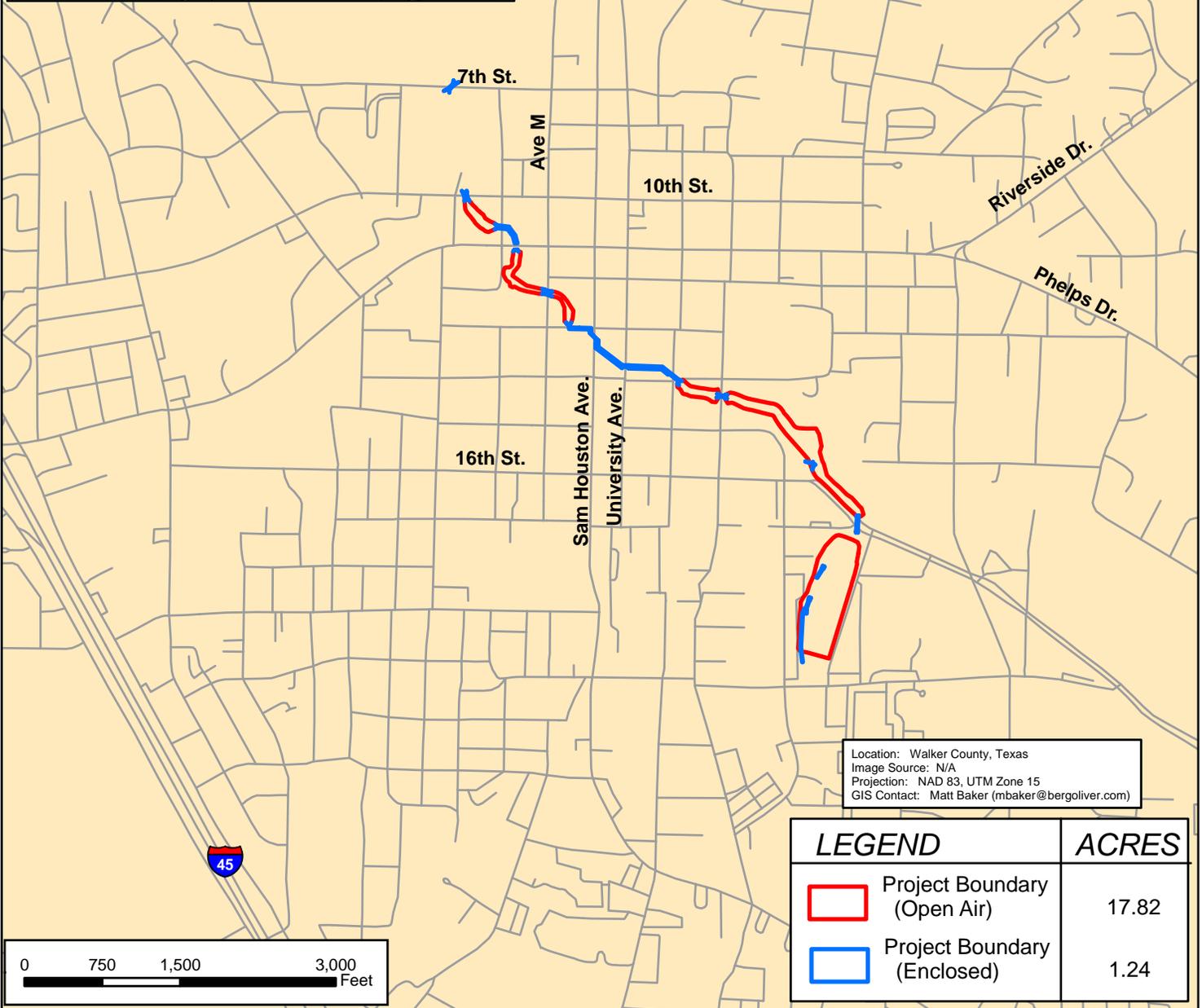




APPENDIX A
LOCATION MAP and SITE PLAN



Location: Walker County, Texas
 Image Source: N/A
 Projection: NAD 83, UTM Zone 15
 GIS Contact: Matt Baker (mbaker@bergoliver.com)

LEGEND		ACRES
	Project Boundary (Open Air)	17.82
	Project Boundary (Enclosed)	1.24

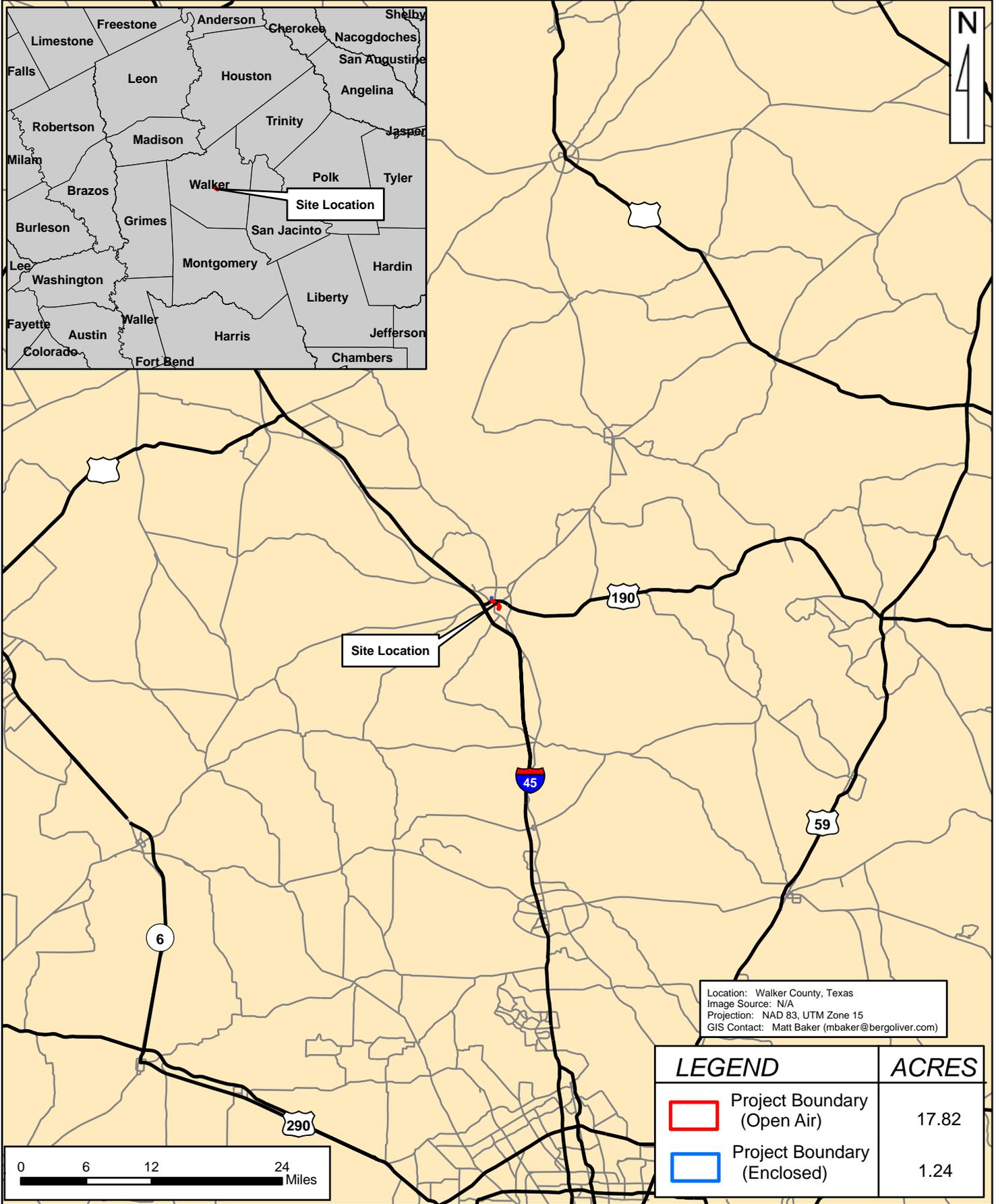
SITE LOCATION MAP

Project #: 8371
 For: Klotz Associates, Inc.
 Location: 1.5-mile Town Creek Drainage Improvement Project
 Walker County, Texas

REVISIONS
Dec. 12, 2011 by MDB
July 31, 2012 by MER

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 ENVIRONMENTAL SCIENCE, ENGINEERING
 & LAND USE CONSULTANTS
 14701 ST. MARY'S LANE, SUITE 400
 HOUSTON, TEXAS 77079 PHONE (281)589-0898 <http://www.bergoliver.com>





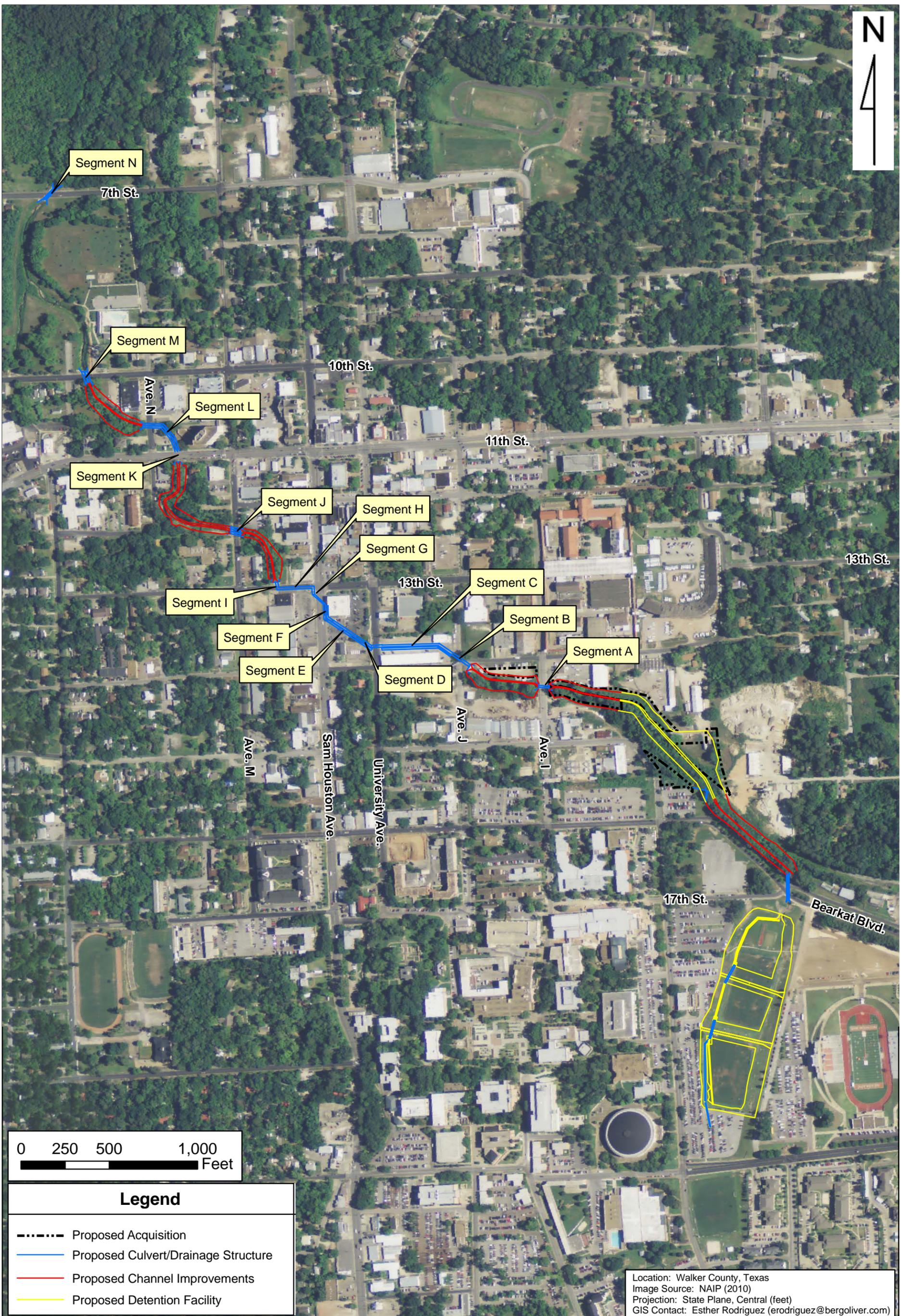
SITE VICINITY MAP

Project #: 8371
 For: Klotz Associates, Inc.
 Location: 1.5-mile Town Creek Drainage Improvement Project
 Walker County, Texas

REVISIONS
Dec. 12, 2011 by MDB
July 31, 2012 by MER

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Legend	
	Proposed Acquisition
	Proposed Culvert/Drainage Structure
	Proposed Channel Improvements
	Proposed Detention Facility

Location: Walker County, Texas
 Image Source: NAIP (2010)
 Projection: State Plane, Central (feet)
 GIS Contact: Esther Rodriguez (erodriguez@bergoliver.com)

PROJECT LAYOUT MAP

Project #: 8371
 For: Klotz Associates, Inc.
 Location: 1.5-mile Town Creek Drainage Improvement Project
 Walker County, Texas

REVISIONS
Aug. 1, 2012 by MER

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APPENDIX B
SITE PHOTOGRAPHS



Typical view of Town Branch near northern terminus (7th Street).



Typical view of wooded section of Town Branch with stone embankment (10th Street to Avenue N).



View adjacent to Huntsville Town Hall, with wood embankments and concrete-lined section.



Typical view of box culvert road crossing, showing structural damage (at 13th Street entrance to downtown section).



Typical view of Town Branch adjacent to TDCJ Walls Unit (14th Street to Avenue I).



Typical view of debris lining Town Branch bottom adjacent to Walls Unit and SHSU (14th Street to 17th Street).



View of outfalls and erosion near southern project terminus (Avenue H to Bearkat Boulevard).



Typical view of Town Branch along southern project terminus (Sycamore Avenue).



Location of former Miller's Texaco/Wilburn Dickerson Chevron LPST site at 1504 11th Street.
View is facing south from shopping center adjoining to north.



Former Citgo PST facility location at NE corner of 14th St and Sam Houston Ave. View facing northeast.



Location of former Diamond Shamrock LPST facility, NW corner of 14th St and Sam Houston Ave. View facing NW. Shopping center adjoining to north is the one where the creek is buried, but that location is farther north in the center (just south of 13th St).



Location of former Charlie's Used Cars LPST site, SW corner of 14th St and Sam Houston Ave.



Typical debris in southern portion of project area. Note crushed drainage pipe.

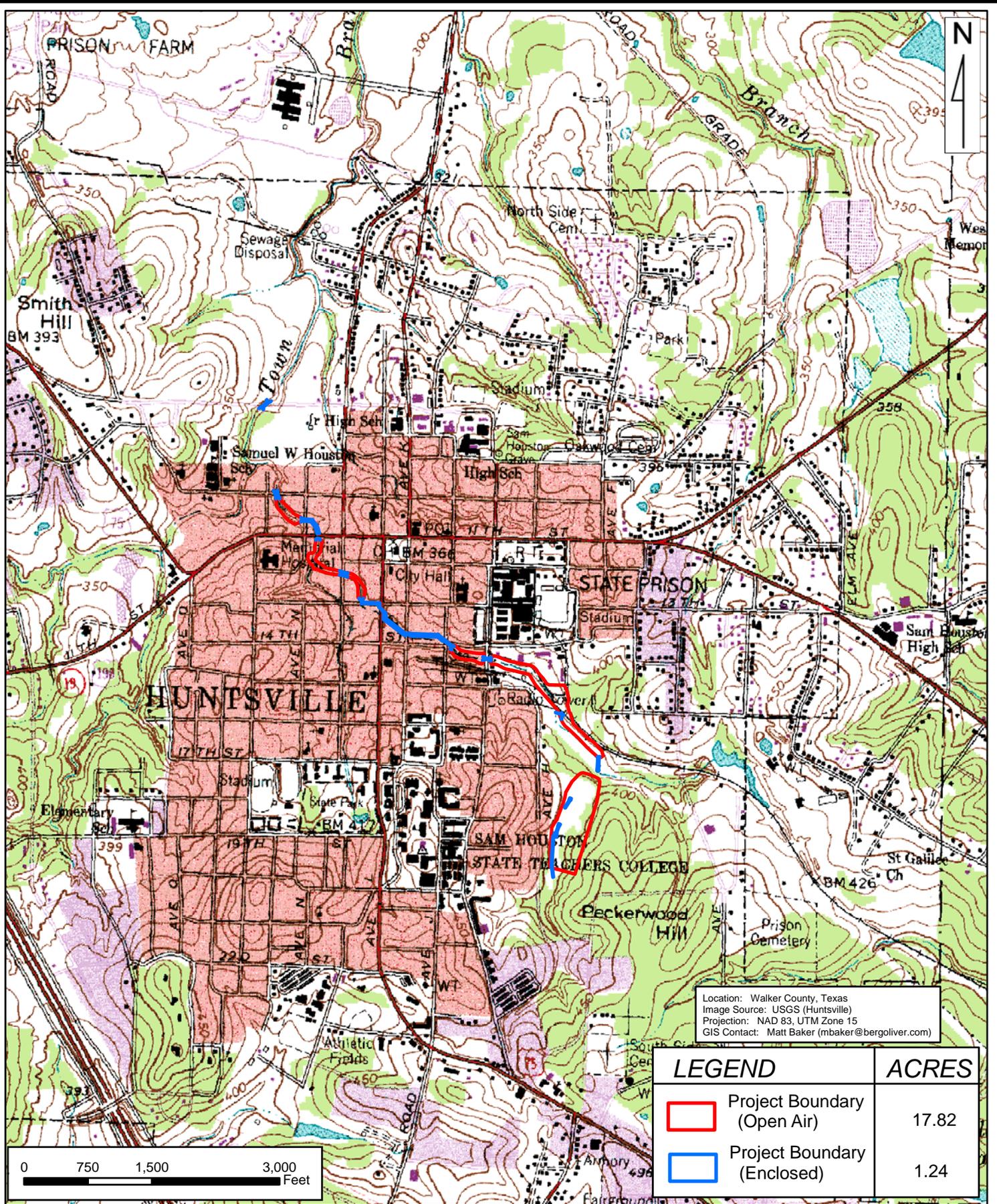


Remnant RR tracks in southern portion of project area.



APPENDIX C

TOPOGRAPHIC, SOIL, FLOODPLAIN and NWI MAPS



Location: Walker County, Texas
 Image Source: USGS (Huntsville)
 Projection: NAD 83, UTM Zone 15
 GIS Contact: Matt Baker (mbaker@bergoliver.com)

LEGEND		ACRES
	Project Boundary (Open Air)	17.82
	Project Boundary (Enclosed)	1.24

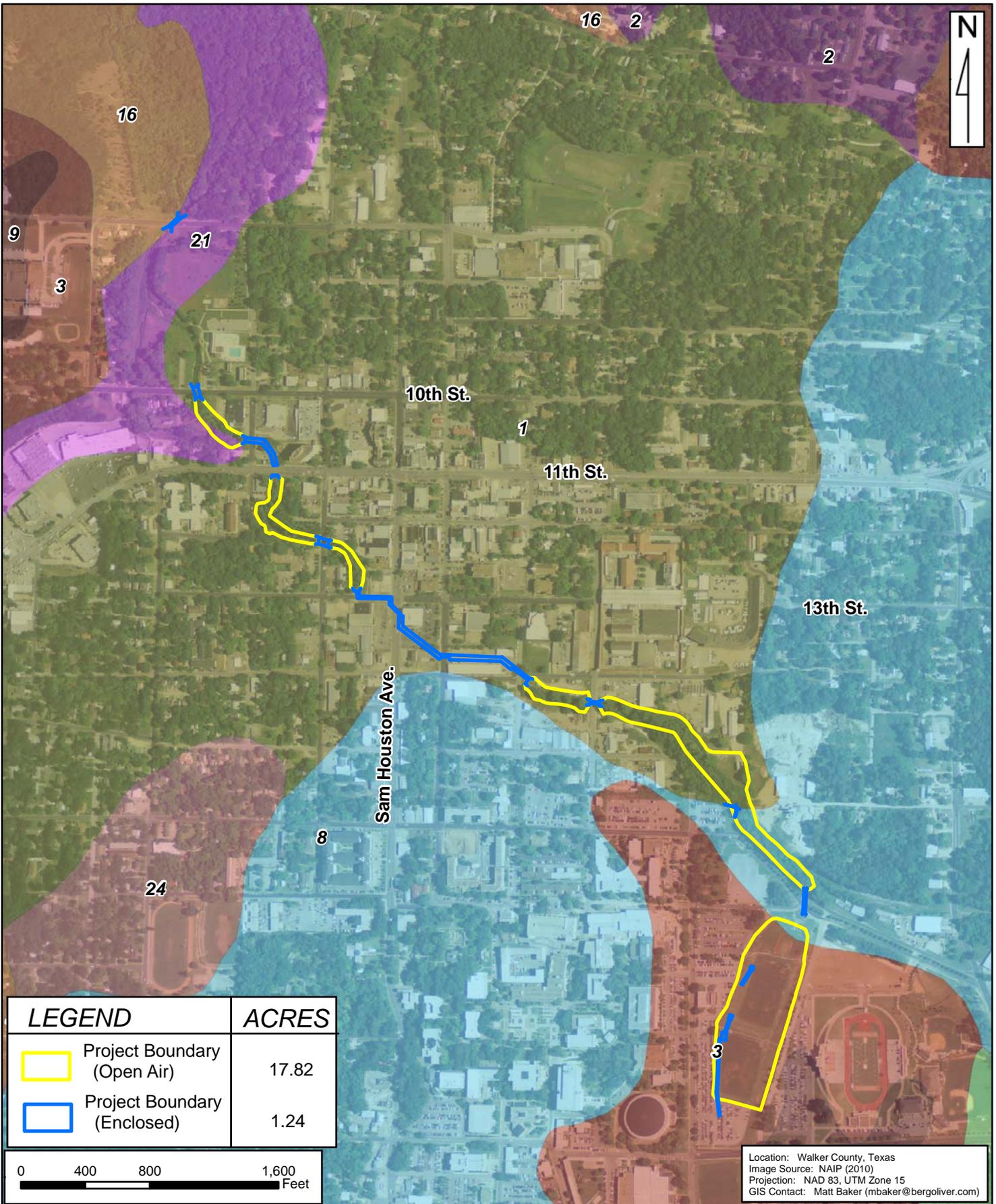
USGS TOPOGRAPHIC MAP - HUNTSVILLE QUAD

Project #: 8371
 For: Klotz Associates, Inc.
 Location: 1.5-mile Town Creek Drainage Improvement Project
 Walker County, Texas

REVISIONS
Dec. 12, 2011 by MDB
July 31, 2012 by MER

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LEGEND	ACRES
Project Boundary (Open Air)	17.82
Project Boundary (Enclosed)	1.24



Location: Walker County, Texas
 Image Source: NAIP (2010)
 Projection: NAD 83, UTM Zone 15
 GIS Contact: Matt Baker (mbaker@bergoliver.com)

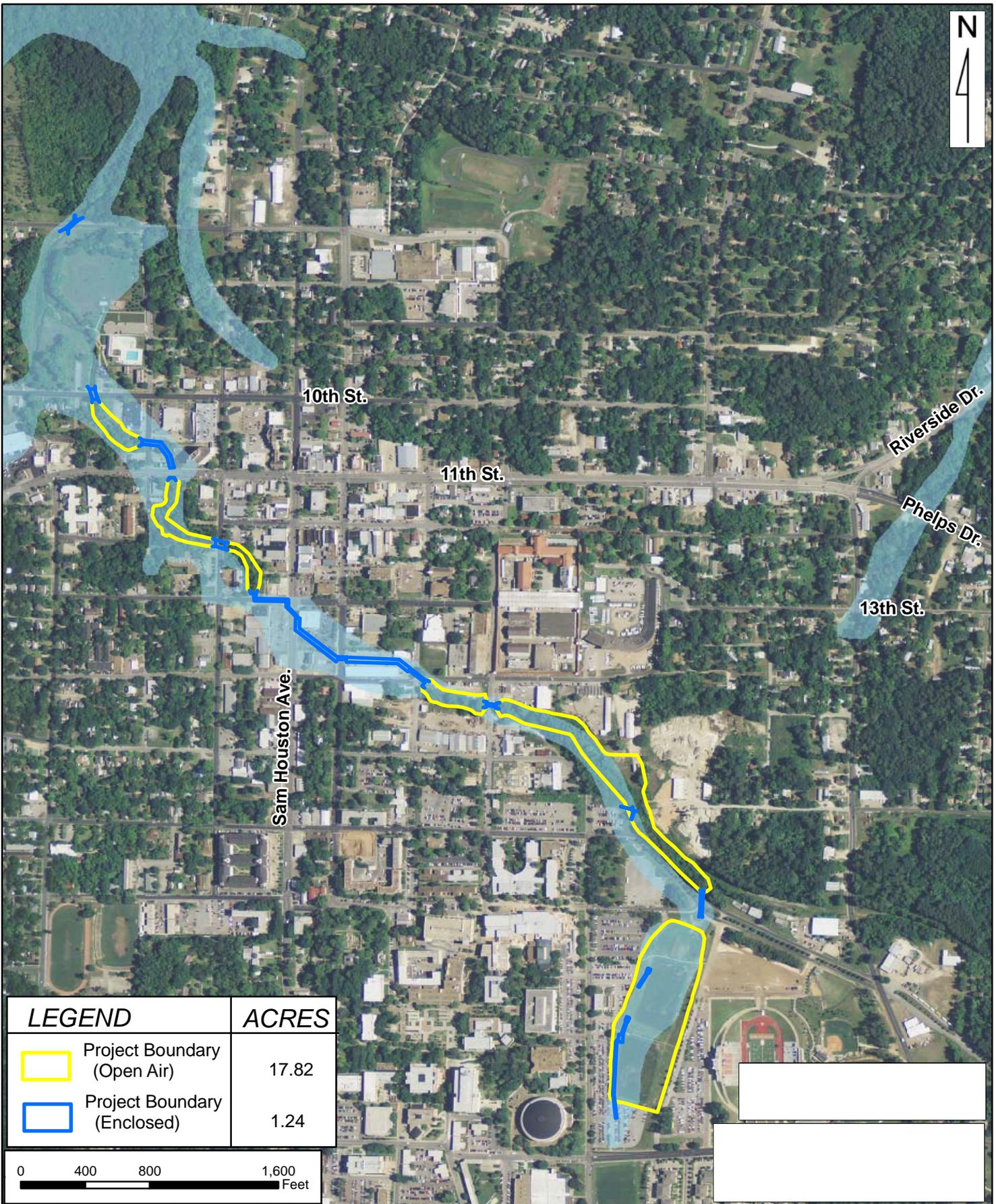
NRCS COUNTY SOILS ON 2010 NAIP AERIAL

Project #: 8371
 For: Klotz Associates, Inc.
 Location: 1.5-mile Town Creek Drainage Improvement Project
 Walker County, Texas

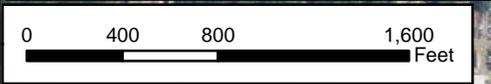
REVISIONS
Dec. 12, 2011 by MDB
July 31, 2012 by MER

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 & LAND USE CONSULTANTS
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 HOUSTON, TEXAS 77079 PHONE (281)589-0898 <http://www.bergoliver.com>





LEGEND	ACRES
Project Boundary (Open Air)	17.82
Project Boundary (Enclosed)	1.24



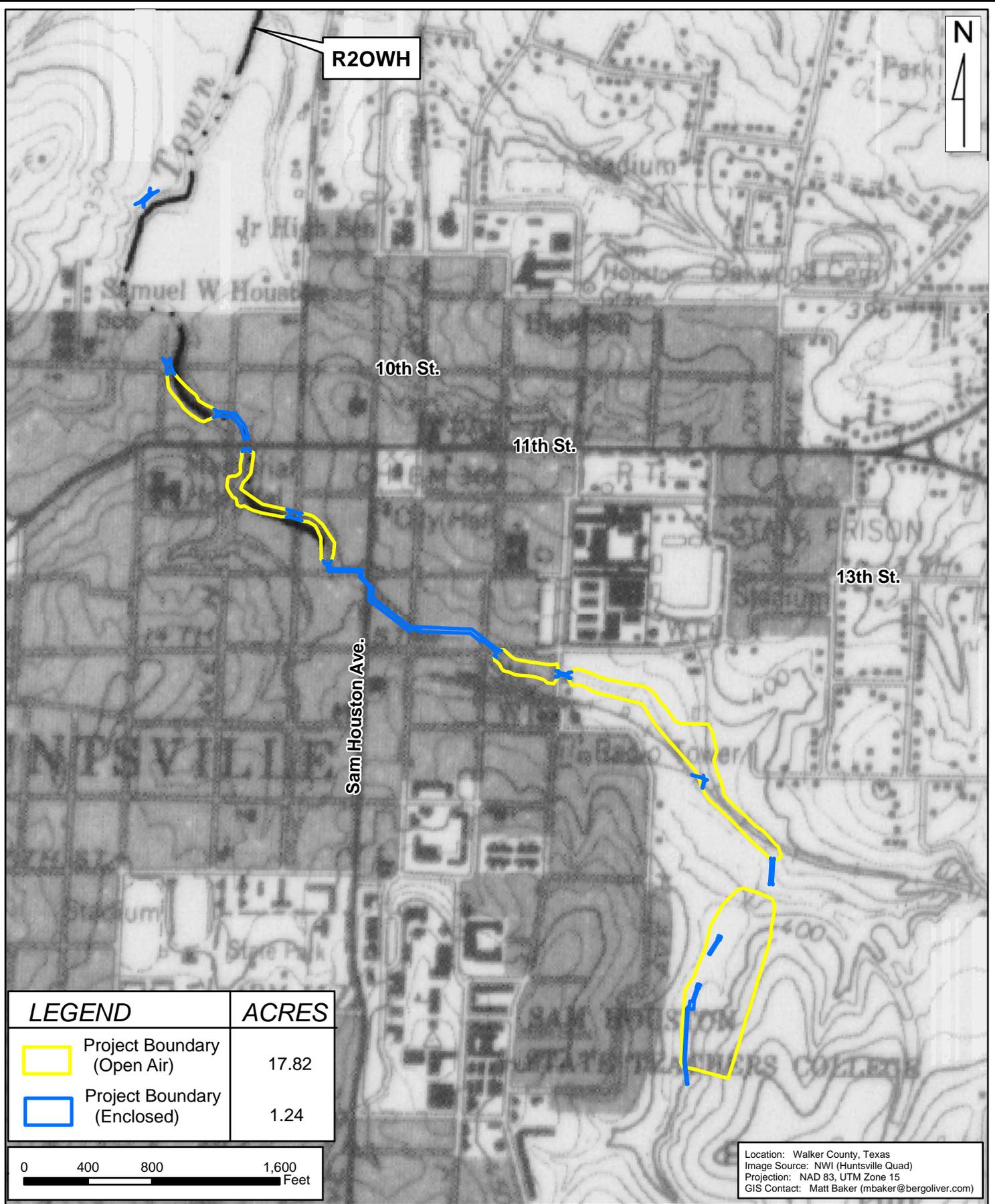
FEMA 100-YEAR FLOODPLAIN ON 2010 NAIP AERIAL

Project #: 8371
 For: Klotz Associates, Inc.
 Location: 1.5-mile Town Creek Drainage Improvement Project
 Walker County, Texas

REVISIONS
Dec. 12, 2011 by MDB
July 31, 2012 by MER

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 & LAND USE CONSULTANTS
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R20WH

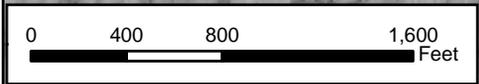
10th St.

