecedented growth rates in employment already taking place. The operation and maintenance of the proposed project is expected to employ some full time positions, but the employment totals and populations in the area are not expected to be significantly impacted during or after construction of the proposed project.

5.0 Conclusion

This EA evaluates the potential environmental impacts associated with the future without project, the preferred plan, a road alignment that utilized bridges and box culverts, a positioning of the Opryland complex and support facilities off federal lands, and a complex which had single road access along Ruth Wall Street. Of the alternatives considered, the preferred plan would satisfy the needs and purpose of the project and provide the least environmentally damaging alternative. Implementation of the preferred plan would result in adverse impacts to approximately 12 acres of Federal land. Impacts to natural resources would be mitigated by planting 50 acres of hard and soft mast producing native trees and shrubs. Further mitigation would entail establishing utility corridors and upgrading the land use nomenclature of fee areas around Grapevine Lake that presently are not designated for either "High Density Recreation" or "Operation and Maintenance" to "Wildlife Management Areas" through a supplement to the lake master plan. The nomenclature upgrade would involve approximately 4,000 acres of land. Additionally, mitigation areas for this, past and future actions in the Wildlife Management Areas would also be designated as "Environmental Sensitive Areas". Based on the EA and results of coordination, it has been concluded that the preferred plan would not have a significant adverse effect on the environment, nor is it environmentally controversial. This action would therefore not warrant the preparation of an environmental impact statement (EIS).

6.0 References

Bureau of Economic Geology, 1990	The Geology of Texas. 1990. Volume 1 Stratigraphy. The University of Texas. Austin, Texas.
Elsevier Science Publishing Company, Inc., 1988	Landscape Architecture Construction, 2nd edition.1988
Texas Department of Water Resources, 1979	Ground-Water Availability in Texas, Estimates and Projections Through 2030. Texas Department of Water Resources, Austin, Texas.
Texas Parks and Wildlife Department, 1998	Wildlife Habitat Appraisal Procedure. 1998. Texas Parks and Wildlife. Austin, Texas
Texas Organization for Endangered Species, 1988	Endangered, Threatened, and Watch List of Vertebrates for Texas. Austin, Texas
Texas Organization for Endangered Species, 1992	Endangered, Threatened, and Watch List Natural Communities. Austin, Texas
Texas Organization for Endangered Species, 1993	Endangered, Threatened, and Watch List of Plants. Austin, Texas
U.S. Army Corps of Engineers, 1998	Beaver Lake Shoreline Management Plan Draft Environmental Assessment. June 1998. Little Rock District Office, Little Rock, Arkansas.
U.S. Department of Agriculture, 1984	Soil Survey of Tarrant County, Texas. 1978. U.S. Department of Agriculture, Soil Conservation Service. Texas Agricultural Experiment Station.
U.S. Fish and Wildlife Service, 1989	Endangered, Threatened, and Candidate Species Listed by County, Arlington Field Office's Area of Responsibility. 1989. U.S. Fish and Wildlife Service. Ecological Services, Arlington, Texas.

Appendix A – Correspondence from the Texas Historical Commission

List of Acronyms and Abbreviations

A

AQCR	Air Quality Control Region

B

BEG	Bureau of Economic Geology

C

CDC	Corridor Development Certificate
CEQ	Council on Environmental Quality
COE	U.S. Army Corps of Engineers
CO	Carbon Monoxide

D

Dbh	diameter at breast height

E

EA	Environmental Assessment
EPA	Environmental Protection Agency
EJ	Environmental Justice
ER	Engineer Regulation

F

FAC	Facultative Plants
FACW	Facultative Wetland Plants
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map

G

GPS	Global Positioning System

H

HIS	Habitat Suitability Index

I, J, K,

L

LDA	Limited Development Area

M

Mgd	million gallons per day
MPA	Metropolitan Planning Area
MSA	Metropolitan Statistical Area
Msl	mean sea level

N

NA	not applicable
NAAQS	National Ambient Air Quality Standards
NCTCOG	North Central Texas Council of Governments
NEPA	National Environmental Policy Act
NGVD	National Geodetic Vertical Datum
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory

O

OBL	Obligate Wetland Plant
OHWM	Ordinary High Water Mark

P

PL	Public Law
PM	Particulate Matter

Q, R

S

Sf	square feet
SWPPP	Storm Water Pollution Prevention Plan

T

TDWR	Texas Department of Water Resources
TNRCC	Texas Natural Resource Conservation Commission
TOES	Texas Organization for Endangered Species

TPWD	Texas Parks and Wildlife Department

U

UNT	University of North Texas
US or U.S.	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

V

W

WES	Waterways Experiment Station

X, Y, Z

APPENDIX H

EA for Opryland 18-Hole Golf Course and Driving Range (December 1999)

ENVIRONMENTAL ASSESSMENT
FOR
OPRYLAND 18-HOLE GOLF COURSE AND DRIVING RANGE
ON GRAPEVINE LAKE
CITY OF GRAPEVINE, TARRANT COUNTY, TEXAS

U.S. Army Corps of Engineers
Fort Worth District
Fort Worth, Texas 76102-0300

December 1999

ENVIRONMENTAL ASSESSMENT FOR OPRYLAND GOLF COURSE AND DRIVING RANGE

TABLE OF CONTENTS

1.0 Introduction 1

2.0 Purpose and Need 1

3.0 Alternatives of the Proposed Plan 2

3.1 Preferred Plan 2

3.2 Future without Project (Use of Existing Courses) 2

3.3 Project Off Federal Lands 3

3.4 Nine-Hole Course 3

3.5 Project Entirely on Federal Lands 4

4.0 Affected Environment 4

4.1 Soils 4

4.2 Geology 4

4.3 Landfill Activities 4

4.4 Air Quality 5

4.5 Noise 5

4.6 Illumination 5

4.7 Water Quality 5

4.8 Aquatic Resources 6

4.8.1 Aquifers/Groundwater 6

4.8.2 Jurisdictional Waters/Wetlands 6

4.9 Terrestrial Resources 7

4.9.1 Vegetation 7

4.9.2 Fish and Wildlife 7

4.10 Land Use 8

4.11 Federal Threatened and Endangered Species 8

4.12 State Special Species and Critical Habitats 9

4.12.1 Vegetation Resources 9
4.12.2 Animal Resources 9
4.13 Cultural Resources 9
4.14 Socioeconomic Resources 10
5.0 Environmental Consequences of the Proposed Action 12
5.1 Soils 12
5.2 Geology 13
5.3 Landfill Activities 13
5.4 Air Quality Impacts 13
5.5 Noise Impacts 14
5.6 Illumination Impacts 14
5.7 Safety Impacts 14
5.8 Impacts to Water Quality 15
5.8.1 Turf Grass selection 15
5.8.2 Minimal chemical application 15
5.8.3 Irrigation and Maintenance 16
5.8.4 Design and Construction Measures 16
5.8.5 Best Management Practices 17
5.9 Impacts to Aquatic Resources 17
5.9.1 Aquifers/Groundwater 17
5.9.2 Jurisdictional Waters/Wetlands 17
5.10 Impacts to Land Use 19
5.11 Impacts to Terrestrial Resources 20
5.12 Permits and Other Regulatory Action 22
5.13 Impacts to Federal Threatened and Endangered Species 22
5.14 Impacts to State Special Species and Critical Habitats 22
5.15 Executive Order 11988, Floodplain Management 22
5.16 Executive Order 11990, Protection of Wetlands 22

4.12.1 Vegetation Resources 9
4.12.2 Animal Resources 9
4.13 Cultural Resources 9
4.14 Socioeconomic Resources 10
5.0 Environmental Consequences of the Proposed Action 12
5.1 Soils 12
5.2 Geology 13
5.3 Landfill Activities 13
5.4 Air Quality Impacts 13
5.5 Noise Impacts 14
5.6 Illumination Impacts 14
5.7 Safety Impacts 14
5.8 Impacts to Water Quality 15
5.8.1 Turf Grass selection 15
5.8.2 Minimal chemical application 15
5.8.3 Irrigation and Maintenance 16
5.8.4 Design and Construction Measures 16
5.8.5 Best Management Practices 17
5.9 Impacts to Aquatic Resources 17
5.9.1 Aquifers/Groundwater 17
5.9.2 Jurisdictional Waters/Wetlands 17
5.10 Impacts to Land Use 19
5.11 Impacts to Terrestrial Resources 20
5.12 Permits and Other Regulatory Action 22
5.13 Impacts to Federal Threatened and Endangered Species 22
5.14 Impacts to State Special Species and Critical Habitats 22
5.15 Executive Order 11988, Floodplain Management 22
5.16 Executive Order 11990, Protection of Wetlands 22

5.17 Environmental Justice 23

5.18 Cultural Resources 24

5.19 Socioeconomic Resources 24

5.20 Public Involvement 25

6.0 Conclusion 25

7.0 References 26

List of Acronyms and Abbreviations 28

List of Tables

Page

Table 4-1. Federally listed Threatened and Endangered Species in Tarrant County, Texas. 8
Table 4-2. Endangered, Threatened, and Watch List of Vertebrates for the entire state of Texas (TOES 1988). . 9
Table 5-1. Typical Compensatory Mitigation Ratio for Loss of Vegetation/Habitat 21
Table 5-2. 1990 Census Population and Housing Characteristics 23
Table 5-3. 1990 Census Income Characteristics 24

List of Exhibits

After Page

Exhibit 1. Vicinity Map 1
Exhibit 2. Preferred Plan 2
Exhibit 3. Landfill Site Map 5
Exhibit 4. Jurisdictional Waters of the U.S. 18
Exhibit 5. Grapevine Lake Land Use Map. 19

1.0 Introduction

The proposed action to be evaluated in this Environmental Assessment (EA) would be the development of Federal land by the City of Grapevine for construction of an 18-hole golf course and driving range along the south shore of Grapevine Lake. The proposed activities would be conducted on Federal lands associated with the Grapevine Lake project in Grapevine, Texas. This EA evaluates the environmental impacts associated with the implementation of this action. The EA has been prepared in accordance with the policies and procedures outlined in the National Environmental Policy Act (NEPA) of 1969, Council on Environmental Quality (CEQ) regulations, and United States Army Corps of Engineers (COE) Procedures for Implementing NEPA 1988 (ER 200-2-2).

The site proposed for development is located along the Silver Lake Branch and surrounding shoreline of Grapevine Lake near the COE Grapevine Lake project headquarters ***(Exhibit 1)***. The site is north of State Highway 26 (SH 26), east of Ruth Wall Street, and west of Grapevine Mills Mall. Grapevine Lake forms the northern boundary of the site. The area to the west of the site is comprised primarily of residential usage while the remainder of the surrounding area is predominately the Federal lands associated with Grapevine Lake. The project would surround a proposed Opryland facility complex including a 1,500-room hotel, a 400,000 square-foot convention center with a lower-level parking garage, a four-acre atrium, a restaurant, a fishing pier, and streets leading to the facilities. Components of the Opryland facility complex involving facilities on COE fee lands have been studied and assessed in a separate EA.

For the purposes of this EA, the proposed action would include the activities associated with the construction of the Opryland golf course and driving range by the City of Grapevine, which would be located on Federal fee property.

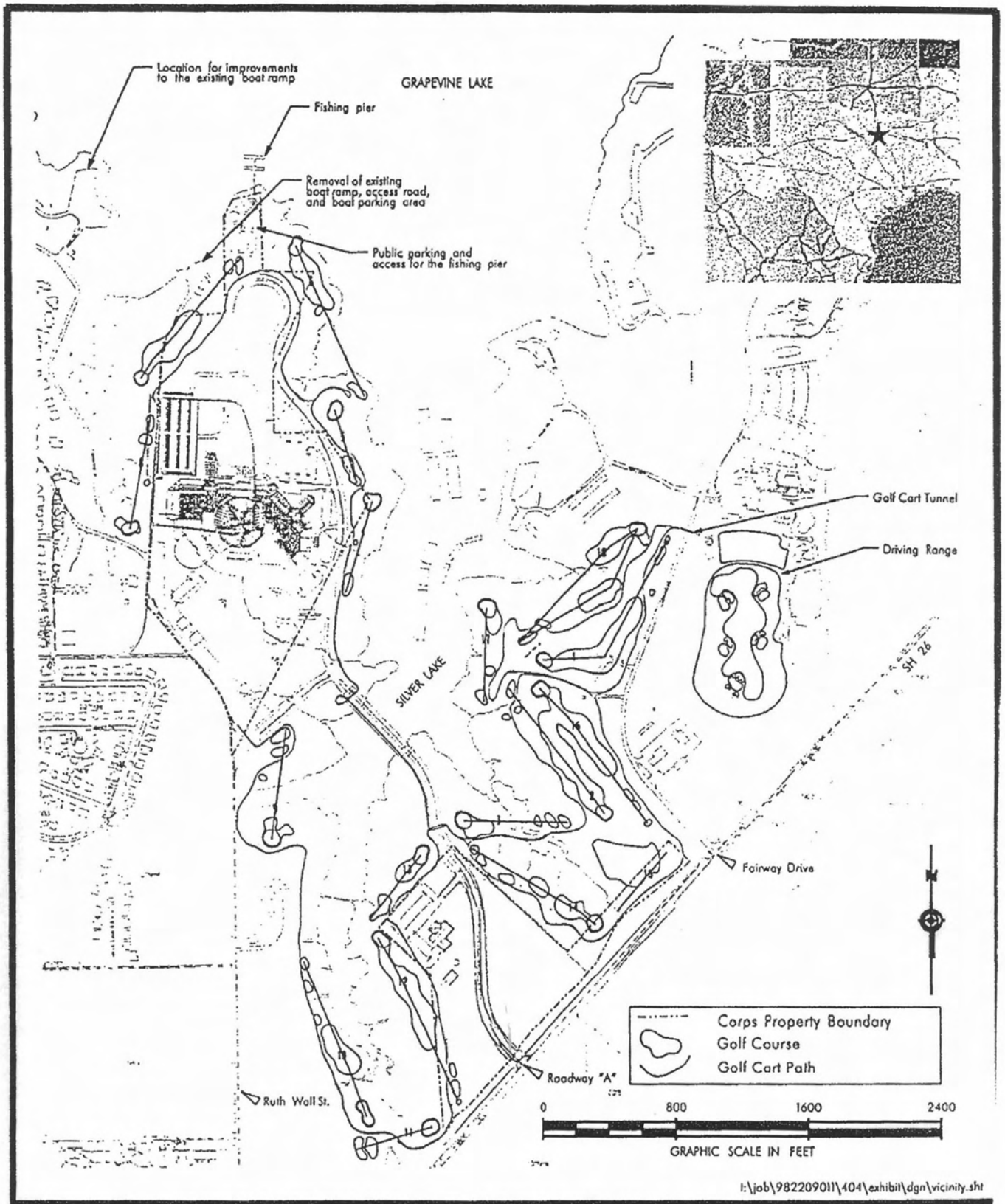
2.0 Purpose and Need

Population growth and the resultant urban sprawl in the Dallas/Fort Worth (DFW) area has created a unprecedented demand to develop available open spaces for recreational activities such as amusement parks, golf courses, soft ball fields, and soccer fields. Even though the necessity for such activities may exist around areas that have high human populations, there is also an important need to maintain open, undeveloped areas for wildlife habitat.

Although a number of golf courses exist and are proposed in the area, the City of Grapevine has determined that there is the need for an additional 18-hole golf course and driving range. Golfing opportunities are limited within the state as well as within the DFW area. The State of Texas ranks 45th nationally in terms of the number of golf holes per person. The Dallas and Fort Worth areas rank number 278 and 257, respectively, out of the 315 large Metropolitan Statistical Areas in the nation in terms of public golf courses per person.

Golf rounds demand analysis has been conducted for the 20-mile radius around the facility (Primary Trade Area). It is estimated that there are 133,841 golfers within the Primary Trade Area today and the potential rounds produced by these golfers are 2,173,327. Fifty-five percent of these rounds (1,195,330) are expected to be played at public facilities ***(1999 National Golf Foundation Statistics)***. An average utilization for 18-hole golf courses in the Primary Trade Area is conservatively estimated to be 40,000 rounds per year. Golf course demand can be determined for the Primary Trade Area by dividing public rounds by average utilization, providing an estimated number of public golf courses that can be supported in the Primary Trade Area. It is estimated that a total of 24 courses are needed to satisfy the existing demand.

When analyzing the additional demand that would occur from anticipated hotels and facilities expected in the area, using a 70% occupancy rate and a 6% participation rate (one-half the average participation



I:\job\982209011\404\exhibit\dgn\vicinity.sht

	Vicinity Map Opryland Golf Course on Grapevine Lake Tarrant County, Texas	PROJECT NO. 982209011 DRAWN BY APPROVED BY DATE	Exhibit 1

.\982209\dgn\golf\vicinity.sht Dec. 22, 1999 10:15:16

rate of the United States), the anticipated changes should generate an additional 22,995 rounds of golf for the area.

Currently, a total of 18 courses exist within the Primary Trade Area, with two courses presently under construction. It has therefore been estimated that the Primary Trade Area should be able to support six additional public golf courses.

3.0 Alternatives of the Proposed Plan

3.1 Preferred Plan

The preferred plan or "the plan proposed by the City of Grapevine" would be an 18-hole golf course situated on the south shore of Grapevine Lake ***(Exhibit 2).*** The total area encompassed by the course would be approximately 99 acres.

The preferred plan would impact approximately 88 acres (89 percent) of Federal land for the proposed golf course. The proposed action would not include portions of golf course holes 4, 5, 6, 7, 8, 11, 12, 13, 14, and 15, which occur on private land. These areas comprise approximately 10.6 acres (11 percent) of the total proposed golf course.

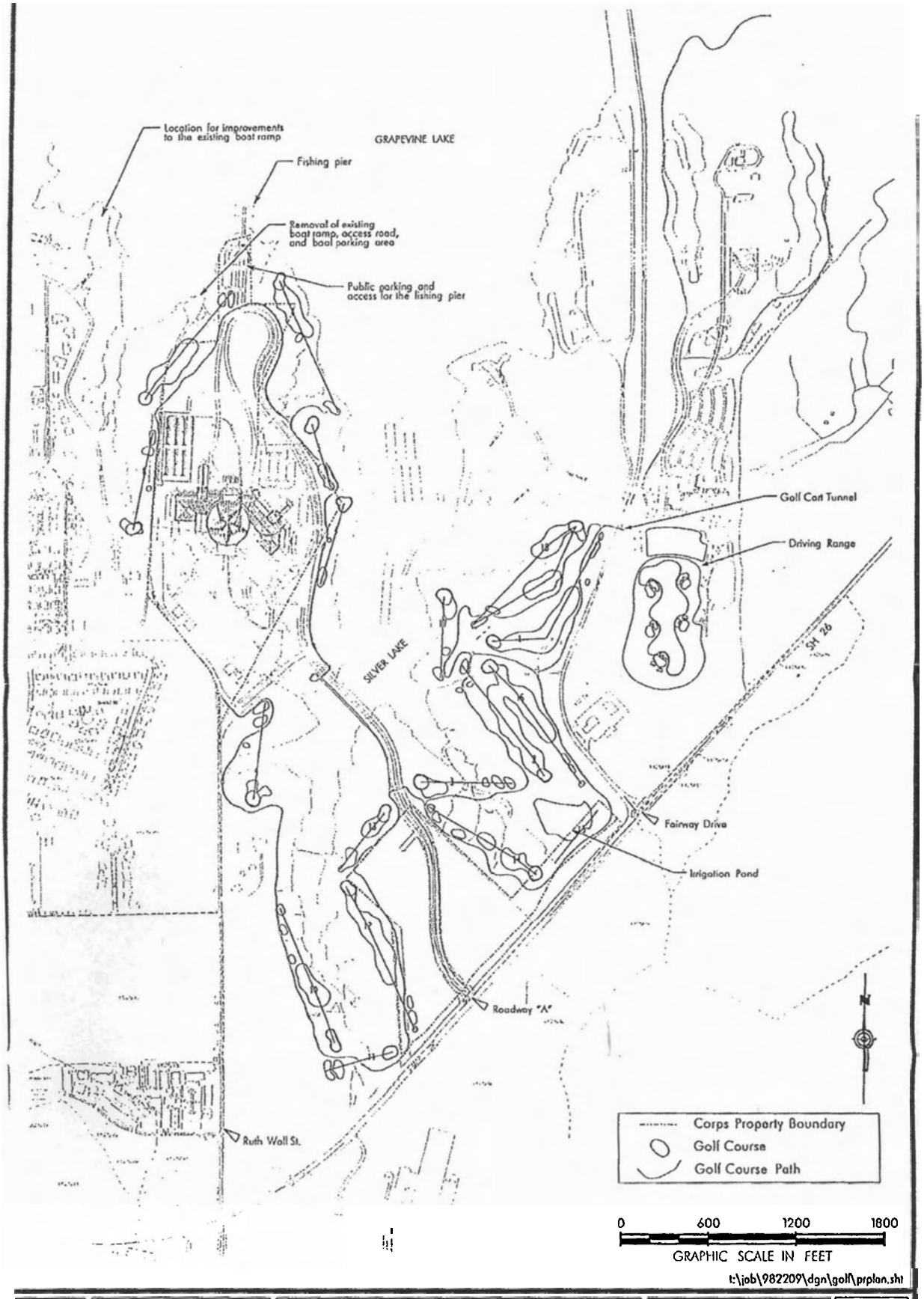
The 18-hole golf course and driving range currently is designed to have a minimal impact on the natural environment. The grading plan has been designed to almost completely avoid impacts to waters of the U.S. Impacts to wooded areas have been minimized to the extent practicable. The preferred plan alignment also avoids a known landfill site as well as an archeological site. The preferred plan includes mitigation for impacts to wooded habitat within COE fee lands. Golf cart paths are also proposed and efforts have been made to reduce their impacts as well. A golf cart path tunnel is proposed to allow golf cart and pedestrian circulation under Fairway drive. This tunnel would comply with COE criteria of tunnel design, which states that the bottom of the tunnel needs to be above the maximum lake water surface elevation of 581 feet. Coordination with geotechnical specialists at the COE has taken place so as to insure that the tunnel would in no way endanger the functioning or structural integrity of the dam. Fees required of golfers for use of the proposed golf course would be comparable to other public golf courses in the area.

The site for the proposed golf course has a boat ramp at the northern end. An existing COE boat ramp, associated parking, and access road would be removed. The boat ramp just to the west of the site, on the other side of the Silver Lake inlet, would be enhanced as a component of the proposed action. This modification would replace the capacity of the boat ramp that would be removed in terms of parking spaces, lanes, and docks. A public access road and associated parking would be provided for the restaurant and fishing pier, which have been proposed under a separate EA. All shorelines and existing associated features would remain free and accessible to the public for fishing and other recreational uses.

3.2 Future without Project (Use of Existing Courses)

The Future without Project Alternative would, in the short term, leave the site in its existing state. However, the land around the lake, except those designated as Environmentally Sensitive or Operation and Maintenance would have a high potential to be developed in accordance to the designated land use as set forth in the master plan for Grapevine Lake. This particular site would have a strong likelihood to be developed due to its proximity to commercial areas and accessibility to the shoreline.

Silver Lake Park is comprised of 461 acres of Federal Land, which is designated in the Grapevine Master Plan for high-density recreational purposes. In accordance to the current Master Plan for Grapevine Lake, the general plan of development states, "The plan of development presented herein is



t:\job\982209\dgn\golf\prplan.sht

Exhibit 2

Preferred Plan
Opryland Golf Course on Grapevine Lake
Tarrant County, Texas

PROJECT NO.	982209/03	DATE	REVISIONS
DRAWN BY			
APPROVED BY			
DATE			

\job\982209\dgn\golf\prplan.sht Dec. 22, 1999 10:14:07

intended to provide the optimum recreation development that can be offered at Grapevine Lake for the benefit of the general public." The future without project alternative would not provide optimum recreational development.

