



**US Army Corps  
of Engineers** ®  
Fort Worth District

# Public Notice

Applicant: Mr. Jack Dawson, CADG FM30, LLC

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Project No.: SWF-2014-00020

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Date: June 5, 2014

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The purpose of this public notice is to inform you of a proposal for work in which you might be interested. It is also to solicit your comments and information to better enable us to make a reasonable decision on factors affecting the public interest. We hope you will participate in this process.

## Regulatory Program

Since its early history, the U.S. Army Corps of Engineers has played an important role in the development of the nation's water resources. Originally, this involved construction of harbor fortifications and coastal defenses. Later duties included the improvement of waterways to provide avenues of commerce. An important part of our mission today is the protection of the nation's waterways through the administration of the U.S. Army Corps of Engineers Regulatory Program.

## Section 10

The U.S. Army Corps of Engineers 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*. The intent of this law is to protect the navigable capacity of waters important to interstate commerce.

## Section 404

The U.S. Army Corps of Engineers is directed by Congress 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 intent of the law is to protect the nation's waters from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical and biological integrity.

## Contact

Name: Mr. Stan Walker

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Phone Number: 817-886-1740

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JOINT PUBLIC NOTICE

U.S. ARMY CORPS OF ENGINEERS, FORT WORTH DISTRICT

AND

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

**SUBJECT:** Application for a Department of the Army Permit under Section 404 of the Clean Water Act (CWA) and for water quality certification under Section 401 of the CWA to discharge dredged and fill material into waters of the United States associated with construction of a single-family residential development in the city of Flower Mound, Denton County, Texas.

**APPLICANT:** Mr. Jack Dawson  
CADG FM30, LLC  
1221 North IH 35, Suite 200  
Carrollton, Texas 75006

**APPLICATION NUMBER:** SWF-2014-00020

**DATE ISSUED:** June 5, 2014

**LOCATION:** The proposed residential development would be located on a 28.995 acre parcel of land containing streams, a pond and wetlands southeast of the intersection of F.M. 3040 and Gerault Road in Flower Mound, Denton County, Texas. The proposed project would be located approximately at N 33.009392 degrees latitude and W -97.042249 degrees longitude within the Lewisville West, Texas 7.5 minute USGS quadrangle map in the in the USGS Hydrologic Unit Denton, Texas 12030104011112 (Exhibit 1).

**OTHER AGENCY AUTHORIZATIONS:** State Water Quality Certification

**PROJECT DESCRIPTION:** The applicant proposes after-the-fact authorization for the discharge of approximately 2,889 cubic yards of dredged and fill material into approximately 1.18 acres of waters of the United States in conjunction with the construction of building pads, including landscaping, road construction and provision of storm water drainage for 14 residential lots out of a total of 51 lots. Total proposed impacts to waters of the U.S. include permanent impacts of 0.48 acre of non-forested wetland, 0.02 acre of intermittent stream or 130 linear-feet, 0.02 acre of ephemeral stream or 288 linear-feet, and 0.66 acre of impounded open water. Approximately 0.21 acre of the pond was recently filled by the previous land owner.

**INTRODUCTION:** The project consists of the construction of three connecting roads with adjoining sidewalks, construction of utilities to support 51 residential lots, and construction of residential lot pads to support residential structures and landscaping. A portion of each of these features would require placement of fill within waters of the U.S. to support the structures and

landscaping. Surface water would be collected through the site via storm sewer. The construction of the roads, sidewalks, utilities and lot building pads is planned to commence in 2014 and construction of residential structures would begin as soon as the roads and utilities are completed (Exhibits 2 - 6).

**EXISTING CONDITIONS:** Based on a review of historical aerial photographs and a topographic map, the northern portion of the site was developed as a farmstead prior to redevelopment with a large single-family residence with guest house and extensive landscaping circa 1995.

The USGS topographic map (1981) shows an "intermittent stream" starting northwest of the site and crossing to the pond in the east-central portion and extending off the site to the southeast. A larger intermittent stream known as Bakers Branch flows across the southern portion of the site. Bakers Branch appears to be impounded in the topographic map flooding much of the steep riverine canyon in the 1981 topographic map, but based on current observations of the stream it no longer appears to be effectively impounded. The site topography varies from approximately 550 feet above mean sea level (MSL) at the north and northwest corner of the site and slopes downward toward Bakers Branch where the elevation is depicted at approximately 500 feet above MSL.

The soil survey data identifies four soil map units at the site that are described as Birome fine sandy loam, 3 to 5 percent slopes; Callisburg soils, 2 to 5 percent slopes, severely eroded; Gasil fine sandy loam, 3 to 8 percent slopes, and Konsil fine sandy loam, 1 to 3 percent slopes. The soil unit mapped in association with Bakers Branch is the Birome-Rayex-Aubrey complex, 2 to 15% slopes. None of the soil series associated with these map units are identified as hydric (wetland-associated) soils in the Hydric Soils of the United States list published by the National Technical Committee for Hydric Soils (2011).

The National Wetland Inventory Map depicts one wetland on the site and another adjacent to the site. The wetland mapped on the site is identified as a palustrine, unconsolidated bottom, permanently flooded, impoundment (PUBHh) wetland. The wetland adjacent to the site is also identified as PUBHh. The on-site wetland does not match up with the current landscape, which is likely partly a result of map error in matching wetlands to the aerial photograph base map. The on-site mapped wetland appears to represent a wetland associated with the former impoundment within Bakers Branch. A wetland was observed south of the site where one is represented on the NWI map, but it appears to be within a depression located off of the site and was not delineated in the field.

A review of the FEMA FIRM identifies a 100-year floodplain area as crossing the southern boundary of the site associated with Bakers Branch. The floodplain is identified as Zone AE which according to FEMA is an area of special flood hazard and where base flood elevations are determined. A dam is noted in the southeast corner of the site within Bakers Branch. No other floodplain is identified at the site.