11th St.

13th St.

Sam Houston Ave.

LEGEND	ACRES
Project Boundary (Open Air)	17.82
Project Boundary (Enclosed)	1.24



Location: Walker County, Texas
 Image Source: NWI (Huntsville Quad)
 Projection: NAD 83, UTM Zone 15
 GIS Contact: Matt Baker (mbaker@bergoliver.com)

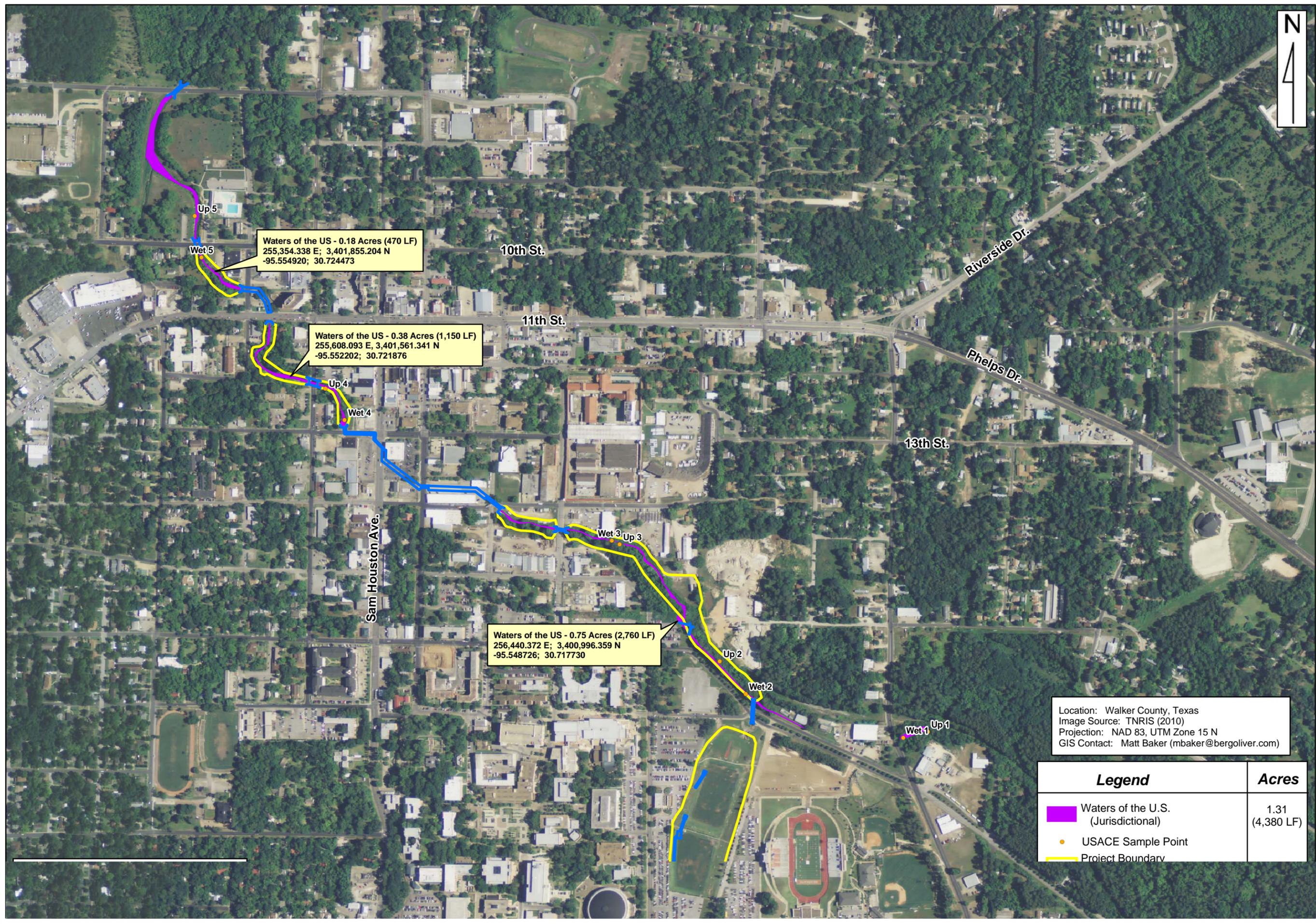
NWI MAP

Project #: 8371
 For: Klotz Associates, Inc.
 Location: 1.5-mile Town Creek Drainage Improvement Project
 Walker County, Texas

REVISIONS
Dec. 12, 2011 by MDE
July 31, 2012 by MER

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 & LAND USE CONSULTANTS
 14701 ST. MARY'S LANE, SUITE 400
 HOUSTON, TEXAS 77079 PHONE (281)589-0898 <http://www.bergoliver.com>





Waters of the US - 0.18 Acres (470 LF)
 255,354.338 E; 3,401,855.204 N
 -95.554920; 30.724473

Waters of the US - 0.38 Acres (1,150 LF)
 255,608.093 E; 3,401,561.341 N
 -95.552202; 30.721876

Waters of the US - 0.75 Acres (2,760 LF)
 256,440.372 E; 3,400,996.359 N
 -95.548726; 30.717730

Location: Walker County, Texas
 Image Source: TNRIS (2010)
 Projection: NAD 83, UTM Zone 15 N
 GIS Contact: Matt Baker (mbaker@bergoliver.com)

Legend	Acres
Waters of the U.S. (Jurisdictional)	1.31 (4,380 LF)
USACE Sample Point	
Project Boundary	

**WETLAND DETERMINATION AND CLASSIFICATION
 SITE LOCATION MAP**



BERG-OLIVER ASSOCIATES, INC.
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 HOUSTON, TEXAS 77079 PHONE (281)569-0898 <http://www.bergoliver.com>

REVISIONS
Jan. 20, 2012 by MDB
Aug. 2, 2012 by MER

Project #: 8371
 For: Klotz Associates, Inc.
 Location: 1.5 mile Town Creek Drainage Improvement Project
 Walker County, Texas

APPENDIX D

**8-STEP NARRATIVE FOR FLOODPLAINS AND WETLANDS
(EXECUTIVE ORDERS 11988 / 11990 AND 44 CFR, PART 9)**

TOWN CREEK DRAINAGE IMPROVEMENT PROJECT
Executive Order 11988 – Floodplain Management Eight-Step Decision Making Process

Executive Order 11988 (Floodplain Management) requires federal agencies “to avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of the floodplain and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.” FEMA’s implementing regulations are at 24 CFR Part 9, which includes an eight step decision making process for compliance with this part. This eight step process is applied to the proposed Town Creek Drainage Improvement. Most of the existing Project area lies within the 100-year floodplain of Town Creek. The steps in the decision making process are as follows:

Step 1 Determine if the proposed action is located in the Base Floodplain.

The proposed project involves slope and cross-section stabilization, removal and/or replacement of deteriorating and insufficient existing underground drainage structures, installation of velocity control structures to mitigate erosive shear forces, and creation/improvement of adjacent detention ponds along approximately 1.5 miles of Town Creek between 7th Street and Bearkat Boulevard in downtown Huntsville. The majority of the proposed Town Creek Drainage Improvement facilities, including the underground drainage structures, velocity control structures, and the existing detention facility, will be located inside of the 100- and 500-year floodplains.

Most of the Town Creek Drainage Improvement project is within the 100-year floodplain (“Base floodplain”) of Town Creek (according to Flood Insurance Rate Map # 48471C0360D (published August 16, 2011)). The floodplain in relation to the community and the Town Creek Drainage Improvements are depicted in Appendix C of the Environmental Report. The Town Creek Drainage Improvements will place underground drainage structures and velocity control structures such as headwalls and wing walls at roadway crossings, and a headwall near 11th Street.

Step 2 Early public notice (Preliminary Notice)

A public notice concerning the Town Creek Drainage Improvement will be published in the *Huntsville Item* newspaper together with the Notice of Availability of the draft NEPA document. The *Item* is the local newspaper for the Huntsville area, including the floodplain area of Town Creek. An Environmental Assessment Report for the Town Creek Drainage Improvements was prepared and is undergoing review for compliance with the National Environmental Policy Act. In addition, the U.S. Army Corps of Engineers (USACE) held a public comment period for the issuance of the Clean Water Act permit for the project from April 2 to May 2, 2014. An additional interagency coordination notice was issued by USACE on August 19, 2014 which solicited input from a limited number of interested parties.

Step 3 Identify and evaluate alternatives to locating in the base floodplain.

A portion of the existing community to be served by the Town Creek Drainage Improvement is within the 100- and 500-year floodplains. Town Creek must serve the drainage needs of existing development, including residences, businesses, and public institutions within the 100- and 500-year floodplains. Additionally, during hurricanes the City of Huntsville serves as a shelter city during coastal evacuations, and Walker County’s Emergency Management headquarters in the Huntsville Annex Building lies within the 100-year floodplain. Therefore, flooding or structural collapse during a hurricane event has the potential to disproportionately impact emergency response measures and vulnerable segments of the public both within and beyond the 100-year floodplain. In order to serve existing development located

within and beyond floodplains, the project is proposed to: (1) stabilize the slope and underground structures to prevent erosion and subsidence, and (2) prevent flooding in downtown Huntsville during heavy rainfall events.

The underground drainage structures will be buried underground, and will therefore have no adverse impacts to the 100-year and 500-year floodplains. Slope and cross-sectional stabilization is designed to improve the capacity of Town Creek, and would also have no adverse impacts.

Alternative drainage improvements with greater detention and less channel modification, as well as alternatives with less detention and greater channel modification, were considered and determined to be infeasible. Due to the highly developed nature of the project area (downtown Huntsville), limited land is available for greater volumes of detention. Conversely, most of Town Creek's right-of-way through downtown Huntsville is constrained and cannot contain additional in-line volume beyond that proposed in the Build Alternative.

Slope stabilization as part of the Town Creek Drainage Improvement inherently needs to be performed in order to control erosion in Town Creek. The No Build Alternative or alternatives which do not involve slope stabilization within Town Creek would not address this erosion.

Step 4 Identify impacts of proposed action associated with occupancy or modification of the floodplain.

Impact on natural function of the floodplain

The Town Creek Drainage Improvement would not negatively affect the functions and values of the 100-year floodplain. The purpose of the proposed project would be to improve the functions and values of the floodplains during both normal and extreme weather. The Town Creek Drainage Improvement would not place within 100- or 500-year floodplains structures which would impede or redirect flood flows. Slope and cross-section stabilization of open portions of Town Creek would be designed to enable flood flows. Underground drainage structures would not result in fill added to floodplains. The Town Creek Drainage Improvement will not facilitate development in the 100-year floodplain, and will not facilitate development (including critical facilities such as hospitals, emergency services, fire stations, etc.) in the 500-year floodplain to any greater degree than in non-floodplain areas of the community. No development is anticipated within the 500-year floodplain. Compliance with applicable ordinances and building codes would be required of any new development within floodplains.

Impact of the flood water on the proposed facilities

The Town Creek Drainage Improvements would not be affected by flood water.

Step 5 Design or modify the proposed action to minimize threats to life and property and preserve its natural and beneficial floodplain values.

The Town Creek Drainage Improvement is designed to minimize floodplain impacts. If constructed as designed, the Town Creek Drainage Improvements would address existing threats to life and property as well as improve the natural and beneficial floodplain values of Town Creek.

Step 6 Re-evaluate the proposed action.

The project will not expose any segment of the population to additional flood hazards because it does not include a housing component, and will not facilitate development in the floodplains to any greater degree than non-floodplain areas of the community. The project will not aggravate the current flood hazard because the proposed facilities and structures are designed to enable flood flows within the existing floodway. The project will not disrupt floodplain values because it will not increase water levels in the

floodplain, and will not reduce habitat in the floodplain. Therefore, it is still practicable to construct the proposed project within the floodplain. Alternatives consisting of locating additional detention outside the floodplain or taking “no action” are not practicable nor do they address the project need.

Step 7 Findings and Public Explanation (Final Notification)

After evaluating alternatives, including impacts and mitigation opportunities, the City determined that the proposed project is the most practical alternative. The City Council adopted the Town Creek Drainage Improvement Draft EA on September 29, 2009 and a Notice of Determination was filed with the County Recorder’s Office and the State Clearinghouse on September 30, 2009. The City of Huntsville must prepare and provide a Public Notice to be issued 15 days prior to the start of construction of any final decision where proposed floodplain or wetland project is the only practicable alternative.

It is our determination that there is no practicable alternative to locating most of the project in the 100- and 500-year floodplains of Town Creek because:

1. By definition, the Town Creek Drainage Improvements must be performed within the 100-year and 500-year floodplains of Town Creek. A portion of the community exists within the floodplains, and drainage improvements must be implemented to address existing flooding and structural hazards.
2. A “no action” plan would not resolve or improve the existing flooding and structural problems in the downtown Huntsville section of Town Creek.

Step 8 Implement the action

The proposed Town Creek Drainage Improvements will be constructed in accordance with applicable floodplain development requirements.



APPENDIX E
AGENCY COORDINATION



BERG ♦ OLIVER ASSOCIATES, INC.

Environmental Science & Land Use Consultants
14701 St. Mary's Lane, Suite 400, Houston, Texas 77079
(281) 589-0898 fax: (281) 589-0007
Houston ♦ Dallas/Fort Worth ♦ WDBE/HUB ♦ www.bergoliver.com

March 9, 2015

Ms. Amy Turner
Wildlife habitat Assessment Program
Wildlife Division
4200 Smith School Road
Austin, TX 78744-3291

RE: Town Creek Channelization Improvements
Huntsville, Walker County, Texas
FEMA Grant Application No. DR 1791-TX-120

Dear Ms. Turner:

This letter is in response to your March 4, 2015 letter received by Ms. Amy Brook of Berg-Oliver Associates, Inc.). The letter commented on the above-mentioned proposed project submitted for review to the Texas Parks and Wildlife Department (TPWD). TPWD had already reviewed the majority of the project during the Clean Water Act Section 404 Individual Permit (IP) process in 2014 (SWG-2012-01017). However, the limits of the project in the IP only include those areas required by the USACE; non-jurisdictional actions/areas were not included (i.e., a proposed adjacent detention facility and the creek channel west of Ave. J). Therefore, we requested review of the remaining portions of the project to complete the agency coordination requirement for the grant application.

Listed below are comments and recommendations, with responses from the sponsoring agency, the City of Huntsville.

1) TPWD Comment – Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) provides for a year-round closed season for non-game birds and prohibits the taking of migratory bird nests and eggs, except as permitted by the U.S. Fish and Wildlife Service (FWS).

Recommendation: Construction activities such as, but not limited to, tree felling as well as vegetation clearing, trampling, or maintenance should occur outside the April 1 - July 15 migratory bird nesting season of each year the project is authorized and lasting for the life of the project. To comply with the MTBA, the proposed site should be surveyed for migratory bird nest sites prior to construction or future maintenance activities. Since raptors nest in late winter and early spring, all construction activities as identified above should be excluded from a minimum zone of 100 meters around any raptor nest during the period of February 1- July 15.

Ms. Amy Turner – Wildlife Division
March 9, 2015
Page 1

City of Huntsville's Response: Measures such as additional surveys prior to construction to ensure active nests are not present would be taken prior to vegetation clearing and bridge and culvert reconstruction. If construction activities identified above must occur during the period between April 1 and July 15, no vegetation containing active nests, eggs, or young will be removed should they occur on the project site. Construction activities will be excluded from a minimum zone of 100 meters around any raptor nest as requested.

2) TPWD Comment - Wetland Resources

Project documents indicate that wetlands and streams would be impacted by the proposed project. Area wetlands retain floodwaters, preventing stormwater from rapidly entering the receiving water bodies, thereby maintaining the water body's flood peak and duration. These wetlands contribute significantly to the removal of excess nutrients, pollutants, and sediment from water before it reaches the water bodies.

Wetland mitigation is out-of-kind and insufficient to compensate for impacts to stream functions. For unavoidable stream impact, stream compensation is **required** under 33 CFR §332.3(e)(3); item II.B.2. in Compensatory Mitigation for Losses of Aquatic Resources (73 Federal Register 19596, April 10, 2008); and the Interim Galveston District Stream Condition Assessment Standard Operating Procedure for Compensatory Stream Mitigation (dated July 7, 2011).

Recommendations: TPWD recommends mitigation for all impacts to aquatic resources. The wetland and stream mitigation plan should be developed in consultation with TPWD. Mitigation of all impacts to the aquatic resources, regulated and non-regulated, should be coordinated with Winston Denton with our Coastal Program; he can be reached at 281 -534- 1038.

City of Huntsville's Response: An approved Individual Permit was obtained from the USACE for this project, which included agency coordination (e.g., U.S. EPA, TCEQ, and TPWD). Impacts to aquatic resources and mitigation have been addressed through this process.

3) TPWD Comment - Aquatic Resources Relocation

Under TPW Code Section 12.0 IS, 12.0 19, 66.015 and TAC 52. 101-52.105, 52.202, and 57.25 1-57.259, TPWD regulates the introduction and stocking of fish, shellfish, and aquatic plants into public waters of the state. The *Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters* allows for movement (i.e., introduction, stocking, transplant, relocation) of aquatic species in waters of the state. Movement of aquatic species, even within the same river or estuary, has potential natural resources risk (e.g., exotics, timing for successful survival). Therefore, a permit is required to minimize that risk.

Dewatering activities can impact aquatic resources through stranding fish and mussels. Other harmful construction activities can trample, dredge or fill areas exhibiting stationary aquatic resources such as plants and mussels. To avoid or reduce impacts, TPWD may require relocating aquatic life to an area of suitable habitat outside the project footprint. Relocation activities are done under the authority of a TPWD *Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters*. Information regarding this permit can be obtained at <http://www.tpwd.state.txus/publications/fishboat/forms/>. Aquatic Resource Relocation Plans are used to plan resource handling activities and assist in the permitting process. If dewatering activities and other project-related activities cause mortality to fish and wildlife species, then the responsible party would be subject to investigation by the TPWD Kills and Spills Team (KAST) and

will be liable for the value of the lost resources under the authority of TPW Code Sections 12.00 11 (b)(1) and 12.301.

Recommendations: If open-cut trenching within streams occurs during times when water is present and dewatering activities or other harmful construction activities such as dredge or fill are involved, then TPWD may require relocating potentially impacted native aquatic resources in conjunction with a *Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters* and an Aquatic Resource Relocation Plan. Aquatic Resource Relocation Plans can be submitted to Steven Mitchell, TPWD Region 3 KAST at steven.mitchell@tpwd.texas.gov to initiate coordination prior to construction for a *Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters*.

City of Huntsville's Response: No open-cut trenching or dewatering is proposed as part of the construction activities associated with the proposed project. Most fill activities involve placement of material above the typical stream level. Additionally, no mussels and minimal aquatic plants were observed within the existing Town Creek. Therefore, a *Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters* is not considered necessary.

4) TPWD Comment - Rare and Protected Species

Section 68.015 of the Parks and Wildlife Code regulates state-listed species. Please note that there is no provision for take (incidental or otherwise) of state-listed species. The TPWD Guidelines for Protection of State-Listed Species includes a list of penalties for take of state-listed species (http://www.tpwd.state.tx.us/huntwild//wild/wildlife_diversity/habitat_assessment/media/tpwd_statelisted_species.pdf). For purposes of relocation, surveys, monitoring, and research, terrestrial state-listed species may only be handled by persons permitted through the TPWD Wildlife Permits Office. For the above-listed activities that involve aquatic species please contact the TPWD Kills and Spills Team (KAST) for the appropriate authorization. For more information on Wildlife Permits please visit <http://www.tpwd.state.tx.us/business/permits/land/wildlife/research/>. For more information on KAST please visit http://www.tpwd.state.tx.us/landwater/water/environconcerns/kills_and_spills/regions/.

The Texas Natural Diversity Database (TXNDD) is intended to assist users in avoiding harm to rare species or significant ecological features. Given the small proportion of public versus private land in Texas, the TX DD does not include a representative inventory of rare resources in the state. Please note that absence of information in the database does not imply that a species is absent from that area. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presence, absence or condition of special species, natural communities, or other significant features within your project area. These data are not inclusive and cannot be used as presence/absence data. This information cannot be substituted for on-the-ground surveys. The TXNDD is updated continuously based on new, updated and undigitized records; for questions regarding a record or to obtain digital data, please contact TexasNatural.DiversityDatabase@tpwd.texas.gov.

No records of rare, threatened, or endangered species have been documented within 1.5 miles of the proposed project area in the TXNDD.

Recommendation: TPWD recommends that the project sponsors consult the above-referenced TPWD county lists to determine if habitat for state-threatened species occurs within the project area. An on-the-ground survey by a qualified biologist should be performed in areas of suitable habitat to

determine if species are present. If present, the project sponsors should incorporate actions into the project to avoid impacts to these species.

City of Huntsville's Response: Site surveys by qualified biologists did not reveal any evidence of any state- or federally-listed species residing in or utilizing the project area, and no suitable habitat for listed species is present within the project area.

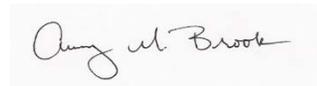
5) TPWD Comment - Revegetation

Recommendation: TPWD recommends that the Walker County reseed disturbed soils with a mixture of grasses and forbs native [to] Walker County. To enhance native grasses available to wildlife in the project area, TPWD recommend that Bermuda grass be avoided to the extent possible in reseeding efforts, though TPWD understands that slopes may require certain grasses to control erosion. As an introduced species that can be extremely invasive, its use in federally funded projects may be inconsistent with Executive Order 13112 on Invasive Species.

For assistance in determining the best native seed mix for the project area, please contact our staff. Runoff control measures should be maintained until native plants have been reestablished on disturbed areas.

City of Huntsville's Response: Following construction, areas would be reestablished with a seed mixture following typical County and regional specifications. The seed mixes and any trees replanted/replaced would be irrigated during the construction phase of the project and no permanent irrigation would be done. Sedimentation controls, such as Best Management Practices, would be utilized to minimize construction impact and maintained until plants have reestablished. Sedimentation controls, such as Best Management Practices, would be utilized to minimize construction impact and maintained until plants have reestablished.

Sincerely,



Amy M. Brook
Senior Associate
Transportation & Public Works



March 4, 2015

Life's better outside.®

Amy Brook
Berg ♦ Oliver Associates, Inc.
14701 St. Mary's Lane, Suite 400
Houston, Texas 77079

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Margaret Martin
Boerne

S. Reed Morian
Houston

Dick Scott
Wimberley

Lee M. Bass
Chairman-Emeritus
Fort Worth

Carter P. Smith
Executive Director

RE: Town Creek Channelization Improvements
Huntsville, Walker County, Texas
BOA Project No. 8371

Dear Ms. Brook:

The Texas Parks and Wildlife Department (TPWD) has received your request for information regarding potential impacts to threatened and endangered species and for information on other issues of concern relating to the project referenced above. Under section 12.0011 of the Texas Parks and Wildlife Code, TPWD is charged with "providing recommendations that will protect fish and wildlife resources to local, state, and federal agencies that approve, permit, license, or construct developmental projects" and "providing information on fish and wildlife resources to any local, state, and federal agencies or private organizations that make decisions affecting those resources."

TPWD Wildlife Habitat Assessment Program is now accepting projects through electronic submittal. Future project review requests can be submitted to WHAB@tpwd.texas.gov. If submitting requests electronically, please include geographic location files when available (e.g. GIS shape file, .kmz, etc.).

Please be aware that a written response to a TPWD recommendation or informational comment received by a state governmental agency may be required by state law. For further guidance, see the Texas Parks and Wildlife Code, Section 12.0011, which can be found online at <http://www.statutes.legis.state.tx.us/Docs/PW/htm/PW.12.htm#12.0011>. For tracking purposes, please refer to TPWD project number ERCS-10553 in any return correspondence regarding this project.

Project Description

The City of Huntsville proposed to conduct channelization improvements on Town Creek, in Walker County, Texas. The City proposes to stabilize the slopes and cross-sections, remove and/or replace deteriorating and insufficient existing underground drainage structures, install velocity control structures to mitigate erosive shear forces, and create and improve detention ponds along approximately 1.5 miles of Town Creek between 7th Street and Bearkat Boulevard in downtown Huntsville.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) provides for a year round closed season for non-game birds and prohibits the taking of migratory bird nests and eggs, except as permitted by the U.S. Fish and Wildlife Service (FWS).

Recommendation: Construction activities such as, but not limited to, tree felling as well as vegetation clearing, trampling, or maintenance should occur outside the April 1- July 15 migratory bird nesting season of each year the project is authorized and lasting for the life of the project. To comply with the MTBA, the proposed site should be surveyed for migratory bird nest sites prior to construction or future maintenance activities. Since raptors nest in late winter and early spring, all construction activities as identified above should be excluded from a minimum zone of 100 meters around any raptor nest during the period of February 1- July 15.

Please contact FWS at (505) 248-6879 for further information.

Wetland Resources

Project documents indicate that wetlands and streams would be impacted by the proposed project. Area wetlands retain floodwaters, preventing stormwater from rapidly entering the receiving water bodies, thereby maintaining the water body's flood peak and duration. These wetlands contribute significantly to the removal of excess nutrients, pollutants, and sediment from water before it reaches the water bodies.

Wetland mitigation is out-of-kind and insufficient to compensate for impacts to stream functions. For unavoidable stream impacts, stream compensation is **required** under 33 CFR §332.3(e)(3); item II.B.2. in Compensatory Mitigation for Losses of Aquatic Resources (73 Federal Register 19596, April 10, 2008); and the Interim Galveston District Stream Condition Assessment Standard Operating Procedure for Compensatory Stream Mitigation (dated July 7, 2011).