The Future without Project Alternative would also not help alleviate the increased demand of existing golf courses, which currently exceed the existing resources.

3.3 Project Off Federal Lands

An alternative was considered by the city for the Opryland golf course that would totally avoid Federal fee property. For an undersized, sub-standard golf course to even be considered feasible for a site, the site requires at least 90 acres of contiguous land. Land parcels that exceed this size have a greater likelihood to be designed and constructed in a more environmentally sensitive fashion because of the ability to avoid and minimize the impacts to environmental resources. Developing the golf course off of Federal lands would result in an economically impractical solution because of the high cost associated with a significant land purchase. The golf course would also be located in an area not adjacent to the Opryland facilities, making the overall project less desirable. In addition, the environmental benefits to Grapevine Lake would be greatly diminished because similar impacts would occur on privately owned wooded habitat near the lake without mitigation for impacts to wooded habitat. For these reasons, this alternative has been eliminated from consideration.

3.4 Nine-Hole Course

Development of a nine-hole course was also considered by the city instead of an 18-hole course. It is estimated that the impacts to both waters of the U.S. and wildlife habitat would be reduced by approximately 42 percent when compared to the preferred plan. This impact estimate is derived by considering the current alignment absent the nine holes aligned along the peninsula and eastern property limits. This estimate takes into account both the acreage and quality of the impacts. This reduction in impacts would be an environmental benefit, but the environmental impacts incurred by a nine-hole course would account for more than half of the impacts of the preferred plan.

From an economic standpoint, building a nine-hole course would not be feasible due to limited income and high cost of construction. Limited income would result from the limited market demand for a nine-hole course. It is conservatively estimated that a nine-hole course attracts only 25 percent of the golfers that a full 18-hole course attracts. Construction and maintenance costs for a nine-hole course would be approximately 30% less than an 18-hole course. When taking all of these factors into account, a nine-hole course would not be economically feasible.

3.5 Project Entirely on Federal Lands

The City of Grapevine considered the development of a course that would totally avoid private property. In terms of acreage constraints, the Federal lands within the area would easily accommodate a course design entirely on Federal land. This alignment, however, would not allow for as many of the buffer areas needed in the preferred plan to decrease potential impacts to water quality and wildlife habitat. Impacts caused by this alignment would result in approximately one-half additional acre of impact to riparian corridors and approximately six additional acres of wooded habitat. For these reasons, this alternative has been eliminated from consideration.

4.0 Affected Environment

4.1 Soils

The project tract is characterized by five different soils. The tract lies in the Crosstell-Gasil-Rader and Houston Black-Navo Heiden soils associates. The property is located within the Crosstell-Gasil-Rader general soil map units. These soils are deep, loamy soils on nearly level to sloping upland areas. The limitations of these soils are shrinking and swelling, permeability, slope, and wetness.

The Crosstell soils are moderately well drained and have a very slow permeability. The surface layer is described as four inches thick, consisting of a brown fine sandy loam. From a depth of 4 to 41 inches it is a clay, being yellowish-red in the upper part and brownish yellow in the lower part. Yellow and brown mottling is described throughout. From a depth of 41 to 60 inches, it is a light gray stratified shale.

The Gasil soils are well drained and have a moderate permeability. From the surface to 10 inches, it is described as a brownish fine sandy loam. From a depth of 10 to 17 inches, it is a brown sandy clay loam, and from a depth of 17 to 75 inches, a sandy clay loam which is brownish yellow in the upper part and olive brown in the lower part. Brownish and reddish mottles are present throughout the profile.

Rader soils are moderately well drained and have a very slow permeability. The typical surface layer is a brownish fine sand loam to a depth of 18 inches. From a depth of 18 to 27 inches it is a light yellowish brown sandy clay loam. From a depth of 27 to 69 inches, it is a sandy clay that grades to a sandy clay loam. This layer is mottled throughout in shades of gray, yellow, and red.

Heiden and Navo clay occur along Fairway Drive and the remainder of the tract is defined as arents which are loamy soils that have been smoothed and reclaimed after sand and gravel mining operations. None of the five soils listed are considered hydric within Tarrant County.

4.2 Geology

The subject property is underlain by the Upper Cretaceous Woodbine Formation. The Woodbine Formation is a sandstone with clay and shale. The upper part is mostly fine grained, well sorted, reddish-brown sandstone with ripple marks and large scale cross-bedding. Some of the sandstone has large discoid concretions. The middle part is mostly fine grained sandstone, which is cross-bedded. Interbeds of carbonaceous clay are present. The lower part is interbedded sandstone and clay. The sandstone is fine grained and very thinly bedded to massive. The thickness of the Woodbine Formation ranges from 175 to 250 feet.

4.3 Landfill Activities

In the 1970's and early 1980's, the COE reportedly used one or more disposal pits in the vicinity of the site of the proposed golf course. The following is a description provided by the COE and was submitted to the Texas Natural Resource Conservation Commission (TNRCC) on January 25, 1995.

"Site #1 - The COE disposed municipal solid waste in landfill units located in tract A1A, and A1C during the 1980's. The waste was deposited in at least two pits, which were 20 feet wide, 40 feet long and 10 feet deep. There could have been one or two additional pits. Soil cover depth is greater than three feet. Soil type is Navo clay loam. Vegetative cover consists of grass and forbs. Material disposed included wood, metal, empty paint cans, buoys, and tires. One of the pits may contain several drums of pesticide and fertilizer. The drums were constructed of metal and some may have been plastic. The location of the pit which contains the pesticide and fertilizer is unknown."

In a subsequent letter issued by the TNRCC to the COE, dated March 15, 1995, the TNRCC acknowledged receipt of their correspondence pertaining to three closed municipal landfill sites [the other two sites are located in other areas around the lake]. The letter indicated that a TNRCC field inspector inspected the site and found that the site "appeared to be adequately covered with soil and was sufficiently graded to drain. Also, there was adequate grass growth on the cover." No notation of closure status was indicated in the TNRCC letter. Additionally, no regulatory information was provided in the regulatory report.

During the on-site inspection, the general area believed by the COE to be Site #1 was indicated by Mr. Dale King, Park Ranger for the COE, Grapevine Lake Project Office ***(Exhibit 3)***. A portion of the surveyed area is currently leased to Silver Lake Marina and the remaining portion is a COE storage area. The area appeared free of debris and was vegetated with grasses and bordered by tree growth. No visual evidence of the disposal pit was observed.

On the western end of the Silver Lake Marina open storage area, discarded materials were observed and included wooden spools for cables, tires, styrofoam, a riding lawn mower, empty propane tanks, wooden pallets and boards, and sheet metal. Minor amounts of windblown and discarded domestic trash were observed in the vicinity of the boats and boat trailers.

4.4 Air Quality

The project site is located within the EPA's Air Quality Control Region (AQCR) 215 for Texas. AQCR 215 consists of 19 counties including Dallas, Denton, and Tarrant counties. AQCR 215 is classified as a non-attainment area for ozone and attainment/unclassifiable for other National Ambient Air Quality Standards (NAAQS) including lead, sulfur dioxide, nitrogen dioxide, carbon monoxide, and particulates (40 Code of Federal Regulations 52.2308(a)). The air quality designation for the area is currently listed as serious.

4.5 Noise

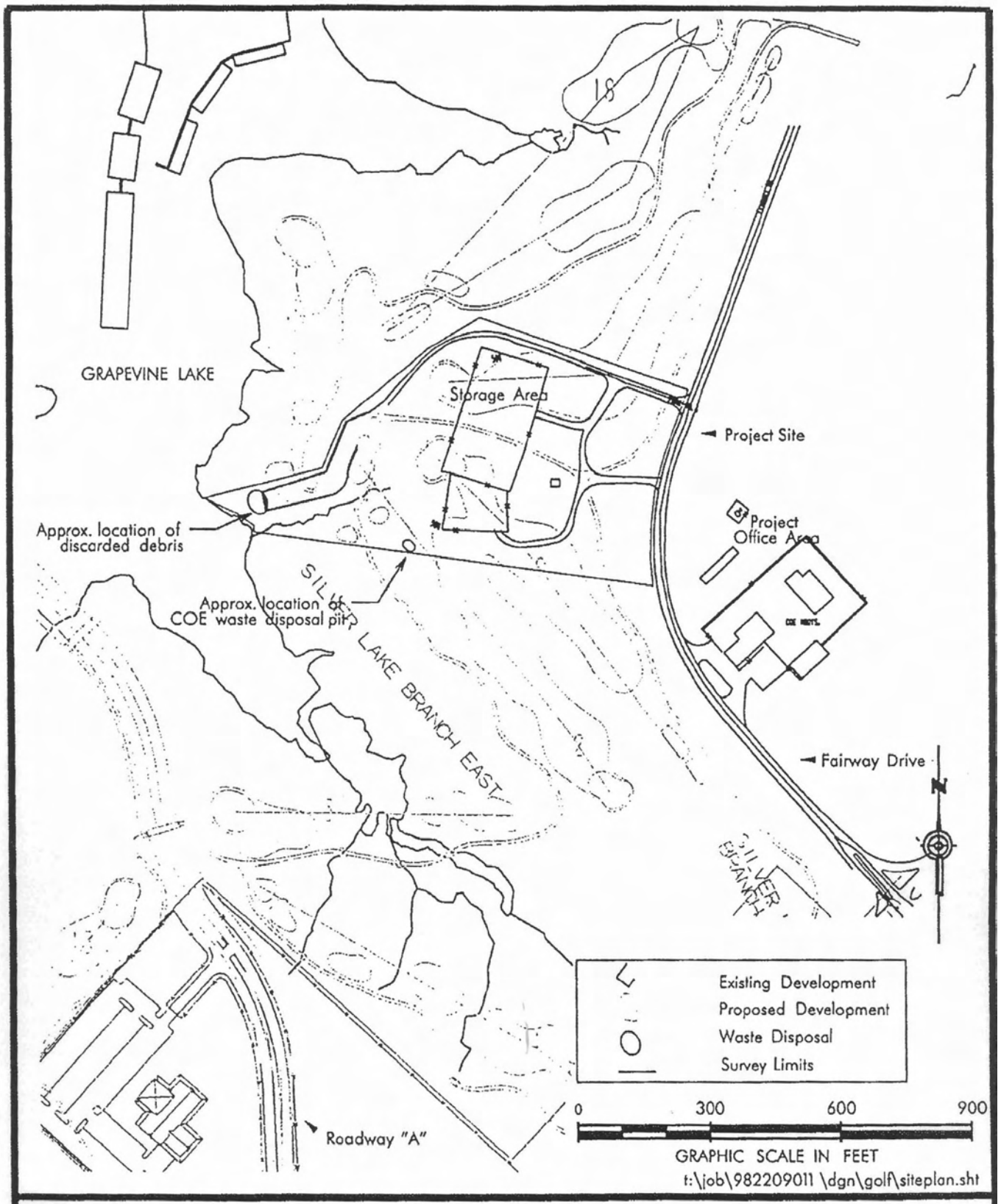
The project site is located between residential developments and public recreation lands. There are no major highways in the near vicinity that serve as noise sources. Existing noise levels are primarily associated with aircraft departing and approaching Dallas-Fort Worth International Airport. Boaters and residential development contribute additional noise in the study area.

4.6 Illumination

Currently the land is undeveloped and illumination of the site is negligible. Sources for illumination of the site are currently limited to boating traffic, adjacent property lighting from the marina and other surface water, the neighboring residential community, and the roadway lighting from Ruth Wall Street.

4.7 Water Quality

Grapevine Lake is identified as Segment 0826 of the Trinity River Basin. Stream segments provide a



	Landfill Site Map Corps Storage Area & Silver Lake Marina Open Storage on Grapevine Lake Tarrant County, Texas	PROJECT NO. 982209011	Exhibit 3

...\982209\dgn\golf\siteplan.sht Dec. 22, 1999 09:05:23

way for the TNRCC to classify stream portions by geographic location. The segment's designated water uses are listed as contact recreation, high aquatic life, and public water supply. The TNRCC has established surface water quality standards on the basis of beneficial uses such as domestic water supply, propagation of fish and wildlife, contact recreation, and non-contact recreation. However, because this segment did not have enough data for the evaluation period, it could not be evaluated by the TNRCC.

4.8 Aquatic Resources

4.8.1 Aquifers/Groundwater

Usable water-bearing aquifers in the area of study are in the Woodbine Aquifer and in the Paluxy and Twin Mountains formations. The latter two formations are part of the Trinity Group Aquifer, a major aquifer in the state of Texas. A major aquifer is defined as "one that yields large quantities of useable quality water in a comparatively large area of the state." The Woodbine Aquifer is a minor aquifer. Minor aquifers yield large quantities of water in small areas or relatively small quantities of water in large areas of the state.

The Paluxy Formation is composed of sandstone, mudstone, and limestone. Recharge to the unconfined portion of this aquifer is primarily from infiltration of precipitation and seepage of surface water bodies along the outcrop of the formation. The Twin Mountains Formation is composed of sand with inter-bedded clay, limestone, dolomite, and gravel. The form of recharge is similar to that of the Paluxy Formation.

The Woodbine Aquifer is composed of friable, iron bearing fine-grained sand and sandstone with interbedded shale, sandy shale, and clay. Rainfall on the outcrop is the primary source of recharge to the Woodbine Aquifer.

Depth to shallow or perched groundwater is not known. Depth to deep groundwater is approximately 800 feet in the Paluxy Formation and 1,800 feet in the Twin Mountains Aquifer. Reported usage in the Woodbine Aquifer ranges from 140 feet to 340 feet ***(The Geology of Texas, 1990)***

The general directional flow characteristics of the Trinity Group Aquifer are to the east-southeast in accordance with the orientation of the overall stratigraphy. Groundwater flows to the east in the Woodbine Aquifer, following the dip of the aquifer in the subsurface. The directional flow of shallow or perched water is anticipated to follow the site topography. However, seasons and local groundwater extraction or infusion may influence groundwater direction.

4.8.2 Jurisdictional Waters/Wetlands

The topography of this tract of land contains gradual slopes to the northeast and an upslope along the eastern boundary, which creates opportunities for ponding. The main hydrologic features include Grapevine Lake and its tributaries that are adjacent to the subject property. Several of the lake's tributaries originate on the site and flow into the lake.

An assessment of the water resources was performed in October, 1998 and April, 1999 on the project site. Boundaries of wetlands were surveyed using a Global Positioning System (GPS). In addition, streams, ponds, and the lake edge were surveyed, as necessary.

The banks of the lake within the proposed street alignments are generally too steep, or of unsuitable substrate to accommodate a great deal of wetland development. The western reaches of the lake allow for a greater floodplain area and, subsequently, more wetlands.

4.9 Terrestrial Resources

4.9.1 Vegetation

The project's vegetation on COE land is typical of that found in the Cross Timbers and Prairies region of Texas. The dominant canopy species on the wooded uplands of the project consist of post oak, cedar elm, green ash and blackjack oak. Understory species vary throughout the property but include saplings of canopy species, small junipers, greenbrier *(Smilax spp.)*, *Vitis* spp., and a variety of forbs such as partridge-pea (*Chamaecrista fasciculata*), ragweed (*Ambrosia* spp.) and grasses (*Bromus* spp.). In disturbed areas introduced or invading species are found such as mesquite (*Prosopis glandulosa*), baccharis, and grasses such as common bermudagrass (*Cynodon dactylon*).

Project lands immediately adjacent to subdivision property frequently support introduced or escaped vegetation characteristic of residential landscaping. Shoreline vegetation is typically either on steep, heavily eroded bluffs with little vegetation, or on moderate slopes with flood-tolerant pasture grasses, various weeds, forbs, willows (*Salix* spp.), cottonwoods, and buttonbush.

The site for the proposed driving range is an open landscape mixed with wooded areas. Mesquite (*Prosopis glandulosa*), western red cedar (*Juniperus virginiana*), cedar elm, American elm, and sugar hackberry are found throughout the tract. Common herbaceous vegetation includes downy brome (*Bromus tectorum*), prairie parsley (*Polytaenia nuttallii*), wild chervil (*Chaerophyllum tainturieri*) and plantain (*Plantago* sp.). Vegetation associated with particular wetlands is addressed with the description of that jurisdictional water.

4.9.2 Fish and Wildlife

The Grapevine Lake area contains a typical assortment of endemic wildlife species such as owls (*Tytonidae* and *Strigidae*), raccoons (*Procyon lotor)*, bobcats (*Lynx rufus)*, mink (*Mustela vison)*, opossums (*Didelphis virginiana*), grey squirrels (*Sciurus niger*), rabbits (*Sylvilagus floridanus*), and white tail deer (*Odocoileus virginianus*), as well as various species of other small mammals.

Grapevine Lake and associated wetlands offer important feeding, staging, and roosting areas for migratory birds. Species such as ducks, coots, grebes, pelicans, herons, egrets, gulls, terns, and hawks migrate through the area and utilize open water, shallow wetlands, and the associated riparian vegetation for feeding, perching and roosting. There is a typical resident bird population, which includes great blue heron (*Ardea herodias*), turkey vulture (*Carthartes aura*), mourning dove (*Zenaida asiatica*), red-tailed hawk (*Buteo jamaicensis*), northern bob-white (*Colinus virginianus*), blue jay (*Cyanocitta cristata*), American crow (*Corvus brachyrhynchos*), Carolina chickadee (*Parus carolinensis*), tufted titmouse (*Parus bicolor*), Carolina wren (*Thryothorus ludovicianus*), northern cardinal (*Richmondena cardinalis*), field sparrow (*Spizella pusilla*), red-winged blackbird (*Agelaius phoeniceus*), northern mockingbird (*Mimus polyglottos*), and red-bellied woodpecker (*Melanerpes carolinus*).

The fish of Grapevine Lake represent a typical assemblage of reservoir fish. Included are recreationally important species such as; channel catfish (*Ictalurus punctatus*), largemouth bass (*Micropterus salmoides*), white crappie (*Pomoxis annularis*), black crappie (*P. nigromaculatus*), bluegill (*Lepomis macrochirus*), redear sunfish (*L. microlophus*), warmouth (*L. gulosus*), striped bass (*Morone saxatilis*), white bass (*M. chrysops*), and hybrid bass (a cross of the two species of *Morone*). Fish such as gar (*Lepisosteus* spp.), bowfin (*Amia calva*), and buffalofish (*Ictiobus* spp.), minnows (*Cyprinidae* spp.), shiners (*Notropis* spp.), gizzard shad (*Dorosoma sepedianum*), and inland silverside (*Menidia beryllina* are also present.

4.10 Land Use

The project is proposed to be on Federal Land. There is currently no access to adjoining private lands beyond the areas already being used. Adjacent lands have been designated by the City's comprehensive land use plan for commercial uses. The adjoining lands are zoned hotel, commercial, and office, which dictate development of commercial, retail, and other higher uses. Plans are currently under development for construction of 23,000 square feet of restaurant, 55,000 square feet of retail, and 400 parking spaces, all of which are compliant with the City's development ordinances.

The subject property is along a shoreline. The proposed golf course runs adjacent to the shoreline along the peninsula and the Silver Lake inlet of Grapevine Lake. The Silver Lake inlet is developed with a marina. Properties west of the site include high-density single family residential and single family housing developments. Adjacent to the east of the proposed golf course is the Grapevine Lake Project Headquarters. The adjacent property uses are as follows:

North: Vacant land and Grapevine Lake.

South: Vacant land and single family residential.

East: Grapevine Lake Project Headquarters and vacant land along Grapevine Lake.

West: To the south is single-family residential property along Ruth Wall Street, which changes to Park Street 11 on the north end of the property. To the northwest is COE parkland including a boat ramp and parking area.

The Grapevine Lake master plan indicates that Silver Lake park is designated as Priority 1 Land Use Classification. These are lands reserved for use by the general public and are to be administered and/or developed by the COE or by Federal, State, and local governmental agencies for parks and recreational purposes and commercial concession areas.

4.11 Federal Threatened and Endangered Species

According to the United States Fish and Wildlife Service (USFWS) records, there are four species on the Federal threatened or endangered list that are likely to occur or have been known to occur within the vicinity of the Opryland project area. The identified species are listed in **Table 4-1.**

Table 4-1. Federally listed Threatened and Endangered Species in Tarrant County, Texas.

Common Name	Scientific Name	Taxonomic Group	Federal Status
Bald Eagle	*Haliaeetus leucocephalus*	Bird	Threatened[1]
Interior Least Tern	*Sterna antillarum anthalassos*	Bird	Endangered
Whooping Crane	*Grus americana*	Bird	Endangered
Mountain Plover	*Charadrius montanus*	Bird	Candidate

[1]*Proposed for delisting (Federal Register, July 6, 1999).*

4.12 State Special Species and Critical Habitats

4.12.1 Vegetation Resources

The eared false-foxglove (*Agalinis auriculata*) is the only plant species listed on the Endangered, Threatened, and Watch List for Tarrant County, Texas according to the Texas Organization for Endangered Species ***(TOES, 1993)***. The TOES have placed the eared false-foxglove on their Watch List. The species has not been found in Texas. There are no endangered, threatened, or watch list natural communities listed for the project area according to TOES ***(TOES, 1992)***.

4.12.2 Animal Resources

According to TOES the animals in **Table 4-2** are on the Endangered, Threatened, and Watch List of Vertebrates for the entire state of Texas ***(TOES, 1988)***.

Table 4-2. *Endangered, Threatened, and Watch List of Vertebrates for the entire state of Texas (TOES 1988).*

Common Name	Scientific Name	Taxonomic Group	Status	Range in Texas	Preferred Habitat	Reason for Status
Texas Horned Lizard	*Phrynosoma cornutum*	Reptile	Threatened	Statewide	Open, flat terrain, bare ground	Pesticides, commercial exploitation
Milk Snake	*Lampropeltis triangulum*	Reptile	Watch list	Statewide	Wide variety of habitats	Commercial exploitation, habitat destruction
Bald Eagle	*Haliaeetus leucocephalus*	Bird	Threatened	Statewide	Lakes, reservoirs, large rivers	Pesticides, unlawful killing
Golden Eagle	*Aquila chrysaetos*	Bird	Watch list	Statewide	Mountains, woodlands, deserts	Unlawful killing
Merlin	*Falco columbarius*	Bird	Threatened	Statewide	Open country	Pesticides

4.13 Cultural Resources

Cultural resources at Grapevine Lake are managed by implementing the policies and guidelines established by Federal archeological and historic preservation laws and regulations. The following laws and regulations provide the basis for the cultural resources management program: Antiquities Act of 1906 (Public Law 59-209); Historic Sites Act of 1935 (Public Law 74-292); Reservoir Salvage Act (Public Law 86-523); National Historic Preservation Act of 1966 (Public Law 89-665); Archeological and Historic Preservation Act of 1974 (Public Law 993-291); the Archeological Resources Protection Act of 1979; and the Native American Graves Protection and Repatriation Act of 1990 (Public Law 101-601;

104 Stat. 3048; 25 USC 3001-13).

An archeological survey of project was conducted by Geoarch Consultations. Dr. Reid Ferring, an archeologist from the University of North Texas (UNT), performed a comprehensive cultural resource evaluation of the site. The survey was to determine if any adverse affects to cultural resources would result from the project. The major portion of the survey area is on private lands to be incorporated in to the development. Portions of the project area are owned by the COE, and are under the regulation of the Fort Worth District.

The survey determined that two archeological sites are present within the areas to be affected by development. Site 41TR172 is located on private property, and Site 41TR173 is located on COE property.

Site 41TR172 is a very large area containing an extensive thin scatter of lithic artifacts in the plow zone of an old terrace surface. This site also includes concentrations of historic artifacts related to structures dating between 1890 and present. No buildings except for small sheds stand in the project area. Due to the large size and surficial context of the site, the archeologist did not recommend any further study on the site at this time. However, the archeologist did recommend that the site be monitored during any development for possible features or artifact concentrations.