The site is located on an upland terrace to the north that slopes moderately downward to the south with a steep descent to a middle terrace that represents an ancient floodplain of the now entrenched stream known as Bakers Branch. The upper terrace has rolling hills and an historically excavated drainageway that contains ephemeral stream (designated ES-1), three wetlands, an on-channel impoundment, and an intermittent stream. The steep descent to the middle terrace has some areas of exposed bedrock and three channels eroded into the hillslope. Those channels disappear near the transition to the grassy areas and lower grade slope of the middle terrace. The active floodplain associated with Bakers Branch appears to be limited to point bars and limited bank shelves located within the steeply entrenched channel. Portions of the middle terrace appear to be within the 100-year floodplain according to the FEMA FIRM, but well out of reach of the ordinary high water mark (OHWM) and active (frequent return) floodplain.

### ***Vegetation***

#### Pasture/Grassland Habitat

Much of the property is covered in grasslands that appear to have been used for pasture. The principal species identified in this area include Bermudagrass (*Cynodon dactylon*), Johnsongrass (*Sorghum halepense*), rescuegrass (*Bromus catharticus*), common sunflower (*Helianthus annuus*), western ragweed (*Ambrosia psilostachya*), and King Ranch bluestem (*Bothriochloa ischaemum*).

#### Woods Habitat

There was little difference in plant community composition between the wooded areas associated with streams and upland woods. The principal species identified in wooded areas were blackjack oak (*Quercus marilandica*), post oak (*Quercus stellata*), cedar elm (*Ulmus crassifolia*), American elm (*Ulmus Americana*), sugarberry (*Celtis laevigata*), corral berry (*Symphoricarpos orbiculatus*), red bud (*Cercis Canadensis*), eastern red cedar (*Juniperus virginiana*), grape vines (*Vitis* sp.), and poison ivy (*Toxicodendron radicans*). There are also some green ash (*Fraxinus pennsylvanica*), mulberry (*Morus* sp.), and hickory (*Carya* sp.) in the riparian areas.

#### Emergent Wetlands Habitat

The wetlands that occur in association with the drainageway in the northern portion of the site and in a fringe around the impoundment include vegetation that was dominated by spikerush (*Eleocharis* sp.), joint grass (*Paspalum distichum*), rushes (*Juncus* sp.), great ragweed (*Ambrosia trifida*), and common frog-fruit (*Phyla nodiflora*). Emergent wetland EW-1 in the northwest corner of the Site had a depression with an area dominated by Roosevelt-weed (*Baccharis neglecta*) with a few black willow (*Salix nigra*) trees and shrubs, and a few bald cypress (*Taxodium distichum*) trees at the edge of the wetland.

### ***Streams and Wetlands Delineated at Site***

Three emergent wetlands and associated wetland vegetation were identified within the drainageway that crosses the northern portion of the site. Surface water from northwest of the site flows through the constructed drainage channel where the wetlands are located. Segments of

an ephemeral stream (designated ES-1) enter and leave the wetlands in the drainageway that contains an on-channel pond. The OHWM of the ephemeral stream was recognized by features such as absence of vegetation and debris within the channel caused by intermittent flowing water. The wetlands adjacent to ephemeral stream ES-1 appear to have formed within the constructed drainage channel where obstructions such as heavily vegetated drainage channels, lesser slope grade, and a concrete sidewalk crossing were noted. The distinction between segments of ephemeral stream ES-1 was made at the point where the channel that entered the stream disarticulated into a network of minor channels with obscured OHWMs and in areas that functioned more as wetlands than streams. The stream segments then re-formed in downstream areas with higher slope grade and channels with greater stream function evident.

The approximate area of each wetland and the stream dimensions are documented in **Table A** below. The wetlands were classified as palustrine, emergent, persistent, temporarily flooded (PEM1A) wetlands. The northernmost wetland, EW-1, has a few bald cypress trees at its boundary, but they are not a significant portion of the wetland and do not constitute a forested wetland.

The pond identified as Impoundment 1 supported rooted aquatic plants and was fringed by a narrow band of emergent wetland plants. The intermittent stream IS-1 was delineated downstream from the pond, which is separated by a concrete spillway and flows off the site to a culvert under Fallbrook Drive. Its OHWM was identified by shelving, moss trim line, drift deposits (debris pushed by high flowing water), and other features. Although some wetland vegetation was observed in and adjacent to the pond, the Cowardin wetland classification system would probably classify the wetland as a palustrine, unconsolidated bottom, semi-permanently flooded, impounded (PUBFh) wetland or open water.

Bakers Branch was delineated based on the approximated OHWMs within the entrenched channel which included shelving, bent vegetation, and other features. A wetland is represented within Bakers Branch on the NWI Map, but was not observed in or adjacent to the stream during the field work. It may be that a dam represented on the FEMA FIRM has been breached or failed, which changed the local hydrology.

The OHWM of Bakers Branch was not measured as it is within a steep ravine and outside of the proposed development area. Its boundary is estimated and documented in **Table A** below.

**Table A: Aquatic Feature Inventory and Measurements**

<b>Water Body Type</b>	<b>OHWM Width</b>	<b>OHWM Depth</b>	<b>Linear Footage</b>	<b>Area (Acres)</b>
EW-1	NA	NA	NA	0.32
EW-2	NA	NA	NA	0.12
EW-3	NA	NA	NA	0.03
ES-1	3.20'	0.16'	360'	0.03
ES-2	3'*	0.17'*	50'	0.003*
IS-1	5.9'	0.43'	130'	0.02

IS-2	20*	1.5**	1,459	0.67*
Impoundment 1	NA	NA	NA	0.66
EW-4 (Impoundment fringe)	NA	NA	NA	0.01

OHWL – Ordinary High Water Mark (average in feet)

EW – Emergent Wetland

NA – Not applicable;

\*Noted dimension not measured, but estimated (streams outside project area)

ES – Emergent Stream

IS – Intermittent Stream

The ephemeral stream ES-1, adjacent emergent wetlands, impoundment, and intermittent stream have an apparent surface water connection to downstream waters of the U.S. (WOUS) via drainage to Bakers Branch, which in turn flows to Grapevine Lake. Based on that connection, the on-site streams, on-channel pond, and adjacent wetlands are jurisdictional WOUS. The tributaries in the south portion of the site identified only as waters of the state (WOTS) do not appear to be jurisdictional WOUS based on their limited hydrology and OHWM separation between the eroded channels and Bakers Branch. The channels appear to historically and/or occasionally carry surface water that dissipates over and into a grassy middle terrace above Bakers Branch. Based on current policy and guidance, the USACE has determined that these channels lack a significant nexus to the downstream tributary system and are not WOUS. The USEPA concurred with this determination on May 2, 2014. Additionally, no wetlands were found in that middle terrace.