Recommendation: TPWD recommends mitigation for all impacts to aquatic resources. The wetland and stream mitigation plan should be developed in consultation with TPWD. Mitigation of all impacts to the aquatic resources, regulated and non-regulated, should be coordinated with Winston Denton with our Coastal Program; he can be reached at 281-534-1038.

Aquatic Resources Relocation

Under TPW Code Section 12.015, 12.019, 66.015 and TAC 52.101-52.105, 52.202, and 57.251-57.259, TPWD regulates the introduction and stocking of fish, shellfish, and aquatic plants into public waters of the state. The *Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters* allows for movement (i.e., introduction, stocking, transplant, relocation) of aquatic species in waters of the state. Movement of aquatic

species, even within the same river or estuary, has potential natural resources risk (e.g., exotics, timing for successful survival). Therefore, a permit is required to minimize that risk.

Dewatering activities can impact aquatic resources through stranding fish and mussels. Other harmful construction activities can trample, dredge or fill areas exhibiting stationary aquatic resources such as plants and mussels. To avoid or reduce impacts, TPWD may require relocating aquatic life to an area of suitable habitat outside the project footprint. Relocation activities are done under the authority of a TPWD *Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters*. Information regarding this permit can be obtained at <http://www.tpwd.state.tx.us/publications/fishboat/forms/>. Aquatic Resource Relocation Plans are used to plan resource handling activities and assist in the permitting process. If dewatering activities and other project-related activities cause mortality to fish and wildlife species, then the responsible party would be subject to investigation by the TPWD Kills and Spills Team (KAST) and will be liable for the value of the lost resources under the authority of TPW Code Sections 12.0011 (b) (1) and 12.301.

Recommendation: If open-cut trenching within streams occurs during times when water is present and dewatering activities or other harmful construction activities such as dredge or fill are involved, then TPWD may require relocating potentially impacted native aquatic resources in conjunction with a *Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters* and an Aquatic Resource Relocation Plan. Aquatic Resource Relocation Plans can be submitted to Steven Mitchell, TPWD Region 3 KAST at steven.mitchell@tpwd.texas.gov to initiate coordination prior to construction for a *Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters*.

Rare and Protected Species

Section 68.015 of the Parks and Wildlife Code regulates state-listed species. Please note that there is no provision for take (incidental or otherwise) of state-listed species. The *TPWD Guidelines for Protection of State-Listed Species* includes a list of penalties for take of state-listed species (http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/habitat_assessment/media/tpwd_statelisted_species.pdf). For purposes of relocation, surveys, monitoring, and research, terrestrial state-listed species may only be handled by persons permitted through the TPWD Wildlife Permits Office. For the above-listed activities that involve aquatic species please contact the TPWD Kills and Spills Team (KAST) for the appropriate authorization. For more information on Wildlife Permits please visit <http://www.tpwd.state.tx.us/business/permits/land/wildlife/research/>. For more information on KAST please visit http://www.tpwd.state.tx.us/landwater/water/environconcerns/kills_and_spills/regions/.

The Texas Natural Diversity Database (TXNDD) is intended to assist users in avoiding harm to rare species or significant ecological features. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative

inventory of rare resources in the state. Please note that absence of information in the database does not imply that a species is absent from that area. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presence, absence or condition of special species, natural communities, or other significant features within your project area. These data are not inclusive and **cannot be used as presence/absence data**. This information cannot be substituted for on-the-ground surveys. The TXNDD is updated continuously based on new, updated and undigitized records; for questions regarding a record or to obtain digital data, please contact TexasNatural.DiversityDatabase@tpwd.texas.gov.

No records of rare, threatened, or endangered species have been documented with 1.5 miles of the proposed project area in the TXNDD.

Recommendation: TPWD recommends that the project sponsors consult the above-referenced TPWD county lists to determine if habitat for state-threatened species occurs within the project area. An on-the-ground survey by a qualified biologist should be performed in areas of suitable habitat to determine if species are present. If present, the project sponsors should incorporate actions into the project to avoid impacts to these species.

Revegetation

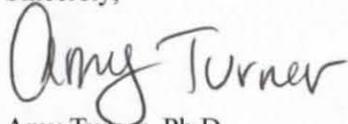
Recommendation: TPWD recommends that the Walker County reseed disturbed soils with a mixture of grasses and forbs native Walker County. To enhance native grasses available to wildlife in the project area, TPWD recommends that Bermuda grass be avoided to the extent possible in reseeding efforts, though TPWD understands that slopes may require certain grasses to control erosion. As an introduced species that can be extremely invasive, its use in federally funded projects may be inconsistent with Executive Order 13112 on Invasive Species.

For assistance in determining the best native seed mix for the project area, please contact our staff. Runoff control measures should be maintained until native plants have been reestablished on disturbed areas.

Ms. Amy Brook
March 4, 2015
Page 5 of 5

TPWD advises review and implementation of these recommendations. If you have any questions, please contact me at (361) 576-0022.

Sincerely,

A handwritten signature in black ink that reads "Amy Turner". The signature is written in a cursive style with a large, prominent initial "A".

Amy Turner, Ph.D.
Wildlife Habitat Assessment Program
Wildlife Division

/ajt:ERCS-10553



HRA Gray & Pape LLC.

Mr. Bill Martin
Texas Historical Commission
108 West 16th Street
Austin, TX 78701

February 4, 2015

CONCUR
by William A. Martin
for Mark Wolfe
State Historic Preservation Officer
Date 2/24/15
Track# _____

RECEIVED
FEB 09 2015

Re: Continuing Cultural Resources Consultation for Proposed Drainage Improvements to Town Branch in the City of Huntsville in Walker County, Texas

Lead Federal Agency: The Federal Emergency Management Agency (FEMA)

Dear Mr. Martin,

FEMA has provided the City of Huntsville, Texas with a grant to initiate engineering and hydrological studies for proposed drainage improvements to Town Branch. Consultation related to the project between the Texas Historical Commission (THC), the City, and relevant Federal Agencies has occurred over the past few years, and several attachments related to project communication are provided for your reference. Federal review agencies include FEMA and the United States Army Corps of Engineers (USACE), Galveston District. The project is located on lands owned or controlled by one or more political subdivisions of the state of Texas and is therefore subject to review pursuant to the Antiquities Code of Texas. Project plans have been refined since our initial consultation request, therefore this letter is provided to your office to offer additional recommendations regarding the need for archaeological survey, and to request documented concurrence with these recommendations.

Consultation was initiated with a request for review letter drafted by HRA Gray & Pape in November 8, 2011. At that time, project plans were incomplete, and a recommendation was made that archaeological survey should be conducted along undisturbed sections of the creek and within the footprint of proposed detention basin facilities. The THC concurred with this recommendation. Archaeological fieldwork was not initiated pending land owner permission, the finalization of project plans, and decisions made regarding the location of proposed detention ponds.

In April of 2014 your office informed Mr. Aron Kullhavey of the City of Houston that the project could proceed without further THC review, based on documentation submitted by the

City. A copy of that letter is enclosed. The letter appears to be associated with project limits as defined by the USACE, therefore it is unclear if all project impacts were presented for your review at that time.

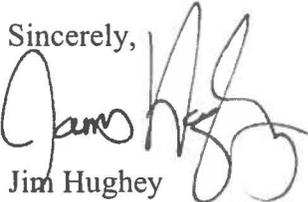
In December 2014 the USACE jurisdictional limits of this project were issued an Individual Permit (IP) (SWG-2012-01017). However, since the limits of the project in the IP only include those areas required by the USACE, non-jurisdictional actions/areas were not included.

Current project plans indicate that in addition to the IP limits, impacts will include a proposed adjacent detention facility and work along the creek channel west of Ave. J among other plan revisions that have been incorporated since the initial 2011 consultation. Enclosed please find a series of exhibits depicting the current project configuration.

As indicated above, HRA Gray & Pape initially recommended that a targeted archaeological survey would be appropriate for the project. Based on current project plans, and based on recent consultation between your office, the USACE, and the City of Huntsville, HRA Gray & Pape amends its earlier recommendation. Proposed impacts associated with channel improvements are situated within areas that have been previously disturbed by prior channelization or bank stabilization. The proposed detention facility will be located on property in use for football/sports practice or similar activities. HRA Gray & Pape recommends that archaeological survey not be required for any portions of the project that have not already been addressed by THC review.

If you have any questions or comments or are in need of additional information, please do not hesitate to contact me at (713) 541-0473 or via email at jhughey@hragp.com.

Sincerely,



Jim Hughey
Principal Investigator
HRA Gray & Pape

Enc.

Cc. William Proctor, Berg-Oliver Associates, Inc.
Amy Brook, Berg-Oliver Associates, Inc.

BOA #8371
HRAGP#711.00/828.00



HRA Gray & Pape LLC.

Mr. Mark S. Wolfe
Texas Historical Commission
108 West 16th Street
Austin, TX 78701

CONCUR
by William A. Martin
for Mark Wolfe
State Historic Preservation Officer
Date 12/8/11
Track# 201203136

RECEIVED

NOV 14 2011

TEXAS HISTORICAL COMMISSION

November 8, 2011

Re: Request for Initial Cultural Resources Consultation for Proposed Drainage Improvements to Town Branch in the City of Huntsville in Walker County, Texas

Lead Federal Agency: The Federal Emergency Management Agency (FEMA)

Dear Mr. Wolfe,

On October 25, 2011, Berg-Oliver Associates, Inc. contracted HRA Gray & Pape, LLC (HRA Gray & Pape) of Houston, Texas, to conduct a cultural resources desktop assessment along approximately 2.4 kilometers (1.5 miles) for a project involving proposed improvements to the existing Town Branch drainage system in the City of Huntsville, Walker County, Texas (see attached figures).

The Lead Federal Agency for this project is the Federal Emergency Management Agency (FEMA). FEMA has provided the City of Huntsville, Texas with a grant to initiate engineering and hydrological studies concerning the feasibility of the proposed project. Therefore, this project is considered a federal undertaking and is subject to review under Section 106 of the National Historic Preservation Act of 1966 as amended. The project is also located on lands owned or controlled by one or more political subdivisions of the state of Texas and is therefore also subject to review pursuant to the Antiquities Code of Texas.

Research activities, including a review of previously recorded cultural resources and surveys, and analysis of the environmental conditions along the length of the project, were initiated on November 1, 2011. This letter documents the results of these activities, along with our assessment regarding the potential for additional historic property identification within the Area of Potential Effect and recommendations concerning the need for cultural resources surveys.

see attachment 1

PROJECT DESCRIPTION

The project area falls within the *Huntsville* (3095-314) 7.5-minute United States Geological Survey (USGS) topographic quadrangle map. According to the *Town Branch Drainage Analysis Report* published in February of 2010:

"the proposed project will upgrade the existing drainage system known as Town Branch (a.k.a. Town Creek). This natural creek runs the length of the City from southeast to northwest for approximately 6 miles. The limits of the project are from Bearkat Boulevard to 7th Street....The project involves removal and replacement of existing drainage structures, mainly decommissioned railroad tanker cars, and cross section improvements in the open channel areas. The proposed drainage structures will add increased capacity to the drainage system. The enclosed sections of Town Branch are between Avenue J and 13th Street, 11th Street to Avenue N and at various roadway crossings. These channel segments were closed to allow roadways and business development along Town Branch. The existing underground storm water infrastructure is located beneath existing parking lots, roadways and very close to various building structures. There are no residential developments located along Town Branch within the limits of the project".

The project may also include the rehabilitation of a non-functioning detention basin near the southeastern end of the project area. Once available, detailed plans will be shared with the appropriate project review agencies. Based on the project description, the project is 2.4 linear kilometers (1.5 miles) and will widen the existing drainage by a maximum of 30 meters (100 feet) in some locations. Therefore, the archaeological Area of Potential Effect (APE) subsumes no more than 7.4 hectares (18.4 acres). Due to widening and the potential installation of a new detention basin, the depth of the APE may be deep, or in excess of 1 meter (3 feet). The architectural APE is considered to include the same footprint as the archaeological APE but includes immediately adjacent properties with the potential for indirect visual impacts posed by the project.

SOILS WITHIN THE PROJECT AREA

According to a review of information published online by the Soil Survey Staff, National Cooperative Soil Survey, Web Soil Survey (SSS NCSS WSS 2011), soils recorded within the project area mainly consist of Annona-Urban land complex and Depcor-Urban land complex, with small amounts of Gawker and Kanebreak soils and Ferris clay in the northern portion of the project area.

Soils in the urban landscape have often been disturbed by activities like surface removal, leveling, filling, and compaction. Urban land is a miscellaneous term to describe soils so altered or obscured by construction that they can not be identified. A soil complex is a mixture of two or more soils in an intricate pattern such that it is impractical to map them separately. In this way, the Annona-Urban land and Depcor-Urban land complexes are a mix of Annona and Depcor series soils with Urban land (SSS NCSS WSS 2011).

Prison Cemetery (THC no. WA-C037) is located approximately 1.2 kilometers (0.75 mile) southeast of the southern portion of the project area.

Five cultural resource surveys have been completed within a 1.6 kilometer (1 mile) radius of the current project area. A small area survey was conducted southwest of the project area near archaeological site 41WA46 and the historic Steamboat House. No further information was available on the THC Atlas regarding this survey, though it may correspond to the work by Prewitt and Associates in 1979. In 1998, the U. S. Department of Housing and Urban Development sponsored a cultural resource survey south of the project area. No further information was available regarding this survey.

The City of Huntsville sponsored a cultural resource survey north of the project area in 1999 near archaeological site 41WA99. No further information was available regarding this survey. In 2005, Moore Archaeological Consultants performed a cultural resource survey sponsored by the City of Huntsville. The area surveyed under permit number 3816 was located near the north end of the current project around 10th Street and Avenue N. Three acres were surveyed and a total of 14 shovel tests were excavated during the survey. No new cultural resources were recorded (Mangum and Moore 2005).

In 2007, Moore Archaeological Consultants performed a cultural resource survey west of the project area for the U. S. Army Corps of Engineers –Galveston District. The survey of 9.7 hectares (24 acres) included the excavation of 40 shovel tests. No new cultural resources were recorded (Mangum and Moore 2007).

RECOMMENDATIONS

Cultural resources field surveys have not yet been performed for this project. Based on the results of archival research outlined in this letter and an analysis of geological characteristics associated with the project area, it is the opinion of HRA Gray & Pape that an archaeological survey with shovel testing and targeted mechanical deep testing is warranted along undisturbed sections of Town Branch where widening of the open channel is proposed as well as at the location of a new detention basin. These areas contain a moderate-high potential for containing intact archaeological deposits. Based on known project plans, an archaeological survey is not recommended along previously channelized sections of the drainage way, particularly within existing city streetscapes as these areas are very unlikely to contain intact archaeology.

Although the railroad tanker cars used as culverts beneath the City of Huntsville were installed in the 1960s, HRA Gray & Pape recognizes that these structures are not considered significant historical architectural features as they have been repurposed for uses not inherent in their design. HRA Gray & Pape recommends conducting a survey of historic structures and National Register assessment of known historic-age structures within and adjacent to the APE. Notable historic-age buildings include the Walker County Annex Building located at 1100 University and City Hall located at 1212 Avenue M. This [City Hall] location is adjacent to an open channel section of Town Branch. According to the *Town Branch Drainage Analysis Report of 2010*, "the City Hall building has had flood waters up to the brick ledge several times during large flood event [and] the underground drainage system is comprised of deteriorated railroad tank cars and is located only a few feet from the southern and western portion of the [Walker

County Annex] building foundation. Failure of the storm drainage system adjacent to the County Annex will most likely render the Annex building structurally unsafe and unusable".

HRA Gray & Pape is requesting initial cultural resources consultation concerning the methods, research results and recommendations outlined in this letter. If you have any questions or comments regarding the methods or results associated with our research, or are in need of additional information, please do not hesitate to contact me at (713) 541-0473 or via email at ksoltysiak@hragp.com.

Sincerely,



Kristi Soltysiak
Principal Investigator
HRA Gray & Pape

Enc.

Cc. William Proctor, Berg-Oliver Associates, Inc.
Amy Brook, Berg-Oliver Associates, Inc.

BOA #8371
HRAGP#711.00



DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1229
GALVESTON, TEXAS 77553-1229

December 23, 2014

REPLY TO
ATTENTION OF:

Evaluation Branch

SUBJECT: Permit Application – SWG-2012-01017

City of Huntsville
1212 Avenue M
Huntsville, Texas 77340-4608

Gentlemen:

Enclosed for your review and signature are two copies of an initial proffered permit for activities conducted in waters of the United States, including wetlands.

Enclosed you will find a combined Notification of Administrative Appeal Options and Process (NAP) and Request for Appeal (RFA) form. If you decline the terms and special conditions of this initial proffered permit, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. To initiate the appeal process, you must submit a completed RFA to the District Engineer (DE) at the letterhead address. In addition to the RFA, enclose the unsigned initial proffered permit and a letter to the DE explaining your objections to the initial proffered permit. Your objections must be received by the DE within **60 days** of the date of this notice, or you will forfeit your right to appeal the initial proffered permit in the future. The DE will render his decision, and a proffered permit will be sent to you. It is not necessary to submit an RFA form to this office if you accept the initial proffered permit terms and conditions.

If, after reviewing the proffered permit, you are still unsatisfied with the proffered permit because of certain terms and conditions therein, you may appeal under the Corps of Engineers Administrative Appeal Process by completing Section II of the RFA form enclosed with your proffered permit. Send the RFA to the following address:

Mr. Elliott Carman
Regulatory Appeals Officer
Southwest Division USACE (CESWD-PD-O)
1100 Commerce Street, Suite 831
Dallas, Texas 75242-1317
Telephone: 469-487-7061; FAX: 469-487-7199

This form must be received by the division engineer within **60 days** of the date of this notice or you will forfeit your right to appeal. It is not necessary to submit an RFA form to the Division Office if you accept this proffered permit in its entirety.

A detailed description of the appeal process can be found at:
<http://1.usa.gov/1x0Q72N>.

If you accept the initial proffered permit, sign and date both copies in the spaces provided. Within ten days, both original copies of the accepted permit should be returned to us for approval. Once countersigned, one copy of the signed permit will be returned to you. The permit is not valid until signed by us.

We are ready to assist you in whatever way possible. If you have any questions, please contact Elizabeth Shelton at the letterhead address or by telephone at 409-766-3937.

Sincerely,

A handwritten signature in black ink that reads "Janet Thomas Botello". The signature is written in a cursive style with a large initial "J".

Janet Thomas Botello
Chief, Evaluation Branch

Enclosures



DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1229
GALVESTON, TEXAS 77553-1229

December 23, 2014

REPLY TO
ATTENTION OF:

Evaluation Branch

SUBJECT: Permit Application – SWG-2012-01017

City of Huntsville
1212 Avenue M
Huntsville, Texas 77340-4608

Gentlemen:

The above numbered permit has been approved and a signed copy is enclosed for your retention.

Also enclosed are ENG Form 4336, and a copy of "Notice to Permittee" which provides important information for permit administration. You should notify the District Engineer, in writing, upon completion of the authorized work. To assist us in improving our service to you, please complete the survey found at <http://per2.nwp.usace.army.mil/survey.html>.

Sincerely,

A handwritten signature in black ink that reads "Janet Thomas Botello".

Janet Thomas Botello
Chief, Evaluation Branch

Enclosures

Copy Furnished w/encl:

U.S. Environmental Protection Agency, Federal Activities Branch, 1445 Ross Avenue,
Suite 1200, Dallas Texas 75202-2750

NOTICE TO PERMITTEES

Department of the Army Permits for Work in Navigable Waters require attention to administration and policies which are often misunderstood or disregarded. To avoid possible misinterpretations and to expedite procedures, permit post-authorization requirements and pertinent information are outlined as follows:

1. Permits remain in effect until revoked, relinquished, or the structures are removed. An extension of time for completion of structures or work may be granted provided that a public notice is issued and that evidence is furnished of the bona fide intention of the permittee to complete the work within a reasonable time. If work or structures are not completed within the time provided in the permit, it is the permittee's responsibility to request an extension of time at least 4 months before the expiration date.

2. Maintenance of authorized completed structures may be done at any time without extending the completion period. It is, however, required that the District Commander be notified prior to commencement of maintenance.

3. SPECIAL REGULATIONS GOVERN MAINTENANCE WORK INVOLVING DREDGING OR FILL. This maintenance is not authorized by the original permit and specific prior approval is required before such work is commenced in navigable waters. Your request for authorization should be submitted in time for public notice requirements and coordination with other agencies.

4. If ownership of structures or work covered by a permit is transferred, the District Commander must be notified immediately. The notification will provide information so that permit responsibilities can be changed to the new owner or assignee.

5. Permittees are reminded that the Area Engineer must be notified as soon as possible of the time for commencement of construction or work, and immediately upon completion. If pipelines across Federal project channels are covered by the permit, the Area Engineer should be informed of the date the pipelines are to be placed in time for him to arrange for an inspector to be present.

6. All material changes in location or plans must be submitted promptly to the District Commander for approval before construction is begun.

7. Permits should not be considered as an approval of design features of any structure authorized or an implication that such structure is adequate for the purpose intended.

DISTRICT COMMANDER
GALVESTON DISTRICT
CORPS OF ENGINEERS

DEPARTMENT OF THE ARMY PERMIT

Permittee City of Huntsville

Permit No. SWG-2012-01017

Issuing Office Galveston District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To discharge fill material to re-establish 2,333 linear feet (0.68 acres) of Town Creek during excavation, bank lay back, and earthwork that will create floodplain benches within the top of bank limits. To plant black willow saplings and desirable hardwood species seedlings along 2,309 linear feet of the channel and banks, to place coconut husk matting to stabilize the soil, and to install toe logs as bank stabilization features. To install a rock filter dam to capture sediment within the channel of Town Creek. The project will be conducted in accordance with the attached plans, in 13 sheets and the construction notes, Attachment A, in 2 sheets.

Project Location: In Town Creek between the starting point at 17th Street and the ending point at 14th Street and Avenue J, in Huntsville, Walker County, Texas.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on 31 December 2020. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

If the final stream assessment report documents a reduction in the average stream condition index from the initial post-construction average stream condition index, the permittee must implement adaptive management techniques in coordination with the Corps of Engineers, Galveston District, Regulatory Division.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- Section 404 of the Clean Water Act (33 U.S.C. 1344).
- Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

- a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.
- e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

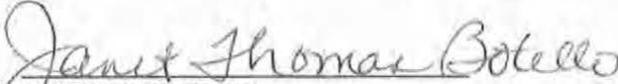


(PERMITTEE)
CITY OF HUNTSVILLE

12-23-14

(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



(DISTRICT ENGINEER)
JANET THOMAS BOTELLO, CHIEF
EVALUATION BRANCH
FOR COLONEL RICHARD P. PANNELL

23 December 2014

(DATE)

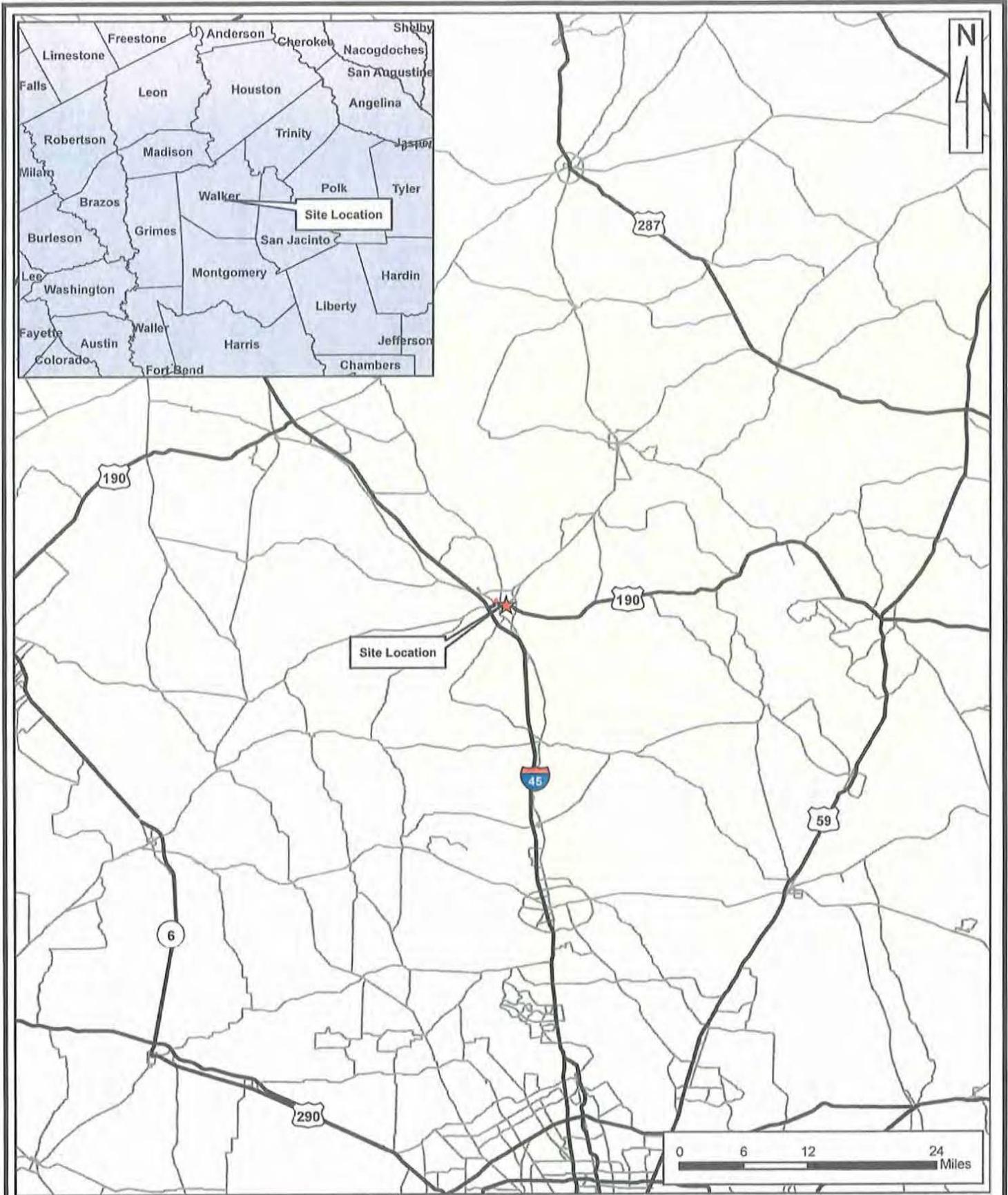
When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEEE - Typed/Printed Name)

(DATE)

(TRANSFEEE - Signature)

(Mailing Address)



PERMITTED PLANS

SITE VICINITY MAP

Project #: 8371
 For: Klotz Associates, Inc.
 Location: Town Creek Drainage Improvement Project
Walker County, Texas

REVISIONS
Dec. 12, 2011 by MDE

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 & LAND USE CONSULTANTS
 14701 ST. MARY'S LANE, SUITE 400
 HOUSTON, TEXAS 77079 PHONE (281)569-0898 <http://www.bergoliver.com>