The second site, Site 41TR173, is a much smaller area than Site 41TR172, and it contains a small concentration of lithic artifacts that appear to be spatially in place, yet appear to lack faunas or datable materials. Site 41TR173 is potentially eligible for inclusion in the National Register of Historic Places. It was recommended that site 41TR173 be avoided during development.

4.14 Socioeconomic Resources

A socioeconomic analysis for the proposed project involves three counties, Dallas, Denton and Tarrant, that surround Grapevine Lake. Although the majority of Grapevine Lake and the proposed project area are within Tarrant and Denton counties, the Dallas County population is close enough to be impacted by the social and economic implications of activities associated with the lake and project facility.

The North Central Texas Council of Governments (NCTCOG), Research and Information Services Department 1998 is part of the Population Estimates Program. Population trends within the three-county area from 1970 to 1999 are recorded in ***Table 4-4***. This three-county area has experienced an approximate increase of 14 percent in its population from 1990 to 1999. The Metropolitan Planning Area (MPA) recognizes Fort Worth in Tarrant County as having a population increase of 10,200 persons which set it over the half million threshold in 1998 with 504,350 residents along with Lewisville at 74,700 and Flower Mound with 47,300. Overall, Tarrant County was second in absolute growth in 1998 with 31,142 new persons, and has now added more than 200,000 persons since 1990. Denton County ranked third with 24,925 persons added, and Dallas County followed with 19,208 new residents.

The NCTCOG Research and Information Services Department has also created employment data as a part of the NCTCOG's on-going development monitoring program. With an employment base of over 2.5 million, the MPA captures 93 percent of the work activities in North Central Texas.

Employment growth in North Central Texas, which includes 16 counties, has been the driving force behind the population growth in the last part of this decade. Total MPA employment grew by 264,269 jobs between 1995 and 1998. Figures show an added increase of nearly 89,000 jobs per year since 1995. Jobs have been created at unprecedented rates in the last few years, peaking with more than 100,000 new jobs in 1997. However, in 1998, job growth slowed by nearly 10 percent in the region, but overall, the annual growth of jobs has doubled from the rate of 39,000 jobs per year. Dallas County captures nearly 60 percent of all employment growth with 150,685 new jobs, and Tarrant County

ranked second with 65,292 new jobs, followed by Collin (25,477) and Denton (13,071) counties. MPA cities near Grapevine Lake have some of the highest growth rates in the MPA. Coppell has a 42 percent increase, and Keller has had an 84 percent increase since 1995 (1,300 new jobs). Whereas the city of Dallas captures 29 percent of all job growth (76,300) and 37 percent of the total 1998 MPA employment (930,700) ***(Table 4-5)***. The DFW International Airport continues as the regional "central business district" (CBD) of the North Central Texas region. Approximately 2.1 million jobs, 83 percent of the MPA total are within a 20-mile radius of the airport. This sphere of influence extends east and west to the DFW CBDs, and as far north as the UNT and south to Joe Pool Lake. Consequently, 80 percent of the employment increase in the MPA has been within the DFW sphere of influence.

Table 4-4. Population data for Dallas, Denton, and Tarrant Counties.[1]

Counties	Final Census 4/1/90	Estimated Population 1/1/95	Revised Population 1/1/98	Estimated Population 1/1/99	Compound Annual Growth Rate 1990-1999	Absolute Growth 1998-99	Percent Growth 1998-99	Absolute Growth 1990-99	Average Annual Growth Rate 1990-99
Dallas County	1,852,810	1,931,150	2,023,736	2,042,944	1.27%	19,208	0.95	190,134	1.32%
Denton County	273,525	320,400	375,990	400,915	5.06%	24,925	6.63	127,390	6.01%
Tarrant County	1,170,103	1,258,450	1,345,413	1,376,555	2.12%	31,142	2.31	206,452	2.28%
NCTCOG Region	4,111,750	4,450,300	4,826,217	4,963,064	2.46%	136,847	2.84	851,314	2.67%

[1] *Population and employment data from the North Central Texas Council of Government Research and Information Services.*

Table 4-5. Employment data for Dallas, Denton, and Tarrant Counties (with cities near Grapevine Lake).[1]

Counties	1990 Employment	1995 Employment	1990-95 Total Change	1990-95 Percent Change	1998 Employment	1995-98 Total Change	1995-98 Percent Change
Dallas County					1,496,082		
Denton County					106,842		
Tarrant County					690,994		
Surrounding Cities							
Coppell	6,350	7,200	850	13.4%	10,250	3,050	42.4
Flower Mound	1,550	2,950	1,400	90.3%	3,600	650	22.0
Grapevine	27,100	33,550	6,450	23.8%	39,100	5,550	16.5
Keller	950	1,550	600	63.2%	2,850	1,300	83.9

[1] *Population and employment data from the North Central Texas Council of Government Research and Information Services.*

5.0 Environmental Consequences of the Proposed Action

5.1 Soils

Regardless of the alternative considered, there would be short-term adverse impacts to soils as a result of construction activity. The removal or degradation of vegetation would increase the potential for soil erosion. Erosion control measures are discussed in **Section 5.8.4**. The proposed action would have no significant impact on the site's soil resources.

5.2 Geology

The proposed action, regardless of the alternative considered, would have no significant impact on the site's geological resources.

5.3 Landfill Activities

This assessment has revealed evidence of potential environmental conditions in connection with the property. Based on the information obtained, the following recommendations are made.

1) The data provided by the COE indicates that up to four disposal pits exist in the vicinity of the subject property. The majority of the materials reported in the disposal pits include wood, metal, empty paint cans, buoys, and tires, with the potential of several drums of pesticide and fertilizer. The general location of one of these pits was the only information provided to Carter & Burgess. Based on correspondence from the TNRCC and verbal information provided by the COE, these sites are closed in accordance with state regulations. Based on this information, it is not anticipated that a subsurface assessment of potential impact of the area would be necessary.

   Prior to construction, a detailed review of the regulations pertaining to the post-closure land use for closed municipal solid waste landfills would be performed to determine the state requirements should a disposal pit be disturbed. Based on the review, a plan of action would be developed. TNRCC Solid Waste Division staff has recommended having a pre-construction meeting to discuss planned actions in the event the closed disposal pits is disturbed. Activities that might be included in the action plan include immediate cessation of construction, notification to TNRCC, and assessment of the situation by an environmental professional. Waste that is uncovered would be transported to a permitted disposal facility. Deed recordation may be required for disposal pits that are uncovered.

2) The discarded materials located at the western end of the Silver Lake Marina Open Storage area would be removed and properly disposed or recycled.

Any remedial action required as a result of the development of the subject property would be the responsibility of the city. Any remedial action required would be conducted in accordance with applicable Federal, state, and local regulations.

As a result of implementing the mitigation measures where practicable, regardless of the alternative considered, the proposed golf course would have no significant adverse impacts on the potential contaminant areas.

5.4 Air Quality Impacts

Air quality would be temporarily adversely impacted during construction activities from air pollution emissions, including dust that originate from heavy equipment and delivery vehicles. The effects from construction on the air quality would be minimal and short-lived. This involves increases in levels of carbon dioxide, nitrous oxide, and hydrocarbons. There would be a seasonal increase in traffic associated with the golf course with summer or warmer months showing greater activity. The plans would incorporate appropriate dust control measures to minimize dust impacts. The golf carts utilized for the course would be electrically operated as would the irrigation pumping station.

The maintenance vehicles and equipment would be primarily gas-powered and could potentially impact air quality. Efforts will be made to reduce the use of this equipment during "ozone-action days." Ozone Action Days typically occurs in the summer when harmful and unhealthy ozone levels are forecasted. On these days, private citizens and area businesses are encouraged to voluntarily reduce ground-level ozone levels with simple pollution-reducing measures. Any woody debris collected during clearing and

grubbing activities would not be disposed of by recycling or in an approved landfill. This debris would not be burned.

The proposed action would have no significant adverse long-term impact on regional air quality.

5.5 Noise Impacts

Minimal noise would occur associated with the golf course. The noises would be the result of the construction phase of the project and the golfing activity.

Noise associated with the construction phase of the project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction would be limited to occur during daylight hours when occasional loud noises are more tolerable. Regardless of the alternative considered, none of the receivers are expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities would not be expected.

The DFW International Airport has modeled noise associated with aircraft. The 65-dB noise contour runs north south just west of Ruth Wall Street. The noise impacts from aircraft greatly exceeds noise impacts from vehicular traffic, construction activity, or any associated golfing activities. The noise levels from aircraft would not be exceeded when considering the impacts cumulatively. Therefore, regardless of the alternative considered, the action proposed would not result in a significant noise increase over the existing noise levels in the area.

Where possible, clubhouse facilities and other noise-generating uses and facilities would be located away from neighbors who might be impacted.

5.6 Illumination Impacts

The proposed project does not plan to illuminate the golf course and associated driving range so as to allow play at night. However, the course would likely utilize minimal lighting for security and pedestrian safety considerations. Lighting would be directed to shine downwards on portions of the course.

Attempts have been made to minimize adverse illumination impacts. The actual footprint of the site has been set at an elevation below natural ground on the western portion of the site adjacent to the neighboring community. A retaining wall along the western portion in combination with a proposed six-foot masonry screen would further contain illumination on the project site. Regardless of the alternative considered, the proposed golf course would have no significant illumination impacts.

5.7 Safety Impacts

Regardless of the alternative considered, the proposed project does plan to incorporate all applicable Federal, state, and local safety standards and regulations into its design plans. Pedestrian use areas would also be properly designed with appropriate railings and other materials to meet safety standards.

The proposed project poses some threat to human safety. People being struck by golf balls and heat related injuries are probable. Boater safety in association to the proposed golf course has been considered. Caution signs to alert golfers to the presence of watercraft and fisherman near the course would be posted. Preliminary alignments of the 4th and 14th hole actually crossed over the Silver Lake inlet. This was changed to further increase the safety of those potentially present along the shoreline and inlet. The inlet is not a major thoroughfare and is used mainly as a fishing area. Regardless of the alternative considered, the proposed golf course would result in no significant safety impacts.

5.8 Impacts to Water Quality

As discussed previously, the proposed golf course would be designed according to the guidelines of the Audubon Cooperative Sanctuary Program for Golf Courses (ACSP). These guidelines promote ecologically sound land management to enhance and protect water quality. The course would receive the certification upon completion.

As a major component of a golf course system, turf grasses are highly managed, and have the potential to adversely impact surface and groundwater. However, well-managed turf grasses can be an excellent system to minimize leaching of pesticides and nutrients.

Groundwater and surface water quality is affected primarily by two mechanisms: leaching and runoff. Leaching is the downward movement of a pesticide or fertilizer through the soil and potentially into the groundwater. Runoff is the movement of water across the turf and soil surface, as a result of a thunderstorm or heavy irrigation. If this water removes pesticides or fertilizers from the turf, then it can potentially move these chemicals into streams, lakes, and rivers.

Leaching and runoff is affected by several factors: soil type (products leach less in clay than sand); the degree to which fertilizers or chemicals bind to the soil; persistence of chemicals or fertilizers in the soil; and the solubility of the chemical in water.

Many practices would be in place to maintain water quality. These practices would apply the appropriate agronomic principles to the project to maintain the turf while protecting the environment. These principles would include turf grass selection, minimal chemical application, proper irrigation and maintenance, design and construction measures, and other best management practices.

5.8.1 Turf Grass selection

The project would utilize properly selected turf grasses with pest resistance and tolerance to climatic stress. Grasses would be selected that are best adapted to the local environmental conditions to provide the necessary characteristics of playability yet permit the use of environmentally sustainable maintenance techniques. The turf grasses that would likely be used within various features of the course include #419 bermudagrass, tifeagle, tifdwarf, as well as various fescues and zoysias. The project would use native, naturalized or specialized drought-tolerant plant materials wherever possible. The turf construction and establishment period would be scheduled for the most efficient progress of the work while optimizing environmental conservation and resource management.

5.8.2 Minimal chemical application

A pest management program would be developed to include an analysis of the turf's agronomic quality. The project would judiciously plan the selection and proper application of fertilizers and pesticides throughout the year. Proper application and management includes adjusting the rate and form of product according to the soil type and expected rainfall or irrigation. Use of the slow-release, less soluble, and least mobile chemical fertilizers, pesticides, and herbicides available would be used. These products would be used at the smallest rates of active ingredient to accomplish the desired result. Advanced technology/monitoring equipment would be utilized to insure these rates. Soil conditions would be tested and monitored regularly to ensure the proper application of compounds to meet the needs of the turfgrass. With all of these precautions, the chances for movement of nitrogen from application sites on established turf to groundwater or surface water would be greatly reduced. To further minimize the need for chemical application, turf areas would be of sufficient size to accommodate the use, but would allow for existing or enhanced vegetation to remain between fairways.

Studies have shown that when a fertilizer and subsequent irrigation is properly applied, the amount of

nitrogen that reaches groundwater is negligible. The positive effect of thatch in retaining and breaking down organic chemicals is what allows pesticides to break down faster in the turfgrass environment than what is typical when these materials are applied to agricultural crops ***(USGA Green Section Record 1994 July/August Vol 32(4))***. In general, the USGA-sponsored studies found that pesticides and fertilizers that were properly applied to turf grass did not leach in significant amounts. Levels of leaching were usually well below public drinking-water standards, measured as ppm (parts per million) or ppb (parts per billion).

5.8.3 Irrigation and Maintenance

Another important practice to ensure water quality is proper irrigation and maintenance practices. Correct irrigation and adequate drainage would lead to a healthy root system resistant to disease. The golf course design has placed an emphasis on the irrigation, drainage and retention systems that provide for efficient use of water and the protection of water quality. Irrigation would occur at appropriate times to minimize evaporation and reduce the potential for disease.

State-of-the-art irrigation systems with site meteorological monitoring capability would be used to minimize water use. Irrigation design would customize water volumes applied to the greens, fairways, and roughs, so as to apply only the amount needed for adequate vegetation growth and development.

The project would optimize turf-growing conditions by ensuring that the proper amount of sunlight and air movement reaches the turf area. There would also be attention to mowing heights and well-maintained equipment to produce a healthy plant. A drought-contingency plan would be provided in coordination with local, state, and federal agencies.

5.8.4 Design and Construction Measures

A plan for the course that minimizes or avoids potential adverse impacts to surface water or ground water has been developed. This plan includes techniques such as the use of underdrain systems for capturing and directing leachate away from surface water. The overall drainage system has been designed to insure that there is no significant increase in the velocity or amount of off-site flows during major storm events. The plan has developed two primary techniques to control and filter runoff. For the majority of the course, 150-foot buffer areas would be in place to control runoff and filter potential contaminants, fertilizers, and pesticides. In areas where 150-foot buffers are not possible, an organic filtering method would be employed. Because this method utilizes layering special materials customized to break down particular types of waste, this method would enable runoff to be controlled and filtered within the confines of a smaller area. Berms, vegetative strips, grease traps, or other recommended technologies would be developed in parking areas for drainage controls to minimize pollution to nearby riparian areas and surface waters.

Paved areas would be limited in order to minimize impermeable surfaces and, thereby, reduce surface runoff. The use of vegetation cover and long flow distances in all waterways conveying storm water would optimize percolation and provide additional water quality protection. The golf course design would convey storm water into appropriate storm water facilities where possible. Erosion control methods would be implemented, such as temporary silt fences, and permanent seeding and mulching within a reasonable time after the soil is disrupted.

During construction of any kind, and for any of the proposed alternatives there may be temporary fluctuations in sediment and suspended material loads due to excavation and removal of vegetation of surrounding surfaces. The project would employ established best management practices pursuant to the Non-Point Source Program guidelines to control non-point source (storm water) runoff pollution. The National Pollutant Discharge Elimination System (NPDES) permit guidelines would be adhered to in both the construction and the operational stage of the project. Opryland would prepare a Storm

Water Pollution Prevention Plan (SWPPP) for all construction areas to include the COE property. Runoff from areas of exposed soils may affect the water quality of the lake. Sedimentation may occur when eroded soils collect in areas below the construction site. Proper methods would be used to contain the escape of these materials, such as silt fences and other acceptable barriers outlined in the NPDES permit.

Report showing results of pre-and post-construction monitoring of surface and ground water quality would be generated. Pre-construction reports of water quality would also be generated to serve as baseline information against which regular post-construction monitoring of impacts would be evaluated.

A qualified golf course project manager would be active through all stages of the design and construction process to ensure environmentally sensitive practices in the development of the course.

5.8.5 Best Management Practices

This project would employ other miscellaneous best management practices to the project to minimize the potential for impacts to water quality.

The cleaning and washing of mowers and sprayers have high potential for nutrient and chemical escape into nearby streams or water sources. This project would take steps to eliminate this occurrence with several measures. Multiple on-course wash sites would be established to be used on a rotational basis. A spray-tank cleaning program would be established to allow under-treated turf grass areas of the course to receive the diluted compound.

All pest control and nutrient products would be stored and handled in a manner that minimizes the potential for point or non-point source pollution. Storage and use of pesticides, herbicides, and fertilizers would be limited to, and in conformance with, all established regulations of relevant local, state, and federal government agencies. Waste products, such as used motor oil, electric batteries and unused solvents, would be recycled or disposed of according to the law and available community disposal techniques. Facilities would properly store and dispose of solvents, cleaning materials, paints and other potentially hazardous substances.

Monitoring programs would be established to insure on-going protection of ground and surface water quality. A contingency plan would be provided for use in the event that monitoring shows a developing problem.

As a result of implementing the mitigation measures where practicable, regardless of the alternative considered, the proposed golf course would have no significant adverse impacts on the surface water and water quality.

5.9 Impacts to Aquatic Resources

5.9.1 Aquifers/Groundwater

Because of the significant depths to potential ground water, no adverse impacts to ground water are expected. This conclusion is drawn regardless of the alternative considered.

5.9.2 Jurisdictional Waters/Wetlands

The preferred plan has a series of golf cart paths along the various holes of the course. These paths do cross jurisdictional waters.

Impacts to jurisdictional waters have been kept to the minimum. The golf course has been designed to

minimize the number of stream crossings. Stream crossings that do occur involve golf cart paths and have been designed in such a way as to minimize erosion and harmful effects to these riparian corridors.

The course design would employ vegetated buffer strips of sufficient width to mitigate impacts to riparian corridors which may result from surface drainage of the golf course, cart paths, and other developed areas.

In areas proposed for structures, paved roadways, or parking lots; setbacks of less than 75 to 150 feet from riparian corridors would be allowed only when mitigative actions are possible which adequately address the stream quality impacts. Cart paths would be graded such that runoff from them generally does not flow directly into any stream. Construction fencing/siltation barriers would be utilized during the construction phase where needed to protect habitat and stream areas.

The streambeds are located, for the most part, on the upper ends of the tributaries that eventually discharge into Grapevine Lake. Almost all of these impacted drainages consist of bare dirt/rock substrates meandering through mixed hardwood woodlands. Very little herbaceous vegetation is present along the majority of these streambeds.

The area of waters of the United States that would be impacted by golf course and associated driving range on COE fee property would be 0.04 acre, which includes 636 linear feet of ephemeral streambeds. ***Exhibit 4*** shows location and acreage of impacts to waters of the United States. A nationwide permit 26 under Section 404 of the Clean Water Act has been approved and received by the COE, Regulatory Branch for impacts to jurisdictional waters on fee and private lands.

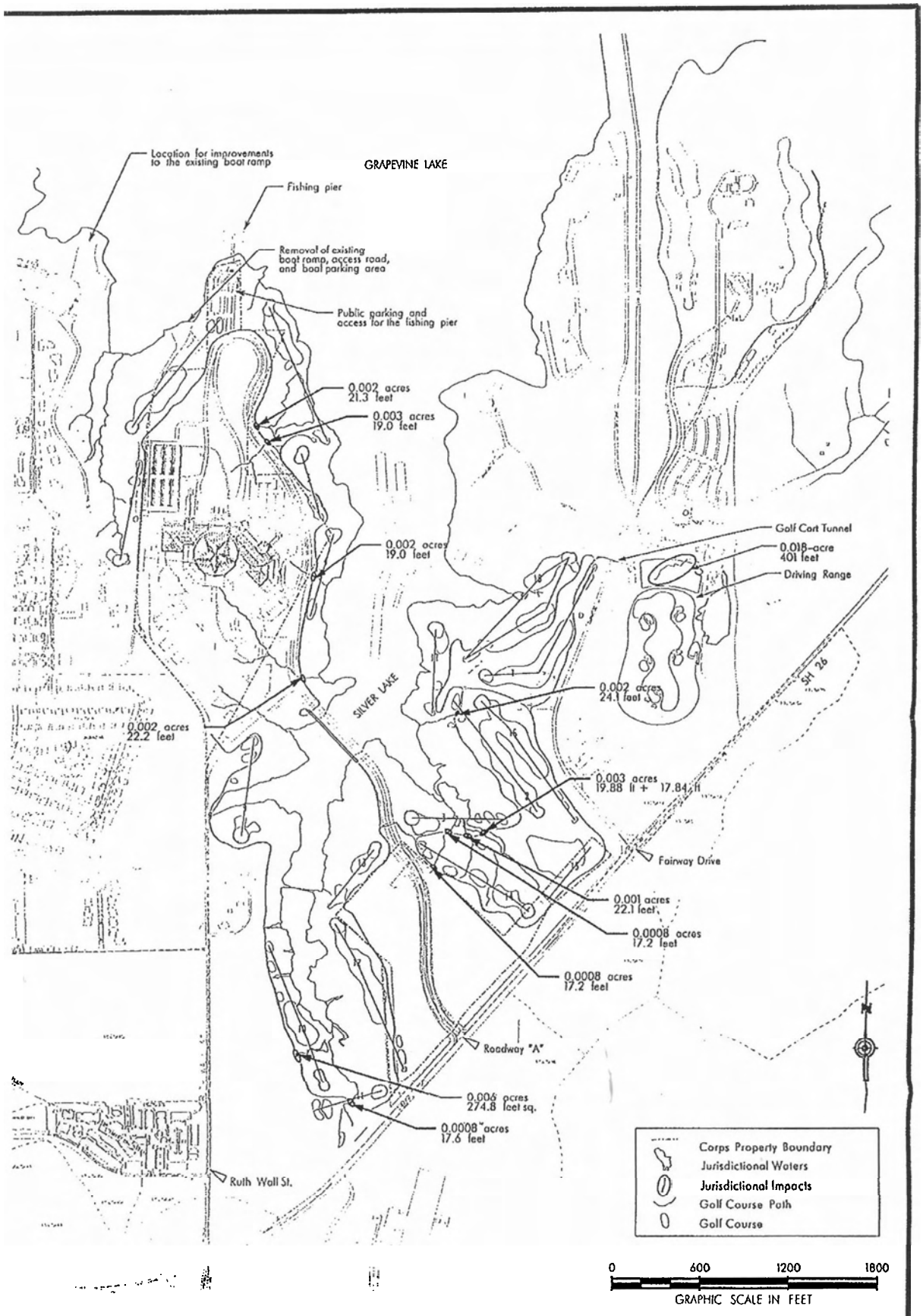
It appears that these streambeds provide a marginal water quality benefit. The most important function appears to be as wildlife habitat. All of these tributaries eventually discharge into Grapevine Lake that subsequently discharges into Denton Creek.

Because the impacts to jurisdictional waters are comprised solely of riparian impacts, this mitigation plan was developed to compensate for those types of impacts.