**ADVERSE IMPACTS TO WATERS OF THE UNITED STATES:** To accommodate lot construction, 1.18 acres of WOUS would be permanently impacted. The proposed site plan has no proposed work within the approximately 1,235 linear-feet of intermittent stream, Bakers Branch, which is located in the southern portion of the site. The proposed site plan would also avoid impacts to 72 linear feet of ephemeral stream. The development plan would directly impact 0.66 acre of open water, 0.48 acre of emergent wetlands, approximately 288 linear-feet (0.02 acre) of ephemeral stream, and approximately 130 linear-feet (0.02 acre) of intermittent stream.

#### ALTERNATIVES:

##### **Alternative A – Applicant’s Preferred Alternative - Piping Storm Water Through Site:**

The initial plans for the property were to pipe storm water through the site in an underground culvert from the northwest corner to the east-central boundary. Storm water is directed onto the site from F.M. 3040 and provides hydrology for the current WOUS. The plans would have adversely impacted an additional 72-linear feet of stream in the northwest corner of the site and 83-linear feet of intermittent stream in the east-central portion of the site for a total of 1.19 acres of impact to WOUS. This alternative is the applicant’s preferred alternative, but it is possibly more environmentally damaging (to WOUS) than the proposed alternative.

**Alternative B – Applicant’s Proposed Alternative Configuration:** The proposed site plan is to create a residential subdivision in the Town of Flower Mound with convenient access to retail and service businesses, convenient access to arterial roads, with available municipal sewer and water, located in the Lewisville Independent School District, and proximate to existing residential development. The selected alternative has no proposed work within the approximately 1,235 linear feet of the course of the intermittent stream, Bakers Branch, which is located within the southern portion of the Site. It also preserves a 72-linear foot segment of ephemeral stream and minimizes impacts to an intermittent stream by leaving an 83-linear foot open channel lined with rock in place of a storm water culvert. The proposed site plan would directly and permanently impact 0.66 acre of open water, 0.48 acre of emergent wetlands, approximately 288 linear feet of ephemeral stream, and approximately 130 linear feet of intermittent stream for a total area impact to 1.18 acres of WOUS.

**Alternative C – Off-Site Alternatives:**

The applicant evaluated the possibility of achieving the project purpose at an off-site location in the same service area. The service area of the project is integral to its purpose and has the following attributes: it is located in the Town of Flower Mound, in the Lewisville School District, convenient access to service and retail businesses, convenient access to arterial roads, access to municipal sewer and water services, adjacent to existing residential developments, not already developed, not in or adjacent to a property zoned industrial, and near (within 1 mile) of retail and service business areas. No off-site properties located within the same service area are suitable for the project; therefore, the off-site alternatives are not practicable according to the applicant.

**Alternative D – No-Build Alternative:** If as an alternative the proposed project was not built, the applicant considered what may become of the property (the no-build option). Given the relatively small size of the site (28.995 acres) steep slopes and floodplain on the south side of the site, and diagonal layout of the drainageway and associated wetlands in the northern portion of the site, there is little developable room left at the site if the drainageway is completely avoided. Without a Section 404 permit, the applicant has no plans for the property, and in their opinion, other site development would require the same amount of impact to WOUS. The no-build option would not fulfil the purpose of the project and is not practicable according to the applicant.

**MITIGATION:** The applicant is proposing off-site mitigation through the use of two mitigation banks (Trinity River Mitigation Bank and Mill Branch Mitigation Bank), for the loss of 1.18 acre of waters of the United States.

**PUBLIC INTEREST REVIEW FACTORS:** This application will be reviewed in accordance with 33 CFR 320-332, the Regulatory Program of the U. S. Army Corps of Engineers (USACE), and other pertinent laws, regulations, and executive orders. Our evaluation will also follow the guidelines published by the U. S. Environmental Protection Agency pursuant to Section 404(b)(1) of the CWA. The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impact, of the proposed activity on the public interest. That decision will reflect the national concerns for both protection and utilization of important

resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including its cumulative effects. Among the factors addressed are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

The USACE is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the USACE in determining whether to issue, issue with modifications, or conditions, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

#### STATE WATER QUALITY CERTIFICATION:

This project is being reviewed after-the-fact, and as such would not fulfill Tier I criteria for the project. Therefore, Texas Commission on Environmental Quality (TCEQ) certification is required. Concurrent with USACE processing of this Department of the Army application, the TCEQ is reviewing this application under Section 401 of the Clean Water Act, and Title 30, Texas Administrative Code Section 279.1-13 to determine if the work would comply with State water quality standards. By virtue of an agreement between the USACE and the TCEQ, this public notice is also issued for the purpose of advising all known interested persons that there is pending before the TCEQ a decision on water quality certification under such act. **Any comments concerning this application may be submitted to the Texas Commission on Environmental Quality, 401 Coordinator, MSC-150, P.O. Box 13087, Austin, Texas 78711-3087.** The public comment period extends 30 days from the date of publication of this notice. A copy of the public notice with a description of the work is made available for review in the TCEQ's Austin Office. The TCEQ may conduct a public meeting to consider all comments concerning water quality if requested in writing. A request for a public meeting must contain the following information: the name, mailing address, application number, or other recognizable reference to the application; a brief description of the interest of the requestor, or of persons represented by the requestor; and a brief description of how the application, if granted, would adversely affect such interest.