LEGEND

 Limits of Town Creek
Drainage Improvements

SITE LOCATION MAP

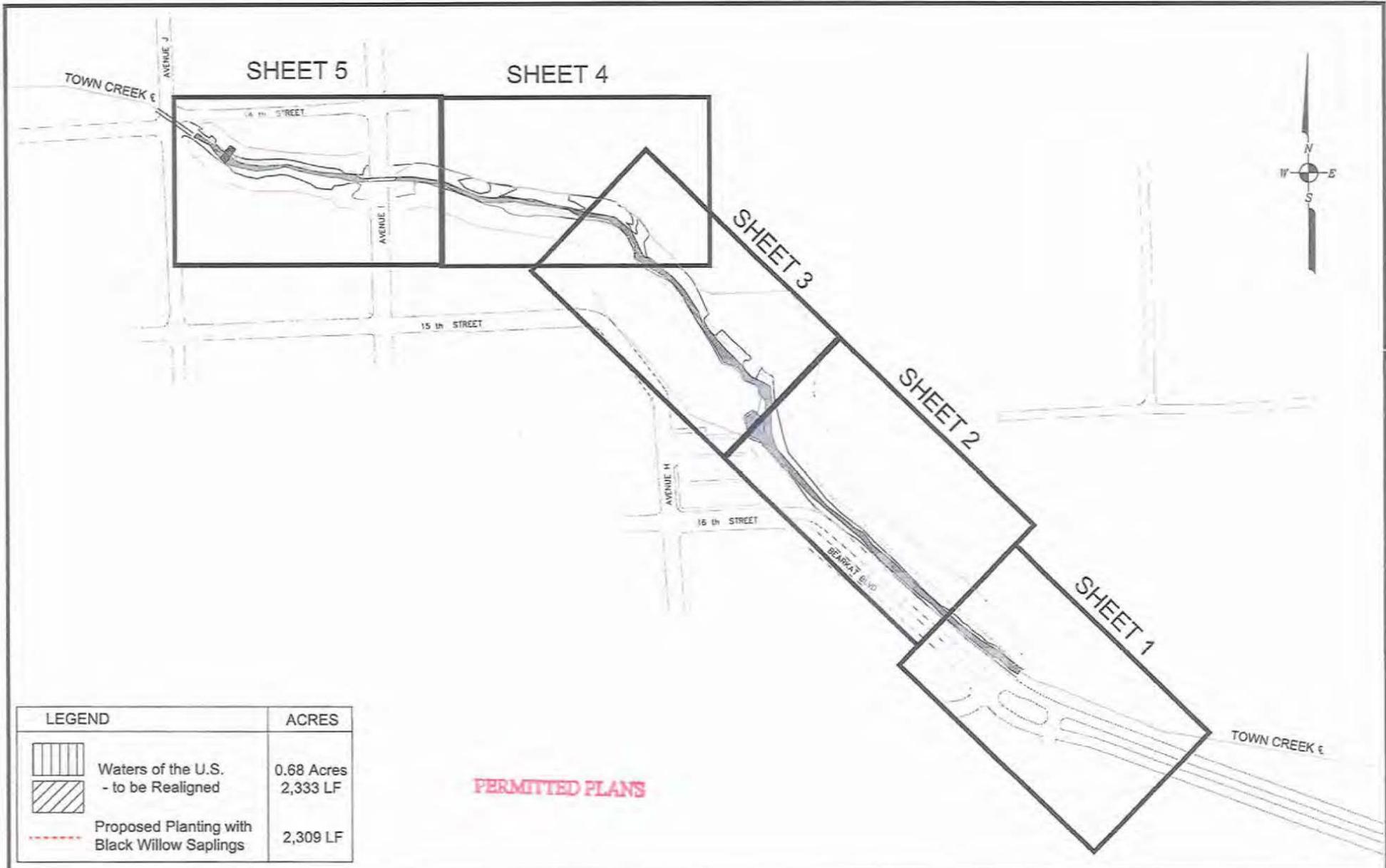
PERMITTED PLANS

Project #: 8371
 For: Klotz Associates, Inc.
 Location: Town Creek Drainage Improvement Project
Walker County, Texas

REVISIONS	
Dec. 12, 2011	by MDE

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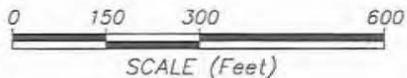




LEGEND	ACRES
 Waters of the U.S. - to be Realigned	0.68 Acres 2,333 LF
 Proposed Planting with Black Willow Saplings	2,309 LF

PERMITTED PLANS

PROPOSED TOWN CREEK DRAINAGE IMPROVEMENTS OVERVIEW



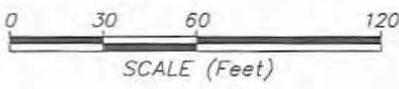
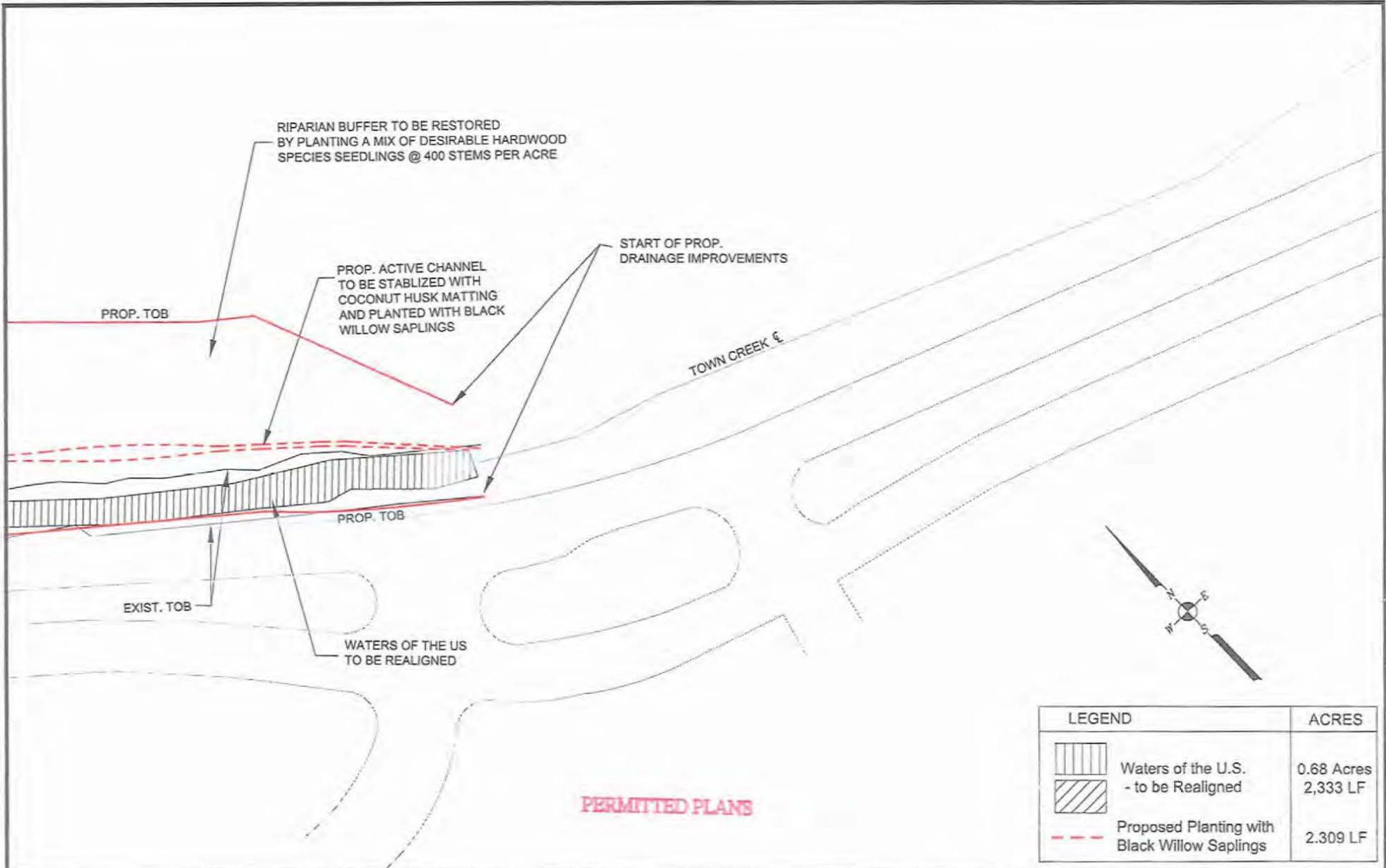
PROJECT #: 8371
 FOR: Klotz Associates, Inc.
 LOCATION: Town Creek Drainage Improvement Project
 Harris County, Texas

REVISIONS:
Feb. 7, 2013 by MGB
June 16, 2014 by MGB
Oct. 31, 2014 by MGB

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11/25/2014



PROPOSED TOWN CREEK DRAINAGE IMPROVEMENTS
SHEET 1

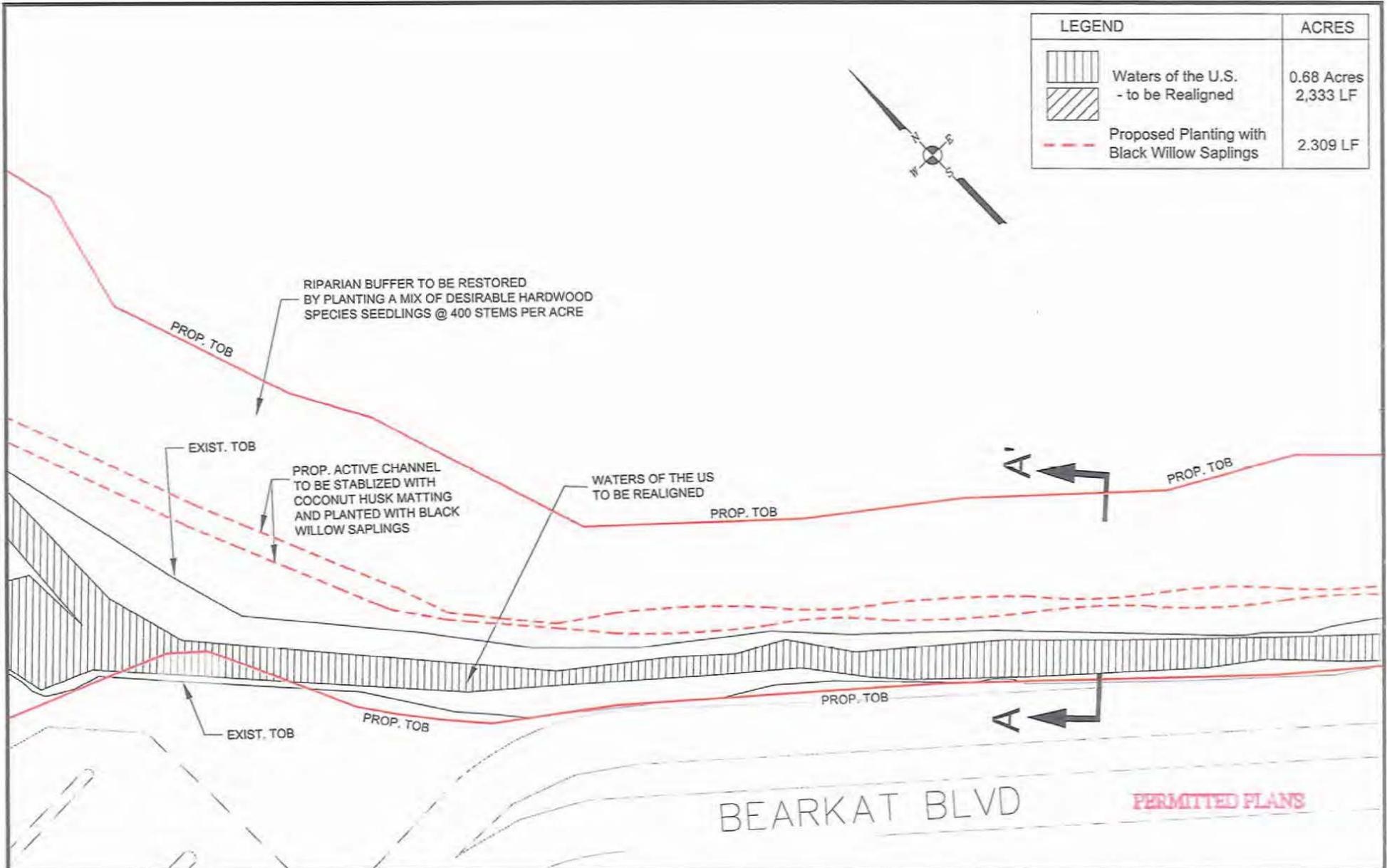
PROJECT #: B371
 FOR: Klotz Associates, Inc.
 LOCATION: Town Creek Drainage Improvement Project
 Walker County, Texas

REVISIONS:
Feb. 6, 2013 by MDB
June 16, 2014 by MDB
Oct. 31, 2014 by MDB

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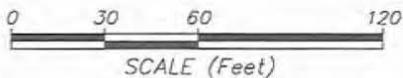


NOV 09 2014



LEGEND		ACRES
	Waters of the U.S. - to be Realigned	0.68 Acres 2,333 LF
	Proposed Planting with Black Willow Saplings	2,309 LF

**PROPOSED TOWN CREEK DRAINAGE IMPROVEMENTS
SHEET 2**



PROJECT #: 8371
 FOR: Klotz Associates, Inc.
 LOCATION: Town Creek Drainage Improvement Project
Walker County, Texas

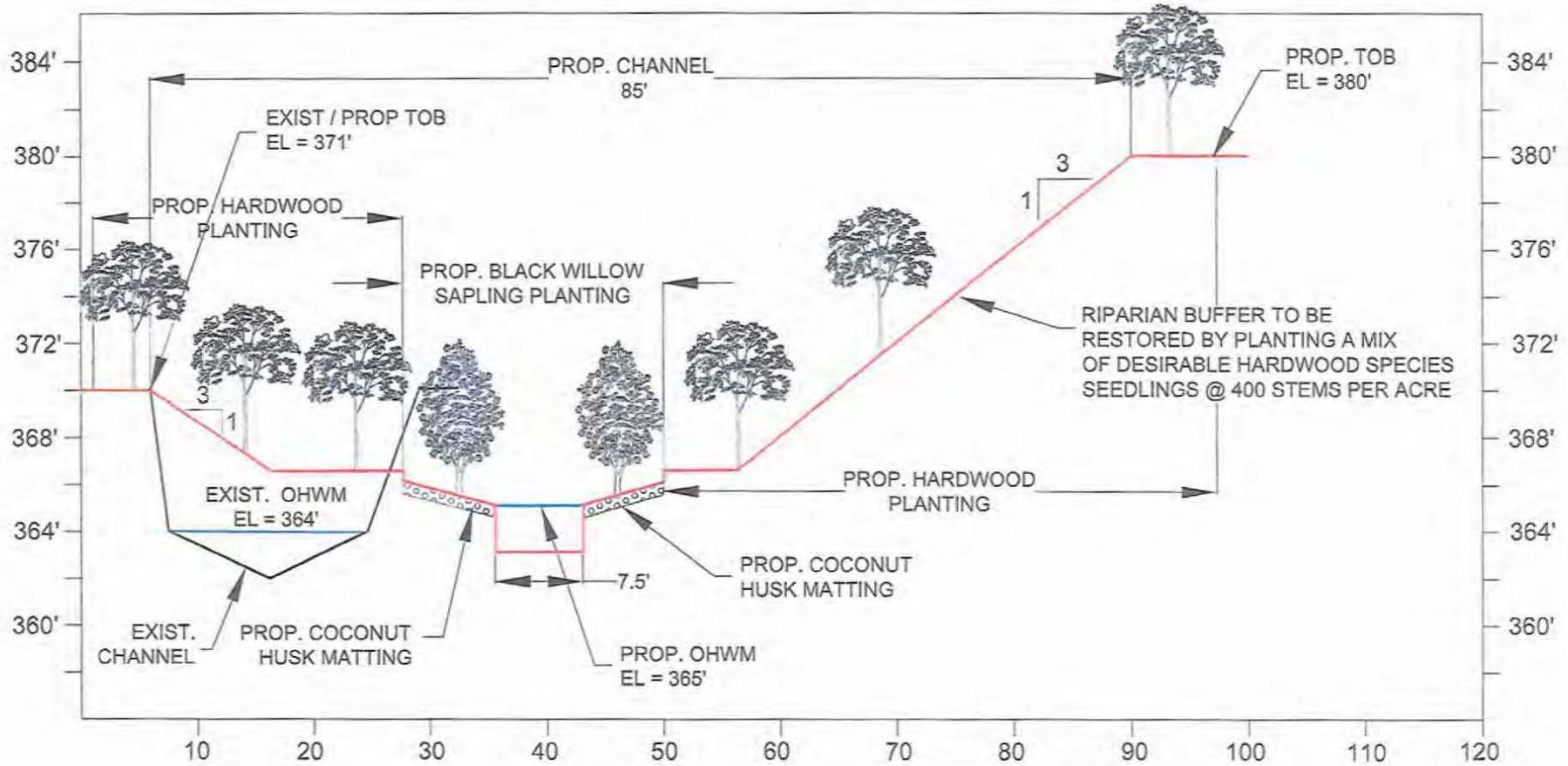
REVISIONS:
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June 16, 2014 by MDR
Oct. 31, 2014 by MDR

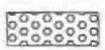
BERG & OLIVER ASSOCIATES, INC.
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 14701 ST. MARY'S LANE, SUITE 400 HOUSTON, TX 77079
 PHONE (281) 589-0898 <http://www.bergoliver.com>



A

A'



 PROP. COCONUT HUSK MATTING

PERMITTED PLANS

PROPOSED TOWN CREEK DRAINAGE IMPROVEMENTS
CROSS SECTION A-A'

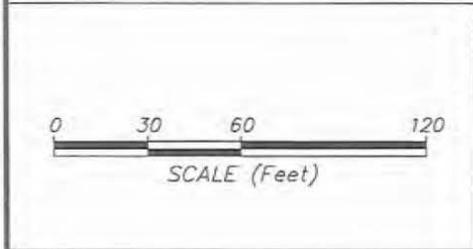
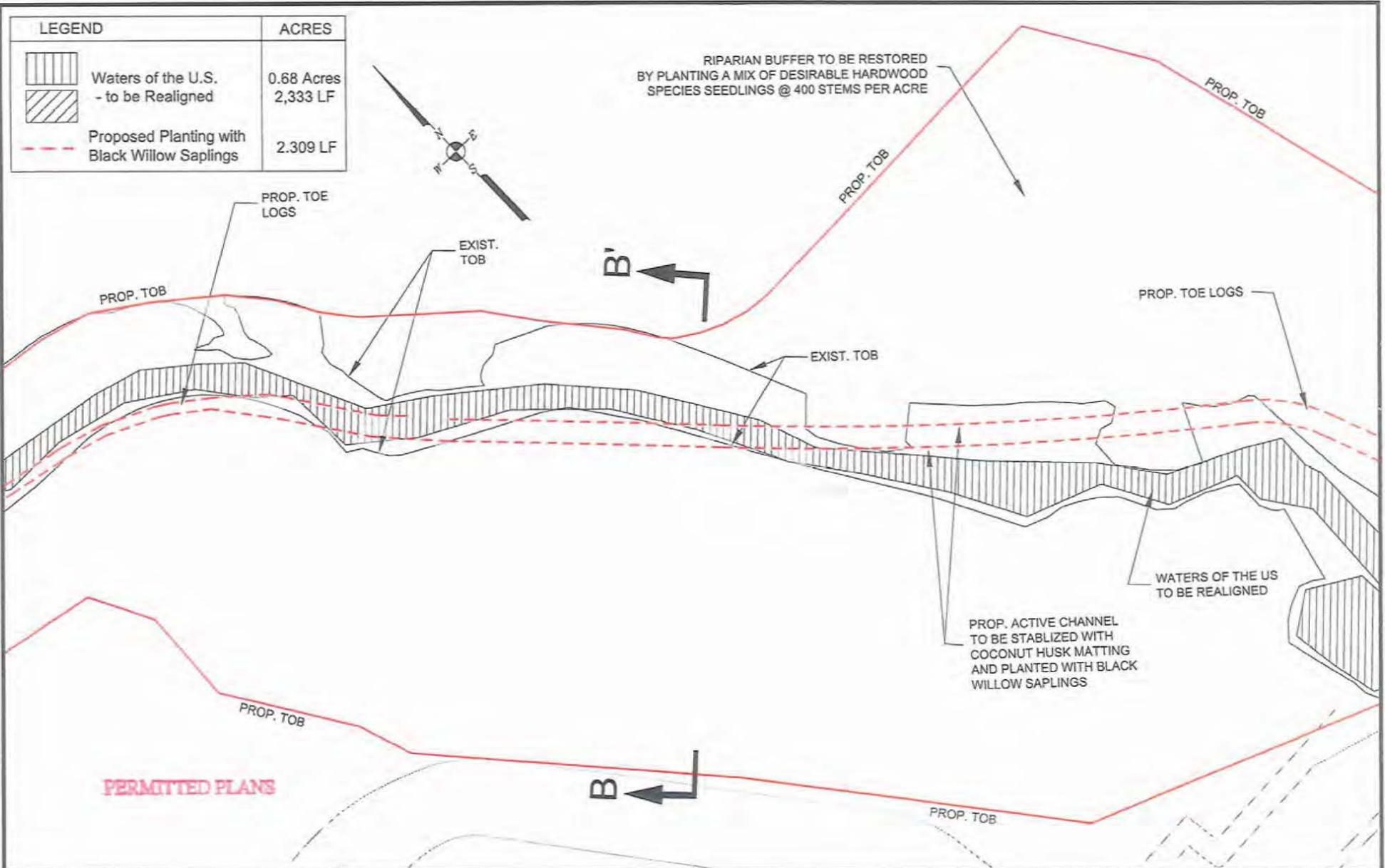
PROJECT #: 8371
 FOR: Klotz Associates, Inc.
 LOCATION: Town Creek Drainage Improvement Project
 Walker County, Texas

REVISIONS:
Feb. 6, 2013 by MOB
June 16, 2014 by MOB
Oct. 31, 2014 by MOB

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 PHONE (281) 589-0898 <http://www.bergoliver.com>



NOV 03 2014



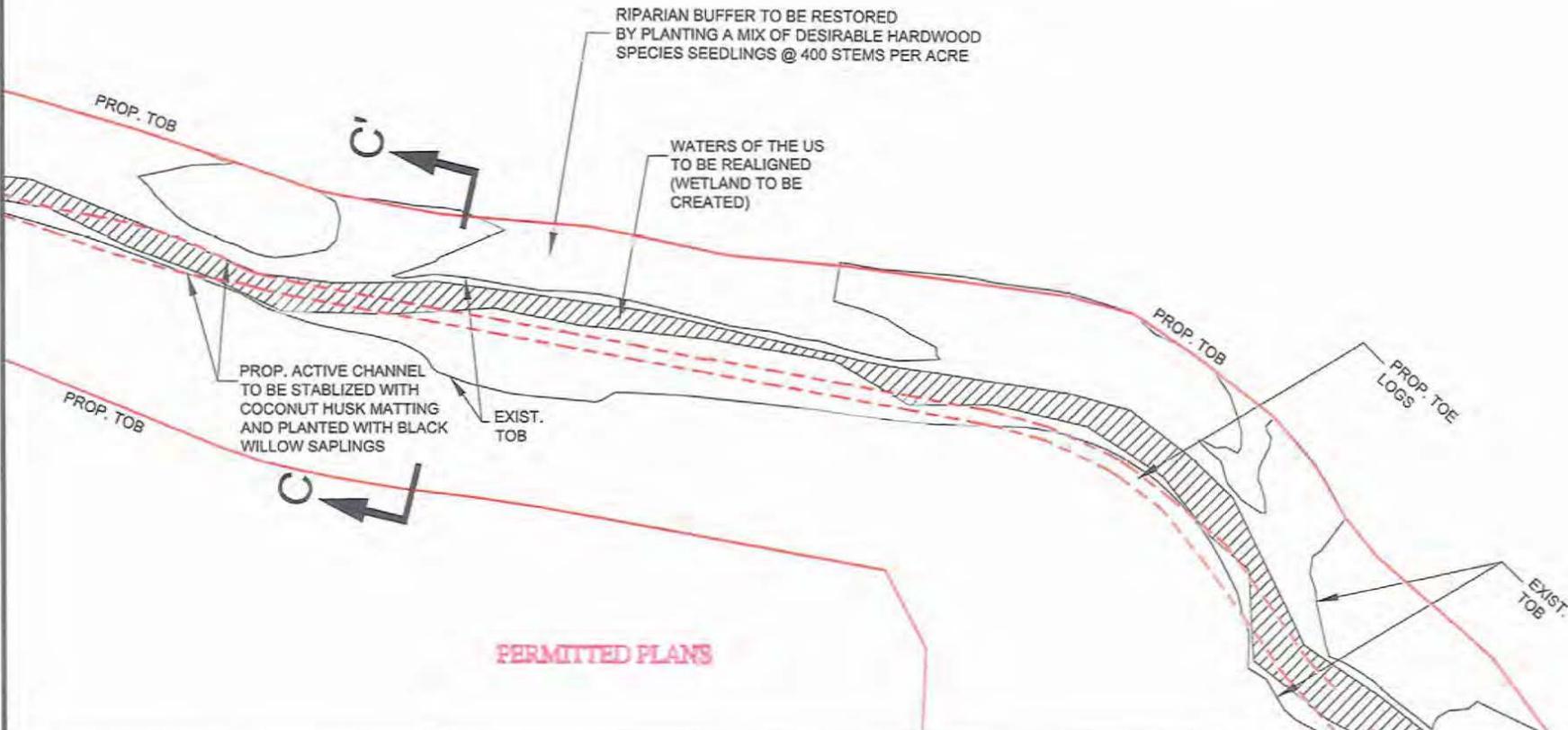
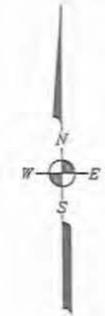
**PROPOSED TOWN CREEK DRAINAGE IMPROVEMENTS
SHEET 3**

<p>PROJECT #: 8371</p> <p>FOR: <u>Klotz Associates, Inc.</u></p> <p>LOCATION: <u>Town Creek Drainage Improvement Project</u> <u>Walker County, Texas</u></p>	<p>REVISIONS:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="font-size: small;">Feb. 6, 2013 by MDR</td></tr> <tr><td style="font-size: small;">June 16, 2014 by MDR</td></tr> <tr><td style="font-size: small;">Oct. 31, 2014 by MDR</td></tr> </table>	Feb. 6, 2013 by MDR	June 16, 2014 by MDR	Oct. 31, 2014 by MDR	<p>BERG • OLIVER ASSOCIATES, INC.</p> <p>ENVIRONMENTAL SCIENCE, ENGINEERING & LAND USE CONSULTANTS</p> <p>14701 ST. MARY'S LANE, SUITE 400 HOUSTON, TX 77079 PHONE (281) 589-0898 http://www.bergoliver.com</p>
Feb. 6, 2013 by MDR					
June 16, 2014 by MDR					
Oct. 31, 2014 by MDR					



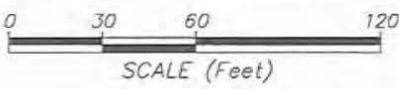
NOV 03 2014

LEGEND		ACRES
	Waters of the U.S. - to be Realigned	0.68 Acres 2,333 LF
	Proposed Planting with Black Willow Saplings	2.309 LF



PERMITTED PLANS

PROPOSED TOWN CREEK DRAINAGE IMPROVEMENTS
SHEET 4



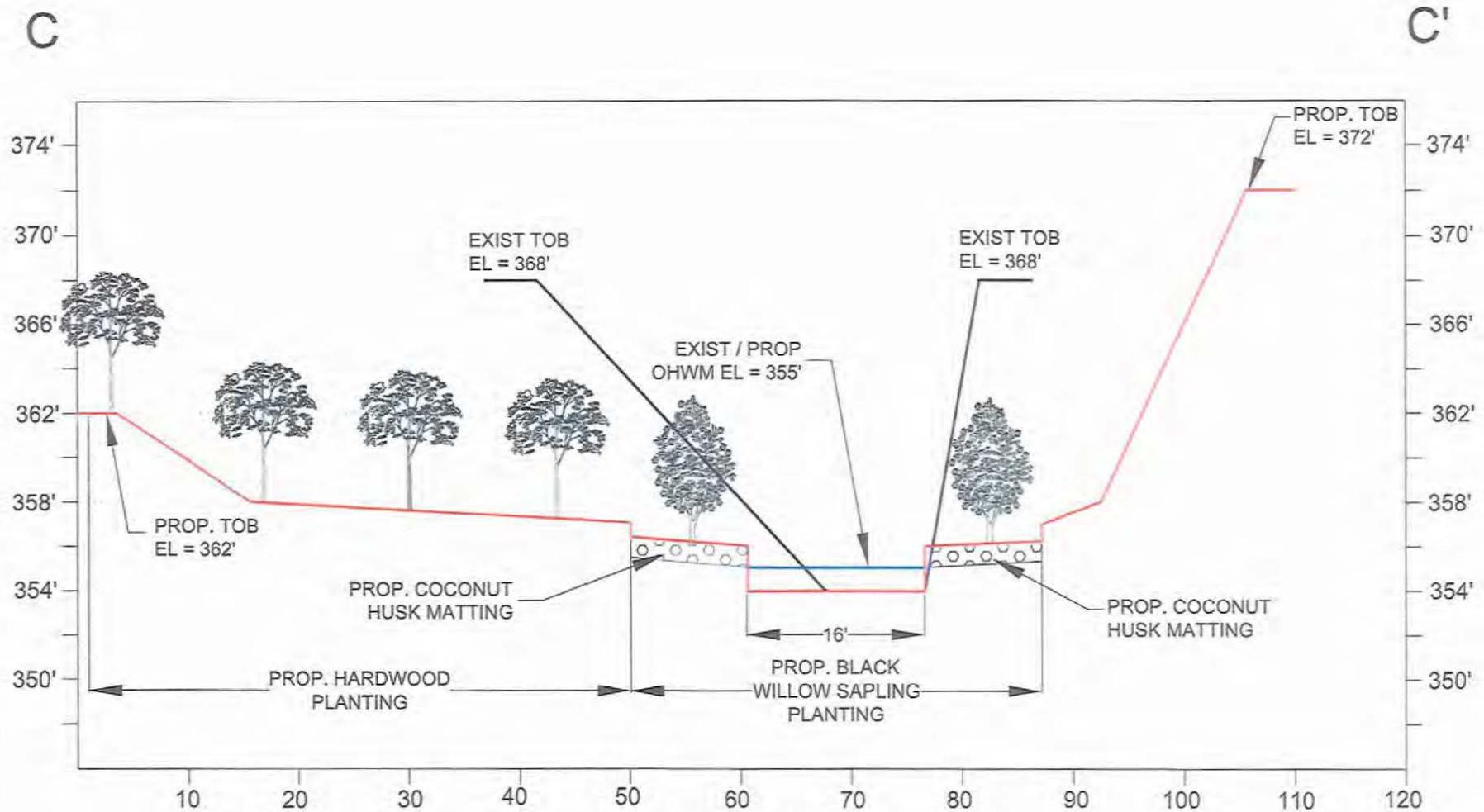
PROJECT #: 0371
 FOR: *Klotz Associates, Inc.*
 LOCATION: *Town Creek Drainage Improvement Project*
Walker County, Texas