To mitigate for these riparian impacts, a watershed approach was taken. Due to site constraints, it was impossible to mitigate for these riparian impacts on the project site. Since all of the impacted tributaries discharge into one collection point, Grapevine Lake, the search for possible mitigation areas was narrowed to COE property around Grapevine Lake. A site is proposed on COE property presently designated in the Grapevine Lake Master Plan as agricultural and grazing. The proposed mitigation area contains a degraded portion of Marshall Branch that has an ordinary high water mark ranging from 15 to 20 feet. Banks along the perennial creek are eroded and reach a height of 15 feet. The vegetation is dominated by weedy annuals, such as giant ragweed (*Ambrosia trifida*), false honeysuckle (*Gaura* sp.), Johnson grass (*Sorghum halepense*), and greenbrier (*Smilax* sp.). There are small pockets of wooded areas along the creek that provide a small corridor of one or two trees deep with pecan (*Carya illinoensis*) and cedar elm (*Ulmus crassifolia*) trees. These areas do not contribute a substantial amount of stability to the eroding creek banks nor a wide corridor for habitat use.

Marshall Branch is a much larger stream than any of those impacted by the proposed project. Without gauge data, it appears that this stream has flow in it almost year-around. A mitigation plan has been proposed and approved as a condition of the Section 404 permit. This mitigation plan proposes to plant trees along approximately 3,275 linear feet of Marshall Branch.

The mitigation for jurisdictional waters impacts on COE fee property caused by the Opryland golf course proposes planting trees along approximately 600 feet of Marshall Branch. The mitigation area would consist of a 150-foot wide corridor along Marshall Branch. This 150-foot corridor would consist,



t:\job\982209\dgn\golf\goljuris.sht

Exhibit 4

Jurisdictional Waters of the U.S.
Opryland Golf Course on Grapevine Lake
Tarrant County, Texas

PROJECT NO.	982209	DATE	REVISIONS
DRAWN BY	DVO		
APPROVED BY	FSM		
DATE	1999		

982209\dgn\golf\goljuris.sht Dec. 22, 1999 10:11:21

on average, of 75 feet extending from the stream centerline on both sides. There are some areas where the mitigation area extends beyond the 150-foot width because of existing, isolated woodland patches and/or bends in the stream. The proposed mitigation area for impacts within the scope of this EA is approximately 3.6 acres in size of which 0.6 acre consists of Marshall Branch.

Two-hundred trees are proposed to be planted for impacts to waters of the United States within the mitigation area beginning from the top of each bank extending outward to the mitigation area boundary. The trees are proposed to be 1- to 2-inch caliper specimens consisting of hard- and soft-mast producing species. There would be a minimum acceptable planting survival rate and criteria for minimum mitigation plan success.

Further mitigation for this project entails upgrading the land use nomenclature of fee areas around Grapevine Lake that presently are not designated for either "High Density Recreation" or "Operation and Maintenance" to "Multiple Resource Management Areas" in accordance with EP 1130-2-550 ***(Exhibit 5)*** through a supplement to the lake master plan. The nomenclature upgrade would involve approximately 4,000 acres of land. To protect the mitigation area from future disturbance, the site would be classified as an "Environmentally Sensitive Areas." Environmentally Sensitive Areas are sites where scientific, ecological, cultural or aesthetic features have been identified. The identification of these areas on the map would be supported by narrative explaining the rationale for the classification. These areas, normally within one of the other classification categories, would be considered by management to ensure the sensitive areas are not adversely impacted. Normally limited or no development of public use is contemplated on land in this classification. No agricultural or grazing uses are permitted on this land. Additionally, mitigation areas from past and future actions would also be designated as "Environmentally Sensitive Areas". The COE would also establish utility corridors of appropriate widths at strategic locations either on or adjacent to existing easements at Grapevine Lake. These corridors would be utilized to place as many utilities within these easements as possible, thus reducing future adverse environmental impacts resulting from construction activities associated with placement.

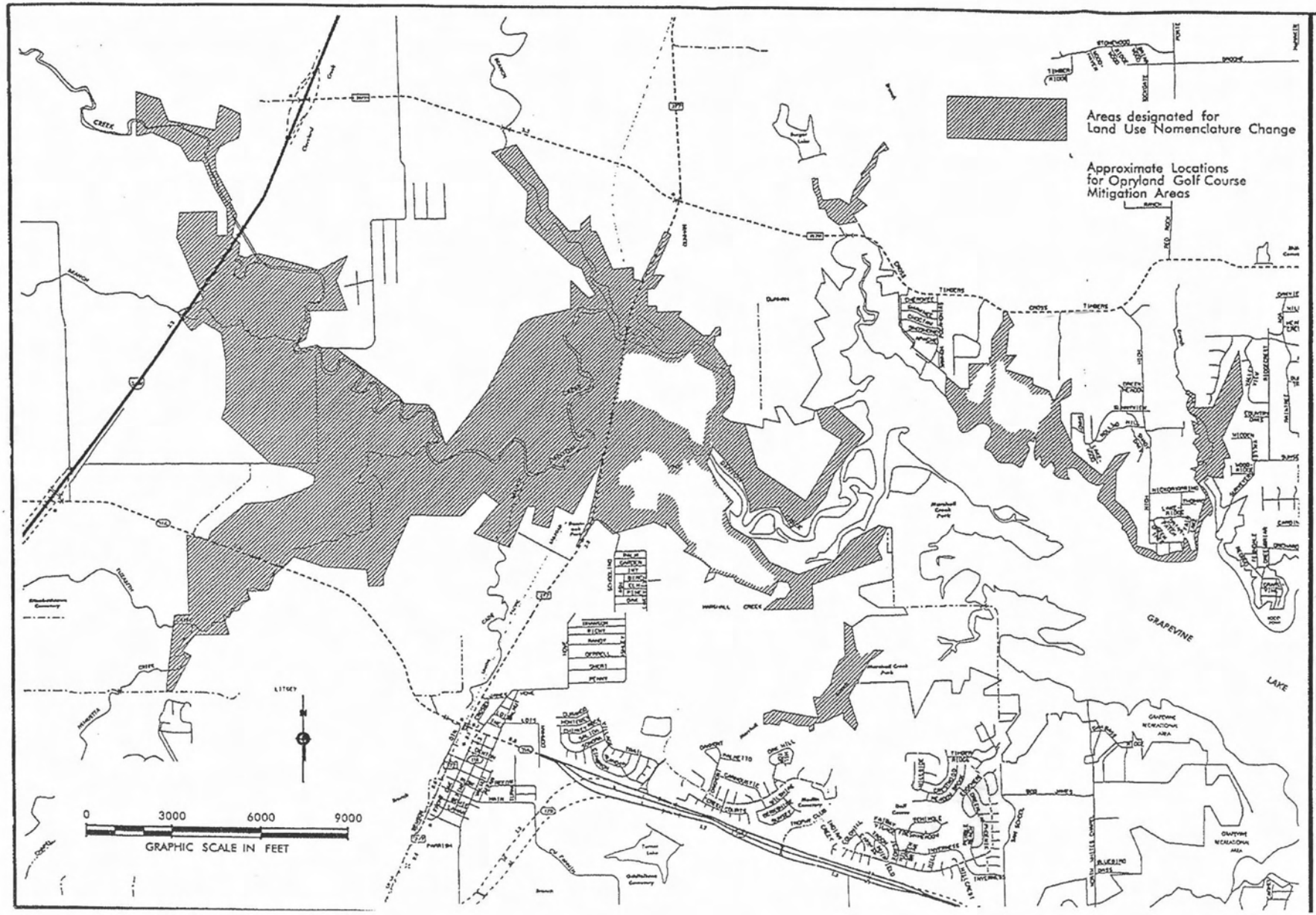
Any discharge of dredged or fill material into a water of the United States would be evaluated under the requirements of Section 404 of the Clean Water Act. The boat ramp removal and expansion activities associated with the proposed action would likely require such a review. Preliminary evaluation indicates this component of the proposed action would comply with the terms and conditions of Regional General Permit (RGP) 8, for Boat Ramps and Minor Facilities (CESWF-96-RGP-8), or would be eligible for consideration under Letter of Permission procedure No. 1 for Activities at Certain Reservoirs and Federal and State sponsored Projects (CESW-97-LOP-1).

The Section 404 impacts to jurisdictional waters as a result of the total Opryland project contain areas outside the scope of the proposed action. All Section 404 activities have been coordinated independently with the Regulatory Branch of the COE. Satisfaction of any requirements for mitigation of adverse impacts to jurisdictional waters of the U.S. would only be made by the COE Regulatory Branch project manager.

5.10 Impacts to Land Use

The proposed project would be placed on Federal Land that has a land use designation of high-density recreation. High-density recreation lands are not intended to be kept as preserves but instead are designated for recreational development. This development may include marinas, camping, golf courses and similar activities.

The areas designated for high-density recreation are for the most part currently not developed. With the exception of a boat ramp, there are no trails, walks or picnic areas within the proposed use area. Some impromptu fishing takes place from the shore and several boats a day enter the cove behind the



PROJECT NO.	DATE	REVISIONS
DRAWN BY		
APPROVED BY		
DATE		

Grapevine Lake Land Use Map
Opryland Golf Course on Grapevine Lake
Tarrant County, Texas

Exhibit
5

marina to fish.

In accordance to the Current Operational Management Plan for Grapevine Lake, the area proposed for the Opryland Golf Course (Silver Lake Park) is designated as *Compartment C, Undeveloped Lands.* Lands with this designation were not given that designation so as to promote them for development, but rather to allow the COE the flexibility and the ability to migrate those lands into Compartment B if public demand required it. Compartment B is defined as Developed Parks. Compartment B's description states the following:

> "The optimal management of natural resources is secondary to the primary objective of managing park lands for day-use or overnight recreation."

The project being proposed for this area is a golf course. This use is in keeping with the land use allowed for a high-density recreation designation. This use is also compliant with the Operational Management Plan. The project would not affect the land use classification or intended land use, regardless of the alternative considered.

5.11 Impacts to Terrestrial Resources

The golf course has been designed to maximize the preservation of significant stands of trees and preserve a significant portion of the habitat areas.

The majority of golf course has been designed to on slopes of 20 percent or less. Small portions of the course have been sited in areas with slopes in excess of 20 percent. Significant grading on steeper slopes (30 percent or greater) have been avoided where possible.

The golf course has been designed through numerous iterations to be routed in such a way as to minimize impacts to Waters of the U.S. as well as minimize the need to alter or remove existing native trees, vegetation, and riparian areas, which provide opportunities for preservation/enhancement of valuable habitat. Natural rock outcroppings or other environmental features would be preserved wherever possible through careful golf course design. Areas between fairways would be utilized to retain and preserve existing native vegetation, where possible. Structures and building locations have been designed such that impacts to habitats and significant natural areas would be avoided. Development of the pond to serve irrigation supply to the golf course has been designed to mimic natural conditions in terms of both aesthetics and habitat, to the extent feasible.

Appropriate erosion control measures would be established during construction in conformance with the Non-Point Source Program best management practices. Access roads would be located and designed to only impact those areas necessary for the construction of the project. Access roads would be located within the established grading boundaries wherever possible and would be designed to avoid impacting additional wooded habitat, streams, or other sensitive sites. Appropriate barriers would protect areas within the driplines of trees designated for preservation during grading operations. In terms of mitigation, trees that would be potentially damaged by grading or post-construction irrigation would be among those that must be replaced.

Where impacts are necessary, measures would be taken to minimize the impacts to wooded habitat.

Irrigation systems have been designed to avoid impacting preserved wooded areas. Barriers (curbs, fencing, vegetation, etc.) would be established to discourage cart and pedestrian travel off paths located within or adjacent to preserved wooded areas. Within preserved wooded areas, many of the standing snags and downed logs would be retained for their habitat value.

In conjunction with the efforts to avoid and minimize impacts to wooded habitat, some of these areas within the project could not be avoided. The proposed project would result in direct impacts to

approximately 57 acres of forb and wooded areas containing both hard and soft mast producing plant species.

There are several types of indirect adverse impacts to wildlife that would occur as a result of implementing the project. Noise impacts, construction of the golf course, habitat fragmentation, habitat loss, and/or the increased presence of people can adversely affect wildlife. The disturbances could alter behavior and inhibit mating, breeding, nesting, and feeding/foraging activities.

In an attempt to decrease fragmentation of the habitats that the wildlife are associated with, as well as compensate for loss of wooded vegetation, a mitigation plan has been proposed (Exhibit 5). This plan involves replanting in bottomland areas, as well as upland areas located on COE property around Grapevine Lake. A watershed approach was taken to mitigate for these hardwood impacts. Due to site constraints, it was impossible to mitigate for these woodland impacts at the specific project location. The search for possible mitigation areas was narrowed to potential sites suggested by COE rangers at Grapevine Lake. The wooded habitat mitigation sites being considered are near the western end of the lake. The majority of the areas are south of Denton Creek and east of State Highway 377. The other area is just north of the westernmost portion of the lake and south of Cross Timbers Road. Both sites have been previously degraded and fragmented and would benefit from the addition of valuable canopy and understory tree species to satisfy the mitigation requirements and meet lake managers' acceptance.

In order to reduce the net adverse impacts to no more than minimal, the mitigation plan would include planting trees and shrubs in an area of approximately 250 acres. The native trees proposed would be a mixture of 1- to 2-inch caliper specimens and bare-root seedlings consisting of hard- and soft-mast producing species with a high wildlife/habitat value. There would be a minimum acceptable planting survival rate and criteria for minimum mitigation plan success.

The mitigation ratio (acres of mitigation required : acres impacted) was obtained from **Table 5-1** which requires different quantities of mitigation for different types and qualities of habitat impacted. Habitat types are assessed with this method according to flood-event frequencies. After calculating the final impacts (56.49 acres), the mitigation area would comprise 250 acres, which is just over an overall four to one replacement of impacted woodland. A detailed mitigation plan would be submitted to the COE Environmental Planning Branch, Fort Worth District, for final approval prior to any real estate transaction.

Table 5-1. *Typical Compensatory Mitigation Ratio for Loss of Vegetation/Habitat*

Flood Event Frequencies	Vegetation/Habitat Condition		
	Poor	Good	Excellent
5 Year	1:1	2:1	3:1
10 Year	2:1	3:1	4:1
50 Year	3:1	4:1	5:1
100 Year	4:1	5:1	6:1

As discussed previously, the proposed golf course would be designed according to the guidelines of the Audubon Cooperative Sanctuary Program for Golf Courses (ACSP). These guidelines promote ecologically sound land management to further enhance and protect water resources. The course

would receive the certification upon completion.

Further mitigation for this project with regards to jurisdictional waters and upgrading the land use nomenclature around the lake has been described in Section 5.9.2 of this document.

5.12 Permits and Other Regulatory Action

The proposed project would require permits/certifications under Section 401 and Section 404 of the Clean Water Act as indicated in Section 5.9.2.

5.13 Impacts to Federal Threatened and Endangered Species

Federally listed endangered or threatened species would not be adversely impacted by the proposed project, as defined under the endangered species act. The projected proposed or any alternative considered, would not adversely modify or destroy critical habitat of any Federally listed species.

5.14 Impacts to State Special Species and Critical Habitats

The proposed project would not have a significant adverse impact to any state special species as defined under the Endangered Species Act. The project proposed or any alternative considered, would not adversely modify or destroy the state's critical habitat.

5.15 Executive Order 11988, Floodplain Management

Executive Order 11988 was enacted May 24, 1977, in furtherance of the National Environment Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321 et seq.), the National Flood Insurance Act of 1968, as amended (42 U.S.C. 4001 et seq.), and the Flood Disaster Protection Act of 1973 (Public Law 93-234, 87 Star. 975). The purpose of the Order was to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.

One of the aspects of making this site functional for the project is working within the flowage easement that is on the property. Designers and planners have worked extensively to arrange the golf course on this project to comply with the intended use and restrictions of the flowage easement. All associated habitable structures are located entirely outside of the flowage easement.

The overall net impact to flood storage areas within the flowage easement was evaluated using *Inroads*, a three-dimensional surface model software package. The software uses digital elevations of the existing terrain and the proposed grading to evaluate cut and fills quantities.

All grading within the 100-year flood and flowage easement would be in strict conformance with controls and conditions required in the flowage permit issued by COE, Operations and Maintenance.

The total cut in cubic yards within the flowage easement exceeds the total fill in cubic yards. Therefore, no loss in storage volume within the flowage easement below elevation 572.0 feet would occur as a result of this project. Other alternatives for the Opryland golf course, were not analyzed in the detail required to make cut and fill calculations, however, the COE would have the standard of requiring no flood loss regardless of the alternative considered. Subsequently, the golf course would have no significant adverse impact on the floodplain.

5.16 Executive Order 11990, Protection of Wetlands

Executive Order 11990 was enacted May 24, l977, in furtherance of the NEPA of 1969, as amended (42 U.S.C. 4321 et seq.). The purpose of the order was to avoid to the extent possible the long and

short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

Section 404 of Title 44 Code of Federal Regulation addresses the protection of wetlands. The project affected environment and impact details with regard to this regulation can be located in sections 3.8.2 and 4.6.1 of this document. Regardless of the alternative considered, the golf course would result in no significant adverse impacts to wetlands.

5.17 Environmental Justice

EPA defines Environmental Justice as the "fair treatment for people of all races, cultures, and incomes, regarding the development of environmental laws, regulations, and policies." Over the last decade, attention to the impact of environmental pollution on particular segments of our society has been steadily growing. Concern that minority populations and/or low-income populations bear a disproportionate amount of adverse health and environmental effects, led President Clinton to issue Executive Order 12898 in 1994, focusing Federal agency attention on these issues. EPA responded by developing the Environmental Justice Strategy, which focuses on the Agency's efforts in addressing these concerns. Fees for use of the proposed course would be comparable to other area public golf courses, therefore, it is not expected that the project would adversely impact environmental justice.

Table 5-2 illustrates the low percentages of minority populations within the study area. These minority populations are not concentrated in any particular area that would be impacted by the project. ***Table 5-3*** illustrates the higher median and mean incomes for populations in the area when compared to the counties where the cities are located. For this reason, regardless of the alternative considered, it is not anticipated that the Opryland golf course would have disproportionate adverse impacts on any low income or minority populations.

Table 5-2. *1990 Census Population and Housing Characteristics*

City/County	Total Population	Race And Hispanic Origin					
		White	Black	American Indian, Eskimo, or Aleut	Asian or Pacific Islander	Other race	Hispanic origin (of any race)
Dallas County	1,852,810	1,241,455 (67.0%)	369,597 (19.9%)	9,437 (0.5%)	52,238 (2.8%)	180,083 (9.7%)	315,630 (17.0%)
Denton County	273,525	241,982 (88.5%)	13,569 (5.0%)	1,416 (0.5%)	6,870 (2.5%)	9,688 (3.5%)	19,013 (7.0%)
Tarrant County	1,170,103	917,501 (78.4%)	140,740 (12.0%)	5,551 (0.5%)	29,705 (2.5%)	76,606 (6.5%)	139,879 (12.0%)
Coppell	16,881	15,108 (89.5%)	387 (2.3%)	55 (0.3%)	913 (5.4%)	418 (2.5%)	1,007 (6.0%)
Flower Mound	15,527	14,727 (94.8%)	321 (2.1%)	60 (0.4%)	156 (1.0%)	263 (1.7%)	658 (4.2%)
Keller	13,683	13,338 (97.5%)	78 (0.6%)	69 (0.5%)	91 (0.7%)	107 (0.8%)	392 (2.9%)
Grapevine	29,202	27,653 (94.7%)	523 (1.8%)	134 (0.5%)	331 (1.1%)	561 (1.9%)	1,657 (5.7%)

[1] ***Population and employment data from the North Central Texas Council of Government Research and Information Services.***

Table 5-3. 1990 Census Income Characteristics

City/County	Households median income	Families median income	Non-family Household median income	Households mean income	Families mean income	Non-family Household mean income
Dallas County	$31,605	$36,982	$22,373	$42,432	$48,625	$28,726
Denton County	$36,914	$44,945	$20,829	$42,875	$50,531	$25,058
Tarrant County	$32,335	$38,279	$20,616	$40,077	$45,710	$25,429
Coppell	$58,815	$62,218	$35,062	$63,324	$67,761	$41,047
Flower Mound	$53,693	$55,113	$31,579	$58,705	$61,071	$38,902
Keller	$55,050	$56,985	$32,413	$61,994	$64,407	$40,821
Grapevine	$48,901	$54,669	$26,793	$52,282	$58,499	$31,630

[1] ***Population and employment data from the North Central Texas Council of Government Research and Information Services.***

5.18 Cultural Resources

Archeological and historical resources would continue to be managed in accordance with Federal laws, regulations, and COE policies/procedures under the Proposed Action Alternative.

Site 41TR172, as referenced in section 3.12, contains a very sparse distribution of surface artifacts. Based on the determination and concurrence of the Texas State Historical Preservation Officer *(Appendix A)*, this site was not significant enough to be declared as a historic property (Personal communication with Mr. Dan McGregor, COE Archeologist). Due to the large size and surficial context of Site TR172, the archeologist did not recommend any further work on the site. However, the archeologist did recommend that the site be monitored during development for possible features or artifact concentrations. The project would avoid Site 41TR172 with the use of fill material over the area.

Site 41TR173 would be avoided by occurring outside the proposed alignment of the course; therefore, would result in no adverse impacts to cultural resources. Should cultural resources be encountered during development of the Opryland golf course, all construction activities in that area would be halted and the COE archeologist immediately contacted. Regardless of the alternative considered, the golf course would result in no significant impacts to cultural resources.

5.19 Socioeconomic Resources

The proposed project is expected to provide minimal benefits to the local economy in comparison to its present state. Some impacts may include an increase in employment and resident populations. The number of people in the areas may vary due to seasonal tourism connected with the proposed Opryland, which may draw in added business for local sales. However even without the added influence of the proposed Opryland, this flux would not be significant.

The three surrounding counties, Denton, Dallas and Tarrant, alone have experienced an overall 14 percent increase in population growth from the year 1990 to 1999. In the North Central Region of Texas, the creation of jobs has peaked at more than 100,000 new jobs in 1997. Therefore, the driving force behind the incredible population growth in North Central Texas has been due to the unprecedented growth rates in employment already taking place. The operation and maintenance of

the proposed project is expected to employ some full time positions, but the employment totals and populations in the area are not expected to be significantly impacted during or after construction of the proposed project.

5.20 Public Involvement

Many efforts have taken place to ensure public awareness and local involvement in the proposed action. An "Open House" was conducted on November 8th, 1999. This meeting was announced through the local Grapevine paper and was open to the general public. Booths were set up at the City Convention Center, which focused on the various aspects of the project proposed. Additionally, many newspaper articles on the subject of the project have been published in local metroplex and regional papers from as early as August 29th, 1998 to present.

Additionally, the EA for the proposed project will be made available to the public for a review period of 30 days.

6.0 Conclusion

This EA evaluates the potential environmental impacts associated with the construction of an 18-hole golf course associated with the Opryland Texas project, along the south shore of Grapevine Lake in Grapevine, Texas. The alternatives that were evaluated include future without project, the project off Federal Lands, a nine-hole course, the preferred plan, and a positioning of the Opryland golf course entirely on Federal lands. Of the alternatives considered, the preferred plan would satisfy the needs and purpose of the project and provide the least environmentally damaging alternative. Implementation of the preferred plan would result in adverse impacts to approximately 57 acres of Federal land. Impacts to natural resources would be mitigated by planting approximately 250 acres of hard and soft mast producing native trees and shrubs. Further mitigation would entail establishing utility corridors and upgrading the land use nomenclature of fee areas around Grapevine Lake in accordance with EP-1130-2-550. The nomenclature upgrade would involve approximately 4,000 acres of land. Additionally, mitigation areas for this, past and future actions would be further designated as "Environmentally Sensitive Areas." Based on the EA and results of coordination, it has been concluded that the preferred plan would not have a significant adverse effect on the environment, nor is it environmentally controversial. This action would therefore not warrant the preparation of an environmental impact statement (EIS).