**ENDANGERED AND THREATENED SPECIES:** The USACE has reviewed the U.S. Fish and Wildlife Service's latest published version of endangered and threatened species to determine if any may occur in the project area. The proposed project would be located in Denton county where the whooping crane (*Grus americana*), least tern (*Sterna antillarum*), piping plover

(*Charadrius melodus*) are known to occur or may occur as migrants. The whooping crane and least tern are endangered species and the piping plover is a threatened species. Our initial review indicates that the proposed work would have no effect on federally-listed endangered or threatened species.

**NATIONAL REGISTER OF HISTORIC PLACES:** The USACE has reviewed the latest complete published version of the National Register of Historic Places and found no listed properties to be in the project area. However, presently unknown scientific, archaeological, cultural or architectural data may be lost or destroyed by the proposed work under the requested permit.

**FLOODPLAIN MANAGEMENT:** The USACE is sending a copy of this public notice to the local floodplain administrator. In accordance with 44 CFR part 60 (Flood Plain Management Regulations Criteria for Land Management and Use), the floodplain administrators of participating communities are required to review all proposed development to determine if a floodplain development permit is required and maintain records of such review.

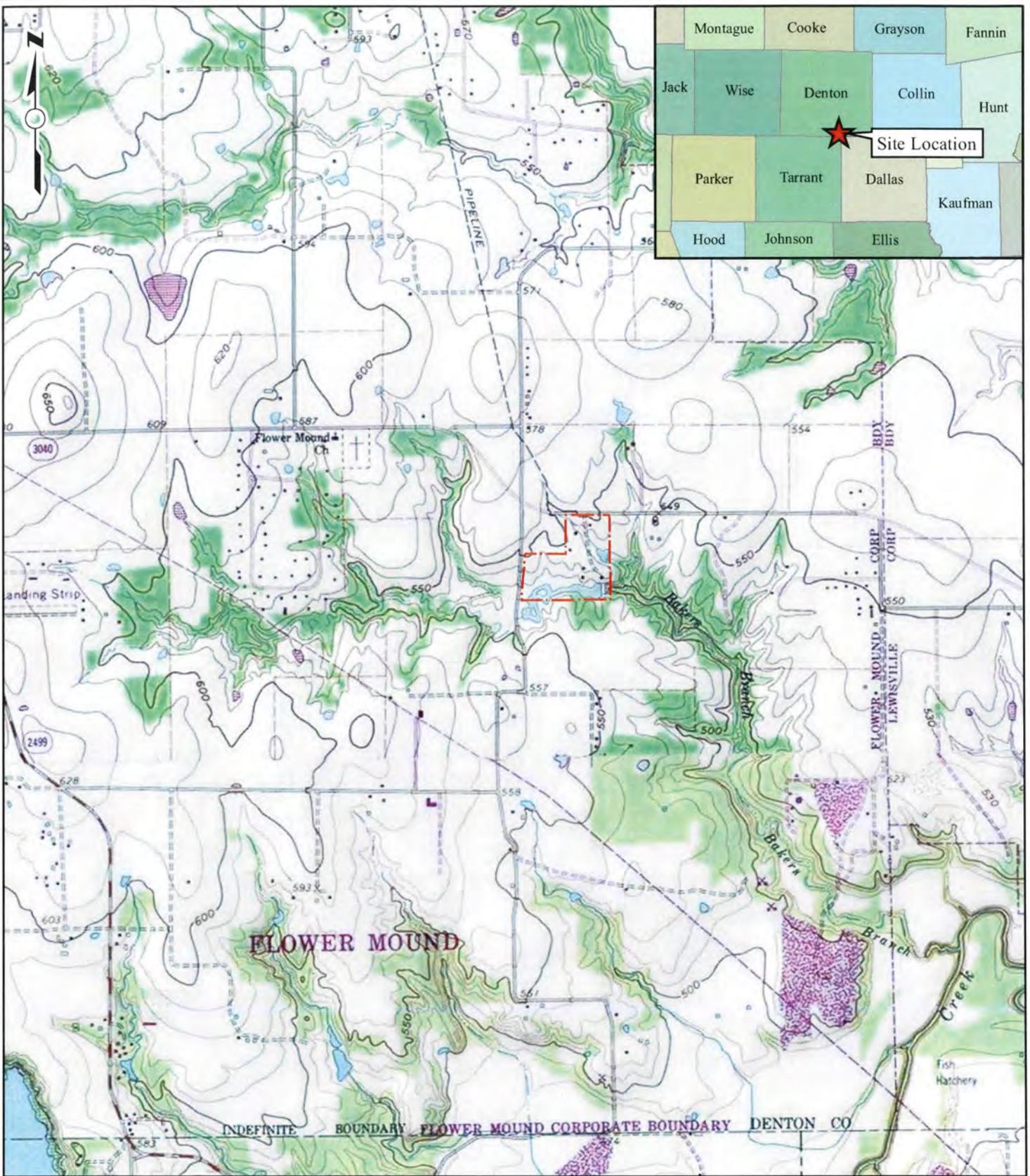
**SOLICITATION OF COMMENTS:** The public notice is being distributed to all known interested persons in order to assist in developing fact upon which a decision by the USACE may be based. For accuracy and completeness of the record, all data in support of or in opposition to the proposed work should be submitted in writing setting forth sufficient detail to furnish a clear understanding of the reasons for support or opposition.

**PUBLIC HEARING:** Prior to the close of the comment period any person may make a written request for a public hearing setting forth the particular reasons for the request. The District Engineer will determine whether the issues raised are substantial and should be considered in his permit decision. If a public hearing is warranted, all known interested persons will be notified of the time, date, and location.

**CLOSE OF COMMENT PERIOD:** All comments pertaining to this Public Notice must reach this office on or before July 7, 2014, which is the close of the comment period. Extensions of the comment period may be granted for valid reasons provided a written request is received by the limiting date. If no comments are received by that date, it will be considered that there are no objections. Comments and requests for additional information should be submitted to ; Regulatory Division, CESWF-DE-R; U. S. Army Corps of Engineers; Post Office Box 17300; Fort Worth, Texas 76102-0300. Telephone inquiries should be directed to (817) 886-1731. Please note that names and addresses of those who submit comments in response to this public notice may be made publicly available.