REVISIONS:
Feb. 6, 2013 by MDB
June 16, 2014 by MDB
Oct. 31, 2014 by MDB

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NOV 03 2014



 PROP. COCONUT HUSK MATTING

PERMITTED PLANS

PROPOSED TOWN CREEK DRAINAGE IMPROVEMENTS
CROSS SECTION C-C'

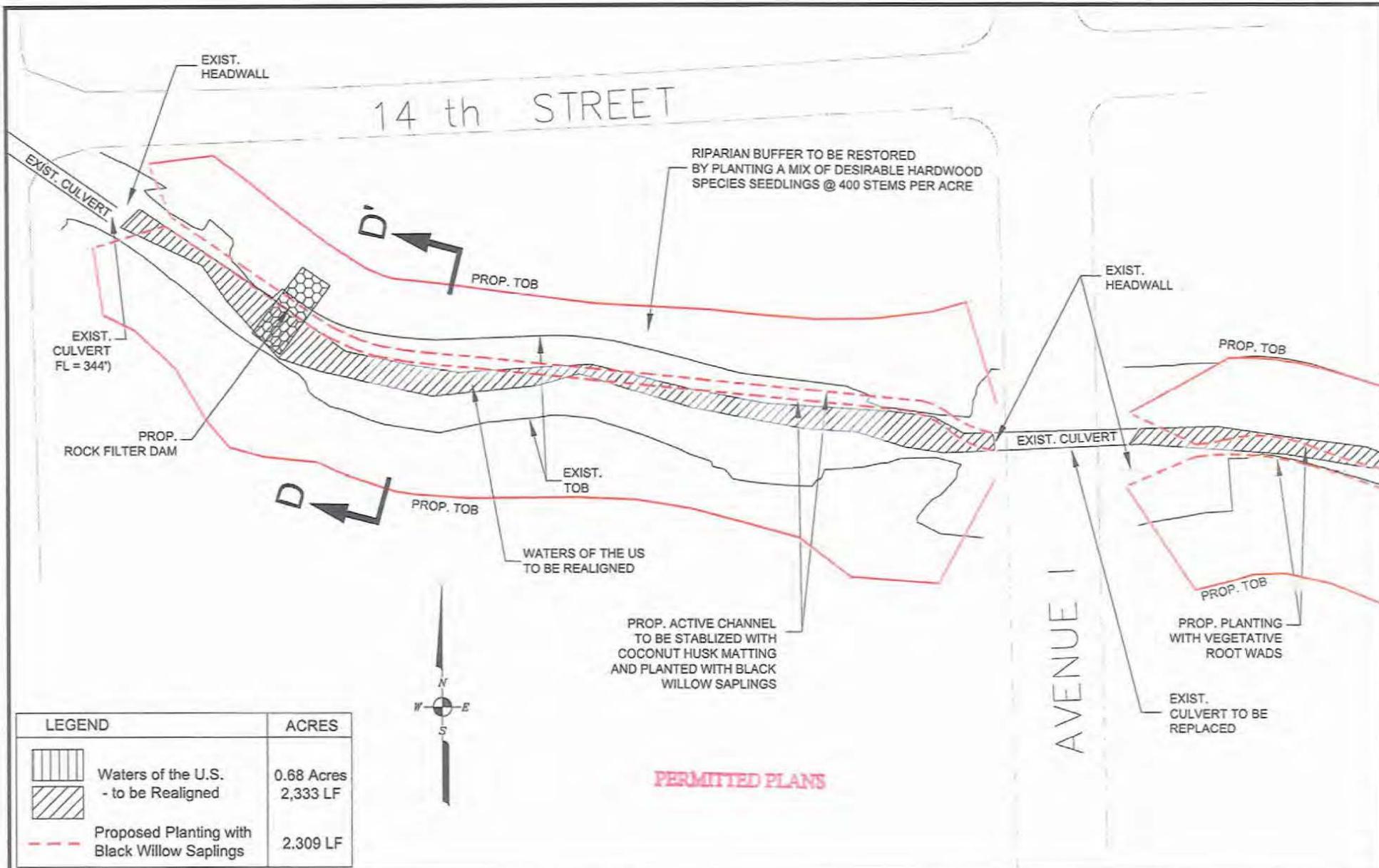
PROJECT #: 8371
 FOR: *Klotz Associates, Inc.*
 LOCATION: *Town Creek Drainage Improvement Project*
Walker County, Texas

REVISIONS:
Feb. 6, 2013 by MDR
June 16, 2014 by MDR
Oct. 31, 2014 by MDR

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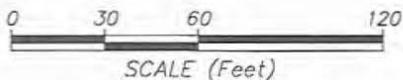
NOV 03 2014



PERMITTED PLANS

LEGEND	ACRES
 Waters of the U.S. - to be Realigned	0.68 Acres 2,333 LF
 Proposed Planting with Black Willow Saplings	2.309 LF

PROPOSED TOWN CREEK DRAINAGE IMPROVEMENTS
SHEET 5



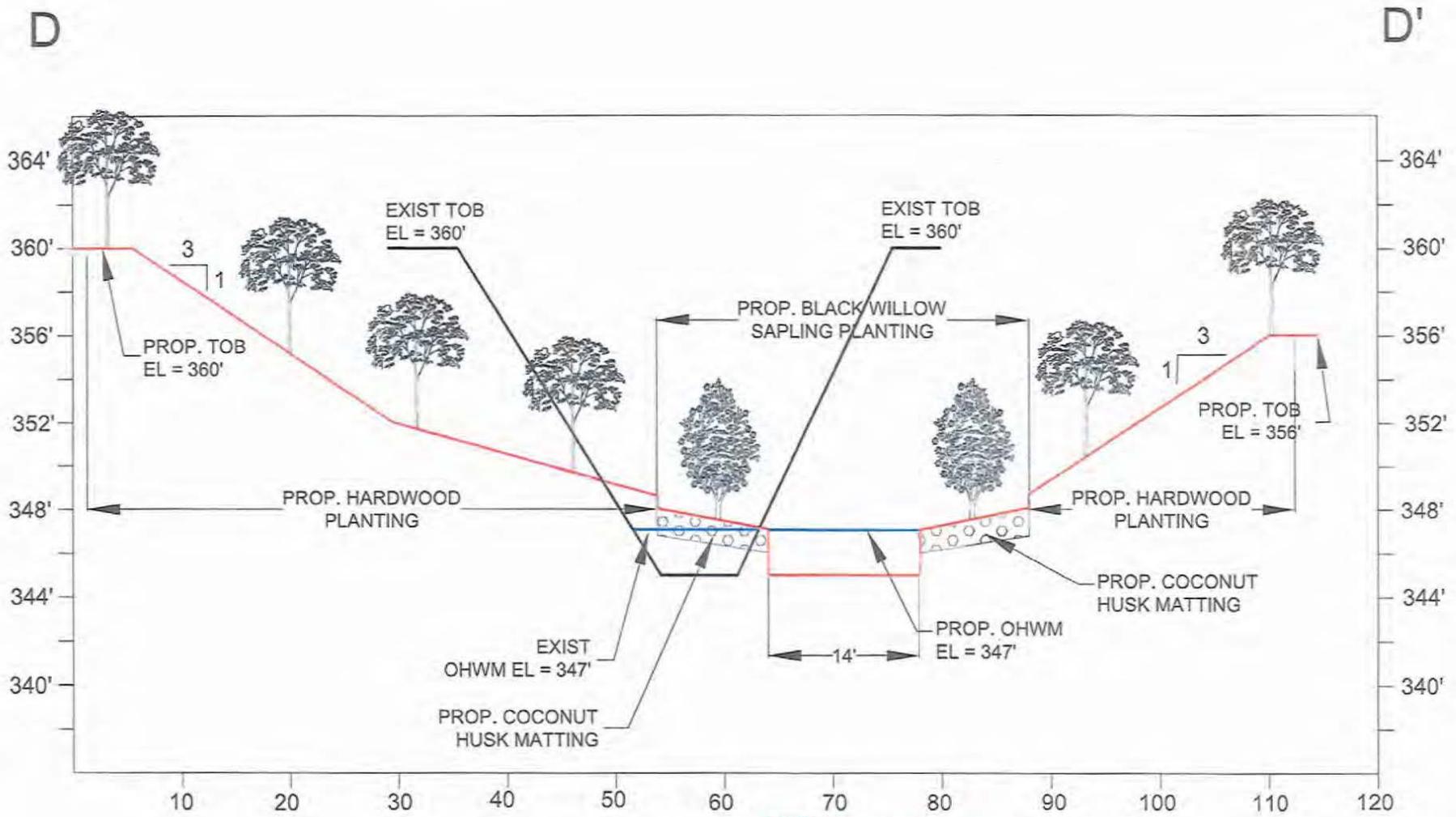
PROJECT #: 8371
FOR: *Klotz Associates, Inc.*
LOCATION: *Town Creek Drainage Improvement Project*
Walker County, Texas

REVISIONS:
Feb. 5, 2013 by MDB
June 16, 2014 by MDB
Oct. 31, 2014 by MDB

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LAND USE CONSULTANTS
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PERMITTED PLANS

PROP. COCONUT HUSK MATTING

PROPOSED TOWN CREEK DRAINAGE IMPROVEMENTS
CROSS SECTION D-D'

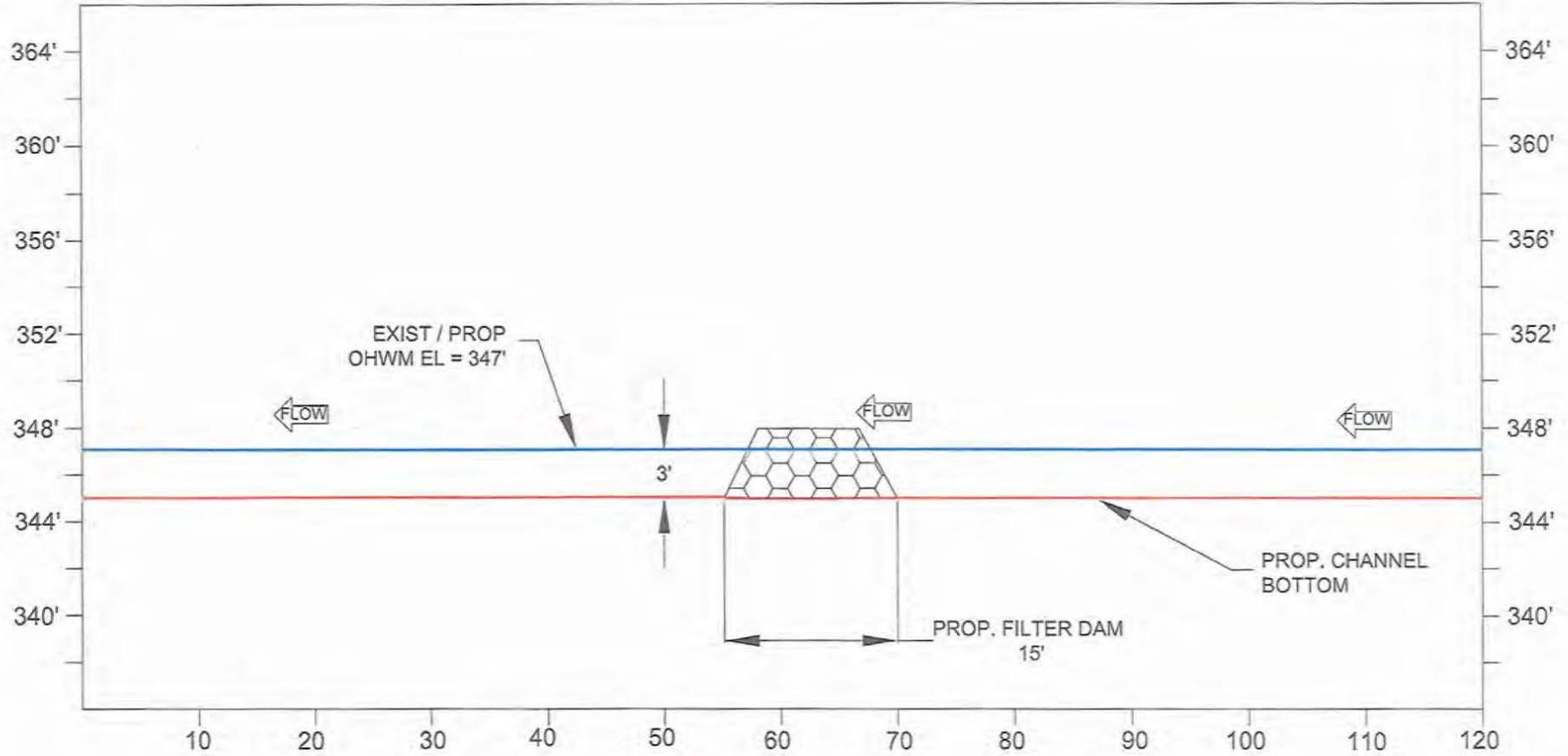
PROJECT #: 0371
 FOR: Klotz Associates, Inc.
 LOCATION: Town Creek Drainage Improvement Project
 Walker County, Texas

REVISIONS:
Feb. 6, 2013 by MGB
June 16, 2014 by MGB
Oct. 31, 2014 by MGB

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NOV 03 2014



PERMITTED PLANS

PROPOSED TOWN CREEK DRAINAGE IMPROVEMENTS
TYPICAL FILTER DAM PROFILE VIEW

PROJECT #: 8371
 FOR: Klotz Associates, Inc.
 LOCATION: Town Creek Drainage Improvement Project
 Walker County, Texas

REVISIONS:
Feb. 6, 2013 by MGB
June 16, 2014 by MGB
Oct. 31, 2014 by MGB

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PERMITTED PLANS

The City of Huntsville
Town Creek Rehabilitation Construction Notes
Huntsville, Walker County, Texas

Project Location

The USGS Quad reference map for the project site is Huntsville, Texas. The project site is located northwest and southeast of the State Highway 30 and State Highway 75 intersection in Huntsville, Walker County, Texas at UTM coordinates 3,401,504.670m.N and 256,125.370m.E (NAD83).

Background

The Applicant is proposing to re-establish 2,333 linear feet of Town Creek for the purpose of improving storm water management and reduce localized flooding.

Construction Notes

An active channel with a varying bottom width and 3:1 side slopes will be constructed within the overall proposed channel. The purpose of the active channel creation is to create a multi-tiered channel. The active channel is designed to contain a 2-year storm event.

Coconut husk matting will be installed along the entire length of the active channel during construction to stabilize the side slopes of the active channel.

Black willow (*Salix nigra*) saplings will be planted along the entire length of the active channel to ensure long term stability of the active channel.

Desirable hard wood seedlings including a mix of oak (*Quercus nigra* and *Quercus phellos*) and elm (*Ulmus crassifolia*) will be planted along the banks and side slopes of the overall channel to restore the riparian buffer along the entire channel at a density of 400 stems per acre. The exact species composition will be dependent upon species availability at the time of planting.

The side slopes of the overall channel will be over-seeded with a grass mix to ensure long term stability of the overall channel.

Toe logs will be mechanically driven in the toe of the channel where appropriate to ensure stability of the channel toe.

The Corps of Engineers, Galveston District, Chief, Compliance Branch, Regulatory Division, will be provided as-built drawings at the conclusion of construction.

Site Protection

The site will be protected under a deed restriction to be recorded with Walker County.

A copy of the signed deed restriction will be furnished to the Chief, Compliance Branch, Regulatory Division, Galveston District within six months from the start of work within jurisdictional areas.

Any changes needed to the deed restriction must have review and written approval of the Chief, Compliance Branch, Regulatory Division, Galveston District.

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Zak Covar, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*



DEC 18 2014

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 18, 2014

Ms. Elizabeth Shelton
Galveston District CESWG-PE-RE
U.S. Army Corps of Engineers
P.O. Box 1229
Galveston, Texas 77553-1229

Re: USACE Permit Application No. SWG-2012-01017

Dear Ms. Shelton:

This letter is in response to the Statement of Findings (SOF) dated December 8, 2014, for the Joint Public Notice dated April 2, 2014, on the City of Huntsville proposed stream improvement project. The project is located in Huntsville, Walker County, Texas.

The Texas Commission on Environmental Quality (TCEQ) has reviewed the public notice and related application information along with the SOF. On behalf of the Executive Director and based on our evaluation of the information contained in these documents, the TCEQ certifies that there is reasonable assurance that the project will be conducted in a way that will not violate water quality standards. General information regarding this water quality certification, including standard provisions of the certification, is included as an attachment to this letter.

The applicant proposes to discharge fill material below the ordinary high water mark during excavation, bank lay-back, and earthwork to re-establish 2,333 linear feet of Town Creek to improve stormwater management and reduce localized flooding. The applicant proposes to lay back the stream banks, create a bench and floodplain within the top of bank limits of Town Creek. The applicant proposes to plant black willow saplings and desirable hardwood species seedlings along 2,309 linear feet of the channel and up the banks as well as place coconut matting and install toe logs as additional bank stabilization features. The applicant also proposes to install a rock filter dam to capture sediment prior to the entry of the stream into the existing underground culverts.

The applicant does not propose any mitigation, but proposes that the project will be self-mitigating.

The TCEQ has reviewed this proposed action for consistency with the Texas Coastal Management Program (CMP) goals and policies in accordance with the CMP regulations (Title 34, Texas Administrative Code (TAC), Section (§)505.30) and has determined that the action is consistent with the applicable CMP goals and policies.

DEC 18 2014

Ms. Elizabeth Shelton, Project Manager
USACE Permit Application No. SWG-2012-01017
Attachment – Dredge and Fill Certification
Page 1 of 3

WORK DESCRIPTION: As described in the public notice dated April 2, 2014, and the December 8, 2014, Environmental Assessment and Statement of Findings.

SPECIAL CONDITIONS: None

GENERAL: This certification, issued pursuant to the requirements of Title 30, Texas Administrative Code, Chapter 279, is restricted to the work described in the December 8, 2014, Environmental Assessment and Statement of Findings and shall be concurrent with the Corps of Engineers (COE) permit. This certification may be extended to any minor revision of the COE permit when such change(s) would not result in an impact on water quality. The Texas Commission on Environmental Quality (TCEQ) reserves the right to require full joint public notice on a request for minor revision. The applicant is hereby placed on notice that any activity conducted pursuant to the COE permit which results in a violation of the state's surface water quality standards may result in an enforcement proceeding being initiated by the TCEQ or a successor agency.

STANDARD PROVISIONS: These following provisions attach to any permit issued by the COE and shall be followed by the permittee or any employee, agent, contractor, or subcontractor of the permittee during any phase of work authorized by a COE permit.

1. The water quality of wetlands shall be maintained in accordance with all applicable provisions of the Texas Surface Water Quality Standards including the General, Narrative, and Numerical Criteria.
2. The applicant shall not engage in any activity which will cause surface waters to be toxic to man, aquatic life, or terrestrial life.
3. Permittee shall employ measures to control spills of fuels, lubricants, or any other materials to prevent them from entering a watercourse. All spills shall be promptly reported to the TCEQ by calling the State of Texas Environmental Hotline at 1-800-832-8224.
4. Sanitary wastes shall be retained for disposal in some legal manner. Marinas and similar operations which harbor boats equipped with marine sanitation devices shall provide state/federal permitted treatment facilities or pump out facilities for ultimate transfer to a permitted treatment facility. Additionally, marinas shall display signs in appropriate locations advising boat owners that the discharge of sewage from a marine sanitation device to waters in the state is a violation of state and federal law.
5. Materials resulting from the destruction of existing structures shall be removed from the water or areas adjacent to the water and disposed of in some legal manner.
6. A discharge shall not cause substantial and persistent changes from ambient conditions of turbidity or color. The use of silt screens or other appropriate methods is encouraged to confine suspended particulates.

7. The placement of any material in a watercourse or wetlands shall be avoided and placed there only with the approval of the Corps when no other reasonable alternative is available. If work within a wetland is unavoidable, gouging or rutting of the substrate is prohibited. Heavy equipment shall be placed on mats to protect the substrate from gouging and rutting if necessary.
8. Dredged Material Placement: Dredged sediments shall be placed in such a manner as to prevent any sediment runoff onto any adjacent property not owned by the applicant. Liquid runoff from the disposal area shall be retained on-site or shall be filtered and returned to the watercourse from which the dredged materials were removed. Except for material placement authorized by this permit, sediments from the project shall be placed in such a manner as to prevent any sediment runoff into waters in the state, including wetlands.
9. If contaminated spoil that was not anticipated or provided for in the permit application is encountered during dredging, dredging operations shall be immediately terminated and the TCEQ shall be contacted by calling the State of Texas Environmental Hotline at 1-800-832-8224. Dredging activities shall not be resumed until authorized by the Commission.
10. Contaminated water, soil, or any other material shall not be allowed to enter a watercourse. Non-contaminated storm water from impervious surfaces shall be controlled to prevent the washing of debris into the waterway.
11. Storm water runoff from construction activities that result in a disturbance of one or more acres, or are a part of a common plan of development that will result in the disturbance of one or more acres, must be controlled and authorized under Texas Pollutant Discharge Elimination System (TPDES) general permit TXR150000. A copy of the general permit, application (notice of intent), and additional information is available at: http://www.tceq.texas.gov/permitting/stormwater/wq_construction.html or by contacting the TCEQ Storm Water & Pretreatment Team at (512) 239-4671.
12. Upon completion of earthwork operations, all temporary fills shall be removed from the watercourse/wetland, and areas disturbed during construction shall be seeded, ripped, or given some other type of protection to minimize subsequent soil erosion. Any fill material shall be clean and of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters.
13. Disturbance to vegetation will be limited to only what is absolutely necessary. After construction, all disturbed areas will be re-vegetated to approximate the pre-disturbance native plant assemblage.
14. Where the control of weeds, insects, and other undesirable species is deemed necessary by the permittee, control methods which are nontoxic to aquatic life or human health shall be employed when the activity is located in or in close proximity to water, including wetlands.

DEC 18 2014

Ms. Elizabeth Shelton, Project Manager
USACE Permit Application No. SWG-2012-01017
Attachment – Dredge and Fill Certification
Page 3 of 3

15. Concentrations of taste and odor producing substances shall not interfere with the production of potable water by reasonable water treatment methods, impart unpalatable flavor to food fish including shellfish, result in offensive odors arising from the water, or otherwise interfere with reasonable use of the water in the state.
16. Surface water shall be essentially free of floating debris and suspended solids that are conducive to producing adverse responses in aquatic organisms, putrescible sludge deposits, or sediment layers which adversely affect benthic biota or any lawful uses.
17. Surface waters shall be essentially free of settleable solids conducive to changes in flow characteristics of stream channels or the untimely filling of reservoirs, lakes, and bays.
18. The work of the applicant shall be conducted such that surface waters are maintained in an aesthetically attractive condition and foaming or frothing of a persistent nature is avoided. Surface waters shall be maintained so that oil, grease, or related residue will not produce a visible film of oil or globules of grease on the surface or coat the banks or bottoms of the watercourse.
19. This certification shall not be deemed as fulfilling the applicant's/permittee's responsibility to obtain additional authorization/approval from other local, state, or federal regulatory agencies having special/specific authority to preserve and/or protect resources within the area where the work will occur.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: City of Huntsville		File Number: SWG-2012-01017	Date: 12/23/14
Attached is:			See Section below
X	INITIAL PROFFERED PERMIT (Standard Permit or Letter of Permission)	A	
	PROFFERED PERMIT (Standard Permit or Letter of Permission)	B	
	PERMIT DENIAL	C	
	APPROVED JURISDICTIONAL DETERMINATION	D	
	PRELIMINARY JURISDICTIONAL DETERMINATION	E	

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at

http://www.usace.army.mil/CECW/Pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:
Elizabeth A. Shelton, Regulatory Specialist
CESWG-RD-E, P.O. Box 1229
Galveston, Texas 77553-1229
Telephone: 409-766-3937; FAX: 409-766-6301

If you only have questions regarding the appeal process you may also contact:
Mr. Elliott Carman
Administrative Appeals Review Officer (CESWD-PDO)
U.S. Army Corps of Engineers
1100 Commerce Street, Suite 831
Dallas, Texas 75242-1317
469-487-7061 (phone)

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:

Telephone number:

CESWG-RD-E
Application: SWG-2012-01017

MEMORANDUM FOR THE RECORD

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above – Numbered Permit Application

This document constitutes the Environmental Assessment, Section 404(b)(1) Guidelines Evaluation (attached), Public Interest Review, and Statement of Findings for the subject application.

1. Applicant.

City of Huntsville
1212 Avenue M
Huntsville, TX 77340

LATITUDE & LONGITUDE (NAD 83):

Start Latitude: 30.716622 North; Longitude: -95.542797 West
End Latitude: 30.720139 North; Longitude: -95.548897 West

2. Corps Authority. The US Army Corps of Engineers, Galveston District (Corps) will evaluate the proposed activity under Section 404 of the Clean Water Act (33 USC 1344).

3. Project and Site Description. The applicant proposes to discharge fill material below the ordinary high water mark during excavation, bank lay back, and earthwork to re-establish 2,333 linear feet (0.68 acres) of Town Creek to improve stormwater management and reduce localized flooding. The applicant proposes lay back the banks to create a bench and floodplain within the top of bank limits of the channel of Town Creek. The applicant proposes to plant with black willow saplings and desirable hardwood species seedlings along 2,309 linear feet of the channel and up the banks and place coconut husk matting and install toe logs as additional bank stabilization features. The applicant proposes to install a rock filter dam to capture sediment prior to the entry of the stream into the existing underground culverts. The project is located in Town Creek between the starting point at 17th Street and the ending point at 14th Street and Avenue J, in Huntsville, in Walker County, Texas. The USGS Quad reference map is: Huntsville, Texas.

Avoidance and Minimization Information: The applicant has stated that they have avoided and minimized the environmental impacts by use of Natural Channel Stream Design. The capacity of Town Creek will not be increased by the proposed project further reducing the environmental impacts. The applicant initially proposed to work within 3,770 linear feet of Town Creek.

PERMIT APPLICATION – SWG-2012-01017

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above – Numbered Permit Application

This design was eliminated because reducing the linear footage of the proposed work to the proposed 2,333 linear feet still accomplished the goals of the proposed project and further minimized the environmental impacts. The applicant is minimizing the detrimental impacts of the earthwork by stabilizing the banks with coconut husk matting, use of toe logs, and planting along the channel and up the banks with black willow saplings and desired hardwood species seedlings.

Compensatory Mitigation: The proposed project design has avoided and minimized impacts. It is anticipated the design will create a net positive measurable biological and ecological impact to the existing stream habitat of Town Creek. Therefore, compensatory mitigation for the project impacts will not be required. The applicant used the SWG Stream Condition Assessment dated May 2014 to evaluate the function of Town Creek. The calculated averaged (8 transects) Reach Condition Index (RCI) for the pre-construction condition of Town Creek was 1.64. The applicant anticipates the proposed project will generate a RCI estimated at 2.8 to 3.2 upon completion of construction. The applicant will monitor the stream condition for two years and the restored riparian corridor for a period of ten years. The applicant will be financially responsible for short term and long term management of the project and also responsible for repairs and changes, if necessary.

4. Purpose and Need.

Applicant's Stated Purpose and Need:

The applicant's stated purpose and need is to reduce flooding during small rain events, improve the overall drainage, and provide a net positive ecological and biological habitat creation within Town Creek. The proposed work is designed to restore the original channel of Town Creek and to prevent and reduce future erosion.