7.0 References

Bureau of Economic Geology, 1990	The Geology of Texas. 1990. Volume 1 Stratigraphy. The University of Texas. Austin, Texas.
Texas Department of Water Resources, 1979	Ground-Water Availability in Texas, Estimates and Projections Through 2030. Texas Department of Water Resources, Austin, Texas.
Texas Organization for Endangered Species, 1988	Endangered, Threatened, and Watch List of Vertebrates for Texas. Austin, Texas
Texas Organization for Endangered Species, 1992	Endangered, Threatened, and Watch List Natural Communities. Austin, Texas
Texas Organization for Endangered Species, 1993	Endangered, Threatened, and Watch List of Plants. Austin, Texas
U.S. Army Corps of Engineers, 1998	Beaver Lake Shoreline Management Plan Draft Environmental Assessment. June 1998. Little Rock District Office, Little Rock, Arkansas.
U.S. Department of Agriculture, 1984	Soil Survey of Tarrant County, Texas. 1978. U.S. Department of Agriculture, Soil Conservation Service. Texas Agricultural Experiment Station.
U.S. Fish and Wildlife Service, 1989	Endangered, Threatened, and Candidate Species Listed by County, Arlington Field Office's Area of Responsibility. 1989. U.S. Fish and Wildlife Service. Ecological Services, Arlington, Texas.
USGA Green Section Record, 1994	Beyond Appearance and Playability: Golf and the Environment .1994 July/August Vol 32(4): 12-15, By Dr. Michael P Kenna.

Appendix A – Correspondence from the Texas Historical Commission

List of Acronyms and Abbreviations

A

AQCR	Air Quality Control Region

B

CBD	Central Business District
CEQ	Council on Environmental Quality
COE	U.S. Army Corps of Engineers

D

Dbh	Diameter at breast height
DFW	Dallas/Fort Worth

E

EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ER	Engineer Regulation

F, G

GPS	Global Positioning System

H, I, J, K, L

M

MPA	Metropolitan Planning Area

N

NAAQS	National Ambient Air Quality Standards
NCTCOG	North Central Texas Council of Governments
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System

O

P

Q, R

S

SWPPP	Storm Water Pollution Prevention Plan

T

TNRCC	Texas Natural Resource Conservation Commission
TOES	Texas Organization for Endangered Species

U

UNT	University of North Texas
U.S.	United States
USC	United States Code
USFWS	U.S. Fish and Wildlife Service

V, W, X, Y, Z

APPENDIX I

Representative Site Photographs

Shoreline in front of Glass Cactus during drought period (March 2007)

Shoreline on N/E end of peninsula, just east of Glass Cactus (March 2007)

Northeast shoreline of Gaylord peninsula, view north (March 2007)

Shoreline by potential lakefront recreation area, view west (March 2007)

Shoreline along east side of peninsula, view southwest (March 2007)

Potential lakefront recreation area, view south (March 2007)

Shoreline near breakwater, view south (March 2007)

Stock pond washout, east of main resort (March 2007)

Gaylord Texan detention basin, flooded (July 2007)

Frontage of Glass Cactus, flooded (July 2007)

Gaylord Texan resort and Marinas Intn'l facilities (Oct 2007)

Gaylord Texan Convention Center. View northwest.

Gaylord Trail bridge over Silver Lake. View west into western arm of Silver Lake. (Oct 2007)

Drainage from detention basin at resort. View west.

View east from Gaylord Trail into breached stock pond (Oct 2007)

Shoreline on city lease land south of Marinas Intn'l facilities, view north

Wooden post debris piles in grassy field at Silver Lake Park (Oct 2007)

Wooden post and wire cable debris piles in woods at Silver Lake Park

Wooden posts and wire cable

Wire cable and old tires in debris piles

Northwestern end of stock pond by Gaylord Trail (Oct 2007)

Drainage into stock pond from ponds at resort. View southwest.

Southern shores of stock pond. View southeast. (Oct 2007)

Northern shores of stock pond. View northeast.

Eastern shoreline and breached berm of stock pond. View east. (Oct 2007)

Western vegetated shoreline of stock pond. Considerable shrub dieback due to summer 2007 flooding.

Post oaks on higher elevations of property.

Potential flat bench for lake shore recreation area, north of stock pond (Oct 2007)

Eastern shoreline of peninsula, view north. (Oct 2007)

Eastern shoreline of peninsula (view south)

Drainage into Tributary 1 from Highway 26. View north. (Nov. 2007)

Ephemeral drainage within upper ends of Tributary 1.

Intermittent stream portions of Tributary 1 near marshes on eastern finger of Silver Lake. View north.

Ephemeral stream drainage from Gaylord Trail into eastern finger of Silver Lake.

Ephemeral drainage toward eastern finger of Silver Lake. View south from Gaylord Trail. (Nov. 2007)

Smaller ephemeral stream drainage into eastern finger of Silver Lake. View west.

Buttonbush and marsh growth on upper end of Silver Lake, eastern finger. View south. (Nov. 2007)

Small inundated area between shrub marshes and Silver Lake, eastern finger. View southwest.

Eastern shoreline of Silver Lake, east finger. View south. (Nov. 2007)

Ephemeral drainage into eastern finger of Silver Lake near Silver Lake Park. View west

Old concrete picnic tables in Silver Lake Park

Drainage from south of Highway 26 under roadway. View north.

Intermittent drainage in Tributary 2 into west finger of Silver Lake. View north. (Nov. 2007)

Tributary 2 near lower portion of drainage. View north.

Brushy marshes along lower end of Tributary 2. View east. Nov. 2007.

Tributary 2 drainage into breached impoundment. View north.

Upper end of ephemeral stream drainage to west finger of Grapevine Lake; west of resort. View south. (Nov. 2007)

Ephemeral stream drainage to west arm of Grapevine Lake.

Old building structure in intermittent stream portion of drainage. West of resort. (Nov. 2007)

Upper end of ephemeral tributary channel drainage near resort. Channel drains into intermittent stream west of resort. View west.

Brushy/marshy areas at upper end of west arm of Grapevine Lake. View north. (Nov. 2007)

Shoreline along west arm of Grapevine Lake. View southwest

Mammal (raccoon?) dens in outcrop at shoreline along west arm of Grapevine Lake (Nov. 2007)

Drainage culverts on east side of Ruth Wall Rd. View south.

Gaylord sewer line crossing western tributary to Silver Lake. View south. (Nov. 2007)

Marshy drainage swale near east side of Ruth Wall Rd. View north.
Most of water in photograph is due to drainage from Gaylord's "Ice" exhibit.

Forested stands on south side of access road by convention center. View east. (Nov. 2007)

Ephemeral stream drainage from convention center. View north.

Intermittent stream section of drainage from convention center. View west. (Nov. 2007)

Buttonbush and emergent marsh along shoreline west, of Gaylord Trail bridge and west of stream. View east

Natural breach in old stock pond dam on west finger of Silver lake. View southeast. (Nov. 2007)

West finger of Silver Lake near power lines. View east.

APPENDIX J

Gaylord Entertainment Press Release (Sept. 5, 2007)
and
List of Attendees at Public Meetings/City Council Session

GAYLORD ENTERTAINMENT RECEIVES CITY APPROVAL FOR ECONOMIC INCENTIVES TO EXPAND GAYLORD TEXAN

- Expansion Plans Driven by Tremendous Demand for Property -

NASHVILLE, Tenn., (September 5, 2007) – Gaylord Entertainment Company (NYSE: GET) today announced that the city of Grapevine, Texas approved economic incentives for a significant expansion to the Gaylord Texan Resort and Convention Center. The expansion will add more than 200,000 square feet of meeting and convention space, approximately 500 luxury guestrooms, a resort pool and other recreational amenities. Upon completion of the expansion, Gaylord Texan will offer convention customers and meeting planners approximately 2,000 hotel rooms and more than 600,000 square feet of convention and meeting space.

The economic incentive package approved by the City includes grants to be made to Gaylord over the next 20 years, stemming from the expansion's significant anticipated hotel occupancy and property tax generation.

With the City's approval of the economic incentive package, Gaylord is moving forward with the design and pre-construction planning of the expansion project. Construction of the $315 million expansion, which is still subject to approval by the U.S. Corp. of Engineers and the board of directors of Gaylord Entertainment, is expected to commence in 2008 and be completed in 2010.

"Today's announcement underscores our very strong partnership with the city of Grapevine," said Colin V. Reed, chairman and chief executive officer of Gaylord Entertainment. "We are grateful for the ongoing support from local leadership and community members. The expansion will create jobs, contribute to local taxes and other economic opportunities, and allow us to better accommodate the high demand for this property. Most importantly, it will move us further toward our mutual goal and vision of securing Grapevine's rightful position as a true tourist destination."

About Gaylord Entertainment

Gaylord Entertainment (NYSE: GET), a leading hospitality and entertainment company based in Nashville, Tenn., owns and operates Gaylord Hotels (www.gaylordhotels.com), its network of upscale, meetings-focused resorts and the Grand Ole Opry (www.opry.com), the weekly showcase of country music's finest performers for 80

consecutive years. The company's entertainment brands and properties include the Radisson Hotel Opryland, Ryman Auditorium, General Jackson Showboat, Gaylord Springs, Wildhorse Saloon, and WSM-AM. For more information about the Company, visit www.GaylordEntertainment.com.

###

Investor Relations Contacts:	***Media Contacts:***
Rob Tanner, Director Investor Relations	Brian Abrahamson, Executive Director of Communications
Gaylord Entertainment	Gaylord Entertainment
(615) 316-6572	(615) 316-6302
rtanner@gaylordentertainment.com	babrahamson@gaylordentertainment.com
	~or~
	Josh Hochberg
	Sloane & Company
	(212) 446-1892
	jhochberg@sloanepr.com

GAYLORD TEXAN EXPANSION MEETING
Wednesday, February 6, 2008
6:00pm-7:30pm

Guest	Checked-In	Contact #	# of Guests
Abrams, Daniel & Peggy Bridges	x	817.707.4822	2
Adams, Corey & Glen		817.488.7925	2
Adler Family	x	817.488.0454	2
Arcado, Michelle & Chris	x	817.329.3317	2
Ball, Robert & Belinda	x	817.481.3688	2
Ballard, Paula & Charles	x	817.488.6218	2
Barlow, Bonnie & Sarah Scalon		817.629.4577	2
Beaty, Roger	x	817.488.9162	2
Berry, William & Sue Hageman	x	817.310.0868	2
Bishop, Matt		214.325.1080	1
Brake, Linda	x		1
Brown, Art & Gail	x	817.468.8654	2
Brown, William	x	817.424.9066	1
Bryan, Beverly	x	817.329.0440	1
Bryant, Dana	x		1
Bunch, Greg	x	817.688.1803	1
Burgess, Brian & Danielle	x	817.416.4235	2
Burkam, Vicky		214.794.3294	2
Byers II, Lauren & James		214.329.5622	1
Chaplin,Martie & Bob	x	817.722.8659	2
Churchill, Karen	x		1
Clarkin, Dixie & Joe	x	214.623.2540	2
Covey, John & Jene	x	214.502.4029	2
Dall, Charles & Marylee	x	972.251.9091	2
Deering, Marvin & Sandra	x	817.481.3869	2
DiiBon, Dottie & Cindi Powell	x	817.488.6738	2
Elkins, Linda & Barbara Batson	x	817.329.9038	2
Ellis, Tammy & Debbie Dockins		817.481.2890	2
Elmsly, Wayne & Sharon		817.488.9081	2
Forsise, Jill & Tim Moran	x	817.488.5145	2
Frazier, Wayne & BJ	x	817.481.7087	2
Garcia, Silvino	x	817.372.4180	2
Gatts, MaryAnn	x		1
Giammusso, Jacie	x		1
Gibson, Jan	x	817.424.4028	1
Goyns, Paul	x		2
Gray, Jerry	x		1
Green, Jeff & Marla	x	817.481.1625	2
Haran, Susan	x		1
Harrington, Mary	x	817.481.8558	1
Harris, Roger & Sue	x	817.481.2418	2
Herman, EJ & Coella	x	817.488.1519	2
Hill, Ryan & Kim	x		1
Huffman, Justin & Janet	x	817.379.0618	2
Hull, Mark	x		1
Humphrey, Roy & Harriett		972.910.1760	2
Jackson, Susan & Daryl Usrey	x	817.251.8179	2
James, Jerry	x		1
James, Joan			1
Janouaris, Jimmy & Mary	x	817.410.9909	2
Jerry		817.999.8528	1
Jones, Tammy & Jim	x	972.931.9989	2
Koontz	x	972.471.1351	2

Leatherman, Christy	x	817.938.8206	2
Matt & Julie		817.230.4881	2
Mayfield, Susan		817.488.4784	2
Mayfield, Susan & Jerry			2
McCollom, Lisa	x	972.939.6409	2
Mivelany, James	x		1
Moreland, Julie & Jim		817.416.0198	2
Morris, Mike & Kathleen	x	214.748.1035	2
Nagle, Shirley & Charles	x		2
Napthen, Dena & Sydney	x	972.898.0195	2
Nash, Peter & Colleen	x		2
Nichol, Shirley		817.251.8987	2
Novak, Carol & Don	x	817.421.8686	2
Olgetree, Bruce & Joe	x	214.287.4630	2
O'Neal, Eric & Joanie	x	817.734.3986	2
O'Stein, Henry & Valeta		817.481.4347	2
Patterson, Gwen & Hugh	x	214.808.5060	2
Peabody, Susan	x	469.471.0039	1
Pereira, Hyrum	x	817.267.5555	1
Philpot, Kris & Lyndsey Brown	x	214.499.4321	2
Piedlau, Flisa & Michael	x	817.421.3039	2
Plourde, Scott & Sarah	x	817.336.4423	2
Powell, Jackie & Ronnie	x		2
Powell, Lewis & Kay	x		2
Quinn, Clayton & Laurie	x	214.674.6277	2
Ramos, Joe & Laura Simmons	x	817.481.9604	2
Reber, Harold & Sherri	x	817.488.8840	2
Reed, Don & Camille		817.329.5865	2
Robinson, Bill & Linda	x	817.251.6221	2
Robinson, Howard & Laura	x	817.481.7319	2
Rust, Barbara	x		1
Sanford, Theresa & Rick	x	817.488.3673	2
Scallon, Sarah	x		2
Scherich, Fran & Sharon		817.488.5129	2
Seaton, Vance & Steven		817.271.8437	2
Shannon, Don & Nancy	x	817.371.5545	2
Shmorlies, Shelly	x	832.859.0381	1
Slawter, Jack	x	972.251.4676	1
Smith, Wyatt & Rena	x	817.329.9833	2
Smokler, Eric & Christy	x	972.445.0891	2
Toroules, Alex		817.421.3120	2
Turpening, Mark & Sonya	x	817.276.7500	2
Twing,Brian & Liesa			2
Ulrichherring, Karla	x	972.991.1010	1
Watts, Karen & Timothy	x	817.481.8686	2
Weddle, Angela & Wesley	x		2
Weems, Charles & Debbie	x	817.424.3741	2
Williams, Angela & Ila Krause	x	817.421.6398	2
Williams, Diane		817.488.0454	2
Williams, Diane & Judy Wate	x	817.481.7121	2
Wilson, Bill & Sharon		682.223.1162	2
Wilson, Mindee	x	682.465.1006	1
Winslow, John & Nancy	x	972.459.5140	2
Young, Sherry & Jim	x		2
			TOTAL
			175

Grapevine City Council Meeting
March 25, 2008 at 7:00PM

Agenda Item CU -08-01 Gaylord Texan Expansion

<u>List of Speakers Addressing the Agenda Item</u>

TO: LINDA HUFF
City Secretary of the City of
Grapevine

LINDA,

I have resided in Grapevine for the past 12 years and I have always worked, shopped, dined, etc. in Grapevine. My HUSBAND + I Love the city and the vision of the city officials. I strongly support the Oakford Expansion plan. Please feel free to call on me at any time if I can help you in any way, supporting the city of Grapevine.

Sincerely,
Janie Barnes BARNES
315 Drexel Drive
Grapevine TX 76051

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: _____

NAME: MIKE MORRIS PHONE: 817-481-3706

ADDRESS: 849 RIVERSIDE N

WHO DO YOU REPRESENT: NNA PRESIDENT

PUBLIC HEARING ITEM # _____

Citizen Request - Topic: GAYLORD

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: MAYOR AND CITY MANAGER
MANY TIMES

#1

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-18-08

NAME: RICK LAWLIS PHONE: 817 410 6100

ADDRESS: 1400 CLEARWATER CT, GRAPEVINE

WHO DO YOU REPRESENT: MYSELF

PUBLIC HEARING ITEM # CU08-01 (FOR)

Citizen Request - Topic: GAYLORD TEXAN EXPANSION

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/18/08

NAME: CHUCK BULTMANN PHONE: 817-251-3673

ADDRESS: 415 S. MAIN STREET

WHO DO YOU REPRESENT: GOOD THINGS FOR ALL SEASONS

PUBLIC HEARING ITEM # CU08-01

Citizen Request - Topic: GAYLORD, ADDITIONAL USE PERMIT

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/18/08

NAME: James A. Humphrey PHONE: 7-329-5688

ADDRESS: 105 S. Main St., Grapevine

WHO DO YOU REPRESENT: Historic Downtown Grapevine Association

PUBLIC HEARING ITEM # 1 - Gaylord Expansion

Citizen Request - Topic: _____

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-18-08

NAME: Angela Weddle PHONE: 817) 421-8215

ADDRESS: 906 Wildwood Cir Grapevine

WHO DO YOU REPRESENT: my self

PUBLIC HEARING ITEM # CU 08-01

Citizen Request - Topic: Gaylord Expansion

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.
2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.
3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.
4. Comments should be concise and present information not substantially addressed by previous testimony.
5. Council Chamber demonstrations are not permitted.
6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.
7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.
8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.
9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3.25.08

NAME: Dave Mutch PHONE: 817.845.0518

ADDRESS: 1800 Highway 26 East Grapevine, TX 76051

Who do you represent : Hilton DFW Lakes

Public Hearing Item #:

Citizen Request Topic: Canyoned Texan

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion:

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.
2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.
3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.
4. Comments should be concise and present information not substantially addressed by previous testimony.
5. Council Chamber demonstrations are not permitted.
6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.
7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.
8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.
9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: MARCH 25, 2008

NAME: DON S. VAUGHN PHONE: 214 675 8971

ADDRESS: 116 SILKWOOD, Grapevine TX 76051

Who do you represent: GAYLORD HOTEL

Public Hearing Item #:

Citizen Request Topic: IMPORTANCE OF GAYLORD TEXAN

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: —

O:formsmanual\citizen appearance 6/2001

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-24-08

NAME: Charles Weems PHONE: 817-424-3741

ADDRESS: 607 Red Bud

WHO DO YOU REPRESENT: Myself

PUBLIC HEARING ITEM # Gaylord Expansion

Citizen Request - Topic: _____

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-25-08 Kristine Amador

NAME: Kristine Amador PHONE: 8177156236

ADDRESS: 3103 Coveside Grapevine

WHO DO YOU REPRESENT: Grapevine Chamber of Commerce BOD

PUBLIC HEARING ITEM # CU-0801 - Gaylord

Citizen Request - Topic: _____

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/08

NAME: LANA HILL PHONE: 8174816850

ADDRESS: 529 DUNN CT

WHO DO YOU REPRESENT: self

PUBLIC HEARING ITEM # GAYLORD

Citizen Request - Topic:

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion:

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/08

NAME: Angela Garcia Williams PHONE: 817/421-6398

ADDRESS: 721 Oak Lane GV, TX 76051

WHO DO YOU REPRESENT: Self

PUBLIC HEARING ITEM # 0801 - Gaylord

Citizen Request - Topic: _____

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/08

NAME: Moe Afshar PHONE: (817) 488-4469

ADDRESS: 5242 Heathordale Grapevine, TX 76051

Who do you represent : _____

Public Hearing Item #: _____

Citizen Request Topic: _____

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/08

NAME: JIM YOUNG PHONE: 903-258-2092

ADDRESS: 1840 SILVERSIDE GRAPEVINE

WHO DO YOU REPRESENT: SELF

PUBLIC HEARING ITEM # _____

Citizen Request - Topic: NO GAYLORD EXPANSION

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: MAYOR TATE, FREED, SPENCER

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/08

NAME: GAIL BROWN PHONE: 817-488-8654

ADDRESS: 1822 SILVERSIDE DR

WHO DO YOU REPRESENT: SELF

PUBLIC HEARING ITEM # _____

Citizen Request - Topic: GAYLORD

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: MAYOR TATE – SPENCER – FREID

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.
2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.
3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.
4. Comments should be concise and present information not substantially addressed by previous testimony.
5. Council Chamber demonstrations are not permitted.
6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.
7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.
8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.
9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/08

NAME: ART BROWN PHONE: 817 488 8654

ADDRESS: 1822 SILVERSIDE DR

WHO DO YOU REPRESENT: SELF

PUBLIC HEARING ITEM # _____

Citizen Request - Topic: GAYLORD

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: MAYOR TATE, - SHARON SPENCER — FREID

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/03 Rick Sanford

NAME: Rick Sanford PHONE: 8-488-3673

ADDRESS: 1232 Sleepy Hollow Ct Grapevine

WHO DO YOU REPRESENT: Myself

PUBLIC HEARING ITEM # Gaylord Addition

Citizen Request - Topic: _____

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: Darlene Freed via phone - 2-16-03

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-25-08 Teresa Sanford

NAME: Teresa Sanford PHONE: 817-488-3673

ADDRESS: 1232 Sleepy Hollow Ct

WHO DO YOU REPRESENT: myself

PUBLIC HEARING ITEM # Gaylord

Citizen Request - Topic:

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion:

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/08 Keith Temple

NAME: KEITH TEMPLE PHONE: 817 310 3555

ADDRESS:

WHO DO YOU REPRESENT: GRAPEVINE CHAMBER of COMMERCE

PUBLIC HEARING ITEM #

Citizen Request - Topic: GAYLORD TEXAN EXPANSION

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion:

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.
2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.
3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.
4. Comments should be concise and present information not substantially addressed by previous testimony.
5. Council Chamber demonstrations are not permitted.
6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.
7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.
8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.
9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-25-08

NAME: Sherry Young PHONE: 8172716526

ADDRESS: 1840 Silverside Drive

WHO DO YOU REPRESENT: Self

PUBLIC HEARING ITEM # Gaylord Expansion

Citizen Request - Topic: _____

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 03-25-08

NAME: JANET CHU PHONE: 682-223-1349

ADDRESS: 1846 Anglers Plaza

WHO DO YOU REPRESENT: myself

PUBLIC HEARING ITEM #

Citizen Request - Topic: Gaylord

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion:

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/08

NAME: Susan B. Jackson PHONE: 817-251-8179

ADDRESS: 1610 Silverside Dr

WHO DO YOU REPRESENT: Homeowner

PUBLIC HEARING ITEM # _____

Citizen Request - Topic: Gaylord Expansion

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-25-08

NAME: Linda Davies PHONE: 817 481 3508

ADDRESS: 1219 Sleepy Hollow Ct

WHO DO YOU REPRESENT: MYSELF

PUBLIC HEARING ITEM # GAY CORD

Citizen Request - Topic: _____

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/01

NAME: Bill Brunk PHONE: 8174880407

ADDRESS: 3023 Columbine Dr GV

WHO DO YOU REPRESENT: myself + wife

PUBLIC HEARING ITEM # #1

Citizen Request - Topic: _____

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-25-08 John Mayfield

NAME: John Mayfield PHONE: 817-483254

ADDRESS: 518 Azalea

WHO DO YOU REPRESENT: Self

PUBLIC HEARING ITEM # Gaylord Expansion

Citizen Request - Topic:

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: N/A

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-25-08

NAME: Diana Williams PHONE: 817-481-7121

ADDRESS: 1830 Silverside Dr

WHO DO YOU REPRESENT: NNA Neighborhood

PUBLIC HEARING ITEM # _____

Citizen Request - Topic: Gaylord

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-25-08

NAME: Laura Robinson PHONE: 817-481-7319

ADDRESS: 622 Oak Lane Grapevine

WHO DO YOU REPRESENT: home owner

PUBLIC HEARING ITEM # Gaylord Texan

Citizen Request - Topic: "

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion:

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-25-08

NAME: HOWARD ROBINSON PHONE: 817-481-7319

ADDRESS: 622 OAK LANE

WHO DO YOU REPRESENT: MYSELF - Homeowner

PUBLIC HEARING ITEM # (Gaylord Expansion

Citizen Request - Topic:

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion:

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-25-08

NAME: Grayson Shirey PHONE: 817 481-8381

ADDRESS: 3705 Oakwood

WHO DO YOU REPRESENT: Jolyn Raff / Grapevine Citizens Watch

PUBLIC HEARING ITEM # Layout / Corp property

Citizen Request - Topic:

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion:

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/18

NAME: Gwen Patterson PHONE: 817 481 5454

ADDRESS: 1733 Silverside

WHO DO YOU REPRESENT: self

PUBLIC HEARING ITEM # 1 - C408 - 01

Citizen Request - Topic:

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: All council members / Mayor various dates

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-25-08 Tara Thacker

NAME: Tara Thacker PHONE: 405-246-6886

ADDRESS: 1416 Silverside Dr #38

WHO DO YOU REPRESENT: Self

PUBLIC HEARING ITEM # _____

Citizen Request - Topic: Drafford

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/19

NAME: Hugh Patterson PHONE: 214 488 5012

ADDRESS: 1733 Silverglade

WHO DO YOU REPRESENT: self

PUBLIC HEARING ITEM # 1

Citizen Request - Topic:

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: All Council Mayor Brumelow

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-25-08

NAME: Carol DeWeese PHONE: 817-424-3427

ADDRESS: 820 N Riverside Dr Grapevine TX

WHO DO YOU REPRESENT: DeWeese family

PUBLIC HEARING ITEM # Gafford

Citizen Request - Topic:

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion:

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.
2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.
3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.
4. Comments should be concise and present information not substantially addressed by previous testimony.
5. Council Chamber demonstrations are not permitted.
6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.
7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.
8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.
9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-25-08

NAME: RICHARD DAHLGREN PHONE: 817-675-0317

ADDRESS: 867 RIVERSIDE DR

WHO DO YOU REPRESENT: MYSELF

PUBLIC HEARING ITEM # GAYLO RD EXP.