DISTRICT ENGINEER  
FORT WORTH DISTRICT  
CORPS OF ENGINEERS

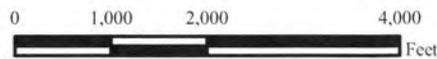




**Legend**

 Approximate Site Boundary

Source: USGS Topographic Map,  
Lewisville West Quadrangle (1981)



APPROXIMATE SCALE  
1"=2,000' (1:24,000)

**Exhibit 1 of 6  
Vicinity Map**

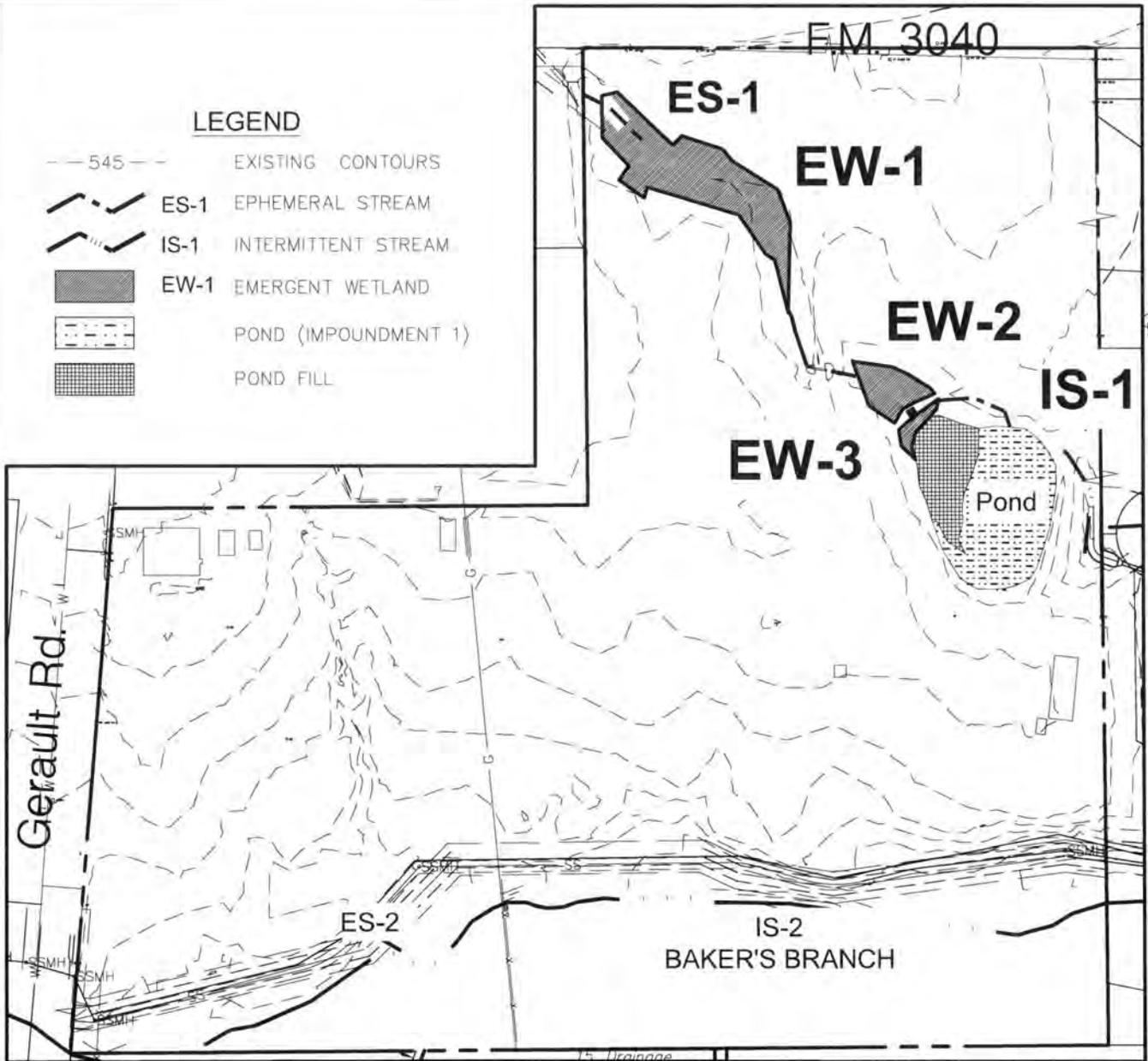
SWF-2014-00020, Edgewood  
Flower Mound, Texas





**LEGEND**

- 545 --- EXISTING CONTOURS
- ES-1 EPHEMERAL STREAM
- IS-1 INTERMITTENT STREAM
- EW-1 EMERGENT WETLAND
- POND (IMPOUNDMENT 1)
- POND FILL



**EXHIBIT 2 OF 6  
WETLAND BOUNDARY MAP**

SWF-2014-00020, EDGEWOOD  
TOWN OF FLOWER MOUND  
DENTON COUNTY, TEXAS



SITE PLANNING CIVIL ENGINEERING PLATTING  
**CONSULTANTS, LLC**  
LAND SURVEYING LANDSCAPE ARCHITECTURE

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TBPE Firm  
No. 1798  
TBPLS Firm  
No. 10047700