Basic Project Purpose and Water Dependency Determination:

The basic project purpose is to reduce flooding and erosion risk of Town Creek. There are no special aquatic sites impacted by the proposed project. The proposed project does not require access or proximity to or siting within a special aquatic site to fulfill its basic purpose; therefore, in accordance with 40 CFR Part 230, Section 404(b)(1) Guidelines the proposed project is not water dependent.

Overall Project Purpose:

The overall project purpose is to reduce flooding risk, prevent and reduce future erosion, and improve the ecological habitat of Town Creek.

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5. Existing Conditions. The project is located within the banks of Town Creek from 14th Street to Bearkat Boulevard within the City of Huntsville. The project is surrounded by commercial and public infrastructure development. Historically, Town Creek was a natural tributary of Parker Creek that flowed toward Lake Livingston and collected rainwater runoff from the surrounding area. The City of Huntsville developed around Town Creek and the subsequent minimal drainage improvements resulted in major erosion of the channel of Town Creek and increased flooding of the areas surrounding this stream. The project boundaries do not contain any wetlands.

6. Background. The applicant proposes to re-establish the historic drainage pathway of Town Creek because of frequent localized flooding occurring within the City of Huntsville. This area has been designated as one of the highest priorities by the Texas Emergency Management Office and FEMA for flood risks. Town Creek is a historic tributary of Parker Creek which flows into Lake Livingston to the northeast. Portions of the development of the City of Huntsville and Sam Houston State University were designed to feed stormwater into Town Creek. Stormwater improvements within Town Creek were not adequate to handle the stormwater load. As a result small rain events have caused severe localized flooding since the 1970s. Due to the additional stormwater, the original channel has eroded creating a much wider, steeper banked and less efficient drainage channel. This decrease in efficiency has increased the potential for upstream and downstream flooding due to the drainage system operating incorrectly. The erosion is creating structural integrity issues along the banks surrounding Town Creek causing safety issues for the general public and land owners. The continued erosion is also creating siltation and sedimentation issues within and downstream of Town Creek. The restoration of the Town Creek channel by the laying back of the existing banks is necessary to restore Town Creek since a large amount of the original channel and bank has eroded.

The applicant utilized the Natural Channel Design Checklist published by the EPA, USFWS, and Stream Mechanics (2011) to assist with the design of the proposed project. The project design mimics that of the example given within the text “flows larger than bank full should be transported on a flood plain or flood-prone area.” The intent of the project design is to: 1) stop urban flooding which is a major source of pollutants, sediment, and suspended solids; and 2) allow Town Creek to flow within a vegetated restored floodplain. The project design has allowed the floodplain of Town Creek to be extended to the widest points as possible through the project length with the exception of those areas that are restricted by urban development such as roads and buildings.

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7. Scope of Analysis.

a. NEPA: The determination of what is the appropriate Scope of Analysis governing the Corps' permit review and decision is guided by the Corps' National Environmental Policy Act (NEPA) regulations for the regulatory program: 33 CFR 325, Appendix B. The Scope of Analysis should be limited to the specific activity requiring a Department of the Army (DA) permit and any additional portions of the entire project over which there is sufficient Federal control and responsibility to warrant NEPA review. Appendix B states that factors to consider in determining whether sufficient "control and responsibility" exist include: 1) whether or not the regulated activity comprises "merely a link" in a corridor type project; 2) whether there are aspects of the upland facility in the immediate vicinity of the regulated activity which affect the location and configuration of the regulated activity; 3) the extent to which the entire project will be within Corps jurisdiction; and 4) the extent of cumulative Federal control and responsibility. Generally, the Corps' area of responsibility includes all waters of the U.S. as well as any additional areas of non-jurisdictional waters or uplands where the district determines there is adequate Federal control and responsibility to justify including those areas within the Corps' NEPA scope of analysis. This normally includes upland areas in the immediate vicinity of the waters of the U.S. where the regulated activity occurs (Standard Operating Procedures for the U.S. Army Corps of Engineers Regulatory Program – July 2009).

(1) Factors.

(i) With regard to the first factor that must be considered in the determination of sufficient Federal control and responsibility, the regulated activities associated with this flood risk management project do not comprise a link in a corridor type of project.

(ii) With regard to the second factor, the design of upland portions of the flood risk management project occurring in the immediate vicinity of the regulated activities does not affect the location and configuration of the regulated activities. The water of the U.S. will receive indirect ecological benefits from the adjacent upland riparian corridor.

(iii) With regard to the third factor, the extent to which the entire project will be within Corps jurisdiction, the proposed flood risk management project will directly impact 2,333 linear feet of Town Creek, a jurisdictional relatively permanent water of the U.S.. The adjacent upland riparian corridor of Town Creek will also be impacted by this proposed project.

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(iv) With regard to the fourth factor that must be considered in the determination of sufficient Federal control and responsibility, during our consideration of the extent of cumulative Federal control and responsibility for this project, we appropriately relied on and fully considered, information and reports from Federal agencies pursuant to their responsibilities under the Fish and Wildlife Coordination Act, the Endangered Species Act (ESA), and Essential Fish Habitat (EFH) regulations (National Marine Fisheries Service – NMFS). ESA threatened or endangered species consultation with the FWS and EFH consultation with NMFS was not required for this permit action. Our staff archeologist reviewed the project site and determined that there are no properties listed in the National Register of Historic Places for the permit area. No further coordination was required pursuant to our responsibilities under 33 CFR 325, Appendix C.

The applicant will receive funding from FEMA to construct the project which will assist with alleviating flood risks in the local area. The project has not yet received its Section 401 Clean Water Act water quality certification from the TCEQ. This clearance is pending and will be required before construction is initiated. No other requests for approval were denied by Federal and state land use planning authorities.

(2) Determined Scope. In conclusion, based on our examination of NEPA (33 CFR 325, Appendix B) and applicable program guidance (e.g. CEQ's Considering Cumulative Effects under the National Environmental Policy Act and the Standard Operating Procedures for the U.S. Army Corps of Engineers Regulatory Program – July 2009), we have determined that the appropriate scope for this project is over the entire property which consists of the direct impacts to Town Creek and the adjacent upland riparian corridor.

The proposed project is not a link in a corridor project, the design of the upland portions does not affect the regulated activities, and only the water of the U.S. is within our jurisdiction. The water of the U.S. will receive indirect ecological benefits from the activities occurring within the adjacent upland riparian corridor. Therefore, sufficient Federal control and responsibility does exist to warrant expanding our review to areas outside our jurisdiction, inclusive of those areas adjacent to project features that require DA permit authorization. Our Scope of Analysis for uplands will include the direct impacts to uplands resulting from planting and other activities within the stream riparian corridor.

b. National Historic Properties Act (NHPA) "Permit Area". The determination of what is the appropriate Scope of Analysis governing the Corps' permit review and decision is guided by the Corps' NHPA regulations for the regulatory program: 33 CFR 325, Appendix C.

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(1) Tests. Activities outside waters of the United States are included because of all of the following tests are satisfied: Such activity would not occur but for the authorization of the work or structures within the waters of the United States; Such activity is integrally related to the work or structures to be authorized within waters of the United States (or, conversely, the work or structures to be authorized must be essential to the completeness of the overall project or program); and such activity is directly associated (first order impact) with the work or structures to be authorized.

(2) Determined Scope. We have determined that the appropriate scope for this project is over the entire project area.

c. Endangered Species Act (ESA) “Action Area.” The determination of what is the appropriate Scope of Analysis governing the Corps’ permit review and decision is guided by the Endangered Species Act of 1973.

(1) Action area means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.

(2) Determined Scope. We have determined that the appropriate ESA action area for this project is over the entire project area.

8. Environmental Assessment.

a. Alternatives. A key provision of the 404(b)(1) guidelines is the “practicable alternative test” which requires that “no discharge of fill material shall be permitted if there is a practicable alternative to the proposed fill which would have a less adverse impact on the aquatic ecosystem.” This is especially true when the proposed project is not water dependent. The applicant must demonstrate that there are no less damaging sites available and that all onsite impacts to waters of the United States have been avoided to the maximum practicable extent possible. For an alternative to be considered “practicable”, it must be available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose. The applicant considered the following siting criteria to determine the preferred alternative: 1) reduction of flooding risk potential 2) reduction of erosion risk 3) improvement of the structural integrity of the banks of Town Creek 4) minimal environmental impacts. Three alternatives were considered based on the above siting criteria.

(1) No Action Alternative. This alternative involves permit denial. Under this scenario, the applicant would not re-establish the floodplain capacity of Town Creek.

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The applicant would continue to rely on the existing conditions and the inefficient and engineered design of Town Creek. Reliance on the existing conditions of Town Creek does not alleviate the flood and erosion risk to the adjacent urban infrastructure. This is not a practicable alternative because it does not meet the project's purpose and need.

(2) Offsite Alternatives. This alternative considers offsite locations and technology that would manage flows within Town Creek to reduce the flooding risk to the adjacent urban development within the City of Huntsville. However, the project is funded with grant monies from FEMA to construct a project that would reduce the risk of flooding in this specific location. The project purpose is to reduce the localized recurrent flooding and to alleviate the erosion and structural integrity of the channel of Town Creek. Alternative land locations and technology to reduce the existing normal flow within Town Creek could reduce the localized flooding risk potentially not during high flow flash flood events. The flash flood event high flow rate would still provide a source of erosion and potentially decrease the structural integrity of the existing banks of Town Creek. This alternative could reduce the flooding risk but would not mitigate the existing erosion in the channel and the existing degradation of the structural integrity of the banks. In addition, the related construction costs to achieve this alternative could exceed the limited grant funding budget as provided by FEMA. As such, this alternative is not practicable because it would not achieve the overall project purpose.

(3) Onsite Alternative 1. This onsite alternative considered reestablishment of 3,770 linear feet of Town Creek. This distance started at the intersection of Town Creek and Bearkat Boulevard and ended at 14th Street. This distance is the entire length of the open channel of Town Creek prior to its entrance to an underground culverted system. This alternative involved earthwork modification to the banks, installation of concrete armoring for bank stabilization, and concrete and riprap for in-stream habitat elements. During project design it was determined a reduction of the linear distance still accomplished the project purpose of reducing localized flooding risks, preventing and reducing erosion risk, and improving the structural integrity of the banks. Although this longer distance onsite alternative meets the project purpose and is practicable it does not reduce the environmental footprint of impact to Town Creek. Therefore, this alternative is not the least environmentally damaging practicable alternative.

(4) Onsite Alternative 2 (Applicant's Preferred Alternative). This onsite alternative is the applicant's preferred alternative. This alternative involves removal of most hard structures such as concrete blocks and riprap and the removal of an engineered pilot channel within the banks of Town Creek. The proposed project involves earthwork within 2,333 linear feet to excavate and lay back the banks and create floodplain benches within the top of bank limits.

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To stabilize the banks the applicant will place coconut husk matting to hold soil in place, place toe logs as in stream structures, and plant black willow saplings and desired hardwood species seedlings along the channel of Town Creek. The only hard structure placed in the channel of Town Creek will be a rock filter dam to capture sediment prior to the entry of the stream into the existing underground culverts. This onsite alternative design meets the project purpose of mitigating localized flooding and erosion risks and improving the structural integrity of the existing banks of Town Creek. This onsite alternative does not exceed the grant funded budget as provided by FEMA. In addition this onsite alternative provides a positive ecological benefit to the habitat of Town Creek. Therefore, this alternative is the least environmentally damaging practicable alternative.

b. Environmental Setting. The project is located within the banks of Town Creek from 14th Street to Bearkat Boulevard within the City of Huntsville. The project is surrounded by commercial and public infrastructure development. Historically, Town Creek was a natural tributary of Parker Creek that flowed toward Lake Livingston and collected rainwater runoff from the surrounding area. The City of Huntsville developed around Town Creek and the subsequent minimal drainage improvements resulted in major erosion of the channel of Town Creek and increased flooding of the areas surrounding this stream. The project boundaries do not contain any wetlands.

c. Environmental Impacts. The possible consequences of this proposed work were studied for environmental concerns, social well-being, and the public interest, in accordance with regulations published in 33 CFR 320-332. All factors, which may be relevant to the proposal, must be considered. The following factors were determined to be particularly relevant to this application and were evaluated appropriately, as they relate to the least environmentally damaging practicable alternative described in the alternative analysis section.

(1) Historic and Cultural Resources. The National Register of Historic Places has been consulted and no properties are listed in the permit area. In addition, the permit area has been so extensively modified that little likelihood exists for the proposed project to impinge upon a historic property, even if present within the affected area.

(2) Water Quality. Temporary turbidity is probable during construction operations, resulting in minimal damage to fish and wildlife habitat and other biota. No lasting water pollution will occur.

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(3) Endangered Species. While Red-cockaded woodpecker is known to exist within Walker County, the proposed work within the project area will have No Affect on this species or its habitat/critical habitat. There is no suitable habitat for this species within the project boundaries.

(4) Fish and Wildlife Values. The majority of the project runs through a developed urban environment. During construction activities, there would be short-term adverse impacts to any wildlife species in the project vicinity associated with increased noise and the presence of construction equipment. In all, the proposed work would temporarily, though not adversely, impact wildlife habitat.

(5) Essential Fish Habitat (EFH). No known impacts will occur to essential fish habitat as listed under the Magnuson-Stevens Fishery Conservation and Management Act.

(6) Wetlands/Special Aquatic Sites. There are no wetlands or special aquatic sites within the project boundaries.

(7) Shoreline Erosion and Accretion. The proposed project is designed to alleviate the future erosion risk of the banks of Town Creek.

(8) Recreation. The majority of the project runs through a developed urban environment. It anticipated the project area will be clearly marked during the construction timeframe. Therefore, the proposed project will have minimal impacts to the recreational use of Town Creek.

(9) Aesthetics. The proposed work will have a temporary adverse impact upon the aesthetic value of the site caused by the presence of construction equipment and machinery. During the construction activity, there would be a generation of noise. However, it is expected that the activities would be performed during daylight hours, be temporary, and be within normal ranges for construction equipment. Therefore, the project will not adversely impact the aesthetic value of the area, and should enhance the aesthetic quality of the waterbody as it traverses through the developed urban environment.

(10) Land Use. There are no known land use classifications or coastal zone management plans that would adversely affect the project. The land use in the project area is urban, developed, and residential.

(11) Navigation. Navigation occurring in the area will not be adversely affected by this project.

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(12) Federal Projects. The project will not adversely impact any Federal Project.

(13) Floodplain Values. The project will create a floodplain within the existing banks of Town Creek. The flood storage now provided by these areas will be contained within the existing banks of Town Creek. Other floodplain values such as fish and wildlife habitat and erosion control will not be adversely affected by the project. The creation of the floodplain will improve the existing ecological habitat conditions of Town Creek.

(14) Floodplain Hazards. Executive Order 11988, Floodplain Management, requires that Federal agencies avoid activities that directly or indirectly result in the development of a floodplain area. The majority of the project site is designated by the Federal Emergency Management Agency (FEMA) (Walker County, Panel 48471C0360D (August 16, 2011) as Zone A, AE, AO, an area that is within the 1-percent annual chance flood, 100-year flood. The project purpose will reduce the impacts of floods to the adjacent urban environment and infrastructure within the Town Creek watershed. The fill and structures authorized by this permit would not conflict with the intent of Executive Order 11988.

(15) Other Federal, State, or Local Requirements. All required Federal, State, and/or local authorization or certifications necessary to complete processing of this application have been obtained except for water quality certification.

The project site is not located within the Texas Coastal Zone and, therefore, does not require certification from the Texas Coastal Management Program.

This project is considered a Tier II project. The Texas Commission on Environmental Quality (TCEQ) has not yet acted on the applicant's request for water quality certification under Section 401 of the Clean Water Act. The Corps will provide the TCEQ with a copy of this permit decision document when finalized. The final permit decision document will contain the environmental assessment and mitigation and §404(b)(1) analysis. The TCEQ will then make its determination whether the project will comply with state surface water quality standards in accordance with Section 401 of the Clean Water Act. The Corps will provide a permit decision to the applicant when the following procedures have been completed. The TCEQ will either provide its certification decision (issuance or denial) to the Corps, or request an extension from the Corps within 10 working days from receipt of the Corps decision document. If the TCEQ does not provide a certification decision or request an extension within the 10 day period, the Corps will presume waiver of certification in accordance with 33 CFR 325.2(b) and proceed with the issuance or denial of the permit.

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If TCEQ requests an extension of time, the Corps will determine the merit of the time extension request and the length of the extension based on 33 CFR 325.2(b) and notify TCEQ of its intended decision. If the Corps decides to deny or modify a request for extension, TCEQ will have 10 working days from the date it is notified of the intended action of the Corps on the request for extension in which to either certify or deny certification.

(16) Other Factors Considered. The following factors were considered during the evaluation process but were determined to not be particularly relevant to this application: general environmental concerns, conservation, safety, energy needs, economics, water supply and conservation, air pollution, food and fiber production, and mineral needs.

d. Cumulative & Secondary Impacts. An assessment of cumulative impacts takes into consideration the consequences that past, present, and reasonably foreseeable future projects had, have, or will have on an ecosystem. Every permit application must be considered on its own merits. Its impacts on the environment must be assessed in light of historical permitting activity, along with anticipated future activities in the area. Although a particular project may constitute a minor impact in itself, the cumulative impacts that result from a large number of such projects could cause a significant impairment of water resources and interfere with the productivity and water quality of existing aquatic ecosystems.

Cumulative impacts can result from many different activities including the addition of materials to the environment from multiple sources, repeated removal of materials or organisms from the environment, and repeated environmental changes over large areas and long periods. More complicated cumulative effects occur when stresses of different types combine to produce a single effect or suite of effects. Large, contiguous habitats can be fragmented, making it difficult for organisms to locate and maintain populations between disjunctive habitat fragments. Cumulative impacts may also occur when the timings of perturbations are so close in space that their effects overlap.

Impacts resulting from the proposed project will be felt in Town Creek watershed. Per the 2006 National Land Cover database, approximately 21% of the watershed is wetlands, 5% is open water, and 78% is uplands/developed. The proposed project is similar in purpose but not design to other flood risk mitigation projects. Development surrounding the proposed project has increasingly occurred since 1950. Key issues of concern in this watershed are flooding risks and an increase in pollutants and sediment load to downstream waterbodies.

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The impacts that are expected in that area from the proposed project include a temporary impact to aquatic habitat from the flood risk management project. The proposed project will discharge fill material below the ordinary high water mark in 2,333 linear feet of Town Creek during earthwork to create the needed floodplain. Avoidance and minimization methods proposed for this project are incorporated into the natural stream channel design for the project components and use of construction best management practices to minimize construction related impacts. There is no compensatory mitigation proposed as the project is designed to be self-mitigating. Monitoring and adaptive management requirements will result in a no net loss of aquatic resources within this watershed.

Other past and present actions that have had impacts or are occurring within this watershed are previously unsuccessful attempts, such as riprap, at bank stabilization and modification of stormwater flow into Town Creek. The impacts from these actions include an engineered channel that has a high erosion risk and loss of its banks. Resulting natural resource changes and stresses include a stream that conveys stormwater load inefficiently and erosive banks that have a high risk of undermining the adjacent urban development.

Future conditions within the study area are expected to be an improved channel condition that reduces flooding risk and pollutant and sediment load to downstream waters. The existing conditions and a review of aerial photography over a twenty year time period indicated no change in the amount of roadway and/or commercial development surrounding Town Creek. Reasonably foreseeable future actions that could affect these conditions/aquatic resources include increased stormwater flow into the confines of Town Creek from an action that generates an economic incentive to increase the density of development along the proposed project. The overall impact that can be expected if these impacts are allowed to accumulate is another inefficient over engineered and designed stream channel to convey the increased stormwater load to downstream waterbodies.

When considering the overall impacts that will result from this project, in relation to the overall impacts from similar past, present, and reasonably foreseeable future projects, their cumulative impacts are not considered to be significantly adverse. Associated compensatory mitigation requirements for projects requiring a DA permit will help offset such losses. It is likely we will receive similar projects in the future, which will go through a comparable review process. Overall, the project will result in minimal environmental impacts and minimal impacts on fish and wildlife values.

9. General Evaluation Criteria Under the Public Interest Review.

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a. The relative extent of the public and private need for the proposed work: The public need is directly related to the project purpose. The project will provide reduced flooding risks to the adjacent developed urban environment of the City of Huntsville. The project is a public project therefore there are no private needs.

b. The practicability of using reasonable alternative locations and/or methods to accomplish the objective of the proposed structure or work: There are no unresolved conflicts regarding resource use.

c. The extent and permanence of the beneficial and/or detrimental effects, which the proposed work is likely to have on the public and private uses which the area is suited: The beneficial effects associated with utilization of the property would be permanent. It is anticipated the proposed project will provide a flood risk reduction, be self-mitigating, and provide a net ecological benefit to the habitat of Town Creek.

10. Coordination and Resolution of Comments.

a. Corps Internal Review Concerns. The proposed action was coordinated with Corps offices by Internal Review notice dated 1 April 2014. The Operations Division-Navigation Branch and Real Estate Division responded to the notice stating that they had no objection to the proposed work. No response was received from the Programs and Project Management Division, Houston-Galveston Resident Engineer Office, and Engineering Division Offices.

b. Public Notice Coordination. The formal evaluation process began with publication of a 30-day public notice on 2 April 2014. The comment period for the public notice closed on 2 May 2014.

The project description published for public notice coordination was as follows: The applicant proposes to discharge fill material during excavation, bank lay back, and realignment of 2,333 linear feet (0.68 acres) of Town Creek to improve stormwater management and reduce localized flooding. The main pilot channel of Town Creek will be re-established to its historical location which is an average of 2.5 feet from its current location. The applicant proposes to construct within the realigned channel the following in-stream structures in an effort to reduce erosion: 428 linear feet of overhanging vegetation, 1,723 linear feet of planting with vegetative root wads, riffle and plunge pools, j-hook vanes, and rip-rap to maintain channel integrity. The applicant anticipates use of these in-stream habitat features will allow for the creation of floodplain wetlands and provide a net increase in aquatic resource area. The capacity of Town Creek will not be increased by this proposed project.

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Copies of the public notice were forwarded to concerned Federal, State, and local agencies, organized groups, individuals and navigation districts. These entities included but are not limited to the following:

U.S. Fish and Wildlife Service (FWS)
National Marine Fisheries Service (NMFS)
Environmental Protection Agency (EPA)
U.S. Coast Guard (USCG)
Texas Parks and Wildlife Department (TPWD)
Texas Historical Commission (THC)
Texas Coastal Coordination Council (CCC)
General Land Office (GLO)
National Ocean Survey, Atlantic Marine Center (NOS)
Galveston Bay Foundation (GBF)
American Waterways Operators (AWO)
Adjacent Property Owners

c. Response to the Public Notice.

(1) Federal Agencies. No response was received from the NMFS.

The FWS responded by electronic mail, dated 29 April 2014, stating that because of the current workload, their biologists are unable to adequately investigate this application; therefore, they can take no action on this permit at this time.

The EPA responded by letter, dated 28 April 2014, stating that they do not support this project as designed. The project appears to be a floodwater conveyance project and not a natural channel design. The project design would result in increased bank erosion and aggradations of the improperly designed channel corridor. In addition, placement of in-stream structures and armoring of outside bends of the new channel would likely result in impinging flow and rotational bank failure. The EPA recommended the applicant use root wad vanes for in-stream structures and use soil bioengineering techniques for bank protection if needed. The EPA stated concerns that the project would increase the conveyance of urban stormwater runoff to downstream receiving waters potentially causing water quality impairment and increased flood risk. The EPA stated the project design does not appear to be the least environmentally damaging alternative to achieve the project purpose. The EPA recommended the reach be designed for high flows to spread over a densely vegetated floodplain adjacent to the bankful channel and allow floodplain processes to attenuate flood pulses. The EPA further recommended use of root wad vanes in conjunction with transplants or a brush layer to direct the thalweg toward the center of the channel to reduce erosion.

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The EPA recommended an interdisciplinary team including a fluvial geomorphologist design and assess the proposed work. The EPA requested clarification between the work plan and the project plans. The work plan states planting an adjacent detention pond but the project plans does not depict construction of an adjacent detention pond. The EPA requested clarification on the definition of vegetative root wads. The EPA asked if this definition refers to vegetative transplants or root wad vanes set into banks to deflect flow. The EPA disagreed that the project is self-mitigating because the current project design is not a natural stream channel design. A self-mitigating project could be achieved by designing the proposed project with natural stream channel design. The EPA recommended use of the transect methods as described in the 2013 Galveston District Stream Condition Assessment. The EPA stated in-kind compensatory mitigation would be required for any remaining unavoidable impacts. The EPA requests no permit be issued at this time due to water quality concerns, and a lack of avoidance, minimization and mitigation to impacts to waters of the U.S.

The Corps requested via letter, dated 6 May 2014, that the applicant confirm use of the June 2013 Level 1 Galveston District Stream Assessment Tool to evaluate the pre- and post-construction conditions of the stream, that the applicant consider use of a well-qualified stream consultant with prior experience in natural stream channel design to evaluate the currently proposed project design, and that the applicant demonstrate the project is self mitigating by ensuring the mitigation work plan is illustrated appropriately on the project plans.

(2) Federally Recognized Native American Tribes and Affiliated Groups. No response was received from any federally recognized Native American Tribes and/or affiliated groups.

(3) State and Local Agencies. The TPWD responded by electronic mail/letter, dated 1 May 2014, stating their concerns with an adequate alternative analysis for the proposed project, concerns with the design plans, and concerns with a mitigation plan for restoring stream functions in Town Creek. The TPWD stated the proposed project as designed does not appear to be the least environmentally damaging practicable alternative to achieve the project purpose. The TPWD disagreed that the applicant has avoided and minimized wetland impacts to the greatest extent possible. The TPWD recommended the applicant provide a revised alternative analysis that includes measures for improving stream and water quality functions by enhancing vegetative cover, improving flow by removing specific blockages and upgrading existing culverts. The TPWD recommended the applicant design the proposed project using natural stream channel design and incorporate root-wad clusters to deflect flow for erosion protection and soil bioengineering techniques for bank stability.

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The TPWD stated the Galveston District Stream Condition Assessment tool was not appropriately used to assess the existing or post-construction stream conditions. The TPWD recommended the applicant implement a stream restoration plan for Town Creek following the 2008 Compensatory Mitigation Rule. The TPWD stated the applicant should coordinate with the Corps on the interpretation of stream condition scoring and compensation requirements. The TPWD recommended the applicant hire a qualified stream consultant with experience and expertise in stream channel design and implementation. The TPWD stated the consultant should provide a detailed portfolio and have formal education and training in fluvial geomorphology or stream ecology. The TPWD echoed similar concerns of the EPA regarding the proposed project design, construction of a potential adjacent detention pond, downstream water quality and downstream flooding risks. The TPWD echoed similar concerns of the EPA regarding the current designed project being self-mitigating and the use of transect methods appropriately in the Galveston District Stream Condition Assessment. The TPWD requested the recommendations be incorporated into a revised project and mitigation plans and provided for review and comment.

The THC responded by letter, dated 18 April 2014, to the City of Huntsville, stating the proposed project will not adversely affect sites listed on the National Register of Historic Places or those eligible for inclusion on the National Register. Therefore, this project may proceed without further consultation with the THC provided the significant archeological deposits are not encountered during construction developments. The Corps Staff Archeologist reviewed the project and determined the permit area has been so extensively modified that little likelihood exists for the proposed project to impinge upon a historic property, even if present within the affected area.

The TCEQ responded by letter, dated 2 May 2014, requesting the applicant to explain the discrepancy regarding the distance Town Creek will be realigned between the text of the public notice and the information reflected on the published project plans. The TCEQ requested the applicant complete and return an Alternative Analysis and Tier II Questionnaire. The TCEQ requested an explanation on why restoring the current channel was not a viable option. The TCEQ requested detailed information on what options were considered to minimize impacts and why these options were eliminated. The TCEQ stated the mitigation plan provided for review conflicts with the project plans. The TCEQ requested clarification on the use of stream armoring, details on the type of material proposed to be used, and to explain how the use of armoring is self-mitigating. The TCEQ stated the channel design as proposed seems to create pinch points, or narrowing in some areas. The TCEQ stated streams that have pinch points tend to incise over time, cause bank erosion, and form head cuts rather than convey water properly. The TCEQ requested an explanation on how these potential effects will be mitigated by the proposed stream design.