Citizen Request - Topic: CONST. SCHEDULE

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3-25-08

NAME: John Holmes PHONE: 817 422 3983

ADDRESS: 926 Wildwood Circle

WHO DO YOU REPRESENT: For proposal

PUBLIC HEARING ITEM # _____

Citizen Request - Topic: _____

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: _____

NAME: Lee Rotholz PHONE: 817 251 1150

ADDRESS: 1622 Hyland Greens Dr.

WHO DO YOU REPRESENT: _____

PUBLIC HEARING ITEM # Gaylord Expansion

Citizen Request - Topic: _____

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/08

NAME: STEVE STINSON PHONE: 817.481-0903

ADDRESS: 2938 CREEKWOOD S. GRAPEVINE

WHO DO YOU REPRESENT: Self

PUBLIC HEARING ITEM # _____

Citizen Request - Topic: GAYLARD EXPANSION

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25 BLARCOM

NAME: JEFF VAN BLARCOM PHONE: 817 442 0763

ADDRESS: 573 HAWTHORNE ST. 76051

WHO DO YOU REPRESENT:

PUBLIC HEARING ITEM # Gaylord Expansion

Citizen Request - Topic:

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion:

Naomi 817-410 3038

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.
2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.
3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.
4. Comments should be concise and present information not substantially addressed by previous testimony.
5. Council Chamber demonstrations are not permitted.
6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.
7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.
8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.
9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/08

NAME: Donald W. Bigbie PHONE: 817-875-0408

ADDRESS: 4 Windy Knoll

Who do you represent : Just my Family

Public Hearing Item #: CU08-01

Citizen Request Topic: Conditional use application Grapevine Tavern

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: Close to end

O:formsmanual\citizen appearance 6/2001

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/08

NAME: Wayne Turner PHONE: 817-637-5153

ADDRESS: 407 Ridge Rd Grapevine

WHO DO YOU REPRESENT: Into The Glass

PUBLIC HEARING ITEM # _____

Citizen Request - Topic: _____

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: _____

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/08

NAME: Ev BARNES PHONE: 3293002

ADDRESS: 315 Drexel Dr

WHO DO YOU REPRESENT: City and Gaylord (my family & me)

PUBLIC HEARING ITEM # _____

Citizen Request - Topic: _____

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion: P. W. McCALLUM

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.
2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.
3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.
4. Comments should be concise and present information not substantially addressed by previous testimony.
5. Council Chamber demonstrations are not permitted.
6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.
7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.
8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.
9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/24/08 ROGER

NAME: Roger F. Harris PHONE: 817.481.2418

ADDRESS: 1409 Sandpiper Street

WHO DO YOU REPRESENT: NNA - Vice Pres.

PUBLIC HEARING ITEM # Gaylord Expansion

Citizen Request - Topic: Pls material on Coalition, Tower Wall, Constr. debris, Tree Removal fm Corps Land.

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion:

CITY OF GRAPEVINE
CITIZEN APPEARANCE REQUEST

Welcome to the Grapevine City Council meeting.

The following guidelines are designed to promote a fair and open process for the administration of the City Council meeting.

1. Anyone desiring to address the Council should complete this form and turn it in to the City Secretary prior to the Council meeting.

2. When called upon by the City Secretary, proceed to the podium and state your name, address and identification of group or other persons who you represent.

3. Each speaker will be allowed three (3) minutes for comments to ensure sufficient time for all wishing to be heard.

4. Comments should be concise and present information not substantially addressed by previous testimony.

5. Council Chamber demonstrations are not permitted.

6. State law provides that Council cannot take specific action, or discuss, Citizen Appearance Request topics as these items do not meet the legal posting requirements.

7. The Council may have Citizen Appearance Request items:
   (1) placed on a future agenda for action, or
   (2) referred to full Council or a subcommittee for further study, or
   (3) referred to Staff for study or conclusion.

8. Issues that are contemplated for a public hearing (such as a particular zoning case) may not be addressed during the Citizen Comments portion of the City Council agenda.

9. IF NOT ON THE AGENDA, you may prefer to discuss the matter with the City Manager's Office (817-410-3104), so that necessary facts can be gathered, and the matter may be placed on the agenda for a future Council meeting.

Your presence and interest in tonight's meeting is sincerely appreciated.

Date: 3/25/08

NAME: Tim Moran PHONE:

ADDRESS: 1716 Silverside

WHO DO YOU REPRESENT: My Self

PUBLIC HEARING ITEM #

Citizen Request - Topic:

If you have discussed this item with any of the Council or administrative staff, please list name and date of discussion:

APPENDIX L

Comment Letters from Public Resource Agencies
And
Responses to Comments

Recieved 6/24/08

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

JUN 23 2008

Mr. Heath McLane
CESWF-PER-EE
P. O. Box 17300
Fort Worth, TX 76102-0300

Dear Mr. McLane:

Thank you for the opportunity to comment on the Draft Environmental Assessment (EA) for the Gaylord Texas Expansion and Recreational Facilities Associated with Federal Lands at Grapevine Lake, City of Grapevine, Tarrant County, Texas. EPA Region 6 provides the Army Corps of Engineers with our comments concerning potential impacts to water features.

The EA provides a general description of the preferred alternative but does not provide enough detail to determine the extent of impacts to Waters of the U.S. (including wetlands). The EA only provides an estimate of jurisdictional waters found within the project area. Consequently, EPA cannot fully evaluate the project with regards to impacts to Waters of the U.S.

The EA states that jurisdictional resources have been and will be avoided and minimized to the fullest extent practicable. Without final and specific plans to review, EPA cannot reach that conclusion. In fact, that conclusion seems unlikely. Page 33 of the EA states, "The proposed impacts to jurisdictional waters include support piers construction under the proposed convention center expansion, culverting of stream corridors for storm water outfall drains, fill of ephemeral streams within the footprints of the proposed pool and events complex, trail crossings of streams, and impacts along the shoreline of lakes by the construction of lakeside amenities." We are specifically concerned about the plan to culvert streams and create on-channel ponds. EPA Region 6 has been working to educate and assist local governments and contractors with stream protection and restoration efforts in the Dallas/Fort Worth area. Culverting of streams destroys ecological functions and can severely impact water quality. Placing storm water detention ponds on-channel can degrade stream functions but may also interfere with channel stability both up- and downstream. EPA is concerned that the sponsor has failed to consider environmentally sustainable alternatives for protecting aquatic resources. EPA recommends that potential impacts to stream be evaluated utilizing principals of fluvial geomorphology and that "treatments" for project purposes utilize "soft" bioengineering instead of outdated harden structure such as concrete and riprap.

The EA states that permits for unavoidable impacts to waters of the U.S. will be sought under various Section 404 Nationwide permits. Due to the location of the project

Summary of Comments on Agency Combined.pdf

Page: 1

Author: M2ODNHRM Subject: Sticky Note Date: 7/21/2008 2:21:18 PM

The EA is based on early planning level design in order to identify potential environmental impacts and measures to avoid or minimize, if practicable. Typical EPA and TCEQ reviews contain 90% or more design to ensure compliance. By providing the resource agencies a 5 day review, input and approval of detailed plans prior to the Notice to Proceed on construction is issued, the agencies have the ability to provide project specific professional judgments related to: avoiding and minimizing impacts and mitigation requirements

Author: M2ODNHRM Subject: Sticky Note Date: 7/7/2008 2:44:55 PM

Support piers under the convention center located in the conservation pool will not be approved by USACE and therefor will be removed from the final document.

(federal public lands) and the extent of impacts (EA estimates 30.5 acres of potential impacts to public lands), EPA recommends that the Corps of Engineers require all impacts to Waters of the U.S. proposed by this project to be evaluated under one Individual Permit. Doing so will not only allow the public full opportunity to comment on the impact to public resources, but it will allow the resource agencies an opportunity to analyze the full extent of impacts and offer recommendation on appropriate compensatory mitigation.

Additionally, the EA appears to lack a discussion on storm water management other than compliance with a storm water permit. Increased storm water runoff typically results in stream degradation, increased erosion, flooding and water quality degradation. EPA recommends that the project sponsor explore and incorporate current technologies to reduce and capture storm water runoff while increasing infiltration.

If you have questions or wish to discuss these comments please contact Dr. Sharon Osowski of my staff at 214-665-7506 or by email at osowski.sharon@epa.gov.

Sincerely,

Cathy Gilmore

Cathy Gilmore
Chief, Office of Planning
And Coordination

Cc: Sharon Parrish

Page: 2

Author: M2ODNHRM Subject: Sticky Note Date: 7/21/2008 2:28:21 PM

The project will be phased into 3-5 year increments as shown in the EA based on economic conditions, and some features may never be built. Each project feature has independent utility, except for the trails, as described in the Nationwide Permit general conditions, as one feature is not dependent on any other feature. Full design is not available to evaluate under a single individual permit. Each phase of individual design components will be subject to the City of Grapevine Planning Process, USACE and agency review.

Author: M2ODNHRM Subject: Sticky Note Date: 7/21/2008 2:29:54 PM

Post construction Storm Water Management Plans will be included in submittals for agency review to include BMP's to be utilized for each individual design component with the goal of limiting impervious surfaces, to reduce run-off and increase infiltration of stormwater

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
PO BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

RECEIVED
MAY 27 2008

May 23, 2008

Planning, Environmental, and Regulatory Division

Mr. F. Lawerence Oaks
State Historic Preservation Office
P.O. Box 12276
Capital Station
Austin, Texas 78711

Dear Mr. Oaks:

The United States Army Corps of Engineers (USACE) is assessing potential impacts to the environment that may result from the proposed Gaylord Texan Expansion and Recreational Activities associated with Public Lands on Grapevine Lake (Originally Proposed Opryland Texas Development and 18-Hole Golf Course and Driving Range) City of Grapevine, Tarrant County, Texas. The Environmental Assessment (EA) addresses the existing environmental resources, proposed project measures, and impacts to environmental resources that could occur with implementation of the proposed alternatives. The purpose of this EA is to identify and evaluate the environmental aspects of implementing the proposed alternatives in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, and the Council on Environmental Quality (CEQ) Code of Federal Regulations (40 CFR parts 1500-1508), and Engineering Regulation (ER) 200-2-2.

A number of site and structural design alternatives were considered for the proposed Gaylord Texan Expansion Project. Each design alternative was evaluated on the consistency with the purpose and need of the proposed project. Public recreational activities included in the proposed plan are grouped into five (5) complementary public recreational facilities: Pool Assemblage, Events Assemblage, Lakefront Recreational Area, Amphitheater & Ranch Assemblage and Recreational Assemblages (Types 1 and 2). The preferred alternative would result in disturbance to approximately 30.5 acres of USACE-owned lands for the building of lake-related recreational facilities and amenities, including approximately 2.9 acres of wooded land for the convention center expansion, and approximately 3 acres of wooded areas will be disturbed for the installation of nature trails, walking trails, biking trails and equestrian trails. Additionally, minor, unavoidable impacts would occur in waters of the United States determined to be jurisdictional waters pursuant to Section 404 of the Clean Water Act, as amended. Those impacts would include trail crossings of small streams, and grade work along a short segment of lakeshore. No grade work would extend below the Grapevine Lake conservation pool elevation of 535' NGVD. Impacts to wooded areas have been minimized to the extent practicable. The preferred plan alignment also avoids impacts to an archeological site, and minimizes disturbance to a landfill site. The preferred plan includes a mitigation plan for impacts to wooded habitat and other habitats within USACE fee lands, as well as for minimal impacts to jurisdictional waters.

RECEIVED

This page contains no comments

Under the No Action Alternative, Gaylord Entertainment Company and the City of Grapevine would totally avoid project construction on USACE property. It was determined that placing the convention center expansion and the recreational facilities entirely on private parcels would make the layout of the overall recreational project undesirable in terms of connectivity of the recreational features and the lack of lake access.

Based on the EA and result of extensive agency coordination, a draft FONSI has been prepared for this action. A Notice of Availability (NOA) has been prepared to notify the public of this action and to solicit comments. The NOA, draft FONSI, and, EA are enclosed with this communication for your review and to solicit any additional comments or concerns your agency may have regarding this action. We will consider any additional comments that we receive from your office by the close of the comment period as indicated on the Public Notice. Additional information regarding the proposed project is also available upon request. Please address any requests or comments to the contact information indicated in the Public Notice. Thank you for your cooperation in this matter.

Sincerely,

William Fickel, Jr.
Chief, Planning Environmental, and
Regulatory Division

Enclosures

NO HISTORIC
PROPERTIES AFFECTED
PROJECT MAY PROCEED
By: [illegible]
for F. Lawrence Oaks
State Historic Preservation Officer
Date: 6/19/08
Finding: [illegible]

Page: 4

Author: M2ODNHRM Subject: Sticky Note Date: 7/7/2008 4:14:50 PM
Comment Noted.

Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Bryan W. Shaw, Ph.D., *Commissioner*
Mark R. Vickery, P.G., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 25, 2008

Mr. Heath McLane, CESWF-PER-EE
U.S. Army Corps of Engineers
Fort Worth District Office
P.O. Box 17300
Fort Worth, Texas 76102-0300

Re: Draft Environmental Assessment: Gaylord Texan Expansion and Recreational Facilities Associated with Federal Lands at Grapevine Lake, City of Grapevine, Tarrant County, Texas

Dear Mr. McLane:

This letter is in response to the draft Environmental Assessment (EA) dated May 28, 2008, on the proposed Gaylord Texan Expansion and Recreational Facilities Associated with Federal Lands at Grapevine Lake. The project is located in Tarrant County, Texas.

The Texas Commission on Environmental Quality (TCEQ) has reviewed the draft EA. Based on an evaluation of the information contained in these documents, the TCEQ requests additional information and clarification in order to certify that there exists reasonable assurance the project will be conducted in a way that will not violate water quality standards.

Project Impacts

Presented in the draft EA are varying descriptions of the impacts associated with the Alternative #1 Design ("Preferred Action"). On pages 1 and 7, the Preferred Action would require disturbance to approximately 30.5 acres of USACE-owned lands for the building of lake-related recreational facilities and amenities, including approximately 2.9 acres of wooded land for the convention center expansion and approximately 3 acres of wooded areas for the installation of trails. It also states that "minor, unavoidable impacts would occur in waters of the United States determined to be jurisdictional waters." Additional details concerning project impacts are provided on page 41 including "direct impacts by vegetative clearing to approximately 15.6 acres of upland wooded areas containing both hard and soft mast tree species, plus approximately 3 acres of disturbance within the wooded areas for the proposed trail systems." On page 45, the draft EA states that "(t)he preferred project would require the removal of approximately 2.6 acres of upland woodlands for the

Page: 5

Author: M2ODNHRM Subject: Sticky Note Date: 7/21/2008 2:32:17 PM
Agency meeting was conducted on 15-July-2008. Agenda and accomplishments may be found at the end of this appendix.

construction of the convention center expansion and 1 acre of upland woodlands along the pool complex. The footprint of the proposed pool assemblage has been designed to partially sit on Gaylord land, thus having a smaller impact on upland woodlands than Alternatives #2 Design and #3 Design." In addition, on page 70, details are provided concerning the quantity and quality of the Preferred Action impacts, including "unavoidable impacts and loss to approximately 18.6 acres of good quality, upland woodland habitat. Included with the wooded acreage are narrow strips of riparian vegetation along impacted intermittent streams. Minimal marsh areas or scrub-shrub wetlands will be impacted by the proposed amenities. The Preferred Action will also result in unavoidable impacts and loss to approximately 2.4 acres of good quality savannah habitat, and approximately 13 acres of poor quality, mostly non-native grassy areas." Based on these varying descriptions of the impacts associated with the Preferred Action, it is difficult to determine with certainty the area, location, and quality of natural resources that would be impacted by the implementation of the Preferred Action. For consistency throughout the EA, a table summarizing the potential impacts would be useful.

The draft EA states that "(t)he building of the proposed lakefront recreational area will require the removal of approximately one acre of upland woodlands." However, the draft EA on page 35 states that "(t)he construction of the lakefront recreational area is still conceptual in nature." It is unclear how it was determined that this component of the preferred project would require the removal of approximately one acre of upland woodlands if this is still only conceptual?

The draft EA also refers to the 2004 Texas Water Quality Inventory determination that "the public water supply and general uses of Grapevine Lake are fully supported. No concerns were listed for nutrient enrichments of ammonia nitrogen, nitrites, nitrates, orthophosphorus, or total phosphorus" and "(t)here is no reason to believe that this information or the listed uses have changed since data collection in 2003." However, Grapevine Lake (Segment 0826) was assessed in 2008 and Assessment Unit 0826_01 (lowermost portion of reservoir) is identified in the draft 2008 Texas Water Quality Inventory for Concern for Screening level for nitrate.

On page 35 of the draft EA, it is noted that "(t)he design of the 'Preferred Action' would require USACE permit authorization for limited impacts to the intermittent stream under the convention center, to ephemeral stream areas in the footprint of the pool assemblage, and to ten (10) stream crossings along the proposed trail system." It is also noted that "(p)roposed impacts to the shoreline of Grapevine Lake will be due to the slope repairs at the Glass Cactus, construction of recreational amenities in the lakefront area, and by the building of the courtesy dock. It is anticipated that authorization will be available under the USACE's Nationwide Permit program."

Page: 6

Author: M2ODNHRM Subject: Sticky Note Date: 7/7/2008 12:41:31 PM
A table will be added to the final document and submitted to TCEQ for review

Author: M2ODNHRM Subject: Sticky Note Date: 7/21/2008 2:33:50 PM
This is conceptual in nature, however, when project feature is field fit, it is anticipated to encompass less than 1 acre

Author: M2ODNHRM Subject: Sticky Note Date: 7/7/2008 12:43:08 PM
A paragraph will be added to the final document to include the 2008 data.

If authorization for limited impacts to jurisdictional waters would be covered under the USACE's Nationwide Permit (NWP) program, then it is assumed that all potential impacts of the Preferred Action would be authorized under the NWP program and additional TCEQ activity would not be required.

The draft EA proposes that these unavoidable impacts would be authorized under a Nationwide Permit 39 for Commercial and Institutional Development, Nationwide Permit 42 for Recreational Facilities, and "other types of Nationwide Permits." It would be helpful to identify the specific activities and types of NWPs that would be utilized for the authorization and an explanation of how the use of multiple NWPs is not considered "combining" as discussed in the NWPs.

Section 3.7 Hazardous, Toxic, and Radioactive Wastes of the EA provides a description of USACE landfill units with municipal solid waste and "wood, metal, empty paint cans, buoys, and tires. One of the pits may contain several drums of pesticide and fertilizer. The drums were constructed of metal and some may have been plastic. The location of the pit which contains the pesticide and fertilizer is unknown." The EA refers to correspondence from TNRCC acknowledging the municipal landfill sites and the results of a field inspection conducted by a TNRCC field inspector. However, the correspondence referred to in the EA does not indicate the closure status of the sites and no regulatory information was provided by TNRCC. The current status of these sites is unclear and needs to be stated. Also, further inspections may be required to ensure adequate protection from potential hazardous wastes.

Project Mitigation for Impacts

The draft EA proposes a watershed approach to mitigate for the proposed stream, wetland, and riparian impacts; the consideration of on-site wetlands creation and enhancement as part of the Section 404 permitting process to mitigate for impacts to stream crossings, lake impacts, and wetland fill; the implementation of ecosystem-based vegetation management prescriptions; fence building/site protection in Wildlife Management Areas and Environmentally Sensitive Areas; the determination of monetary value of required NEPA mitigation for loss of woodlands or shrub lands; and a 50-foot setback along riparian and lake corridors to protect jurisdictional water, where possible. Please provide an explanation of how the effectiveness of the 50-foot buffer and other mitigation features was determined.

The mitigation plan on Federal lands at Grapevine Lake would be implemented by the City of Grapevine, acting through the Gaylord Entertainment Company. The draft EA states that satisfaction of the compliance requirements for mitigation of adverse impacts to jurisdictional water of the U.S. would only be made by the USACE Regulatory Branch project manager.

Page: 7

Author: M2ODNHRM Subject: Sticky Note Date: 7/21/2008 2:37:45 PM
The project will be phased into 3-5 year increments as shown in the EA based on economic conditions, and some features may never be built. Each project feature has independent utility, except for the trails, as described in the Nationwide Permit general conditions, as one feature is not dependent on any other feature. Full design is not available to evaluate under a single individual permit. Each phase of individual design components will be subject to the City of Grapevine Planning Process, USACE and agency review.

Author: M2ODNHRM Subject: Sticky Note Date: 7/21/2008 2:40:40 PM

Author: M2ODNHRM Subject: Sticky Note Date: 7/7/2008 2:04:59 PM
The 50 foot buffer was established by the Programmatic Environmental Assesment on allowable adjacent landowner activities incorporating Ecosystem Management Practices on Federal Lands at Grapevine and Lewisville Lakes. Fort Worth District. p.64. Multiple studies have been conducted to show widths of riparian buffers and the effectiveness to improve water quality and wildlife habitats and the results range from 15 feet to over 1,500 feet. The study above selected 50 feet for utilization at Grapevine and Lewisville lakes based on Design Recommendations for Riparian Corridors and Vegetative Buffer Strips authored by Richard Fischer and Craig Fischenich. USFWS and TPWD concurred and no comments were received from TCEQ on the PEA.