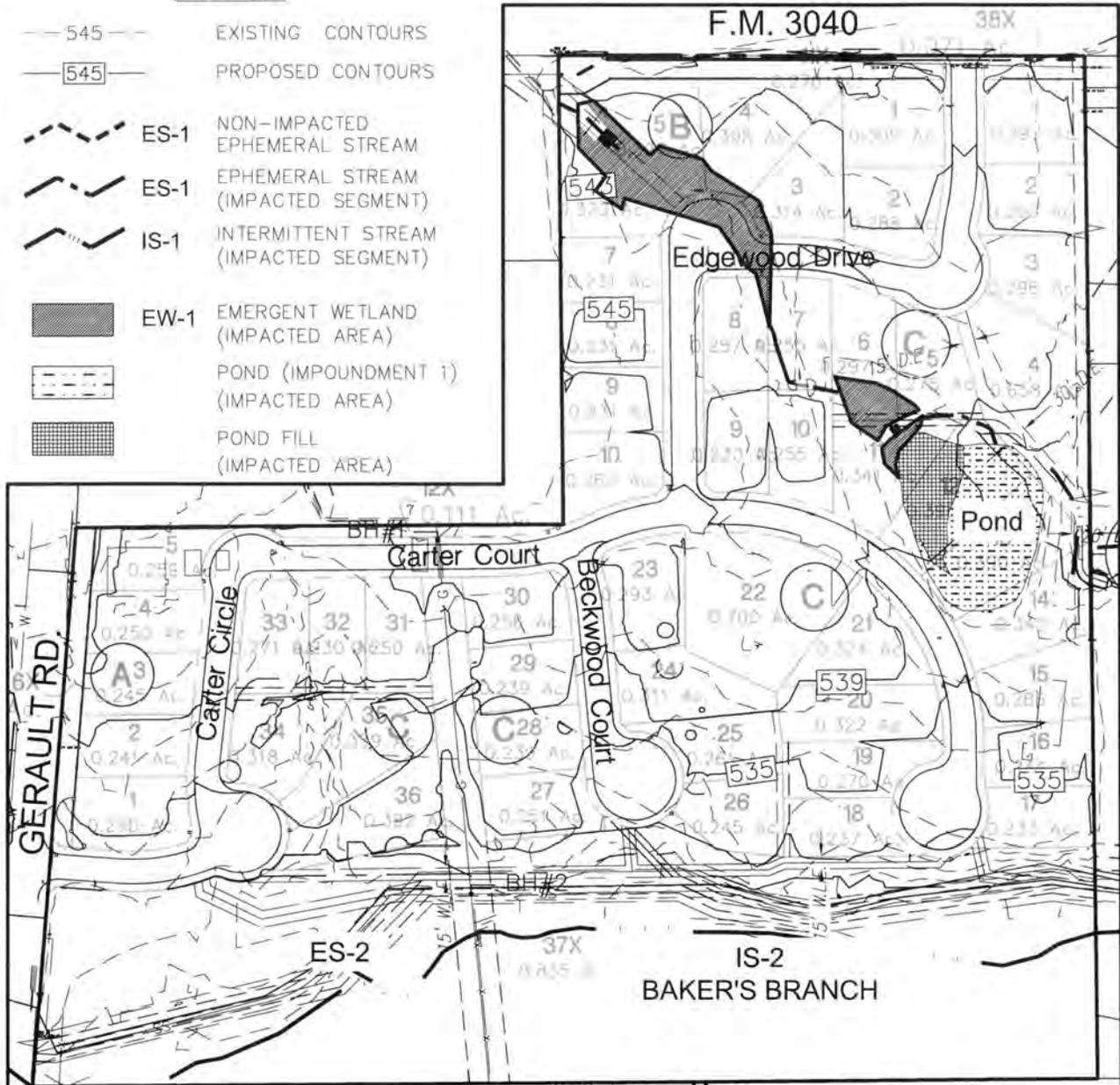
DRAWN BY: JCM DATE: 03/27/2014 SCALE: 1"=200' JOB, NO. **12182**

Rev: 05/27/2014



**LEGEND**

- 545 — EXISTING CONTOURS
- 545 — PROPOSED CONTOURS
- ES-1 NON-IMPACTED EPHEMERAL STREAM
- - - ES-1 EPHEMERAL STREAM (IMPACTED SEGMENT)
- · - IS-1 INTERMITTENT STREAM (IMPACTED SEGMENT)
- EW-1 EMERGENT WETLAND (IMPACTED AREA)
- ▨ POND (IMPOUNDMENT 1) (IMPACTED AREA)
- ▩ POND FILL (IMPACTED AREA)



**EXHIBIT 3 OF 6  
OVERALL SITE PLAN**  
SWF-2014-00020, EDGEWOOD  
TOWN OF FLOWER MOUND  
DENTON COUNTY, TEXAS



SITE PLANNING CIVIL ENGINEERING PLATTING  
**CONSULTANTS, LLC**  
LAND SURVEYING LANDSCAPE ARCHITECTURE

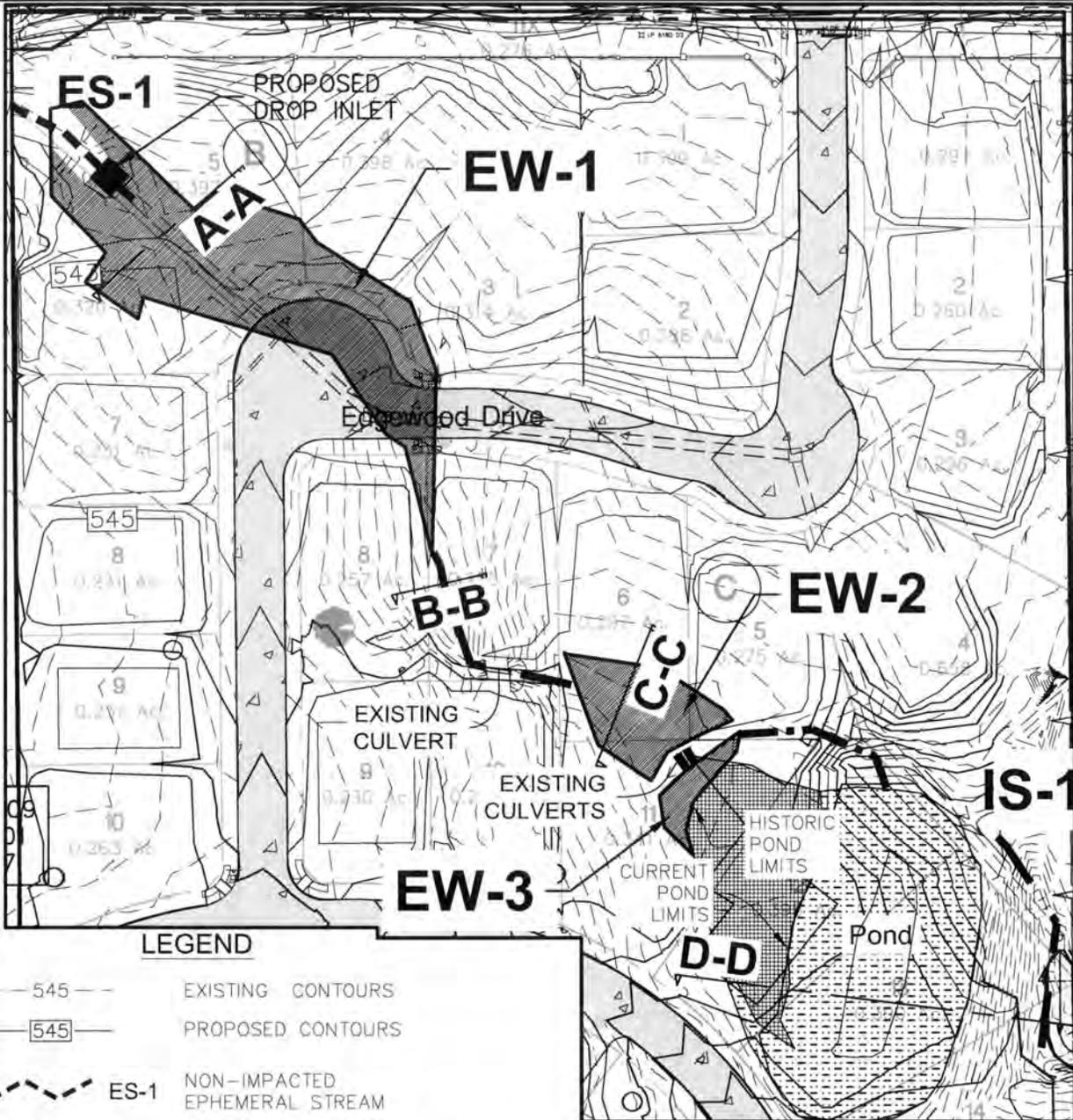
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Rev. 105/27/2014