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The TCEQ questioned if floodplain benches can be utilized as a stream feature throughout the entire length of the proposed project. The TCEQ asked if the applicant could use trees and woody debris to stabilize the bench areas rather than non-native materials such as riprap, interlocking concrete blocks, or rock structures. The TCEQ stated fluvial geomorphological principles should be adhered to in the project design. The TCEQ requested clarification on how the objectives and goals of this project will be met without increasing the capacity of Town Creek. The TCEQ stated the project plans reflect meanders that increase sinuosity, a positive approach to the project, but the meanders are limited in space and armored on one side. The TCEQ requested the applicant consider designing stable stream meanders without the use of stream armoring. The TCEQ stated the project plans depict stream width variations throughout the project which could encourage the channel to create an overflow channel which leads to a braided channel. Braided systems can change the aquatic use of the stream and can also decrease stream function. The TCEQ requested an explanation on how the proposed channel width variation will not cause channel braiding. The TCEQ recommended use of the TCEQ stream assessment methods, Surface Water Quality Monitoring Procedures, Volume 1 and 2 for a functional assessment of the stream pre- and post-construction. The TCEQ stated if the post-construction stream functions are not similar or greater than the pre-construction stream functions then additional monitoring and/or compensatory mitigation may be required. The TCEQ requested details on how on-site water quality functions will be maintained. The TCEQ requested a copy of the mitigation construction plan with detailed views of the proposed work for review. The TCEQ stated the following concerns with the mitigation plan: no site protection described, the performance standards do not include planting survivability and monitoring, and the adaptive management plan does not include details of measures to be taken if the performance standards are not met. The TCEQ stated the applicant should consult with TPWD for a list of appropriate plant species. The TCEQ stated monitoring should include a minimum of two bankful events and the stream should demonstrate function and stability prior to conclusion of monitoring. The TCEQ stated the long term management plan includes conducting work below the ordinary high water mark to remove accumulated sediment and requested the applicant understand that appropriate authorizations are needed to conduct this work. The TCEQ requested additional information regarding the characteristics and stream classification of Town Creek such as site photos and baseline stream assessment data using the TCEQ stream assessment methods.

(4) Individual and Organized Groups. No response was received from any individual.

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The Sierra Club (SC) responded by letter, dated 7 April 2014, stating the applicant has not documented or demonstrated the proposed project will provide a net increase in aquatic resource area, that installation of multiple habitat elements will restore ecological function, that the project will have any water quality benefits, and that the project will be self-mitigating. The SC stated there is no discussion of the current status of riparian vegetation on Town Creek, if there are any impacts from the proposed project upon the existing vegetation, no discussion on existing ecological functions or the post-construction ecological functions, and stated there is no documentation provided stating if any riparian woodland or bottomland hardwood forested wetland vegetation exists along Town Creek. The SC expressed concerns that the Corps states the project information has not been verified. The SC stated the applicant has not provided a mitigation plan. The SC stated the Corps has not verified an onsite wetland delineation and the public notice states that a historical investigation has not been done. The SC states an alternative project design that includes disconnecting part of the watershed and implementing low impact development to reduce watershed flood flows to reduce stress and allow recovery of Town Creek was not documented or discussed. The SC questioned the conflicting statements between the public notice and provided mitigation plan regarding the final reach condition index (RCI) of the stream at the conclusion of construction and regarding the capacity of Town Creek and the desire to create in-line detention to create deep pool habitat. The SC stated the mitigation plan and mitigation work plan do not indicate where the undercut banks will occur. The SC stated an objection to the conclusion that Black Willow is an invasive species and stated this species is a beneficial riparian woodland and bottomland hardwood forested wetland species. The SC stated the monitoring requirements in the mitigation plan are not sufficient and the period should be for five years. The SC stated the mitigation plan does not describe how sediment and debris will be removed by maintenance activities. The SC stated the mitigation plan does not provide any financial assurances.

d. Applicant's Response to Comments. The comment letters received during the public notice comment period were forwarded to the applicant by letter dated 6 May 2014. The applicant responded to the comments by letter, dated 23 May 2014.

In response to EPA, Corps, TPWD, TCEQ, and SC comments regarding the project design and the recommendation to use natural stream channel design, the applicant responded the Natural Channel Design Review Checklist published by the EPA, USFWS, and Stream Mechanics (2011) was used during the project design process. The applicant stated the proposed design of the new channel mimics that of the example given in the text "flows larger than bank full should be transported on a floodplain or flood-prone area." The applicant stated the project purpose is to stop urban flooding which is a source of pollutants, sediment, and suspended solids and to allow for Town Creek to flow within a vegetated restored floodplain.

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The project design will allow stream meanders while maintaining a floodplain with a relatively constant width. The floodplain has been extended to the widest points possible except where restricted by roads, buildings, and other urban development. The applicant stated bankful benches have been added along the entire length of Town Creek where possible. The applicant stated they have incorporated multiple in-stream habitat structures as well as sediment drop basins to manage sediment flows. The applicant believes the use of in-stream habitat structures will provide a positive effect upon the post-construction water quality and aquatic habitat potential, and decrease erosion and suspended solids within Town Creek. The applicant stated they have chosen to use rock/concrete material to construct rock/log vanes, j-hooks, and root wads in an effort to use these habitat structures and have them not decay within 5 years. The applicant stated they will use bioengineering for the banks for erosion protection and it is unknown when maintenance desilting will be performed.

In response to the EPA and TPWD statement the project appears to be a floodwater conveyance project and not a natural channel design, the applicant stated the existing Town Creek is an extremely shallow, highly eroded, v-shaped ditch. The proposed project will create a new channel that has a controlled floodplain within its banks. The applicant stated the project is designed to decrease erosion through the implementation of a wide but controlled floodplain, multiple in-stream habitat structures, and floodwater retention.

In response to the EPA and TPWD recommendation the applicant use root wad vanes for in-stream structures and use soil bioengineering techniques for bank protection if needed, the applicant responded they prefer to utilize long lasting artificial materials, such as large rocks, artificial reef balls, and/or concrete rip rap contained in gabion baskets, to mimic the recommended root wad vane placement.

In response to the EPA and TPWD concerns for increased conveyance of urban stormwater runoff, downstream water quality impairment, and increased flood risk, the applicant responded the proposed project is designed to not increase flow rate.

The applicant stated stormwater currently overtops the banks of Town Creek during normal rainfall events, causing flooding of the immediate adjacent areas. This regular flooding event increases the sediment and pollutant load entering Town Creek and the downstream waterbodies. The applicant stated the proposed project has been designed to contain these overbank flooding events by allowing the stream to meander within the confines of an engineered floodplain. The proposed project will convert the current active floodplain from the adjacent urban development to an area containing floodplain wetlands and vegetated habitats within the proposed design high banks.

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In response to the EPA and TPWD concern the project design does not appear to be the least environmentally damaging alternative, the applicant responded they have revised the project design to leave the relict channel of Town Creek intact and there will be no changes to the existing riparian buffer width. The addition of floodplain wetlands and erosion protection measures and the creation of an engineered floodplain will improve the water quality of the floodwaters of Town Creek.

In response to the EPA and TPWD recommendation a fluvial geomorphologist design and assess the proposed work, the applicant responded the design was developed utilizing the Natural Channel Design Review Checklist published by the EPA, USFWS, and Stream Mechanics (2011).

In response to the EPA and TPWD request for clarification regarding an adjacent detention pond and the definition of vegetative root wads, the applicant responded the statement regarding the planting of the detention pond was in error and has been removed from the text of the work plan. The applicant stated the term vegetative root wads is defined as herbaceous plantings to be planted along the bank of the channel.

In response to the EPA and TPWD statement that they disagree the project is self-mitigating, the applicant responded they have previously addressed the concerns of the project design being self-mitigating.

In response to the Corps, EPA, and TPWD request for use of the June 2013 Galveston District Stream Condition Assessment Level 1, the applicant stated they have reassessed the stream using this tool and have provided the report with their response letter.

In response to the Corps request to consider use of a well qualified stream consultant with prior experience in natural stream channel design to evaluate the currently proposed project design, the applicant responded they believe the project team is qualified to design the proposed project.

In response to the Corps request the applicant demonstrate the project is self-mitigating by ensuring the mitigation work plan is illustrated appropriately on the project plans, the applicant responded they have revised the project plans to add additional detail and correctly reflect the redesigned portions of the project. The revised project plans include leaving the relict channel of Town Creek unaltered where possible, creation of additional floodplain wetlands and other floodwater retention areas such as artificial ox-bow ponds and increase the bottom width of the channel to move away from a v-shaped channel design.

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The revised drawings also reflect the current and proposed floodplain, additional in-stream features where possible, and a profile view of the channel with proposed water levels.

In response to the TCEQ request the applicant explain the distance discrepancy between the public notice text and the project plans, the applicant responded through the majority of the project area, 1,583 linear feet, the proposed new channel of Town Creek will be approximately 2-3 feet from its current location. In the furthest east sections, 750 linear feet, of Town Creek, the new channel will range between 30-60 feet away from the existing channel.

In response to the TCEQ request for a completed Alternative Analysis and Tier II Questionnaire, the applicant responded a completed questionnaire has been included with their response letter dated 23 May 2014.

In response to the TCEQ request for detailed information on how the project minimizes potential adverse water quality impacts and downstream flooding, the applicant responded the project is designed to eliminate current localized flooding which causes large amounts sediments and pollutants from the adjacent urban environment to enter the waters of Town Creek. The project design will create an engineered floodplain inside the banks of Town Creek currently confined by surrounding urban development. The banks of Town Creek will be contoured to remove the existing rubble and debris and replaced with soil to allow for vegetative growth. The applicant stated downstream flooding would not increase as the total flow rate of Town Creek will not increase.

In response to the TCEQ request for clarification and details on the use of stream armoring, the applicant responded they have chosen to utilize rocks and riprap structures to mimic root wad and log vane in-stream habitat structures. The toe of the banks of the meandering portions of the new channel will not be armored with interlocking block pavers.

In response to the TCEQ statement the channel design as proposed seems to create pinch points which tend to cause bank erosion and form head cuts rather than convey water properly and the TCEQ request for an explanation on how these potential effects will be mitigated by the proposed stream design, the applicant responded the pinch points within the channel have been designed with corresponding bank protection mechanisms to decrease the future likelihood of future erosion issues and decrease flow velocity.

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In response to the TCEQ question if floodplain benches can be utilized as a stream feature throughout the entire length of the proposed project and if trees and woody debris can be used for stabilization rather than non native materials, the applicant responded that floodplain benches have been added to every available location throughout the project length. The applicant stated the use of root wad vanes and other natural material is undesirable due to their unreliability to withstand years of decay in this type of environment.

In response to the TCEQ request to explain how the project purpose to reduce flooding will be achieved without increasing the capacity of Town Creek, the applicant responded the stream currently floods over its existing banks. The proposed design would contain the flow within the normal embankments.

In response to the TCEQ request the applicant consider designing stable stream meanders without the use of stream armoring, the applicant responded the stream meanders were designed to be armored to decrease erosion in these areas and deflect flow from the bank. The armoring will also decrease the velocity of the water flow and promote bench flooding within these areas. The applicant will discuss this further with the Corps as they are receptive to the idea of utilizing specific placement of flow/velocity deflectors in these areas of the proposed channel versus the current design of entire bank armoring.

In response to the TCEQ recommendation for use of the TCEQ stream assessment methods, the applicant responded that they have reassessed the stream using the Corps 2013 Galveston District Stream Condition Assessment Tool. The updated data sheets utilized in this tool are included with their response letter.

In response to the TCEQ request for details on how on-site water quality functions will be maintained, the applicant responded they will review the TCEQ RG-415 and RG-416 methodologies and determine if they are suitable for use within this system. The applicant stated the normal flow of Town Creek does not contain an amount of water that causes flow or provide an accurate measurement of water quality.

In response to the TCEQ request for a copy of the mitigation construction plan and the TCEQ and TPWD concerns regarding aspects of the provided mitigation plan, the applicant responded they have revised their mitigation plan and included the revised plan with their response letter. The applicant stated the monitoring would be conducted for a period of three years. The applicant stated they will use all appropriate measures and notifications prior to de-silting maintenance activities. The applicant stated the City of Huntsville will be the financially responsible party for monitoring and repairs. The applicant stated the project design incorporates features that provide stream restoration.

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In response to the TPWD request for an alternative analysis, the applicant responded due to the project location and specific purpose of reducing localized flooding there are no alternative locations to relocate the project. The applicant stated the project has been redesigned to allow for some areas of the relict channel of Town Creek to remain unfilled to serve as floodwater retention and aquatic habitat.

In response to the SC statement the applicant has not documented or demonstrated the proposed project will provide a net increase in aquatic resource area, that installation of multiple habitat elements will restore ecological function, that the project will have any water quality benefits, and that the project will be self-mitigating, the applicant responded that they believe the redesigned project demonstrates through use of the 2013 Galveston District Stream Condition Assessment tool that the project will increase the reach condition index of the stream post-construction and create an increase in aquatic resource area.

In response to the remaining SC comments regarding deficient information not provided within the public notice, the applicant responded they cannot respond as these comments as they are a critique of the Corps permitting process. The applicant stated they do not control the information provided with the Corps public notice.

e. Corps's Consideration of Substantive Public Notice Comments. The TCEQ requested an explanation on why restoring the current channel was not a viable option and how the proposed channel width variation will not cause channel braiding. The applicant did not directly address this issue in their response to comments letter. The applicant responded the revised project plans reflect that the current channel will remain unaltered where possible.

The TCEQ requested additional information regarding the characteristics and stream classification of Town Creek. The applicant did not directly address this issue in their response to comments letter. In other responses the applicant described the existing conditions of Town Creek. In addition the applicant provided a revised Galveston District Stream Condition Assessment Tool with their response letter that characterizes the conditions of the existing stream.

The SC questioned the technical components of the mitigation plan and mitigation work plan, components of the project design regarding in-line detention to create deep pool habitat, and objected to the conclusion that Black Willow is an invasive species. The applicant did not directly address this issue in their response to comments letter. The applicant stated they have revised their mitigation plan and provided the revised plan with their response letter.

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The Corps reviewed the revised project plans received on 30 June 2014 for the stated changes as indicated in the applicant's response letter. The Corps requested additional information and edits to the provided revised project plans via electronic mail dated 17 July 2014. The additional information requested a change to the colors used on the project plans because project features were indistinguishable, a cross sectional drawing of the sediment basin, and an updated Galveston District Stream Condition Assessment Tool data sheets. The requested information was provided via electronic mail dated 22 July 2014. The Corps requested additional edits to the Stream Condition Assessment data forms, the project plans, and the adaptive management plan via electronic mail dated 30 July 2014. The final revisions to the requested documents were received via electronic mail on 18 August 2014. The revised documentation was coordinated through an interagency coordination notice.

f. Interagency Coordination Notice. The formal evaluation process continued with publication of a 15-day interagency coordination notice on 19 August 2014.

The project description published for the interagency coordination notice was as follows: The applicant has revised their project design as a result of comments received through the public notice published on 2 April 2014. The applicant revised their plans to incorporate more natural stream channel design features. The applicant has removed the use of hard structures as in stream habitat features and also removed the initial design of armoring the banks. The applicant proposes to discharge fill material during excavation, bank lay back, and earthwork to re-establish 2,333 linear feet (0.68 acres) of Town Creek to improve stormwater management and reduce localized flooding. The applicant proposes lay back the banks to create a bench and floodplain within the top of bank limits of the channel of Town Creek. The applicant proposes to plant and create 0.45 acres of wetlands along the channel and install a rock filter dam to capture sediment prior to the entry of the stream into the existing underground culverts. The applicant anticipates use of these project design features will create additional floodplain wetlands and provide a net increase in aquatic resource area. The capacity of Town Creek will not be increased by this proposed project. The applicant removed all initially proposed in-stream structures and the initially proposed pilot channel to minimize the disturbance to the stream channel. It is anticipated the stream will create a needed pilot channel. The proposed project will create a net positive measureable biological and ecological impact on the Town Creek stream system. The proposed project design has avoided and minimized impacts and it is anticipated the design will provide a net benefit to the existing habitat of Town Creek. Therefore, compensatory mitigation for the project impacts will not be required. The applicant has provided a work and adaptive management plan (attached) that describes the goals and objectives of the project and the proposed adaptive management techniques.

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The applicant used the SWG Stream Condition Assessment dated May 2014 to evaluate the function of Town Creek. The data sheets were attached to the notice.

Copies of the interagency coordination notice were forwarded to concerned Federal, State, and local agencies, organized groups, individuals and navigation districts. These entities included but are not limited to the following:

U.S. Fish and Wildlife Service (FWS)
Environmental Protection Agency (EPA)
Texas Commission on Environmental Quality (TCEQ)
Texas Parks and Wildlife Department (TPWD)
General Land Office (GLO)
The Sierra Club (SC)
Adjacent Property Owners

g. Response to the Interagency Coordination Notice.

(1) Federal Agencies. The EPA responded by letter, dated 3 September 2014, stating they support the redesign of the proposed channel to include a flood-prone area with wetland plantings adjacent to portions of the channel, rather than the originally proposed v-shaped ditch. The applicant states that “it is anticipated the stream will create a needed pilot channel” and “water within the restored channel will be allowed to naturally take its own course within the channel bottom.” The EPA questioned if these statements and project design have been based on existing successful or stable stream restoration projects in the vicinity. The applicant stated in “goals and objectives” the new channel will create increased sinuosity and deep pool habitat. The EPA questioned what this statement is based on. The EPA stated it may be appropriate to include some bio-engineered and/or in-stream structures for bank stabilization particularly in the more constrained areas where wetland plantings are not proposed and erosion potential is high. The EPA stated they are not opposed to adaptive management, since these costs will not be included in the initial construction costs of the project but cautioned the City should ensure its project maintenance budget is adequate for a potentially significant amount of adaptive management. The EPA also stated the proposed rock filter dam will also require regular maintenance to remove accumulated sediment. The EPA stated the Stream Assessment data forms indicate an increase in riparian buffer condition through the stream reach. The EPA requested the applicant be more specific about the improvements. The EPA questioned if the buffer improvements are proposed to occur within the banks of the channel, if there are additional plantings proposed in adjacent riparian areas, how will it be improved in more constrained transects. The EPA also questioned inconsistencies in the riparian buffer condition for the pre-construction assessment data forms.

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The EPA stated these inconsistencies should be addressed or revised even though the resultant reach condition index will likely show a net increase due to anticipated channel stability and condition benefits and removal of unnatural materials from the stream. The EPA stated there are polygons adjacent to the existing channel indicated on the revised project plans and requested clarification of what these polygons represent. The EPA stated it is unclear how the impact factor of 4 was chosen on the pre-construction Stream Condition Assessment form. The EPA stated the resulting compensation requirement is 15,328 credits and if this is accurate the post-construction credits will not provide adequate compensation. The EPA stated the applicant should address this issue and the potential need to mitigate stream impacts. The EPA recommended the applicant clarify or provide further information about the above stated concerns. The EPA recommended the applicant provide financial assurances to allow for potentially extensive amounts of adaptive management to address stability and erosion as the stream channel forms.

(2) Federally Recognized Native American Tribes and Affiliated Groups. No response was received from any federally recognized Native American Tribes and/or affiliated groups.

(3) State and Local Agencies. The TPWD responded by electronic mail/letter, dated 5 September 2014, stating they appreciate the applicant's redesign of the proposed channel to include wetland features adjacent to portions of the channel rather than the originally proposed v-shaped ditch. The TPWD stated it is unclear how the applicant determined the stream will create its own pilot channel within the newly excavated 25 foot wide channel bottom. The TPWD requested the applicant provide documentation on how the new channel will create increased sinuosity of the stream when it appears more linear than the original stream. The TPWD requested documentation on how deep pool habitat will be created, achieved, and maintained through installation of a filter dam to reduce flow surges during high rainfall events. The TPWD recommended providing documentation or specific details on how their engineering design plans will facilitate a natural stream formation in the newly excavated bottom of the channel. The TPWD also requested the applicant demonstrate how the proposed design plans compare to a similar or a reference stream in the vicinity. The TPWD requested a maintenance plan for removing sediments behind the filter dam. The TPWD stated concerns with errors within the revised Galveston District Stream Condition Assessment data forms. The data forms project an increase in the riparian buffer conditions throughout the entire stream length. The TPWD questioned how the applicant intends to increase or enhance the riparian buffer of each post-construction stream reach. This information was not demonstrated in the proposed plans. The TPWD questioned discrepancies between the riparian buffer conditions over multiple transects in the pre-construction and post-construction data forms.

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The TPWD questioned the scoring on the data sheets for the channel alteration scores and recommended the necessary corrections to the data forms be made and submitted to TPWD for review and comment. The TPWD stated concerns with the removal of all erosion control structures and reliance on adaptive management strategies on an “as needed basis” to control erosion and stabilize banks. The TPWD stated they disagree with this type of post-construction adaptive management strategy to address problems after a design plan fails. The TPWD recommended use of in-stream structures such as root wad vanes and soil bioengineering techniques for bank protection and stabilization during initial construction especially in constrained areas.

(4) Individual and Organized Groups. No response was received from any individual or organized group.

h. Applicant's Response to Interagency Coordination Notice Comments. The comment letters received during the interagency coordination notice comment period were forwarded to the applicant by letter dated 8 September 2014. The applicant responded to the comments by letter, dated 17 September 2014.

In response to EPA and TPWD questions if the revised project design has been based on existing successful or stable stream restoration projects in the vicinity and if the new channel will create increased sinuosity and deep pool habitat, and the statement it might be appropriate to include some bio-engineered and/or in-stream structures for bank stabilization, the applicant responded they did not base their channel design on existing successful or stable stream restoration projects in the vicinity because none exist. The applicant stated they based their revised project design on natural stream channel design and the concept of allowing water flow in a wider channel to create its own course versus artificially engineering a path for the water to flow. The applicant stated this design should allow for a stable stream bed and bank and allow the stream to form its own equilibrium within the confines of the new wider channel. The applicant stated the increased sinuosity and deep pools will be created within the wider flow area of the stream because the stream has a greater area to meander and the variations in flow rate will create the deep pool habitat by natural erosion of the stream bed. The applicant further stated only the banks of the stream will be adaptively managed to ensure a stable bank.

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In response to the EPA statement that the applicant should ensure its project maintenance budget is adequate for the adaptive management needs of the project and recommendation to provide financial assurances for the adaptive management of the project design, the applicant responded they will have a line item in their future maintenance operating budget for the potential adaptive management practices that may be needed in the future to ensure the success of the proposed project design.

In response to the EPA and TPWD request for additional details on how the riparian buffer condition will be improved through the stream reach and questions regarding inconsistencies in the riparian buffer condition for the pre-construction assessment data forms, the applicant responded they are proposing to plant wetlands and trees within the channel to improve water quality and riparian buffer. The applicant is also proposing to plant on the high bank of the new channel as well to improve the riparian buffer. The applicant reviewed the pre-construction assessment data sheets against the field data and desktop aerial photography in conjunction with the Corps oversight and determined the data sheets correctly describe the pre-construction condition of Town Creek. The applicant maintains that corrections to the submitted stream tool data sheets are not warranted.

In response to the EPA request for clarification on what the polygons adjacent to the existing channel indicated on the revised project plans, the applicant responded the polygons represent the existing high bank of Town Creek. They appear to be closed polygons because of the project boundary limits and erosion areas that currently exist along Town Creek.

In response to the EPA recommendation for clarification on how the impact factor of 4 was chosen on the data forms and statement on the resulting compensation requirement and the potential need to mitigate stream impacts, the applicant responded the impact factor on the data forms was an error. The proposed project is self-mitigating because the reach condition index will be higher post-construction therefore no mitigation is required. The applicant stated they have revised the data form to remove the impact factor and included the revised data form with their response letter.

In response to TPWD concerns with removal of all erosion control structures and reliance on adaptive management strategies and recommended use of in-stream structures such as root wad vanes and soil bioengineering techniques for bank protection and stabilization, the applicant responded they decided to remove all in-stream structures to allow the stream to form and develop a natural channel versus engineering the stream pattern and in-stream habitat. This approach will allow for a more stable, natural stream and allow the applicant to address any future erosion problems through adaptive management practices.

PERMIT APPLICATION – SWG-2012-01017

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above – Numbered Permit Application

i. Corps's Consideration of Substantive Comments. The TPWD requested a maintenance plan for removing sediments behind the filter dam. The applicant did not directly address this issue in their response to comments letter. The applicant stated in other responses there will be a line item in the applicant's future maintenance operating budget for any potential adaptive management practices that may be needed to ensure the success of the project design.

The Stream Condition Assessment data forms were corrected by the applicant to remove the impact factor which was included in error. The impact factor should not have been included in the summary form since the design of the proposed project does not result in a loss of stream habitat. The Stream Condition Assessment data forms reflected variances in the riparian buffer conditions because the existing and proposed post-construction conditions of the riparian buffer does and will change. Therefore, no corrections were needed to this variable in the provided data forms. The applicant further reviewed the data sheets against the field data and desktop aerial photography in conjunction with Corps oversight. The applicant and the Corps determined the provided data sheets accurately reflect the changes that does and will occur to the riparian buffer along the 2,333 linear feet of Town Creek. The Corps believes the applicant has adequately addressed all concerns regarding the Galveston District Stream Condition Assessment data forms and potential mitigation requirements.

The Corps and its stream subject matter technical expert reviewed the agency comments and concerns with the project design received in response to the interagency coordination notice. The review resulted in additional suggestions for natural stream channel design features that could further address the agency concerns and recommendations regarding soil bioengineering techniques, riparian corridor planting, the use of a pilot channel, and the use of in stream habitat structures. The Corps requested the applicant consider these suggestions and provide revised project plans and construction notes to reflect these design features. The Corps received the revised plans and construction notes via electronic mail on 3 November 2014. The revised plans reflected the use of coconut husk matting to stabilize the soil after completion of the earthwork and the use of toe logs as in stream habitat structures. The revised plans further reflect the planting of black willow saplings along a created pilot channel and planting of desirable hardwood species seedlings along the banks to further stabilize the banks and replace the removed riparian corridor. The construction notes reflected the intent of the applicant to monitor the stream condition for a period of two years and the growth of the riparian corridor for a period of ten years. The Corps believes these revised project plans and construction notes adequately address the agency concerns and comments regarding the proposed stream design.

PERMIT APPLICATION – SWG-2012-01017

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above – Numbered Permit Application

11. Compensation and Other Mitigation Actions.

a. Compensatory Mitigation.

(1) Is compensatory mitigation required? yes no

(2) Is the impact in the service area of an approved mitigation bank?

yes no

(i) Does the mitigation bank have appropriate number and resource type of credits available? yes no

(3) Is the impact in the service area of an approved in-lieu fee program?

yes no

(i) Does the in-lieu fee program have appropriate number and resource type of credits available? yes no

(4) Check the selected compensatory mitigation option(s):

mitigation bank credits

in-lieu fee program credits

permittee-responsible mitigation under a watershed approach

permittee-responsible mitigation, on-site and in-kind

permittee-responsible mitigation, off-site and out-of-kind

(5) If a selected compensatory mitigation option deviates from the order of the options presented in 33 CFR 332.3(b)(2)-(6), explain why the selected compensatory mitigation option is environmentally preferable. Address the criteria provided in 33 CFR 332.3(a)(1) (i.e., the likelihood for ecological success and sustainability, the location of the compensation site relative to the impact site and their significance within the watershed, and the costs of the compensatory mitigation project): N/A

(6) Other Mitigation Actions. N/A

12. Determinations.

a. Public Hearing. No request to hold a public hearing for the proposed project was received during the public interest review.

b. Section 176(c) of the Clean Air Act General Conformity Rule Review: The proposed project has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act.

PERMIT APPLICATION – SWG-2012-01017

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above – Numbered Permit Application

It has been determined the activities proposed under this permit will not exceed *de minimis* levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR PART 93.153. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons, a conformity determination is not required for this individual permit.

c. Relevant Presidential Executive Orders.

(1) EO 13175, Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians. Through our coordination with the federally recognized Native American Tribes, affiliated groups, and Corps staff archaeologist we have determined that this action has no substantial direct effect on one or more Indian Tribes.

(2) EO 11988, Floodplain Management. The alternatives to the location within the floodplain, minimization, and compensation of the effects of the proposed project were considered above.

(3) EO 12898, Environmental Justice. In accordance with Title III of the Civil Right Act of 1964 and EO 12898, it has been determined that the project would not directly or through contractual or other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin nor would it have a disproportionate effect on minority or low-income communities.

(4) EO 13112, Invasive Species. There were no invasive species issues involved.

(5) EO 13212 and 13302, Energy Supply and Availability. The proposed project is not one that will increase the production, transmission, or conservation of energy, or strengthen pipeline safety.

d. The following Special Condition will be Added to the Authorization:

1. If the final stream assessment report documents a reduction in the average stream condition index from the initial post-construction average stream condition index, the permittee must implement adaptive management techniques in coordination with the Corps of Engineers, Galveston District, Regulatory Division.