The Loss of Woodlands and shrublands mitigation requirements are listed in: USACE, 1999. Lewisville Lake Programmatic Environmental Assessment. Fort Worth District.pp120-122.

Would the City of Grapevine, USACE personnel, or a third-party contractor be responsible for the daily, routine monitoring of activities and Best Management Practices to ensure the protection of natural resources and the minimization of impacts associated with the implementation of the Preferred Action? And how would the requirements of the 401 certification be implemented?

The draft EA states on page 74 that "impacts of natural resources would be mitigated both by enhancement of wetland acreage along lake shoreline at a 2:1 ratio to compensate for wetlands loss, and as described in Section 6.0 Mitigation for the Preferred Action." However, Table 7 on page 34 indicates that the appropriate mitigation ratio for the loss of non-forested wetlands of "low class condition" is determined to be 3:1. Moreover, it is stated that "mitigation ratios in Table 7 would be applied to calculate the appropriate wetland mitigation acreages for those Section 404 impacts to lakes, streams and wetlands that cannot be either avoided or minimized." A compensatory mitigation ratio of 2:1 for the loss of wetlands is not included in Table 7. TCEQ supports the use of the 3:1 mitigation ratio as indicated on Table 7.

The draft EA also asserts on page 34 that an irrigation system will not be necessary for the wetland mitigation project due to the fact that "the proposed shoreline wetlands plantings and plantings within the bioswale will be regularly inundated by lake water levels and by the inflow of storm water in the stream." However, as noted in the photo-documentation provided in Appendix I of the draft EA, drought conditions may occur in the Grapevine Lake area and it would be necessary to develop a plan to provide moisture during the establishment of the plantings if natural precipitation levels are inadequate to sustain the plantings during this critical period. TCEQ requests that mitigation areas be self-sustaining without a requirement for active management.

For the minimization of lake and stream water quality impacts and to provide acceptable widths of wildlife corridors, construction zone setbacks of 50 feet from shorelines of lakes or from the centerline of riparian corridors would be established. Since the designated uses for Grapevine Lake include public water supply, it is important to ensure that the proposed activities do not increase the loading of total suspended solids and nutrients to the surface waters. A setback of greater than 50 feet may be required to protect these resources. Additionally, it is unclear how a 50-foot setback from the centerline of riparian corridors is to be determined. Is this a proposed 50-foot setback in either direction from the riparian corridors' centerline, no matter the width of the riparian corridor? Or is this a 50-foot setback from the centerline of the streambed in either direction?

Page: 8

Author: M2ODNHRM Subject: Sticky Note Date: 7/21/2008 3:02:08 PM
Specific designs and construction plans, including mitigation requirements must be approved through: City Planning Process: Public hearing, City Council Approval, USACE Operations approval; project authority, process, intent and regulations.
Regulatory Application Approval: Meets the requirements set forth in Section 404 and Section 401 Environmental review: Plans meet requirements as set forth in the EA; Agency review.
before notice to proceed on construction is granted.

Author: M2ODNHRM Subject: Sticky Note Date: 7/7/2008 11:30:01 AM
Concur

Author: M2ODNHRM Subject: Sticky Note Date: 7/7/2008 11:29:30 AM
Concur

Author: M2ODNHRM Subject: Sticky Note Date: 7/7/2008 11:28:40 AM
This is a 50 foot set back from the centerline of the streambed in either direction and a 50 foot set back from the shoreline.

If you require additional information or further assistance, please contact Mr. Robert Hansen, Water Quality Assessment Section, Water Quality Division (MC-150), at (512) 239-4583.

Sincerely,

L'Oreal W. Stepney, P.E., Director
Water Quality Division
Texas Commission on Environmental Quality

LWS/RSH/jp

This page contains no comments

TEXAS WATER DEVELOPMENT BOARD

June 18, 2008

Mr. Heath McLane
CESWF-PER-EE
United States Army Corps of Engineers
Post Office Box 17300
Fort Worth, Texas 76102-0300

Re: Draft Environmental Assessment
Gaylord Texan Expansion and Recreational Facilities
Associated with Federal Lands at Grapevine Lake
City of Grapevine, Tarrant County, Texas

Dear Mr. McLane:

This is in response to your May 23, 2008, Public Notice concerning the referenced project.

Section §16.236 (h)(4) of the Texas Water Code requires communities which have qualified for participation in the National Flood Insurance Program to approve plans for the construction or maintenance of a levee or other improvement prior to starting a project.

Our records indicate that the City of Grapevine is a participant in the National Flood Insurance Program. As such, they have approval authority over this project.

Should you have any questions, please contact me at the address below or telephone 512/463-3509.

Please note our new agency and address.

Thank you for bringing this matter to our attention.

Sincerely,

Mike Howard, CFM
NFIP State Coordinator

Our Mission

TNRIS

Page: 10

Author: M2ODNHRM Subject: Sticky Note Date: 7/7/2008 2:07:23 PM
Comment Noted.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
WinSystems Center Building
711 Stadium Drive, Suite 252
Arlington, Texas 76011

June 26, 2008

21420-2008-FA-0208

Colonel Christopher W. Martin
District Engineer
Attn: Mr. Heath McLane
CESWF-PER-EE
U.S. Army Corps of Engineers
P.O. Box 17300
Fort Worth, Texas 76102-0300

Dear Colonel Martin:

We have reviewed the revised, May 2008, draft Finding of No Significant Impact and Environmental Assessment (EA) regarding the proposed expansion of The Gaylord Texan Resort and Convention Center. The project involves construction of a variety of recreational facilities in lieu of the previously proposed18-hole golf course and driving range on Federal property around Grapevine Lake previously leased from the U.S. Army Corps of Engineers (Corps) by the City of Grapevine, Tarrant County, Texas.

We agree that the impact of the preferred action alternative proposed in the revised draft EA would be less than the impact of the golf course and driving range alternative approved in the December 1999 EA. Future construction of the individual component structures of the currently preferred alternative impacting jurisdictional waters of the United States (U.S.) would require a Clean Water Act Section 404 permit. Mitigation for unavoidable impacts to waters of the U.S. would be part of a Corps issued Section 404 permit reviewed by the U.S. Fish & Wildlife Service.

The process used by the applicant to determine existing habitat conditions is unclear and appears to be arbitrary. In our opinion, mitigation ratios based on a combination of habitat type, quality, and abundance would be more appropriate for determining the amount of mitigation required due to impacts associated with the proposed actions. We offer our assistance in assessing existing habitat conditions and developing an acceptable mitigation plan for the unavoidable losses of fish and wildlife resources within the project area.

Page: 11

Author: M2ODNHRM Subject: Sticky Note Date: 7/7/2008 4:16:39 PM

ER 1130-2-540 dated15-November-1996, describes USACE directive of Ecosystem Management Practices, defined as: a dynamic community of biological organisms, including humans, and the physical environment in which they interact. Ecosystem management by the Corps shall be a proactive, goal driven approach to sustaining ecosystems and their values. The Corps will manage communities to promote regional environmental values occurring on project lands toward sustaining ecosystems in which the project lands and waters occur. Such ecosystems and communities will be identified in resource objectives and/or land use classifications contained in the Master Plan and the Operation and Maintenance Plan. This area in question is labeled as High Intensity Recreation Area, and we have reviewed the project proposal in light of the 1999 PEA and further reviewed the project as proposed in regard to the mitigation ratios, and find that the mitigation ratios listed in the 1999 PEA are appropriate. The mitigation ratios as described in the PEA are a guide and each project shall be assessed individually as stated in the PEA. As the details of the full impacts become available, the USFWS will be invited to help assess exisiting habitat and review and provide input to the specific environmental mitigation plan.
Establishment and use of USACE mitigation schedules may be found in: USACE, 1999a. Lewisville Lake Programmatic Environmental Assessment, U.S. Army
Corps of Engineers, Fort Worth District, with full concurrence from resource agencies.

We appreciate the opportunity to provide input on this project and look forward to working with you on the development of a mutually acceptable mitigation plan. Please contact Mr. Sid Puder of this office at the above address or telephone number (817) 277-1100 if you have any questions or require additional information.

Sincerely,

Tom Cloud

Thomas J. Cloud, Jr.
Field Supervisor

cc: Mr. Tom Heger, Texas Parks & Wildlife Department
Mr. Mark Fisher, Texas Commission on Environment Quality
Mr. Norm Sears, Environmental Protection Agency

This page contains no comments

Memo for Record 15 July 2008

Subject: Agency Meeting, Gaylord Texan Resort Expansion,

1. A meeting was held on 15 July at 10:00 AM at the Gaylord Texan Resort.

2. The following team members were in attendance:

Heath McLane	USACE PER-EE	817-886-1849
Richard Prather	EPA	214-665-8333
Matt Singleton	City of Grapevine	817-410-3328
Douglas Cox	USACE Partnership Program Manager	469-645-9112
Brian Phelps	USACE Deputy OPM Trinity Project	469-645-9100
Don Wiese	USACE Operations	817-886-1568
Paul Lee	Huitt-Zollars	817-335-3000
Mark Harberg	USACE- PER-E	817-886-1687
Robert Hansen	TCEQ	512-239-4583

3. The purpose of the Environmental Assessment (EA) is to determine if there would be any significant impacts to the environment from construction of the proposed outdoor recreation amenities and related facilities on Federal land at Grapevine Lake in association with an on-going expansion of the Gaylord Texan Resort. If it is determined there would be no significant impacts (and a FONSI executed) further review of construction plans and specifications will be required as illustrated in #4.

4. EA is for authorization of a conceptual recreation development plan sufficient to allow the Corps to supplement the Grapevine Lake Master Plan by denoting the change from an approved golf course plan to the plan set forth in the proposed action. The FONSI only allows us to supplement our master plan and does not authorize construction. This authority would allow the Corps to modify the Development Plan in the park and recreation lease to the City (remove the golf course authority and add the new recreation development), contingent that no construction may occur without fully developed plans and the City receiving consent to construct. The City would then require the sub-lessee, Gaylord, to finalize their specific plans within the EA guidance and would then have Gaylord put those plans through the City of Grapevine's public planning process. Once the City approves the plans (with any necessary changes), the City would then forward to the Corps those specific plans requesting authority to initiate construction. Those specific plans would then be reviewed by the Corps for compliance with the EA and Master Plan, and to ensure compliance with all state, federal, and local regulations, laws, and policy guidelines. The compensatory mitigation plan would be reviewed to ensure full mitigation of unavoidable impacts and would be added as a lease condition to the City of Grapevine's park and recreation lease..

5. At the time the property was leased, the City and Gaylord Entertainment Corporation, (GEC), proposed to construct an 18-hole public golf course on the land in question as a recreational feature complementary to what was then known as GEC's Opryland Hotel and Resort, but now propose a variety of recreational facilities and amenities in lieu of

the golf course. These facilities are considered appropriate for USACE lands having a high intensity recreation classification..

5. Prior to initiation of construction, specific design and construction plans, including mitigation requirements, must be approved through:

a. City Planning Process: Public hearing, City Council Approval

b. USACE Operations approval: Plan meets requirements as laid out in project authority, process, intent and regulations.

c. Regulatory Application Approval: Meets the requirements set forth in Section 404 and Section 401

d. Environmental review: Plans meet requirements as set forth in the EA.

As a result of this meeting and coordination with agencies, the specific design and plans will be sent to resource agencies for a 5-day review, input, and approval after approval by Operations Division in step b. above. Additional time may be requested to provide input by the resource agencies dependent on the scope and location of individual design components.

6. NEPA requirements shall be utilized to the fullest extent as an aid to planning to prevent environmental degradation. The EA incorporates approximately 30% design which is sufficient for the early identification of potential impacts. Typically EPA and TCEQ review plans containing 90% or more design to ensure very specific compliance. By providing the resource agencies a 5-day review, input and approval of detailed plans prior to initiation of construction, the agencies have the ability to provide project-specific recommendations to avoid, minimize and mitigate environmental impacts.

7. TCEQ and EPA agree with the approval process, use of mitigation tables in the EA and signing of the FONSI. Comments received from each agency regarding the need for more information remains. The coordination of design and construction plans in step 5 will be utilized to guarantee agency input for individual design components.

8. All storm water run-off is and will be diverted through oil separators which removes oil, debris and sediment from approximately the first one-fourth inch of rain before the runoff enters streams. Additional storm water minimization and mitigation measures may also be required dependent on the scope and location of individual design components.

9. Post construction Storm Water Management Plans will be included in submittals to include BMP’s to be utilized for each individual design component with the goal of limiting impervious surfaces, to reduce run-off and increase infiltration of stormwater. Based on agency concern.

10. Natural resources within the footprint of the pool assemblage and Convention Center expansion area will be considered a 100% loss. We also identified that BMP’s would be used to stabilize the areas underneath the convention center and around the

building and all unavoidable impacts would be fully mitigated. Impacts to water quality functions will be mitigated on-site and cumulative effects will be minimized and mitigated for the protection of natural resources.

11. One mitigation feature discussed was the restoration of the stream feeding the pond, the pond itself, and providing Natural Resource/riparian/wetland interpretation along the Phase 1 trail system. NOTE: Portions of the stream feeding the pond, the pond dam, and siltation are required to be restored as a maintenance item (cleaning silt out of the pond and stream, installation of baffle blocks to reduce flow at the exit point of the drainage and installation of filtered check dams to ensure reduced flow velocity, etc.), so these costs would not be considered mitigation. Parts of a design for actual stream/riparian restoration, wetland plantings, wetland interpretation, etc. would be considered mitigation.

12. A follow-up meeting was held on 28 July 2008. Attendees for the follow-up meeting were: Craig Kislingbury, Douglas Cox, Don Wiese, Eric Pedersen and Heath McLane; USACE and Sid Puder; USFWS. USFWS was amenable to the 5 day review period as described above and requested the mitigation plan describe the value of existing habitat and specific mitigation measures be identified.

Heath McLane
Environmental Resource Specialist

GRAPEVINE TEXAS

CHAMBER OF COMMERCE

TO: Mr. Heath McLane
CESWF-PEREE
Army Corps of Engineers

STATEMENT OF SUPPORT:

The Grapevine Chamber of Commerce and its Board of Directors would like to offer its full support of Gaylord Texan Resort & Convention Center's planned expansion. This mission of our organization is to improve the economic, civic and cultural well-being of the area. Gaylord's expansion will support this goal, as the new and added convention business that it will bring to our growing destination will result in increased tourism and economic development for the entire city. In addition, since opening in April 2004, Gaylord Texan has served as a supportive and responsible community partner for the city of Grapevine.

Sincerely,

Kristine Amador
Grapevine Chamber of Commerce
Chairman of the Board

cc Heath.R.McLane@usace.army.mil

THE GRAPEVINE CHAMBER OF COMMERCE
P.O. Box 368 Grapevine, Texas 76099-0368 Phone 817-481-1522 Fax 817-424-5208

Summary of Comments on Public Comments Combined Final 073008.pdf

Page: 1

Author: MZODNHRM Subject: Sticky Note Date: 7/1/2008 3:59:19 PM
Comment Noted

From: Weinbergersdeli@aol.com
To: McLane, Heath R SWF;
Subject: Weinberger"s Deli
Date: Monday, June 16, 2008 4:42:13 PM

Dear Me. Mc.Lane,
I own Weinberger's Delicatessen which is located downtown Grapevine. I would like to express my delight at the fact that the Gaylord has decided to expand their facility. We have been very pleased at the way the Gaylord has conducted its expansion project and their concern for the community surrounding the facility. I believe they are very sensitive to the needs of the community and am in support of their growth. Should you need to reach me for additional comments you can call my store at 817.416.5577.

Sincerely

Daniel L Weinberger
Weinberger's Delicatessen
601 S. Main St. Ste. 100
Grapevine, Texas 76051

Gas prices getting you down? Search AOL Autos for fuel-efficient used cars <http://autos.aol.com/used?ncid=aolaut00050000000007> .

Page: 2

Author: M2ODNHRM Subject: Sticky Note Date: 7/1/2008 4:00:04 PM
Comment Noted

From: Lee Rotholz
To: McLane, Heath R SWF;
Subject: Support for Gaylord Texan expansion
Date: Monday, June 23, 2008 6:17:15 PM

Dear Mr. McLane,

First let me say that I appreciate the work that the U.S. Army Corps of Engineers does to maintain and improve our public land. This is indeed a beautiful place to live.

I'm writing to let you know that I'm in support of the Gaylord Texan expansion. Originally from Texas, I moved to Grapevine 3 years ago from New York City at the request of my brother, who is also a resident He told me that this area is one of growth. After seeing things for myself, I decided to stay and bought a house on Hyland Greens. I love living here and want to see the area continue to grow. Gaylord Entertainment is a great company and a good neighbor. The fact that they are expanding when the economy has slowed down says a lot about their committment to Grapevine. They are a vital part of the continued growth and success of the area.

I am in favor of their expansion.

Thank you for your time.

Regards,

Lee Rotholz

Page: 3

Author: M2ODNHRM Subject: Sticky Note Date: 7/1/2008 4:01:15 PM
Comment Noted

From: Diane Williams
To: McLane, Heath R SWF;
Subject: Gaylord Texan Expansion
Date: Tuesday, June 10, 2008 7:22:24 PM

Mr. McLane,

This letter is sent to express my profound opposition to the Gaylord Texan expansion.

I live adjacent (very up close and personal) to the hotel/nightclub complexes. To say that this expansion, most especially the resort pool assemblage, will have an enormous effect on our neighborhood, would be an understatement. However, since there have been no public meetings or any plans seen thus far by anyone, we can only oppose the fact that public land will be used for this private purpose.

The convention center will have a huge impact with the lose of 3[illegible] trees, wildlife, fish, and water pollution. How can you possibly say it would only have a minor impact? It looks like a given to all of us in the neighborhood!

On the subject of the pool assemblage, the land use would be for private use, not public, for which federal land is intended. Will Gaylord allow the p[illegible] use of the pool? I don't think so. The noise (night-time entertainment) will create more disturbance for those of us living adjacent to the property. We already are forced to live with the nightclub. Gaylord Texan has quite enough property on which to build a pool. It does not have to be in our backyards!

Mrs. Chu (Anglers Plaza) made a point that I had forgotten about. I, too, have asked in the past to lease or purchase the Corps property that is "attached" to mine. I have spent money for 30 years, maintaining the grass and oak tre[illegible] The answer was always no, you cannot lease/purchase Corps land. But, the City of Grapevine can? That makes little sense. Is my money not as good as the city's. Or do I have to form a partnership with a corporation? Just trying to figure out the logic.....

In closing, the neighborhood is opposed to this entire expansion. It infringes on our privacy, our way of life, and our rights. Please reconsider your 'across the board' approval of this plan.

Sincerely,

Diana Williams
1830 Silverside Dr.
Grapevine, TX. 76051
817-481-7121

Page: 4

Author: M2ODMDNW Subject: Sticky Note Date: 7/22/2008 3:31:31 PM

Several comments were received concerning the proximity of the pool assemblage to the adjacent neighborhood and the character or scope of the proposed pool assemblage. In response to this comment it is important to note that the area in question is shown in the EA as PEC on Exhibit 5. This area is described as the Pool/Events Assemblage. These are two very different activities identified within the same colored area of the map on Exhibit 5. The Swimming Pool and a Special Event Assemblage, are both located in existing mowed areas adjacent to the Gaylord and will not impact the existing un-mowed forested area. The text of the EA is being revised to better describe these two areas. As envisioned, the swimming pool would straddle the USACE property boundary on the west side of Gaylord and will be located on the west side of the of the proposed Gaylord hotel addition (shown in brown on exhibit 5) resulting in approximately one-half of the swimming pool being located on private property. The other half would be centered in the PEC area and will not impact the un-mowed forested area. The most south and westerly extent of the swimming pool (nearest to the adjacent neighborhood) will be constructed a minimum of approximately 250 feet from the USACE boundary which fronts several homes in the neighborhood, leaving a forested buffer completely intact between the USACE boundary line and the the swimming pool. The City of Grapevine wishes to make it clear that the swimming pool will have a tranquil setting and will not in any way resemble a water-oriented amusement park. The swimming pool will not contain any of the following facilities: diving boards or diving pools; multi-story water slides; multi-story tree house water forts; slide tubes; body surfing; water slide raceways; wave pools; flumes; or tipping buckets. In fact, the ambiance of the swimming pool will be very similar to that of the small outdoor pool already in existence at the Gaylord adjacent to the outdoor vineyard. This existing pool was under-designed for the existing Gaylord residents and this new proposed pool will supplement and meet the swimming pool demand of the resort. We understand that this larger pool is proposed to have an upper and lower section in order to work within the existing terrain. It has been suggested that the upper pool would be separated from a lower pool by a small cascading waterfall. The City and Gaylord are in the process of designing the pool features (ie, waterfalls, cabana, walls, surrounding vegetation, etc.) in order to disperse and muffle sounds arising from normal pool activities. For example, our understanding is that the waterfall would not only be aesthetic, but would help disperse sounds from the pool area. Our understanding is that the upper pool would be about 10,100 square feet with the lower pool being about one-third that size. Convenient public access to the pool area would be made available via the planned public trails and also from normal drive-in traffic to the Gaylord complex. Now the Event Assemblage area is located south of the proposed swimming pool adjacent to the water cooling towers. This is a special event plaza and is not a recreation area of the swimming pool. The proposed event assemblage area is within the mowed area and will consist of a flat area where special events may take place. The PEC area as defined in the EA is conceptual and has not yet been designed. The Corps will require the PEC plans to move through the Cities normal Planning Approval Process before the Corps will authorize any construction. Our understanding is that there will be public meetings within the Cities process for concerned citizens to review and comment on the plans before they are submitted to the Corps for final review.

Author: M2ODMDNW Subject: Sticky Note Date: 7/21/2008 3:34:20 PM

The purpose of the Notice of Availability and public comment period is to disclose to the public those actions, and associated environmental impacts, that would affect Federal land. Although the proposed facilities are necessarily conceptual at this stage, the City, through its normal planning and zoning process, will hold additional public meetings when more precise plans are developed. The facilities proposed by the City of Grapevine and their sublessee, Gaylord Entertainment, although operated by a private entity, would be available for public use as are marinas, cabins, fishing docks, YMCA facilities and other privately operated facilities that exist on USACE lands by virtue of park and recreation leases or commercial concession leases.

Author: M2ODMDNW Subject: Sticky Note Date: 7/21/2008 3:37:31 PM

Recreation development on USACE lands classified for intense recreation development, as is the USACE land in question, will result in impacts to fish & wildlife habitat, including trees. In an effort to balance these impacts, in 2000 the City of Grapevine, as well as all other cities bordering Grapevine Lake participated with USACE in supplementing the USACE master plan for Grapevine Lake,. In the interest of protecting wildlife habitat and recreational open space, this effort resulted in a reduction in acreage available for intensive recreation development by reclassifying some parks to low intensity uses and by establishing numerous Environmentally Sensitive Areas that are off limits to intense recreation development. We believe this master plan supplement achieved a desirable balance in land uses. Additionally, any loss of habitat from the proposed action would be mitigated by the City of Grapevine through implementation of a compensatory mitigation plan described in the Environmental Assessment. Impacts to water quality would be avoided through implementation of required best management practices such as oil and litter separators and vegetated filter strips.

Author: M2ODMDNW Subject: Sticky Note Date: 7/21/2008 3:49:31 PM

See above note on private use. The City and Gaylord Entertainment would be required to allow reasonable public use of the pool. Additionally, as noted in the EA, the City will share in revenue generated by the Gaylord complex for those facilities located on USACE land. The lease agreement between the City and USACE requires that these revenues be used by the City to help fund improvements and maintenance of the public park facilities and lands included in the City's leases.