**LEGEND**

- 545 — EXISTING CONTOURS
- 545 — PROPOSED CONTOURS
- ES-1 NON-IMPACTED EPHEMERAL STREAM
- - - ES-1 EPHEMERAL STREAM (IMPACTED SEGMENT)
- · - IS-1 INTERMITTENT STREAM (IMPACTED SEGMENT)
- EW-1 EMERGENT WETLAND (IMPACTED AREA)
- ▨ POND (IMPOUNDMENT 1) (IMPACTED AREA)
- ▩ POND FILL (IMPACTED AREA)
- A-A — CROSS SECTION LOCATIONS

**EXHIBIT 4 OF 6**  
**IMPACT DETAIL**  
 SWF-2014-00020, EDGEWOOD  
 TOWN OF FLOWER MOUND  
 DENTON COUNTY, TEXAS



SITE PLANNING CIVIL ENGINEERING PLATTING  
**CONSULTANTS, LLC**  
 LAND SURVEYING LANDSCAPE ARCHITECTURE

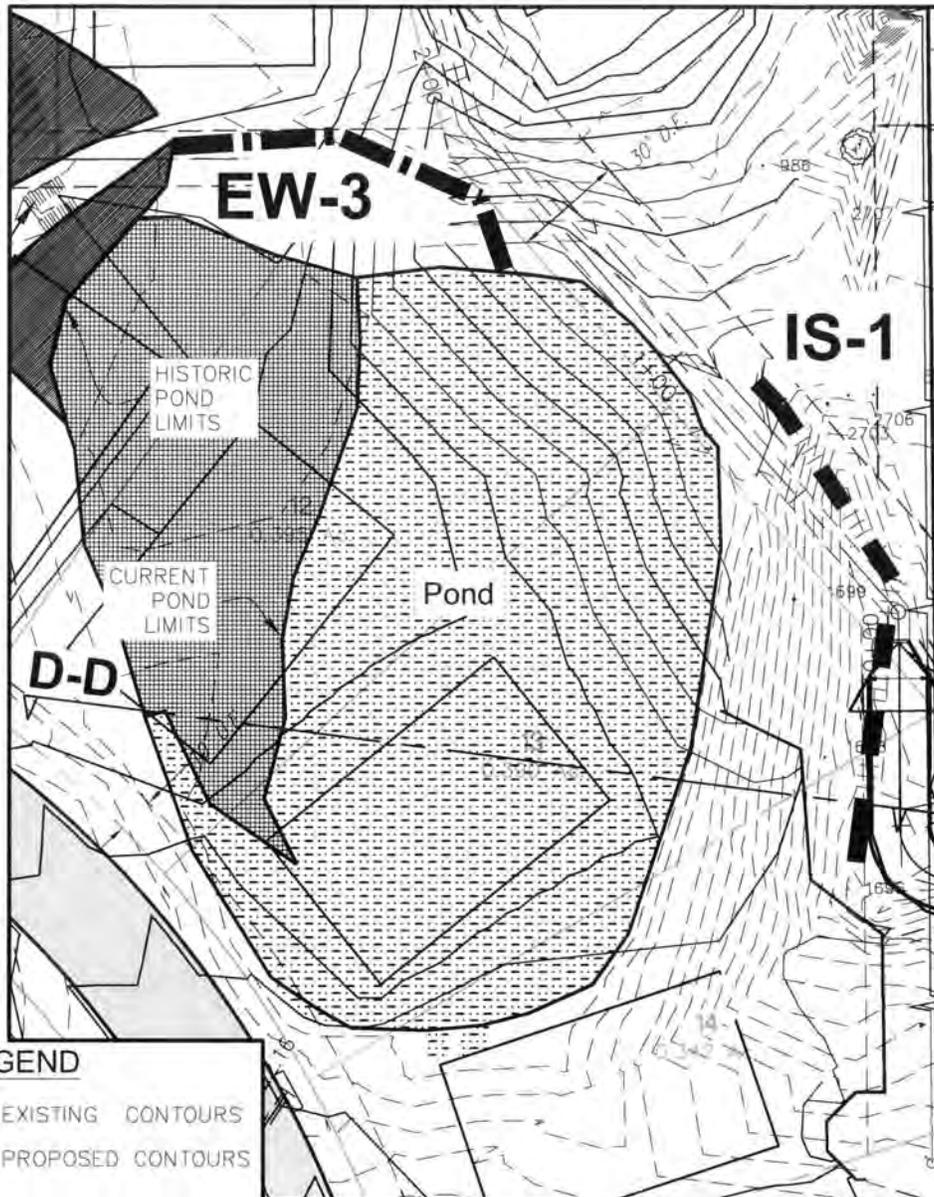
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DRAWN BY: JCM DATE: 03/27/2014 SCALE: 1"=100' JOB, NO. **12182**