PERMIT APPLICATION – SWG-2012-01017

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above – Numbered Permit Application

Rationale: In accordance with 33 CFR 325.4 Conditioning of permits, the district engineer will add special conditions to Department of Army permits when such conditions are necessary to satisfy legal requirements or to otherwise satisfy the public interest requirements. The above special condition is required for fulfillment of the public interest requirements specified according to 33 CFR 320.4(o)(3) Navigation.

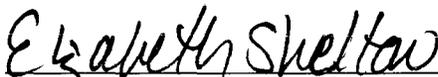
e. Findings of No Significant Impact. There have been no significant environmental effects identified resulting from the proposed work. The impact of this proposed activity on aspects affecting the quality of the human environment has been evaluated and it is determined that this action does not require an Environmental Impact Statement.

f. Compliance with 404(b)(1) guidelines. We have reviewed and evaluated, in light of the overall public interest, the documents and factors concerning this permit application, as well as the stated views of other interested Federal and non-Federal agencies and the concerned public, relative to the proposed work in navigable waters of the United States. This evaluation is in accordance with the guidelines contained in 40 C.F.R. 230 pursuant to Section 404(b)(1) of the Clean Water Act. We have determined that the proposed discharge complies with the 404(b)(1) guidelines.

g. Public Interest. We find that issuance of a Department of the Army permit is not contrary to the public interest.

FOR THE COMMANDER:

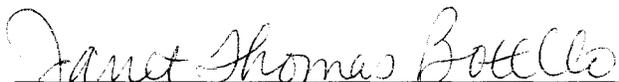
PREPARED BY:



ELIZABETH SHELTON
Regulatory Specialist

Date: 8 December 2014

REVIEWED BY:



JANET THOMAS BOTELLO
Chief, Evaluation Branch
Regulatory Division, Galveston District

Date: 8 December 2014

APPENDIX F
HAZARDOUS MATERIALS REGULATORY DATABASE
RECORDS AND MAP

Friday, May 25, 2012

Client

BERG-OLIVER ASSOCIATES, INC.

14701 St. Mary's Lane

Ste 400

Houston, TX 77079

Target Property

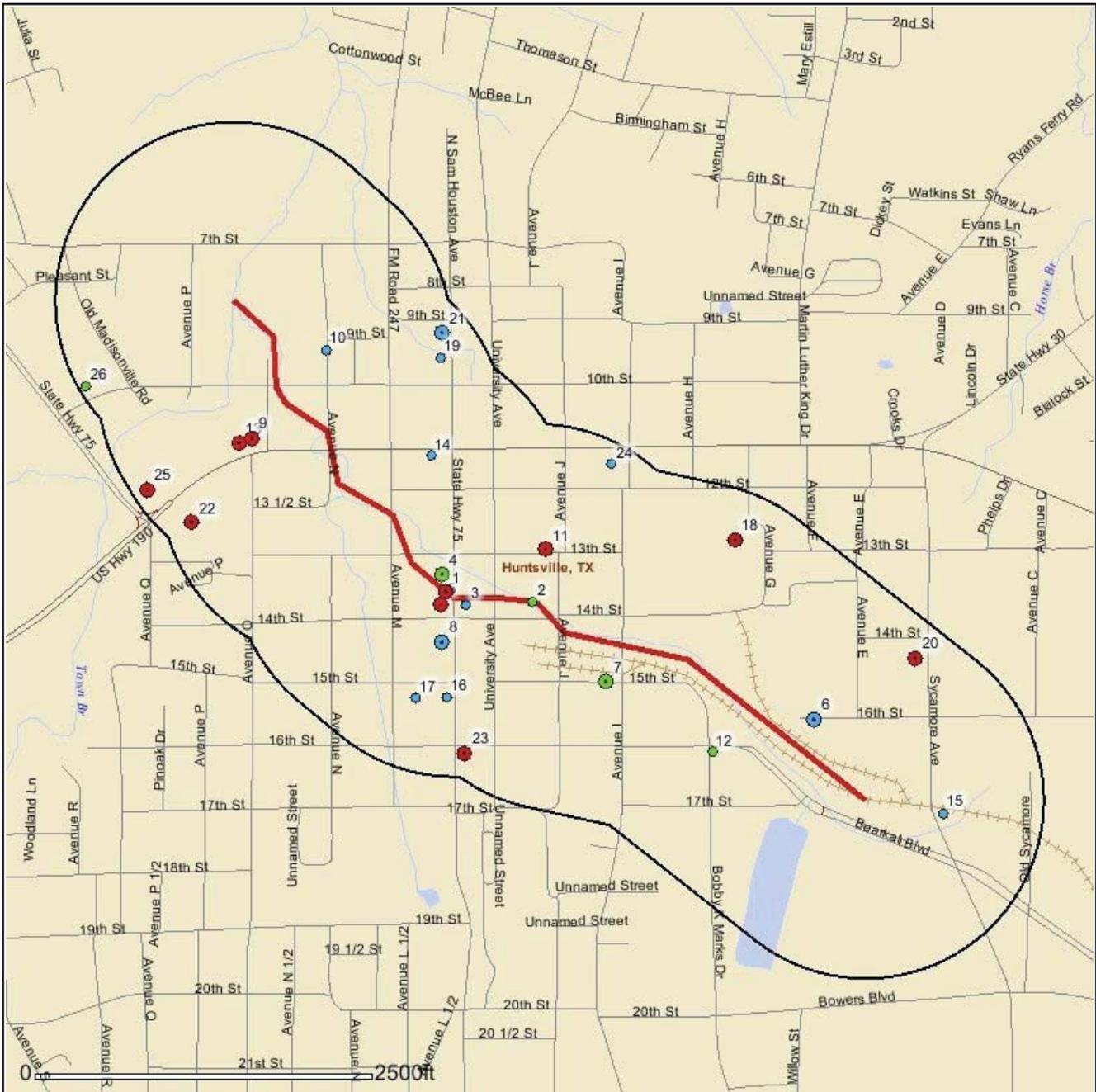
Town Creek Drainage Improvements

Huntsville, TX 77340

ES#: 85615

PO#: 8371c

Databases Searched	Distance Searched	# Mapped	# Not Mapped	Total
Federal - ASTM 1527-05/AAI Required				
National Priority List (NPL)	1.000	0	0	0
Delisted National Priority List (DNPL)	0.500	0	0	0
CERCLIS (CER)	0.500	0	0	0
CERCLIS NFRAP (CER NFRAP)	0.500	0	0	0
RCRA CORRACTS (RCRA COR)	1.000	0	0	0
RCRA non-CORRACTS TSD (RCRA TSD)	0.500	1	0	1
RCRA Generators (RCRA GEN)	0.250	2	0	2
Federal Brownfields (FED BWN)	0.500	0	0	0
Federal Institutional Control (FED IC)	0.500	0	0	0
Federal Engineering Control (FED EC)	0.500	0	0	0
ERNS List (ERNS)	0.250	0	0	0
State - ASTM 1527-05/AAI Required				
State/Tribal Equivalent NPL (ST NPL)	1.000	0	0	0
State/Tribal Equivalent CERCLIS (ST CER)	0.500	0	0	0
State/Tribal Disposal or Landfill (SWLF)	0.500	0	0	0
State/Tribal Leaking Storage Tank (LPST)	0.500	17	0	17
State/Tribal Storage Tank (PST)	0.250	20	0	20
State/Tribal Institutional Control (ST IC)	0.250	0	0	0
State/Tribal Engineering Control (ST EC)	0.500	0	0	0
State/Tribal Voluntary Cleanup (VCP)	0.500	0	0	0
State/Tribal Brownfield (ST BWN)	0.500	0	0	0
State/Tribal Hazardous Waste (HW)	0.250	8	0	8
Non-ASTM/AAI Required Databases				
RCRA (RCRA)	0.250	6	0	6
Dry Cleaners (DRYC)	0.250	4	0	4
Total Sites Found		58	0	58



★ Target Site

- Single Site
- Cluster Site
- Large Tract
- Cluster Site with Large Tract

RCRA COR, RCRA TSD, CER, LPST, NPL, ST NPL, SWLF

- Single Site
- Cluster Site
- Large Tract
- Cluster Site with Large Tract

RCRA GEN, ST & FED BWN, ST & FED EC, ST & FED IC, DNPL, CER NFRAP, PST, VCP, ST CER

- Single Site
- Cluster Site
- Large Tract
- Cluster Site with Large Tract

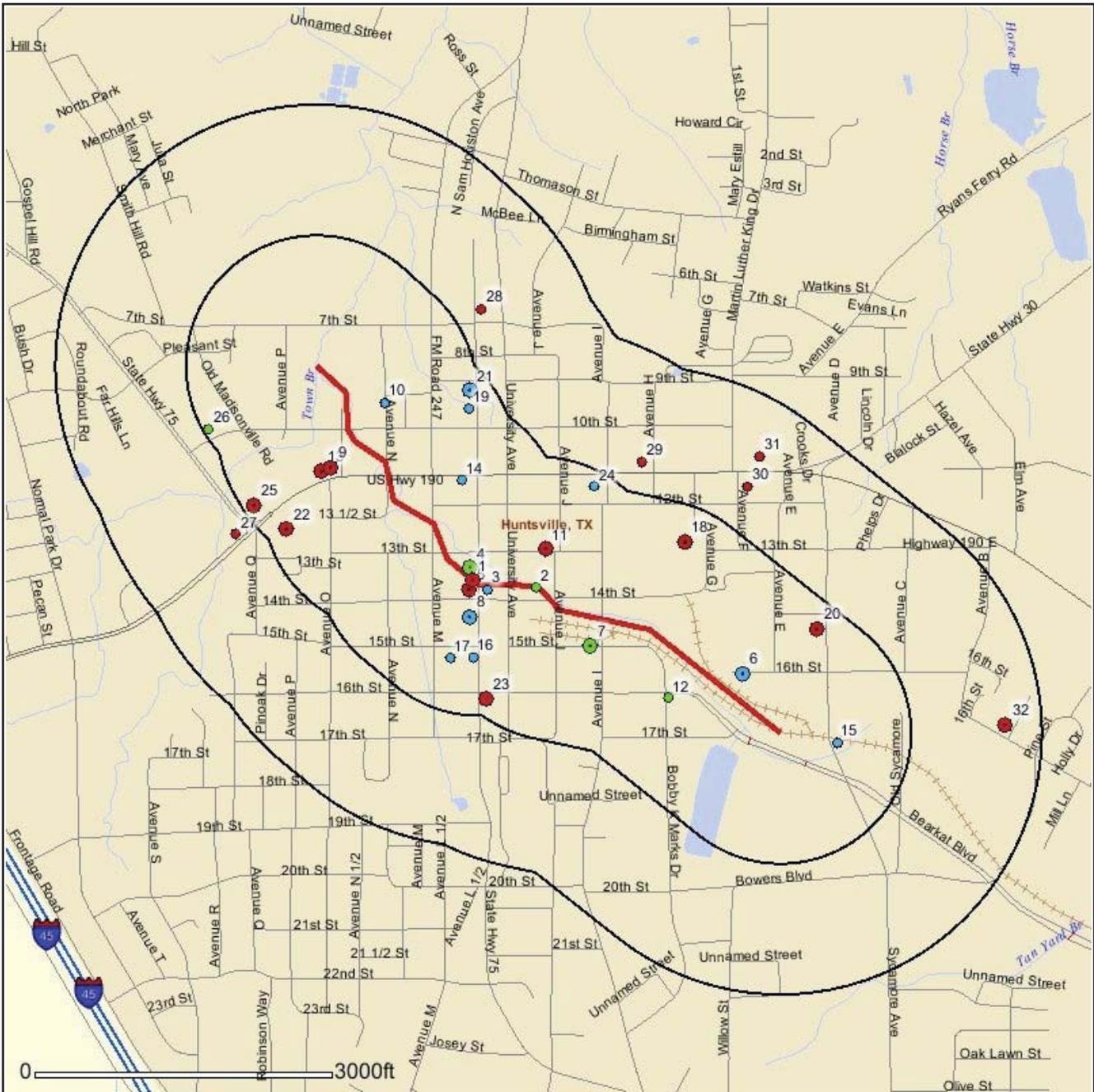
ERNS, IHW, RCRA, DRYC, AIRS

- Limited Access Hwy
- Primary Highway
- Secondary Highway
- Roads
- Ramps
- Railroad
- County
- State
- Urban Area
- Water Bodies

One inch = 0.24 miles

Banks Environmental Data
1601 Rio Grande St., Suite 500
Austin, Texas 78701
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FAX 512-478-1433
banks@banksinfo.com
www.banksinfo.com
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★ Target Site

- Single Site
- Cluster Site
- Large Tract
- Cluster Site with Large Tract
- Single Site
- Cluster Site
- Large Tract
- Cluster Site with Large Tract
- Single Site
- Cluster Site
- Large Tract
- Cluster Site with Large Tract

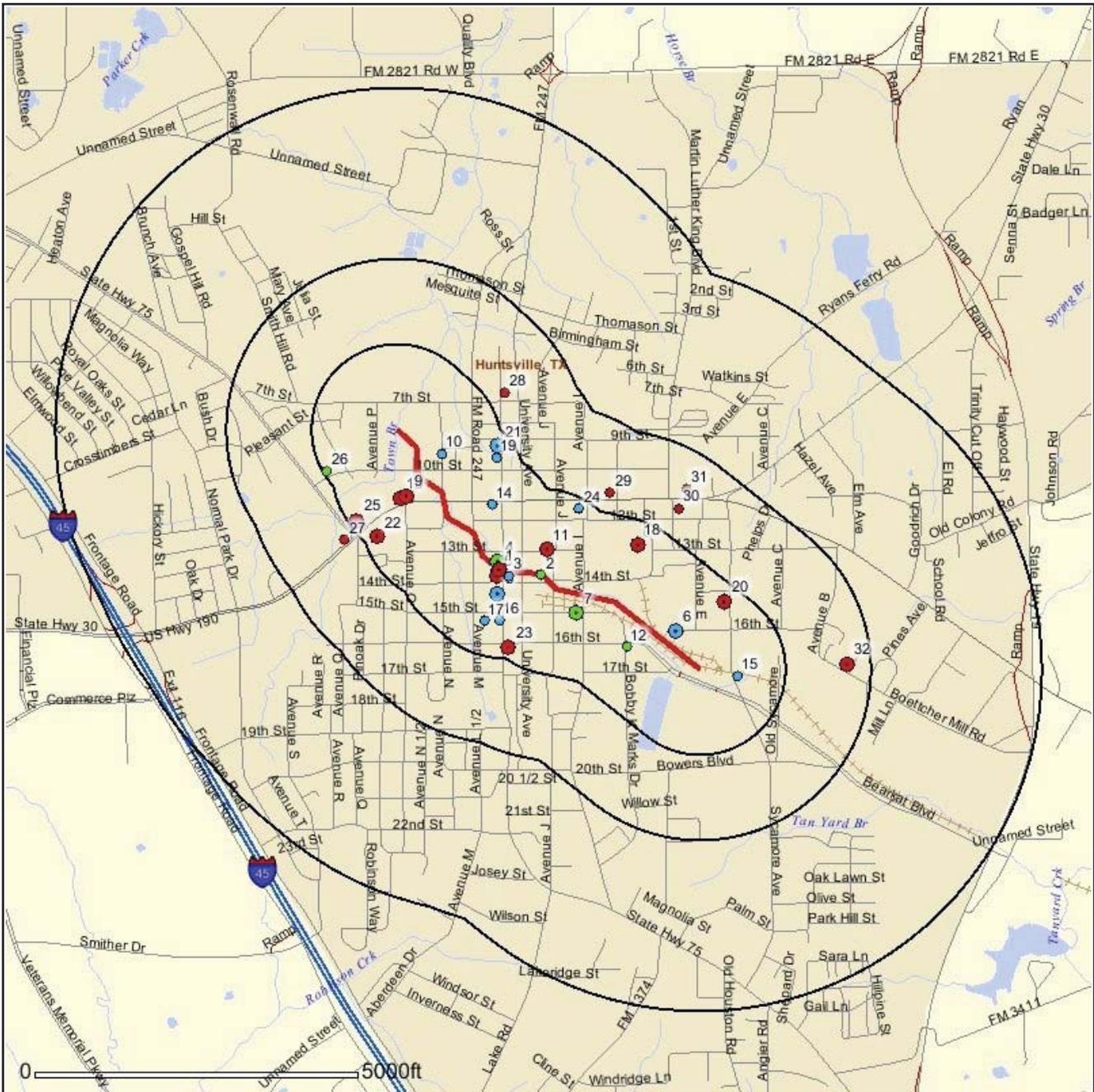
RCRA COR, RCRA TSD, CER, LPST, NPL, ST NPL, SWLF
RCRA GEN, ST & FED BWN, ST & FED EC, ST & FED IC, DNPL, CER NFRAP, PST, VCP, ST CER
ERNS, IHW, RCRA, DRYC, AIRS

- Limited Access Hwy
- Primary Highway
- Secondary Highway
- Roads
- Ramps
- Railroad
- County
- State
- Urban Area
- Water Bodies

One inch = 0.32 miles

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★ Target Site

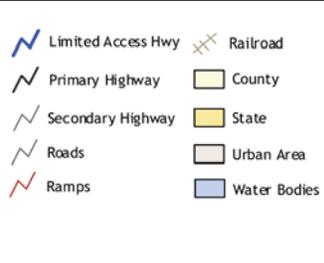
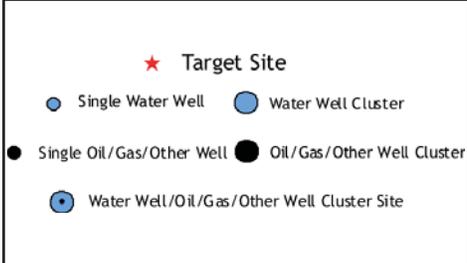
● Single Site	● Cluster Site	■ Large Tract	■ Cluster Site with Large Tract
RCRA COR, RCRA TSD, CER, LPST, NPL, ST NPL, SWLF			
● Single Site	● Cluster Site	■ Large Tract	■ Cluster Site with Large Tract
RCRA GEN, ST & FED BWN, ST & FED EC, ST & FED IC, DNPL, CER NFRAP, PST, VCP, ST CER			
● Single Site	● Cluster Site	■ Large Tract	■ Cluster Site with Large Tract
ERNS, IHW, RCRA, DRYC, AIRS			

Limited Access Hwy	Railroad
Primary Highway	County
Secondary Highway	State
Roads	Urban Area
Ramps	Water Bodies

One inch = 0.49 miles

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One inch = 0.24 miles

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Map ID	Well ID	Owner	Well Type	Elevation
1	60-20-206	City of Huntsville Well #9.	Water: Unused	360 ft
2	60-20-202	City of Huntsville Well #10.	Water: Plugged or Destroyed	377 ft
3	60-20-201	City of Huntsville Well #8.	Water: Unused	364 ft
4	60-20-208	Texas Refrigerator & Ice Co.	Water: Unused	374 ft
5	60-20-205	City of Huntsville Well #7.	Water: Plugged or Destroyed	436 ft

Source

U.S. Geological Survey, Texas Water Development Board (GW and Submitted Driller's Report), Texas Commission of Environmental Quality (PWS), Railroad Commission of Texas (Production Data)

Disclaimer

This well scan from Banks Environmental Data, Inc. has included a digital search of state and federal wells currently digitized in our geospatial database. Since this scan includes only well data that is currently mapped in our geospatial database, more wells could exist within the search area. For a complete well search or to locate more details, please contact Banks to obtain a full Water Well Report or Oil & Gas Well/Pipeline Search Report. More detailed individual well records can also be obtained from Banks for an additional cost, please reference a well ID # from this well scan.

All well locations are based on information obtained from state and federal sources. Although Banks performs quality assurance and quality control on all data, inaccuracies of the records and mapped locations could possibly be traced to the specific regulatory authority or individual well driller. Banks Environmental Data, Inc. cannot fully guarantee the accuracy of the data or well location(s) of the maps and records maintained by the state and federal agencies.



Mapped Sites Summary

Town Creek Drainage Improvements

Database	Distance from Target Property	Map ID	Facility Site Name	Facility Site Address	Site Details Page #
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*Sites are sorted by database tier, database, and distance from the target site.

RCRA TSD	0.18 miles N	18	TDCJ HUNTSVILLE UNIT	815 12TH ST HALL C, HUNTSVILLE, TX 77340	20
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RCRA GEN	0.18 miles N	18	TDCJ HUNTSVILLE UNIT	815 12TH ST HALL C, HUNTSVILLE, TX 77340	22
RCRA GEN	0.21 miles NE	21	MILLER MEMORIAL USARC	920 S SAM HOUSTON AVE, HUNTSVILLE, TX 77340	24

LPST	Target Property	1	CHARLIES USED CARS	1402 SAM HOUSTON AVE, HUNTSVILLE, TX 77340	26
LPST	0.02 miles SW	5	DIAMOND SHAMROCK 587	1328 SAM HOUSTON AVE, HUNTSVILLE, TX 77340	31
LPST	0.07 miles SW	9	WILBURN DICKERSON CHEVRON	1504 11TH ST, HUNTSVILLE, TX 77340	35
LPST	0.08 miles N	11	HUNTSVILLE 295 C O WL8350	1014 13TH ST, HUNTSVILLE, TX 77340	39
LPST	0.09 miles SW	13	WESTERN BEVERAGE	AVE O AVENUE O ON 11TH STREET, HUNTSVILLE, TX 77340	41
LPST	0.18 miles N	18	MOTOR POOL UNIT	815 12TH ST, HUNTSVILLE, TX 77342	42
LPST	0.2 miles NE	20	U RENT UM	1410 SYCAMORE, HUNTSVILLE, TX 77340	46
LPST	0.21 miles SW	22	HUNTSVILLE NISSAN	1569 11TH ST, HUNTSVILLE, TX 77340	48
LPST	0.22 miles S	23	GULF OIL CORP 107711	1603 S SAM HOUSTON AVE, HUNTSVILLE, TX 77340	50
LPST	0.23 miles SW	25	FUTURE WALGREENS FORMER GAS STA	1570 11TH ST, HUNTSVILLE, TX 76443	53
LPST	0.29 miles SW	27	MARTINEZ GULF	1608 11TH ST, HUNTSVILLE, TX 77340	54
LPST	0.3 miles NE	28	JAYS GROCERY AND MARKET	561 S SAM HOUSTON AVE, HUNTSVILLE, TX 77340	58
LPST	0.31 miles NE	29	OTIS APPLICANCE TXDOT ROW	800 11TH ST, HUNTSVILLE, TX 77340	61
LPST	0.33 miles NE	30	STOP N GO 2802	525 11TH ST, HUNTSVILLE, TX 77340	62
LPST	0.39 miles NE	31	CIRCLE K 82	520 E 11TH ST, HUNTSVILLE, TX 77340	66
LPST	0.43 miles E	32	HUNTSVILLE MUNICIPAL AIRPORT	N HWY 75 SAM HOUSTON AVE, HUNTSVILLE, TX 77340	70
LPST	0.43 miles E	32	BOETTCHERS MILL STORE	201 BOETTCHERS MILL DR, HUNTSVILLE, TX 77340	74

PST	Target Property	1	CHARLIES USED CARS	1402 SAM HOUSTON AVE, HUNTSVILLE, TX 77340	78
PST	Target Property	3	CITGO	1329 SAM HOUSTON AVE, HUNTSVILLE, TX 77340	83
PST	0.02 miles SW	5	MS EXPRESS 738	1328 SAM HOUSTON AVE, HUNTSVILLE, TX 77340	87
PST	0.04 miles NE	6	TRANSMIT MIX CONCRETE & MATERIALS	615 16TH ST, HUNTSVILLE, TX 77340	90
PST	0.06 miles S	8	GOODYEAR TIRE & RUBBER	1412 SAM HOUSTON, HUNTSVILLE, TX 77340	91
PST	0.07 miles SW	9	MILLERS SERVICE STATION	1504 11TH ST, HUNTSVILLE, TX 77340	92
PST	0.07 miles E	10	SOUTHWESTERN BELL TELEPHONE CO	912 N AVE, HUNTSVILLE, TX 77340	96
PST	0.08 miles N	11	HUNTSVILLE DIAL 295 C O WL8350	1014 13TH ST, HUNTSVILLE, TX 77340	97
PST	0.09 miles SW	13	TUNE UP PLUS	1506 11TH ST, HUNTSVILLE, TX 77340	99
PST	0.1 miles NE	14	JIF E MART 1	1233 11TH ST, HUNTSVILLE, TX 77340	100



Mapped Sites Summary

Town Creek Drainage Improvements

Database	Distance from Target Property	Map ID	Facility Site Name	Facility Site Address	Site Details Page #
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*Sites are sorted by database tier, database, and distance from the target site.

PST	0.11 miles E	15	EUGENE MCCAFFETY	1711 SYCAMORE, HUNTSVILLE, TX 77340	103
PST	0.14 miles S	16	66 CAR CARE CENTER	1502 SAM HOUSTON AVE, HUNTSVILLE, TX 77340	104
PST	0.15 miles S	17	HUNTSVILLE FUNERAL HOME	1215 15TH ST, HUNTSVILLE, TX 77340	107
PST	0.18 miles N	18	TDCJ HUNTSVILLE UNIT	815 12TH ST, HUNTSVILLE, TX 77340	108
PST	0.19 miles NE	19	GOINES TEXACO	912 SAM HOUSTON AVE, HUNTSVILLE, TX 77340	111
PST	0.2 miles NE	20	U-RENT-M	1410 SYCAMORE, HUNTSVILLE, TX 77340	114
PST	0.21 miles NE	21	MILLER MEMORIAL US ARMY RESERVE CTR	920 S SAM HOUSTON AVE, HUNTSVILLE, TX 77340	116
PST	0.21 miles SW	22	HUNTSVILLE CHEV NISSAN	1569 11TH ST, HUNTSVILLE, TX 77340	117
PST	0.22 miles S	23	GULF OIL CORP	1603 S SAM HOUSTON AVE, HUNTSVILLE, TX 77340	118
PST	0.22 miles NE	24	POOKIES EXXON	901 11TH ST, HUNTSVILLE, TX 77340	121

HW	0.04 miles NE	6	A SUBSIDIARY OF TRINITY INDUSTRIES INC	615 16th St, Huntsville, TX 77340	124
HW	0.05 miles S	7	M-I HOLDINGS HUNTSVILLE	920 15th St, Huntsville, TX 77340	125
HW	0.06 miles S	8	GOODYEAR AUTO SERVICE CENTER	1412 Sam Houston Ave, Huntsville, TX 77340	126
HW	0.08 miles SW	12	PPG INDUSTRIES	TX	127
HW	0.18 miles N	18	TDCJ HUNTSVILLE UNIT	815 12th St, Huntsville, TX 77340	128
HW	0.18 miles N	18	HUNTSVILLE PRINT SHOP	815 12TH ST, HUNTSVILLE, TX 77340	129
HW	0.21 miles SW	22	HOLLAND CHEVROVLET NISSAN	1569 11TH ST, HUNTSVILLE, TX 77340	130
HW	0.23 miles SW	25	WALGREEN 1062	1570 11th St, Huntsville, TX 77340	131

RCRA	0.02 miles NE	4	C & K CLEANERS	1310 SAM HOUSTON AVE, HUNTSVILLE, TX 77340	132
RCRA	0.04 miles NE	6	TRANSIT MIX CONCRETE & MATERIALS COMPANY	615 16TH ST, HUNTSVILLE, TX 77340	134
RCRA	0.05 miles S	7	M-I HOLDINGS LLC	920 15TH ST, HUNTSVILLE, TX 77340	136
RCRA	0.06 miles S	8	THE GOODYEAR TIRE & RUBBER COMPANY	1412 SAM HOUSTON AVE, HUNTSVILLE, TX 77340	138
RCRA	0.21 miles SW	22	HOLLAND CHEVROVLET NISSAN	1569 11TH STREET, HUNTSVILLE, TX 77340	140
RCRA	0.23 miles SW	25	WALGREEN CO	1570 11TH ST, HUNTSVILLE, TX 77340	142

DRYC	Target Property	1	LUCKY STAR CLEANERS	1402 SAM HOUSTON AVE STE A, HUNTSVILLE, TX 77340	144
DRYC	Target Property	2	CLOTHES N TIME	1329 UNIVERSITY AVE, HUNTSVILLE, TX 77340	145
DRYC	0.02 miles NE	4	C K CLEANERS	1310 SAM HOUSTON AVE, HUNTSVILLE, TX 77340	146
DRYC	0.24 miles SW	26	LUCKY STAR CLEANERS	40 STATE HIGHWAY 75 N, HUNTSVILLE, TX 77320	147

End of Mapped Sites Summary Section