Comments from page 4 continued on next page

From: Diane Williams
To: McLane, Heath R SWF;
Subject: Gaylord Texan Expansion
Date: Tuesday, June 10, 2008 7:22:24 PM

Mr. McLane,

This letter is sent to express my profound opposition to the Gaylord Texan expansion.

I live adjacent (very up close and personal) to the hotel/nightclub complexes. To say that this expansion, most especially the resort pool assemblage, will have an enormous effect on our neighborhood, would be an understatement. However, since there have been no public meetings or any plans seen thus far by anyone, we can only oppose the fact that public land will be used for this private purpose.

The convention center will have a huge impact with the lose of 3[illegible] trees, wildlife, fish, and water pollution. How can you possibly say it would only have a minor impact? It looks like a given to all of us in the neighborhood!

On the subject of the pool assemblage, the land use would be for private use, not public, for which federal land is intended. Will Gaylord allow the p[illegible] use of the pool? I don't think so. The noise (night-time entertainment) will create more disturbance for those of us living adjacent to the property. We already are forced to live with the nightclub. Gaylord Texan has quite enough property on which to build a pool. It does not have to be in our backyards!

Mrs. Chu (Anglers Plaza) made a point that I had forgotten about. I, too, have asked in the past to lease or purchase the Corps property that is "attached" to mine. I have spent money for 30 years, maintaining the grass and oak tre[illegible] The answer was always no, you cannot lease/purchase Corps land. But, the City of Grapevine can? That makes little sense. Is my money not as good as the city's. Or do I have to form a partnership with a corporation? Just trying to figure out the logic.....

In closing, the neighborhood is opposed to this entire expansion. It infringes on our privacy, our way of life, and our rights. Please reconsider your 'across the board' approval of this plan.

Sincerely,

Diana Williams
1830 Silverside Dr.
Grapevine, TX. 76051
817-481-7121

Author: M2ODMDNW Subject: Sticky Note Date: 7/22/2008 10:51:17 AM

Noise and light generated by the swimming pool / event assemblage area must be reasonable and in compliance with 10:00pm to 6:00 am quiet hours set forth in Title 36 of the Code of Federal Regulations. In keeping with the USACE recreation outgrant development policy (see Appendix F of the EA), the pool / event assemblage cannot be developed or operated as a major water park with numerous thrill rides.

Author: M2ODMDNW Subject: Sticky Note Date: 7/7/2008 4:18:49 PM

USACE policy prohibits the leasing of USACE lands for private exclusive use. Limited mowing and underbrushing of USACE lands by adjoining landowners may be permitted in some areas by virtue of a written permit from USACE. Public entities such as cities, counties, river authorities and water districts, are encouraged to lease USACE lands as a means to provide desirable and expanded public recreation opportunities.

From: Jan_Gibson@hmco.com
To: McLane, Heath R SWF;
Subject: Gaylord Texan on Grapevine Lake expansion
Date: Monday, June 09, 2008 2:12:03 PM

I would like to express my concerns about the expansion of the Gaylord and the effects on my neighborhood. I live on Lakewood Lane which is directly behind the convention center area.
I am alarmed that a public meeting concerning the pool and beach areas of this expansion has not been held. The two meeting referred to [illegible]e Corp of Engineers report addressed only the parking garage and convention center expansion. The pool area which would be on corp property was mentioned at the meeting held on Feb. 6, 2008 but when residents questioned exactly what it would entail, we were told the plans had really not been developed yet. One resident asked if it would have slides and music and other types of amenities to compete with the Great Wolf Lodge across the highway and we were assured that it would not have such noise producing attractions. The city council meeting which was held on March 25 also did not address the issue. The speaker for the Gaylord stated that at that time the subject of the pool area was off the table. To my knowledge no other public meeting has been held.
I think the idea of developing walking and bicycling trails through the corp areas around the lake is a wonderful idea as long as t[illegible]re open to the public. I am concerned if the pool area would really be open to the public if it is built. The idea of destroying a beautiful wooded a[illegible] to create a noisy water park is disheartening but the idea that public land could be used for private use is unsettling. According to the report, To insure that resort patrons are able to enjoy those facilities constructed and maintained by the resort, the City and/or their sub-lessee would be authorized to implement reasonable restrictions on general public use. I have a feeling there would be a lot of restrictions as long as occupancy at the hotel is high.
Many of the complaints concerning the Gaylord have to do with noise. The air exchangers (air conditioners) were placed so that all the noise created goes out to the neighborhoods. Instead of developing a plan which would have put them in a below grou[illegible]vel area (such as parking garage) or to place a sound reduction barrier when they were built, nothing has been done to help reduce the noise pollution. When the additional convention area is built another set of air exchangers will be placed above ground.
Complaints of the loud music from the Glass Cactus were also touched upon at the city council meeting. The outside speakers which faced the neighborhood across the inlet were to be removed. When one of the council members stated that a city ordinance prohibits a business from using outdoor speaker and would the Gaylord agree to remove the remaining speakers, she was told that it would not be possible.
In conclusion, I do not trust the Gaylord to be a good steward of our land. I do not believe they will give the citizens of Grapevine a good return for the use of their land. The Gaylord owns large amounts of property [illegible]hich a pool area could be built however I realize none would be so beautiful. Please help us conserve that beauty. As Chief Seattle said "Whatever befalls the earth befalls the sons of the earth".

Jan Gibson
Holt McDougal
Texas Regional Office
800-346-3570

Page: 5

Author: M2ODMDNW Subject: Sticky Note Date: 7/22/2008 10:51:59 AM
The swimming pool / event assemblage described in the EA is somewhat conceptual, but the footprint of development is disclosed and the area of potential ground disturbance is accounted for in the acreage figures. As already noted in a previous response, the pool / event assemblage cannot be developed or operated as a major water park with numerous thrill rides and the City of Grapevine, through its normal planning and zoning process, plans to hold additional public meetings regarding the pool / event assemblage.

Author: M2ODMDNW Subject: Sticky Note Date: 7/22/2008 10:52:10 AM
As previously mentioned, reasonable public access must be provided to facilities proposed for placement on USACE lands. Public access to the trails would be free, but reasonable fees may be charged for facilities such as the pool / event assemblage.

Author: M2ODMDNW Subject: Sticky Note Date: 7/22/2008 10:52:34 AM
The comments regarding the wooded area, the character and scope of the pool / event assemblage and public use of the pool / event assemblage have been addressed in previous comments.

Author: M2ODMDNW Subject: Sticky Note Date: 7/22/2008 3:27:17 PM
The air exchangers are located entirely on private land and were therefore not addressed in this EA. Nonetheless, the City and Gaylord Entertainment have stated that they intend to construct a sound barrier surrounding the air exchangers.

Author: M2ODMDNW Subject: Sticky Note Date: 7/7/2008 4:49:34 PM
See previous comment about land classifications and restrictions on intensive development.

From: Joe Haran
To: McLane, Heath R SWF;
Subject: Gaylord
Date: Sunday, June 01, 2008 11:55:06 AM
Attachments: ATT8901548.txt

Heath

Attached is a letter sent to you by Gwen Patterson of Silverside Drive; I don't wan repeat it all because I support it all. I would simply like to emphasis that Corp property is for public use based on your rules. You would not allow me to build my house on your property with a dock because of that rule so why is the Gaylord allowed to do it and then restrict it to public access.

What I don't want to hear is that the Corp didn't do it, you leased the land to Grapevine and they did it.... THAT IS A COP OUT!

Joe Haran
817-980-6373

Page: 6

Author: Date: Indeterminate

Author: M2ODMDNW Subject: Sticky Note Date: 7/21/2008 4:00:47 PM
The comment regarding public use of facilities proposed for construction on USACE land has been addressed in previous comments.

From: Janet Lin
To: McLane, Heath R SWF;
Subject: I"m Opposed the Gaylord expansion plan
Date: Wednesday, June 04, 2008 11:41:53 AM

Mr. McLane:
I am opposed to Gaylord Texan expansion and recreational facilities associated
with Federal Land at Grapevine Lake.
First of all, Ii¦m DEEPLY, STRONGLY, and TROUBLY effected by Gaylord current buildings and operations, the neon lights shinning through my living room window,
noise from their customers and live band on weekend nights, Gaylordi¦s Glass Cactus
night club total impacted my living environment and quality of life.
I doni¦t understand that on your letter date May 23,
i§ Finding of No Significant Impacti¨ regarding the Gaylordi¦s expansion using Crops land.
My house in front of lake, Ii¦m close to Gaylord building, I never be interview
by any party represent by Crop or City of Grapevine, why you can conducted survey indicated i§No Significant Impacti¨? is people living here doesni¦t count?
I have some questions need to address to you:
1.When we purchased our home (1846 Anglers Plaza, Grapevine, TX 76051)
on year 2000, therei¦s piece of land in front of our yard, we went to city office
and Cropi¦s office at Grapevine lake, ask can we purchase or lease that land,
the answer from city and Crop was: Crops will never sale or lease their properties
to private party. Then why city and Gaylord i§partnershipi¨ to this expansion,
this plan will put more buildings and facilities on Cropi¦s land, so the lease term
will be forever or eventually Gaylord can purchase those lands?
If this is case, can we buy that piece of land in front of my house?
2.Cropi¦s rule about i§open to publici¨, if Gaylord twist this rule by i§open to public with Feesi¨,
is this still apply to your i§open to publici¨ rule?

3.Therei¦s never be informed or discussed to public about resort pool assemblage,
lakefront recreational area with courtesy dock, or any other plans.
We only know on March 25, 2008 cityi¦s council meeting, proved the 12 story building and
convention center expansion. I asked Ms. Ginger Schlette (Gaylordi¦s Director of Development),
the answer from her wasi¨ we are still working on the swimming pool plani¨
then why Crop already conduct i§No Significant Impacti¨.
Ii¦m truly hope you can do more survey and research for this plan, there will be Significant impact people who lives near by, our neighborhood and community try our best to voice our concern,
our city looking for revenue not the citizen who lives here and pay the tax,
Crop is our only hope to stop this plan, to stop destroy our beautiful lake.

Page: 7

Author: M2ODMDNW Subject: Sticky Note Date: 7/21/2008 4:03:15 PM
See previous comment about private exclusive use of USACE land.

Author: M2ODMDNW Subject: Sticky Note Date: 7/21/2008 4:07:40 PM
See previous comments about the USACE requirement for reasonable public use.

Author: M2ODMDNW Subject: Sticky Note Date: 7/21/2008 4:09:25 PM
See previous comment about the City's intent to seek additional public input through their normal planning and zoning process.

Best Regards
Janet Chu

This page contains no comments

From: Juli Smith
To: M2ODMDNW, Hawk R SWF5
Subject: The Gaylord Texan Expansion and Recreational Activities Associated with Public Lands on Grapevine Lake, City of Grapevine, Tarrant County, Texas
Date: Sunday, June 08, 2008 3:54:58 PM

I am writing with my concerns over the expansion of the Gaylord Texan. The concerns that I have stem for many different reasons. The Gaylord Texan was built with great opposition from many of the residence of the City of Grapevine. While the corporation has held up to many of their agreements, there are some of the agreements that have not been fully met.

While the expansion will have an impact on our environment, I do understand that there is no real danger to the habitat. The fact that trees and other natural brush will be cleared is of concern to me. To much disruption to the natural habitat does create a potential risk if other areas of the lake are also impacted by the continued expansions.

The fact that the Gaylord Texan wants to incorporate a golf course within the grounds is another area of concern. When the Gaylord Texan was built it was built with the understanding it would help create tourism and build a steady foundation for our other businesses. With the Gaylord Texan proposing their own golf course, what impact will this have on the Municipal Golf Course and the Cowboys Golf Course? There is no need to have three golf courses within such close proximity to one another. By building a golf course on the [redacted], the tourism is being limited to the Gaylord Texan only and not expanding outside of the grounds as was the original agreement. I strongly oppose the need of another golf course within Grapevine.

Additionally, where will the runoff of the fertilizer and pesticides go that will be used to maintain the Golf Course? These contaminates will end up in the lake waters of Lake Grapevine. The same lake that families utilize on a regular basis. Research has shown that the environmental harm caused to lakes can be catastrophic. The natural habitat will die off. Fish will be killed and for what, the sake of a corporation making more money. Please tell me how this is right? How are families supposed to enjoy the waters of Lake Grapevine with pollutants running into the waters from such a large venue? The overall beauty which has been one of the main focuses for the City of Grapevine will be destroyed.

I additionally disagree with the building of a fishing pier. This pier will be located on a point which is also part of a cove. The coves are where families anchor their boats to swim with their children. Now the cove space will be limited due to fishers who will cast lines into the areas in which families swim. Did anyone ever stop to think about the potential hazards of this? Fishing hooks being thrown into a group of people relaxing in the water and swimming in the lake. Additionally, when there is a pier involved, statistics show that crime in the area increases. This is noted by under-aged drinking and drug activity. Will this pier be in a controlled environment where someone is monitoring the activities taking place? According to the plans this will be an open environment with no control and constraints.

I understand that I am only one voice, but I am hoping that my voice along with the others will be heard. The expansion of the Gaylord Texan does not make good environmental sense. The beauty of the City will be changed and once those changes occur, there is no way to reinstate what has been lost.

Sincerely,

Juli M. Smith
2347 Mockingbird Drive
Grapevine, Texas 76051
817-329-6855

Page: 9

Author: M2ODMDNW Subject: Sticky Note Date: 7/7/2008 4:54:39 PM

The EA clearly states that the once-proposed golf course will not be constructed. In lieu of the golf course, the City and GEC now propose a variety of other recreational developments. Likewise, the City and GEC no longer propose to construct the fishing pier, but instead plan to make improvements for fishing access in a location upstream from the bridge leading into the Gaylord Texan complex.

June 25, 2008

Mr. Heath McLane
CESWF-PER-EE
P.O. Box 17300
Ft. Worth, TX 76102-0300

Heath.R.McLane@usace.army.mil

Dear Mr. McLane:

Please consider this document as public comment regarding the Environmental Assessment (EA) of the proposed Gaylord Texan Expansion and Recreational facilities. My comments and requests are below:

- Public Hearing -- I would like to request a public hearing based on the following:

  The draft EA is not specific regarding mediation efforts to replace the 30.5 acres (and approx. 320 bottomland hardwoods) of wooded areas being disturbed. The loss of wildlife habitat, water purification** air cleaning ability in a non-attainment area, and ambient air temperature cooling effect of these trees,* should be mediated at the same levels as, should the equivalent diameters, and types of trees.

  In 1999, the USACE land was leased to the City of Grapevine, specifically for park and recreational purposes. While the resort pool, amphitheater, ranch complex, marina, and courtesy dock qualify as recreational, the convention center does not The convention center expansion, proposed to be built on USACE, is a Gaylord owned business facility.

  The draft EA is extremely vague regarding the identification and placement of the resort pool assemblage. While including the general area for the pool facility, citizens are not able to discern exactly the type of structures. With the current competitive development of the themed water parks, noise levels, lighting intensity, etc could be much greater than a traditional swimming/lounging pool.

Thanks in advance for your consideration of this public meeting request. I'll look forward to hearing the date you've chosen. Please feel free to call me with any questions or comments.

Respectfully,

Elaine W Cary
3028 Southridge Ct,
Grapevine, TX 76051
817-421-0683

*"One acre of forest absorbs six tons of carbon dioxide and puts out four tons of oxygen. This is enough to meet the annual needs of 18 people." —*U.S. Department of Agriculture*

** "The planting of trees means improved water quality, resulting in less runoff and erosion. This allows more recharging of the ground water supply. Wooded areas help prevent the transport of sediment and chemicals into streams." —*USDA Forest Service*

Page: 10

Author: M2ODMDNW Subject: Sticky Note Date: 7/7/2008 4:59:06 PM
As previously noted, all losses of wildlife habitat and trees will be mitigated through implementation of the compensatory mitigation plan in the EA. This plan will require mitigation in the form of habitat improvements on USACE land at Grapevine Lake at ratios approved in previous EA's.

Author: M2ODMDNW Subject: Sticky Note Date: 7/7/2008 5:01:55 PM
In accordance with the USACE recreation outgrant development policy (Appendix F in the EA), a convention facility is appropriate as part of a comprehensive resort development.

Author: M2ODMDNW Subject: Sticky Note Date: 7/22/2008 10:53:11 AM
See previous comment about the location, scope and character of the pool / event assemblage.

June 27, 2008

Mr. Heath McLane
CESWF-PER-EE
P.O. Box 17300
Ft. Worth, TX 76102-0300

Heath.R.McLane@usace.army.mil

Dear Mr. McLane:

Please consider this document as our public comment regarding the Environmental Assessment (EA) of the proposed Gaylord Texan Expansion and Recreational facilities.

My wife and I live at 849 Riverside North, Grapevine, Texas 76051. Our home is less than 50 feet from the west fence along Ruth Wall separating the Gaylord Texan's loading dock and trash dumpsters from our property. This is the closest home to the project.

We attended the meeting at the Gaylord Texan and the public Grapevine City Council meetings referred to in your Document and what is not mentioned is that there was an almost unanimous objection on the part of the neighborhood to more intrusion in to the CORP land and the residential area. As is normal the Chamber of Commerce and the Convention and Visitors Bureau were in favor of the project.

We are also concerned that in your letter to us you refer to the project as a "Partnership" between the Gaylord and the City of Grapevine. In your documents you turn over all responsibility for mitigation of the wetlands and trees that will be removed to the city. How can the city be objective in this responsibility if they are a Partner in this development?

I want to make it clear that we are not against all the changes in the Gaylord Texan. We are in favor of responsible development of this project. There is land on the opposite side of the hotel that is away from long established residential areas and adjacent to this project that could be used for this purpose. I would like to see Corp action in the overseeing of the environmental portion this project and not count on the partnership with the city of Grapevine.

Our requests are as follows:

Public Hearing – I would like to request a public hearing based on the following:

1. The draft EA omits any mediation efforts other than the City of Grapevine to replace: the 30.5 acres (and approx. 325+ bottomland hardwoods) of wooded areas being disturbed; the loss of wildlife habitat; air cleaning ability in a non-attainment area, and ambient air temperature cooling effect of these trees, which should be replaced at the same levels (i.e. equivalent diameters, types of trees, etc.).

2. In 1999, the USACE land was leased to the city of Grapevine, specifically for park and recreational purposes. While the resort pool, amphitheatre, ranch complex and arena, and courtesy dock qualify as recreational, the convention center does not. The convention center expansion, proposed to be sited on USACE, is a Gaylord owned business facility. Any development by Gaylord will for their guest only and not the public that would use a Grapevine city park.

3. The draft EA is extremely vague regarding the identification and placement of the resort pool assemblage. While indicating the general area for the pool facility, citizens are not able to discern exactly the type of structures. With the current competitive development of the themed water parks noise levels, lighting intensity, etc could be much greater than a traditional swimming/lounging pool.

Respectfully Submitted
Kathleen Morris

Michael B Morris

Home 817-481-3706
Office 817-329-1850

Page: 11

Author: M2ODMDNW Subject: Sticky Note Date: 7/21/2008 4:18:01 PM
The compensatory mitigation plan will become a condition the City's park and recreation lease with USACE. The USACE will insure compliance with the plan.

Author: M2ODMDNW Subject: Sticky Note Date: 7/21/2008 4:20:01 PM
As previously noted, a convention / conference center is appropriate for inclusion in a comprehensive resort facility on USACE lands. See the USACE Recreation Outgrant Development Policy at Appendix F of the EA.

Author: M2ODMDNW Subject: Sticky Note Date: 7/21/2008 4:21:03 PM
See previous comment about the location, character and scope of the pool assemblage.

This page contains no comments

June 25, 2008

Mr. Heath McLane
CESWF-PER-E,
P.O. Box 17300
Ft. Worth, TX 76102-0300

Heath.S.McLane@usace.army.mil

Dear Mr. McLane

Please consider this document as public comment regarding the Environmental Assessment (EA) of the proposed Gaylord Texan Expansion and Recreational Facilities. My comments and requests are below.

- Public Hearing - I would like to request a public hearing based on the following

  The draft EA is not specific regarding mitigation efforts to replace the 30.5 acres (and approx. 32+ bottomland hardwoods) of wooded areas being disturbed. The loss of wildlife habitat, water purification** air cleansing ability in a non-attainment area, and ambient air temperature cooling effect of these trees * should be mitigated at the same levels as should the equivalent diameters, and types of trees.

  In 1999, the USACE land was leased to the City of Grapevine specifically for park and recreational purposes. While the resort pool, amphitheater, tandi complex-arena, and courtesy dock qualify as recreational, the convention center does not. The convention center expansion, proposed to be built on USACE, is a Gaylord owned business facility.

  The draft EA is extremely vague regarding the identification and placement of the resort pool assemblage. While indicating the general area for the pool facility, citizens are not able to discern exactly the type of structures. With the current competitive development of the themed water parks, noise levels, lighting intensity, etc could be much greater than a traditional swimming/lounging pool.

Thanks in advance for your consideration of this public meeting request. I'll look forward to hearing the date you've chosen. Please feel free to call me with any questions or comments.

Respectfully,

Georjean Sherriff
3705 Oakwood Dr.
Grapevine, TX 76051
817 481-8381

* "One acre of forest absorbs six tons of carbon dioxide and puts out four tons of oxygen. This is enough to meet the annual needs of 18 people." *-U.S. Department of Agriculture*

** "The planting of trees means improved water quality, resulting in less runoff and erosion. This allows more recharging of the ground water supply. Wooded areas help prevent the transport of sediment and chemicals into streams." *-USDA Forest Service*

Pls see attached

This page contains no comments

Protestors of Gaylord Development on Corp property.txt

As a citizen of Grapevine, I am protesting the development of Gaylord Corporation onto Corp property.

Kathleen Thompson, 1570 Dublin Circle, Grapevine
Jeremy Johnson, 1570 Dublin Circle, Grapevine
Rob Undersander, 2529 Springhill Dr, Grapevine
John Roll 1537 Country Forest Ct, Grapevine
Kris Savage 2226 Rhyan Rdg Grapevine
Jim Fussell, 3217 Shady Glen Dr., Grapevine, TX
Tiffany Morgan 3700 Bandera Ranch Rd Roanoke TX 76262
Linda Berghuis 629 Winterwood Grapevine Tx. 76051
Laura Vukan 1109 Dogwood Ct Colleyville 76034
Danielle Sikora 1314 Arkansas dr Euless Tx 760039
Sharon Chalen 9 Shasta Dr Trophy Club TX 76262
Christine Kelly 2801 Southwood Grapevine
Marilee McCormick 1800 N Kimball Dr. Arlington 76006
A Helen Stirk 214 Summerset Dr Trophy Club, TX.
Melanie Ouso 800 Stallion Ct. Keller, TX 76248
Justin Kendrick 311 S. Dooley St. Grapevine, Tx

(16)

This page contains no comments

Protestors of Gaylord Development on Corp property.txt

As a citizen of Grapevine, I am protesting the development of Gaylord Corporation onto Corp property.

Kelly Lancaster 1914 Harvest Moon Dr. Grapevine 76051
Dawn Davis 1655 Crakside Dr. Southlake, TX 76092
Amy Johnson 2004 Fry Dr. Keller, TX 76248
Jima Ann 3917 Eaglenest Dr. Roanoke, TX 76262
J Johnson 1311 Paprika Dr. Flower Mound, TX 75028
[illegible] 1301 Paprika Dr. Flower Mound, TX 75028
Eleanor Wolfort 2705 N Quail Run Cir. Southlake, TX 76092 (23)

(THIS PAGE INTENTIONALLY LEFT BLANK)