Rev. 105/27/2014





**LEGEND**

- 545 --- EXISTING CONTOURS
- 545 — PROPOSED CONTOURS
- ES-1 --- NON-IMPACTED EPHEMERAL STREAM
- ES-1 --- EPHEMERAL STREAM (IMPACTED SEGMENT)
- IS-1 --- INTERMITTENT STREAM (IMPACTED SEGMENT)
- EW-1 EMERGENT WETLAND (IMPACTED AREA)
- POND (IMPOUNDMENT 1) (IMPACTED AREA)
- POND FILL (IMPACTED AREA)
- A-A' CROSS SECTION LOCATIONS

**EXHIBIT 5 OF 6  
IMPACT DETAIL**  
SWF-2014-00020, EDGEWOOD  
TOWN OF FLOWER MOUND  
DENTON COUNTY, TEXAS



SITE PLANNING CIVIL ENGINEERING PLATTING  
**CONSULTANTS, LLC**  
LAND SURVEYING LANDSCAPE ARCHITECTURE

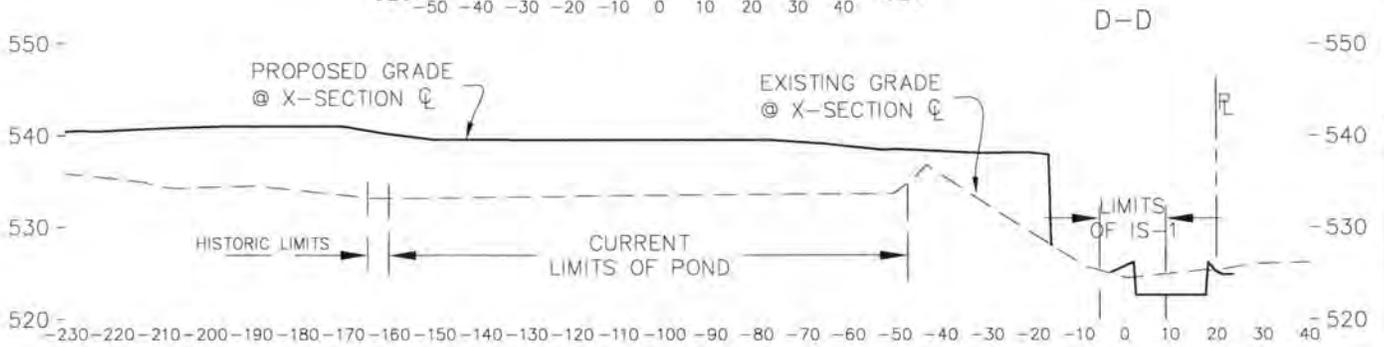
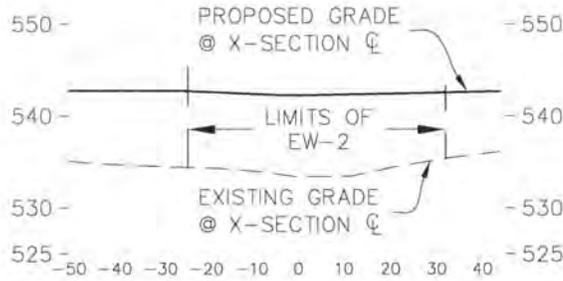
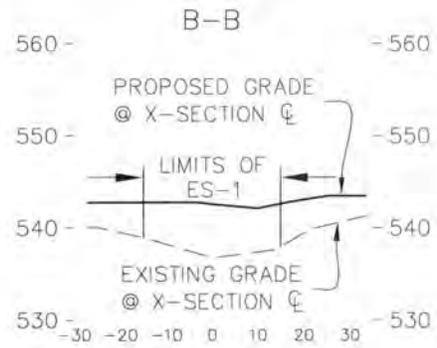
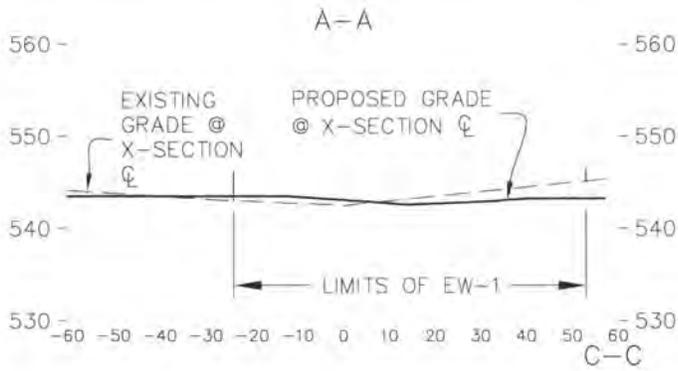
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610 Byron Nelson Blvd., Suite 114 • Roanoke, TX 76262 • P: 882.831.9712 • F: 817.890.4043 No. 10047700

TBPE Firm  
No. 1798  
TBPLS Firm

DRAWN BY: JCM DATE: 03/27/2014 SCALE: 1"=50' JOB NO. **12182**

Rev. 05/27/2014





## EXHIBIT 6 OF 6 CROSS SECTIONS

SWF-2014-00020, EDGEWOOD  
TOWN OF FLOWER MOUND  
DENTON COUNTY, TEXAS



SITE PLANNING CIVIL ENGINEERING PLATTING  
**CONSULTANTS, LLC**  
LAND SURVEYING LANDSCAPE ARCHITECTURE

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No. 1798

TBPLS Firm  
No. 10047700

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